PARS
Environmental
Inc.

FINAL REPORT
BENCH SCALE TESTING OF REMEDIAL ALTERNATIVES

FORT DRUM PCE REMEDIAL INVESTIGATION FOR SOLVENT CONTAMINANTS FORT DRUM, NEW YORK

Contract Number: W912DR-10-D-0034

PARS PROJECT NO. 802-01

Prepared For:

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MARCH 2012

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1.0 INTRODUCTION

PARS Environmental, Inc. (PARS) is pleased to submit to the United States Army Corp of Engineers – Baltimore District, this Draft Report for the Bench-Scale Testing of Remedial Alternatives. Bench scale testing was performed as part of the Fort Drum PCE Remedial Investigation for Solvent Contaminants, Fort Drum, New York (RI; PARS, 2010) initiated to characterize the presence of tetrachloroethene (PCE) contamination that was discovered during the Gasoline Alley Area Installation Restoration Program (IRP). Several tasks were identified in the RI Work Plan which included, among other items, a multi-phase field investigation, groundwater monitoring well installation, soil and groundwater sampling, aquifer testing, a source area investigation (SAI), and reporting. One optional item, Bench Scale Studies (Task 10) was activated and is the focus of this report. This work was performed under Contract No.W912DR-10-D-0034.

1.1 Bench Scale Study Objectives

The primary objective of the bench scale study was to identify and evaluate one, or a combination of commercially available remediation products within each of three remedial technology categories – Biological, Enhanced Reductive Dechlorination (ERD), and Chemical Oxidation – that demonstrate the most potential to meet site remedial goals with respect to PCE in groundwater beneath Gasoline Alley Areas 1800, 1900, and 3800. Results from the bench scale testing program are intended to support the selection of a pilot scale testing program, and potentially a full scale remedial approach. Proven short-term removal efficiency and cost effectiveness will be the primary characteristics of the selected technology.

Specific goals of the bench-scale studies are as follows:

- Determine whether intrinsic aquifer bio-geochemical conditions will foster or inhibit biostimulation alone, and to ascertain the potential for successful bioaugmentation;
- Evaluate the effectiveness of nano-scale zero-valent iron [NZVI] to treat PCE in groundwater; and
- Evaluate the effectiveness of potassium permanganate as a potential remedial technology.

This report includes a brief overview of the site history, hydrogeology, and contamination; a discussion of several remedial alternatives that mediate PCE degradation (and potential degradation products – trichloroethene (TCE), cis-1,2-dichloroethene [*c*DCE], and vinyl chloride [VC]); a description of the bench scale testing procedures, data evaluation, results and discussion.

2.0 BACKGROUND

2.1 Site Description and History

Fort Drum Military Reservation is located in upstate New York approximately 10 miles northeast of Watertown, 80 miles north of Syracuse, and 25 miles southeast of the U.S./Canada border. Fort Drum occupies a large portion of northeastern Jefferson County and a portion of western Lewis County. The Reservation encompasses approximately 168 square miles.

Gasoline Alley was used for fuel storage and dispensing at least since the 1940s when Fort Drum was expanded. Nine fuel dispensing areas were located along Gasoline Alley where kerosene, gasoline, diesel fuel and JP-4 were stored and dispensed from 22 underground storage tanks (USTs) ranging in capacity from 5,000 to 25,000 gallons. The dispensing areas are referred to as Areas 1195, 1295, 1395, 1495, 1595, 1795, 1895, 1995, and 3805. The USTs, fuel dispensers, and associated piping were removed in 1994 and 1995.

The OSL is an approximately 50-acre closed landfill consisting of two cells on the north side of New York Route 26. Both cells are capped with synthetic covers. The geosynthetic cap for Cell 2 was installed in the summer of 2008. Leachate from the Old Sanitary Landfill (OSL) commingles with the dissolved phase fuel plume originating at Area 3805 and discharges to the OSL creek via seeps in the face of the ravine on the north side of the OSL. The primary contaminants in the leachate are benzene, toluene, ethylbenzene, and xylene (BTEX).

Dissolved-phase PCE contamination was discovered during the investigation near the Gasoline Alley Areas 1800, 1900, and 3800 targeting a historical release of fuel related compounds; the RI (in preparation) is currently underway to address PCE in groundwater beneath the site.

2.2 Summary of Site Geology and Hydrogeology

A complete description of the site geology and hydrogeology was presented in the original RI Work Plan (PARS, 2010). Presented herein is a summary of the site conditions specific to the bench scale testing and to the remedial efforts anticipated at the site.

The uppermost stratigraphic unit is comprised of unconsolidated, Pleistocene-age, glacially-derived deltaic deposits of the Pine Plains Delta. The Pine Plains Delta complex is bordered on the northwest and south by previously deposited till and ground moraine, and on the east by a metamorphic-igneous bedrock complex (EA, 2000). Based on boreholes drilled as part of the field investigation, the deltaic deposits were observed to be between approximately 70 and 90 feet thick. The upper portions of the deltaic deposits are chiefly fine- to medium-grained deltaic sands with an increasing proportion of finer-grained sands, silt, and clay with depth. Hydraulic conductivity values range from 0.01 feet per day (ft/day) in the silt layer which forms the aquitard at the base of the surficial aquifer to 21 ft/day in the upper portion of the surficial aquifer.

The deltaic deposits are underlain by approximately 30 feet of stratified Pleistocene-age lacustrine deposits of silt and silty clay. These silts and clays overlie glacial till deposits or bedrock and appear to be an effective aquitard to downward groundwater flow.

The bedrock units underlying the deltaic and lacustrine deposits consist of the Cambrian-age Potsdam Sandstone and Theresa Formation (calcareous sandstones and dolomites, respectively) and the Ordovician-age Black River Group (carbonates), which are underlain by Precambrian-age metamorphic and igneous rocks (Reynolds, 1986).

Analysis of water-level elevations measured in wells screened in alluvial and bedrock units indicate that the hydraulic head elevation is higher in the deltaic aquifer than in the underlying bedrock, indicating a downward groundwater flow gradient. Based on the results of aquifer pumping tests conducted in the area, the glacial outwash and underlying bedrock units do not appear to be hydraulically connected, likely due to the presence of the clayey aquitard. Analytical results from a sample collected in one exploratory boring drilled into the underlying bedrock indicated that PCE has not migrated into the basal clay unit, or into the underlying bedrock.

2.3 Summary of Site Hydrochemistry and Chlorinated Solvent Impacts

Chlorinated solvent contamination consists almost exclusively of PCE; very limited concentrations of TCE were detected in samples, while no cDCE, VC, or ethene has been detected in groundwater from site wells. The historical maximum PCE concentration at the site is 2,700 µg/L at monitoring well 3805-MWI9 (shallow aquifer) measured in 1999. The maximum PCE concentration measured during the PCERI to date is 906 µg/L measured at well PCERI-MW-19S during the Fall 2011 sampling event.

The most highly impacted areas of the study area have been identified to be near monitoring well PCERI-MW19, in the transition between the shallow and intermediate aquifer zones (Figure 1, approximately 40 feet below grade). The PCE plume is thickest in this area; however the horizontal extent is relatively limited with respect to the full lateral PCE extent (Figures 1 and 2). The greatest horizontal extent was found to exist in the intermediate vertical section of aquifer which extends approximately 2,500 feet downgradient and covers approximately 19 acres (Figure 2). The deep aquifer has a very limited impacted area both laterally and vertically (Figure 3). Figure 4 shows the most upgradient portion of the plume where the SAI was conducted.

Monitored natural attenuation (MNA) parameters (dissolved oxygen [DO], oxygen-reduction potential [ORP], nitrate-N, and sulfate [SO_4-]) were measured on samples from four of the wells sampled during the Spring 2011 groundwater monitoring event (3805-PZ2D, PCERI-MW20I, PCERI-MW23I, and PCERI-MW-25S). Results from these analyses indicate that reducing conditions are not prevalent and suggest that there is limited intrinsic dechlorination of PCE occurring naturally at the site. This conclusion is supported by the relative absence of PCE

daughter products (TCE, cDCE, VC, ethene/ethane) present in groundwater samples, and the lack of methane in the samples.

2.4 PCE Plume Geometry

Laboratory analytical results from soil, groundwater, and soil-gas samples collected during the initial field work and subsequent SAI conducted in Area 3805 support the horizontal and vertical PCE plume delineation shown in Figures 1, 2, and 3. All PCE impacts to groundwater were found to be limited to the sands and silty sands of the Pine Plains Delta. Based on the results to date, the horizontal and vertical extent of PCE contamination has been delineated.

3.0 PRODUCT SELECTION CRITERIA

Several products are available in each of the technology categories; however, in the interest of keeping the testing program as focused as possible, one product from each remedial technology was selected for evaluation in the laboratory bench-scale tests. An abbreviated basis for product selection is described below; a complete discussion of the technology review was submitted under separate cover (PARS, August 2011, Appendix C).

3.1 Biological Technology

Recognizing that all of the biological products presented herein contain the *dehalococcoidies*-microorganisms, and that many of those products are manufactured by the same laboratory for different vendors, the major factor to consider when selecting a biological culture is cost. Shaw Technology Group SDC-9™ was selected for this testing program which offers a highly concentrated and proven product at a competitive price, which under the proper geochemical conditions, will increase bacterial populations and reduce target compounds. This product has been successfully applied at over 100 sites throughout the USA, and is easily applied to the subsurface through injection points or dedicated wells.

The effectiveness of bioaugmentation depends significantly on subsurface geochemical conditions. Elevated DO, nitrate, and sulfate concentrations, as well as very high or low pH can significantly inhibit microbial growth and proliferation. A carbon source is typically used to ensure optimal geochemical conditions; carbon based substrates (food source for microbes) can be applied prior to or concurrent with bioaugmentation to minimize bacterial population loss due to unfavorable aquifer conditions. Emulsified vegetable oil and molasses and were used in the testing protocol to assess the dependence of the SDC-9™ on the carbon source for survival.

3.2 ERD Technology

The commercially available injectable reagents that promote enhanced reductive dechlorination offer different characteristics with respect to contaminant break down mechanism, short- and long-term effectiveness, ease of applicability, cost, regulatory acceptance, and synergy with other technologies. Products such as molasses and cheese whey are relatively inexpensive and

offer an immediate and easily metabolized source of carbon for dechlorinating microbes; however, these reagents are quickly metabolized and require constant reapplication. Engineered substrates such as EOS® and HRC® (Regenesis) also offer a rich carbon source and contain advanced molecules that provide a more long-lasting food source. These products are highly effective, and while they do cost more than molasses and cheese whey, they require significantly less frequent reapplication (up to 3 to 5 years). Both are easily applied in the field.

Zero valent iron differs from the other products presented herein because it mediates the β-elimination (abiotic) process, but also inherently supports biological process as well (ITRC, 2005a). These two processes working simultaneously have proven to rapidly reduce PCE concentrations in contaminated aquifers. The abiotic process can be extremely rapid; studies have shown a 100-fold decrease in PCE/TCE concentrations in 3 weeks. Some applications of NZVI have used vegetable oil and/or molasses together with NZVI prior to injection to take advantage of both the biotic and abiotic degradation pathways.

Recognizing the merits of a reagent that is able to take advantage of both the abiotic and biotic degradation pathways, NZVI was selected for use during the ERD bench scale tests. However; additional ERD testing was inherently conducted as part of the biological testing (discussed above) to ascertain the nutrient needs of the SDC-9™ culture. This included a test using a 50/50-percent blend of molasses and EVO as a separate treatment from the bioaugmented and nutrient amended test.

3.3 Chemical Oxidation Technology

Each of the ISCO remedial options reviewed are extremely effective in rapidly attacking and destroying chlorinated solvents. Because of their highly reactive nature, these approaches can potentially be detrimental to biological or ERD remedial approaches due to the oxidative processes involved; ERD and biological treatment of chlorinated solvents requires highly anaerobic conditions. However, when carefully selected and designed, remedial approaches involving ISCO can be successfully applied along with ERD technologies to achieve a 2-phase approach: rapid solvent destruction in "hot-spots" followed by reductive dechlorination of residual dissolved contaminant mass (ITRC, 2005a).

Potassium permanganate is a very powerful oxidant. The product is relatively easy to transport and administer in the field, is fast-acting, and when mixed in modest concentrations, does not react adversely with other contaminants (i.e., BTEX) or cause drastic and long-term reductions in microbial populations. The effects of this treatment persist in the aquifer for a relatively short time following oxidation of the contaminants allowing a return to background conditions within a relatively short time frame.

While most of the ISCO options reviewed offer rapid contaminant destruction, potassium permanganate offers the greatest number of attributes that would be most favorable for

application at Ft. Drum, and was selected for use in the laboratory testing of ISCO remedial options.

4.0 BENCH SCALE TESTING METHODOLOGY

The following sections provide an overview of the procedures followed in the field and laboratory for bench scale testing of the various technologies and products presented herein.

All groundwater and soil samples collected for the bench scale testing were collected, transported, stored, and handled in accordance with the Quality Assurance Project Plan (QAPP) prepared for the project (PARS, 2010). The QAPP describes in detail all soil and groundwater sampling procedures, laboratory QA/QC procedures, and chain of custody protocols for all aspects of the project.

Results of the field work and plume delineation were used as a basis for selection of appropriate sample locations for the bench scale testing of remedial alternatives task. Based on the results of the RI field program completed to date, groundwater samples were collected from monitoring well PCERI-MW19S located in the most highly concentrated portion of the plume. Soil samples were collected during excavation of soil borings SB-1 drilled during the Source Area Investigation from aquifer zones with the highest field-screened chlorinated solvent values. Sampling locations are shown on Figure 4.

Soil and groundwater samples were delivered to New Jersey Analytical Laboratories (NJAL) located in Pennington, New Jersey (NJDEP certified lab 11005); split groundwater and soil samples were then couriered to Terra Systems, Inc. (TSI) located in Wilmington, Delaware for the biotreatibility evaluation. New Jersey Analytical Laboratories conducted the ERD and chemical oxidation tests; TSI conducted the biological portion of the bench scale testing program.

4.1 Groundwater Sampling

Groundwater samples were extracted from monitoring well PCERI-MW-19S using a Proactive™ Monsoon stainless steel submersible pump following low-flow sampling procedures. This pump operates using power from a car battery hooked to a control box used to regulate flow rates by adjusting the voltage delivered to the pump. The decontaminated pump was connected to virgin polyethylene tubing and lowered into the well near the middle of the screened section. The pump was activated while water level drawdown was monitored as to maintain a flow rate that induced minimal drawdown. A rate of approximately 1 gallon per minute was used to withdraw water from the well into 5-liter polyethylene bags with minimal headspace. Approximately 25 liters of groundwater were collected.

4.2 Soil Sampling

Soil samples were collected from borehole PCERI-SB-1 located approximately 230 feet upgradient of well PCERI-MW-19S. This borehole was excavated during the Source Area Investigation (SAI) and was selected based on "live" field PCE vapor screening data indicating the presence of elevated PCE concentrations in the soil matrix. Saturated aquifer material from soil boring PCERI SB-1was collected for the microcosm study. Soil boring SB-1 was excavated using a rotosonic drilling rig that was equipped to collect a continuous core throughout borehole advancement. Based on field screening of soil-pore gas using a photoionization device (PID), the samples were collected from the depth interval between 35 and 45 feet bgs, which corresponded to the highest PID readings.

The soil samples were recovered inside an acetate liner which was retrieved from the rotosonic drill stem. The liner was cut lengthwise, screened with the PID, and then the soils were composited into 12, 1-liter wide mouth glass jars. The jars were filled with minimal headspace, sealed and then transported on ice.

4.3 Biotreatability Study Approach & Methodology

The protocol for the biological treatment was developed by TSI, per the requirements set forth in the Work Plan.

4.3.1 Initial Characterization

In an anaerobic chamber, the soil was passed through a 4.5 mm screen to remove debris and rocks and then mixed by hand to apparent homogeneity. The soil samples were composited in an anaerobic glove box.

Groundwater samples were submitted to Lancaster, Laboratories (Lancaster, PA) on July 14, 2011 to be analyzed for volatiles (EPA Method 8260); methane, ethene, and ethane (EPA Method 8015 modified); chloride, nitrate-nitrogen, and sulfate by EPA 300.0; total phosphorus as phosphate by EPA 365.1; and ferrous iron by SM20 3500 Fe B modified.

Samples of the groundwater were sent on July 14 to Microbial Insights, Inc. (Rockford, TN) to be analyzed for the numbers of *Dehalococcoides* and the tceA, bvcA, and vinyl chloride reductase genes.

4.3.2 VOC Microcosm Study

Microcosms were prepared in 250 mL bottles with 60 g soil (approximately 12% by volume soil) and 220 mL groundwater (88% by volume) and amended with the treatments shown below. All microcosms were amended with PCE to reach the desired target concentration of 300 to 600 µg/L. One microcosm was amended with 1 mg/L Resazurin to monitor redox conditions. The microcosms were sealed with Mininert^{TM} valves.

The 12-week anaerobic biodegradation study (July 26, 2011 to October 18, 2011) was designed to evaluate the completeness of VOC dechlorination occurring with indigenous microorganisms, as well as to determine whether biostimulation and bioaugmentation with a dechlorinating culture containing *Dehalococcoides ethenogenes* would significantly improve the dechlorination rates. A combination of Terra Systems, Inc. Slow Release Substrate (SRS®), an emulsified vegetable oil product (EVO), and molasses were used as the substrate. Four treatment conditions were evaluated in triplicate:

1A, 1B, 1C Sterile Control – autoclaved and amended with sodium azide

2A, 2B, 2C Intrinsic Control

3A, 3B, 3C Molasses and EVO

4A, 4B, 4C Molasses and EVO + Bioaugmentation – electron donor plus Shaw SDC-9™ culture

The "Sterile Control" was designed to monitor for abiotic loss of CVOCs. The "Intrinsic Control" condition was used to simulate existing site conditions in the laboratory. The "Molasses and EVO" condition (no microbes added) was used to increase ambient anaerobic biodegradation rates by creating more favorable growth conditions for the indigenous microorganisms, allowing the biochemical transformation of CVOCs to be unambiguously observed in a much shorter period of time. The "Molasses and EVO + Bioaugmentation" condition was evaluated to demonstrate whether complete dechlorination would occur with the addition of a microbial population containing *Dehalococcoides ethenogenes*. The amendments for each treatment are shown in Table 2. Molasses contains 29% carbon and SRS contains about 51% carbon. A loading of 500 mg C/L of molasses and 500 mg C/L EVO was added to each microcosm.

Aqueous samples from each condition were taken at the beginning of the study, as well as after 1, 2, and 3 months of incubation. These samples were analyzed for VOCs, ethene, ethane, methane, pH, redox potential (or ORP), volatile fatty acids (VFA) as acetate (using a Hach method which converted the fatty acids to acetate), and chloride, nitrate-nitrogen, and sulfate by ion chromatography using EPA 300.0. The IC analyses were conducted on composites of the three replicates for each treatment.

4.3.3 pH Buffering Study

Samples were collected from the all twelve microcosms throughout the study to be analyzed for pH and oxidation-reduction potential (ORP). The initial pH for the microcosms ranged between 6.8 and 7.6. The pH remained constant (6.9 to 7.2) in the Sterile Control Treatment 1 and ranged between 6.8 and 7.1 in the Treatment 2 (Intrinsic Control). However, the pH fell to as low as 5.5 in Treatments 3 and 4 with Molasses and EVO; this low pH could inhibit reductive dechlorination. After the samples were collected at Month 2, 1 g/L of sodium bicarbonate was added to Treatments 3 and 4. The pH increased to 6.5 in treatment 4B after the sodium

bicarbonate. The pH in the substrate-amended treatments remained favorable (above 6.4) at Month 3.

4.4 ERD Study Approach & Methodology

The ERD bench-scale study specifically targeted PCE and subsequent remediation breakdown products as the analytical parameters. New Jersey Analytical labs performed the study and analyses. Samples were delivered to NJAL in liter amber glass vessels ensuring the temperature is maintained below 4 degrees C. The samples were stored in refrigeration 4C until the study began.

4.4.1 Task 1 – Initial Characterization

The samples were homogenized and an initial aliquot was tested to verify concentration of the chemical target prior to the actual set up. Analyses included EPA method 8260B for initial characterization of all control and treated samples in triplicate.

4.4.2 Task 2 – Removal Efficiency Testing

Removal Efficiency Testing is performed for the purposes of identifying an optimum product dosage required to effectively remediate the specific concentrations of contaminants in affected groundwater. The homogenized sample was split into sacrificial vials of 40 ml to 60 ml volumes; the vials were sealed until the desired chemical addition of the NZVI is added to achieve the concentration indicated on the set up summary. Doses of 0.5, 1.0, and 2.0 grams per liter (g/L) were used. After additions, crimp seal using Teflon septa permanently sealed the vessels. The samples were incubated on a rotation table and intervals of 1 revolution per 12 hours over the course of each specified time. Triplicate analyses were performed on each set of batch bottles to address sample preparation and sampling variations. Clean control samples were also treated and tested in parallel with the contaminated samples to establish the reliability of the test results. The residual analytical results were then compared with the pre-test chlorinated hydrocarbon concentrations to evaluate the contaminant reduction achieved by each dosage and to select candidate dosages for further testing.

In the case of this study the sample time line was T= 24 hours, T=48 hours, T=72 hours, T=7 days, and T=34 days.

4.5 Chemical Oxidation Study Approach & Methodology

The chemical oxidation bench-scale study specifically targeted PCE and subsequent remediation breakdown products as the analytical parameters. New Jersey Analytical labs performed the study. Samples were delivered to NJAL in liter amber glass vessels ensuring the temperature is maintained below 4° C. The samples were stored in refrigeration 4° C until the study began.

The following is the bench test protocol was employed.

(1) There were three different tests (each with a different volume of oxidant), plus a zero oxidant control, for a total of four tests:

   a. Control Sample (which receives pH and iron amendments, but no oxidant)
   b. 0.5 grams per liter of $KMnO_4^-$
   c. 1.0 grams per liter of $KMnO_4^-$
   d. 2.0 grams per liter of $KMnO_4^-$

(2) $KMnO_4^-$ was added to the three test reactors.

(3) The slurries were stirred mechanically until the $KMnO_4^-$ is consumed.

(4) Samples were collected and analyzed at 24 hours, 48-hours, and 168 hours to confirm any observed PCE reduction.

5.0 BENCH SCALE TESTING RESULTS

In general, analytical results of the bench scale testing suggest that each of the three technologies have the potential to remove or significantly decrease PCE concentrations in site groundwater in a laboratory setting. The bioaugmentation/electron donor approach (EDB sample) proved capable of PCE reductions of 98 percent (average) while promoting TCE, cDCE, VC, and ethene generation together with the "classic" reductive dechlorination geochemical sequence. Concentrations of PCE actually increased in the electron donor only batch (explanation below in Section 5.2). Nano-scale zero valent iron also showed substantial PCE reduction ranging from 51 percent at a 0.5 g/L dose to 100 percent PCE reduction with a 2.0 g/L dose. The chemical oxidation approach using $KMnO_4^-$ produced the most rapid results with 100 percent PCE destruction within 48-hours using only a 0.5 g/L dose of $KMnO_4^-$. Laboratory Reports of all analytical runs are included in Appendix D.

Table 1. Results summary of remedial alternatives Bench Scale Testing.

Method	Initial PCE Concentration (µg/L)	Final PCE Concentration (µg/L)	Percent Reduction
Bioaugmentation	317	4.8	98.5
Electron Donor Only	200	1080	0
Nano-scale ZVI (0.5 g/L)	940	462	50.9
Nano-scale ZVI (1.0 g/L)	940	10	98.9
Nano-scale ZVI (2.0 g/L)	940	0	100
Potassium Permanganate	1100	0	100

5.1 Initial Characterization Results

The Initial Characterization results confirmed the presence of the target VOCs; however the concentration of PCE was somewhat variable between samples. The samples analyzed at NJAL yielded initial PCE concentrations that ranged between 940 µg/L and 1,100 µg/L, which is consistent with results obtained during the Spring and Fall 2011 groundwater monitoring events (AccuTest Laboratories). The PCE concentrations measured in the samples analyzed by TSI (Lancaster Analytical) were between 120 µg/L and 330 µg/L. The cause for the analytical variability is unknown. It is possible that PCE off-gassed into the sample container headspace during transport or volatilized during experiment set-up. However, provided that each sample set was run in triplicate, the internal data variability (precision) has been accounted for, and the results of these analyses are considered acceptable for their intended purposes. The groundwater samples also contained trace levels of TCE (2 µg/L), chloroform (5 µg/L), and methylene chloride (2 µg/L); and no detectable cDCE (<0.8 µg/L), VC (<1.0 µg/L), ethene (<1.0 µg/L), or ethane (<1.0 µg/L).

Initial characterization results failed to show that substantial anaerobic biodegradation is occurring under the existing site conditions. The groundwater had moderate levels of the competing electron acceptors nitrate (3.7 mg/L) and sulfate (44.1 mg/L), but no detectable ferrous iron and very little methane (0.010 mg/L). The numbers of *Dehalococcoides ethenogenes* were reported as less than 0.5 cells/mL with no detectable *Dehalobacter spp.* (<2.8 cells/mL), and no tceA reductase genes, bvcA, or vinyl chloride reductase genes (<0.5 genes copies/mL each). No dechlorinating microbes were detected and the microbial population does not appear capable of transforming VC to ethene and ethane and is limited by environmental conditions (such as oxygenated conditions, substrate availability, or low pH).

The pH's of the soil and groundwater were both slightly alkaline (8.1 for the groundwater and 8.7 for 20 g soil in 50 mL distilled water). Additional buffer was not needed to raise the pH under initial conditions. Reductive dechlorination is often slowed at pH's below 6.0. Addition of a buffer can counteract the acids produced from the fermentation of the emulsified vegetable oil.

5.2 Biological Testing Results

The biological treatment bench scale study was conducted over a period of three months. Analyses were conducted on sterile control (SC), intrinsic control (IC), electron donor amended (ED), and electron donor amended and bioaugmented samples (EDB). Each of these samples sets were analyzed in triplicate at each time step. Results of the analyses are presented in time-series charts included in Appendix A; Appendix B contains a report prepared by TSI presenting a detailed account of the study.

Each analytical parameter is plotted individually and represents an average concentration of each of the triplicate samples for each treatment group. Chlorinated ethene species (PCE, TCE, cDCE, VC, ethene, ethane) are also plotted together for each treatment group.

As shown in the charts in Appendix A, the following observations are apparent:

- There was very limited dechlorination under the existing site conditions based upon the absence of dechlorinating bacteria or functional genes for the degradation of TCE or VC and absence of final degradation products including ethene and ethane in the groundwater and the results of the intrinsic control microcosm treatment over the 3 month incubation period.
- The growth of indigenous microorganisms at the Fort Drum site could not be stimulated through the addition of molasses and EVO alone to completely biodegrade the CVOCs. cDCE production was stimulated in one of the three replicates with the substrate. Concentrations of PCE actually increased. This observation may be due to mass transfer of PCE from the soil into the dissolved phase; some of the increase is due to spiking the original samples with a solution of PCE in methanol to 500 µg/L.
- Molasses and EVO did support almost complete dechlorination of the PCE in conjunction with bioaugmentation. Bioaugmentation with a dechlorinating appears to be necessary for this site.
- The addition of the 1,000 mg/L sodium bicarbonate buffer maintained the pH in the optimal range for reductive dechlorination.
- After 2-months, the EDB sample demonstrated 100 percent PCE removal with corresponding reduction of TCE and cDCE together with VC and ethene generation.
- ORP, NO_3, and SO_4 all decreased significantly after the 2-month incubation period, while VFA and methane increased substantially.
- pH decreased to below 6.0; buffering was initiated to increase the pH to 6.5 using 1.0 g/L of sodium bicarbonate; pH remained relatively unchanged in the untreated control samples.
- ORP decreased in all samples to as low as -100 mV (EDB sample) after 2 months.
- Chloride concentrations increased in the sterile control sample and decreased by approximately the same amount in the remaining three samples.
- Initial PCE concentrations ranged from 200 µg/L to 330 µg/L. The intrinsic control and electron donor amended samples showed an increase in PCE concentration while the sterile control and bioaugmented samples showed an initial PCE decrease.
- TCE, cDCE, VC and ethene were all initially non-detect in all samples. TCE, cDCE, VC and ethene generation was observed in all samples, with the sterile control exhibiting the greatest increase.
- Detectable populations of *dehalococcoides* were not identified in the characterization samples.

In general, the results display the "classic" reductive dechlorination sequence with decreased nitrate and sulfate, and increased methane, VFAs, TCE, and cDCE. The initial PCE results were somewhat variable and lower than have been observed at well PCERI-MW19S. However, as

discussed above, the growth of indigenous microorganisms at the Fort Drum site could not be stimulated through the addition of molasses and EVO alone. These results suggest that intrinsic site conditions are not susceptible to ERD processes using reagents that promote an exclusively biotic degradation pathway.

5.3 ERD Testing Results

The initial characterization and post-treatment samples have been collected and analyzed. Analyses were conducted on intrinsic control, and three dosing concentrations of the NZVI (0.5, 1.0, and 2.0 g/L). Each of these samples sets were analyzed in triplicate. Results of the analyses are presented in time-series charts included in Appendix A.

The initial PCE concentration for the NZVI sample groups was measured at 960 µg/L. As shown in the time-series chart (Appendix A), the following observations are noted:

- With the exception of the 0.5 g/L dose sample, all samples showed a decrease in PCE concentration at the first time-step (24 hours).
- Following the 24-hour decrease of 200 mg/L, the 0.5 g/L dose realized an additional 225 µg/L of PCE reduction after 816 hours (34 days).
- After a modest PCE rebound at the 48-hour time-step, PCE concentrations were reduced The 1.0 g/L NZVI sample to an average of 10 µg/L, representing a 99 percent decrease in PCE concentrations
- The 2.0 g/L NZVI sample exhibited the greatest and most progressive PCE reduction profile with approximately 90 percent PCE reduction in the initial 168 hours, followed by 100 percent reduction after 34 days.
- The gradual PCE concentration decrease observed in the control sample is likely due to the long storage and daily agitation of the sample; when considered together with the 0.5 g/L dose, it can be concluded that no removal was achieved with the 0.5 g/L dose.

In general, the results are indicative of the PCE reduction typically achieved using NZVI; however, the rates of decrease were observed to be slower than typically observed using this technology. Complete PCE loss was achieved through the use of a 2.0 g/L solution of the NZVI, while 99 percent reduction was achieved using a 1.0 g/L dose.

5.4 Potassium Permanganate Testing Results

To date, the initial characterization, and all post-treatment samples have been collected and analyzed. Analyses were conducted on intrinsic control, and three dosing concentrations of potassium permanganate (0.5, 1.0, and 2.0 g/L). Each of these samples sets were analyzed in triplicate. Results of the analyses are presented in time-series charts included in Appendix A.

The initial PCE concentration for the $KMnO_4^-$ sample groups was 1,100 µg/L. As shown in the time-series chart, the following observations are noted:

- Each of the permanganate dosing levels achieved 100 percent PCE reduction within 48 hours.
- With the exception of one of the triplicate 0.5 g/L dose samples, 100 percent PCE reduction was achieved within 24 hours.
- Confirmation samples analyzed at 168 hours confirmed 100 percent PCE reduction with no concentration rebound.

These results suggest that potassium permanganate is an extremely effective and rapid agent for PCE removal in site groundwater. No further analyses will be conducted for this portion of the testing.

6.0 DATA DISCUSSION

Results of the remedial alternatives bench scale testing further characterized the soil and groundwater in the most highly contaminated portion of the PCE plume. Results generally supported those obtained during the spring and fall groundwater sampling events. Each of the technologies evaluated during the bench scale testing provided significant cVOC reduction, recognizing specific conditions to each technology.

Biological testing was evaluated using the Shaw SDC-9™ bioaugmentation culture together with an electron donor substrate consisting of a 50/50 blend of molasses and emulsified vegetable oil. The electron donor substrate was also evaluated as a stand-alone comparison to the bioaugmented sample in order to 1) evaluate the ability of intrinsic microbes to respond positively to the addition of an electron donor, and 2) compare to the NZVI (abiotic) tests conducted for the ERD portion of the study.

Bioaugmentation was required for the complete dechlorination sequence of the PCE to ethene to be observed in Treatment 4 (Molasses, EVO, and Bioaugmentation). This test produced the most analytical parameters indicative of PCE reduction and geochemical changes to a reducing state. An average of 84.6% of the Sum CE without gases was removed in the bioaugmented treatments in the three month study. Vinyl chloride concentrations were decreasing in all replicates between months 2 and 3 and would have been completely consumed with a longer incubation period.

The Molasses and EVO only treatment 3 showed the conversion of most of the PCE to cDCE in replicate 3A; PCE predominated in the replicates 3B and 3C. Relatively low concentrations of VC, ethene, and ethane were generated in all three replicates at Month 2. However, VC, ethene, and ethane were not detected at Month 3 in any of the replicates. The total chlorinated ethenes (without the gases) actually increased by 24.9%.

In summary, bioaugmentation with electron donor addition appears to be capable of reducing PCE concentrations in a laboratory setting within a time span of three months. However, VC concentrations increased to concentrations well above maximum contaminant levels (MCLs) as a result of reductive dechlorination of PCE. Ethene concentrations increased significantly which indicates that the full reductive dechlorination sequence is occurring. Geochemical parameters

also indicate that the appropriate redox shifts are occurring which should promote full dechlorination of PCE to ethene. The third month sample results should provide an indication as to whether the VC will degrade to below MCL values.

Results from the bench scale tests using NZVI suggest that this particular technology is effective in removing PCE from site groundwater in a laboratory setting. Near-complete removal (99 percent) of PCE was achieved with a 1.0 g/L solution of the amendment, while 100 percent removal was achieved using a 2.0 g/L solution. At lower NZVI concentrations (0.5 g/L), the PCE reduction observed was not significantly different from that observed in the control (unamended) sample. The 1.0 g/L dose imparted a more linear PCE reduction while the 2.0 g/L dose rapidly reduced PCE concentrations by 90 percent (within 168 hours) with the remaining 9 percent required an additional 646 hours. There was no daughter product generation as a result of PCE degradation, rather the results suggest that the degradation pathway was exclusively abiotic. The implication of these results being that there is a relatively low risk of producing an undesirable amount of secondary regulated by-products such vinyl chloride). Based on these results, it is apparent that NZVI is an effective agent for PCE reduction in site groundwater.

The results of the potassium permanganate bench scale tests were the most rapid and convincing. All three doses of the product induced 100 percent reduction in PCE in the laboratory within 48 hours. This product is well known to be an effective and rapid agent in destroying PCE and other chlorinated compounds. Recognizing that site soils at Ft. Drum contain very little natural organic matter and do not contain significant volumes of oxidant scavangers, the effectiveness of this product in the field is not expected to be much less that that observed in the laboratory using only site groundwater.

7.0 REFERENCES

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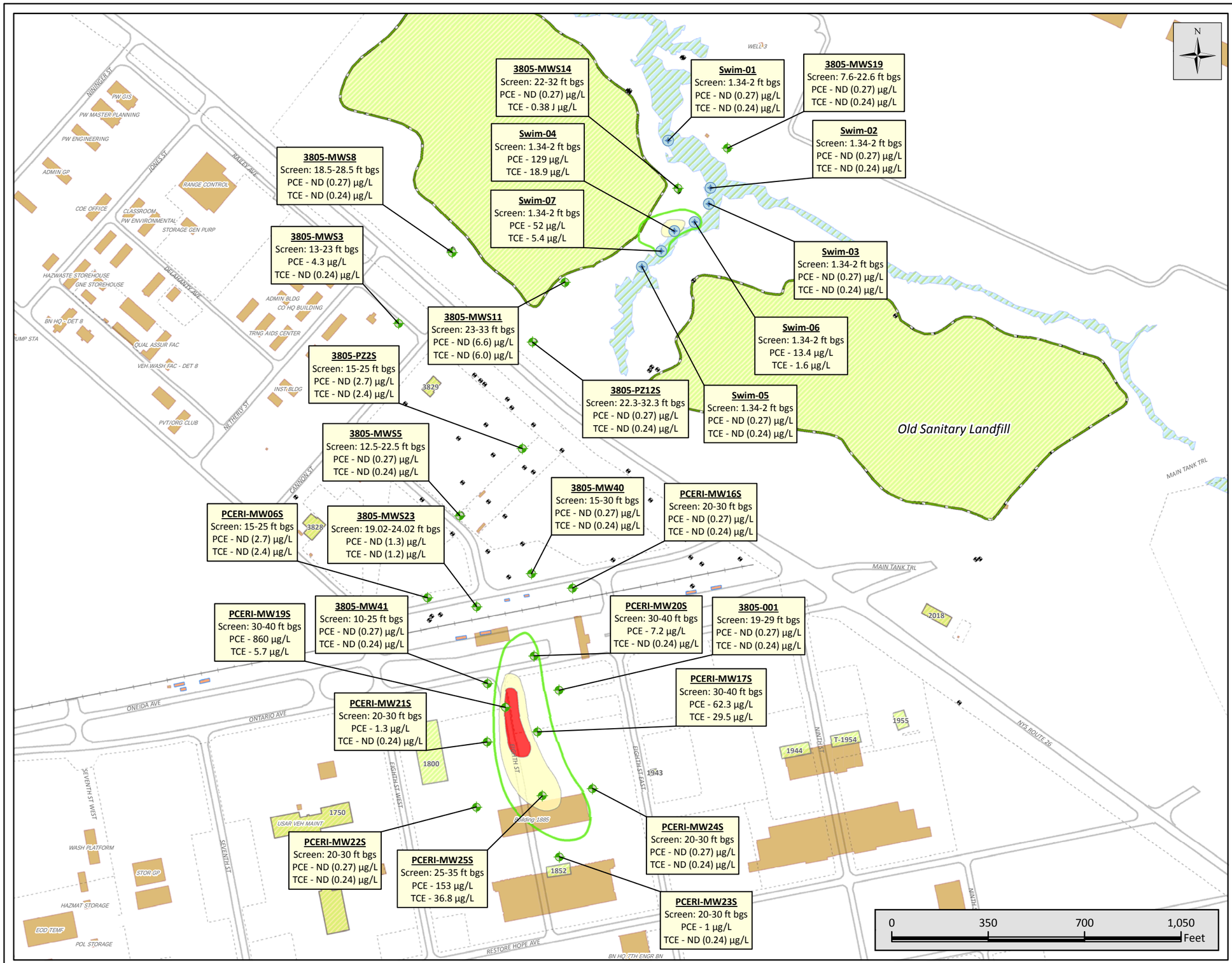
FIGURES



Legend

- Shallow PCERI-MW
- Swim/SD/SW Locations
- Existing Monitoring Well Locations

Shallow PCE Plume (µg/L)

- 5
- 100-500
- >500
- Landfill
- Potential Hazardous Waste Sources
- Former UST
- Building
- Fence Line
- Rail Road
- Paved Road
- Wetlands

PCE - Tetrachloroethylene
TCE - Trichloroethylene
µg/L - micrograms per Liter

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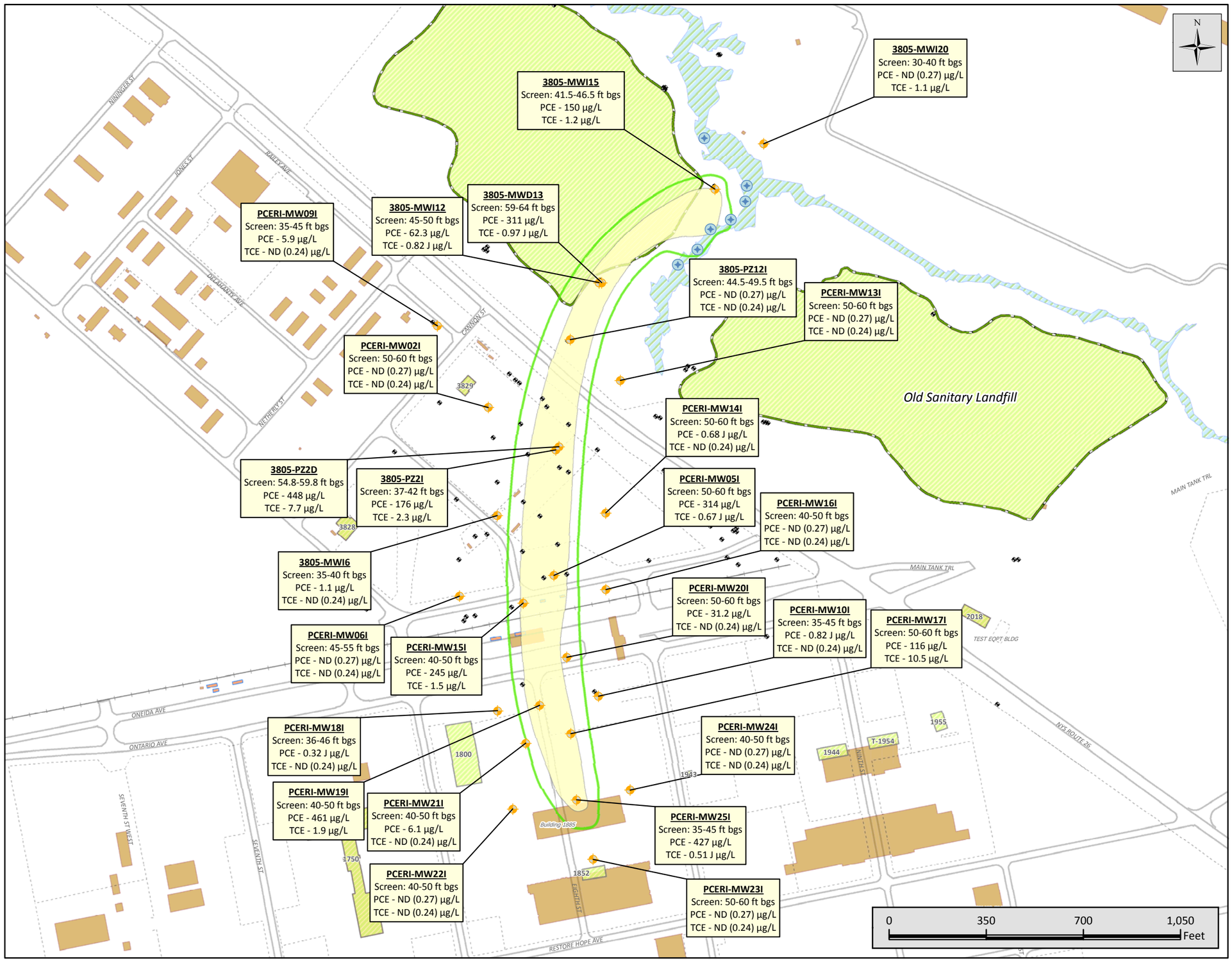
Date: August 2011

FIGURE 1

Shallow PCE Results
Spring 2011

PCE Groundwater Data
Fort Drum, New York



Legend

- Intermediate PCERI-MW
- Swim/SD/SW Locations
- Existing Monitoring Well Locations

Intermediate PCE Plume (µg/L)

- 5
- 100-500
- Landfill
- Potential Hazardous Waste Sources
- Former UST
- Fence Line
- Rail Road
- Wetlands
- Building
- Paved Road

PCE - Tetrachloroethylene
TCE - Trichloroethylene
µg/L - micrograms per Liter

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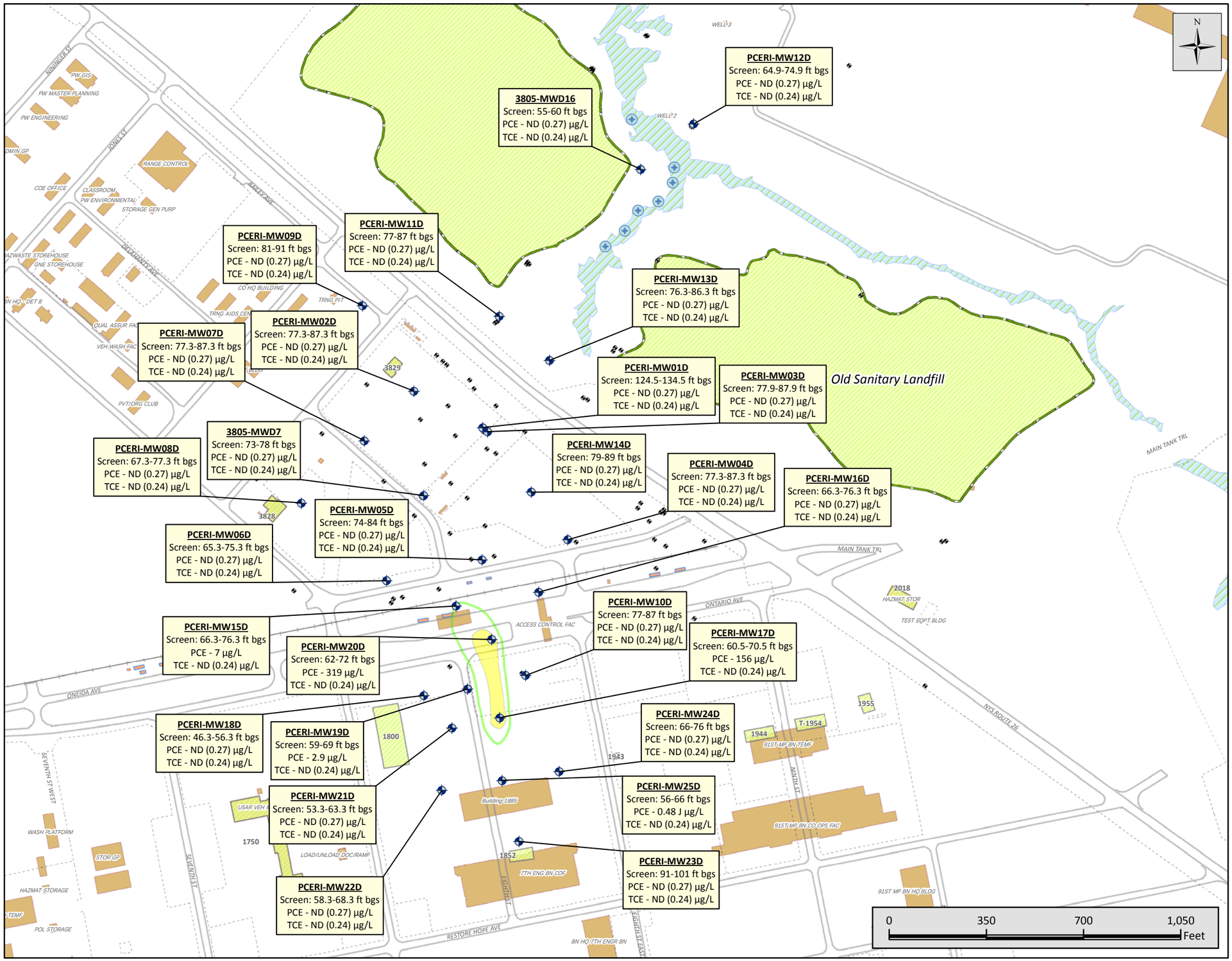
FIGURE 2

Intermediate PCE Results Spring 2011

PCE Groundwater Data Fort Drum, New York



Legend

- Deep PCERI-MW
- Swim/SD/SW Locations
- Existing Monitoring Well Locations

Deep PCE Plume (µg/L)

- 5
- 100-500
- Landfill
- Potential Hazardous Waste Sources
- Former UST
- Fence Line
- Rail Road
- Paved Road
- Wetlands
- Building

PCE - Tetrachloroethylene
TCE - Trichloroethylene
µg/L - micrograms per Liter

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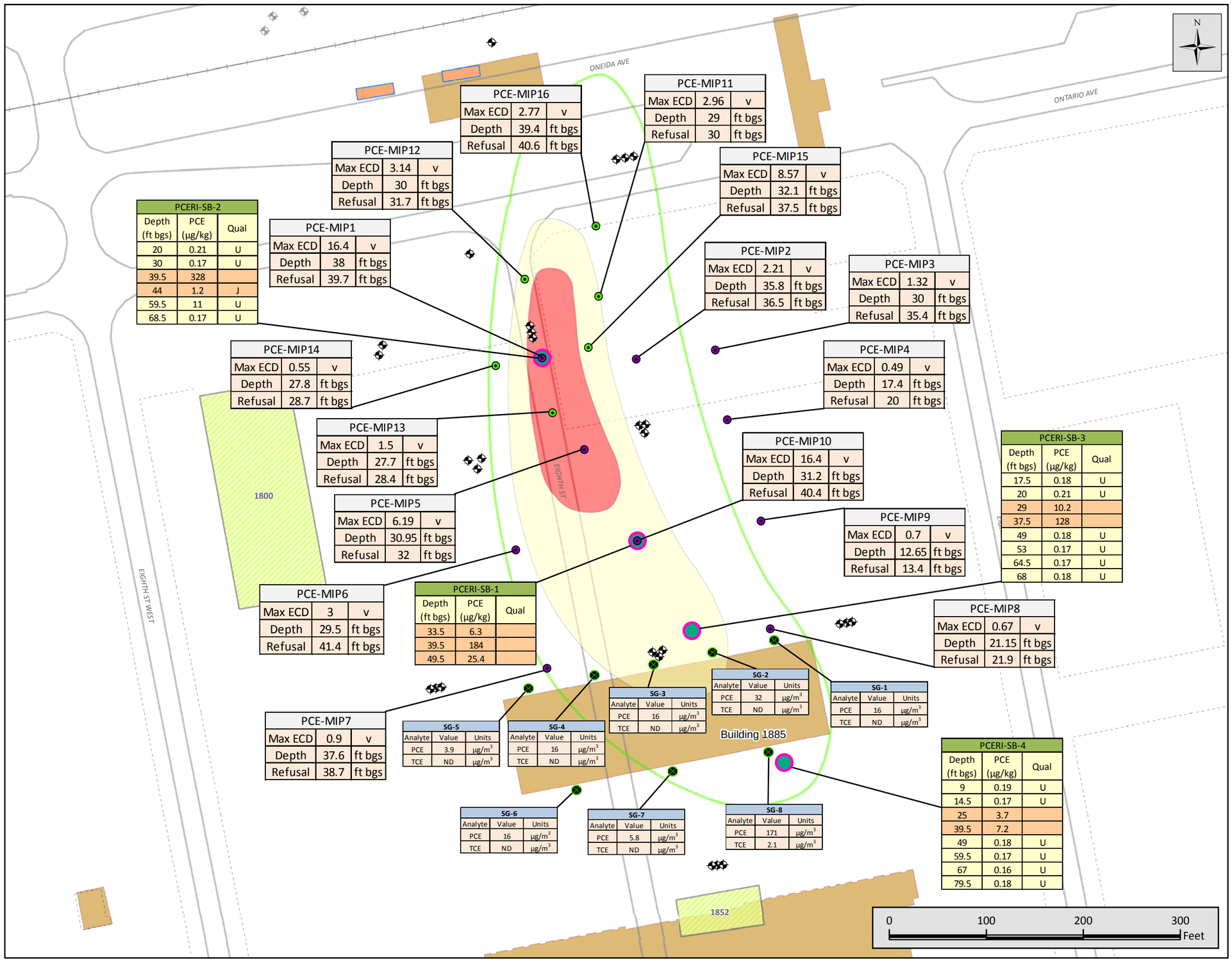
FIGURE 3

Deep PCE Results
Spring 2011

PCE Groundwater Data
Fort Drum, New York



PCE-MIP16		
Max ECD	2.77	v
Depth	39.4	ft bgs
Refusal	40.6	ft bgs

PCE-MIP11		
Max ECD	2.96	v
Depth	29	ft bgs
Refusal	30	ft bgs

PCE-MIP12		
Max ECD	3.14	v
Depth	30	ft bgs
Refusal	31.7	ft bgs

PCE-MIP15		
Max ECD	8.57	v
Depth	32.1	ft bgs
Refusal	37.5	ft bgs

PCERI-SB-2		
Depth (ft bgs)	PCE (µg/kg)	Qual
20	0.21	U
30	0.17	U
39.5	328	
44	1.2	J
59.5	11	U
68.5	0.17	U

PCE-MIP1		
Max ECD	16.4	v
Depth	38	ft bgs
Refusal	39.7	ft bgs

PCE-MIP2		
Max ECD	2.21	v
Depth	35.8	ft bgs
Refusal	36.5	ft bgs

PCE-MIP3		
Max ECD	1.32	v
Depth	30	ft bgs
Refusal	35.4	ft bgs

PCE-MIP14		
Max ECD	0.55	v
Depth	27.8	ft bgs
Refusal	28.7	ft bgs

PCE-MIP4		
Max ECD	0.49	v
Depth	17.4	ft bgs
Refusal	20	ft bgs

PCE-MIP13		
Max ECD	1.5	v
Depth	27.7	ft bgs
Refusal	28.4	ft bgs

PCE-MIP10		
Max ECD	16.4	v
Depth	31.2	ft bgs
Refusal	40.4	ft bgs

PCE-MIP5		
Max ECD	6.19	v
Depth	30.95	ft bgs
Refusal	32	ft bgs

PCE-MIP9		
Max ECD	0.7	v
Depth	12.65	ft bgs
Refusal	13.4	ft bgs

PCERI-SB-3		
Depth (ft bgs)	PCE (µg/kg)	Qual
17.5	0.18	U
20	0.21	U
29	10.2	
37.5	128	
49	0.18	U
53	0.17	U
64.5	0.17	U
68	0.18	U

PCE-MIP6		
Max ECD	3	v
Depth	29.5	ft bgs
Refusal	41.4	ft bgs

PCERI-SB-1		
Depth (ft bgs)	PCE (µg/kg)	Qual
33.5	6.3	
39.5	184	
49.5	25.4	

PCE-MIP8		
Max ECD	0.67	v
Depth	21.15	ft bgs
Refusal	21.9	ft bgs

SG-2		
Analyte	Value	Units
PCE	32	µg/m³
TCE	ND	µg/m³

SG-3		
Analyte	Value	Units
PCE	16	µg/m³
TCE	ND	µg/m³

SG-1		
Analyte	Value	Units
PCE	16	µg/m³
TCE	ND	µg/m³

PCE-MIP7		
Max ECD	0.9	v
Depth	37.6	ft bgs
Refusal	38.7	ft bgs

SG-5		
Analyte	Value	Units
PCE	3.9	µg/m³
TCE	ND	µg/m³

SG-4		
Analyte	Value	Units
PCE	16	µg/m³
TCE	ND	µg/m³

PCERI-SB-4		
Depth (ft bgs)	PCE (µg/kg)	Qual
9	0.19	U
14.5	0.17	U
25	3.7	
39.5	7.2	
49	0.18	U
59.5	0.17	U
67	0.16	U
79.5	0.18	U

SG-6		
Analyte	Value	Units
PCE	16	µg/m³
TCE	ND	µg/m³

SG-7		
Analyte	Value	Units
PCE	5.8	µg/m³
TCE	ND	µg/m³

SG-8		
Analyte	Value	Units
PCE	171	µg/m³
TCE	2.1	µg/m³

Legend

- Soil Gas Locations
- Initial MIP Points
- Step Out MIP Points
- Soil Borings
- PCE RI Monitoring Wells
- IRP Monitoring Wells

Shallow PCE Plume

(µg/L)

- 5
- 100-500
- >500
- Potential Hazardous Waste Sources
- Former UST
- Fence Line
- Rail Road
- Paved Road
- Building

MIP - Membrane Interface Probe
ECD - Electron Capture Detector
PID - Photoionization Detector
SG - Soil Gas Location
PCE - Tetrachloroethylene
TCE - Trichloroethylene
ft bgs - feet below ground surface
v - volts
µg/m3 - micrograms per cubic meter
µg/kg - micrograms per kilogram
µg/L - micrograms per Liter

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FIGURE 4

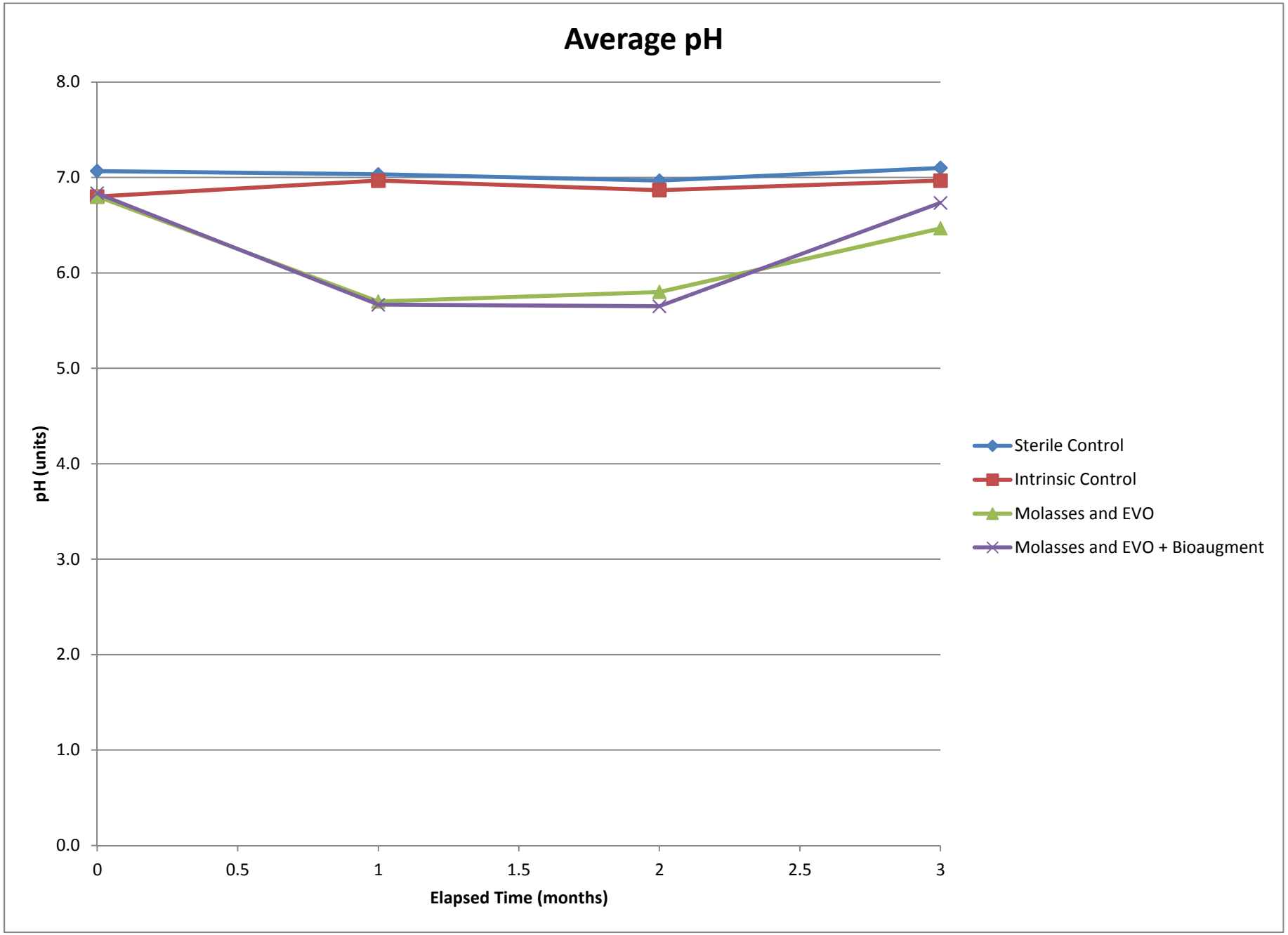
MIP ECD, Soil Gas and Soil Preliminary PCE Results as of 8/10/ 2011

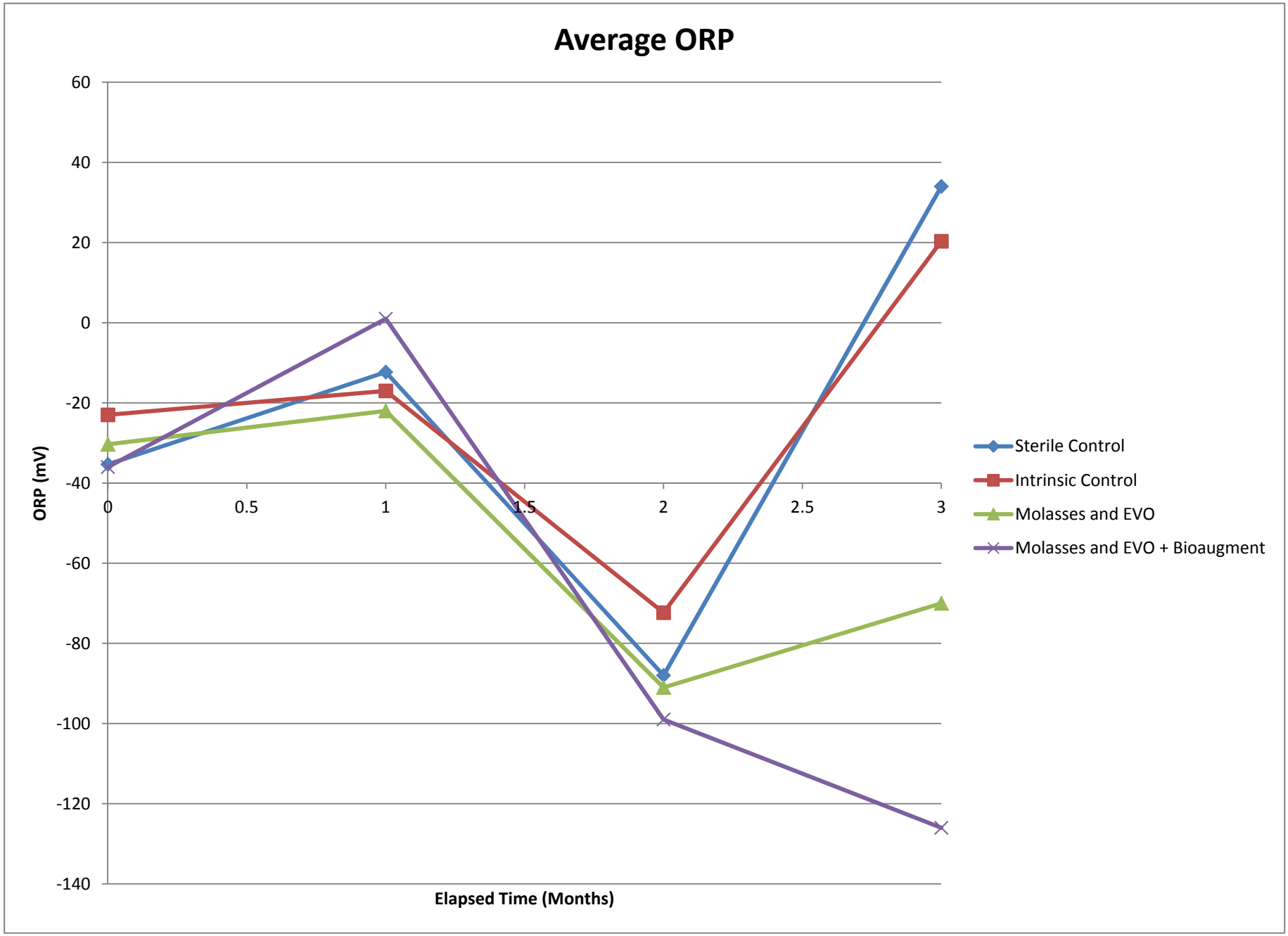
PCE RI, Source Area Investigation Fort Drum, New York

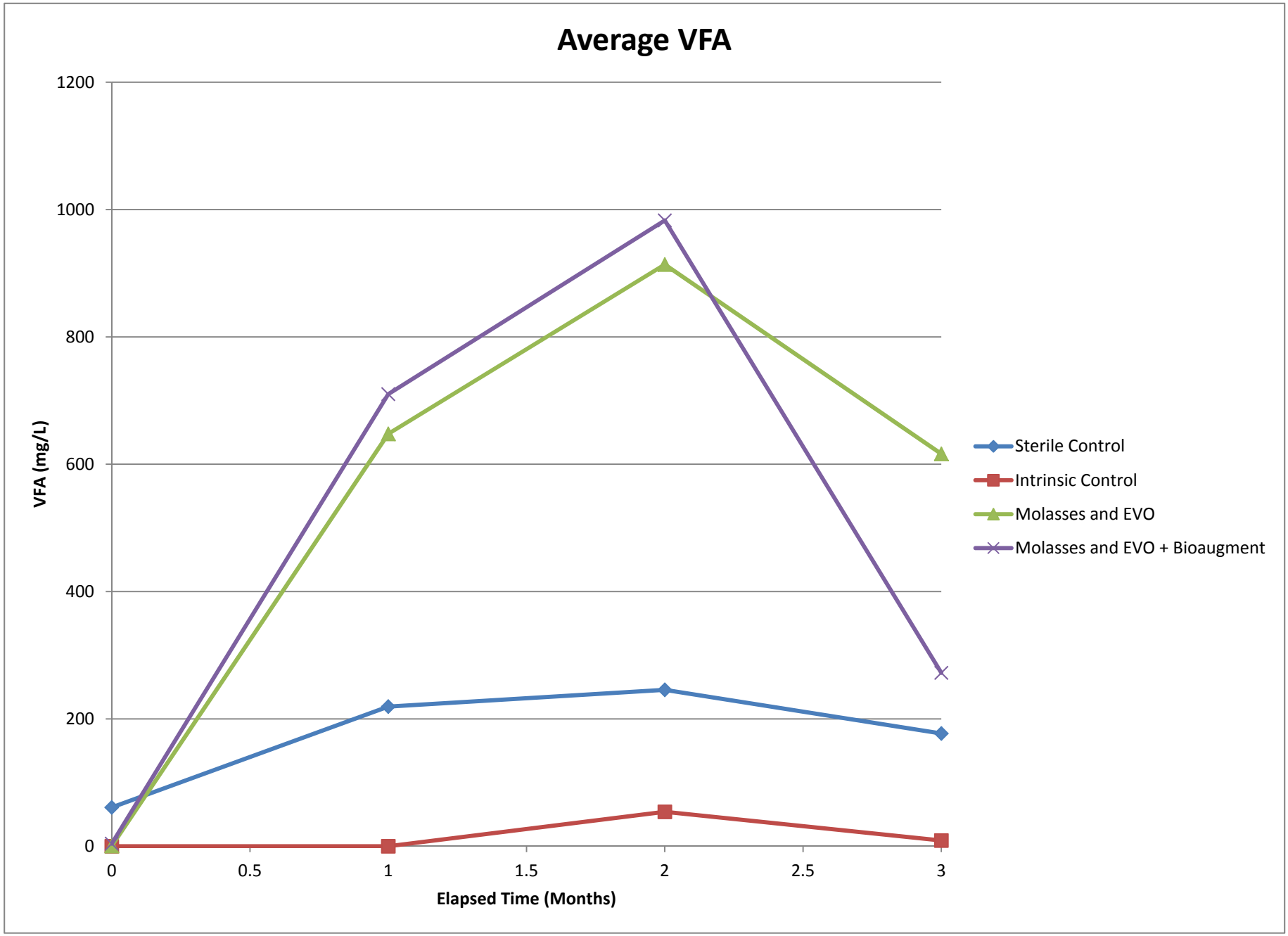
APPENDIX A

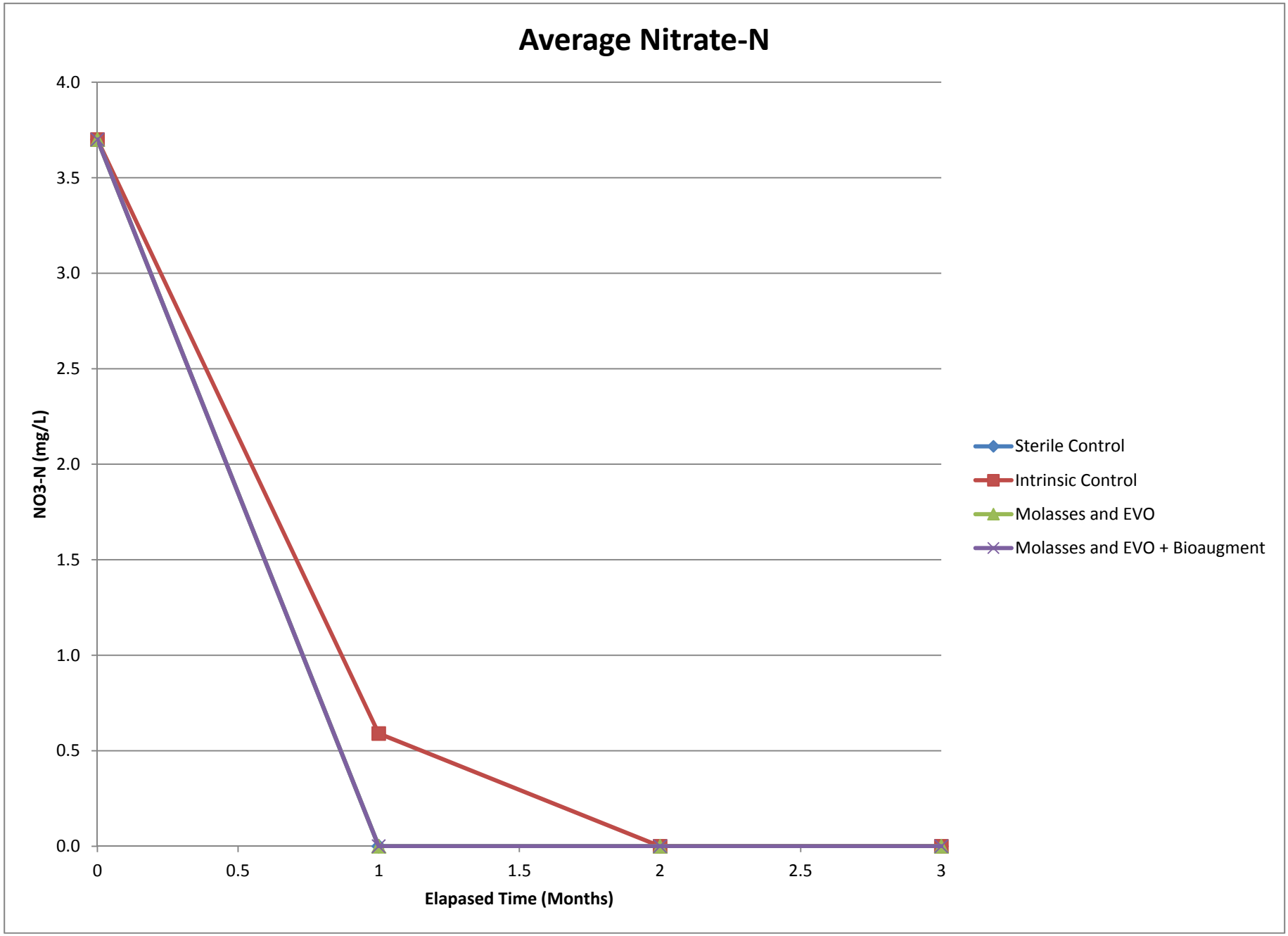
TIME SERIES CHARTS OF BENCH SCALE TESTING RESULTS

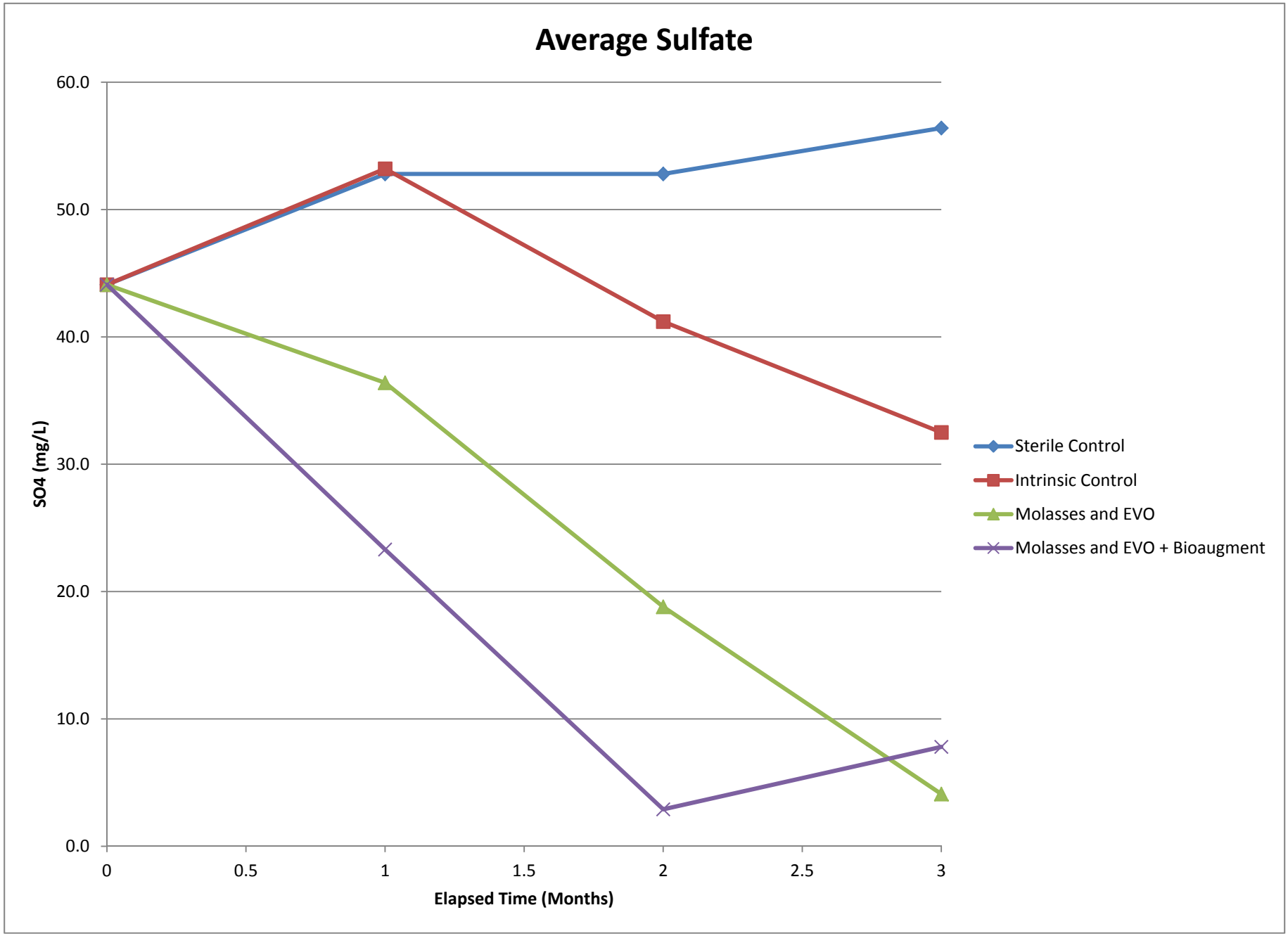
BIOLOGICAL TESTING BENCH SCALE TESTING RESULTS

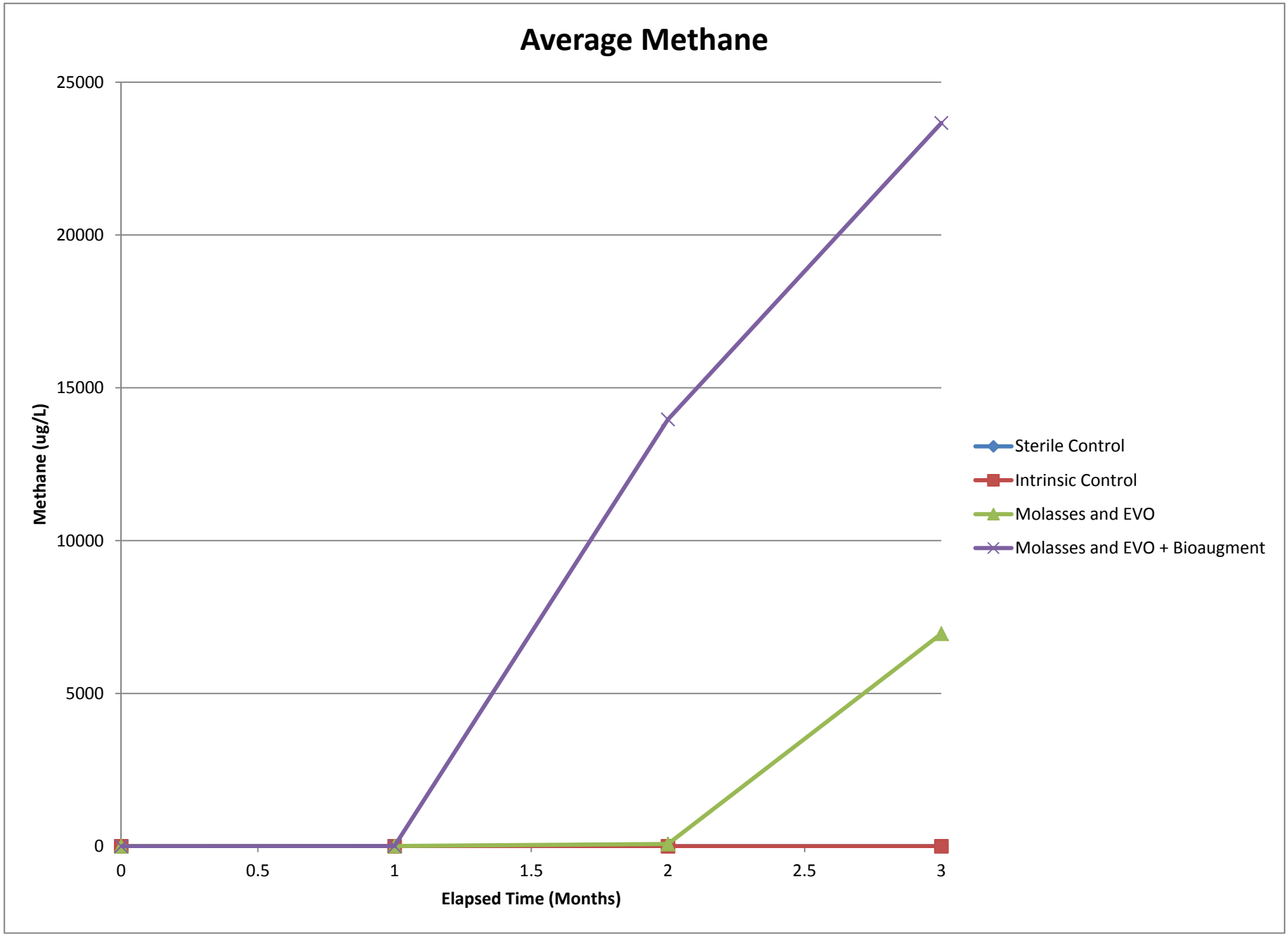

Average pH
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
pH (units)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (months)
Sterile Control
Intrinsic Control
Molasses and EVO
Molasses and EVO + Bioaugment

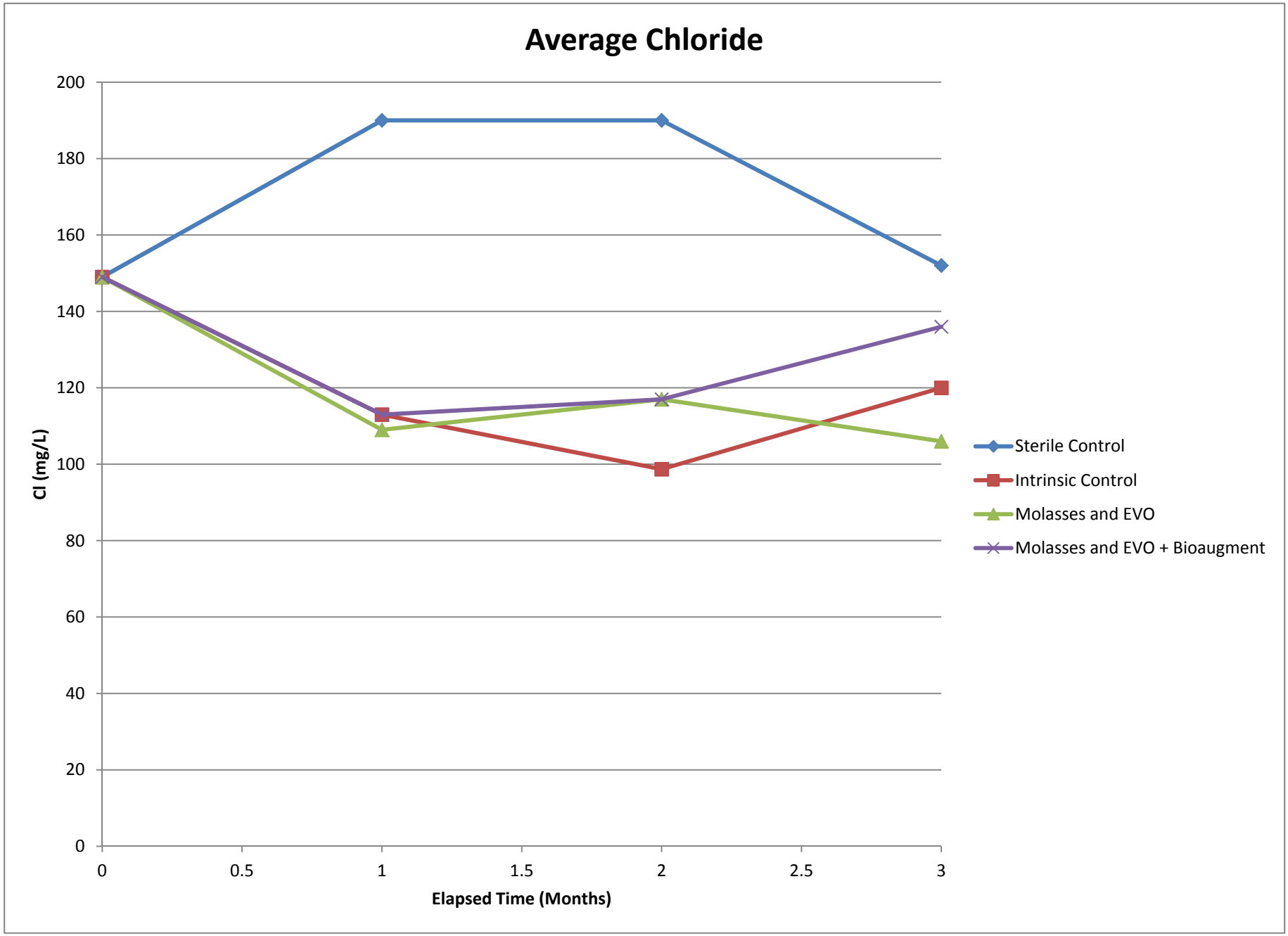

Average ORP
60
40
20
0
-20
-40
-60
-80
-100
-120
-140
ORP (mV)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
Sterile Control
Intrinsic Control
Molasses and EVO
Molasses and EVO + Bioaugment

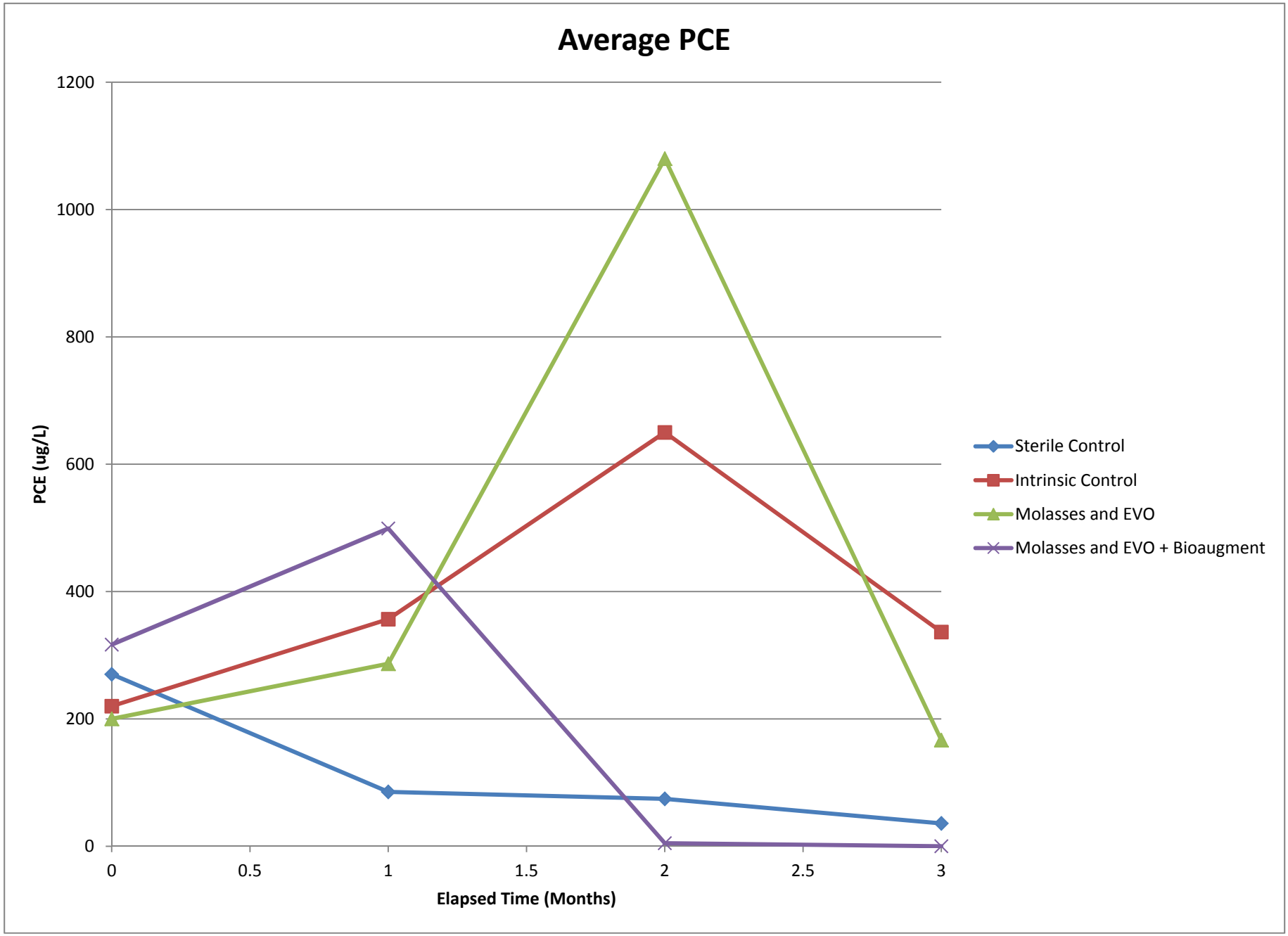

Average VFA
1200
1000
800
600
400
200
0
VFA (mg/L)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
Sterile Control
Intrinsic Control
Molasses and EVO
Molasses and EVO + Bioaugment

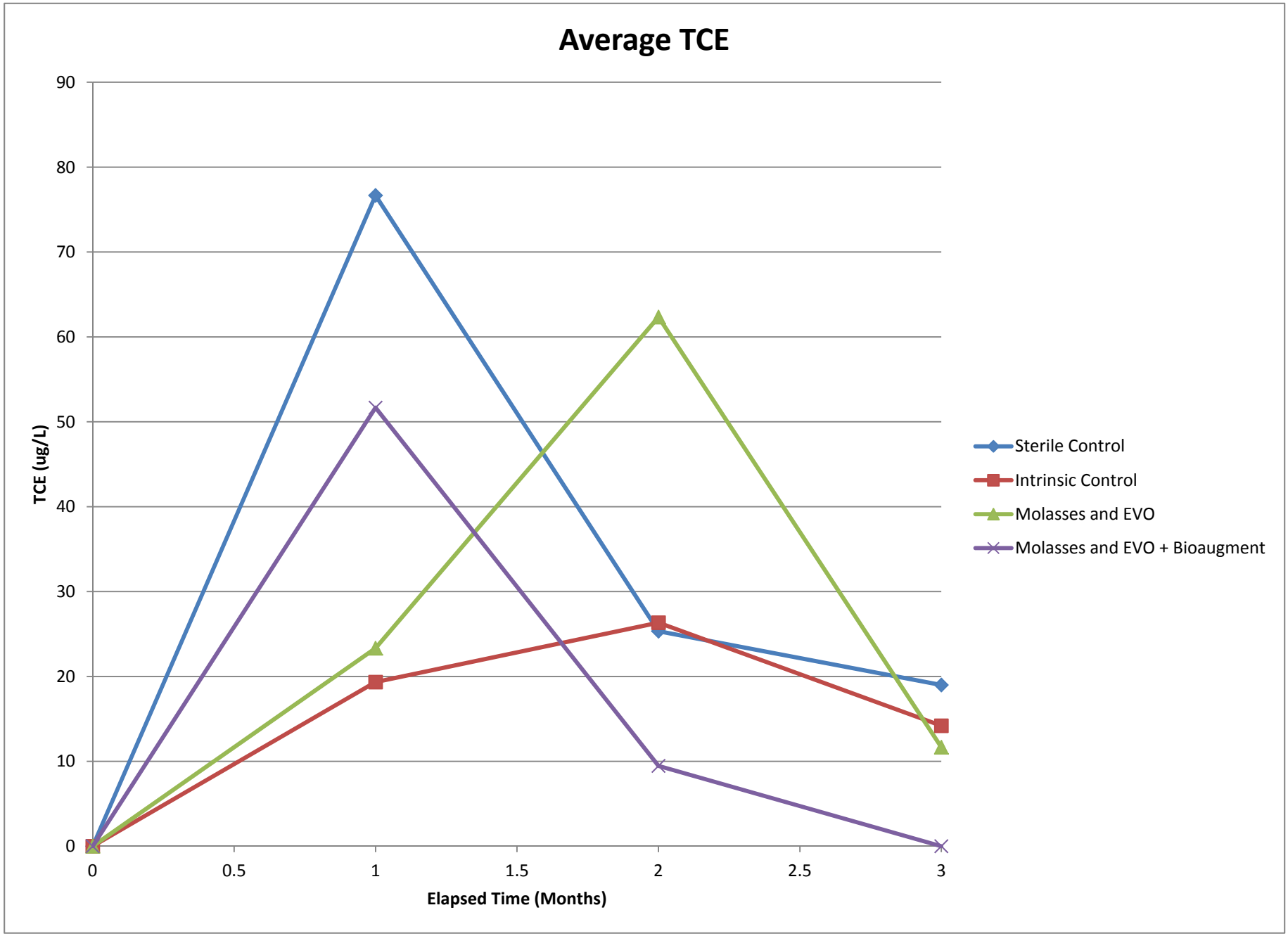

Average Nitrate-N
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
NO3-N (mg/L)
0
0.5
1
1.5
2
2.5
3
Elapased Time (Months)
Sterile Control
Intrinsic Control
Molasses and EVO
Molasses and EVO + Bioaugment

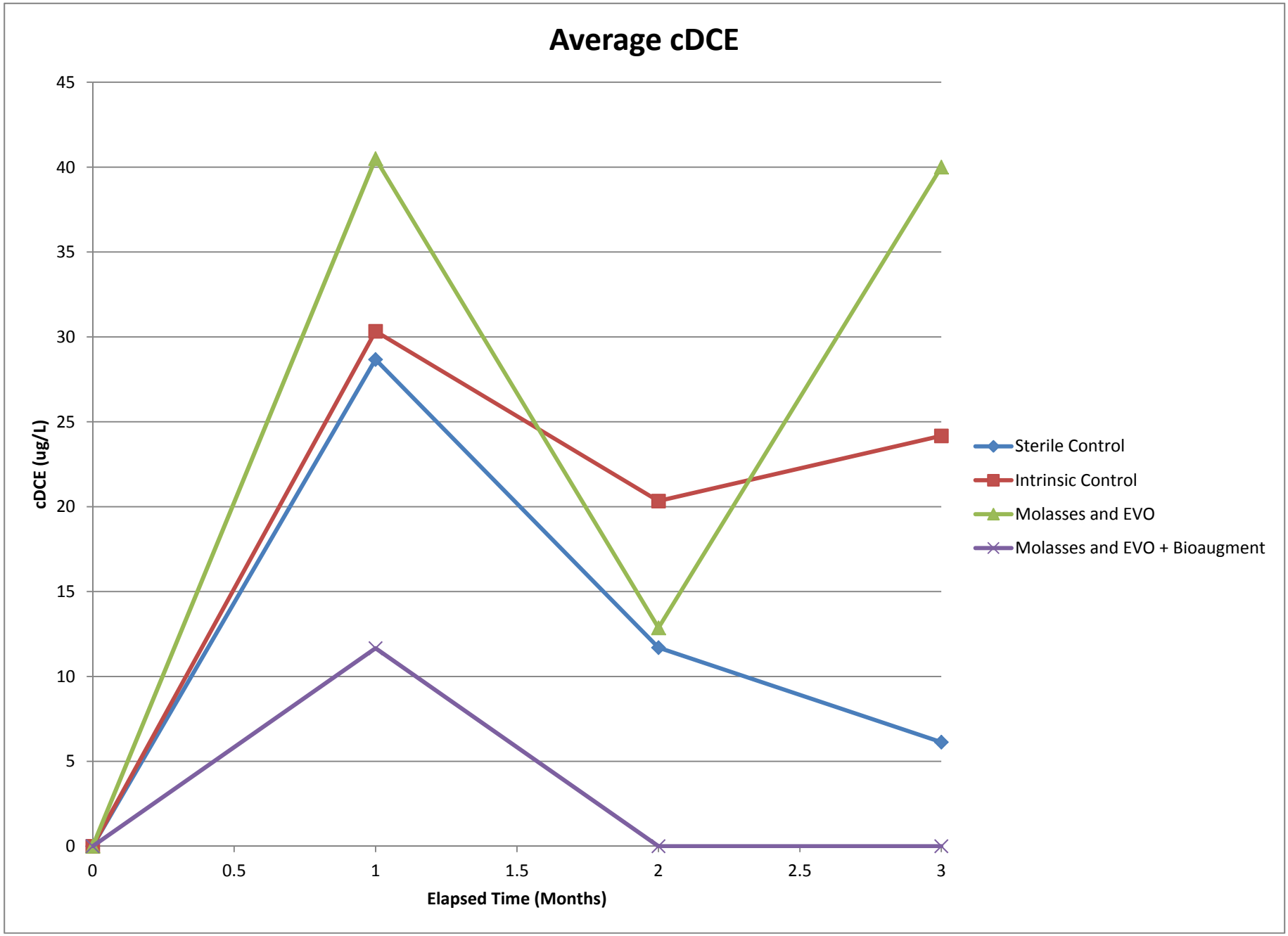

Average Sulfate
60.0
50.0
40.0
30.0
20.0
10.0
0.0
SO4 (mg/L)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
Sterile Control
Intrinsic Control
Molasses and EVO
Molasses and EVO + Bioaugment

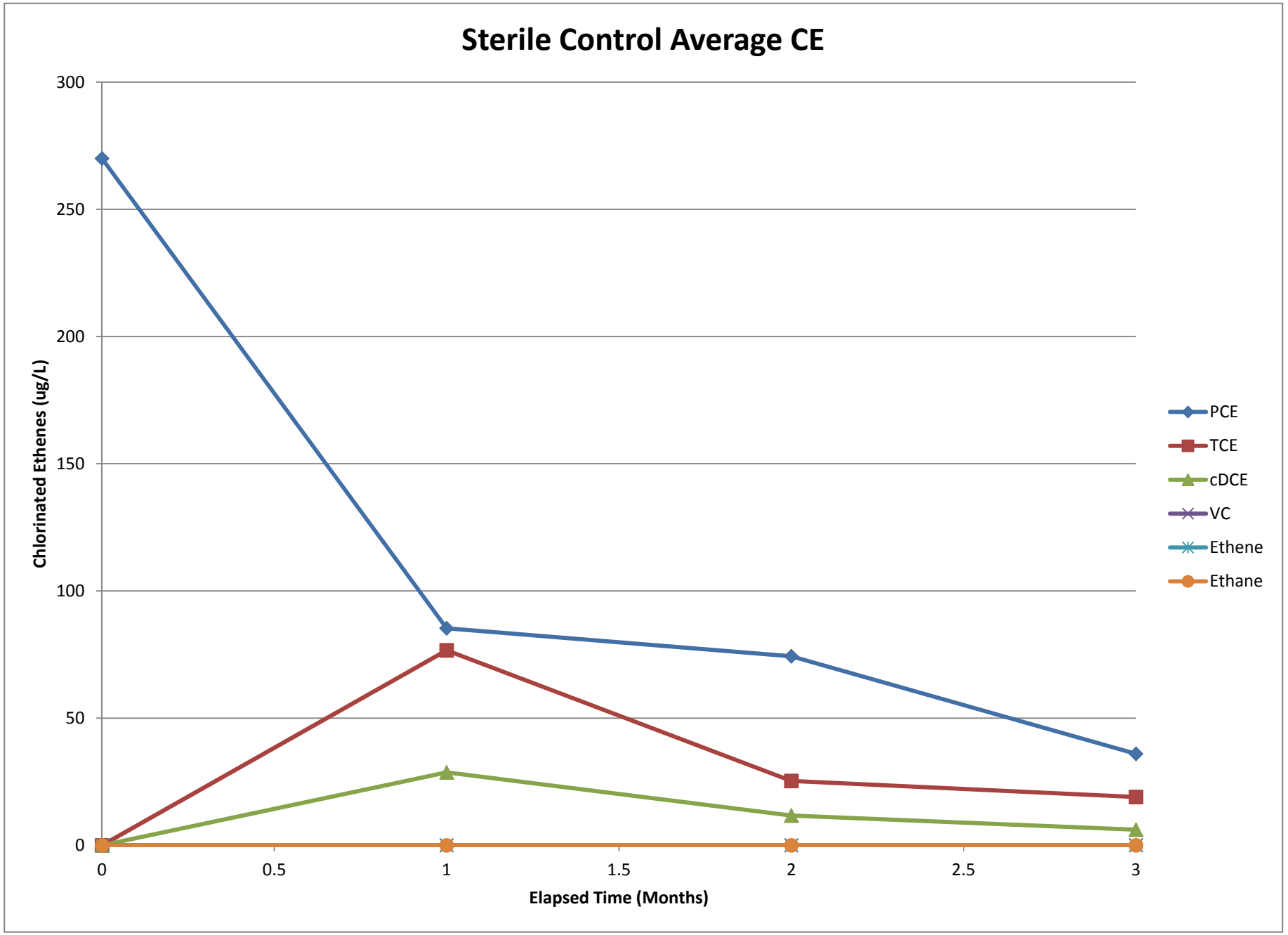

Average Methane
25000
20000
15000
10000
5000
0
Methane (ug/L)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
Sterile Control
Intrinsic Control
Molasses and EVO
Molasses and EVO + Bioaugment

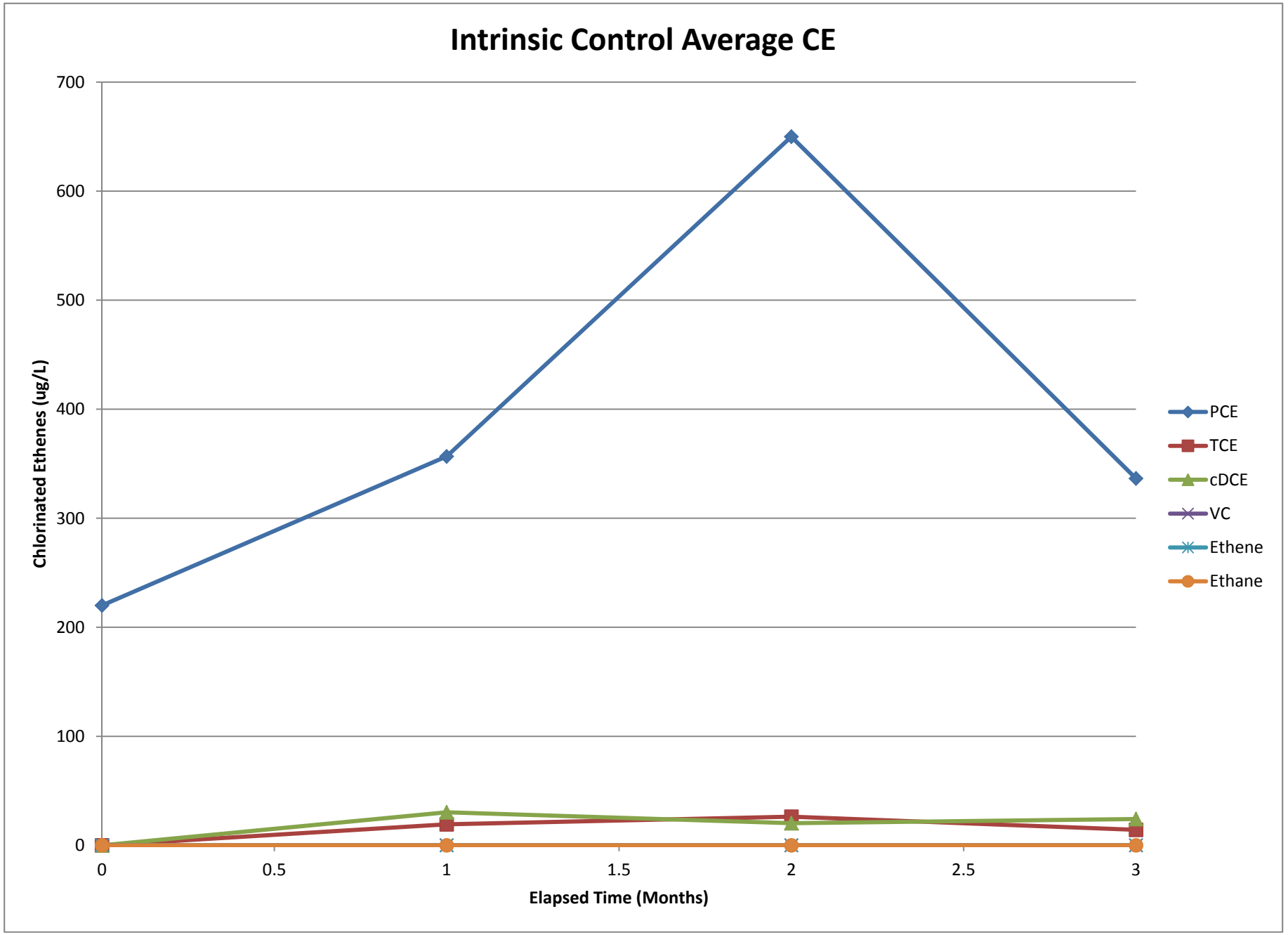

Average Chloride
200
180
160
140
120
100
80
60
40
20
0
Cl (mg/L)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
Sterile Control
Intrinsic Control
Molasses and EVO
Molasses and EVO + Bioaugment

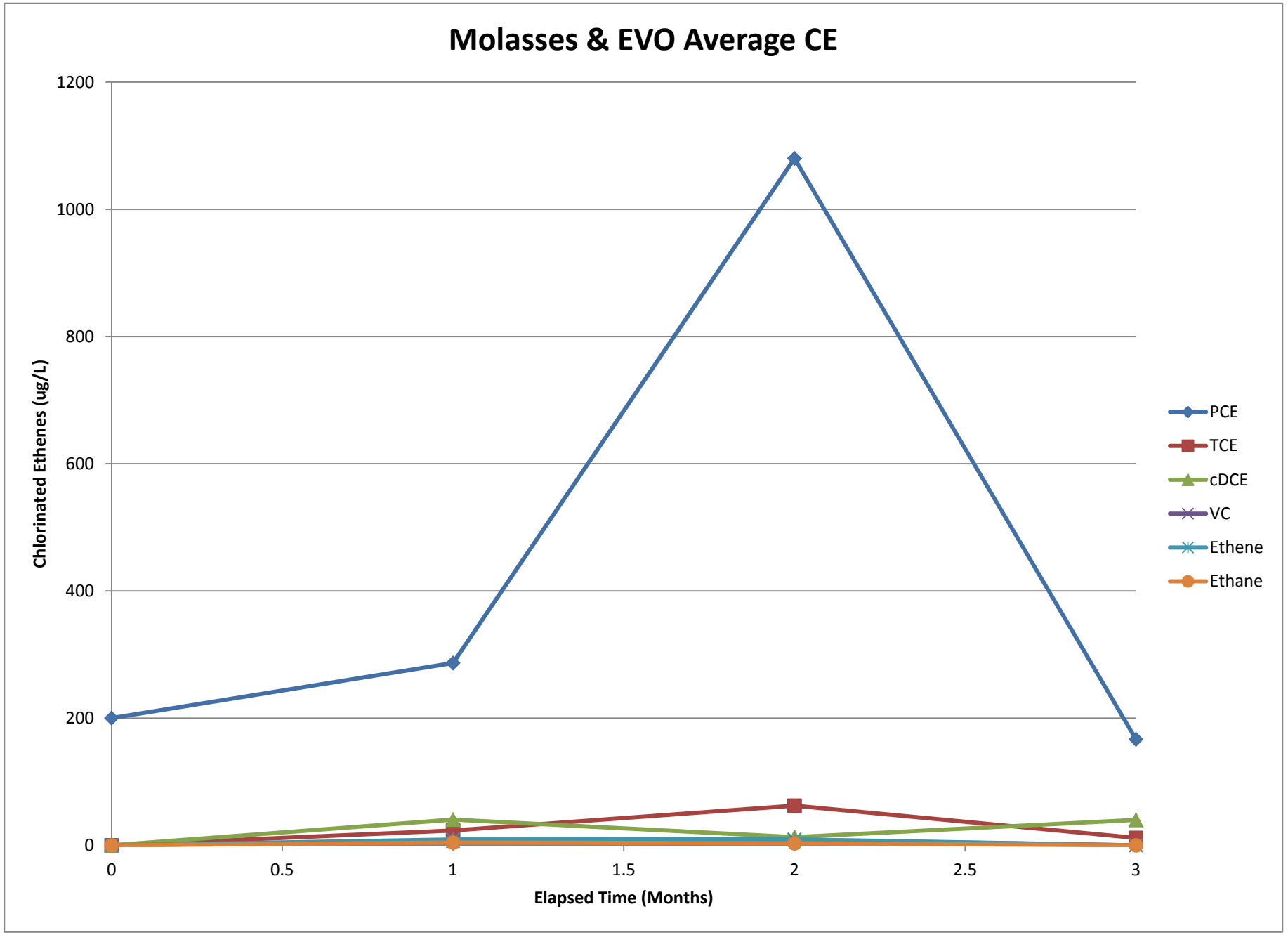

Average PCE
1200
1000
800
600
400
200
0
PCE (ug/L)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
Sterile Control
Intrinsic Control
Molasses and EVO
Molasses and EVO + Bioaugment

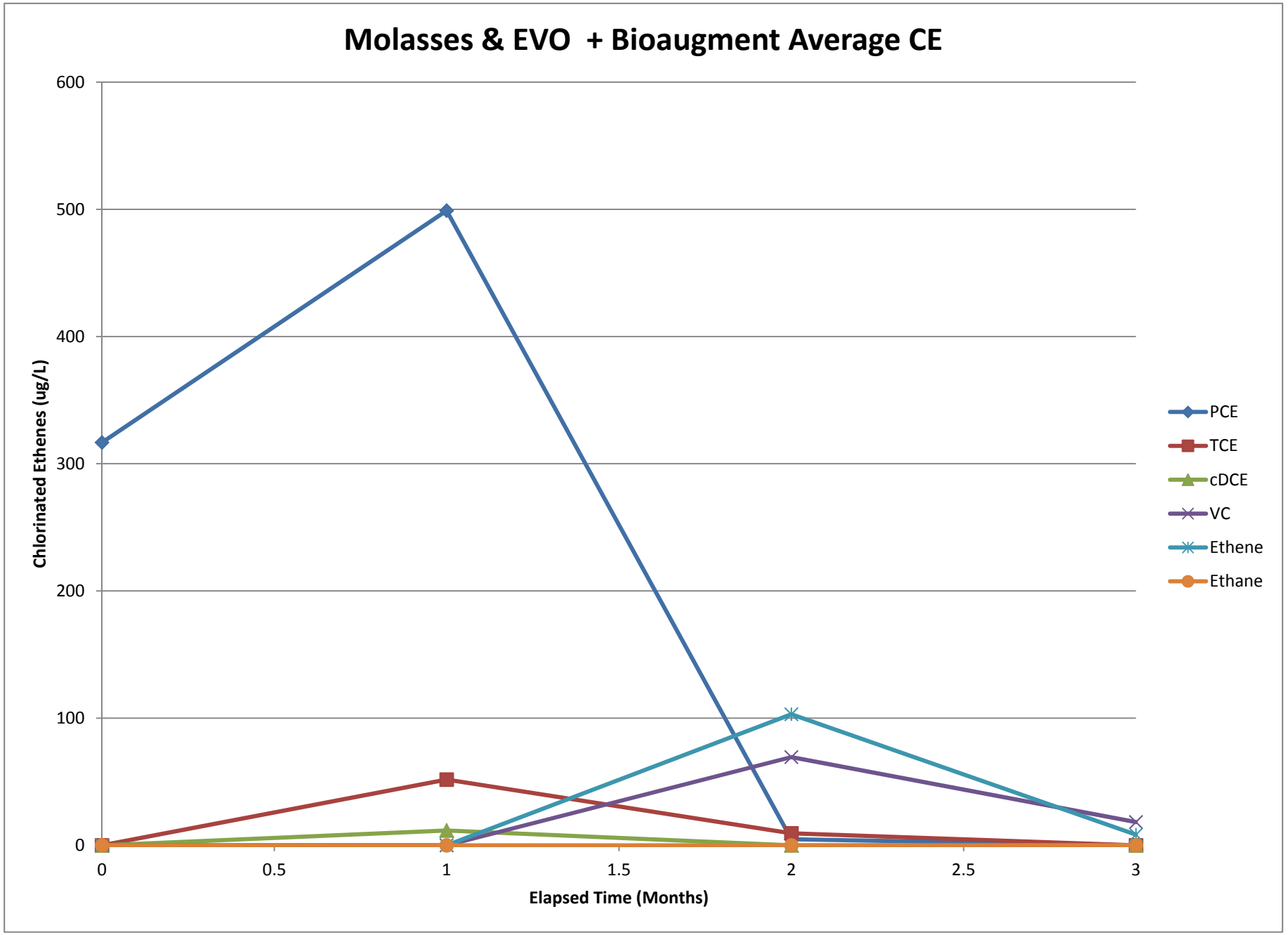

Average TCE
90
80
70
60
50
40
30
20
10
0
TCE (ug/L)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
Sterile Control
Intrinsic Control
Molasses and EVO
Molasses and EVO + Bioaugment


Average cDCE
45
40
35
30
25
20
15
10
5
0
cDCE (ug/L)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
Sterile Control
Intrinsic Control
Molasses and EVO
Molasses and EVO + Bioaugment

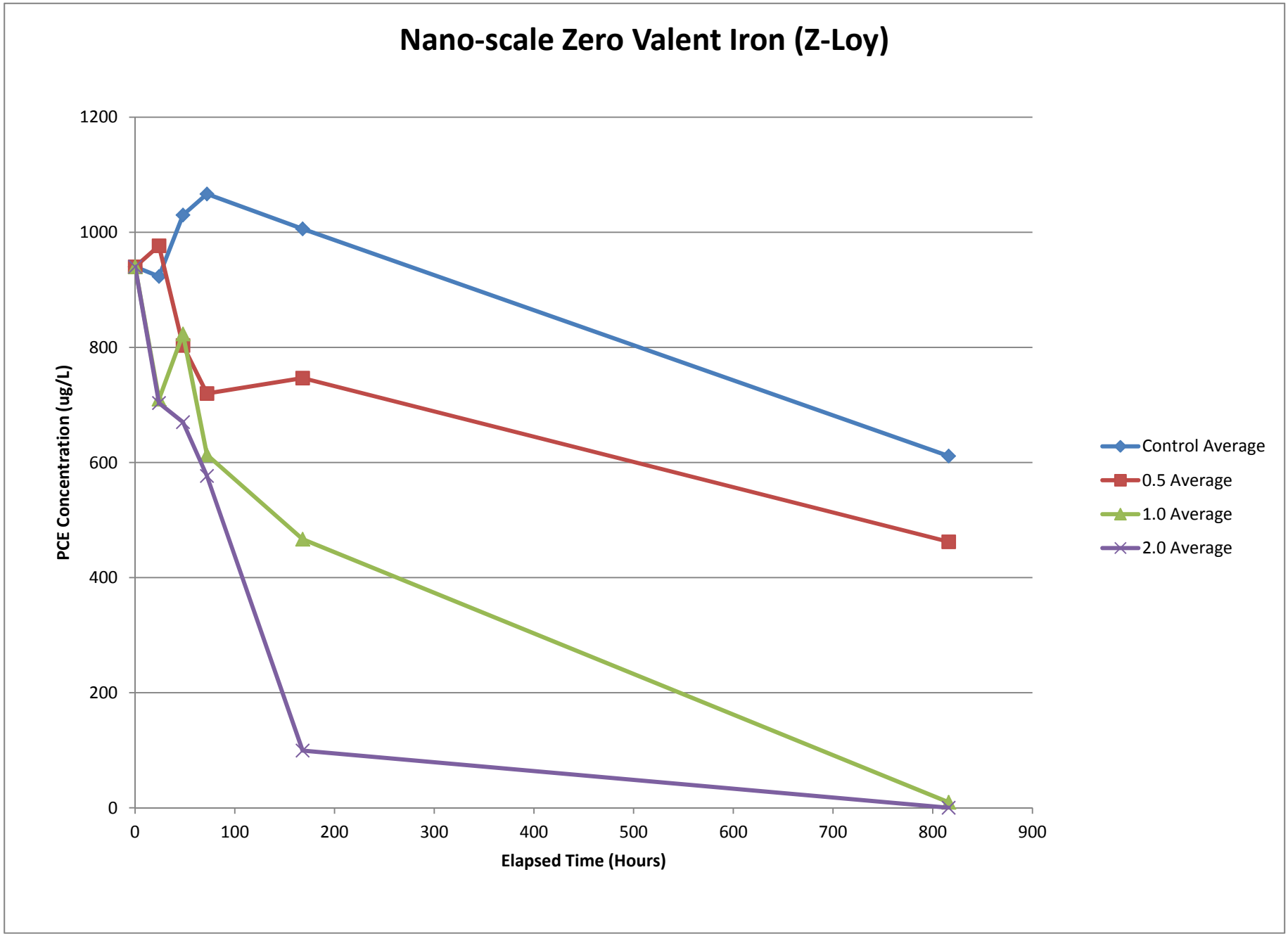

Sterile Control Average CE
300
250
200
150
100
50
0
Chlorinated Ethenes (ug/L)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
PCE
TCE
cDCE
VC
Ethene
Ethane


Intrinsic Control Average CE
700
600
500
400
300
200
100
0
Chlorinated Ethenes (ug/L)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
PCE
TCE
cDCE
VC
Ethene
Ethane

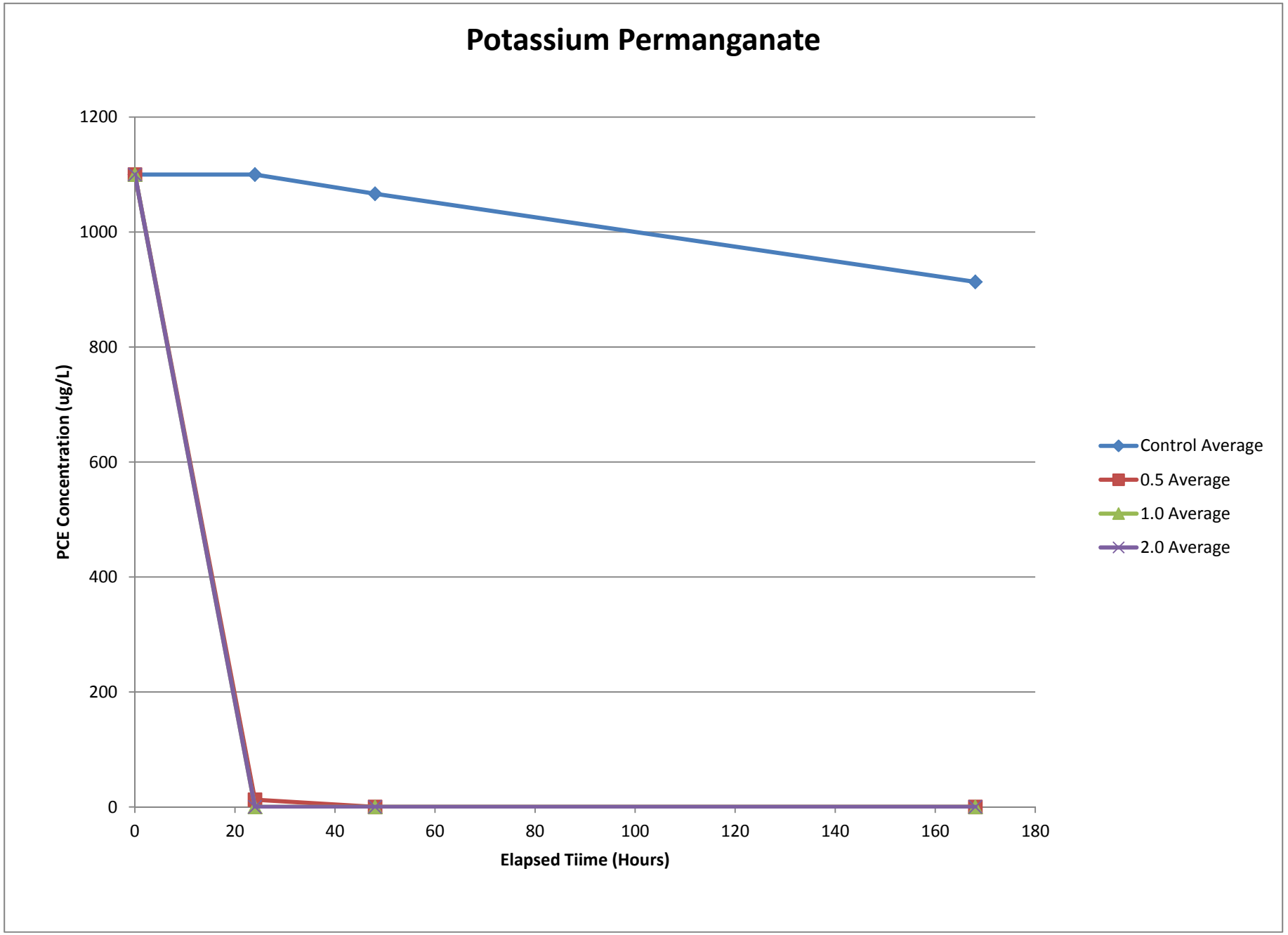

Molasses & EVO Average CE
1200
1000
800
600
400
200
0
Chlorinated Ethenes (ug/L)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
PCE
TCE
cDCE
VC
Ethene
Ethane


Molasses & EVO + Bioaugment Average CE
600
500
400
300
200
100
0
Chlorinated Ethenes (ug/L)
0
0.5
1
1.5
2
2.5
3
Elapsed Time (Months)
PCE
TCE
cDCE
VC
Ethene
Ethane

ERD BENCH SCALE TESTING RESULTS


Nano-scale Zero Valent Iron (Z-Loy)
PCE Concentration (ug/L)
1200
1000
800
600
400
200
0
0
100
200
300
400
500
600
700
800
900
Elapsed Time (Hours)
Control Average
0.5 Average
1.0 Average
2.0 Average

CHEMICAL OXIDATION BENCH SCALE TESTING RESULTS


Potassium Permanganate
PCE Concentration (ug/L)
1200
1000
800
600
400
200
0
0
20
40
60
80
100
120
140
160
180
Elapsed Tiime (Hours)
Control Average
0.5 Average
1.0 Average
2.0 Average

APPENDIX B

FINAL REPORT FOR FORT DRUM, NY MICROCOSM TREATABILITY STUDY, TERRA SYSTEMS

December 7, 2011

Eric White
PARS Environmental, Inc.
500 Horizon Drive
Suite 540
Robbinsville, NJ

Arul Ayyaswami
Gannett Fleming, Inc.
47 Waterman Avenue
East Longmeadow, MA 01028-1728

RE: Final Report for Fort Drum, NY Microcosm Treatability Study Version 2

Dear Eric and Arul:

The results of the treatability testing performed for the Fort Drum in New York are discussed in this report. The technologies evaluated focused on the treatment of various chlorinated volatile organic compounds (CVOCs; tetrachloroethene [PCE], trichloroethene [TCE], *cis*-1,2-dichloroethene [cDCE], and vinyl chloride [VC]).

The study was designed to evaluate the effectiveness of: (1) biostimulation under reductive dechlorination conditions to treat various CVOCs; (2) bioaugmentation with biostimulation to treat CVOCs.

The laboratory work was performed by Erich Hauptmann under the direction of Dr. Michael Lee at Terra Systems, Inc. (TSI, Wilmington, DE).

1.0 SUPPLY OF SAMPLES

Personnel from PARS/Gannett Fleming were responsible for collecting and packaging the field samples. The samples were delivered by New Jersey Analytical Laboratories under standard Chain of Custody procedures.

Approximately 12.3 kilograms of soil and 59.0 kg of groundwater were delivered on ice on July 13, 2011 to:

Dr. Michael D. Lee
Terra Systems, Inc.
1035 Philadelphia Pike, Suite E
Wilmington, DE 19809

302-798-9553

All site materials were stored refrigerated until used in the study.

2.0 TREATABILITY TESTING

The treatability testing consisted of two tasks of work, as described in the sections that follow.

2.1 Task 1, Initial Characterization of Soil and Groundwater

In an anaerobic chamber, the soil was passed through a 4.5 mm screen to remove debris and rocks, then mixed by hand to apparent homogeneity.

Groundwater samples were submitted to Lancaster, Laboratories (Lancaster, PA) on July 14, 2011 to be analyzed for volatiles (EPA Method 8260); methane, ethene, and ethane (EPA Method 8015 modified); chloride, nitrate-nitrogen, and sulfate by EPA 300.0; total phosphorus as phosphate by EPA 365.1; and ferrous iron by SM20 3500 Fe B modified.

Samples of the groundwater were sent on July 14 to Microbial Insights, Inc. (Rockford, TN) to be analyzed for the numbers of *Dehalococcoides* and the tceA, bvcA, and vinyl chloride reductase genes.

Initial characterization results are shown in Table 1. The groundwater showed a moderate concentration of PCE (150 μg/L); trace levels of TCE (2 μg/L), chloroform (5 μg/L), and methylene chloride (2 μg/L); and no detectable cDCE (<0.8 μg/L), VC (<1.0 μg/L), ethene (<1.0 μg/L), or ethane (<1.0 μg/L). The groundwater had moderate levels of the competing electron acceptors nitrate (3.7 mg/L) and sulfate (44.1 mg/L), but no detectable ferrous iron and very little methane (0.010 mg/L). The numbers of *Dehalococcoides ethenogenes* were reported by Microbial Insights as less than 0.5 cells/mL with no detectable *Dehalobacter spp.* (<2.8 cells/mL), and no tceA reductase genes, bvcA, or vinyl chloride reductase genes (<0.5 genes copies/mL each). No dechlorinating microbes were detected and the microbial population does not appear capable of transforming VC to ethene and ethane and is limited by environmental conditions (such as oxygenated conditions, substrate availability, or low pH).

The pHs of the soil and groundwater were both slightly alkaline (8.1 for the groundwater and 8.7 for 20 g soil in 50 mL distilled water). Additional buffer was not needed to raise the pH under existing conditions. Reductive dechlorination is often slowed at pHs below 6.0. Addition of a buffer can counteract the acids produced from the fermentation of the emulsified vegetable oil.

The Initial Characterization results confirmed the presence of the target VOCs, but failed to show that substantial anaerobic biodegradation is occurring under the existing site conditions.

Table 1. Initial Characterization Results

Initial Characterization	Units	GW	Soil
Inorganics			
Ferrous Iron	mg/L	<0.010	
Nitrate-Nitrogen	mg/L	3.7	
Sulfate	mg/L	44.1	
Chloride	mg/L	149	
VOCs			
Tetrachloroethene	µg/L	150	
Trichloroethene	µg/L	2 J	
Cis-1,2-Dichloroethene	µg/L	<0.8	
Vinyl Chloride	µg/L	<1.0	
Chloroform	µg/L	5.0	
Methylene Chloride	µg/L	2 J	
Endproduct Gases			
Ethane	µg/L	<1.0	
Ethene	µg/L	<1.0	
Methane	µg/L	10 J	
Properties			
pH	SU	8.1	8.7
Density	g/mL		1.79
Microbial Populations			
Dehalococcoides spp.	cells/mL	<5.0E-01	
Dehalobacter spp.	cells/mL	<2.8E0	
tceA Reductase genes	cells/mL	<5.0E-01	
bvcA Reductase genes	cells/mL	<5.0E-01	
Vinyl Chloride Reductase genes	cells/mL	<5.0E-01	

J estimated below practical quantification limits, but above the lower quantification limit

2.2 Task 2, Treatment of Chlorinated VOCs Using Reductive Dechlorination

2.2.1 Introduction

Under appropriate reducing conditions, *Dehalococcoides ethenogenes* bacteria are able to sequentially dechlorinate PCE to TCE, cDCE, VC, and ethene (ethane is sometimes also produced). The absence of these specialized bacteria results in dechlorination only to cDCE, a daughter product that is undesirable from an environmental perspective.

The 12-week anaerobic biodegradation study (July 26, 2011 to October 18, 2011) was designed to evaluate the completeness of VOC dechlorination occurring with indigenous microorganisms, as well as to determine whether biostimulation and bioaugmentation with a dechlorinating culture containing *Dehalococcoides ethenogenes* would significantly improve the dechlorination rates. A combination of Terra Systems, Inc. Slow Release Substrate or SRS® (an emulsified vegetable oil product or EVO) and molasses were used as the substrate. Four treatment conditions were evaluated in triplicate:

1A. 1B, 1C	Sterile Control – autoclaved and amended with sodium azide
2A, 2B, 2C	Intrinsic Control
3A, 3B, 3C	Molasses and EVO
4A, 4B, 4C	Molasses and EVO + Bioaugmentation – the selected electron donor with the Shaw SDC-9 culture

The "Sterile Control" was designed to monitor for abiotic loss of CVOCs. The "Intrinsic Control" condition was used to simulate existing site conditions in the laboratory. The "Molasses and EVO Biostimulated" condition was used to increase ambient anaerobic biodegradation rates by creating more favorable growth conditions for the indigenous microorganisms, allowing the biochemical transformation of CVOCs to be unambiguously observed in a much shorter period of time. The substrate and bioaugmented conditions demonstrated whether complete dechlorination would occur with the addition of a microbial population containing *Dehalococcoides ethenogenes*. The amendments for each treatment are shown in Table 2. Molasses contains 29% carbon and SRS contains about 51% carbon. A loading of 500 mg C/L of molasses and 500 mg C/L EVO was added to each microcosm. The electron donor loading was chosen by PARS Environmental and Gannett Fleming.

Aqueous samples from each condition were taken at the beginning of the study, as well as after 1, 2, and 3 months of incubation. These samples were analyzed for VOCs, ethene, ethane, methane, pH, redox potential (or ORP), volatile fatty acids (VFA) as acetate (using a Hach method which converted the fatty acids to acetate), and chloride, nitrate-nitrogen, and sulfate by ion chromatography using EPA 300.0. The IC analyses were conducted on composites of the three replicates for each treatment.

The PCE concentration as measured by Lancaster Laboratories was 150 μg/L. To provide a concentration more representative of the typical in situ conditions, the groundwater was spiked with a solution of PCE in methanol to 500 μg/L. A PCE Spiking Solution containing 100,000 mg/L PCE (62 μL) and 958 μL methanol was prepared. Eight hundred mL of the sterile groundwater was spiked with 4.0 μL of the PCE solution. 2.4 L of the non-sterile groundwater was transferred to a 1 gallon bottle and spiked with 8.4 μL of the PCE solution to give a total of 500 μg/L PCE.

Appendix I presents the VOC, dissolved gases (ethene, ethane and methane), pH, ORP, VFA, chloride, nitrate-nitrogen, and sulfate results for each of the twelve microcosm treatments over time. Average concentrations of the VOCs and other parameters for all three replicates of each treatment are also shown.

Table 2. Amendments

No	Treatment	Soil	Groundwater	SRS	Molasses	Resazurin	Bioaugmentation Culture (Month 1)
		g	mL	mL	mL	mL	mL
1A	Sterile	60	220				
1B	Sterile	60	220				
1C	Sterile	60	220				
2A	Intrinsic	60	220				
2B	Intrinsic	60	220				
2C	Intrinsic	60	220				
3A	Molasses and EVO	60	220	0.22	0.38	0.22	
3B	Molasses and EVO	60	220	0.22	0.38		
3C	Molasses and EVO	60	220	0.22	0.38		
4A	Molasses and EVO + Bioaugmentation	60	220	0.22	0.38		2.2
4B	Molasses and EVO + Bioaugmentation	60	220	0.22	0.38		2.2
4C	Molasses and EVO + Bioaugmentation	60	220	0.22	0.38		2.2
Total		720	2640	1.32	2.28	0.22	6.6

2.2.2 Metabolic Activity

Metabolic activity refers to the level of anaerobic biological degradation that is occurring and has been evaluated in this study by measuring nitrate-nitrogen, sulfate, dissolved methane, and VFA concentrations. Decreases in the nitrate-nitrogen and sulfate concentrations and increases in methane concentrations in a microcosm were indications that anaerobic microorganisms are present and actively biodegrading the organic substrates. Methane is produced when other electron acceptors (e.g., oxygen, nitrate, sulfate, iron) have largely been depleted, and reductive dechlorination occurs most readily under these methanogenic conditions.

Figure 1 depicts the average nitrate-nitrogen, sulfate, and dissolved methane concentrations for each treatment (nitrate-nitrogen and sulfate were measured in a composite from all three replicates where methane represents averages for that treatment with the ranges shown by the error bars). Nitrate-nitrogen was consumed within one month in the sterile control, molasses and EVO, and molasses and EVO + bioaugmentation treatments. Nitrate-nitrogen was non-detect after two months in the Intrinsic Control. The nitrate-nitrogen may have been consumed by microorganisms using the 3% hydrogen in the glove box atmosphere. Sulfate was not consumed in the sterile control and was reduced by 26% in the Intrinsic Control. Sulfate concentrations in the Molasses and EVO treatment decreased to 18.8 mg/L by Month 2 and to 4.1 mg/L (below the method detection limit) at Month 3. In the Molasses and EVO bioaugmented treatment, sulfate decreased to 2.9 mg/L by Month 2 and 7.8 mg/L at Month 3. Methane concentrations in the microcosms at the beginning of the study were all non-detect (<0.0007 mg/L). Methane was not detected in the Treatment 1 Sterile Control until Month 3 in one replicate at 0.0018 mg/L. Methane was detected at low concentrations of 0.0016 mg/L or less in the Treatment 2 Intrinsic Controls throughout the 3-month study. Methane was detected at 0.0034 to 0.0091 mg/L at Month 1 in the Treatment 3 Molasses and EVO and then increased to 0.028 to 0.040 mg/L at Month 2 and to 0.67 to 10.4 mg/L at Month 3. Methane concentrations above 0.56 mg/L are estimated as they were above the calibration standard curve. Elevated methane levels were also observed in the Treatments 4 Molasses and EVO + Bioaugmentation Culture at Months 2 and 3.

Figure 2 and Appendix I show the VFA averages and ranges for the four treatments. At Month 0, the VFA concentrations ranged from 0 to 128 mg/L with the highest VFA found with Treatment 1 Sterile Control. The autoclaving process may have released organics that were showed up as VFAs. The Sterile Control Treatment 1 had between 103 and 314 mg/L VFA for the remainder of the treatment period. The VFA concentrations were low (0 to 12 mg/L) in the intrinsic control and substrate amended treatments at Month 0 as little of the substrate had been converted to fatty acids. The VFA remained low (54 mg/L or less) in Treatment 2 Intrinsic Control. The VFA increased to between 538 and 7825 mg/L at Month 1 in the molasses and EVO amended Treatments 3 and 4. The maximum VFA were found at month 2 with concentrations ranging from 860 to 1,076 mg/L. VFA concentrations decreased to a range of 460 to 750 mg/L in the Molasses and EVO Treatment 3 at Month 3 and from 194 to 325 mg/L in the Molasses, EVO, and Bioaugmentation Treatment 4.

The chloride concentrations were measured for the four treatments over time. Chloride is produced as PCE is degraded with 0.86 mg/L chloride produced from the conversion of 1 mg/L

PCE to ethene. Chloride concentrations decreased in three of the four treatments. There was not enough PCE in the microcosms to see a significant change in the chloride concentrations.

The results of the electron acceptor evaluations in the microcosm study indicate:

- The Sterile Control treatment showed losses of nitrate, but no reduction of sulfate and production of methane.
- The Intrinsic Control microcosms did show losses of nitrate to below the detection limits and some reduction in the sulfate concentration, but no methane production as there is little available organic matter;
- Growth of the anaerobic microorganisms can be stimulated through the addition of organic substrates. This conclusion is based on the decreases in nitrate and sulfate and increases in methane concentrations observed in substrate-amended and substrate-amended + bioaugmented microcosms relative to the control microcosms.

2.2.3 pH AND ORP IN ANAEROBIC MICROCOSMS

Samples were collected from the all twelve microcosms throughout the study to be analyzed for pH and oxidation-reduction potential (ORP). Figures 3 and 4 show the average pH and ORP for each treatment along with the ranges. Appendix I also provide the results of the pH and ORP analyses. The initial pH for the microcosms ranged between 6.8 and 7.6. The pH remained constant (6.9 to 7.2) in the Sterile Control Treatment 1. The pH ranged between 6.8 and 7.1 in the Treatment 2 (Intrinsic Control). The pH fell to as low as 5.5 in Treatments 3 and 4 with Molasses and EVO; this low pH could inhibit reductive dechlorination. After the samples were collected at Month 2, 1 g/L of sodium bicarbonate was added to Treatments 3 and 4. The pH increased to 6.5 in treatment 4B after the sodium bicarbonate. The pH in the substrate-amended treatments remained favorable (above 6.4) at Month 3.

Reducing conditions (-20 to -41 millivolts or mV) were found initially in all treatments. ORPs ranged from -91 to 78 mV were found from Month 0 to 3 in Treatment 1 (Sterile Control). Reducing conditions of -12 to -162 mV were seen in Treatment 2 (Intrinsic Control). The ORP were reducing (-5 to -136 mV) in substrate amended Treatments 3 and 4. Treatment 3A was amended with 1 mg/L of resazurin, a dye sensitive to redox conditions. Under oxidizing conditions, it is blue, under mildly reducing conditions, it becomes pink, and under strongly reducing conditions it is clear. The samples collected from Bottle 3A at Months 1, 2, and 3 were all clear, indicating reducing conditions.

2.2.4 CVOC BIODEGRADATION IN ANAEROBIC MICROCOSMS

Appendix I presents the analytical results for the anaerobic microcosms containing the Fort Drum groundwater and soils. Figures presenting the chlorinated ethene results for each treatment are summarized as follows:

Figure	Microcosm	Amendments
5	1	Sterile Control
6	2	Intrinsic Control
8	3	Molasses and EVO
9	4	Molasses and EVO + Bioaugmentation

CVOC concentrations presented on the figures are expressed in micromolar (µM) units. Molar units were used so that each CVOC is expressed on an equivalent mass basis for comparison purposes. The micromolar concentrations are calculated by dividing the concentration in µg/L by the molecular weight of the CVOC (PCE = 165.8 grams per mole [g/mol]; TCE = 131.4 g/mol; cDCE = 96.9 g/mol; VC = 62.5 g/mol; acetylene = 26 g/mol; ethene = 28 g/mol; and ethane = 30 g/mol). Each replicate for the treatments is shown in the Figures.

The following Table 3 and section summarize the average results for microcosms containing Fort Drum groundwater and soils from Months 0 to 3:

Table 3. Percent Removals Months 0 to 3

Treatment	1 Sterile Control	2 Intrinsic Control	3 Molasses and EVO	4 Molasses and EVO + Bioaugmentation
PCE	86.7	-8.4	16.7	**>98.2**
TCE	>-237.2	>-151.2	>-107.0	0
cDCE	>-8.6	>-329.3	>-612.1	0
VC	0	0	0	**>-225.6**
Sum CE w/o Gases	73.9	-35.4	-24.9	84.6
Methane	>14.3	>24.3	**>-999900**	**>-3385614**
Ethene	0	0	0	**>-597.7**
Ethane	0	0	0	0

Bold values represent changes greater than observed in sterile control. < = Compound not detected at Month 0, detection limit used for T=0 result. >- = Compound concentration increased from non-detect at Month 0

In the Sterile Control Treatment 1, there was a loss of 86.7% of the PCE with limited transformation to TCE and cDCE. Replicate 1A showed more transformation to TCE and cDCE than the other two replicates where PCE predominated. VC, ethene, and ethane were not produced in this treatment. There was a moderate loss (73.9%) of the chlorinated ethenes. The losses are likely due to volatilization into the small volume of headspace in the bottles or sorption onto the soil particles. Analytical errors may also have contributed the variability in measured PCE concentrations.

Average PCE concentrations increased by 8.4% in Treatment 2 Intrinsic Control microcosm with relatively low levels of TCE and cDCE detected at Months 1, 2, and 3. Between Months 2 and 3, PCE concentrations decreased in bottle 2C with increases in TCE. VC, ethene, and ethane were not produced in this treatment. The native microbial population was not able to support much reductive dechlorination under the existing site conditions within the 3 month incubation period.

The Molasses and EVO only treatment 3 showed the conversion of most of the PCE to cDCE in replicate 3A; PCE predominated in the replicates 3B and 3C. Relatively low concentrations of VC, ethene, and ethane were generated in all three replicates at Month 2. However, VC, ethene, and ethane were not detected at Month 3 in any of the replicates. The total chlorinated ethenes (without the gases) increased by 24.9%.

Bioaugmentation was required for the complete dechlorination sequence of the PCE to ethene to be observed in Treatment 4 (Molasses, EVO, and Bioaugmentation). An average of 84.6% of the Sum CE without gases was removed in the bioaugmented treatments in the three month study. Vinyl chloride concentrations were decreasing in all replicates between months 2 and 3 and would have been completely consumed with a longer incubation period.

3.0 CONCLUSIONS

Based on the results of the treatability test performed, the following conclusions can be made:

- There was very limited dechlorination under the existing site conditions based upon the absence of dechlorinating bacteria or functional genes for the degradation of TCE or VC and absence of final degradation products including ethene and ethane in the groundwater and the results of the intrinsic control microcosm treatment over the 3 month incubation period.
- The growth of indigenous microorganisms at the Fort Drum site could not be stimulated through the addition of molasses and EVO to completely biodegrade the CVOCs. cDCE production was stimulated in one of the three replicates with the substrates.
- Molasses and EVO in conjunction with bioaugmentation did support almost complete dechlorination of the PCE during the three month microcosm study. Bioaugmentation with a dechlorinating appears to be necessary for this site.
- The addition of the 1,000 mg/L sodium bicarbonate buffer maintained the pH in the optimal range for reductive dechlorination.

The results of this study indicate that enhanced anaerobic bioremediation with bioaugmentation is a viable remedial alternatives for the Fort Drum facility to address the chlorinated VOC plumes. Remedial performance can be evaluated and modified as part of a field-scale pilot test. If bioremediation is chosen, it is recommended that injection of the molasses and EVO, sodium bicarbonate buffer, and bioaugmentation culture be conducted and monitored for at least three months to determine if the substrate can be effectively distributed.

Should you have any questions about the results of the studies or need additional information, please feel free to contact me by phone or e-mail.

Sincerely,

Michael D Lee, PhD.

Michael D. Lee, Ph.D.
Vice President Research and Development

FIGURES

Figure 1. Electron Acceptors in Microcosm Treatments

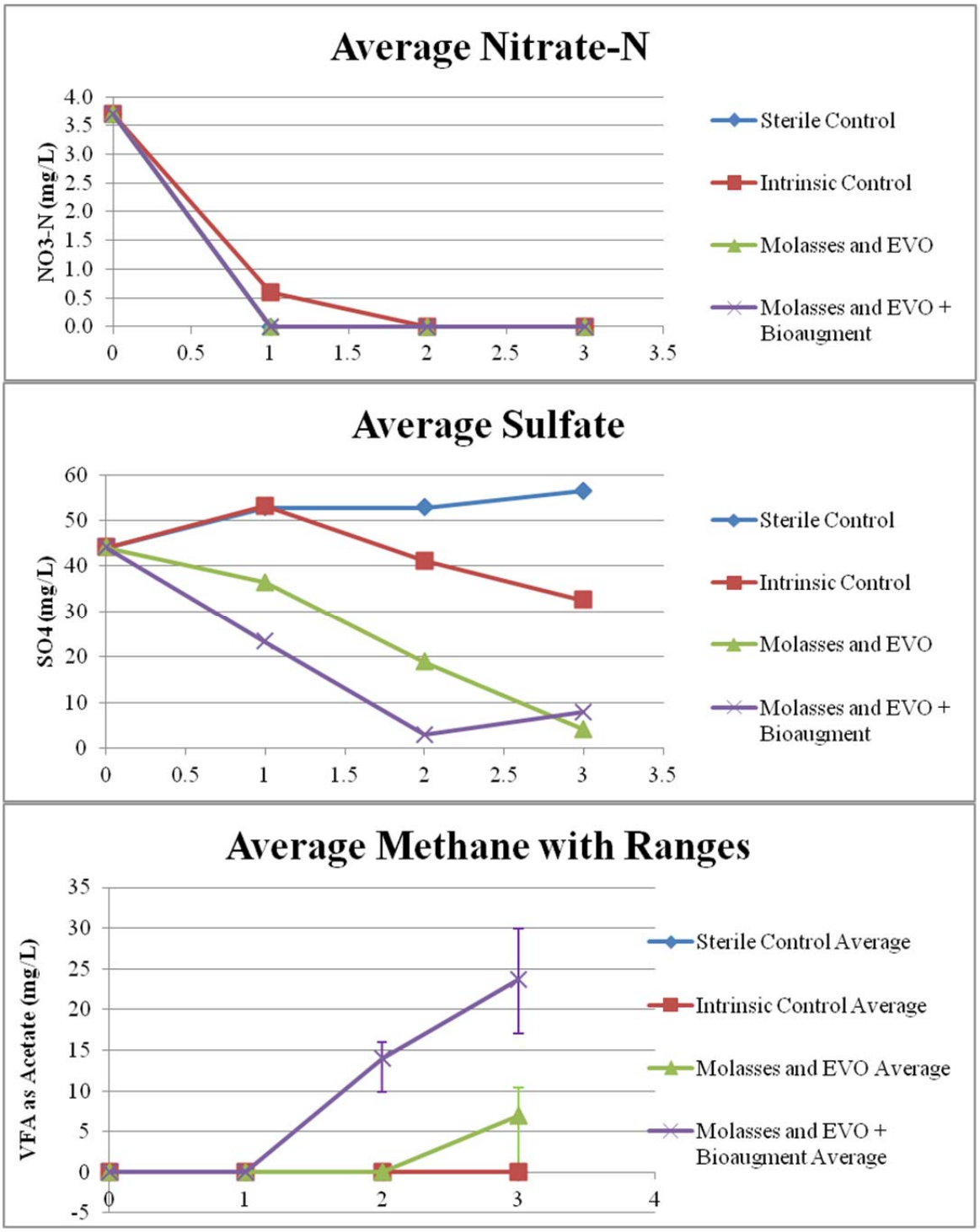


Figure 2. Average VFA with Ranges

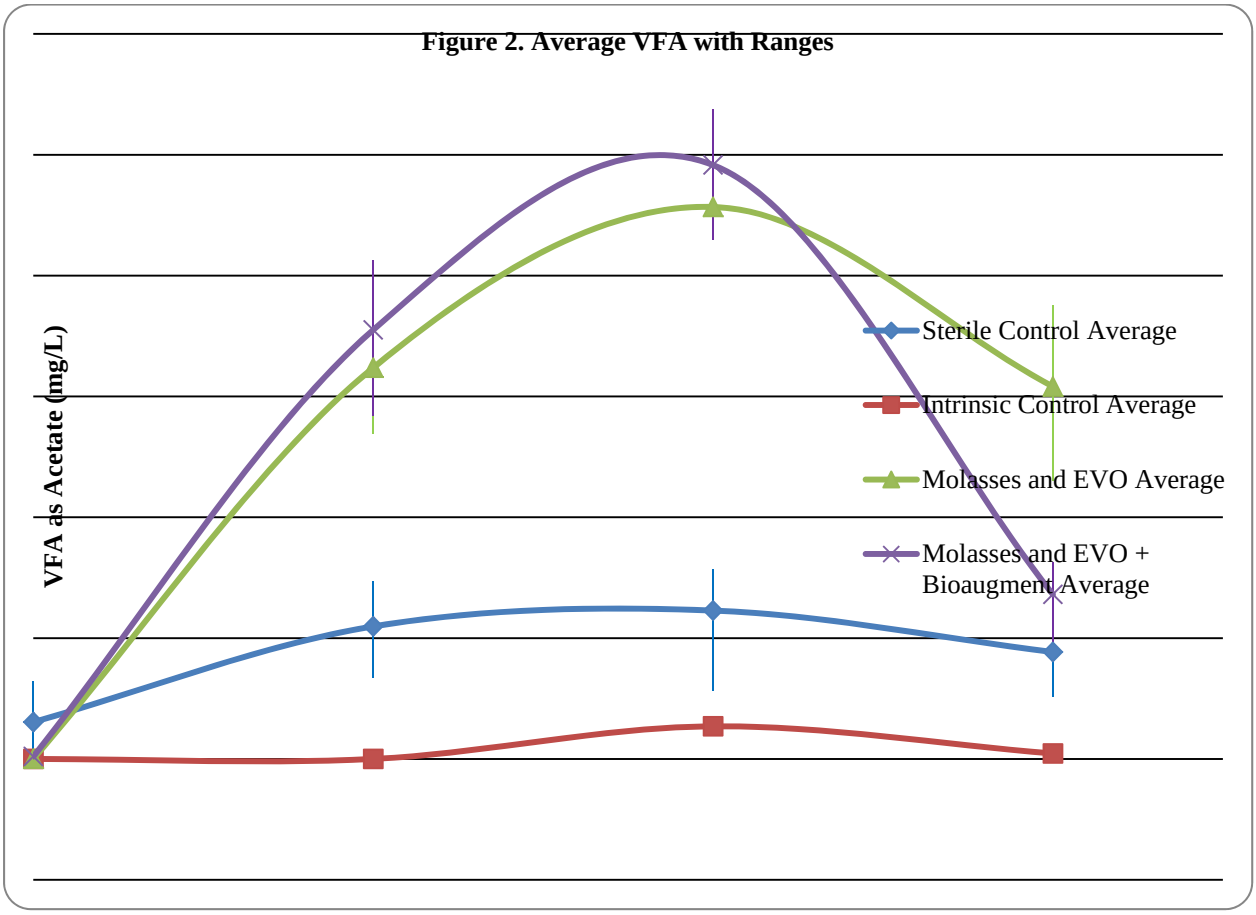


Figure 3. Average pH with Ranges

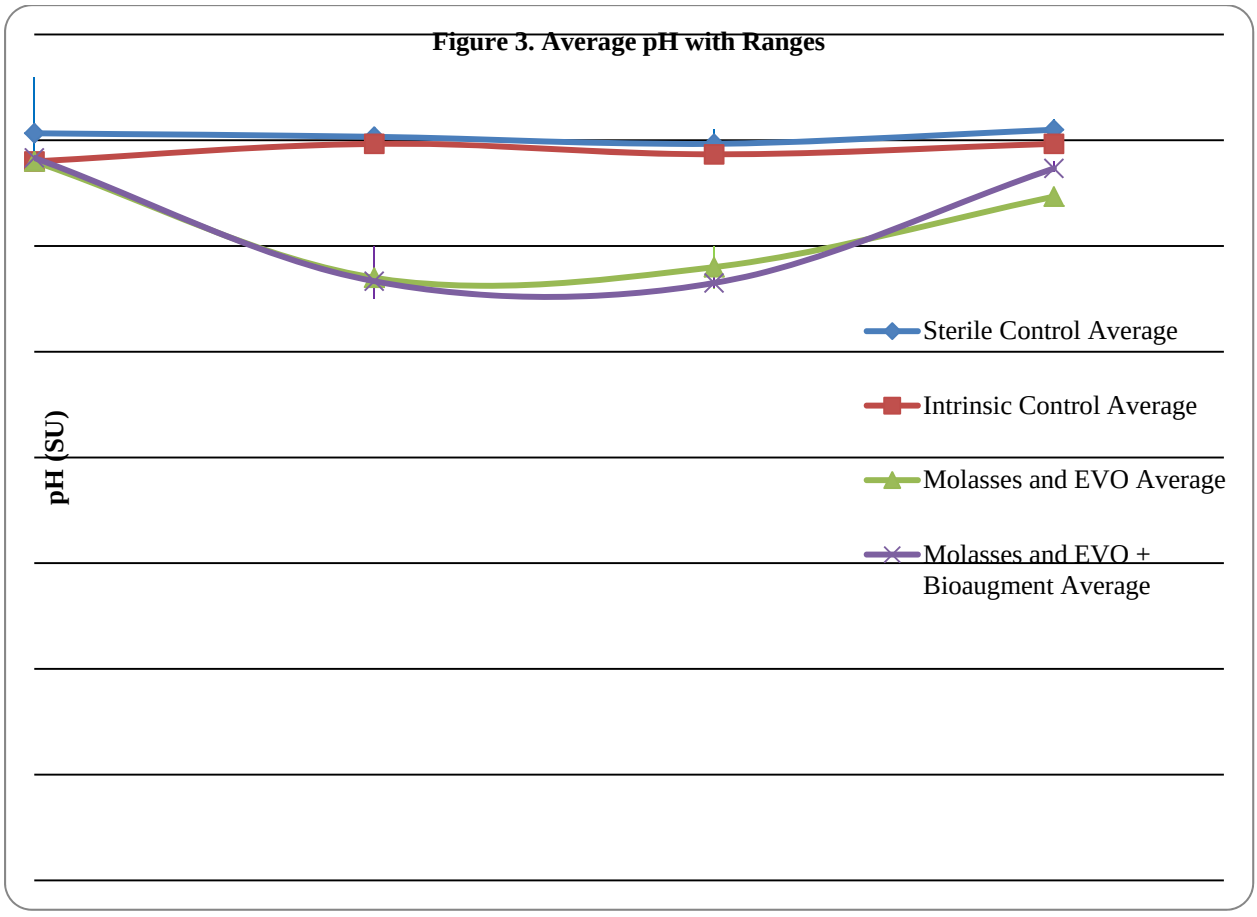


Figure 4. Average ORP with Ranges

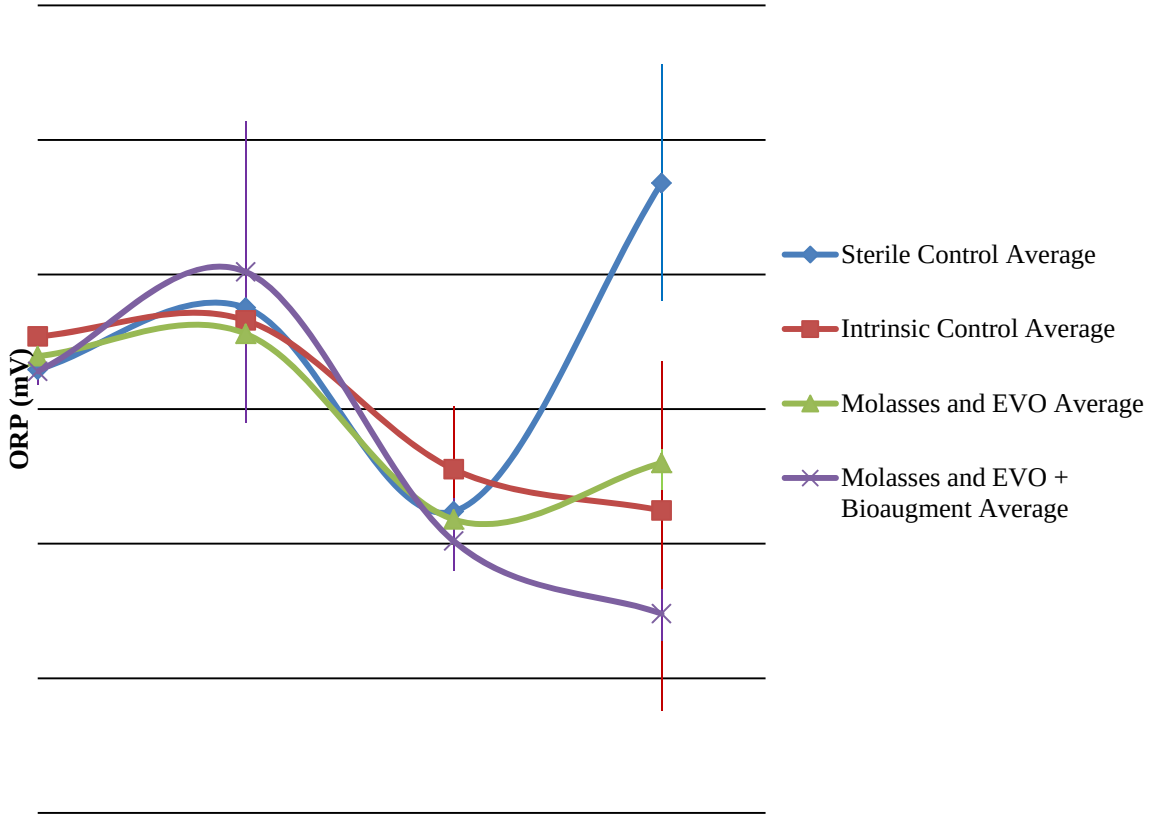


Figure 5. Sterile Control Treatments 1A-1C Chlorinated Ethenes

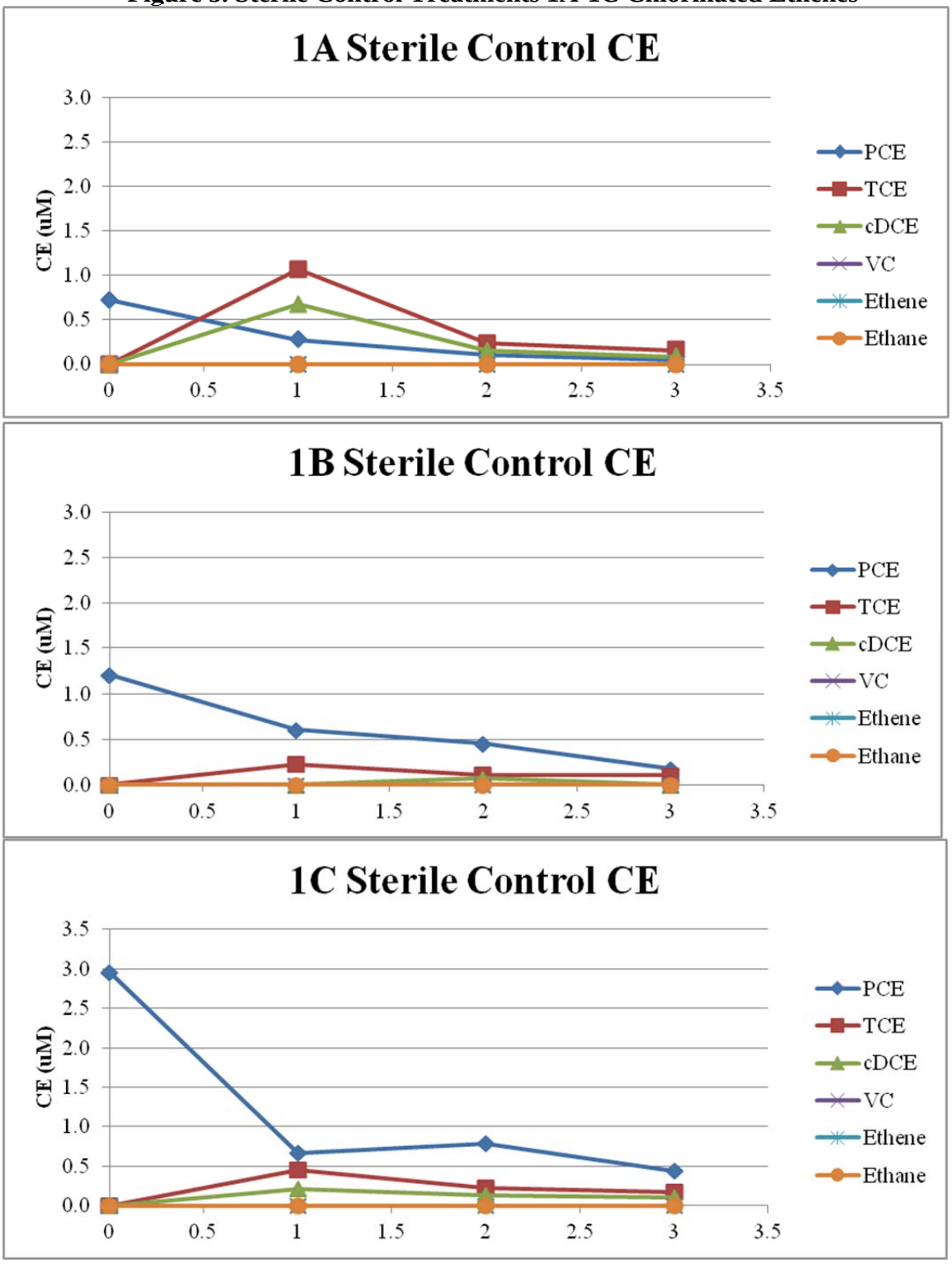


Figure 6. Intrinsic Control Treatments 2A-2C Chlorinated Ethenes

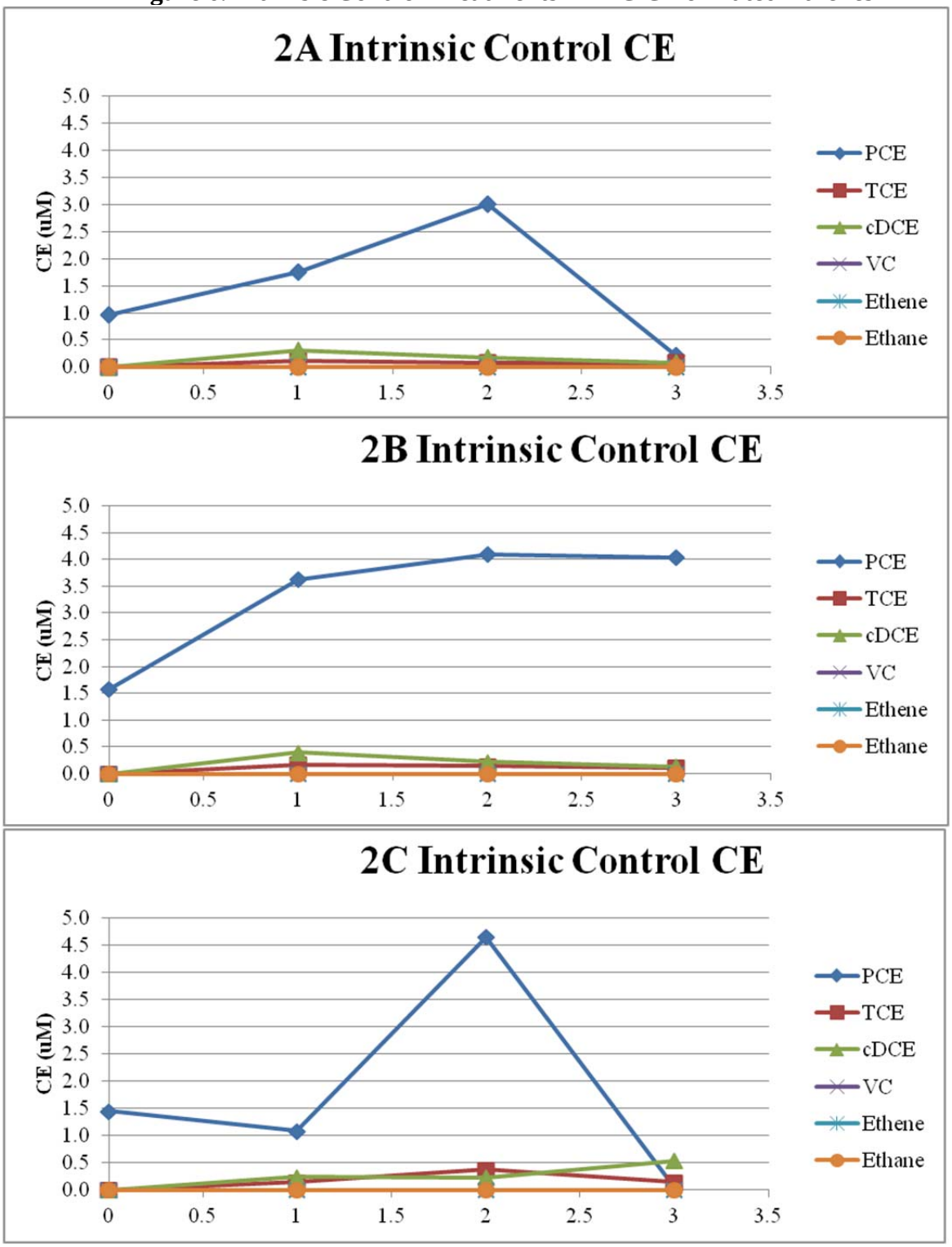


Figure 7. Molasses and EVO Treatments 3A-3C Chlorinated Ethenes

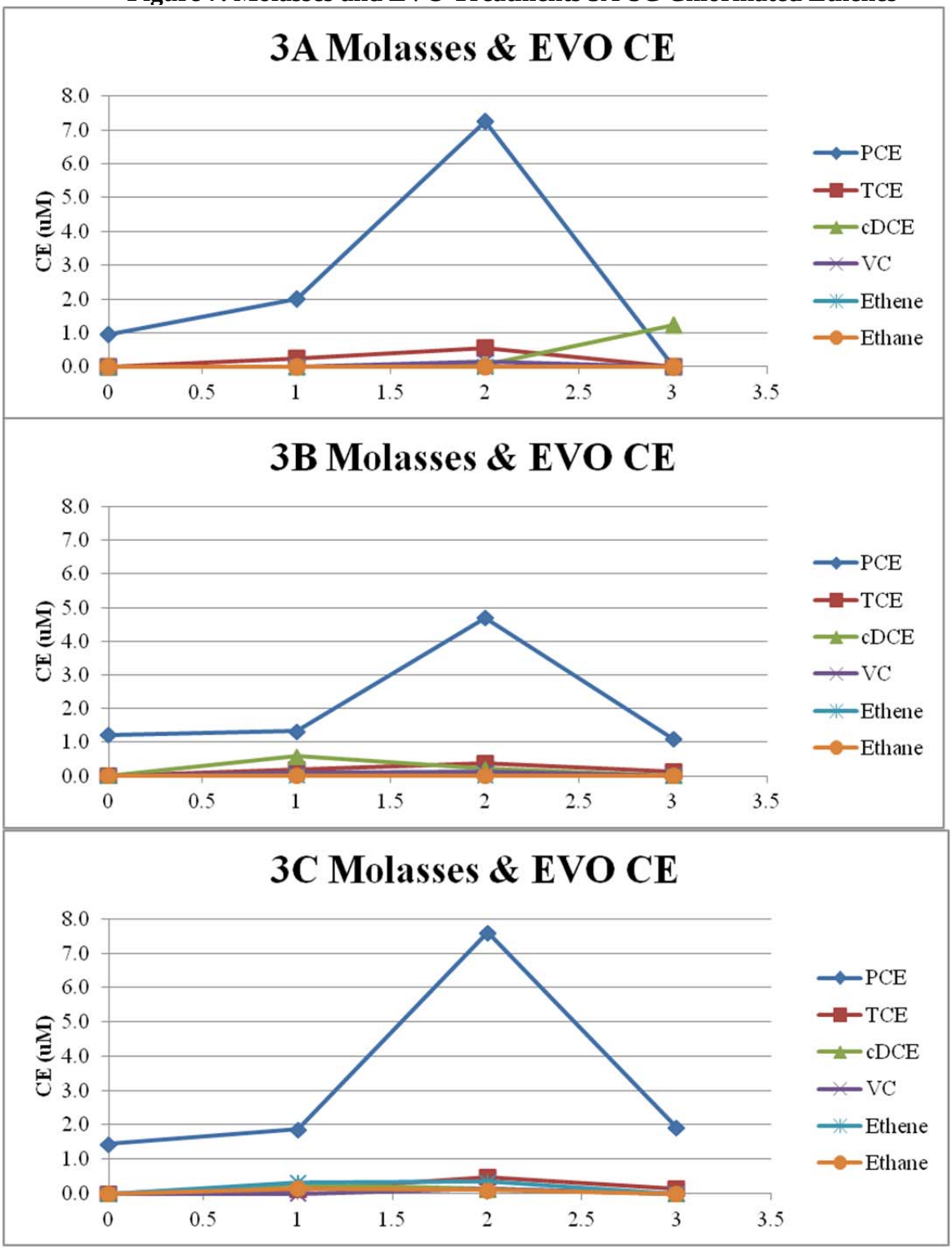
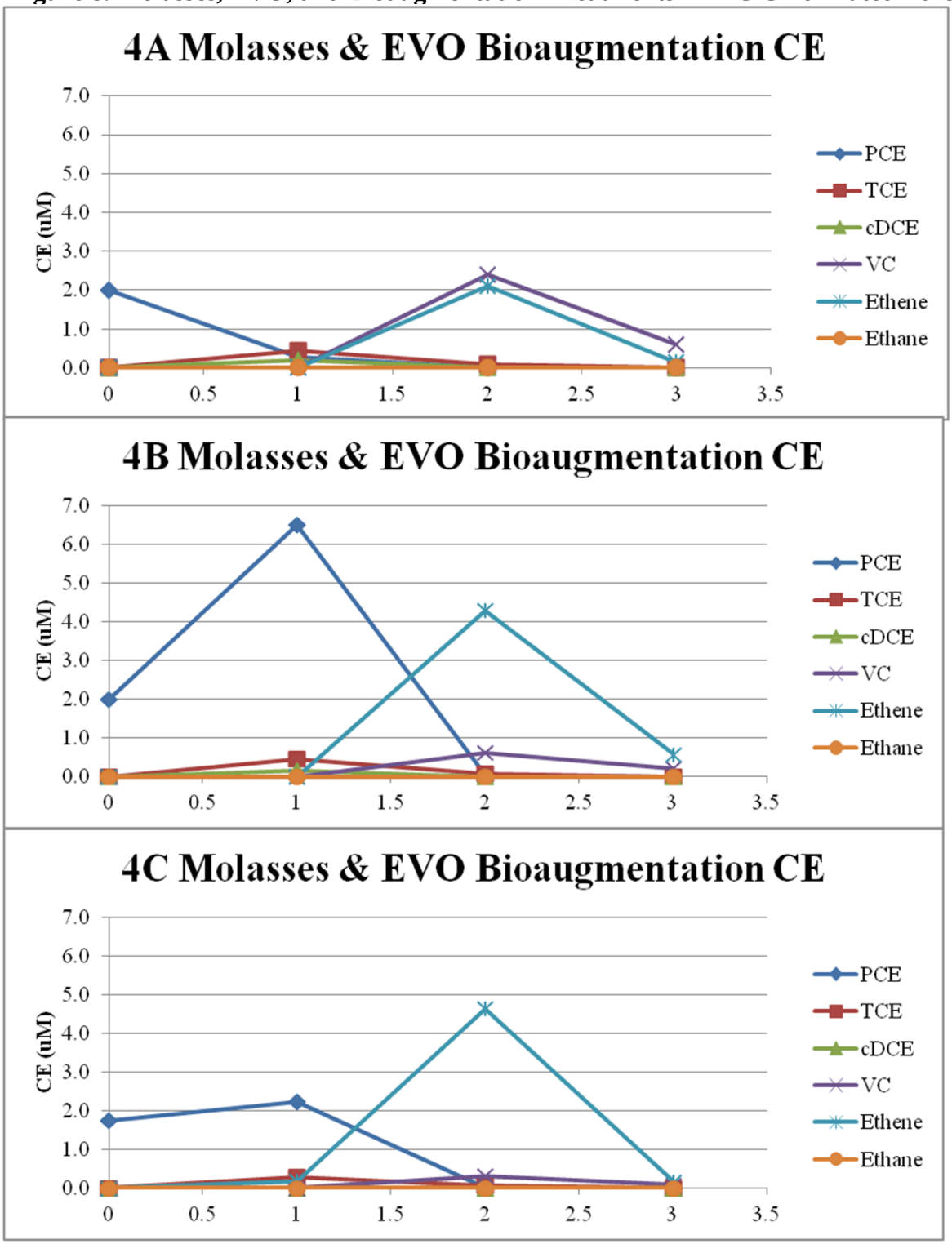


Figure 8. Molasses, EVO, and Bioaugmentation Treatments 4A-4C Chlorinated Ethenes



APPENDIX I

Treatment	1A	Sterile Control			
Months	Units	0	1	2	3
pH	SU	7.6	7.1	7.1	7.1
ORP	mV	-32	11	-87	78
VFA as Acetate	mg/L	49	231	314	158
Nitrate-N	mg/L	3.7	<2.5	<0.25	<2.5
Sulfate	mg/L	44.1	52.8	42.4	56.4
Chloride	mg/L	149	190	129	152
PCE	µg/L	120	46	18	6.9
TCE	µg/L	<5.5	140	31	21
cDCE	µg/L	<5.5	65	15	8.4
VC	µg/L	<5.5	<5.5	<5.5	<5.5
Ethene	µg/L	<1.3	<1.3	<1.3	<1.3
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	µg/L	<0.7	<0.7	<0.7	<0.7
PCE	µM	0.72	0.28	0.11	0.042
TCE	µM	<0.042	1.07	0.24	0.16
cDCE	µM	<0.057	0.67	0.15	0.087
VC	µM	<0.088	<0.088	<0.088	<0.088
Ethene	µM	<0.046	<0.046	<0.046	<0.046
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	0.72	2.01	0.50	0.29

Treatment	1B	Sterile Control			
Months	Units	0	1	2	3
pH	SU	6.8	7.0	6.9	7.2
ORP	mV	-37	-26	-91	34
VFA as Acetate	mg/L	128	293	310	270
Nitrate-N	mg/L	3.7	<2.5	<0.25	<2.5
Sulfate	mg/L	44.1	52.8	42.4	56.4
Chloride	mg/L	149	190	129	152
PCE	µg/L	200	100	75	29
TCE	µg/L	<5.5	30	15	14
cDCE	µg/L	<5.5	<5.5	7.1	<5.5
VC	µg/L	<5.5	<5.5	<5.5	<5.5
Ethene	µg/L	<1.3	<1.3	<1.3	<1.3
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	µg/L	<0.7	<0.7	<0.7	<0.7
PCE	µM	1.21	0.60	0.45	0.17
TCE	µM	<0.042	0.23	0.11	0.11
cDCE	µM	<0.057	<0.057	0.073	<0.057
VC	µM	<0.088	<0.088	<0.088	<0.088
Ethene	µM	<0.046	<0.046	<0.046	<0.046
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	1.21	0.83	0.64	0.28

Treatment	1C	Sterile Control			
Months	Units	0	1	2	3
pH	SU	6.8	7.0	6.9	7.0
ORP	mV	-37	-22	-86	-10
VFA as Acetate	mg/L	6	134	113	103
Nitrate-N	mg/L	3.7	<2.5	<0.25	<2.5
Sulfate	mg/L	44.1	52.8	42.4	56.4
Chloride	mg/L	149	190	129	152
PCE	µg/L	490	110	130	72
TCE	µg/L	<5.5	60	30	22
cDCE	µg/L	<5.5	21	13	10
VC	µg/L	<5.5	<5.5	<5.5	<5.5
Ethene	µg/L	<1.3	<1.3	<1.3	<1.3
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	µg/L	<0.7	<0.7	<0.7	1.8
PCE	µM	2.96	0.66	0.78	0.43
TCE	µM	<0.042	0.46	0.23	0.17
cDCE	µM	<0.057	0.22	0.13	0.10
VC	µM	<0.088	<0.088	<0.088	<0.088
Ethene	µM	<0.046	<0.046	<0.046	<0.046
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	2.96	1.34	1.15	0.70

Treatment	1A-C	Sterile Control Average			
Months	Units	0	1	2	3
pH	SU	7.1	7.0	7.0	7.1
ORP	mV	-35	-12	-88	34
VFA as Acetate	mg/L	61	219	246	177
Nitrate-N	mg/L	3.7	<2.5	<0.25	<2.5
Sulfate	mg/L	44.1	52.8	52.8	56.4
Chloride	mg/L	149	190	190	152
PCE	µg/L	270	85	74	36
TCE	µg/L	<5.5	77	25	19
cDCE	µg/L	<5.5	29	12	6.1
VC	µg/L	<5.5	<5.5	<5.5	<5.5
Ethene	µg/L	<1.3	<1.3	<1.3	<1.3
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	mg/L	<0.0007	<0.0007	<0.0007	0.00060
PCE	µM	1.6	0.51	0.45	0.22
TCE	µM	<0.042	0.58	0.19	0.14
cDCE	µM	<0.057	0.30	0.12	0.063
VC	µM	<0.088	<0.088	<0.088	<0.088
Ethene	µM	<0.046	<0.046	<0.046	<0.046
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	1.63	1.39	0.76	0.42

Treatment	2A	Intrinsic Control			
Months	Units	0	1	2	3
pH	SU	6.8	7.0	6.9	6.9
ORP	mV	-24	-26	-75	-32
VFA as Acetate	mg/L	0	0	54	0
Nitrate-N	mg/L	3.7	0.59	<0.25	<0.25
Sulfate	mg/L	44.1	53.2	41.2	32.5
Chloride	mg/L	149	113	98.7	120
PCE	µg/L	160	290	500	330
TCE	µg/L	<5.5	15	11	8.6
cDCE	µg/L	<5.5	29	17	7.5
VC	µg/L	<5.5	<5.5	<5.5	<5.5
Ethene	µg/L	<1.3	<1.3	<1.3	<1.3
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	µg/L	<0.7	<0.7	1.1	<0.7
PCE	µM	0.97	1.75	3.02	0.22
TCE	µM	<0.042	0.11	0.084	0.065
cDCE	µM	<0.057	0.30	0.18	0.077
VC	µM	<0.088	<0.088	<0.088	<0.088
Ethene	µM	<0.046	<0.046	<0.046	<0.046
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	0.97	2.16	3.27	0.36

Treatment	2B	Intrinsic Control			
Months	Units	0	1	2	3
pH	SU	6.8	7.0	6.9	6.9
ORP	mV	-25	-13	-49	-69
VFA as Acetate	mg/L	0	0	54	13
Nitrate-N	mg/L	3.7	0.59	<0.25	<0.25
Sulfate	mg/L	44.1	53.2	41.2	32.5
Chloride	mg/L	149	113	98.7	120
PCE	µg/L	260	600	680	670
TCE	µg/L	<5.5	23	18	14
cDCE	µg/L	<5.5	38	21	13
VC	µg/L	<5.5	<5.5	<5.5	<5.5
Ethene	µg/L	<1.3	<1.3	<1.3	<1.3
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	µg/L	<0.7	1.5	0.9	1.6
PCE	µM	1.57	3.62	4.10	4.04
TCE	µM	<0.042	0.18	0.14	0.11
cDCE	µM	<0.057	0.39	0.22	0.13
VC	µM	<0.088	<0.088	<0.088	<0.088
Ethene	µM	<0.046	<0.046	<0.046	<0.046
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	1.57	4.19	4.46	4.28

Treatment	2C	Intrinsic Control			
Months	Units	0	1	2	3
pH	SU	6.8	6.9	6.8	7.1
ORP	mV	-20	-12	-93	-162
VFA as Acetate	mg/L	0	0	54	14
Nitrate-N	mg/L	3.7	0.59	<0.25	<0.25
Sulfate	mg/L	44.1	53.2	41.2	32.5
Chloride	mg/L	149	113	98.7	120
PCE	µg/L	240	180	770	9.6
TCE	µg/L	<5.5	20	50	20
cDCE	µg/L	<5.5	24	23	52
VC	µg/L	<5.5	<5.5	<5.5	<5.5
Ethene	µg/L	<1.3	<1.3	<1.3	<1.3
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	µg/L	<0.7	<0.7	<0.7	<0.7
PCE	µM	1.45	1.09	4.64	0.06
TCE	µM	<0.042	0.15	0.38	0.15
cDCE	µM	<0.057	0.25	0.24	0.54
VC	µM	<0.088	<0.088	<0.088	<0.088
Ethene	µM	<0.046	<0.046	<0.046	<0.046
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	1.45	1.49	5.26	0.75

Treatment	2A-C	Intrinsic Control Average			
Months	Units	0	1	2	3
pH	SU	6.8	7.0	6.9	7.0
ORP	mV	-23	-17	-72	-88
VFA as Acetate	mg/L	0	0	54	9
Nitrate-N	mg/L	3.7	0.59	<0.25	<0.25
Sulfate	mg/L	44.1	53.2	41.2	32.5
Chloride	mg/L	149	113	98.7	120
PCE	µg/L	220	357	650	337
TCE	µg/L	<5.5	19	26	14
cDCE	µg/L	<5.5	30	20	24
VC	µg/L	<5.5	<5.5	<5.5	<5.5
Ethene	µg/L	<1.3	<1.3	<1.3	<1.3
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	mg/L	<0.0007	0.0005	0.0007	0.0005
PCE	µM	1.3	2.2	3.9	1.4
TCE	µM	<0.042	0.15	0.20	0.11
cDCE	µM	<0.057	0.31	0.21	0.25
VC	µM	<0.088	<0.088	<0.088	<0.088
Ethene	µM	<0.046	<0.046	<0.046	<0.046
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	1.33	2.61	4.33	1.80

Treatment	3A	Molasses and EVO			
Months	Units	0	1	2	3
pH	SU	6.8	5.5	5.6	6.5
ORP	mV	-20	-16	-102	-80
VFA as Acetate	mg/L	0	721	969	639
Nitrate-N	mg/L	3.7	<0.25	<0.25	<0.25
Sulfate	mg/L	44.1	36.4	18.8	4.1 J
Chloride	mg/L	149	109	117	106
PCE	µg/L	160	330	1200	<5.5
TCE	µg/L	<5.5	30	74	<5.5
cDCE	µg/L	<5.5	<5.5	6.6	120
VC	µg/L	<5.5	<5.5	8.5	<5.5
Ethene	µg/L	<1.3	<1.3	<1.3	<1.3
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	µg/L	<0.7	9.1	40	10400 E
PCE	µM	0.97	1.99	7.24	<0.033
TCE	µM	<0.042	0.23	0.56	<0.042
cDCE	µM	<0.057	<0.057	0.068	1.2
VC	µM	<0.088	<0.088	0.14	<0.088
Ethene	µM	<0.046	<0.046	<0.046	<0.046
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	0.97	2.22	8.00	1.24

Treatment	3B	Molasses and EVO			
Months	Units	0	1	2	3
pH	SU	6.8	5.7	5.8	6.4
ORP	mV	-35	-5	-85	-65
VFA as Acetate	mg/L	1	684	883	460
Nitrate-N	mg/L	3.7	<0.25	<0.25	<0.25
Sulfate	mg/L	44.1	36.4	18.8	4.1 J
Chloride	mg/L	149	109	117	106
PCE	µg/L	200	220	780	180
TCE	µg/L	<5.5	24	49	16
cDCE	µg/L	<5.5	56	20	<5.5
VC	µg/L	<5.5	6.4	8.4	<5.5
Ethene	µg/L	<1.3	<1.3	<1.3	<1.3
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	µg/L	<0.7	7.4	150	9800 E
PCE	µM	1.21	1.33	4.70	1.09
TCE	µM	<0.042	0.18	0.37	0.12
cDCE	µM	<0.057	0.58	0.21	<0.057
VC	µM	<0.088	0.10	0.13	<0.088
Ethene	µM	<0.046	<0.046	<0.046	<0.046
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	1.21	2.19	5.42	1.21

Treatment	3C	Molasses and EVO			
Months	Units	0	1	2	3
pH	SU	6.8	5.9	6.0	6.5
ORP	mV	-36	-45	-86	-65
VFA as Acetate	mg/L	0	538	889	750
Nitrate-N	mg/L	3.7	<0.25	<0.25	<0.25
Sulfate	mg/L	44.1	36.4	18.8	4.1 J
Chloride	mg/L	149	109	117	106
PCE	µg/L	240	310	1260	320
TCE	µg/L	<5.5	16	64	19
cDCE	µg/L	<5.5	25	12	<5.5
VC	µg/L	<5.5	<5.5	8.7	<5.5
Ethene	µg/L	<1.3	9.2	9.4	<1.3
Ethane	µg/L	<1.3	4.5	3.2	<1.3
Methane	µg/L	<0.7	3.4	28	670 E
PCE	µM	1.45	1.87	7.60	1.93
TCE	µM	<0.042	0.12	0.49	0.14
cDCE	µM	<0.057	0.26	0.12	<0.057
VC	µM	<0.088	<0.088	0.14	<0.088
Ethene	µM	<0.046	0.33	0.34	<0.046
Ethane	µM	<0.043	0.15	0.11	<0.043
Sum CE + Gases	µM	1.45	2.73	8.79	2.07

Treatment	3A-C	Molasses and EVO Average			
Months	Units	0	1	2	3
pH	SU	6.8	5.7	5.8	6.5
ORP	mV	-30	-22	-91	-70
VFA as Acetate	mg/L	0	648	914	616
Nitrate-N	mg/L	3.7	<0.25	<0.25	<0.25
Sulfate	mg/L	44.1	36.4	18.8	4.1 J
Chloride	mg/L	149	109	117	106
PCE	µg/L	200	287	1080	167
TCE	µg/L	<5.5	23	62	12
cDCE	µg/L	<5.5	41	13	40
VC	µg/L	<5.5	6.4	8.5	<5.5
Ethene	µg/L	<1.3	9.2	9.4	<1.3
Ethane	µg/L	<1.3	4.5	3.2	<1.3
Methane	mg/L	<0.0007	0.0066	0.073	7.0 E
PCE	µM	1.2	1.7	6.5	1.5
TCE	µM	<0.042	0.18	0.47	0.089
cDCE	µM	<0.057	0.42	0.13	0.41
VC	µM	<0.088	0.10	0.14	<0.088
Ethene	µM	<0.046	0.33	0.34	<0.046
Ethane	µM	<0.043	0.15	0.11	<0.043
Sum CE + Gases	µM	1.21	2.91	7.70	2.01

Treatment	4A	Molasses and EVO + Bioaugment			
Months	Units	0	1	2	3
pH	SU	6.9	5.5	5.7	6.8
ORP	mV	-30	57	-104	-136
VFA as Acetate	mg/L	0	738	1013	298
Nitrate-N	mg/L	3.7	<0.25	<0.25	<0.25
Sulfate	mg/L	44.1	23.3	2.9 J	7.8
Chloride	mg/L	149	113	117	136
PCE	µg/L	330	47	1.8	<5.5
TCE	µg/L	<5.5	57	11	<5.5
cDCE	µg/L	<5.5	20	<5.5	<5.5
VC	µg/L	<5.5	<5.5	150	37
Ethene	µg/L	<1.3	<1.3	59	4.4
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	µg/L	<0.7	3.4	16000 E	24000 E
PCE	µM	1.99	0.28	0.011	<0.033
TCE	µM	<0.042	0.43	0.084	<0.042
cDCE	µM	<0.057	0.21	<0.057	<0.057
VC	µM	<0.088	<0.088	2.40	0.59
Ethene	µM	<0.046	<0.046	2.11	0.16
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	1.99	0.92	4.60	0.75

Treatment	4B	Molasses and EVO + Bioaugment			
Months	Units	0	1	2	3
pH	SU	6.8	6.0	5.7/6.5	6.7
ORP	mV	-41	-55	-83	-125
VFA as Acetate	mg/L	0	567	860	194
Nitrate-N	mg/L	3.7	<0.25	<0.25	<0.25
Sulfate	mg/L	44.1	23.3	2.9 J	7.8
Chloride	mg/L	149	113	117	136
PCE	µg/L	330	1080	7.7	<5.5
TCE	µg/L	<5.5	60	8.9	<5.5
cDCE	µg/L	<5.5	15	<5.5	<5.5
VC	µg/L	<5.5	<5.5	38	13
Ethene	µg/L	<1.3	<1.3	120	16
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	µg/L	<0.7	5.3	9900 E	30000 E
PCE	µM	1.99	6.51	0.046	<0.033
TCE	µM	<0.042	0.46	0.068	<0.042
cDCE	µM	<0.057	0.15	<0.057	<0.057
VC	µM	<0.088	<0.088	0.61	0.21
Ethene	µM	<0.046	<0.046	4.29	0.57
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	1.99	7.13	5.01	0.78

Treatment	4C	Molasses and EVO + Bioaugment			
Months	Units	0	1	2	3
pH	SU	6.8	5.5	5.6	6.7
ORP	mV	-37		-110	-117
VFA as Acetate	mg/L	12	825	1076	325
Nitrate-N	mg/L	3.7	<0.25	<0.25	<0.25
Sulfate	mg/L	44.1	23.3	2.9 J	7.8
Chloride	mg/L	149	113	117	136
PCE	µg/L	290	370	<5.5	<5.5
TCE	µg/L	<5.5	38	8.5	<5.5
cDCE	µg/L	<5.5	<5.5	<5.5	<5.5
VC	µg/L	<5.5	<5.5	20	5.0
Ethene	µg/L	<1.3	5.2	130	4.8
Ethane	µg/L	<1.3	<1.3	<1.3	<1.3
Methane	µg/L	<0.7	14	16000 E	17000 E
PCE	µM	1.75	2.23	<0.033	<0.033
TCE	µM	<0.042	0.29	0.065	<0.042
cDCE	µM	<0.057	<0.057	<0.057	<0.057
VC	µM	<0.088	<0.088	0.32	0.080
Ethene	µM	<0.046	0.19	4.64	0.17
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	1.75	2.71	5.03	0.25

Treatment	4A-C	Molasses and EVO + Bioaugment Average			
Months	Units	0	1	2	3
pH	SU	6.8	5.7	5.7	6.7
ORP	mV	-36	1	-99	-126
VFA as Acetate	mg/L	4	710	983	272
Nitrate-N	mg/L	3.7	<0.25	<0.25	<0.25
Sulfate	mg/L	44.1	23.3	2.9 J	7.8
Chloride	mg/L	149	113	117	136
PCE	µg/L	317	499	4.8	0.0
TCE	µg/L	<5.5	52	9.5	0.0
cDCE	µg/L	<5.5	12	0.0	0.0
VC	µg/L	<5.5	<5.5	69.3	18.3
Ethene	µg/L	<1.3	<1.3	103.0	8.4
Ethane	µg/L	<1.3	<1.3	0.0	0.0
Methane	mg/L	<0.0007	0.0076	14.0 E	23.7 E
PCE	µM	1.9	3.0	0.019	0.000
TCE	µM	<0.042	0.39	0.072	0.000
cDCE	µM	<0.057	0.12	0.000	0.000
VC	µM	<0.088	<0.088	1.1	0.29
Ethene	µM	<0.046	<0.046	3.7	0.30
Ethane	µM	<0.043	<0.043	<0.043	<0.043
Sum CE + Gases	µM	1.91	3.52	4.88	0.59

J = compound detected below method calibration range, but above method detection limit
E=concentration estimated, result above method calibration range

APPENDIX C

TREATMENT TECHNOLOGY OVERVIEW AND PRODUCT RECOMMENDATIONS

PARS
Environmental
Inc

TECHNICAL MEMORANDUM

TREATMENT TECHNOLOGY OVERVIEW AND PRODUCT RECOMMENDATIONS FOR BENCH SCALE TESTING OF REMEDIAL ALTERNATIVES

FORT DRUM PCE REMEDIAL INVESTIGATION FOR SOLVENT CONTAMINANTS FORT DRUM, NEW YORK

Contract Number: W912DR-10-D-0034

PARS PROJECT NO. 802-01

Prepared For:

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August 2011

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1.0 INTRODUCTION

On behalf of the United Stated Army Corp of Engineers, Baltimore District (CENAB), PARS Environmental, Inc. (PARS) is pleased to submit this technical memorandum presenting recommendations for reagent selection to be evaluated in the laboratory as described in the Workplan – Bench Scale Testing of Remedial Alternatives (PARS, 2011). This work is being conducted as part of the Fort Drum PCE Remedial Investigation for Solvent Contaminants, Fort Drum, New York" (RI; PARS, 2010).

Accordingly, this technical memo introduces several commercially available substrates/reagents in each of three remedial technology groups – biological, enhanced reductive dechlorination (ERD), and in-situ chemical oxidation (ISCO), and provides a recommendation for the selection of one reagent from each group based on site and product characteristics for use in bench scale testing and in laboratory columns.

1.1 Bench Scale Study Objectives

The primary objective of this bench scale study is to identify and evaluate one commercially available remediation product within each of three remedial technology categories – Biological, ERD, and ISCO – that demonstrate the most potential to meet site remedial goals with respect to tetrachloroethene (PCE) in groundwater beneath Fort Drum Site 3805. Results from the bench-scale and column testing program will be used to support the selection of a remedial approach for Pilot Scale testing in the field to obtain site specific parameters in support of full-scale remedial implementation at the site. Proven short-term removal efficiency and life-cycle cost effectiveness will be the primary characteristics of the selected technology.

1.2 Summary of Groundwater Contamination

During the course of the phased site RI, PCE impacts to groundwater were found to be limited to the sands and silty sands of the Pine Plains Delta. PCE has not migrated downward into the basal clay unit, or into the underlying bedrock. While PCE has been frequently detected in shallow, intermediate, and deep wells since 1995, the highest concentrations exist in the deeper portion of the alluvial aquifer. The highest recorded concentration of PCE was 2700 micrograms per liter (µg/L) detected in 1999 at 3805-MWI9. While dissolved oxygen (DO) and oxidation-reduction potential (ORP) values measured during earlier groundwater sampling events indicated aerobic conditions, data collected as part of this RI show localized areas of low to non-detect levels of DO and negative ORP values (anaerobic conditions). Chlorinated ethenes (i.e., PCE) degrade most rapidly under strongly reducing (anaerobic) geochemical conditions.

As detailed in the RI Work Plan, a fuel (BTEX) plume overlies the PCE plume. The highest concentrations of BTEX compounds are found in the shallow portions of the aquifer, while PCE is most concentrated in the lower portions of the aquifer. The BTEX plume therefore overrides and intermingles with the PCE plume to some degree.

The extent of PCE contamination has been defined through site investigation activities conducted in 2010. The major portion of the plume lies within the lower surficial aquifer below the BTEX plume and is perched in the basal clay aquitard of the Pine Plains Delta. The upper vertical extent of the PCE plume comingles with the BTEX plume to varying degrees along its axis. The maximum PCE concentration measured to date is 960 µg/L.

2.0 REMEDIAL TECHNOLOGY OVERVIEW

The following sections present a brief description of the products that are currently available to mediate Biological, ERD, and ISCO remediation approaches with respect to site conditions, effectiveness, and estimated cost.

2.1 Biological Technology

Biological approaches to groundwater remediation typically involve the addition of a desired microbial population, *dehalococcoidies*-related organisms (DHC) in particular, known to mediate reductive dechlorination of chlorinated compounds to completion ([bioaugmentation]; ITRC, 2005a; AFCEE, 2004). These microbes may or may not naturally occur in the aquifer; in some instances they are present but in insufficient numbers to carry out complete dechlorination. When absent, the dechlorination sequence tends to "stall" at cis-1,2-dichloroethene (cDCE) or vinyl chloride (VC). In many aquifers, these microbes are present naturally and they grow rapidly with the addition of electron donors; however, they are not always available or are dormant due to various site conditions. Several commercial products are now available that can be used to introduce these micro-organisims to enhance biological activity in the subsurface.

Below is a summary of the leading commercially available products and a brief description of each. It is important to recognize that while several vendors offer these biological additives, all of them contain DHCs as their primary active components. The differences lie primarily in the characteristics of the growth media and additional bacterial strains included in the product (ESTCP, 2005). Shaw Technology Group developed SDC-9; Shaw does not sell the product directly, however it is sold by Terra Systems as TSI DC™. SiREM Labs (a subsidiary of GeoSyntec Consultants) offers KB-1® Dechlorinator. Regenesis offers Bio-Dechlor INOCULUM® Plus, while EOS Remediation offers its BAC-9™ product.

2.1.1 Shaw Technology Group – SDC-9™

The Shaw Dechlorinating Culture – SDC-9™ is a product created specifically to treat chlorinated solvent contaminated aquifers. The culture contains DHC bacteria that degrade highly chlorinated solvents to non-toxic ethene, making it well suited for treating sites where degradation products are absent. The SDC-9™ culture has been successfully applied at sites throughout the United States, including some of the largest in situ bioaugmentation project performed to date (http://www.shawgrp.com/markets/envservices/envtechnology/techbioaug).

2.1.2 Regenesis – Bio-Dechlor INOCULUM® Plus

Bio-Dechlor INOCULUM® Plus (BDI Plus™) is an enriched natural microbial consortium containing species of DHC. This microbial consortium has been enriched to increase its ability to rapidly dechlorinate contaminants during in situ bioremediation processes. BDI Plus™ has been shown to stimulate the rapid and complete dechlorination of compounds such as PCE, trichloroethene (TCE), cDCE, VC. The current formulation also is capable of dehalogenating halomethanes (e.g. carbon tetrachloride and chloroform) and haloethanes (e.g. 1,1,1-TCA and 1,1-DCA) as well as mixtures of these halogenated contaminants. BDI Plus™ is provided in a liquid form and is designed to be injected directly into the contaminated subsurface (http://www.regenesis.com/contaminated-site-remediation-products/bioaugmentation/bio-dechlor/).

2.1.3 EOS Remediation – BAC-9™

EOS Remediation offers BAC-9™ which is an enriched bioaugmentation culture capable of degrading chlorinated solvents to innocuous compounds efficiently by providing beneficial DHC microbial populations in effective cell densities. The product can be injected directly for in situ treatment of chlorinated ethenes or used in on-site bioreactors. BAC-9™ provides large population of DHC when inadequate native dechlorinator population densities exist at the site. BAC-9™ is also effective in degrading many other chlorinated solvents such as carbon tetrachloride (CT) and chloroform (CF) (http://www.eosremediation.com/products/BAC-9.html).

If indigenous DHCS occur at low population densities, EOS Remediation has resources to develop custom enrichments from site groundwater for use during bioaugmentation. Based on site requirements, custom enrichments can be produced in fermentors ranging from 7 to 4000 liters per batch. *Dehalococcoides sp*. cell density is monitored using real-time quantitative polymerase chain reaction (PCR).

2.1.4 Terra Systems – TSI DC™

TSI DC Bioaugmentation Culture™ is an enriched natural bacteria culture that contains *Dehalococcoides* species for bioaugmentation; it is produced by Shaw Technology Group and is identical to SDC-9. This culture dechlorinates PCE and TCE to the non-toxic product ethene. It can be used at sites where bacteria capable of complete reductive dechlorination are not present or there is a need to decrease the remediation time frame (http://www.terrasystems.net/Products/products_TSI_DC.htm).

2.1.5 SiREM Labs - KB-1® Dechlorinator

KB-1® Dechlorinator (KB-1®) is a natural microbial culture used to introduce *Dehalococcoides* organisms to sites where they are absent, present at low concentrations, or the wrong strain to promote the complete dechlorination of PCE, TCE, cDCE, and VC in groundwater. This product was the first commercially available culture of this type and is still widely accepted and extensively used today. KB-1® has been positively evaluated by the US EPA Superfund Innovative Technology Evaluation Program (SITE), is the topic of peer reviewed articles and has

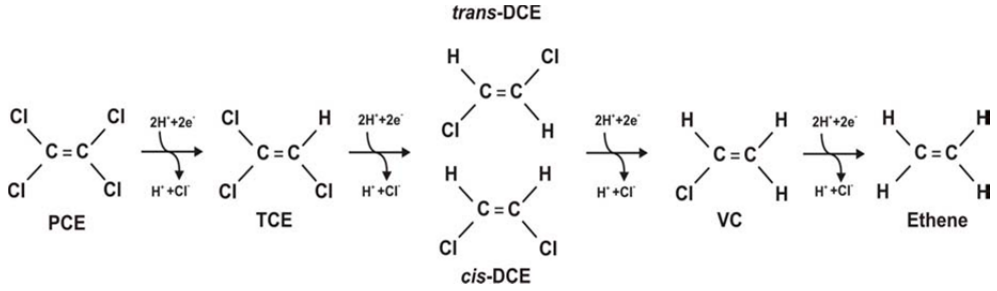
been used extensively in the field at sites across the United States, and in Denmark, England and Sweden.

KB-1® bioaugmentation includes the SiREM exclusive KB-1® money back Guarantee which specifies complete dechlorination within a predetermined time frame, and also includes Gene-Trac Dehalococcoides analyses to determine the successful introduction and spread of these organisms after bioaugmentation (http://www.siremlab.com/kb1bioaugmentation.html).

2.2 ERD Technology

Enhanced Reductive Dechlorination (ERD) involves the delivery of a reagent into the subsurface for the purposes of creating an anaerobic groundwater treatment zone to stimulate microbial growth and development (bioremediation), or inducing a chemically driven reductive dechlorination reaction. There are abiotic and biotic reductive dechlorination pathways: reductive β-elimination (abiotic) and hydrogenolysis (biotic), each leading to different reaction products. Because both reactive minerals and microorganisms are present at contaminated sites, both abiotic and biotic reductive dechlorination have the potential to occur simultaneously (AFCEE, 2004). Thus the relative abundance of the products of abiotic and biotic reductive dechlorination of PCE and TCE can indicate the predominant transformation process, i.e., abiotic or biotic.

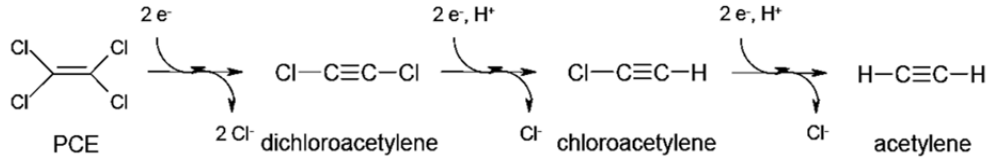
It is well documented that chlorinated VOCs, including PCE and TCE, can naturally degrade in an anaerobic environment by biotic processes. Reductive dechlorination (below) is a biotic process whereby chlorine atoms are replaced with hydrogen atoms during microbial respiration (AFCEE, 2004). For example, TCE is formed when a chlorine atom is removed from PCE. Under the proper reducing conditions, this process can continue, resulting in the successive formation of *c*DCE, VC, and finally ethene. Ethene is then degraded anaerobically to ethane, and finally carbon dioxide and water. Chlorinated VOCs are also biodegraded via co-metabolism where the degradation is catalyzed by enzymes that are produced by anaerobic bacteria.



Oxygen is the most thermodynamically favorable electron acceptor. Once depleted, alternate electron acceptors can be used by the bacteria in the respiration process, including nitrates (denitrification), ferric iron, manganese, sulfates (sulfanogenesis) and finally carbon dioxide (methanogenesis). Depletion of these electron acceptors leads to successively stronger reducing conditions in the groundwater as the reduction-oxidation (redox) potential is lowered. Strongly reducing conditions in groundwater are necessary to degrade the constituents at acceptable rates.

In addition to generating the proper reducing conditions, addition of electron donors or substrate material can promote further reductive dechlorination.

Unlike biologically mediated reductive dechlorination, which often results in accumulation of harmful intermediates such as cDCE and VC, abiotic mineral-mediated dechlorination of PCE and TCE (β-elimination) tends to result in complete transformation to non-toxic products such as acetylene (below). This process is a result of the interaction of ethenes (PCE, TCE) and reduced metals species (e.g., Fe^0 or Fe^{2+}), transforming PCE to dichloroacetylene. Dichloroacetylene is then transformed to chloroacetylene and finally to acetylene during further electron transfer. The benefit of this process is that hydrogen is generated which becomes available for microbes in support of reductive dechlorination, resulting in a synergy of biological and abiotic destruction of PCE.



2.2.1 Zero Valent Iron

It is well known that zero valent iron (Fe^0 [ZVI]) technology is effective in treating chlorinated organics (i.e., ethenes and ethanes; Arnold and Roberts, 2000). Both biotic and abiotic processes occur in iron systems. The β-elimination pathway, however, dominates the reaction and produces chloroacetylene intermediates, which are unstable and are rapidly reduced to ethene. The hydrogenolysis pathway is a slower reaction during which lesser-chlorinated intermediates are produced and subsequently degraded (Arnold and Roberts, 2000). The technology can effectively treat not only the dissolved plume but also highly concentrated source areas. As described above, the interaction of reduced iron (Fe^0 is highly reduced) and PCE generates hydrogen, which then promotes biological reductive dechlorination as well as abiotic PCE destruction.

One specific variant of ZVI, Nanoscale ZVI, consists of submicron ($<10^{-6}$ m), bacteria-sized particles of ZVI (Fe^0). Nano-iron particles are very highly reactive due to their high specific surface area (approximately 33.5 square meters per gram [m^2/gm]). Because of its high reactivity and extremely small particle size, nanoscale ZVI represents an extremely effective and versatile remediation tool. A ZVI-water slurry (or ZVI-vegetable oil emulsion) can be injected under pressure or by gravity into the treatment areas as needed. The particles are then transported by groundwater flow (advection) to establish *in-situ* reaction (treatment) zones. Since this technology induces strongly negative redox conditions within the injection zone, it can stimulate the growth of anaerobic microbial consortia capable of enhanced degradation of certain recalcitrant contaminants.

2.2.2 Regenesis – Hydrogen Release Compound (HRC®)

HRC® is a controlled release, electron donor material, that when hydrated is specifically designed to produce a controlled release of lactic acid. HRC® is typically applied using direct-injection techniques, however, is equally suited to injection well applications. Once in the subsurface, HRC® can reside within the soil matrix fueling reductive dechlorination by promoting reducing aquifer conditions for periods of up to 24 months or longer through the release of lactic acid and subsequent hydrogen production.

The lactic acid is metabolized by microbes to produce hydrogen which is then used in the anaerobic reductive dechlorination process. HRC® can be used to degrade a range of contaminants, particularly PCE and its breakdown products. HRC® increases the rate of dechlorination up to several orders of magnitude, rapidly taking the contaminant through a step-wise dechlorination process that ultimately results in the production of non-toxic compounds such as ethene and ethane.

Several variants of the HRC® product are available; each of these provides for a slightly different application or time frame. 3DMe® produces a sequential, staged release of its electron donor components. This staged fermentation provides an immediate, mid-range and long-term, controlled-release supply of hydrogen (electron donor) to fuel the reductive dechlorination process. Alternatively, HRC-X® will reside within the soil matrix for up to 60 months through the extra-slow, controlled release of lactic acid, producing reducing conditions over an extended period of time.

2.2.3 EOS Remediation – Emulsified Oil Substrate (EOS®)

EOS Remediation uses sustainable green chemistry in its family of groundwater bioremediation products. The EOS® family of products are formulated with renewable, biodegradable vegetable oil feed stock supporting sustainability both above and below ground. Since first developed in 1999, millions of pounds of EOS® have been successfully applied at sites throughout the world.

The EOS® emulsified vegetable oil (EVO™) products incorporate a proven, patented method that provides food for the microorganisms and stimulates biodegradation activity. EOS offers several product formulations of soybean oil emulsions / EVO™. EOS Remediation's oil-in-water emulsions are much less viscous than NAPL oils and do not require any special handling equipment. Several studies have shown that growth of dechlorinating microorganisms may be enhanced by providing these bacteria with amino acids and/or vitamins. Consequently, microbiologists often include vitamin B_{12} and yeast extract to generate conditions for optimum growth to remediate chloroethenes. EOS® offers this nutritional advantage in its 598B42 EVO formulation.

2.2.4 Molasses

Molasses is one of the most common substrates applied as a dissolved phase, although other soluble substrates are also used, including sodium lactate, ethanol, methanol, butyrate, and sodium benzoate. Soluble substrates travel with advective groundwater flow, and are typically applied in a continuous or periodic (pulsed) mode to maintain a specified reactive treatment

zone. Substrates applied as a dissolved or "aqueous" phase offer the greatest potential for uniform distribution throughout the aquifer matrix relative to substrates applied as a viscous fluid or solid phase. The mobility of soluble substrates allows for greater distance between rows of injection wells relative to slow-release substrates.

Molasses is comprised primarily of sugars (sucrose), but may contain other minor constituents such as sulfur, sulfate, and metals that may be of potential concern. Higher grades of molasses or high fructose corn syrup (HFCS) can be used in situations where the addition of additional sulfur or other impurities to an aquifer is undesirable. Molasses is typically injected in a water solution of 10 percent molasses or less, although historically molasses has been injected at concentrations as high as 88 percent. Soluble substrates may be used for source area, biobarrier, or plume-wide applications using direct injection and/or recirculation wells. Direct-push techniques may be used to install small-diameter injection points.

The use of molasses as a remedial alternative requires periodic injection and process monitoring. Ability to adjust substrate strength, volume, and injection frequency over time is an advantage for optimizing system performance. However, adjusting substrate loading rates and mixing ratios during the initial phase of injection is often necessary to achieve target substrate levels, to avoid adverse impacts to pH, and to maximize radius of influence. Process monitoring and optimization increase the cost of O&M during startup, and the lifecycle cost of O&M for soluble substrate systems is high relative to other substrate options.

2.2.5 Emulsified Oils

Edible oils have been used in a variety of locations throughout the United States to stimulate anaerobic biodegradation of chlorinated solvents and other contaminants (ESTCP, 2006). The emulsified oil process is designed to generate conditions necessary for microbial anaerobic biodegradation (e.g., reductive dechlorination of chlorinated solvents). Edible oils are relatively inexpensive, innocuous, food-grade substrates. When properly prepared and injected, edible oils are immobile and slowly biodegraded in most aquifers. A single, low-cost injection can provide sufficient carbon to drive reductive dechlorination for several years. The emulsified oil process can be used either in the contaminant source zone or downgradient as a barrier to contaminant migration (AFCEE, 2004).

Edible oils can also be distributed in aquifers as oil-in-water emulsions. Ideally, the emulsion should be stable (e.g., non-coalescing); have small, uniform droplets to allow transport in most aquifers; and have a negative surface charge to reduce droplet capture by the solid surfaces. The emulsion is then injected into the aquifer with water to distribute and immobilize the oil droplets. As oil droplets migrate through the aquifer pore spaces, they collide with sediment surfaces and stick. The sediment surfaces gradually become coated with a thin layer of oil droplets that provides a carbon source for long-term reductive dechlorination. Field and laboratory studies have shown that emulsified oils can be transported substantial distances (up to 50 feet) in a variety of aquifer materials with low to moderate oil retention and little permeability loss. As a consequence, emulsified edible oils are more appropriate for use in barriers where minimizing permeability loss is important.

2.3 Chemical Oxidation Technology

Contaminated groundwater remediation using chemical oxidation technologies involves the injection of chemical oxidants directly into the affected source and/or downgradient contaminated zones (ITRC, 2005b). The injected oxidants react with the contaminants; breaking them down and producing less harmful by-products such as carbon dioxide and water. Additional compounds can be released depending upon which contaminant group is being targeted. Many of the chemical reactions that occur can have several steps to reach the desired remedial end points; some of which can be undesirable and have to be managed accordingly. Many contaminant species are treatable using chemical oxidation technologies, including chlorinated ethene compounds (PCE, TCE, cDCE, VC).

Chemical oxidation can be an advantageous remedial approach because treatment takes place over a relatively rapid time frame, and there are generally lower volumes of by-product produced when compared to other treatment approaches (ITRC, 2005b). As with all treatment technologies, however, there are limitations that have to be recognized to ensure that the approach is cost-effective. It is important to characterize the site in terms of hydrogeology and contaminant mass/concentration, and to characterize the soils in terms of their temperature, pH, reactant concentrations, by-products, and inherent oxidant demand – both organic and inorganic. In addition, delivery of the oxidant is a major consideration in terms of achieving maximum contact of the oxidant with the affected soils and contaminant mass, as different oxidants have various solubility and reactive properties, and laboratory conditions seldom closely represent those in the field (ITRC, 2005b).

It is well documented that chemical oxidants such as free hydroxyl radical (Fenton's Reagent), ozone, persulfate, peroxide and permanganate contain enough oxidative potential to remediate most organic contaminants (ITRC, 2005b). Each oxidant has a different standard potential which needs to be considered when selecting an oxidant for use at any particular site. Since actual oxidation reaction rates in a field setting are heavily affected by site conditions, selection of a product based on thermodynamics, kinetics, and stoichiometry alone must be tempered with site specific parameters.

2.3.1 Potassium Permanganate

There are two common forms of permanganate – potassium permanganate ($KMnO_4$) and sodium permanganate ($NaMnO_4$). Both forms of permanganate are strong oxidizing agents with a unique affinity for oxidizing organic compounds containing carbon–carbon double bonds, aldehyde groups, or hydroxyl groups. Sodium permanganate is usually supplied as a concentrated liquid which allows greater flexibility in the design of the injection volume; however, it also has the hazard of being highly reactive with the potential for strong exothermic release when in contact with concentrated reductants. Potassium permanganate is generally provided as a powder; this allows for easier transportation, and can be mixed on-site using locally available water, but poses exposure hazards associated with dust during mixing operations.

Potassium permanganate ($KMnO_4$) readily reacts with available organic compounds – no catalyst is required, and no daughter products are produced that would require additional reactions. The reactions by which potassium permanganate oxidizes organic contaminants essentially involve the production of carbon dioxide, manganese dioxide (MnO_2), potassium, hydrogen, and halide ions as follows:

$$RHX + KMnO_4 \Leftrightarrow CO_2 + MnO_2 + K^+ + H^+ + X^-$$

During the reaction, carbon dioxide will combine with water (reducing pH) and will also be released as a gas within the soil matrix (McKay, et al, 1998). Dissolved carbon dioxide and intermediate organic acids formed by oxidation of organic matter in the aquifer can drive the pH to strongly acidic conditions, requiring a buffer. Under adequately buffered conditions, manganese dioxide will precipitate out of solution and become immobilized in the soil matrix.

In general, chlorinated hydrocarbons with higher chlorine substitution consume less oxidant (per the stoichiometric requirement) and produce less MnO_2 solids. Four moles MnO_4 are needed to mineralize 3 moles of PCE producing 4 moles of $MnO_2(s)$ (below), compared to 10 moles of MnO_4 needed to mineralize 3 moles of vinyl chloride producing 10 moles of $MnO_2(s)$.

Perchloroethene (PCE)

$$4KMnO_4 + 3C_2Cl_4 + 4H_2O \rightarrow 6CO_2 + 4MnO_2(s) + 4K_+ + 12Cl_- + 8H_+$$

Permanganate is a stable oxidant and can persist in the subsurface for months. Thus, for ISCO projects with permanganate, the application rate and the total mass introduced must be balanced with the subsurface oxidizable material. For the degradation of chlorinated organic compounds, the oxidation involves direct electron transfer rather than free radical processes that characterize oxidation by persulfate, hydrogen peroxide, or ozone.

2.3.2 Sodium Persulfate

There are three main forms of persulfate, however, for ISCO applications, potassium persulfate has a low solubility, and the injection of ammonium persulfate may lead to the generation of ammonia, which is regulated in groundwater. Therefore, the most common salt used is sodium persulfate.

Persulfate salts dissociate in water to persulfate anions ($S_2O_8^{2-}$) which, although strong oxidants, are kinetically slow in destroying many organic contaminants. To overcome the relative slowness of the reactions and subsequent degradation of target compounds (i.e., PCE), an activator (heat, or more commonly, ferrous salts [Fe^{2+}]) can be used to initiate the production of sulfate free radicals ($SO_4^{-\bullet}$). The free radicals are very reactive and thus very potent oxidizing agents roughly equivalent to the hydroxyl radicals generated using ozone or peroxide.

Ferrous ions require highly reducing conditions such as an acidic pH to remain in solution. It may be necessary to lower the pH as with peroxide systems to achieve this environment. Transport capabilities are important to all remedial technologies. For persulfate to be effective in field applications, the activator must be distributed and transported with the persulfate. One of the issues with Fe(II) salts is that they are oxidized to Fe(III). In a soil environment, where the

soil has pH buffering capacity, the Fe(III) that is formed precipitates out onto the soil. Thus, the effectiveness of the iron activation degrades with time and distance.

Oxidation of VOCs in groundwater with persulfate also has the potential to lower the pH. In water, without soil present to buffer the pH, the pH generally drops to the range of 1.5–2.5, depending on the amount of persulfate used. This change in conditions could act to mobilize naturally occurring and/or anthropogenic metals present in the soil. In a soil environment, however, the pH drop may not be as severe as observed in water only because many soils have a pH-buffering capacity and can mitigate the formation of sulfuric acid. Therefore, several concerns should be addressed when using persulfate to oxidize VOCs in soil and groundwater:

- The catalytic effect of the iron appears to decay with time and distance from injection. This decrease could be the result of either poor transport of the dissolved Fe(II) in a soil environment or the depletion of the iron as it activates the persulfate.
- Low pH conditions may be generated by persulfate decomposition, which can cause dissolved metal concentrations to increase in the groundwater. Natural soil buffering capacity can help alleviate this phenomenon.
- As with all oxidants, metals can be mobilized within the treatment zone due to a change in oxidation states and/or pH.

2.3.3 Fenton's Reagent

In-situ chemical oxidation of organic contaminants can be achieved by carefully controlled injection of Fenton's reagent into the affected media. Fenton's reagent consists of hydrogen peroxide and iron salts which are used to initiate a "Fenton's reaction"; the oxidation of organic compounds by producing hydroxyl radicals ($^{\bullet}OH$), as follows:

$$H_2O_2 + Fe^{2+} \Rightarrow Fe^{3+} + OH^{\bullet} + OH^{-}$$

During the reaction, ferrous iron (Fe^{2+}) is converted to ferric iron (Fe^{3+}). Ferrous iron is generally soluble at a pH between 5 and 6, while ferric iron will generally precipitate out of solution. By buffering pH and providing adequate amounts of hydrogen peroxide, ferric iron can be converted back to ferrous form. However, as hydrogen peroxide is consumed, some ferric iron will precipitate out of solution.

The hydroxyl radicals formed by the Fenton's reagent are one of the most powerful oxidizers known, more powerful than ozone, potassium permanganate, chlorine, and chlorine dioxide. The reactions by which organic contaminants are oxidized are complex, but essentially involve the contaminant, hydrogen peroxide, and the ferrous iron catalyst reacting to produce water and carbon dioxide, as follows:

$$RHX^{Fe2+} + H_2O_2 \Leftrightarrow H_2O + CO_2 + H^{+} + X^{-}$$

In the above reaction, RHX represents a halogenated organic compound, where X is the halide (in this case, chloride). The complete destruction of the halogenated organic compound yields water, carbon dioxide, a hydrogen ion, and a halide anion (Jerome, et al., 1998). This reaction is rapid, non-selective (natural organic material in the treatment zone will also be oxidized), and

generates heat and pressure in the subsurface. The use of Fenton's reagent has not been documented to cause mobilization of inorganics or chemical constituents outside the treatment area.

2.3.4 Ozone & Ozone with Hydrogen Peroxide

Ozonation is a very common municipal water treatment technology, however, over the past 20 years, more and more literature has been published that supports the concept of also using ozonation for treating complex organic pollutants. Ozone-based processes are unique to most other ISCO processes in that they involve application of a gas (ozone) posing very different design and operational issues than those faced with the application of the peroxide, persulfate, and permanganate liquid systems. More recently ozone has been injected dissolved in water. Because of the differences in subsurface flow physics and chemical transport in these different applications, the operational and treatment considerations for these approaches are very different than that of the other oxidants.

Ozone is one of the strongest oxidants available for ISCO. It is usually generated on site using ozone generators. Commercial generators using an air or oxygen stream usually generate ozone within the 2–10 wt% range. When ozone is introduced via the gas phase, the application rate is controlled by the phase equilibrium between gases and liquids. When typical ozonated feed gases are sparged into tanks containing clean water, the aqueous equilibrium ozone concentrations generally range 5–30 mg/L (Langlais, Reckhow, and Brink 1991). More recently, ozone has been injected in a dissolved phase as ozonated water or as an ozone/peroxide mixture, both of which have liquid distribution properties. This type of application is similar to that of the other oxidants.

Ozone oxidation chemical reactions may be divided into two categories: direct oxidation and indirect oxidation. Direct oxidation involves the oxidation of the targeted chemical by the parent oxidizer, ozone and does not rely heavily on the hydroxyl radical (OH•) for achieving targeted results. The second form of ozone oxidation reactions follows an indirect pathway and results in the production of the hydroxyl radical (OH•) for contaminant oxidation. Hydroxyl radicals are nonselective oxidizers, which, as with other ISCO approaches, rapidly attack organic contaminants and break down their carbon-to-carbon bonds. Oxidation by hydroxyl radicals is a faster reaction than direct oxidation by the ozone itself.

Numerous successful applications of ozonation ISCO processes have been reported using ozone injection alone as well as ozone in combination with hydrogen peroxide Ozone–hydrogen peroxide reactions result in enhanced generation of hydroxyl radicals. This mechanism for the formation of hydroxyl radical during ozone–hydrogen peroxide treatment involves production of hydroxyl radicals by direct hydrogen peroxide and ozone reactions and through intermediate ozone and hydrogen peroxide reactions.

Ozone–hydrogen peroxide injection has been used for many years to treat contaminants in water ex situ. Ozone and hydrogen peroxide injection is considered to be one of the most aggressive forms of in situ chemical oxidation technologies due to the high yields of hydroxyl radicals

obtainable. When implementing ozone–hydrogen peroxide injection, there are more oxidizing species introduced into the subsurface reacting with many different contaminants and there can be significant downgradient dissolved oxygen bioremediation effects. Issues involved with the use of ozone–hydrogen peroxide to oxidize VOCs in groundwater are the same as those for the individual oxidants.

3.0 PRODUCT SELECTION CRITERIA AND RANKING SYSTEM

Several products are available in each of the technology categories; however, in the interest of keeping the testing program as focused as possible, one product from each remedial technology will be selected for evaluation in the laboratory bench-scale and laboratory column tests. The basis for product selection is described below, and is further detailed for each remedial alternative.

Several criteria were selected for use in a ranking system that was developed to provide a basis for product selection; a separate criteria list was used for each technology as each has its own set of characteristics to evaluate. In general, cost and short-term effectiveness are applicable to each (and is the main basis for biological product selection; no scoring is provided for biological products). Hydrochemical specific properties for ERD and ISCO are presented for those categories, and include (among others) cost, short- and long-term effectiveness, ease of application, regulatory acceptance, and the product's ability to perform when used in conjunction with other technologies. The scores are relative and qualitative, and are intended to be used as a general guidance for product selection. Scores rank between 1 and 5, with 5 being the "most favorable" in each category. These criteria were selected based on site clean-up goals, expected remedial time frames, and with the anticipation that more than one remedial approach may be necessary to completely mitigate the plume extent.

3.1 Biological Technology

Recognizing that all of the biological products presented herein contain the *dehalococcoidies*-microorganisms, and that many of those products are manufactured by the same laboratory for different vendors, the major factor to consider when selecting a biological culture is cost. The Shaw product SDC-9 offers a highly concentrated and proven product at a competitive price, which under the proper geochemical conditions, will increase bacterial populations and reduce target compounds. This product has been successfully applied at over 100 sites throughout the USA, and is easily applied to the subsurface through injection points or dedicated wells. However, as is true with all bioaugmentation cultures, their effectiveness depends on subsurface geochemical conditions. Elevated DO and ORP, and a low or high pH can seriously inhibit the ability of the microbes to perform as desired. A carbon source is typically used to achieve this condition; carbon based substrates (food source for microbes) can be applied prior to or concurrent with bioaugmentation to minimized bacterial population loss due to unfavorable aquifer conditions.

For the purposes of the bench scale testing for evaluating the potential for full-scale application PARS recommends using SDC-9. This product represents the most cost-effective option as it meets all of the criteria described above, and can be obtained at a lower cost than the other products presented herein.

3.2 ERD Technology

Each of the ERD technology products presented herein offer differ characteristics with respect to contaminant break down mechanism, short- and long-term effectiveness, ease of applicability, cost, regulatory acceptance, and synergy with other technologies. Products such as molasses and cheese whey are relatively inexpensive and offer an immediate and easily metabolized source of carbon for dechlorinating microbes; however, these reagents are quickly metabolized and require constant reapplication. Engineered substrates such as EOS and HRC also offer a rich carbon source and contain advanced molecules that provide a more long-lasting food source. These products are highly effective, and while they do cost more than molasses and cheese whey, they require significantly less frequent reapplication (up to 3 to 5 years). Both are easily applied in the field.

Zero valent iron differs from the other products presented herein because it mediates the β-elimination (abiotic) process, but also inherently supports biological process as well (ITRC, 2005a). These two processes working simultaneously have proven to rapidly reduce PCE concentrations in contaminated aquifers. The abiotic process can be extremely rapid; studies have shown a 100-fold decrease in PCE/TCE concentrations in 3 weeks. In order to maximize the effectiveness of the biotic pathway component, a recommended approach is to emulsify the ZVI with vegetable oil and/or molasses prior to injection to provide a long- and short-term carbon source (respectively) for dechlorinating microbes.

The matrix presented below provides a relative ranking system for each of the available ERD products discussed with respect to their desired remedial characteristics. While capital cost of the product is a concern, the overall life cycle costs of the treatment represents the true cost-effectiveness; multiple injections of a relatively inexpensive product (e.g., molasses) will not always yield the most cost-effective solution. Recognizing the merits of a reagent that is able to take advantage of both the abiotic and biotic degradation pathways, emulsified ZVI is the recommended reagent for use in bench scale testing of the ERD technology.

ERD Scoring	Total Cost	Short-Term Effectiveness	Long-Term Effectivenes	Ease of Application	Regulatory Acceptance	Integration with ISCO	*Total*
Molasses	5	5	1	1	5	2	19
Cheese Whey	5	4	1	3	5	2	20
EOS	3	3	3	4	5	3	21
HRC	3	4	4	3	5	3	22
Zero Valent Iron	3	5	4	4	5	4	25

3.3 Chemical Oxidation Technology

Each of the ISCO remedial options presented here are extremely effective in rapidly attacking and destroying chlorinated solvents. Because of their highly reactive nature, these approaches can potentially be detrimental to biological or ERD remedial approaches due to the oxidative processes involved; ERD and biological treatment of chlorinated solvents requires highly anaerobic conditions. However, when carefully selected and designed, remedial approaches involving ISCO can be successfully applied along with ERD technologies to achieve a 2-phase approach: rapid solvent destruction in "hot-spots" followed by reductive dechlorination of residual dissolved contaminant mass (ITRC, 2005a).

A Fenton's reagent causes a very powerful reaction that rapidly destroys VOC in subsurface. The use of a Fenton's reagent typically results in a significant production and release of oxygen to the subsurface, as well as a great amount of heat. These reactions can become uncontrolled, and there is a high potential for negative interaction with BTEX compounds and can melt PVC well casing near the injection site. It can also significantly decrease the pH of the aquifer system. While very effective on their own, these conditions can be detrimental to the efforts of ERD or biological treatments and thus, do not interact favorably with biological or ERD administration.

Ozone is one of the most powerful oxidants. While extremely effective, it is also the only ISCO product that has the potential to completely destroy the microbial communities near the injection site. While this effect is relatively difficult to achieve in the field, great care is required to control dosing strengths as to prevent complete biocide. The ozone is produced on site using an ozone generator and injected as a gas; this approach is relatively expensive when compared to the other ISCO options, and thus, it not recommended for testing at this site.

Sodium persulfate is a powerful but relatively slow reactant; the rate at which this reagent performs can be increased through the use of an activator such as Fe^{2+}. Persulfate has the potential to drastically reduce system pH if the aquifer has a low pH buffering capacity, which can potentially mobilize unwanted metals to the dissolved phase. Another drawback is that the activator (e.g., Fe^{2+}) is rapidly oxidized (Fe^{3+}) which can precipitate out as a solid in the soil matrix if pH remains relatively high.

Potassium permanganate is also a very powerful oxidant. The product is relatively easy to transport and administer in the field, is fast-acting, and when mixed in modest concentrations, does not react adversely with other contaminants (i.e., BTEX) or cause drastic and long-term reductions in microbial populations. The effects of this treatment persist in the aquifer for a relatively short time following oxidation of the contaminants allowing a return to background conditions within a relatively short time frame.

The existing data characterizing the impacts of oxidants of anaerobic bioremediation processes provide contradictory evidence for the feasibility of utilizing bioremediation following oxidation. In the case of permanganate, oxidation of constituents of the aquifer matrix can produce soluble products. For example, sulfide minerals may be oxidized to produce sulfate (Nelson et al. 2002), while some of the natural insoluble organic carbon content of the soil is partially oxidized to carboxylic acids and aldehydes (Hayes 1989). Increases in dissolved organic carbon concentrations observed at some field sites (Droste et al. 2002) may promote reducing conditions favoring reductive dechlorination. However, permanganate oxidation results in the deposition of manganese oxide (MnO_2). The amount of MnO_2 generated is minimal when treating PCE exclusively, and increases as the concentrations of TCE, cDCE, and VC increase. As an oxidizing agent, contact with permanganate can adversely impact microorganisms present in groundwater; however, it has proven difficult to completely destroy microbial population. Furthermore, the redox shift required to support reductive processes can be achieved through the introduction of electron donors or reduced iron downgradient of the treatment area; microbial populations have been documented to return after ISCO treatment as advection flushed the treatment zone and background conditions are re-established. These conditions then allow for the flexibility of integrating ERD to treat the residual (or advected) portion of the dissolved plume.

ISCO Scoring	Total Cost	Short-Term Effectiveness	Potential Adverse Effects	BTEX Incompatibility	pH Dependancy/Effects	Persistence	Integration with ERD	Total
Fenton's Reagent	4	5	1	2	4	1	1	18
Ozone/Ozone-Peroxide	1	5	1	1	4	1	1	14
Sodium Persulfate	2	2	3	3	4	5	2	21
Potassium Permanganate	3	5	3	3	5	5	4	28

While most of the ISCO options presented herein offer rapid contaminant destruction, potassium permanganate offers the greatest number of attributes that would be most favorable for application at Ft. Drum, and is therefore the recommended product for laboratory testing of ISCO remedial options.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the expected interaction of site conditions and the characteristics of the remediation products available and presented herein, PARS recommends conducting bench scale testing of the following remedial alternatives:

Biological: SDC-9.

ERD: ZVI with an electron donor delivery substrate (i.e., molasses and/or EVO).

ISCO: Potassium Permanganate.

Based on the results of the laboratory batch testing, a column test will be conducted using the product that illustrates the most effective remedial response during the bench scale testing. Analytical results will be available nearly "real-time" throughout the bench scale testing process which will allow for the early identification of the most effective remedial approach. Conducting the column test will provide additional information regarding the effect of site specific soils on the treatment substrate and will provide a stronger basis for dosing requirements and overall remedial design.

5.0 REFERENCES

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PARS, 2011. Draft Final Work Plan for Bench Scale Testing of Remedial Alternatives, Fort Drum PCE Remedial Investigation for Solvent Contaminants, Fort Drum, New York, March.

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APPENDIX D

LABORATORY ANALYTICAL REPORTS FOR TREATMENT ANALYSES

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Fax: (865) 573-8133
Email: info@microbe.com

Client: Mike Lee
Terra Systems, Inc.
1035 S. Philadelphia Pike
Suite E
Wilmington, DE 19809

Phone: (302) 798-9553

Fax: (302) 798-9554

Identifier: 034IG **Date Rec:** 07/14/2011 **Report Date:** 07/20/2011

Client Project #: **Client Project Name:** Fort Drum

Purchase Order #:

Analysis Requested: CENSUS

Reviewed By:

Anita Biernacki

MICROBIAL INSIGHTS, INC.

2340 Stock Creek Blvd. Rockford, TN 37853-3044
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **Terra Systems, Inc.**
Project: Fort Drum

MI Project Number: **034IG**
Date Received: 07/14/2011

Sample Information

Client Sample ID:	**1**
Sample Date:	07/13/2011
Units:	cells/mL
Analyst:	CT

Dechlorinating Bacteria

Dehalococcoides spp.	*DHC*	<5.00E-01
Dehalobacter spp.	*DHBt*	<2.80E+00

Functional Genes

tceA Reductase	TCE	<5.00E-01
bvcA Reductase	BVC	<5.00E-01
Vinyl Chloride Reductase	VCR	<5.00E-01

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

September 15, 2011

Project: Ft Drum

Submittal Date: 08/26/2011
Group Number: 1263826
State of Sample Origin: NA

Client Sample Description	Lancaster Labs (LLI) #
1-1 Composite Water Sample	6389502
2-1 Composite Water Sample	6389503
3-1 Composite Water Sample	6389504
4-1 Composite Water Sample	6389505

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Terra Systems, Inc.	Attn: Michael D. Lee
ELECTRONIC COPY TO	Terra Systems, Inc.	Attn: Mike Lee

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Analysis Report

Questions? Contact your Client Services Representative
Nancy J Bornholm at (717) 656-2300 Ext. 1310

Respectfully Submitted,

Robert Heisey

Robert Heisey
Senior Specialist

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Sample Description: 1-1 Composite Water Sample
Ft Drum

LLI Sample # WW 6389502
LLI Group # 1263826
Account # 09984

Project Name: Ft Drum

Collected: 08/25/2011 15:00 by ML

Submitted: 08/26/2011 18:15
Reported: 09/15/2011 13:17

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00224	Chloride	16887-00-6	190	10.0	50
00368	Nitrate Nitrogen	14797-55-8	N.D.	2.5	50
	Reporting limits were raised due to interference from the sample matrix. The holding time was not met.				
00228	Sulfate	14808-79-8	52.8	1.5	5

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11239373601A	08/31/2011 17:31	Ashley M Adams	50
00368	Nitrate Nitrogen	EPA 300.0	1	11239373601A	08/31/2011 17:31	Ashley M Adams	50
00228	Sulfate	EPA 300.0	1	11239373601A	08/27/2011 10:05	Joseph E McKenzie	5

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Analysis Report

Sample Description: 2-1 Composite Water Sample
Ft Drum

LLI Sample # WW 6389503
LLI Group # 1263826
Account # 09984

Project Name: Ft Drum

Collected: 08/25/2011 15:30 by ML

Submitted: 08/26/2011 18:15
Reported: 09/15/2011 13:17

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		mg/l	mg/l	
00224	Chloride	16887-00-6	113	4.0	20
00368	Nitrate Nitrogen	14797-55-8	0.59	0.25	5
00228	Sulfate	14808-79-8	53.2	6.0	20

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11239373601A	08/30/2011 02:07	Ashley M Adams	20
00368	Nitrate Nitrogen	EPA 300.0	1	11239373601A	08/27/2011 10:45	Joseph E McKenzie	5
00228	Sulfate	EPA 300.0	1	11239373601A	08/30/2011 02:07	Ashley M Adams	20

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Analysis Report

Sample Description: 3-1 Composite Water Sample
Ft Drum

LLI Sample # WW 6389504
LLI Group # 1263826
Account # 09984

Project Name: Ft Drum

Collected: 08/25/2011 16:00 by ML

Submitted: 08/26/2011 18:15
Reported: 09/15/2011 13:17

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00224	Chloride	16887-00-6	109	10.0	50
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	36.4	1.5	5

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11239373601A	08/30/2011 02:20	Ashley M Adams	50
00368	Nitrate Nitrogen	EPA 300.0	1	11239373601A	08/27/2011 10:58	Joseph E McKenzie	5
00228	Sulfate	EPA 300.0	1	11239373601A	08/27/2011 10:58	Joseph E McKenzie	5

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Analysis Report

Sample Description: 4-1 Composite Water Sample
Ft Drum

LLI Sample # WW 6389505
LLI Group # 1263826
Account # 09984

Project Name: Ft Drum

Collected: 08/25/2011 16:30 by ML

Submitted: 08/26/2011 18:15
Reported: 09/15/2011 13:17

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00224	Chloride	16887-00-6	113	10.0	50
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	23.3	1.5	5

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11239373601A	08/30/2011 02:34	Ashley M Adams	50
00368	Nitrate Nitrogen	EPA 300.0	1	11239373601A	08/27/2011 11:11	Joseph E McKenzie	5
00228	Sulfate	EPA 300.0	1	11239373601A	08/27/2011 11:11	Joseph E McKenzie	5

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Analysis Report

Quality Control Summary

Client Name: Terra Systems, Inc. Group Number: 1263826
Reported: 09/15/11 at 01:17 PM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 11239373601A	Sample number(s): 6389502-6389505							
Chloride	N.D.	0.20	mg/l	109		90-110		
Nitrate Nitrogen	N.D.	0.050	mg/l	110		90-110		
Sulfate	N.D.	0.30	mg/l	102		90-110		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 11239373601A	Sample number(s): 6389502-6389505 UNSPK: 6389502 BKG: 6389502								
Chloride	118*		90-110			190	197	3	20
Nitrate Nitrogen	84*		90-110			N.D.	N.D.	0 (1)	20
Sulfate	96		90-110			52.8	51.9	2	20

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 9984 Group# 1263826 Sample # C0389502-05

COC # 252630

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: TSI Acct. #:

Project Name/#: Ft Drum PWSID #:

Project Manager: Mike Lee P.O.#:

Sampler: Mike Lee Quote #:

Name of state where samples were collected: NY

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	(3) Composite	(4) Matrix: Soil	Water	Other (Potable / NPDES)	Total # of Containers	(5) Analyses Requested / Preservation Codes: O	SO_4, NO_3, Cl								Remarks
1-1	8/25/11	15:00		X		X			X	X								
2-1	8/25/11	15:20		X		X			X	X								
3-1	8/25/11	16:00		X		X			X	X								
4-1	8/25/11	16:30		X		X			X	X								

(6) Temperature of samples upon receipt (if requested)

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
TX TRRP-13
MA MCP CT RCP
SDG Complete? Yes No
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Michael A Lee	8/26/11	1155		8/26/11	1155
	8/26/11	1815			

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

Issued by Dept. 6042 Management
2102.05

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

September 27, 2011

Project: PARS Fort Drum

Submittal Date: 09/21/2011
Group Number: 1267604
State of Sample Origin: NY

Client Sample Description	Lancaster Labs (LLI) #
1-A-C-2 Composite Water Sample	6414140
2-A-C-2 Composite Water Sample	6414141
3-A-C-2 Composite Water Sample	6414142
4-A-C-2 Composite Water Sample	6414143

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Terra Systems, Inc.	Attn: Michael D. Lee
ELECTRONIC COPY TO	Terra Systems, Inc.	Attn: Mike Lee

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Questions? Contact your Client Services Representative
Nancy J Bornholm at (717) 656-2300 Ext. 1310

Respectfully Submitted,

Robert Heisey

Robert Heisey
Senior Specialist

Lancaster Laboratories

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Analysis Report

Sample Description: 1-A-C-2 Composite Water Sample
PARS Fort Drum

LLI Sample # WW 6414140
LLI Group # 1267604
Account # 09984

Project Name: PARS Fort Drum

Collected: 09/20/2011 10:30 by MDL

Submitted: 09/21/2011 17:56
Reported: 09/27/2011 15:06

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00224	Chloride	16887-00-6	129	10.0	50
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	42.4	1.5	5

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11264196901B	09/26/2011 15:32	Ashley M Adams	50
00368	Nitrate Nitrogen	EPA 300.0	1	11264196901B	09/22/2011 06:31	James S Mathiot	5
00228	Sulfate	EPA 300.0	1	11264196901B	09/22/2011 06:31	Ashley M Adams	5

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Analysis Report

Sample Description: 2-A-C-2 Composite Water Sample
PARS Fort Drum

LLI Sample # WW 6414141
LLI Group # 1267604
Account # 09984

Project Name: PARS Fort Drum

Collected: 09/20/2011 10:45 by MDL

Submitted: 09/21/2011 17:56
Reported: 09/27/2011 15:06

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		mg/l	mg/l	
00224	Chloride	16887-00-6	98.7	10.0	50
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	41.2	1.5	5

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11264196901B	09/22/2011 08:45	Ashley M Adams	50
00368	Nitrate Nitrogen	EPA 300.0	1	11264196901B	09/22/2011 09:25	James S Mathiot	5
00228	Sulfate	EPA 300.0	1	11264196901B	09/22/2011 09:25	Ashley M Adams	5

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Analysis Report

Sample Description: 3-A-C-2 Composite Water Sample
PARS Fort Drum

LLI Sample # WW 6414142
LLI Group # 1267604
Account # 09984

Project Name: PARS Fort Drum

Collected: 09/20/2011 11:00 by MDL

Submitted: 09/21/2011 17:56
Reported: 09/27/2011 15:06

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00224	Chloride	16887-00-6	117	10.0	50
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	18.8	1.5	5

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11264196901B	09/25/2011 20:07	Ashley M Adams	50
00368	Nitrate Nitrogen	EPA 300.0	1	11264196901B	09/22/2011 06:58	James S Mathiot	5
00228	Sulfate	EPA 300.0	1	11264196901B	09/22/2011 06:58	Ashley M Adams	5

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Analysis Report

Sample Description: 4-A-C-2 Composite Water Sample
PARS Fort Drum

LLI Sample # WW 6414143
LLI Group # 1267604
Account # 09984

Project Name: PARS Fort Drum

Collected: 09/20/2011 11:15 by MDL

Submitted: 09/21/2011 17:56
Reported: 09/27/2011 15:06

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00224	Chloride	16887-00-6	117	10.0	50
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	2.9 J	1.5	5

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11264196901B	09/25/2011 20:19	Ashley M Adams	50
00368	Nitrate Nitrogen	EPA 300.0	1	11264196901B	09/22/2011 07:11	James S Mathiot	5
00228	Sulfate	EPA 300.0	1	11264196901B	09/22/2011 07:11	Ashley M Adams	5

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Analysis Report

Quality Control Summary

Client Name: Terra Systems, Inc. Group Number: 1267604
Reported: 09/27/11 at 03:06 PM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 11264196901B	Sample number(s): 6414140-6414143							
Chloride	N.D.	0.20	mg/l	99		90-110		
Nitrate Nitrogen	N.D.	0.050	mg/l	98		90-110		
Sulfate	N.D.	0.30	mg/l	98		90-110		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 11264196901B	Sample number(s): 6414140-6414143 UNSPK: P413084 BKG: P413084								
Chloride	95		90-110			3,610	3,610	0	20
Nitrate Nitrogen	98		90-110			3.8	3.7	0	20
Sulfate	90		90-110			2,150	2,110	2	20

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 9984 Group# 1267604 Sample # 641414O-43

COC # 252631

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: Terra Systems Inc Acct. #:

Project Name/#: Ft Drum PWSID #:

Project Manager: Mike Lee P.O.#:

Sampler: M D Lee Quote #:

Name of state where samples were collected: NY

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6) Temperature of samples upon receipt (if requested)

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	(3) Composite	Matrix: Soil	Matrix: Water (Potable / NPDES)	Matrix: Other	(4) Total # of Containers	(5) Analyses Requested: Preservation Codes (e) Cl, SO_4, NO_3-N	Remarks
1-A-C-2	9/20/11	10:30		X		X		1	X	
2-A-C-2	9/20/11	10:45		X		X		1	X	
3A-C-2	9/20/11	11:00		X		X		1	X	
4A-C-2	9/20/11	11:15		X		X		1	X	

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address: mlee@terrasystems.net

(8) **Data Package Options** (please circle if required)

		SDG Complete?
Type I (validation/NJ Reg)	TX TRRP-13	Yes No
Type II (Tier II)	MA MCP CT RCP	
(Type III (Reduced NJ))	Site-specific QC (MS/MSD/Dup)? Yes No	
Type IV (CLP SOW)	(If yes, indicate QC sample and submit triplicate volume.)	
Type VI (Raw Data Only)	Internal COC Required? Yes / No	

Relinquished by:	Date	Time	Received by:	Date	Time
Michael D Lee	9/21/11	11:45	[signature]	9/21/11	11:45
[signature]	9/21/11	1756			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by: [signature] 9/21/11	Date	Time 1756

(9)

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

Issued by Dept. 6042 Management
2102.05

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

November 03, 2011

Project: Fort Drum Microcosm

Submittal Date: 10/19/2011
Group Number: 1272197
State of Sample Origin: NY

Client Sample Description	Lancaster Labs (LLI) #
1-A-C-3 Composite Water Sample	6443046
2-A-C-3 Composite Water Sample	6443047
3-A-C-3 Composite Water Sample	6443048
4-A-C-3 Composite Water Sample	6443049

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	Terra Systems, Inc.	Attn: Michael D. Lee
ELECTRONIC COPY TO	Terra Systems, Inc.	Attn: Mike Lee

Lancaster Laboratories

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Analysis Report

Questions? Contact your Client Services Representative
Nancy J Bornholm at (717) 656-2300 Ext. 1310

Respectfully Submitted,

Robert Heisey

Robert Heisey
Senior Specialist

Lancaster Laboratories

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Analysis Report

Sample Description: 1-A-C-3 Composite Water Sample
Fort Drum Microcosm

LLI Sample # WW 6443046
LLI Group # 1272197
Account # 09984

Project Name: Fort Drum Microcosm

Collected: 10/18/2011 12:30 by MDL

Submitted: 10/19/2011 19:45
Reported: 11/03/2011 09:05

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00224	Chloride	16887-00-6	152	10.0	50
00368	Nitrate Nitrogen	14797-55-8	N.D.	2.5	50
	Reporting limits were raised due to interference from the sample matrix.				
00228	Sulfate	14808-79-8	56.4	1.5	5

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11292196902B	10/20/2011 11:26	Ashley M Adams	50
00368	Nitrate Nitrogen	EPA 300.0	2	11292196902B	10/20/2011 11:26	Ashley M Adams	50
00228	Sulfate	EPA 300.0	1	11292196902B	10/20/2011 10:51	Ashley M Adams	5

Lancaster Laboratories

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Analysis Report

Sample Description: 2-A-C-3 Composite Water Sample
Fort Drum Microcosm

LLI Sample # WW 6443047
LLI Group # 1272197
Account # 09984

Project Name: Fort Drum Microcosm

Collected: 10/18/2011 13:00 by MDL

Submitted: 10/19/2011 19:45
Reported: 11/03/2011 09:05

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00224	Chloride	16887-00-6	120	10.0	50
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	32.5	1.5	5

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11292196902B	10/23/2011 12:30	Ashley M Adams	50
00368	Nitrate Nitrogen	EPA 300.0	1	11292196902B	10/20/2011 11:14	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	11292196902B	10/20/2011 11:14	Ashley M Adams	5

Lancaster Laboratories

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Analysis Report

Sample Description: 3-A-C-3 Composite Water Sample
Fort Drum Microcosm

LLI Sample # WW 6443048
LLI Group # 1272197
Account # 09984

Project Name: Fort Drum Microcosm

Collected: 10/18/2011 13:30 by MDL

Submitted: 10/19/2011 19:45
Reported: 11/03/2011 09:05

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00224	Chloride	16887-00-6	106	10.0	50
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	4.1 J	1.5	5

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11292196902B	10/23/2011 12:54	Ashley M Adams	50
00368	Nitrate Nitrogen	EPA 300.0	1	11292196902B	10/20/2011 11:49	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	11292196902B	10/20/2011 11:49	Ashley M Adams	5

Lancaster Laboratories

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Analysis Report

Sample Description: 4-A-C-3 Composite Water Sample
Fort Drum Microcosm

LLI Sample # WW 6443049
LLI Group # 1272197
Account # 09984

Project Name: Fort Drum Microcosm

Collected: 10/18/2011 14:00 by MDL

Submitted: 10/19/2011 19:45
Reported: 11/03/2011 09:05

Terra Systems, Inc.
1035 Philadelphia Pike, Ste. E
Wilmington DE 19809-2039

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00224	Chloride	16887-00-6	136	10.0	50
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	7.8	1.5	5

General Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
00224	Chloride	EPA 300.0	1	11292196902B	10/23/2011 13:17	Ashley M Adams	50
00368	Nitrate Nitrogen	EPA 300.0	1	11292196902B	10/20/2011 12:48	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	11292196902B	10/20/2011 12:48	Ashley M Adams	5

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: Terra Systems, Inc. Group Number: 1272197
Reported: 11/03/11 at 09:05 AM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 11292196902B	Sample number(s): 6443046-6443049							
Chloride	N.D.	0.20	mg/l	100	108	90-110	8	20
Nitrate Nitrogen	N.D.	0.050	mg/l	102	105	90-110	3	20
Sulfate	N.D.	0.30	mg/l	99	108	90-110	8	20

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 11292196902B	Sample number(s): 6443046-6443049 UNSPK: P442077 BKG: P442077								
Chloride	101	95	90-110	4	20	8.2	8.3	2 (1)	20
Nitrate Nitrogen	101	91	90-110	10	20	N.D.	N.D.	0 (1)	20
Sulfate	103	98	90-110	5	20	2.1 J	2.1 J	4 (1)	20

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 9984 Group# 1272197 Sample # 6443046-49

COC # 247854

Please print. Instructions on reverse side correspond with circled numbers.

For Lab Use Only
FSC: _____
SCR#: _____

(1) Client: Terra Systems Acct. #: _____
Project Name/#: Fort Drum Microcosm PWSID #: _____
Project Manager: MikeLee P.O.#: _____
Sampler: MDL Quote #: _____
Name of state where samples were collected: NY

(2) Sample Identification | Date Collected | Time Collected | (3) Grab | Composite | (4) Matrix: Soil | Water (☐ Potable ☐ NPDES Check if Applicable) | Other | Total # of Containers | (5) Analyses Requested / Preservation Codes: Cl, SO4, NO3-N | Remarks

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	Cl, SO4, NO3-N	Remarks
1-A-C-3	10/18/11	12:30		X		X			X	
2-A-C-3	10/18/11	13:00		X		X			X	
3-A-C-3	10/18/11	13:30		X		X			X	
4-A-C-3	10/18/11	14:00		X		X			X	

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6) Temperature of samples upon receipt (if requested)

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed: _____
Rush results requested by (please circle): Phone Fax E-mail
Phone #: _____ Fax #: _____
E-mail address: _____

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
TX TRRP-13
MA MCP CT RCP
SDG Complete? Yes No
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No _____

Relinquished by:	Date	Time	Received by:	Date	Time
Michael Lee	10/19/11	1145	[signature]	10/19/11	1145
[signature]	10/19/11	1745			

(9)

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766

Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

Issued by Dept. 6042 Management
2102.05

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

New
Jersey
Analytical
Laboratories

1580 Reed Road
Suite A1
Pennington, NJ 08534

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Fax: (609) 737-3052
www.njal.com

Laboratory Deliverables

Prepared For

PARS Environmental

Drum Bench Study

Lab ID

Enhanced Reductive Dechlorination (ERD)

Samples Received

27-Jul-11

Reported

7/27/11 to 8/12/11

NJDEP Certified Lab 11005

Precision testing for a cleaner environment.

II Sample Results

Data Summaries

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

=0 GW Initial Ev

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0000316 drum scre

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62409.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/27/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	2	U
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	5	U
67-64-1	acetone	5	U
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	2	U
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	2	U
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	2	U
79-01-6	trichloroethene	4	
78-87-5	1,2-dichloropropane	2	U
156-59-4	cis-1,2-dichloroethene	2	U
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	2	U
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	5	U
79-00-5	1,1,2-trichloroethane	2	U
127-18-4	tetrachloroethene	380	
124-48-1	dibromochloromethane	2	U
108-90-7	chlorobenzene	2	U
108-38-3	m/p-xylene	2	U
95-47-6	o-xylene	2	U
100-42-5	styrene	2	U
98-82-8	isopropyl benzene	2	U
75-25-2	bromoform	2	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

=0 GW Initial Ev

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0000316 drum scre

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62409.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/27/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	2	U
541-73-1	1,3-dichlorobenzene	2	U
95-50-1	1,2-dichlorobenzene	2	U
106-46-7	1,4-dichlorobenzene	2	U
120-82-1	1,2,4-trichlorobenzene	2	U
87-61-6	1,2,3-trichlorobenzene	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 C1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Ctrl T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62401.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	30	D
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	10	D
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	380	D
127-18-4	tetrachloroethene	470	D
108-90-7	chlorobenzene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 C1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Ctrl T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62401.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 C1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Ctrl T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62401.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 C2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Ctrl T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62402.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	25	JD
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	10	U
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	380	D
127-18-4	tetrachloroethene	460	D
108-90-7	chlorobenzene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 C2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Ctrl T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62402.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 C2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Ctrl T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62402.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T24 C3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Ctrl T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62403.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	25	D
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	10	U
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	380	D
127-18-4	tetrachloroethene	460	D
108-90-7	chlorobenzene	10	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T24 C3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Ctrl T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62403.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 C3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: Ctrl T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62403.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 .5g-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0.5g/l T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62404.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	89	D
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	13	D
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	410	D
127-18-4	tetrachloroethene	520	D
108-90-7	chlorobenzene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 .5g-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0.5g/l T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62404.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 .5g-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0.5g/l T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62404.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 .5g-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0.5g/l T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62405.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	93	D
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	12	D
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	390	D
127-18-4	tetrachloroethene	490	D
108-90-7	chlorobenzene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 .5g-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0.5g/l T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62405.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 .5g-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0.5g/l T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62405.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T24 .5-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0.5g/l T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62406.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	92	D
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	12	D
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	380	D
127-18-4	tetrachloroethene	480	D
108-90-7	chlorobenzene	10	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T24 .5-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0.5g/l T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62406.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 .5-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0.5g/l T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62406.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T24 1g-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1.0g/l T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62407.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	100	D
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	14	D
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	290	D
127-18-4	tetrachloroethene	360	D
108-90-7	chlorobenzene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 1g-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1.0g/l T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62407.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 1g-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1.0g/l T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62407.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 1g-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1.0g/l T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62408.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	97	D
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	12	D
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	290	D
127-18-4	tetrachloroethene	360	D
108-90-7	chlorobenzene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 1g-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1.0g/l T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62408.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 1g-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1.0g/l T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62408.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 1g-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1.0g/l T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62409.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	100	D
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	14	D
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	290	D
127-18-4	tetrachloroethene	360	D
108-90-7	chlorobenzene	10	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T24 1g-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1.0g/l T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62409.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 1g-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1.0g/l T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62409.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T24 2g-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 2.0g/l T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62410.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	110	D
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	15	D
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	290	D
127-18-4	tetrachloroethene	360	D
108-90-7	chlorobenzene	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T24 2g-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 2.0g/l T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62410.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 2g-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 2.0g/l T24-1 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62410.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T24 2g-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 2.0g/l T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62411.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	120	D
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	15	D
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	280	D
127-18-4	tetrachloroethene	350	D
108-90-7	chlorobenzene	10	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T24 2g-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 2.0g/l T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62411.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 2g-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 2.0g/l T24-2 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62411.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T24 2g-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 2.0g/l T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62412.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	10	U
74-87-3	chloromethane	10	U
75-01-4	vinyl chloride	10	U
74-83-9	bromomethane	10	U
75-00-3	chloroethane	10	U
75-15-0	carbon disulfide	10	U
75-65-0	tert-butyl alcohol	10	U
1634-04-4	MTBE	10	U
78-93-3	MEK	25	U
67-64-1	acetone	100	D
75-69-4	trichlorofluoromethane	10	U
75-35-4	1,1-dichloroethene	10	U
75-09-2	methylene chloride	15	D
156-60-5	trans-1,2-dichloroethene	10	U
75-34-3	1,1-dichloroethane	10	U
67-66-3	chloroform	10	U
108-10-1	MIBK	10	U
74-97-5	bromochloromethane	10	U
71-55-6	1,1,1-trichloroethane	10	U
56-23-5	carbon tetrachloride	10	U
107-06-2	1,2-dichloroethane	10	U
71-43-2	benzene	10	U
79-01-6	trichloroethene	10	U
78-87-5	1,2-dichloropropane	10	U
76-13-1	112-Trichloro-122-Trifluoroethane	10	U
91-20-3	Napthalene	10	U
79-20-9	Methyl Acetate	25	U
110-82-7	Cyclohexane	10	U
108-87-2	Methyl Cyclohexane	10	U
156-59-4	cis-1,2-dichloroethene	10	U
75-27-4	bromodichloromethane	10	U
10061-01-5	cis-1,3-dichloropropene	10	U
108-88-3	toluene	10	U
10061-02-6	trans-1,3-dichloropropene	10	U
591-78-6	2-hexanone	25	U
79-00-5	1,1,2-trichloroethane	10	U
124-48-1	dibromochloromethane	280	D
127-18-4	tetrachloroethene	350	D
108-90-7	chlorobenzene	10	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T24 2g-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 2.0g/l T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62412.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	10	U
95-47-6	o-xylene	10	U
100-42-5	styrene	10	U
75-25-2	bromoform	10	U
98-82-8	isopropyl benzene	10	U
79-34-5	1,1,2,2-tetrachloroethane	10	U
541-73-1	1,3-dichlorobenzene	10	U
95-50-1	1,2-dichlorobenzene	10	U
106-46-7	1,4-dichlorobenzene	10	U
120-82-1	1,2,4-trichlorobenzene	10	U
87-61-6	1,2,3-trichlorobenzene	10	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T24 2g-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 2.0g/l T24-3 5d

Sample wt/vol: 1.0 (g/ml) ML Lab File ID: TS62412.D

Level: (low/med) LOW Date Received: 07/28/12

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

III-1 Raw Chromatograms

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62401.D Vial: 14
Acq On : 29 Jul 2011 12:53 am Operator: A. Thomas
Sample : Ctrl T24-1 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Quant Method : Y:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

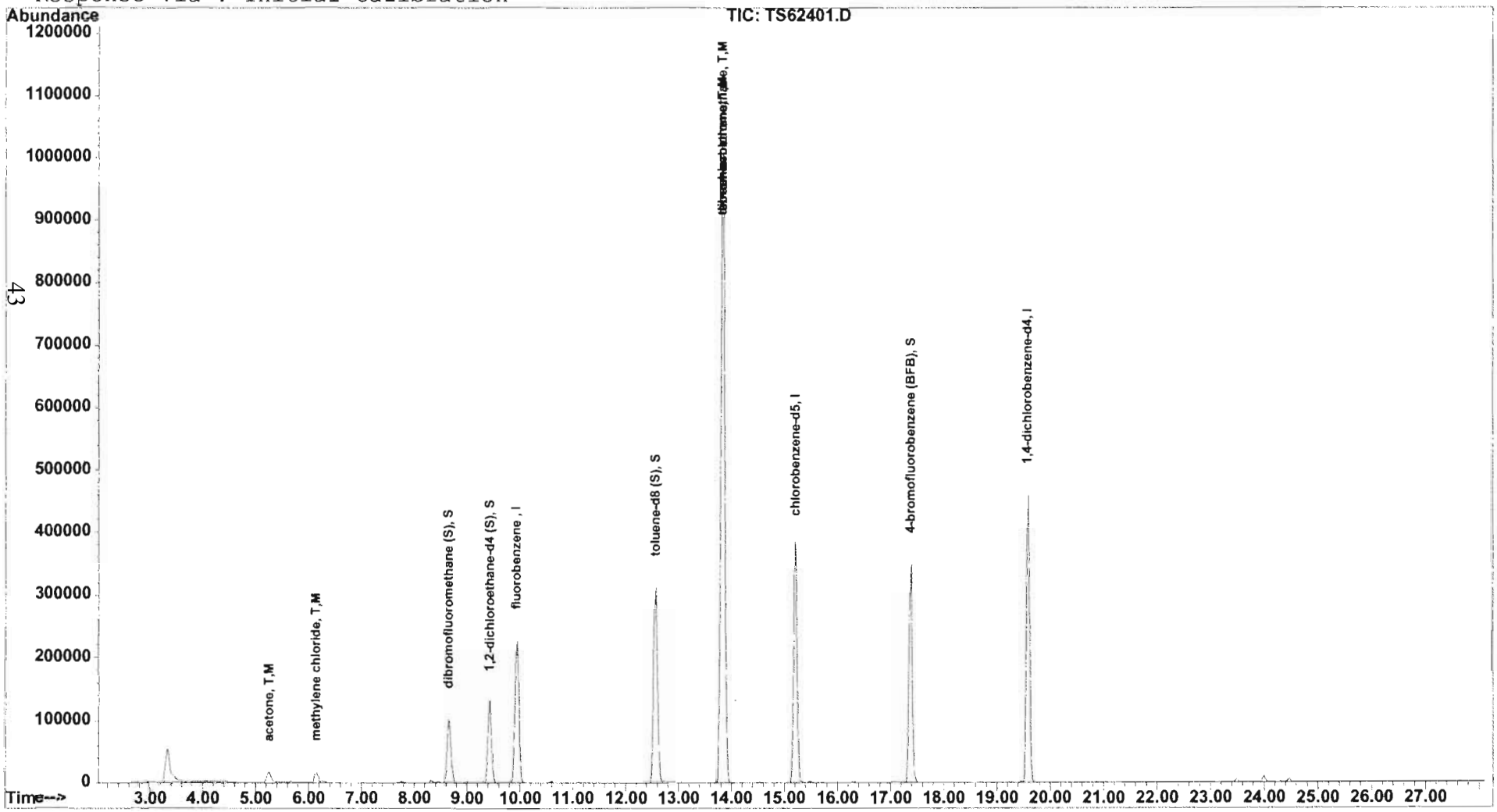
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.96	96	4629547	15.00	ug/l	-0.15
44) chlorobenzene-d5	15.22	117	4812765	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2825814	15.00	ug/L	-0.16
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1553225	28.50	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.00%			
26) 1,2-dichloroethane-d4 (S)	9.45	102	376110	31.47	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.90%			
36) toluene-d8 (S)	12.58	98	5273975	29.61	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.70%			
53) 4-bromofluorobenzene (BFB)	17.39	95	3189398	29.23	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.43%			
Target Compounds						Qvalue
14) acetone	5.27	58	117601	6.00	ug/L	67
17) methylene chloride	6.15	84	214128	2.01	ug/L #	100
41) tetrachloroethene	13.85	166	8588042	94.15	ug/L #	76
42) dibromochloromethane	13.85	129	6011584	75.74	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62401.D Vial: 14
Acq On : 29 Jul 2011 12:53 am Operator: A. Thomas
Sample : Ctrl T24-1 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62402.D Vial: 15
Acq On : 29 Jul 2011 1:26 am Operator: A. Thomas
Sample : Ctrl T24-2 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Quant Method : Y:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

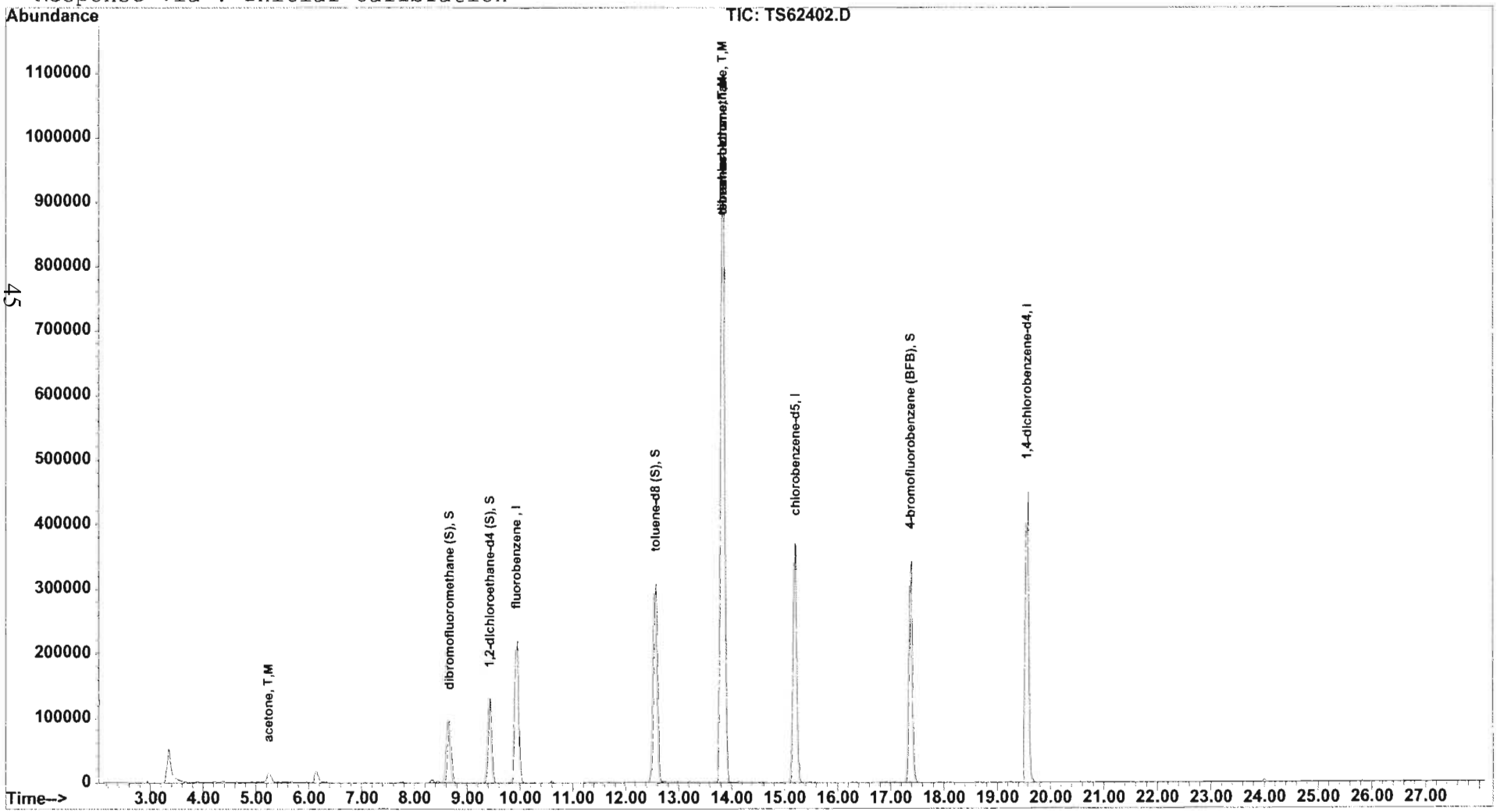
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.96	96	4451059	15.00	ug/l	-0.15
44) chlorobenzene-d5	15.22	117	4766557	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2738352	15.00	ug/L	-0.16
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.68	113	1540153	29.39	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.97%			
26) 1,2-dichloroethane-d4 (S)	9.45	102	360712	31.39	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.63%			
36) toluene-d8 (S)	12.58	98	5292635	30.91	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.03%			
53) 4-bromofluorobenzene (BFB)	17.39	95	3105031	28.73	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.77%			
Target Compounds						Qvalue
14) acetone	5.25	58	93598	4.97	ug/L	49
41) tetrachloroethene	13.85	166	8092991	92.28	ug/L #	76
42) dibromochloromethane	13.85	129	5818562	76.24	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62402.D Vial: 15
Acq On : 29 Jul 2011 1:26 am Operator: A. Thomas
Sample : Ctrl T24-2 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62403.D Vial: 16
Acq On : 29 Jul 2011 1:59 am Operator: A. Thomas
Sample : Ctrl T24-3 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Quant Method : Y:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

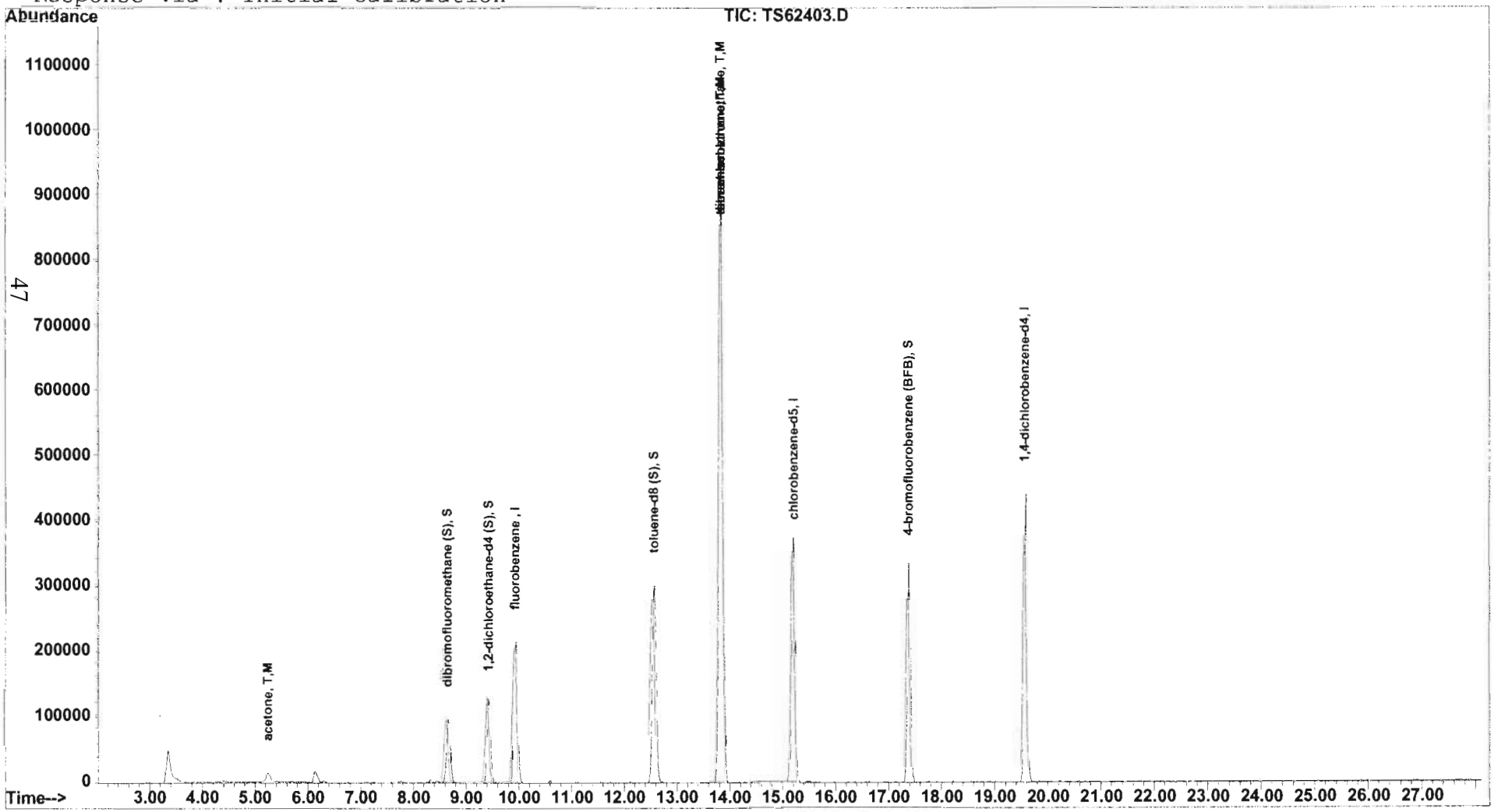
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.96	96	4416222	15.00	ug/l	-0.15
44) chlorobenzene-d5	15.22	117	4666626	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.60	152	2673944	15.00	ug/L	-0.16
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1529771	29.43	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.10%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	360306	31.60	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.33%			
36) toluene-d8 (S)	12.58	98	5155756	30.34	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.13%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2999220	28.35	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.50%			
Target Compounds						Qvalue
14) acetone	5.26	58	94994	5.08	ug/L	47
41) tetrachloroethene	13.85	166	7954895	91.42	ug/L #	100
42) dibromochloromethane	13.85	129	5743731	75.86	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62403.D Vial: 16
Acq On : 29 Jul 2011 1:59 am Operator: A. Thomas
Sample : Ctrl T24-3 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62404.D Vial: 17
Acq On : 29 Jul 2011 2:33 am Operator: A. Thomas
Sample : 0.5g/l T24-1 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Quant Method : Y:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

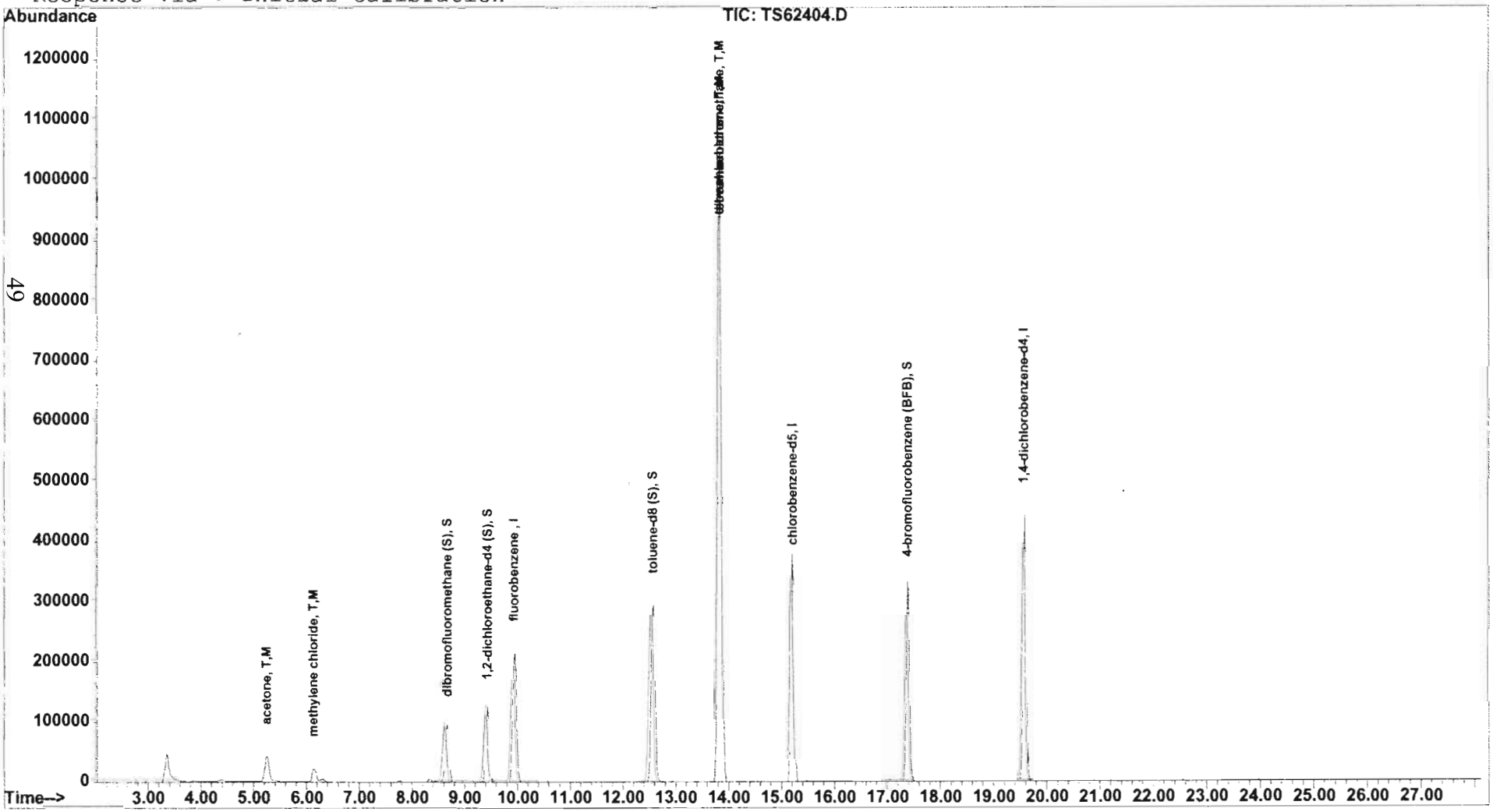
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	4351890	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.22	117	4534811	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2693968	15.00	ug/L	-0.16
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1549713	30.25	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.83%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	346387	30.83	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.77%			
36) toluene-d8 (S)	12.58	98	5065392	30.25	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.83%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2914111	28.34	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.47%			
Target Compounds						Qvalue
14) acetone	5.26	58	328771	17.85	ug/L	82
17) methylene chloride	6.15	84	257002	2.57	ug/L #	100
41) tetrachloroethene	13.85	166	8915376	103.97	ug/L #	100
42) dibromochloromethane	13.84	129	6190781	82.97	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62404.D Vial: 17
Acq On : 29 Jul 2011 2:33 am Operator: A. Thomas
Sample : 0.5g/l T24-1 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62405.D Vial: 18
Acq On : 29 Jul 2011 3:06 am Operator: A. Thomas
Sample : 0.5g/l T24-2 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Quant Method : Y:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

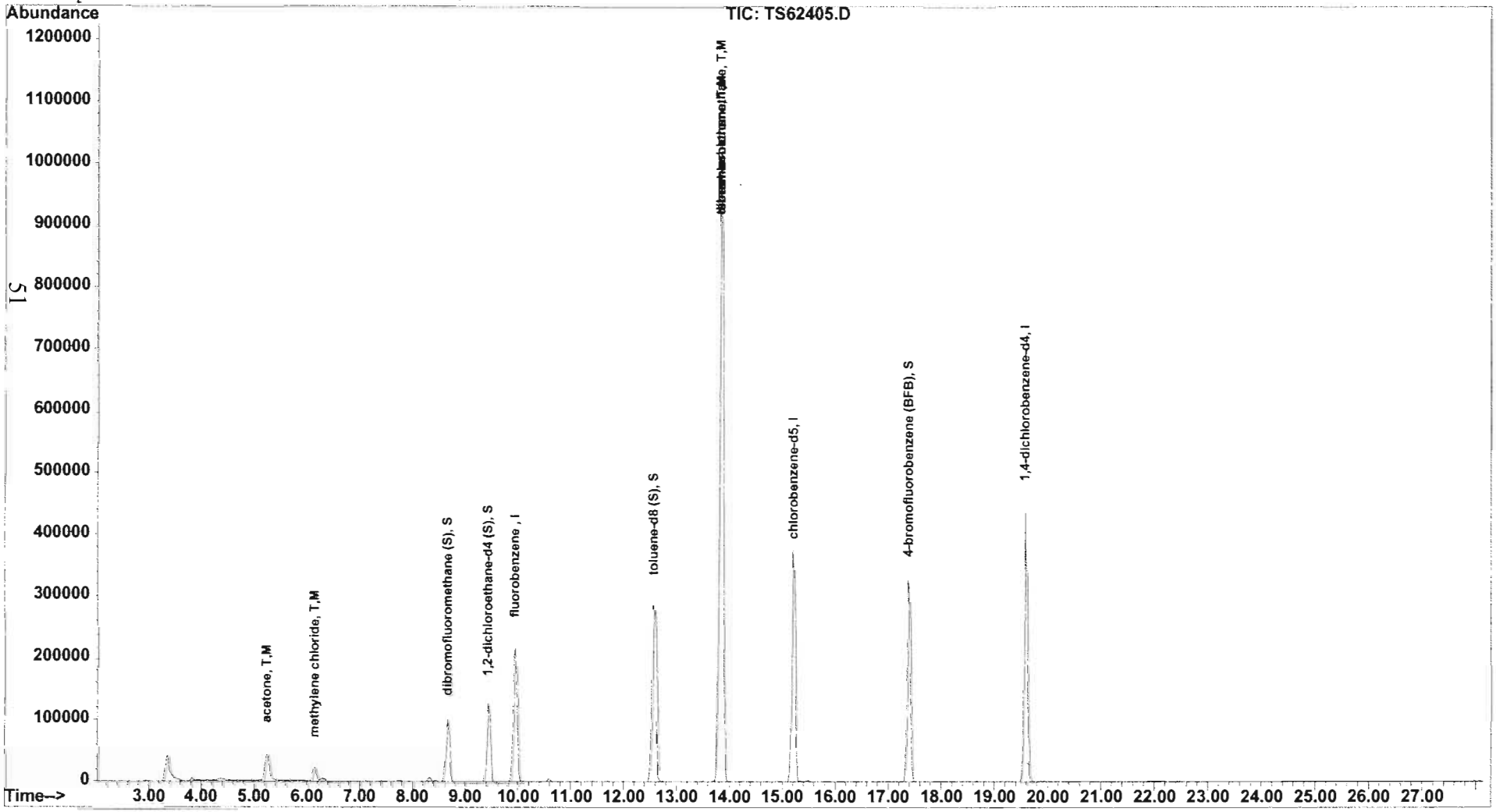
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.96	96	4309144	15.00	ug/l	-0.15
44) chlorobenzene-d5	15.22	117	4527924	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2639011	15.00	ug/L	-0.16
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1514044	29.85	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.50%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	339657	30.53	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.77%			
36) toluene-d8 (S)	12.58	98	4980951	30.04	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.13%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2941089	28.65	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.50%			
Target Compounds						Qvalue
14) acetone	5.25	58	338533	18.56	ug/L	90
17) methylene chloride	6.15	84	246564	2.49	ug/L #	100
41) tetrachloroethene	13.85	166	8291571	97.66	ug/L #	76
42) dibromochloromethane	13.85	129	5769171	78.09	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62405.D Vial: 18
Acq On : 29 Jul 2011 3:06 am Operator: A. Thomas
Sample : 0.5g/l T24-2 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62406.D Vial: 19
Acq On : 29 Jul 2011 3:39 am Operator: A. Thomas
Sample : 0.5g/l T24-3 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Quant Method : Y:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

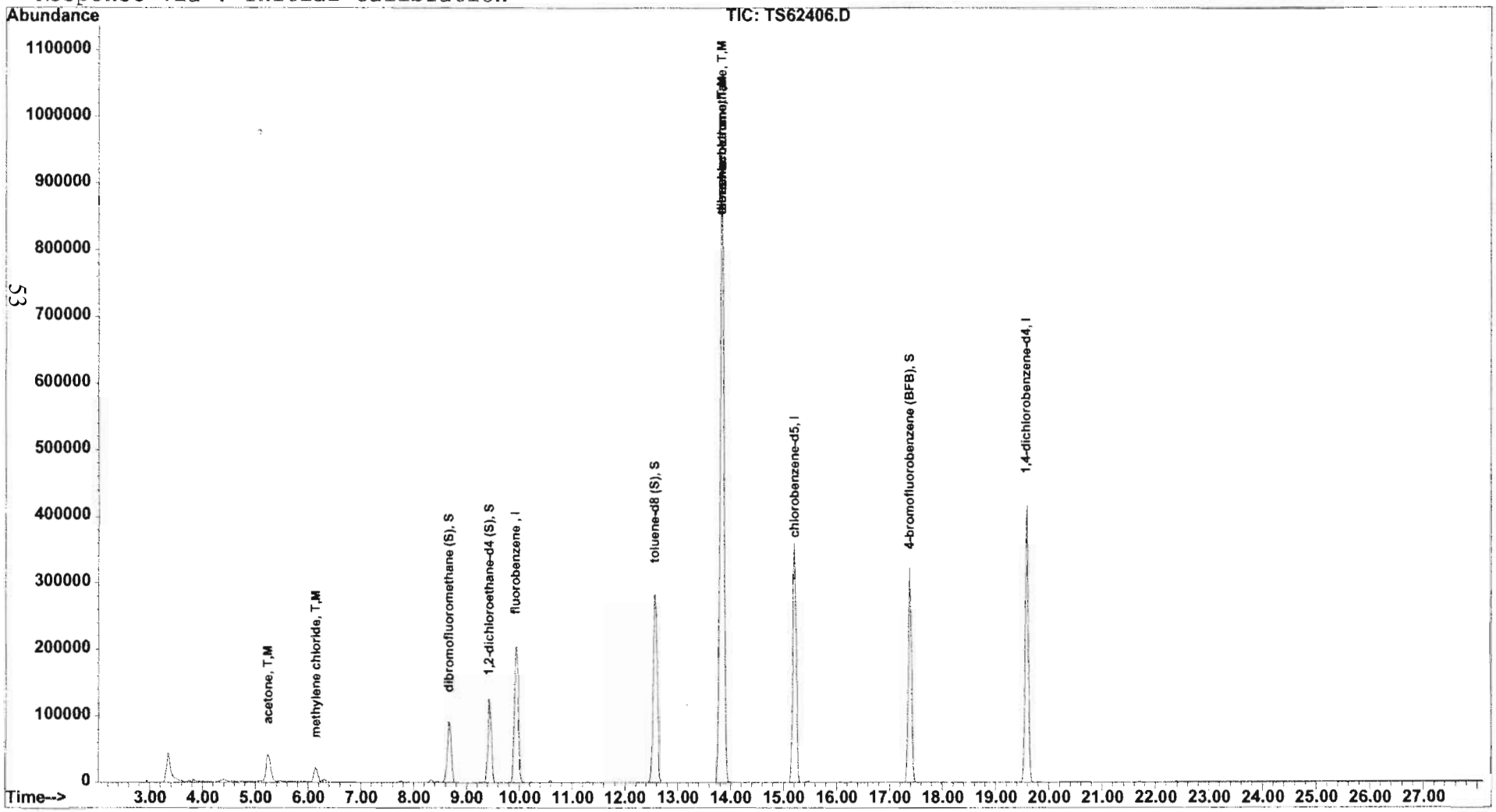
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	4244066	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.22	117	4402425	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2603324	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1471459	29.45	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.17%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	319319	29.14	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.13%			
36) toluene-d8 (S)	12.58	98	4849214	29.70	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.00%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2870038	28.75	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.83%			
Target Compounds						Qvalue
14) acetone	5.25	58	331235	18.44	ug/L	93
17) methylene chloride	6.16	84	234898	2.41	ug/L #	100
41) tetrachloroethene	13.85	166	7944515	95.00	ug/L #	76
42) dibromochloromethane	13.85	129	5559667	76.40	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62406.D Vial: 19
Acq On : 29 Jul 2011 3:39 am Operator: A. Thomas
Sample : 0.5g/l T24-3 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62407.D Vial: 20
Acq On : 29 Jul 2011 4:12 am Operator: A. Thomas
Sample : 1.0g/l T24-1 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Quant Method : Y:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

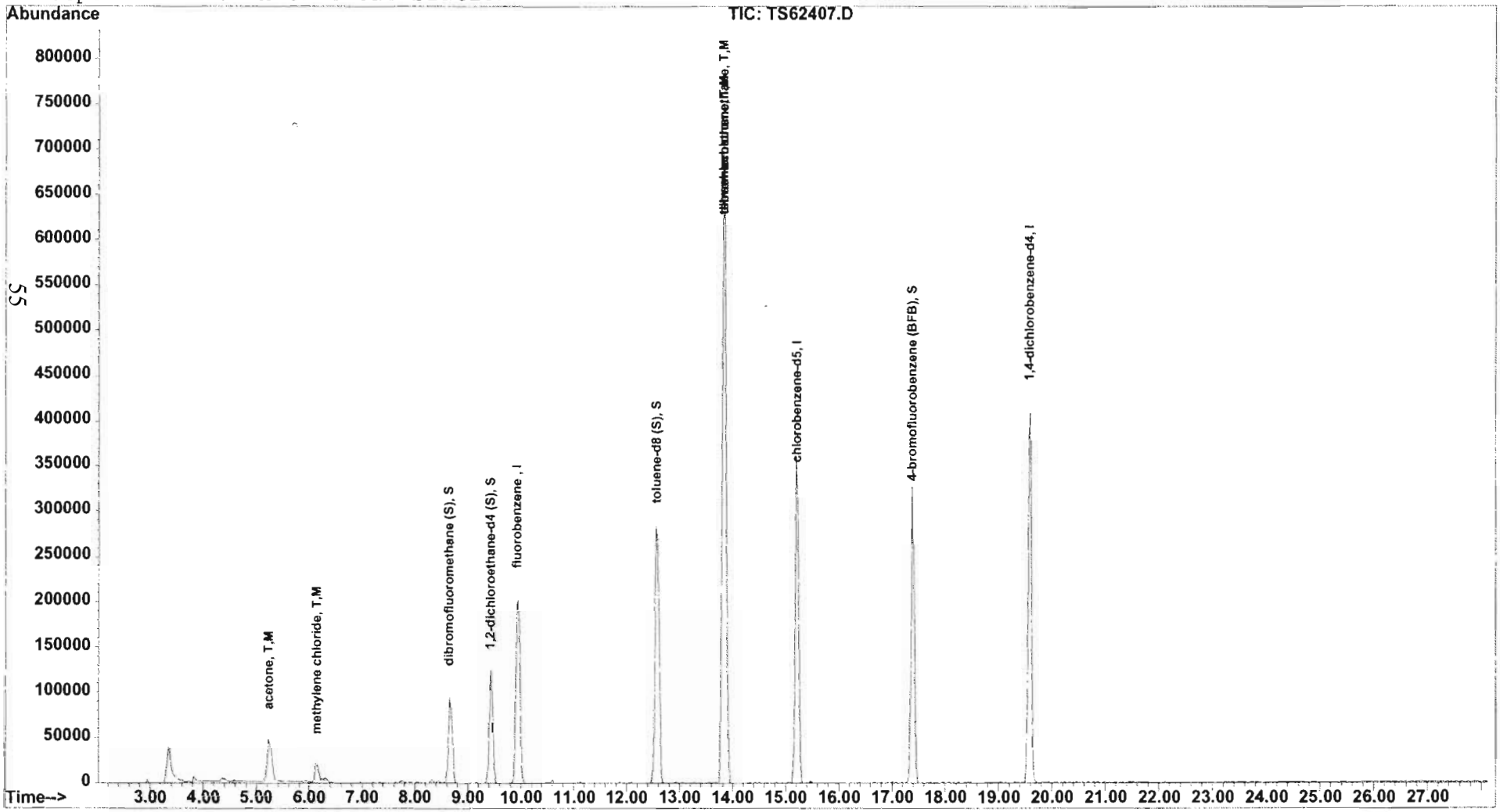
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	4110772	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.22	117	4367575	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2561272	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1489284	30.78	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.60%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	341139	32.14	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.13%			
36) toluene-d8 (S)	12.58	98	4777304	30.21	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.70%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2879208	29.07	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.90%			
Target Compounds						Qvalue
14) acetone	5.26	58	354799	20.39	ug/L	84
17) methylene chloride	6.15	84	255604	2.71	ug/L #	100
41) tetrachloroethene	13.85	166	5780258	71.36	ug/L #	76
42) dibromochloromethane	13.84	129	4143805	58.79	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62407.D Vial: 20
Acq On : 29 Jul 2011 4:12 am Operator: A. Thomas
Sample : 1.0g/l T24-1 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:45 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62408.D Vial: 21
Acq On : 29 Jul 2011 4:45 am Operator: A. Thomas
Sample : 1.0g/l T24-2 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:46 19111 Quant Results File: T6072011.RES

Quant Method : Y:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

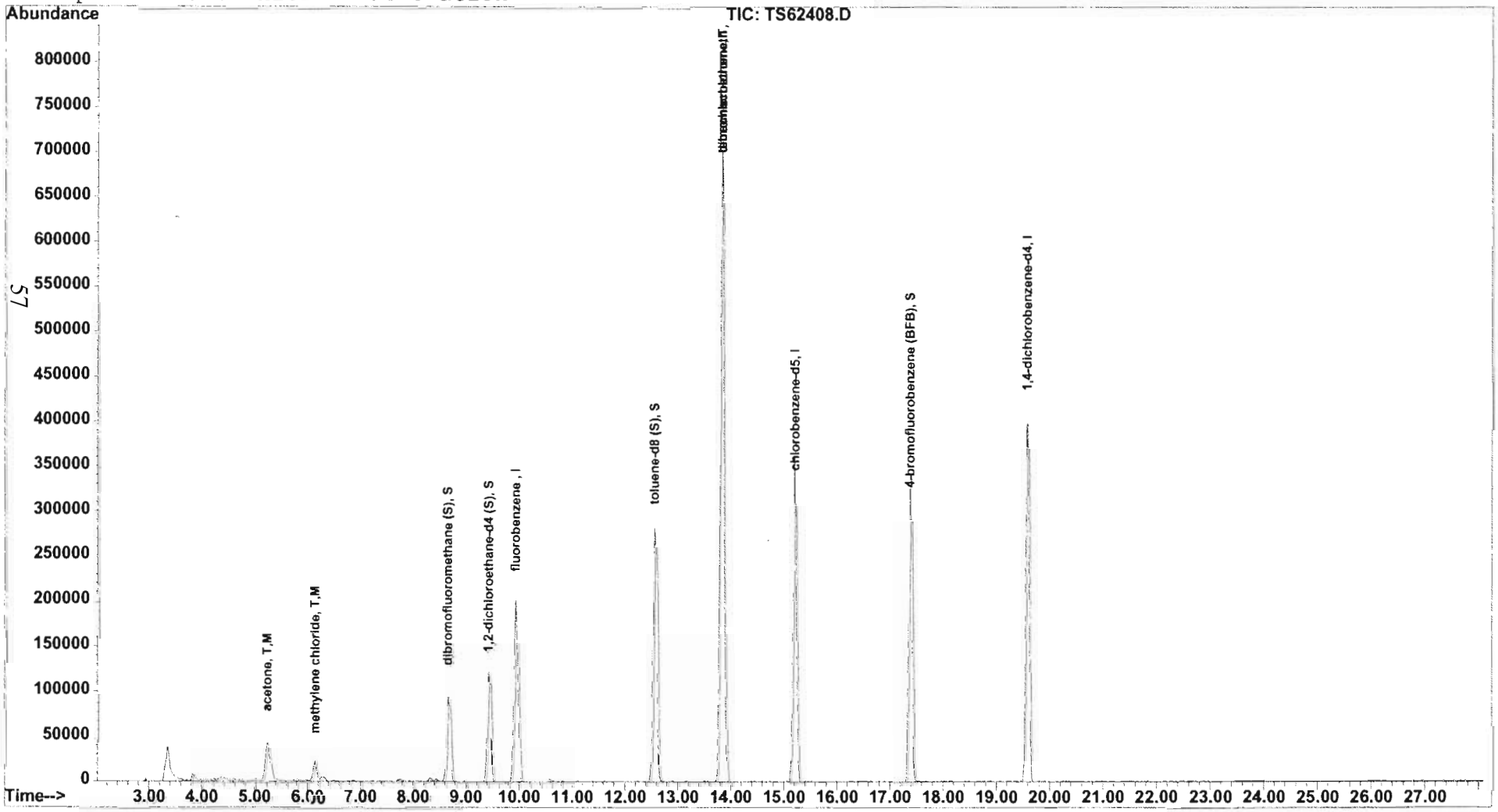
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	4121976	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.21	117	4399257	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2540239	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1476358	30.43	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.43%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	325250	30.56	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.87%			
36) toluene-d8 (S)	12.58	98	4765377	30.05	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.17%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2797928	28.05	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.50%			
Target Compounds						Qvalue
14) acetone	5.26	58	339907	19.48	ug/L	87
17) methylene chloride	6.15	84	230655	2.44	ug/L #	100
41) tetrachloroethene	13.84	166	5799515	71.41	ug/L #	76
42) dibromochloromethane	13.84	129	4089397	57.86	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62408.D Vial: 21
Acq On : 29 Jul 2011 4:45 am Operator: A. Thomas
Sample : 1.0g/l T24-2 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:46 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62409.D Vial: 22
Acq On : 29 Jul 2011 5:19 am Operator: A. Thomas
Sample : 1.0g/l T24-3 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:46 19111 Quant Results File: T6072011.RES

Quant Method : Y:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

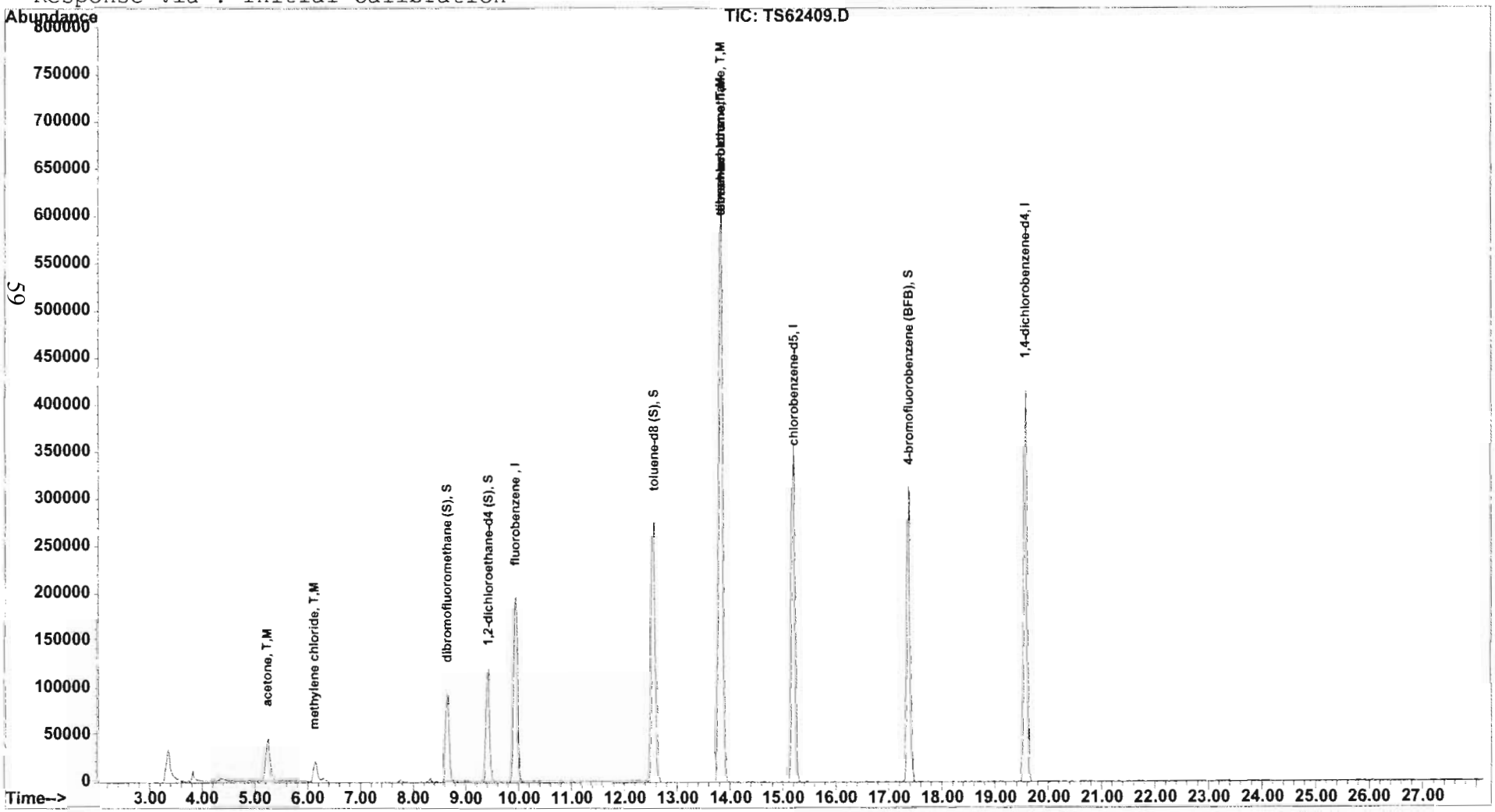
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	4081449	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.21	117	4401078	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2582211	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1503772	31.30	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.33%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	336907	31.97	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 106.57%			
36) toluene-d8 (S)	12.58	98	4745323	30.22	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.73%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2774719	27.81	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.70%			
Target Compounds						Qvalue
14) acetone	5.25	58	350285	20.28	ug/L	87
17) methylene chloride	6.15	84	258987	2.76	ug/L #	100
41) tetrachloroethene	13.85	166	5714388	71.06	ug/L #	100
42) dibromochloromethane	13.85	129	4039234	57.72	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62409.D Vial: 22
Acq On : 29 Jul 2011 5:19 am Operator: A. Thomas
Sample : 1.0g/l T24-3 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:46 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62410.D Vial: 23
Acq On : 29 Jul 2011 5:51 am Operator: A. Thomas
Sample : 2.0g/l T24-1 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:46 19111 Quant Results File: T6072011.RES

Quant Method : Y:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

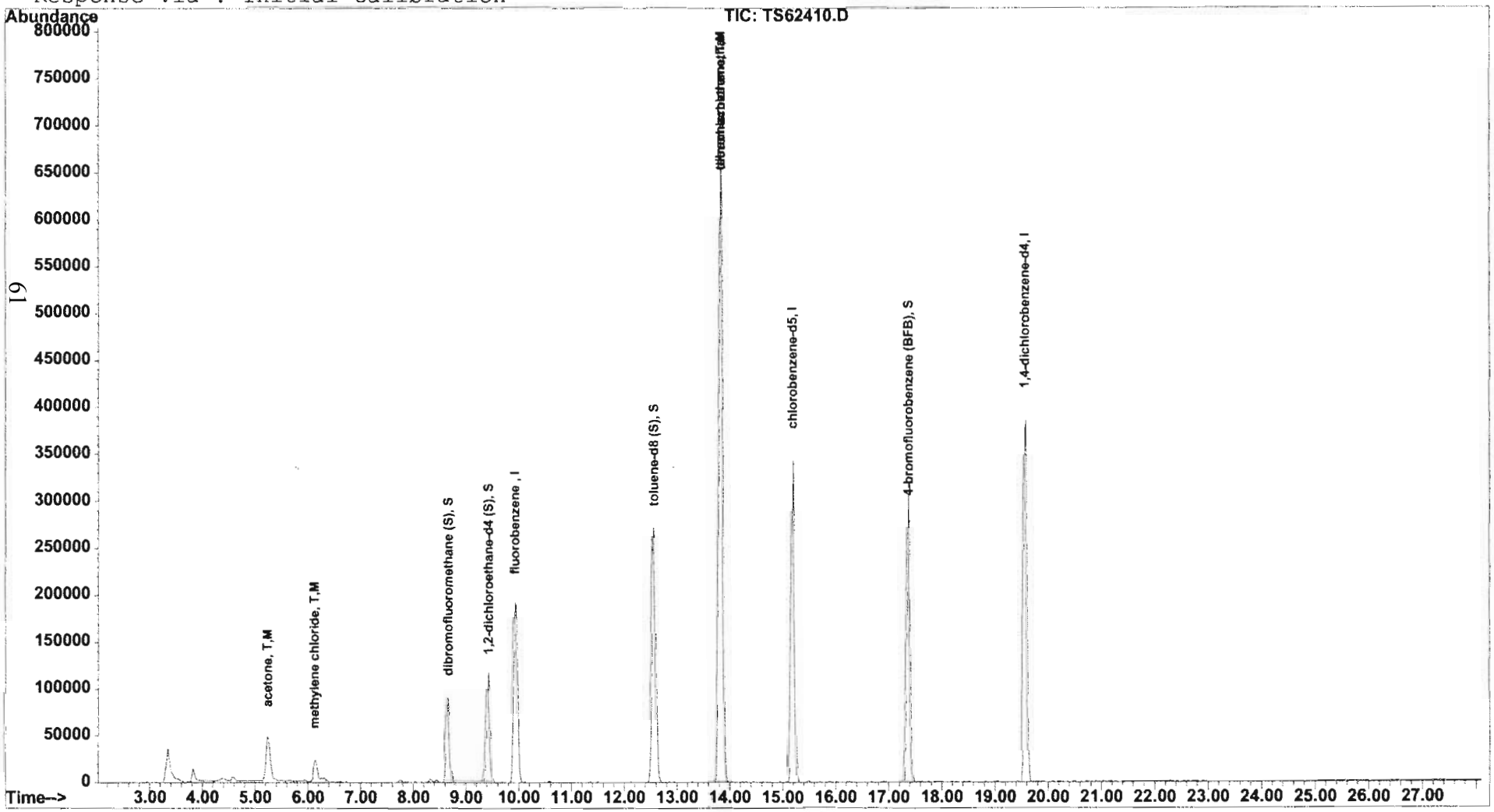
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	3913767	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.21	117	4160231	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2392693	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1369401	29.72	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.07%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	316488	31.32	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.40%			
36) toluene-d8 (S)	12.57	98	4575443	30.39	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.30%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2644870	28.04	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.47%			
Target Compounds						Qvalue
14) acetone	5.25	58	367860	22.21	ug/L	92
17) methylene chloride	6.15	84	263095	2.93	ug/L #	100
41) tetrachloroethene	13.84	166	5544137	71.89	ug/L #	76
42) dibromochloromethane	13.84	129	3880939	57.83	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62410.D Vial: 23
Acq On : 29 Jul 2011 5:51 am Operator: A. Thomas
Sample : 2.0g/l T24-1 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 6:46 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62411.D Vial: 24
Acq On : 29 Jul 2011 6:25 am Operator: A. Thomas
Sample : 2.0g/l T24-2 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 9:52 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

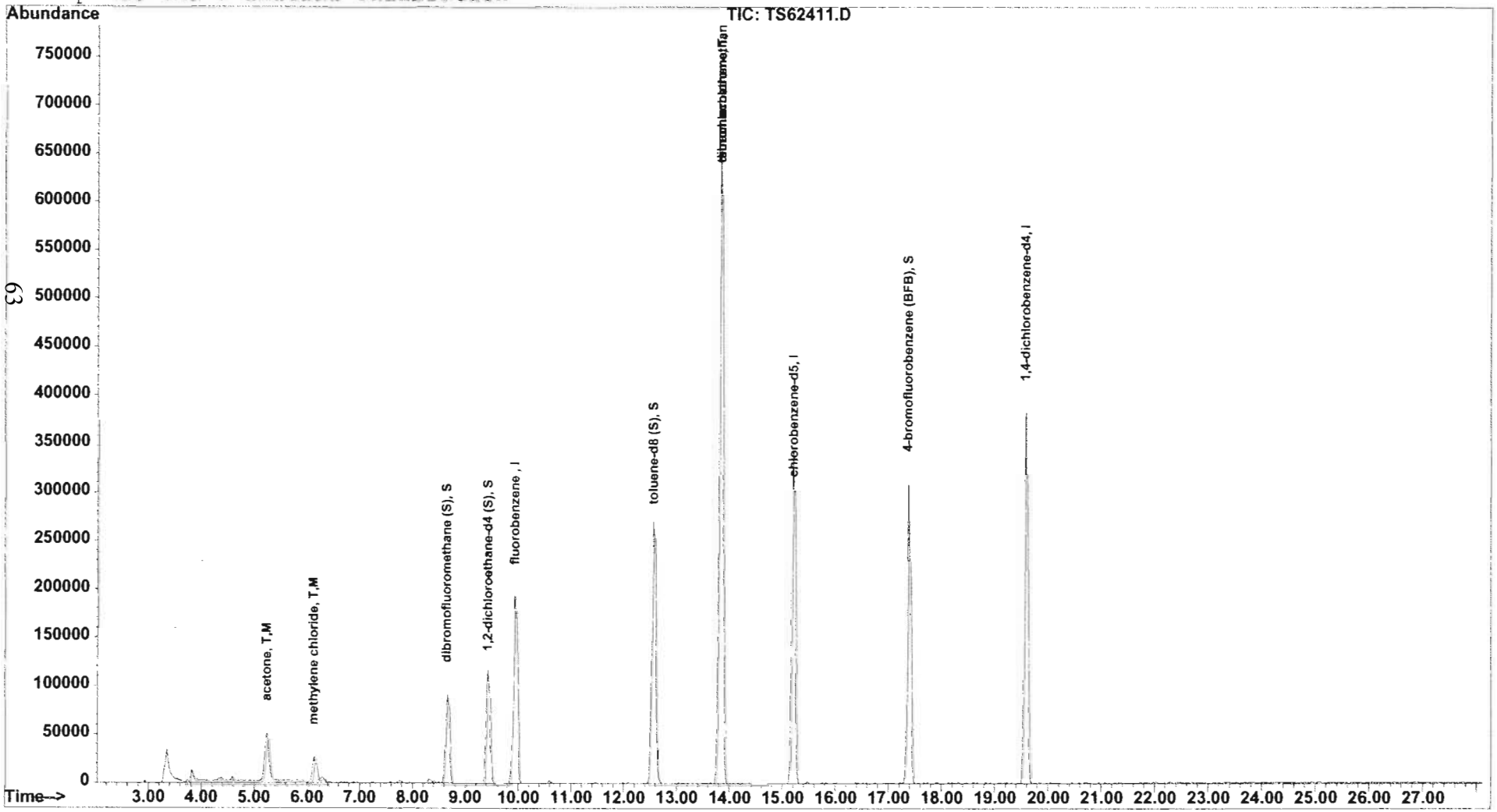
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	3925737	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.21	117	4186429	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2400203	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1412955	30.57	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.90%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	290522	28.66	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.53%			
36) toluene-d8 (S)	12.57	98	4476938	29.64	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.80%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2656404	27.99	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.30%			
Target Compounds						Qvalue
14) acetone	5.26	58	399719	24.06	ug/L	93
17) methylene chloride	6.14	84	271368	3.01	ug/L #	100
41) tetrachloroethene	13.84	166	5355630	69.24	ug/L #	76
42) dibromochloromethane	13.84	129	3799111	56.44	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62411.D Vial: 24
Acq On : 29 Jul 2011 6:25 am Operator: A. Thomas
Sample : 2.0g/l T24-2 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 9:52 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62412.D Vial: 25
Acq On : 29 Jul 2011 6:58 am Operator: A. Thomas
Sample : 2.0g/l T24-3 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 9:52 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

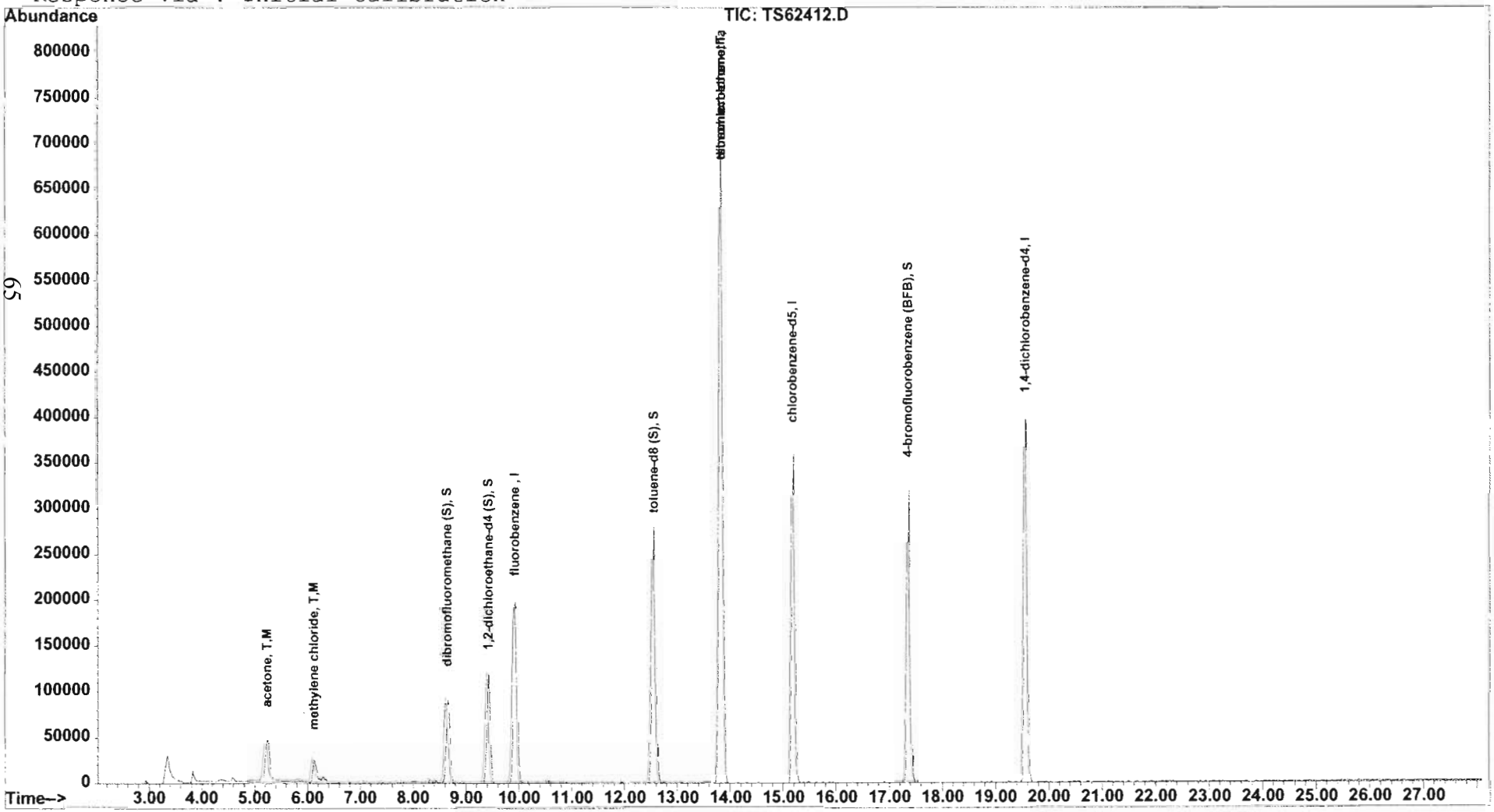
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	4047963	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.21	117	4343017	15.00	ug/L	-0.17
56) 1,4-dichlorobenzene-d4	19.59	152	2552906	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1479847	31.05	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.50%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	323256	30.93	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.10%			
36) toluene-d8 (S)	12.57	98	4643736	29.82	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.40%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2723098	27.65	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.17%			
Target Compounds						Qvalue
14) acetone	5.25	58	358758	20.94	ug/L	83
17) methylene chloride	6.14	84	275426	2.96	ug/L #	100
41) tetrachloroethene	13.84	166	5602315	70.24	ug/L #	76
42) dibromochloromethane	13.84	129	3916875	56.44	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TS62412.D Vial: 25
Acq On : 29 Jul 2011 6:58 am Operator: A. Thomas
Sample : 2.0g/l T24-3 5d Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Jul 29 9:52 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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IV-1 Method Tunes

IV-2 Method Blanks

IV-3 Daily Calibration

IV-4 Laboratory Control Samples

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL27\S62409.D Vial: 13
Acq On : 27 Jul 2011 5:22 pm Operator: A. Thomas
Sample : 0000316 drum screen Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 2 17:24 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 16:45:00 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

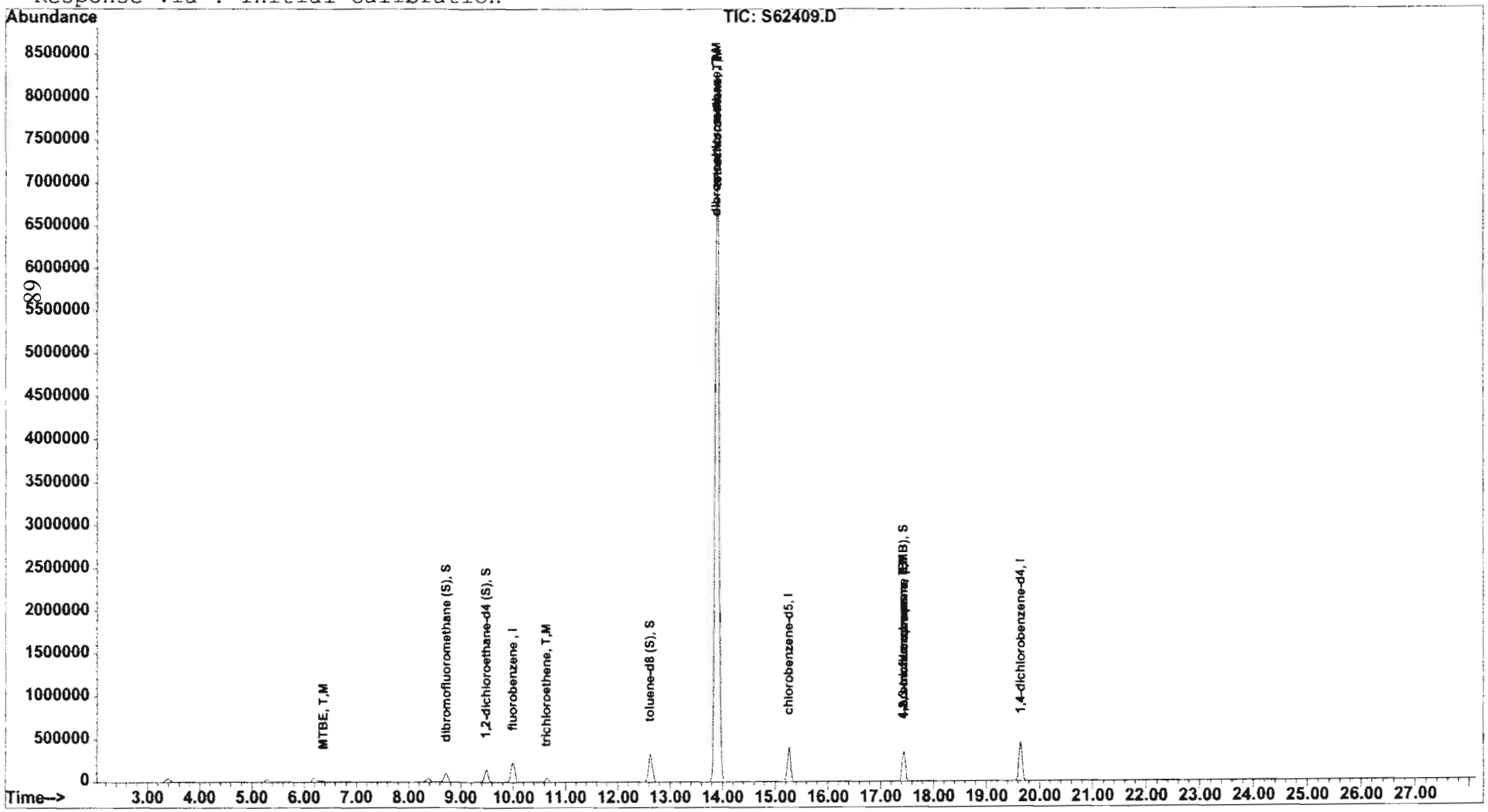
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.01	96	4567034	15.00	ug/l	0.00
58) chlorobenzene-d5	15.28	117	4615072	15.00	ug/L	0.00
84) 1,4-dichlorobenzene-d4	19.65	152	2536577	15.00	ug/L	0.00
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.73	113	1679765	28.64	ug/L	0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.47%			
35) 1,2-dichloroethane-d4 (S)	9.50	102	369860	29.26	ug/L	0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.53%			
48) toluene-d8 (S)	12.64	98	5220002	29.20	ug/L	0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.33%			
68) 4-bromofluorobenzene (BFB)	17.45	95	3002846	29.96	ug/L	0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.87%			
Target Compounds						Qvalue
11) MTBE	6.39	73	319321	1.30	ug/L #	57
38) trichloroethene	10.65	130	347994	4.22	ug/L #	67
55) tetrachloroethene	13.91	166	55352961	380.21	ug/L #	96
56) dibromochloromethane	13.91	129	41464726	530.71	ug/L #	100
69) 1,2,3-trichloropropane	17.45	75	1772719	23.33	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL27\S62409.D Vial: 13
Acq On : 27 Jul 2011 5:22 pm Operator: A. Thomas
Sample : 0000316 drum screen Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 2 17:24 19111 Quant Results File: 62072711.RES

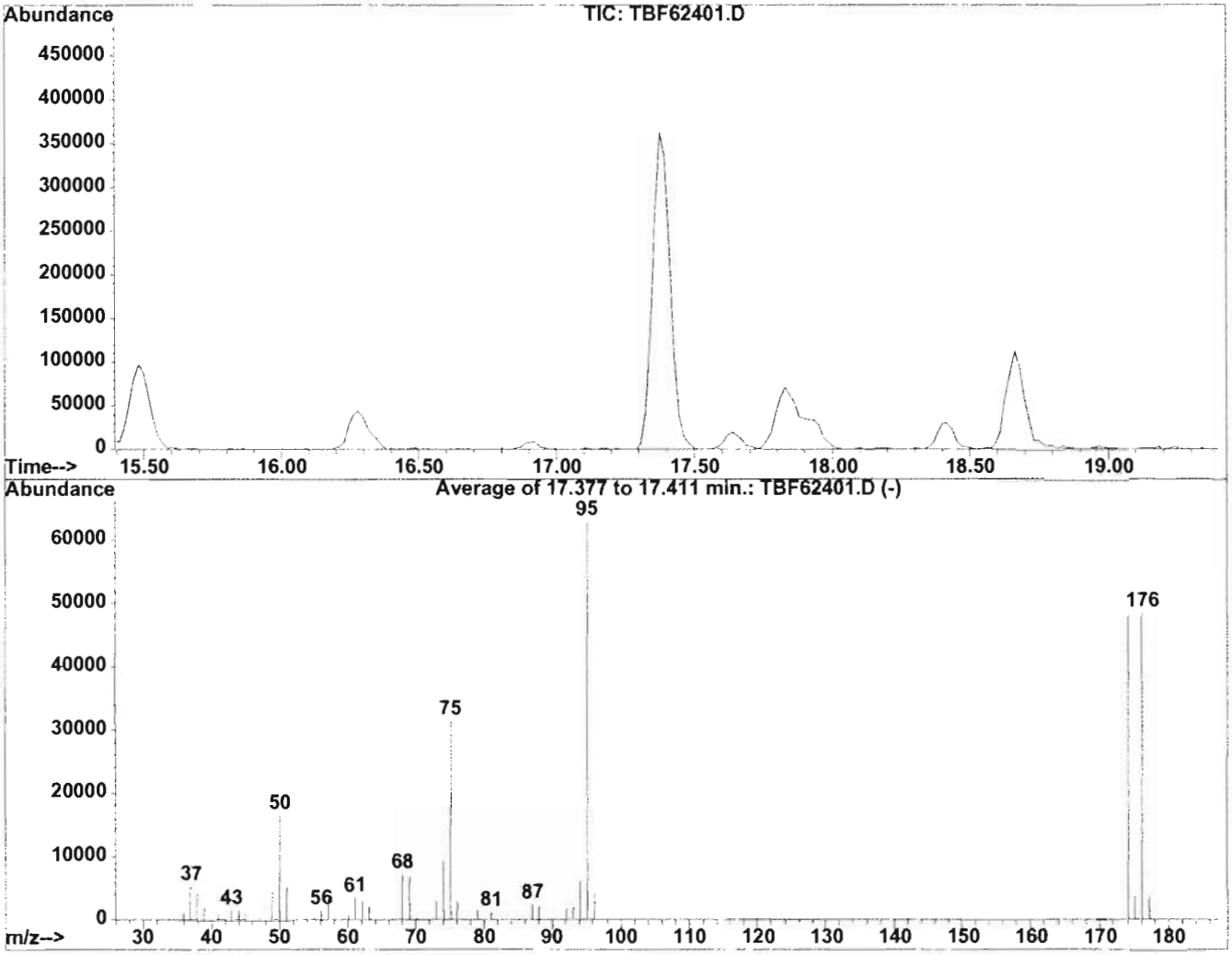
Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



Study: ERD
NZVI

Time point: T=1 days/ 24Hours

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TBF62401.D Vial: 11
Acq On : 28 Jul 2011 10:41 pm Operator: A. Thomas
Sample : 50ng bfb 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T8071811.M (Chemstation Integrator)
Title : VOA



Spectrum Information: Average of 17.377 to 17.411 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.4	16618	PASS
75	95	30	70	49.9	31485	PASS
95	95	100	100	100.0	63040	PASS
96	95	5	9	6.9	4364	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	76.3	48120	PASS
175	174	5	9	7.8	3738	PASS
176	174	95	101	100.7	48448	PASS
177	176	5	9	7.2	3477	PASS

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TBL62401.D Vial: 11
Acq On : 28 Jul 2011 11:14 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:16 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	4818763	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.21	117	5020530	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2928734	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.68	113	1600981	28.22	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.07%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	393502	31.63	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.43%			
36) toluene-d8 (S)	12.57	98	5595855	30.18	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.60%			
53) 4-bromofluorobenzene (BFB)	17.39	95	3358868	29.51	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.37%			

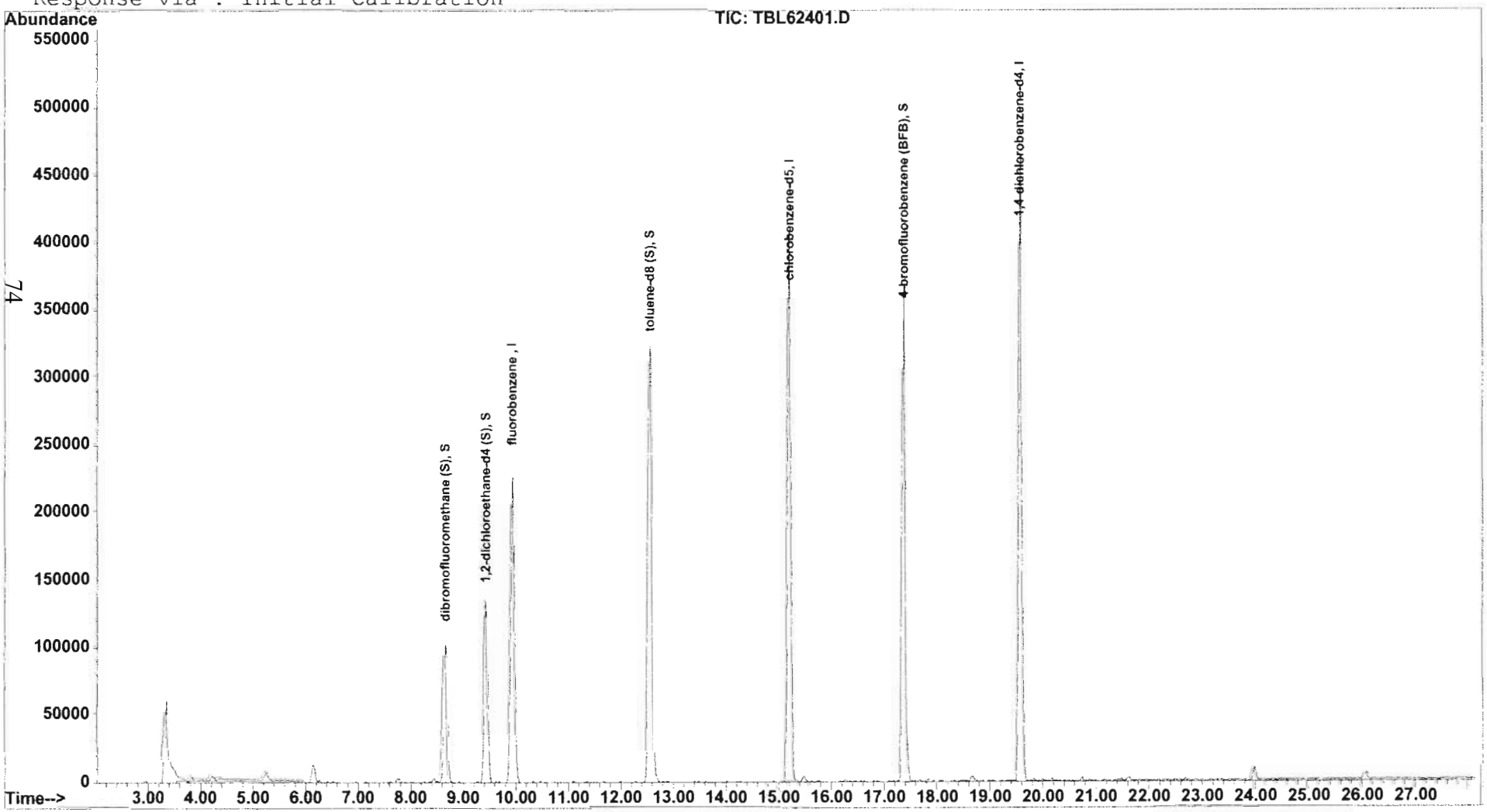
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TBL62401.D Vial: 11
Acq On : 28 Jul 2011 11:14 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:16 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62401.D Vial: 12
Acq On : 28 Jul 2011 11:47 pm Operator: A. Thomas
Sample : 20ppb cal 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1	I	fluorobenzene	1.000	1.000	0.0	99	-0.16
3	T,M	chloromethane	0.312	0.217	30.4#	68	-0.10
4	C,T,M	vinyl chloride	0.184	0.155	15.8	89	-0.10
5	T,M	bromomethane	0.144	0.057	60.4#	41#	-0.12
6	T,M	chloroethane	0.225	0.234	-4.0	97	-0.12
7	t	112-Trichloro-122-Trifluoro	0.289	0.216	25.3	68	-0.13
8	t	Methyl Acetate	0.047	0.050	-6.4	96	-0.15
9	T,M	carbon disulfide	0.586	0.428	27.0	64	-0.16
10	T,M	MTBE	0.785	0.722	8.0	96	-0.14
11	t	1,4 Dioxane	0.028	0.023	17.9	69	-0.14
12	T,M	tert-butyl alcohol	0.054	0.045	16.7	76	-0.17
13	T,M	MEK	0.044	0.036	18.2	75	-0.16
14	T,M	acetone	0.049	0.042	14.3	92	-0.12
15	T,M	trichlorofluoromethane	0.385	0.275	28.6	61	-0.13
16	C,T,M	1,1-dichloroethene	0.514	0.380	26.1	66	-0.15
17	T,M	methylene chloride	0.345	0.269	22.0	76	-0.15
18	T,M	trans-1,2-dichloroethene	0.525	0.435	17.1	78	-0.15
19	T,M	1,1-dichloroethane	0.651	0.562	13.7	79	-0.16
20	C,T,M	chloroform	0.380	0.339	10.8	83	-0.16
21	S	dibromofluoromethane (S)	0.177	0.183	-3.4	102	-0.15
22	T,M	bromochloromethane	0.149	0.131	12.1	76	-0.16
23	t	Cyclohexane	0.417	0.333	20.1	70	-0.16
24	T,M	1,1,1-trichloroethane	0.440	0.398	9.5	81	-0.16
25	T,M	carbon tetrachloride	0.326	0.297	8.9	79	-0.16
26	S	1,2-dichloroethane-d4 (S)	0.039	0.040	-2.6	99	-0.16
27	T,M	1,2-dichloroethane	0.545	0.495	9.2	86	-0.16
28	T,M	benzene	1.096	0.936	14.6	77	-0.16
29	T,M	trichloroethene	0.285	0.266	6.7	79	-0.16
30	t	Methyl Cyclohexane	0.479	0.405	15.4	74	-0.16
31	C,T,M	1,2-dichloropropane	0.325	0.299	8.0	85	-0.15
32	T,M	MIBK	0.036	0.030	16.7	79	-0.14
33	T,M	cis-1,2-dichloroethene	0.532	0.463	13.0	81	-0.16
34	T,M	bromodichloromethane	0.353	0.327	7.4	82	-0.16
35	T,M	cis-1,3-dichloropropene	0.426	0.385	9.6	80	-0.16
36	S	toluene-d8 (S)	0.577	0.587	-1.7	98	-0.16
37	C,T,M	toluene	1.119	0.955	14.7	71	-0.16
38	T,M	trans-1,3-dichloropropene	0.447	0.330	26.2	68	-0.04
39	T,M	2-hexanone	0.130	0.109	16.2	92	-0.16
40	T,M	1,1,2-trichloroethane	0.210	0.200	4.8	87	-0.16
41	T,M	tetrachloroethene	0.296	0.291	1.7	82	-0.16
42	T,M	dibromochloromethane	0.218	0.210	3.7	80	-0.16
43	T,M	1,2-dibromoethane	0.253	0.240	5.1	84	-0.16
44	I	chlorobenzene-d5	1.000	1.000	0.0	87	-0.16
45	M,T	chlorobenzene	0.554	0.551	0.5	82	-0.16

46	C,T,M	ethyl benzene	1.066	1.044	2.1	80	-0.16
47	T,M	m/p-xylene	0.929	0.881	5.2	69	-0.16
48	T,M	o-xylene	0.874	0.871	0.3	81	-0.16
49	T,M	styrene	0.528	0.513	2.8	79	-0.16
50	T,M	isopropyl benzene	0.953	0.947	0.6	81	-0.16
51	T,M	bromoform	0.123	0.118	4.1	82	-0.17
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.269	1.8	86	-0.16
53	S	4-bromofluorobenzene (BFB)	0.340	0.329	3.2	85	-0.16
54	T,M	1,3-dichlorobenzene	0.404	0.392	3.0	78	-0.16
55	T,M	1,2-dichlorobenzene	0.383	0.393	-2.6	85	-0.17
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	76	-0.17
57	T,M	1,4-dichlorobenzene	0.639	0.727	-13.8	86	-0.18
58	T,M	1,2-dibromo-3-chloropropane	0.069	0.066	4.3	96	-0.16
59	T,M	1,2,4-trichlorobenzene	0.387	0.425	-9.8	80	-0.17
60	T,M	Napthalene	0.822	0.820	0.2	83	-0.17
61	T,M	1,2,3-trichlorobenzene	0.343	0.380	-10.8	85	-0.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 11:39:45 2012 GCMS2

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62402.D Vial: 27
Acq On : 29 Jul 2011 8:04 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1	I	fluorobenzene	1.000	1.000	0.0	82	-0.16
3	T,M	chloromethane	0.312	0.207	33.7#	53	-0.10
4	C,T,M	vinyl chloride	0.184	0.177	3.8	84	-0.10
5	T,M	bromomethane	0.144	0.064	55.6#	39#	-0.12
6	T,M	chloroethane	0.225	0.234	-4.0	79	-0.12
7	t	112-Trichloro-122-Trifluoro	0.289	0.242	16.3	63	-0.15
8	t	Methyl Acetate	0.047	0.047	0.0	76	-0.15
9	T,M	carbon disulfide	0.586	0.430	26.6	53	-0.16
10	T,M	MTBE	0.785	0.775	1.3	85	-0.15
11	t	1,4 Dioxane	0.028	0.026	7.1	65	-0.16
12	T,M	tert-butyl alcohol	0.054	0.044	18.5	61	-0.15
13	T,M	MEK	0.044	0.027	38.6#	47#	-0.16
14	T,M	acetone	0.049	0.038	22.4	70	-0.14
15	T,M	trichlorofluoromethane	0.385	0.334	13.2	61	-0.14
16	C,T,M	1,1-dichloroethene	0.514	0.435	15.4	63	-0.15
17	T,M	methylene chloride	0.345	0.293	15.1	68	-0.15
18	T,M	trans-1,2-dichloroethene	0.525	0.474	9.7	70	-0.16
19	T,M	1,1-dichloroethane	0.651	0.604	7.2	70	-0.16
20	C,T,M	chloroform	0.380	0.395	-3.9	80	-0.16
21	S	dibromofluoromethane (S)	0.177	0.194	-9.6	90	-0.16
22	T,M	bromochloromethane	0.149	0.138	7.4	66	-0.16
23	t	Cyclohexane	0.417	0.365	12.5	63	-0.16
24	T,M	1,1,1-trichloroethane	0.440	0.464	-5.5	78	-0.16
25	T,M	carbon tetrachloride	0.326	0.354	-8.6	77	-0.17
26	S	1,2-dichloroethane-d4 (S)	0.039	0.040	-2.6	81	-0.16
27	T,M	1,2-dichloroethane	0.545	0.589	-8.1	84	-0.17
28	T,M	benzene	1.096	0.996	9.1	68	-0.16
29	T,M	trichloroethene	0.285	0.284	0.4	70	-0.16
30	t	Methyl Cyclohexane	0.479	0.420	12.3	63	-0.16
31	C,T,M	1,2-dichloropropane	0.325	0.311	4.3	73	-0.16
32	T,M	MIBK	0.036	0.032	11.1	70	-0.16
33	T,M	cis-1,2-dichloroethene	0.532	0.510	4.1	74	-0.16
34	T,M	bromodichloromethane	0.353	0.373	-5.7	77	-0.16
35	T,M	cis-1,3-dichloropropene	0.426	0.377	11.5	64	-0.16
36	S	toluene-d8 (S)	0.577	0.588	-1.9	81	-0.16
37	C,T,M	toluene	1.119	1.014	9.4	62	-0.16
38	T,M	trans-1,3-dichloropropene	0.447	0.332	25.7	57	-0.04
39	T,M	2-hexanone	0.130	0.099	23.8	69	-0.15
40	T,M	1,1,2-trichloroethane	0.210	0.205	2.4	73	-0.17
41	T,M	tetrachloroethene	0.296	0.305	-3.0	71	-0.16
42	T,M	dibromochloromethane	0.218	0.233	-6.9	73	-0.17
43	T,M	1,2-dibromoethane	0.253	0.260	-2.8	75	-0.17
44	I	chlorobenzene-d5	1.000	1.000	0.0	73	-0.17
45	M,T	chlorobenzene	0.554	0.580	-4.7	73	-0.17

46	C,T,M	ethyl benzene	1.066	1.111	-4.2	71	-0.17
47	T,M	m/p-xylene	0.929	0.963	-3.7	63	-0.17
48	T,M	o-xylene	0.874	0.927	-6.1	72	-0.17
49	T,M	styrene	0.528	0.552	-4.5	71	-0.17
50	T,M	isopropyl benzene	0.953	0.999	-4.8	72	-0.17
51	T,M	bromoform	0.123	0.117	4.9	68	-0.17
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.273	0.4	73	-0.17
53	S	4-bromofluorobenzene (BFB)	0.340	0.327	3.8	71	-0.17
54	T,M	1,3-dichlorobenzene	0.404	0.436	-7.9	73	-0.18
55	T,M	1,2-dichlorobenzene	0.383	0.414	-8.1	75	-0.19
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	66	-0.17
57	T,M	1,4-dichlorobenzene	0.639	0.714	-11.7	74	-0.18
58	T,M	1,2-dibromo-3-chloropropane	0.069	0.062	10.1	79	-0.17
59	T,M	1,2,4-trichlorobenzene	0.387	0.401	-3.6	66	-0.18
60	T,M	Napthalene	0.822	0.741	9.9	65	-0.18
61	T,M	1,2,3-trichlorobenzene	0.343	0.372	-8.5	72	-0.18

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 11:41:18 2012 GCMS2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62401.D Vial: 12
Acq On : 28 Jul 2011 11:47 pm Operator: A. Thomas
Sample : 20ppb cal 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:39 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	9.95	96	4848438	15.00	ug/l		-0.16
44) chlorobenzene-d5	15.22	117	5162147	15.00	ug/L		-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	3018416	15.00	ug/L		-0.17
System Monitoring Compounds							
21) dibromofluoromethane (S)	8.68	113	1774608	31.09	ug/L		-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.63%				
26) 1,2-dichloroethane-d4 (S)	9.44	102	391291	31.26	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.20%				
36) toluene-d8 (S)	12.58	98	5689322	30.50	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.67%				
53) 4-bromofluorobenzene (BFB)	17.39	95	3396958	29.02	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.73%				
Target Compounds							Qvalue
3) chloromethane	3.48	50	1402039m	13.88	ug/L		
4) vinyl chloride	3.63	62	1002481m	16.83	ug/L		
5) bromomethane	4.23	96	366065	7.88	ug/L		95
6) chloroethane	4.30	64	1513440m	20.84	ug/L		
7) 112-Trichloro-122-Trifluor	5.20	101	1397619m	14.94	ug/l		
8) Methyl Acetate	5.86	74	321782m	17.65	ug/l		
9) carbon disulfide	6.26	76	2769129m	14.62	ug/L		
10) MTBE	6.32	73	4667780	18.41	ug/L		95
11) 1,4 Dioxane	6.15	88	148924	14.64	ug/l	#	100
12) tert-butyl alcohol	5.50	59	1468551m	84.81	ug/l		
13) MEK	7.74	72	232831m	16.42	ug/L		
14) acetone	5.27	58	269521m	13.13	ug/L		
15) trichlorofluoromethane	4.65	101	1778992m	14.31	ug/L		
16) 1,1-dichloroethene	5.47	61	2454668	14.77	ug/L	#	99
17) methylene chloride	6.15	84	1736467	15.59	ug/L	#	100
18) trans-1,2-dichloroethene	6.57	61	2813617	16.57	ug/L	#	100
19) 1,1-dichloroethane	7.18	63	3632489	17.25	ug/L	#	100
20) chloroform	8.34	85	2191432	17.85	ug/L		98
22) bromochloromethane	8.61	128	849996	17.68	ug/L		94
23) Cyclohexane	9.02	84	2153865	15.99	ug/l		85
24) 1,1,1-trichloroethane	8.97	97	2571733	18.09	ug/L	#	100
25) carbon tetrachloride	9.39	117	1922476	17.00	ug/L		99
27) 1,2-dichloroethane	9.59	62	3203127	18.18	ug/L	#	81
28) benzene	9.65	78	6050014	17.08	ug/L	#	89
29) trichloroethene	10.60	130	1720020	18.68	ug/L	#	100
30) Methyl Cyclohexane	10.71	83	2617347	16.89	ug/l		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62401.D Vial: 12
Acq On : 28 Jul 2011 11:47 pm Operator: A. Thomas
Sample : 20ppb cal 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:39 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

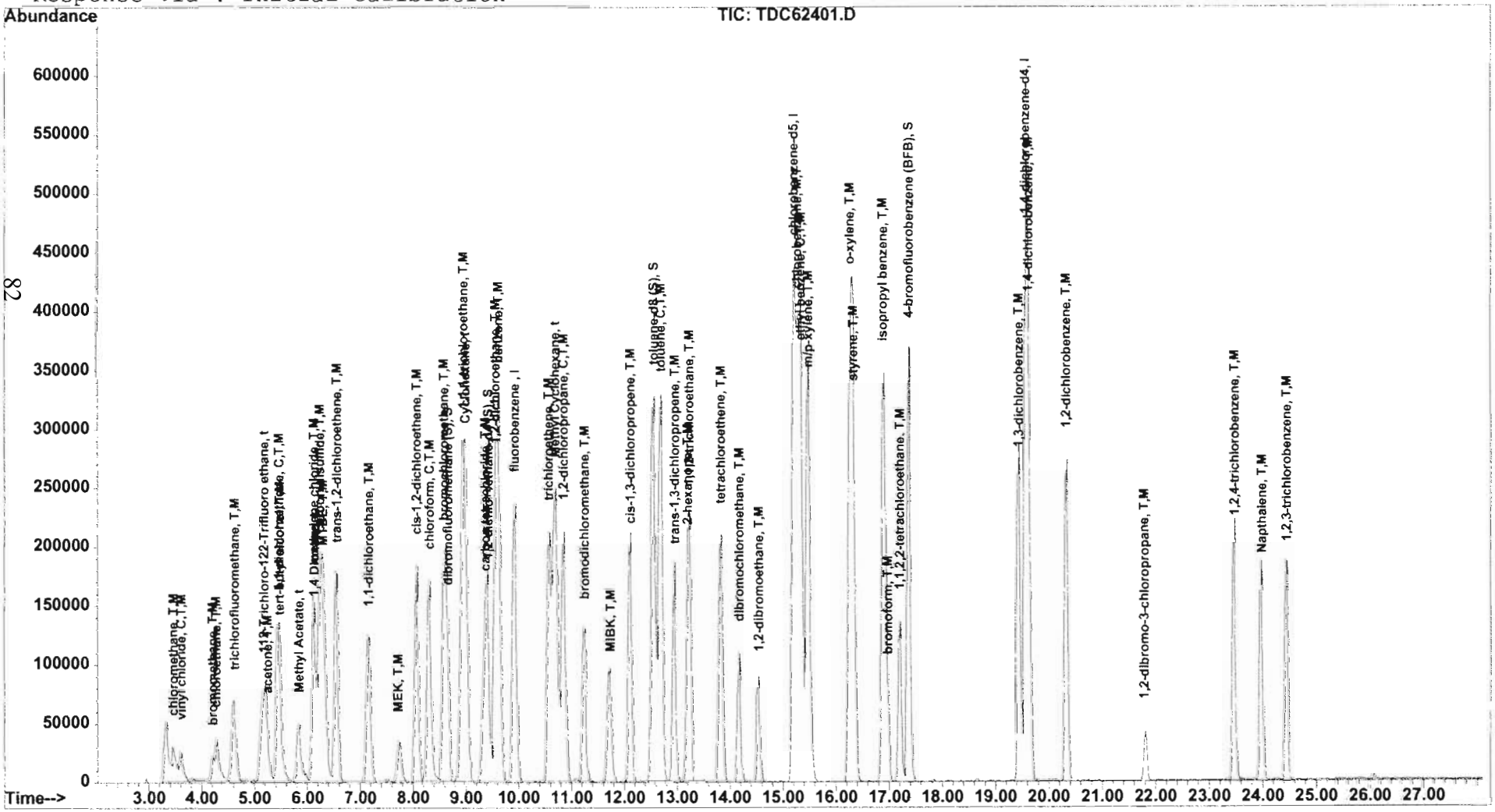
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) 1,2-dichloropropane	10.88	63	1930326	18.37 ug/L	95
32) MIBK	11.75	100	193944	15.06 ug/L	68
33) cis-1,2-dichloroethene	8.10	61	2994518	17.41 ug/L	98
34) bromodichloromethane	11.27	83	2114295	16.62 ug/L #	99
35) cis-1,3-dichloropropene	12.14	75	2491733	16.72 ug/L #	93
37) toluene	12.71	91	6173451	17.06 ug/L #	75
38) trans-1,3-dichloropropene	12.97	75	2135854	14.78 ug/L #	93
39) 2-hexanone	13.21	58	702621	16.67 ug/L #	100
40) 1,1,2-trichloroethane	13.26	83	1291657	18.99 ug/L #	45
41) tetrachloroethene	13.85	166	1882922	19.71 ug/L #	100
42) dibromochloromethane	14.20	129	1357291	16.33 ug/L	100
43) 1,2-dibromoethane	14.55	107	1550245	18.99 ug/L #	99
45) chlorobenzene	15.29	112	3793626	19.90 ug/L #	85
46) ethyl benzene	15.35	91	7188122	19.59 ug/L #	100
47) m/p-xylene	15.49	91	6061188	18.97 ug/L #	100
48) o-xylene	16.28	91	5994943	19.94 ug/L #	81
49) styrene	16.34	104	3530752	19.43 ug/L	93
50) isopropyl benzene	16.92	105	6520239	19.88 ug/L	100
51) bromoform	16.99	173	809228	14.52 ug/L	99
52) 1,1,2,2-tetrachloroethane	17.22	83	1853046	16.70 ug/L #	100
54) 1,3-dichlorobenzene	19.46	146	2701049	19.41 ug/L #	99
55) 1,2-dichlorobenzene	20.35	146	2704412m	20.54 ug/L	
57) 1,4-dichlorobenzene	19.64	146	2924326m	22.73 ug/L	
58) 1,2-dibromo-3-chloropropan	21.82	75	267235	12.95 ug/L	83
59) 1,2,4-trichlorobenzene	23.50	180	1710607	21.96 ug/L	97
60) Napthalene	24.00	128	3301848	19.97 ug/L	100
61) 1,2,3-trichlorobenzene	24.47	180	1531053	22.18 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62401.D Vial: 12
Acq On : 28 Jul 2011 11:47 pm Operator: A. Thomas
Sample : 20ppb cal 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:39 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62402.D Vial: 27
Acq On : 29 Jul 2011 8:04 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:41 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	9.95	96	3994898	15.00	ug/l		-0.16
44) chlorobenzene-d5	15.21	117	4327341	15.00	ug/L		-0.17
56) 1,4-dichlorobenzene-d4	19.58	152	2624093	15.00	ug/L		-0.17
System Monitoring Compounds							
21) dibromofluoromethane (S)	8.67	113	1551412	32.99	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 109.97%				
26) 1,2-dichloroethane-d4 (S)	9.44	102	321241	31.15	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.83%				
36) toluene-d8 (S)	12.57	98	4694933	30.55	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.83%				
53) 4-bromofluorobenzene (BFB)	17.39	95	2831905	28.86	ug/L		-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.20%				
Target Compounds							Qvalue
3) chloromethane	3.48	50	1101558m	13.24	ug/L		
4) vinyl chloride	3.63	62	940878m	19.18	ug/L		
5) bromomethane	4.23	96	343416m	8.97	ug/L		
6) chloroethane	4.30	64	1244533m	20.80	ug/L		
7) 112-Trichloro-122-Trifluor	5.19	101	1288623	16.72	ug/l		100
8) Methyl Acetate	5.86	74	252289m	16.79	ug/l		
9) carbon disulfide	6.26	76	2288331m	14.67	ug/L		
10) MTBE	6.31	73	4126085	19.75	ug/L		96
11) 1,4 Dioxane	6.14	88	139962	16.70	ug/l	#	100
12) tert-butyl alcohol	5.52	59	1166447m	81.76	ug/l		
13) MEK	7.74	72	145306m	12.44	ug/L		
14) acetone	5.26	58	204094	12.07	ug/L		56
15) trichlorofluoromethane	4.64	101	1779612	17.37	ug/L		97
16) 1,1-dichloroethene	5.48	61	2314609	16.90	ug/L	#	100
17) methylene chloride	6.15	84	1559814	17.00	ug/L	#	100
18) trans-1,2-dichloroethene	6.57	61	2524460	18.04	ug/L	#	100
19) 1,1-dichloroethane	7.18	63	3216074	18.54	ug/L	#	100
20) chloroform	8.33	85	2101573	20.78	ug/L	#	26
22) bromochloromethane	8.60	128	737425	18.61	ug/L		91
23) Cyclohexane	9.01	84	1945702	17.54	ug/l		87
24) 1,1,1-trichloroethane	8.97	97	2470507	21.10	ug/L	#	100
25) carbon tetrachloride	9.38	117	1886703	20.24	ug/L		98
27) 1,2-dichloroethane	9.58	62	3138166	21.61	ug/L	#	98
28) benzene	9.64	78	5306404	18.18	ug/L		100
29) trichloroethene	10.60	130	1513252	19.94	ug/L	#	100
30) Methyl Cyclohexane	10.71	83	2234510	17.50	ug/l		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62402.D Vial: 27
Acq On : 29 Jul 2011 8:04 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:41 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

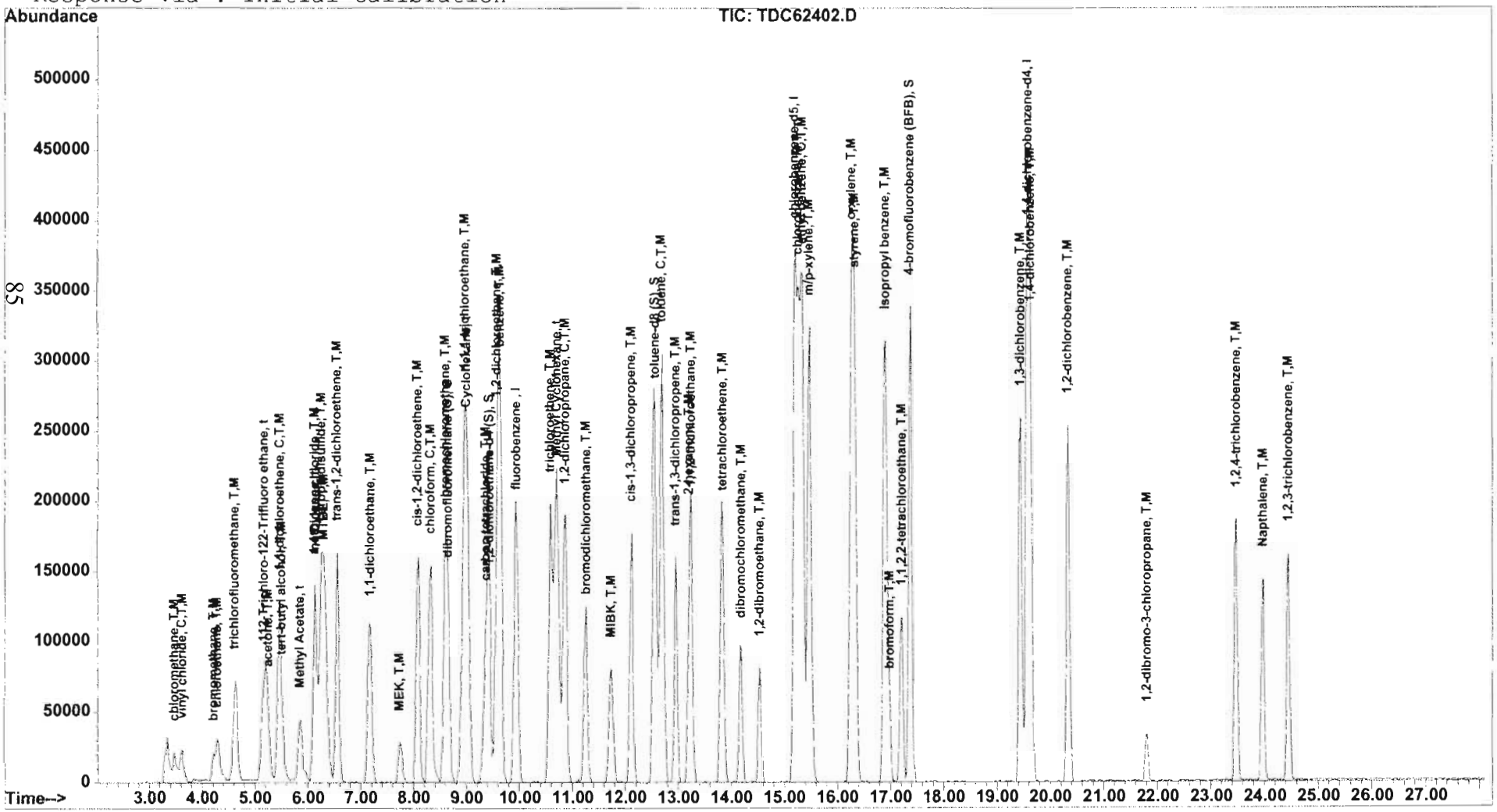
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
31)	1,2-dichloropropane	10.87	63	1656366	19.14 ug/L	#	86
32)	MIBK	11.74	100	172188	16.22 ug/L		81
33)	cis-1,2-dichloroethene	8.10	61	2719128	19.18 ug/L	#	63
34)	bromodichloromethane	11.27	83	1989063	18.97 ug/L	#	100
35)	cis-1,3-dichloropropene	12.13	75	2007647	16.35 ug/L	#	93
37)	toluene	12.71	91	5400098	18.12 ug/L	#	75
38)	trans-1,3-dichloropropene	12.97	75	1769927	14.87 ug/L	#	93
39)	2-hexanone	13.22	58	526689	15.16 ug/L	#	95
40)	1,1,2-trichloroethane	13.25	83	1090897	19.47 ug/L	#	45
41)	tetrachloroethene	13.84	166	1624515	20.64 ug/L	#	100
42)	dibromochloromethane	14.19	129	1238795	18.09 ug/L		100
43)	1,2-dibromoethane	14.55	107	1386695	20.62 ug/L	#	97
45)	chlorobenzene	15.28	112	3344337	20.93 ug/L	#	100
46)	ethyl benzene	15.35	91	6408638	20.84 ug/L	#	100
47)	m/p-xylene	15.48	91	5556131	20.74 ug/L	#	100
48)	o-xylene	16.28	91	5350448	21.23 ug/L		99
49)	styrene	16.34	104	3182299	20.89 ug/L		92
50)	isopropyl benzene	16.91	105	5766281	20.98 ug/L		99
51)	bromoform	16.99	173	673206	14.41 ug/L		99
52)	1,1,2,2-tetrachloroethane	17.22	83	1576338	16.94 ug/L	#	100
54)	1,3-dichlorobenzene	19.45	146	2514869m	21.55 ug/L		
55)	1,2-dichlorobenzene	20.33	146	2388092m	21.63 ug/L		
57)	1,4-dichlorobenzene	19.64	146	2498658m	22.34 ug/L		
58)	1,2-dibromo-3-chloropropan	21.81	75	218649	12.19 ug/L		79
59)	1,2,4-trichlorobenzene	23.48	180	1402093	20.71 ug/L		94
60)	Napthalene	23.99	128	2592617	18.03 ug/L		100
61)	1,2,3-trichlorobenzene	24.46	180	1302524	21.71 ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62402.D Vial: 27
Acq On : 29 Jul 2011 8:04 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:41 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TLC62401.D Vial: 13
Acq On : 29 Jul 2011 12:20 am Operator: A. Thomas
Sample : 20ppb lcs 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:42 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.96	96	4821037	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.22	117	5033373	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	3047350	15.00	ug/L	-0.16
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1749764	30.83	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.77%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	391894	31.48	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.93%			
36) toluene-d8 (S)	12.58	98	5693123	30.69	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.30%			
53) 4-bromofluorobenzene (BFB)	17.39	95	3404071	29.83	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.43%			
Target Compounds						Qvalue
3) chloromethane	3.50	50	981061m	9.77	ug/L	
4) vinyl chloride	3.63	62	1060346m	17.91	ug/L	
5) bromomethane	4.23	96	380013	8.23	ug/L	97
6) chloroethane	4.31	64	867274	12.01	ug/L #	90
7) 112-Trichloro-122-Trifluor	5.20	101	1350647	14.52	ug/l	98
8) Methyl Acetate	5.87	74	261087	14.40	ug/l	96
9) carbon disulfide	6.27	76	2709286	14.39	ug/L #	100
10) MTBE	6.32	73	4594615	18.22	ug/L	93
11) 1,4 Dioxane	6.15	88	139874	13.83	ug/l #	100
12) tert-butyl alcohol	5.53	59	1491423m	86.62	ug/l	
13) MEK	7.78	72	225844m	16.02	ug/L	
14) acetone	5.25	58	280035m	13.72	ug/L	
15) trichlorofluoromethane	4.64	101	1782436	14.41	ug/L	98
16) 1,1-dichloroethene	5.48	61	2502970	15.14	ug/L #	85
17) methylene chloride	6.15	84	1744012	15.75	ug/L #	100
18) trans-1,2-dichloroethene	6.57	61	2933650	17.37	ug/L #	100
19) 1,1-dichloroethane	7.18	63	3625439	17.32	ug/L #	100
20) chloroform	8.34	85	2257102	18.49	ug/L	98
22) bromochloromethane	8.61	128	822454	17.20	ug/L	88
23) Cyclohexane	9.02	84	2216716	16.56	ug/l	86
24) 1,1,1-trichloroethane	8.97	97	2728754	19.31	ug/L #	100
25) carbon tetrachloride	9.39	117	1982843	17.63	ug/L	100
27) 1,2-dichloroethane	9.59	62	3244328	18.52	ug/L #	100
28) benzene	9.65	78	6169190	17.51	ug/L #	89
29) trichloroethene	10.61	130	1697368	18.54	ug/L #	100
30) Methyl Cyclohexane	10.71	83	2666894	17.31	ug/l	91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TLC62401.D Vial: 13
Acq On : 29 Jul 2011 12:20 am Operator: A. Thomas
Sample : 20ppb lcs 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:42 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

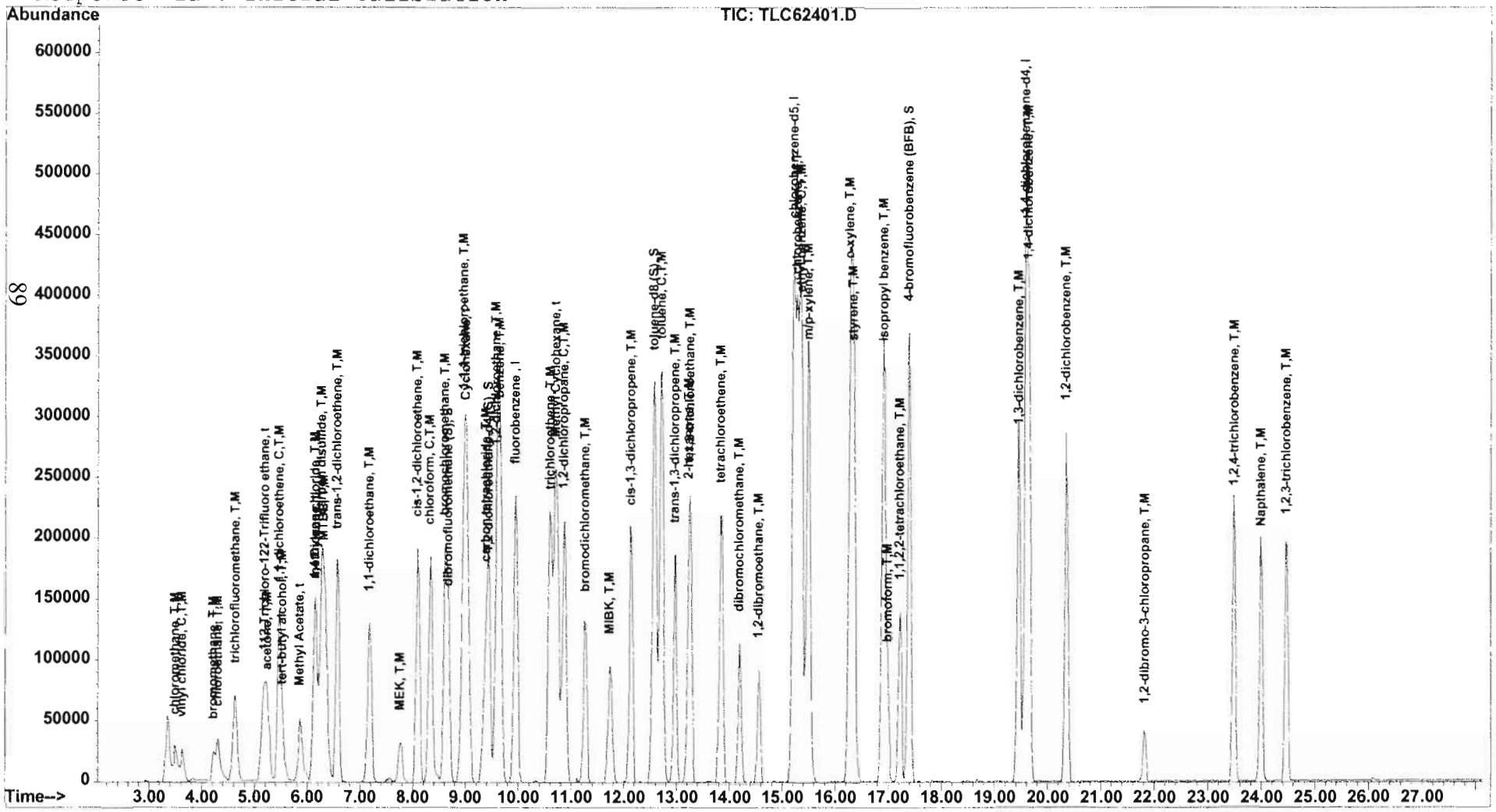
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
31)	1,2-dichloropropane	10.88	63	1949883	18.67 ug/L	#	86
32)	MIBK	11.75	100	194671	15.20 ug/L		79
33)	cis-1,2-dichloroethene	8.10	61	3138840	18.35 ug/L		96
34)	bromodichloromethane	11.27	83	2187982	17.29 ug/L	#	99
35)	cis-1,3-dichloropropene	12.14	75	2522930	17.03 ug/L	#	93
37)	toluene	12.71	91	6209621	17.26 ug/L	#	75
38)	trans-1,3-dichloropropene	12.97	75	2127672	14.81 ug/L	#	93
39)	2-hexanone	13.23	58	658034	15.70 ug/L	#	96
40)	1,1,2-trichloroethane	13.26	83	1304471	19.29 ug/L	#	97
41)	tetrachloroethene	13.85	166	1919843	20.21 ug/L	#	76
42)	dibromochloromethane	14.20	129	1359661	16.45 ug/L	#	61
43)	1,2-dibromoethane	14.56	107	1560271	19.22 ug/L		99
45)	chlorobenzene	15.29	112	3884876	20.90 ug/L	#	100
46)	ethyl benzene	15.36	91	7255333	20.28 ug/L	#	100
47)	m/p-xylene	15.49	91	6157815	19.76 ug/L	#	100
48)	o-xylene	16.29	91	5963411	20.34 ug/L	#	81
49)	styrene	16.35	104	3680884	20.78 ug/L		93
50)	isopropyl benzene	16.92	105	6633936	20.75 ug/L		99
51)	bromoform	17.00	173	839572	15.45 ug/L		100
52)	1,1,2,2-tetrachloroethane	17.23	83	1884573	17.42 ug/L	#	100
54)	1,3-dichlorobenzene	19.46	146	2785516	20.53 ug/L	#	100
55)	1,2-dichlorobenzene	20.36	146	2509465	19.54 ug/L	#	76
57)	1,4-dichlorobenzene	19.64	146	2989517m	23.02 ug/L		
58)	1,2-dibromo-3-chloropropan	21.82	75	249852	11.99 ug/L		84
59)	1,2,4-trichlorobenzene	23.50	180	1795880	22.84 ug/L		97
60)	Napthalene	24.00	128	3577618	21.43 ug/L		100
61)	1,2,3-trichlorobenzene	24.47	180	1642280	23.57 ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TLC62401.D Vial: 13
Acq On : 29 Jul 2011 12:20 am Operator: A. Thomas
Sample : 20ppb lcs 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:42 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



New
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Pennington, NJ 08534

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Fax: (609) 737-3052
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Laboratory Deliverables

Prepared For

PARS Environmental

Drum Bench Study

Lab ID

Enhanced Reductive Dechlorination (ERD)

Samples Received

27-Jul-11

Reported

7/27/11 to 8/12/11

NJDEP Certified Lab 11005

Precision testing for a cleaner environment.

Study: ERD
NZVI

Time point: T=2 days/ 48Hours

Data Summaries

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 NZ C-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T48 NZ C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62401.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	740	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	38	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	870	D
127-18-4	tetrachloroethene	1100	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 NZ C-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T48 NZ C-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62402.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	610	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	40	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	850	D
127-18-4	tetrachloroethene	1000	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 NZ C-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T48 NZ C-3

Sample wt/vol: 5.5 (g/ml) ML Lab File ID: TS62403.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	2	U
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	4	U
67-64-1	acetone	60	D
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	4	D
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	2	U
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	2	U
79-01-6	trichloroethene	2	U
78-87-5	1,2-dichloropropane	2	U
76-13-1	112-Trichloro-122-Trifluoroethane	2	U
91-20-3	Napthalene	2	U
79-20-9	Methyl Acetate	4	U
110-82-7	Cyclohexane	2	U
108-87-2	Methyl Cyclohexane	2	U
156-59-4	cis-1,2-dichloroethene	2	U
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	2	U
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	4	U
79-00-5	1,1,2-trichloroethane	2	U
124-48-1	dibromochloromethane	81	D
127-18-4	tetrachloroethene	99	D
108-90-7	chlorobenzene	2	U

X 10

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 NZ 0.5-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T48 NZ .5-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62405.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	540	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	36	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	620	D
127-18-4	tetrachloroethene	790	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 NZ 0.5-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T48 NZ .5-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62406.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	470	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	34	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	650	D
127-18-4	tetrachloroethene	780	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48-NZ 1.0-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T48 NZ 1.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62407.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	600	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	38	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	680	D
127-18-4	tetrachloroethene	840	D
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T48-NZ 1.0-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T48 NZ 1.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62408.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	600	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	38	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	670	D
127-18-4	tetrachloroethene	830	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 NZ 1.0-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T48 NZ 1.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62409.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/29/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	610	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	42	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	640	D
127-18-4	tetrachloroethene	800	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 NZ 2.0-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T48 NZ 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62410.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	590	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	42	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	520	D
127-18-4	tetrachloroethene	630	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 NZ 2.0-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T48 NZ 2.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62411.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	540	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	40	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	570	D
127-18-4	tetrachloroethene	700	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 NZ 2.0-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T48 NZ 2.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62412.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	540	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	38	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	540	D
127-18-4	tetrachloroethene	680	D
108-90-7	chlorobenzene	20	U

III-1 Raw Chromatograms

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62401.D Vial: 3
Acq On : 29 Jul 2011 7:23 pm Operator: A. Thomas
Sample : T48 NZ C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

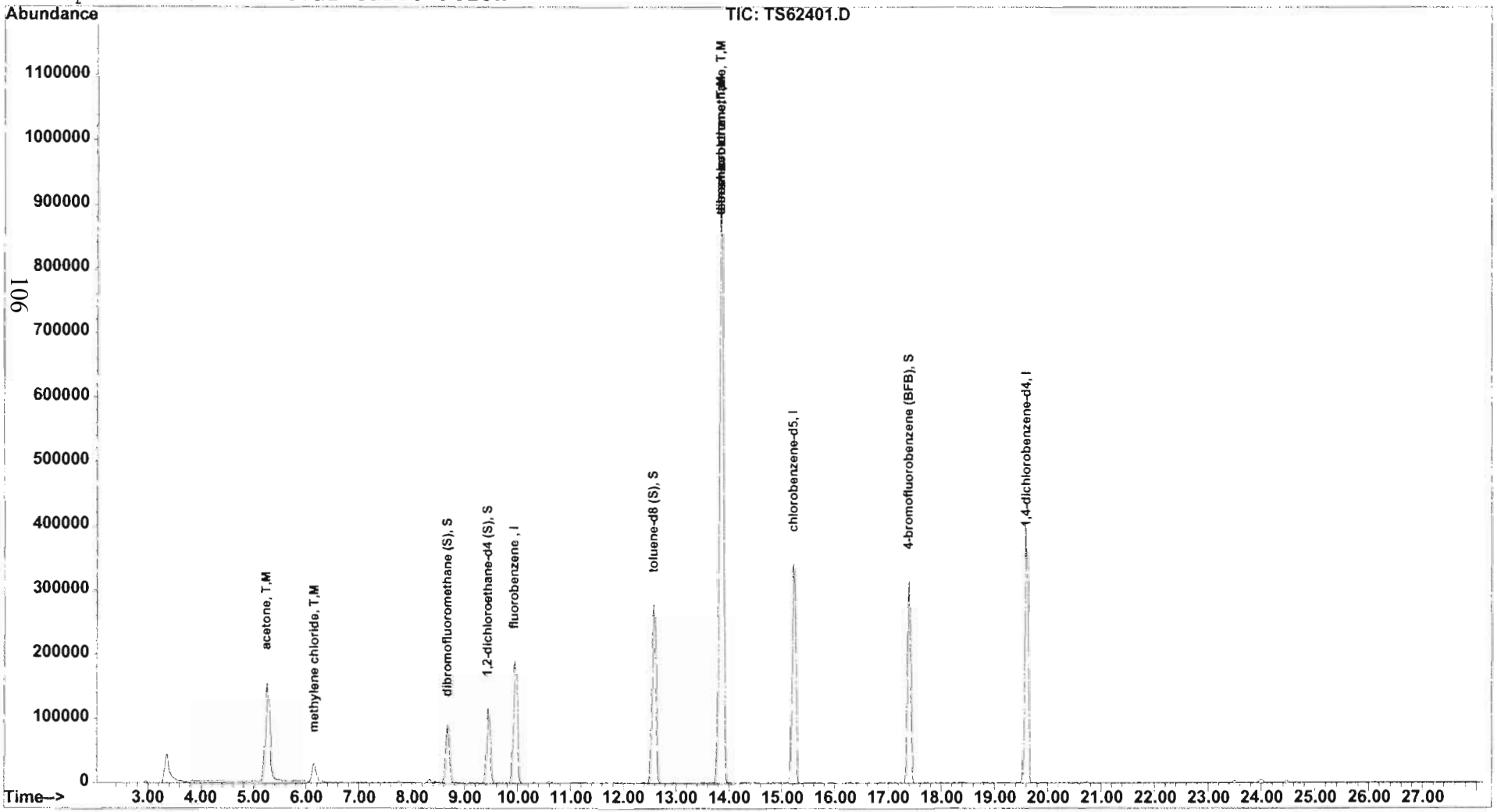
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.96	96	3808717	15.00	ug/l	-0.15
44) chlorobenzene-d5	15.22	117	4088244	15.00	ug/L	-0.15
56) 1,4-dichlorobenzene-d4	19.60	152	2379894	15.00	ug/L	-0.16
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.68	113	1414584	31.55	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.17%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	301178	30.63	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.10%			
36) toluene-d8 (S)	12.58	98	4527302	30.90	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.00%			
53) 4-bromofluorobenzene (BFB)	17.40	95	2627485	28.35	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.50%			
Target Compounds						Qvalue
14) acetone	5.26	58	1184993	73.51	ug/L	84
17) methylene chloride	6.16	84	334722	3.83	ug/L #	100
41) tetrachloroethene	13.85	166	8089105	107.79	ug/L #	76
42) dibromochloromethane	13.85	129	5652126	86.55	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62401.D Vial: 3
Acq On : 29 Jul 2011 7:23 pm Operator: A. Thomas
Sample : T48 NZ C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62402.D Vial: 4
Acq On : 29 Jul 2011 7:56 pm Operator: A. Thomas
Sample : T48 NZ C-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

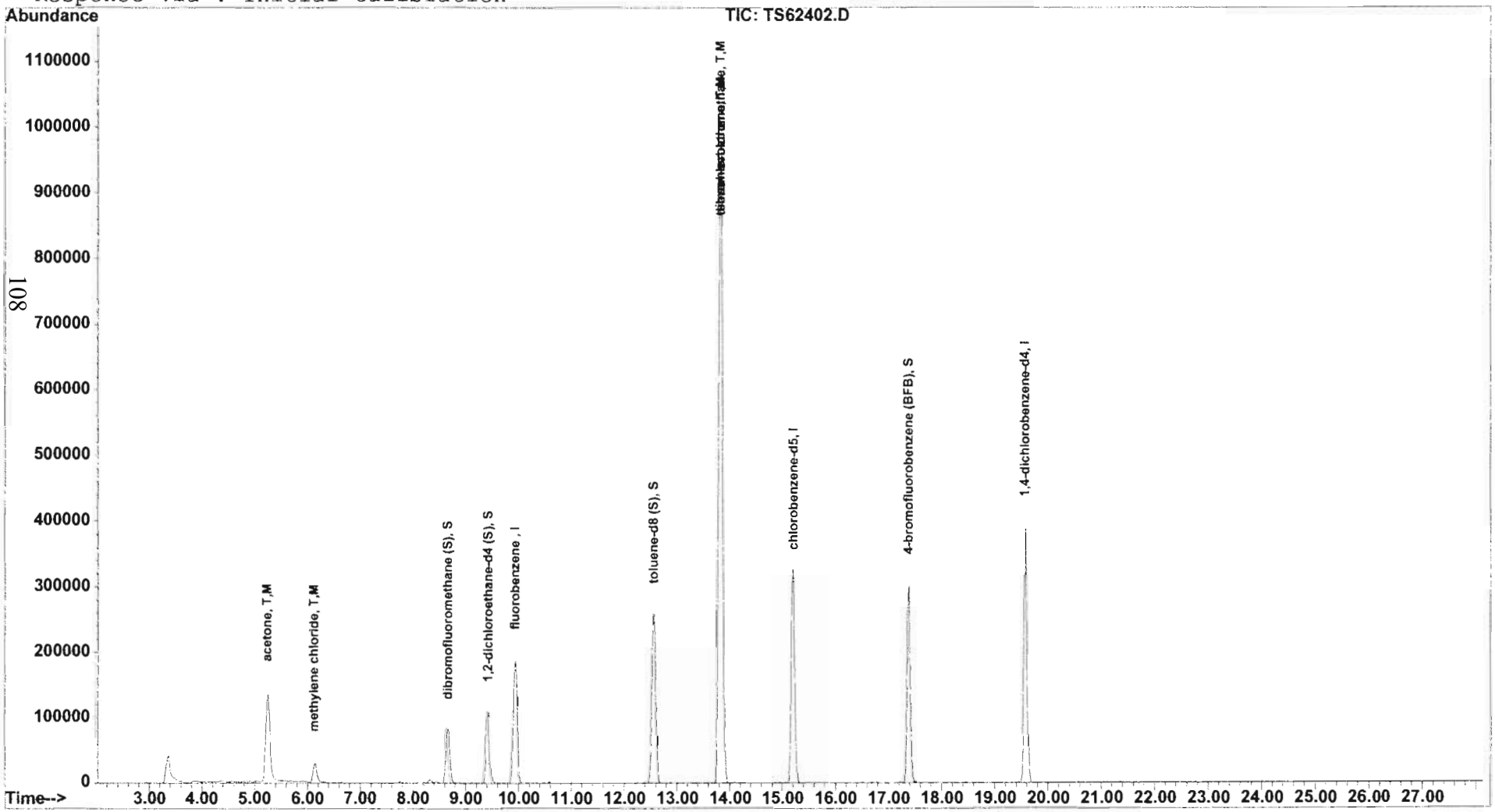
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	3769015	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.22	117	3859090	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.60	152	2290318	15.00	ug/L	-0.16
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1361351	30.68	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.27%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	307137	31.56	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.20%			
36) toluene-d8 (S)	12.58	98	4348846	29.99	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.97%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2574020	29.42	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.07%			
Target Compounds						Qvalue
14) acetone	5.26	58	976148	61.19	ug/L	83
17) methylene chloride	6.15	84	341801	3.95	ug/L #	100
41) tetrachloroethene	13.85	166	7649155	103.00	ug/L #	100
42) dibromochloromethane	13.85	129	5520880	85.43	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62402.D Vial: 4
Acq On : 29 Jul 2011 7:56 pm Operator: A. Thomas
Sample : T48 NZ C-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



108

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62403.D Vial: 5
Acq On : 29 Jul 2011 8:30 pm Operator: A. Thomas
Sample : T48 NZ C-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

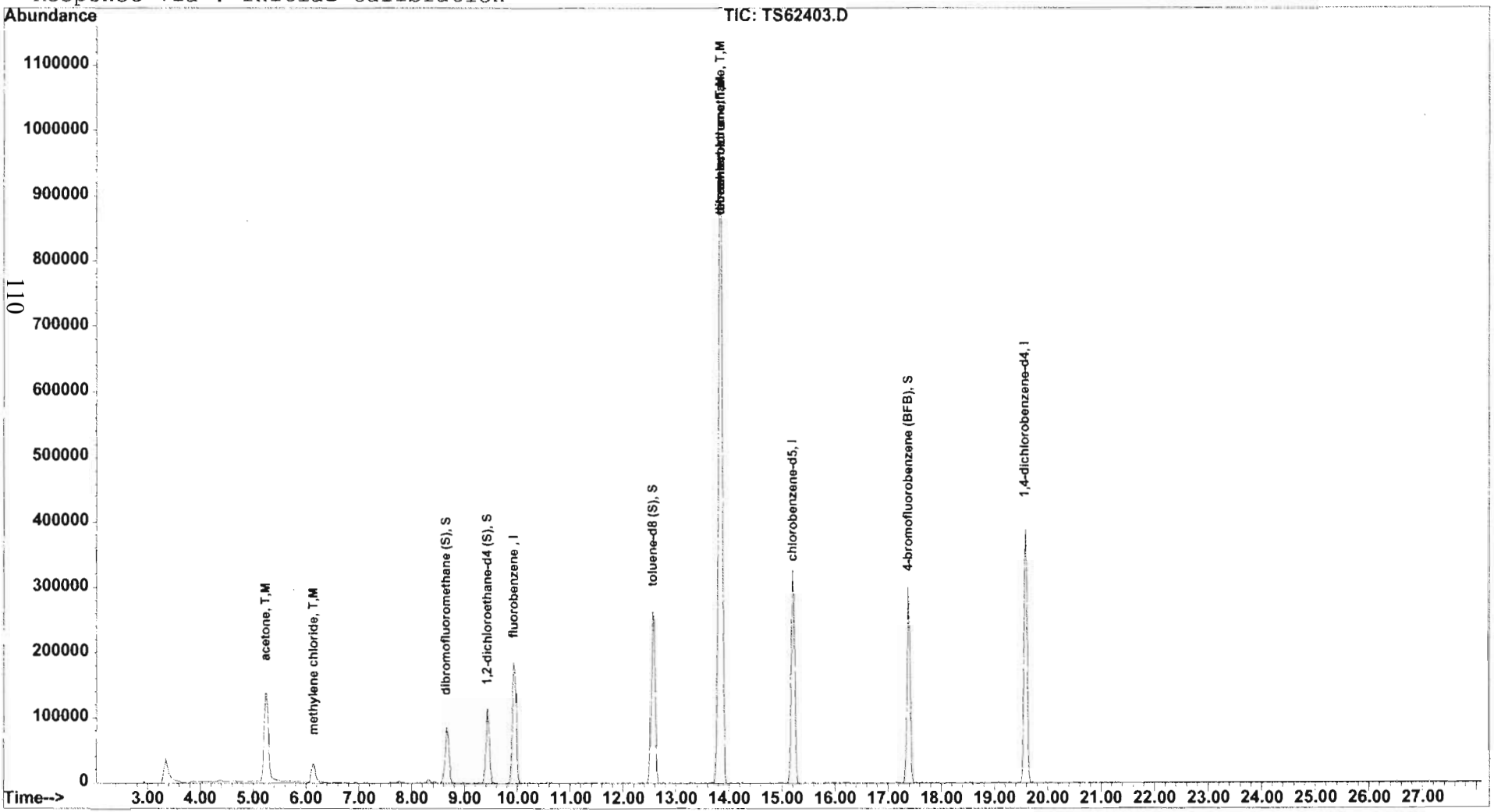
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	3647719	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.22	117	3904121	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2340990	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1356246	31.58	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.27%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	308870	32.80	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 109.33%			
36) toluene-d8 (S)	12.58	98	4302270	30.66	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.20%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2508420	28.34	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.47%			
Target Compounds						Qvalue
14) acetone	5.25	58	1023216	66.27	ug/L	81
17) methylene chloride	6.16	84	344166	4.11	ug/L #	100
41) tetrachloroethene	13.84	166	7864350	109.42	ug/L #	76
42) dibromochloromethane	13.84	129	5556102	88.84	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62403.D Vial: 5
Acq On : 29 Jul 2011 8:30 pm Operator: A. Thomas
Sample : T48 NZ C-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62404.D Vial: 6
Acq On : 29 Jul 2011 9:03 pm Operator: A. Thomas
Sample : T48 NZ .5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

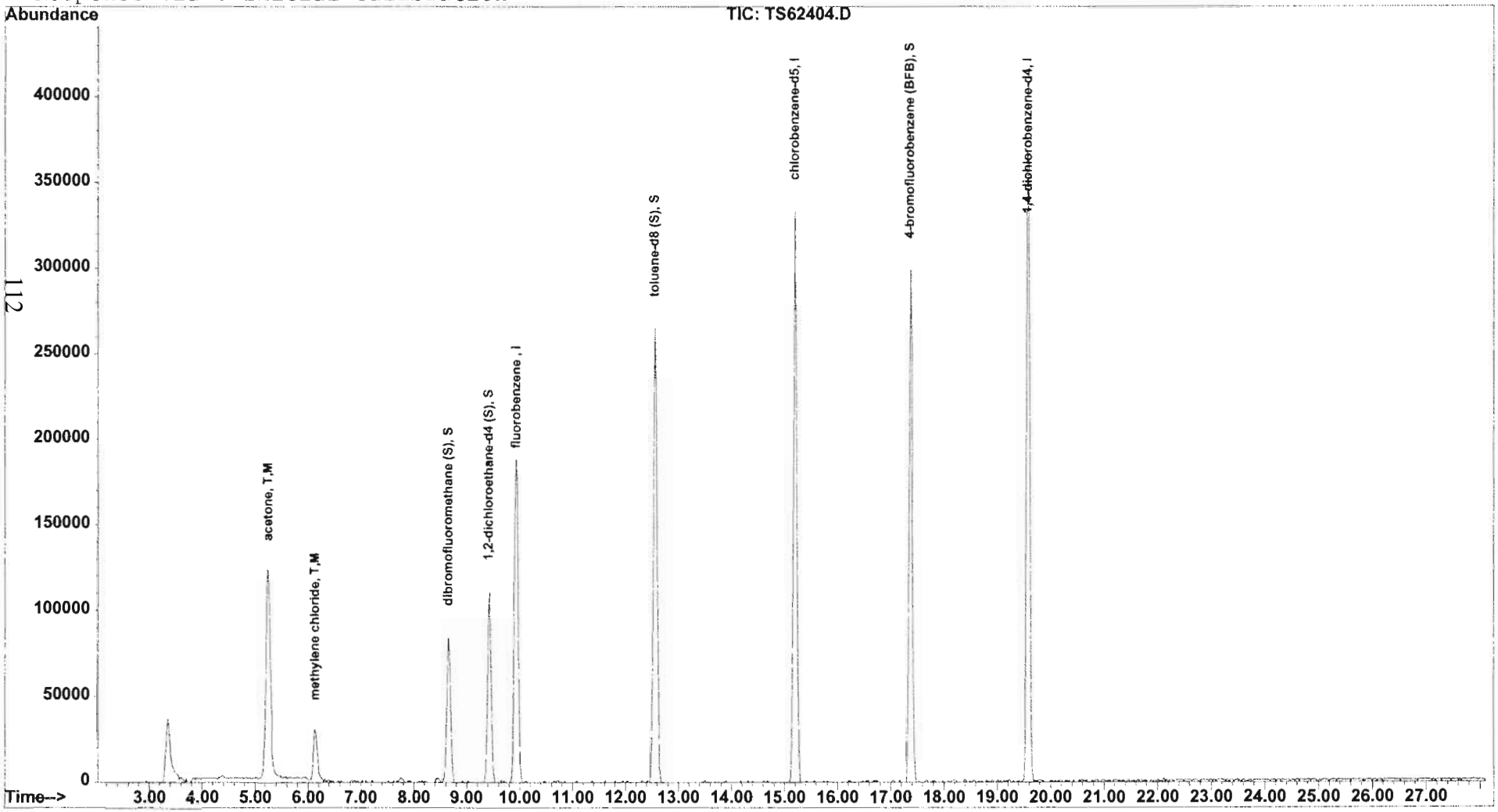
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	3722251	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.21	117	3958133	15.00	ug/L	-0.17
56) 1,4-dichlorobenzene-d4	19.59	152	2297321	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.66	113	1322570	30.18	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.60%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	300592	31.28	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.27%			
36) toluene-d8 (S)	12.57	98	4205471	29.37	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.90%			
53) 4-bromofluorobenzene (BFB)	17.39	95	2513495	28.01	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.37%			
Target Compounds						Qvalue
14) acetone	5.25	58	961792	61.05	ug/L	86
17) methylene chloride	6.14	84	342027	4.00	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62404.D Vial: 6
Acq On : 29 Jul 2011 9:03 pm Operator: A. Thomas
Sample : T48 NZ .5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62405.D Vial: 7
Acq On : 29 Jul 2011 9:37 pm Operator: A. Thomas
Sample : T48 NZ .5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

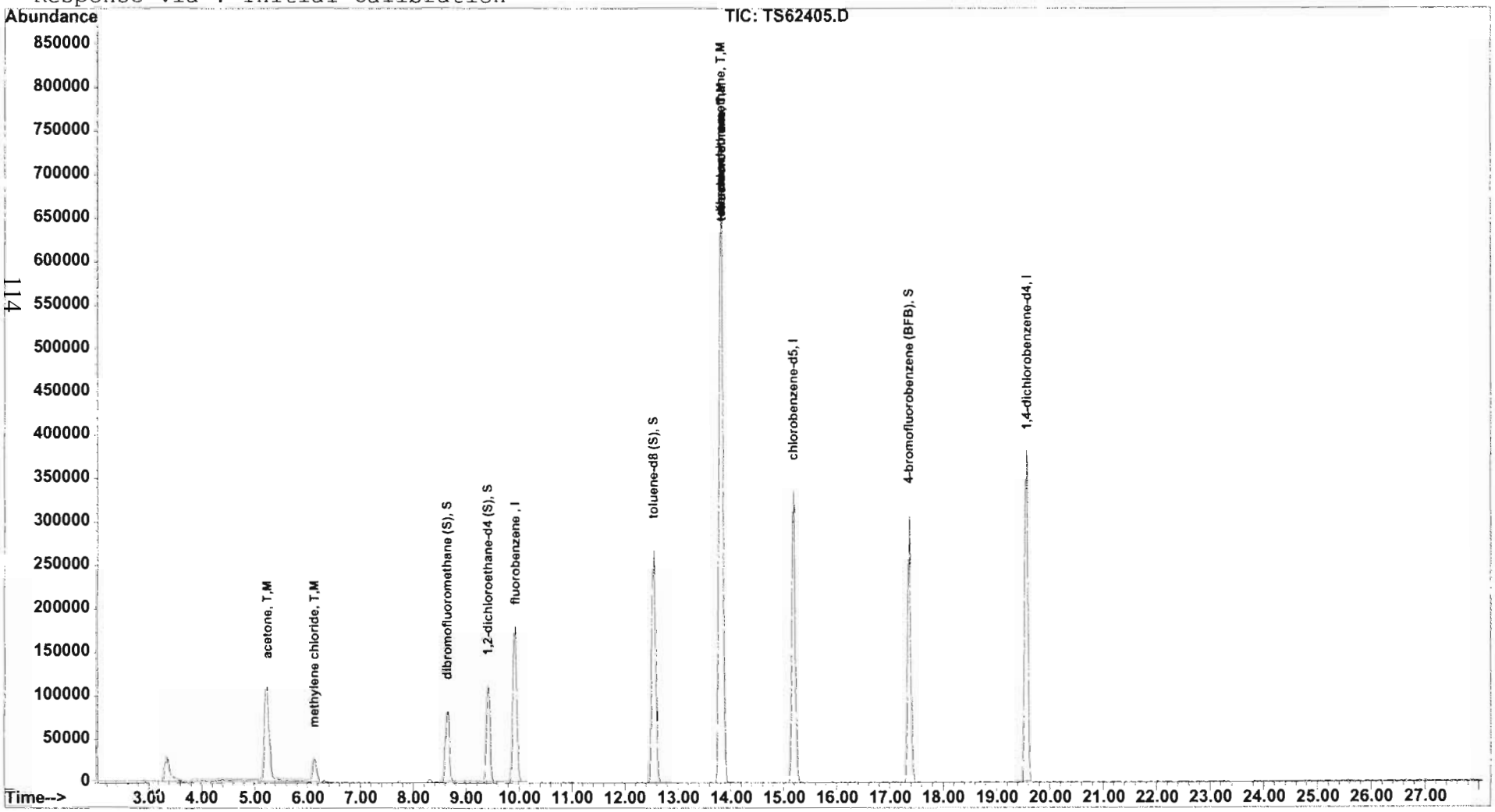
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.94	96	3662841	15.00	ug/l	-0.17
44) chlorobenzene-d5	15.21	117	4042727	15.00	ug/L	-0.17
56) 1,4-dichlorobenzene-d4	19.59	152	2376571	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.66	113	1324211	30.71	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.37%			
26) 1,2-dichloroethane-d4 (S)	9.43	102	273955	28.97	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.57%			
36) toluene-d8 (S)	12.57	98	4368795	31.00	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.33%			
53) 4-bromofluorobenzene (BFB)	17.38	95	2597152	28.33	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.43%			
Target Compounds						Qvalue
14) acetone	5.25	58	843833	54.43	ug/L	81
17) methylene chloride	6.14	84	299192	3.56	ug/L #	100
41) tetrachloroethene	13.84	166	5721275	79.27	ug/L #	99
42) dibromochloromethane	13.84	129	3910240	62.26	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62405.D Vial: 7
Acq On : 29 Jul 2011 9:37 pm Operator: A. Thomas
Sample : T48 NZ .5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62406.D Vial: 8
Acq On : 29 Jul 2011 10:10 pm Operator: A. Thomas
Sample : T48 NZ .5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

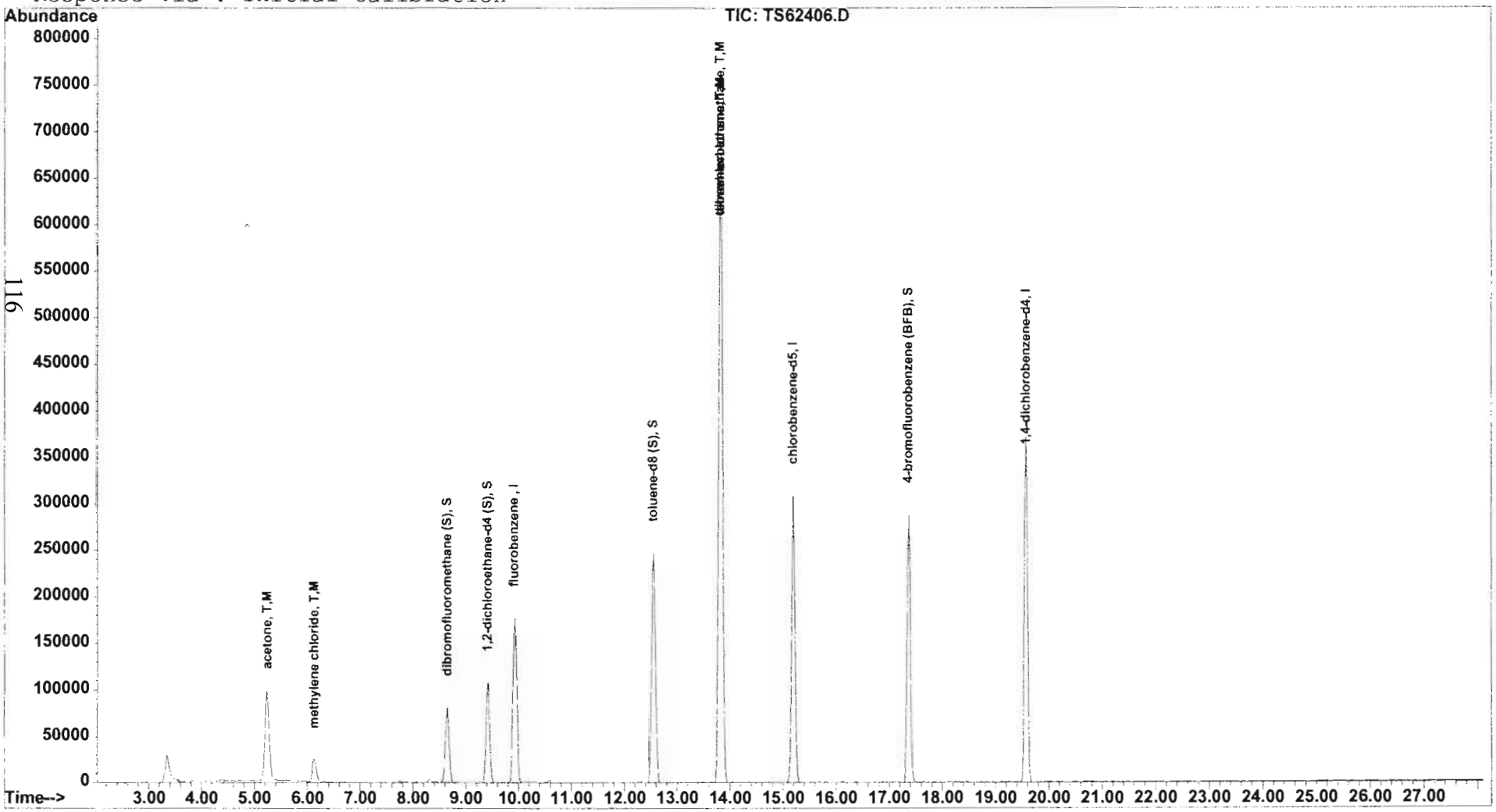
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.94	96	3535584	15.00	ug/l	-0.17
44) chlorobenzene-d5	15.20	117	3802834	15.00	ug/L	-0.17
56) 1,4-dichlorobenzene-d4	19.58	152	2266558	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.66	113	1294110	31.09	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.63%			
26) 1,2-dichloroethane-d4 (S)	9.43	102	274489	30.07	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.23%			
36) toluene-d8 (S)	12.56	98	4114098	30.24	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.80%			
53) 4-bromofluorobenzene (BFB)	17.38	95	2443915	28.34	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.47%			
Target Compounds						Qvalue
14) acetone	5.25	58	703572	47.02	ug/L	86
17) methylene chloride	6.14	84	275148	3.39	ug/L #	100
41) tetrachloroethene	13.83	166	5468509	78.50	ug/L #	76
42) dibromochloromethane	13.83	129	3918110	64.63	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62406.D Vial: 8
Acq On : 29 Jul 2011 10:10 pm Operator: A. Thomas
Sample : T48 NZ .5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62407.D Vial: 9
Acq On : 29 Jul 2011 10:43 pm Operator: A. Thomas
Sample : T48 NZ 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

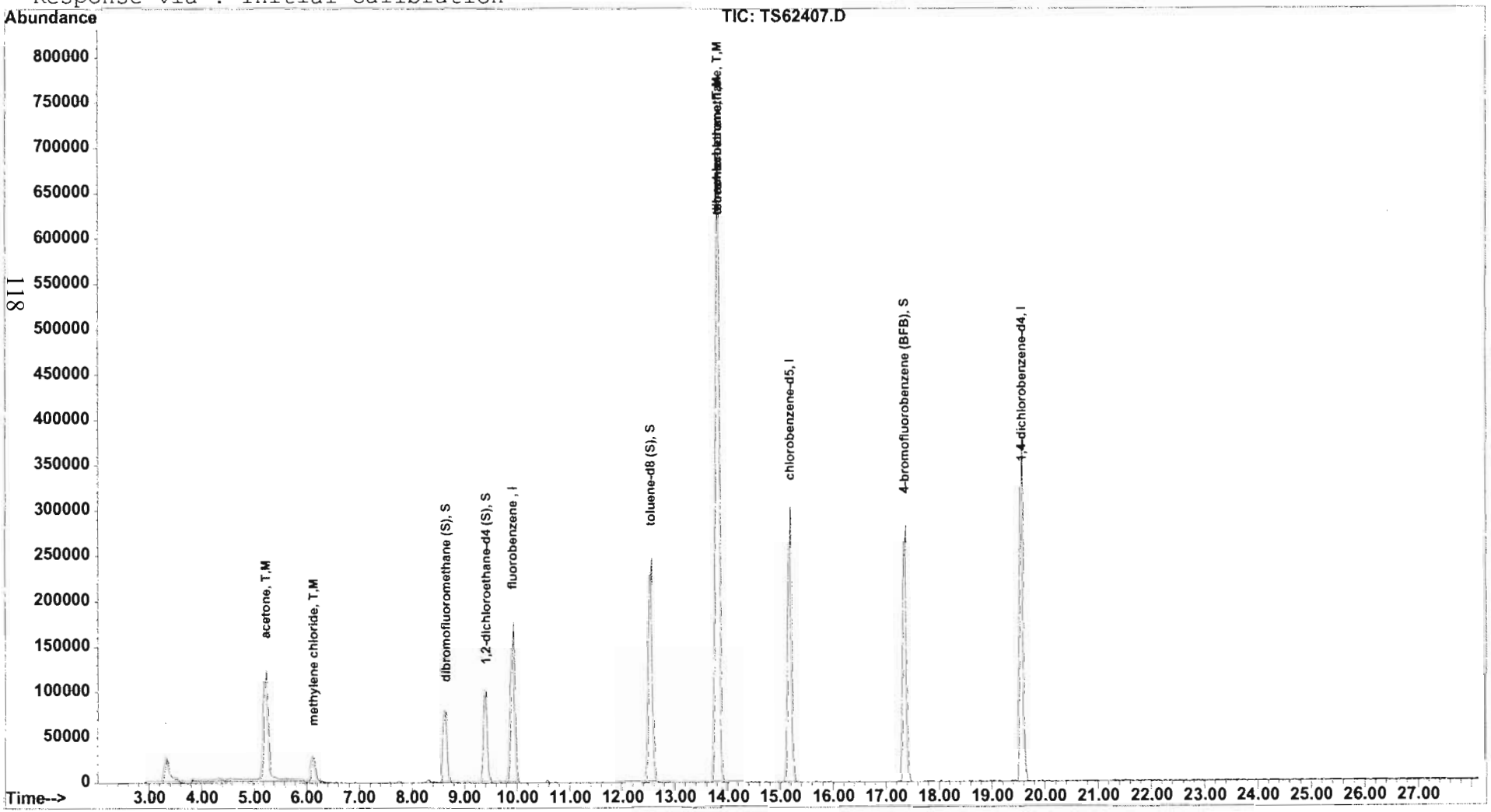
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.94	96	3476199	15.00	ug/l	-0.17
44) chlorobenzene-d5	15.20	117	3837492	15.00	ug/L	-0.17
56) 1,4-dichlorobenzene-d4	19.58	152	2317111	15.00	ug/L	-0.18
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.66	113	1278111	31.23	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.10%			
26) 1,2-dichloroethane-d4 (S)	9.43	102	284347	31.68	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.60%			
36) toluene-d8 (S)	12.56	98	4113013	30.75	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.50%			
53) 4-bromofluorobenzene (BFB)	17.38	95	2462079	28.30	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.33%			
Target Compounds						Qvalue
14) acetone	5.24	58	882873	60.01	ug/L	79
17) methylene chloride	6.14	84	304121	3.81	ug/L #	100
41) tetrachloroethene	13.83	166	5785520	84.47	ug/L #	76
42) dibromochloromethane	13.83	129	4031547	67.64	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62407.D Vial: 9
Acq On : 29 Jul 2011 10:43 pm Operator: A. Thomas
Sample : T48 NZ 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62408.D Vial: 10
Acq On : 29 Jul 2011 11:16 pm Operator: A. Thomas
Sample : T48 NZ 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

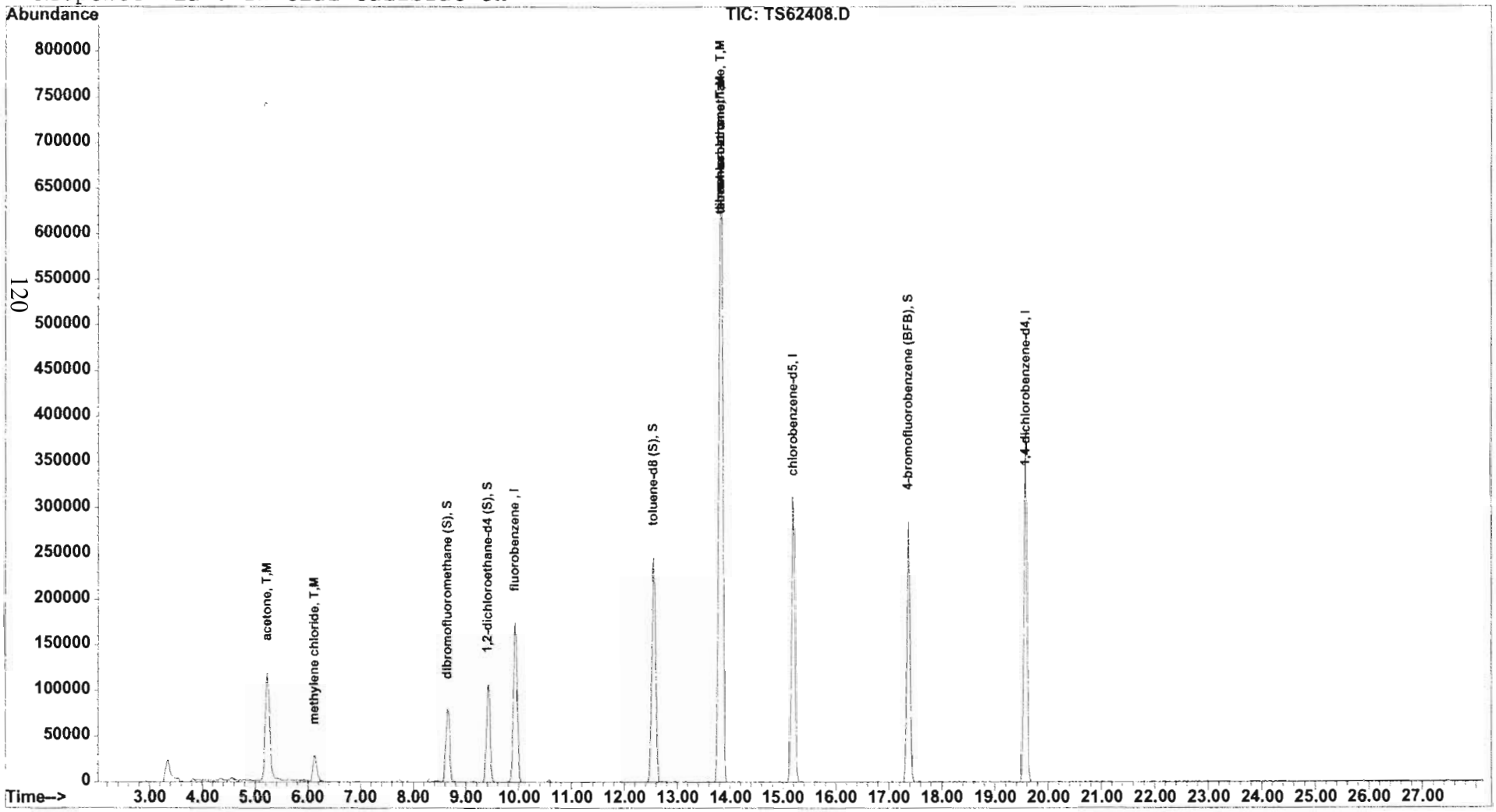
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.94	96	3486438	15.00	ug/l	-0.17
44) chlorobenzene-d5	15.20	117	3795612	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.58	152	2294666	15.00	ug/L	-0.18
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.66	113	1285529	31.32	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.40%			
26) 1,2-dichloroethane-d4 (S)	9.43	102	295954	32.88	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 109.60%			
36) toluene-d8 (S)	12.56	98	4068714	30.33	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.10%			
53) 4-bromofluorobenzene (BFB)	17.38	95	2497660	29.02	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.73%			
Target Compounds						Qvalue
14) acetone	5.24	58	888148	60.19	ug/L	85
17) methylene chloride	6.14	84	305896	3.82	ug/L #	100
41) tetrachloroethene	13.83	166	5727635	83.38	ug/L #	100
42) dibromochloromethane	13.83	129	4034232	67.49	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62408.D Vial: 10
Acq On : 29 Jul 2011 11:16 pm Operator: A. Thomas
Sample : T48 NZ 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62409.D Vial: 11
Acq On : 29 Jul 2011 11:49 pm Operator: A. Thomas
Sample : T48 NZ 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

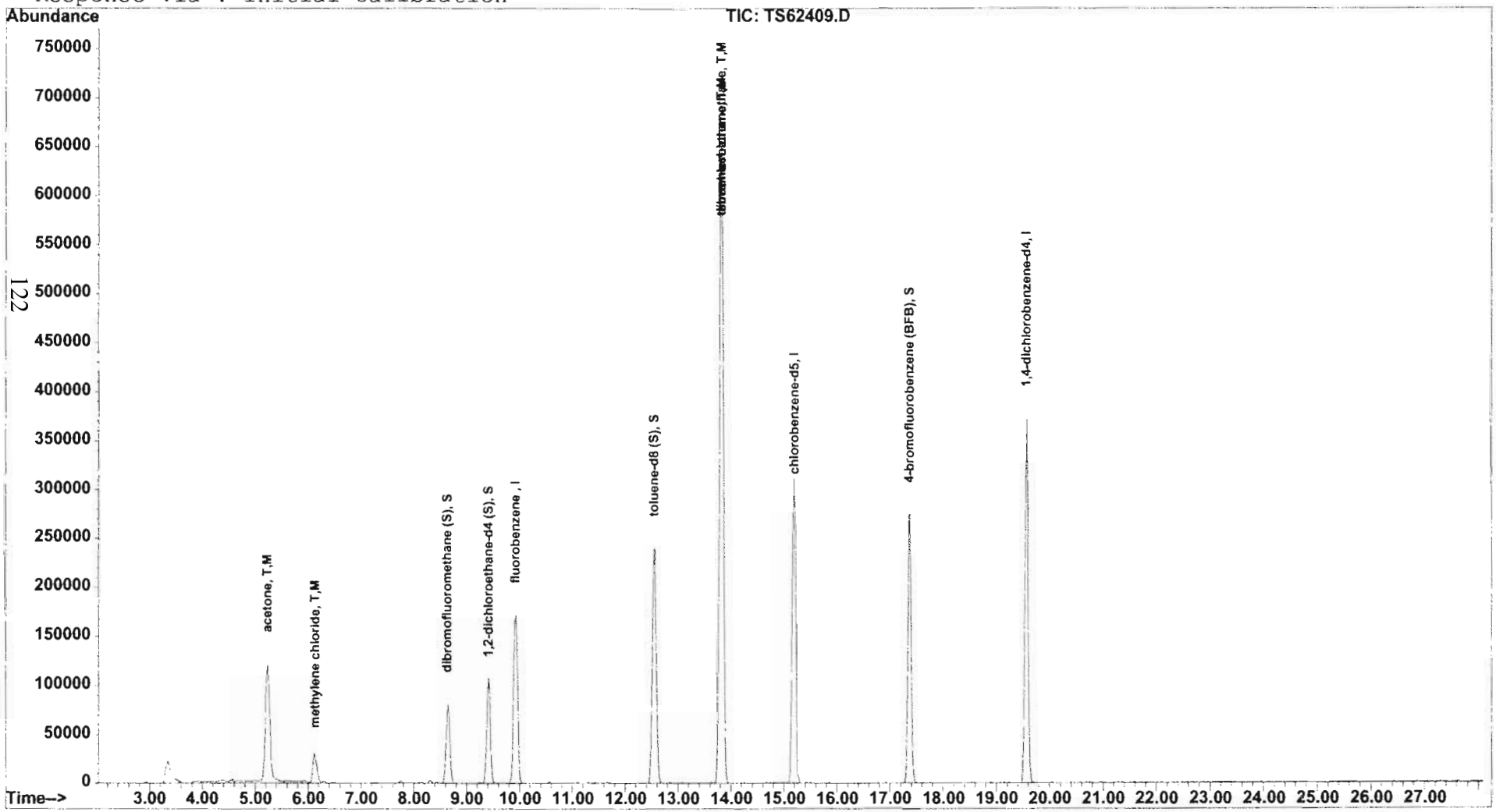
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.94	96	3441050	15.00	ug/l	-0.17
44) chlorobenzene-d5	15.20	117	3730362	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.58	152	2271834	15.00	ug/L	-0.18
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1265893	31.25	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.17%			
26) 1,2-dichloroethane-d4 (S)	9.43	102	265667	29.90	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.67%			
36) toluene-d8 (S)	12.56	98	4099319	30.96	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.20%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2408163	28.47	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.90%			
Target Compounds						Qvalue
14) acetone	5.24	58	885344	60.79	ug/L	76
17) methylene chloride	6.13	84	335668	4.25	ug/L #	100
41) tetrachloroethene	13.83	166	5430485	80.09	ug/L #	100
42) dibromochloromethane	13.83	129	3803801	64.47	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62409.D Vial: 11
Acq On : 29 Jul 2011 11:49 pm Operator: A. Thomas
Sample : T48 NZ 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62410.D Vial: 12
Acq On : 30 Jul 2011 12:23 am Operator: A. Thomas
Sample : T48 NZ 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

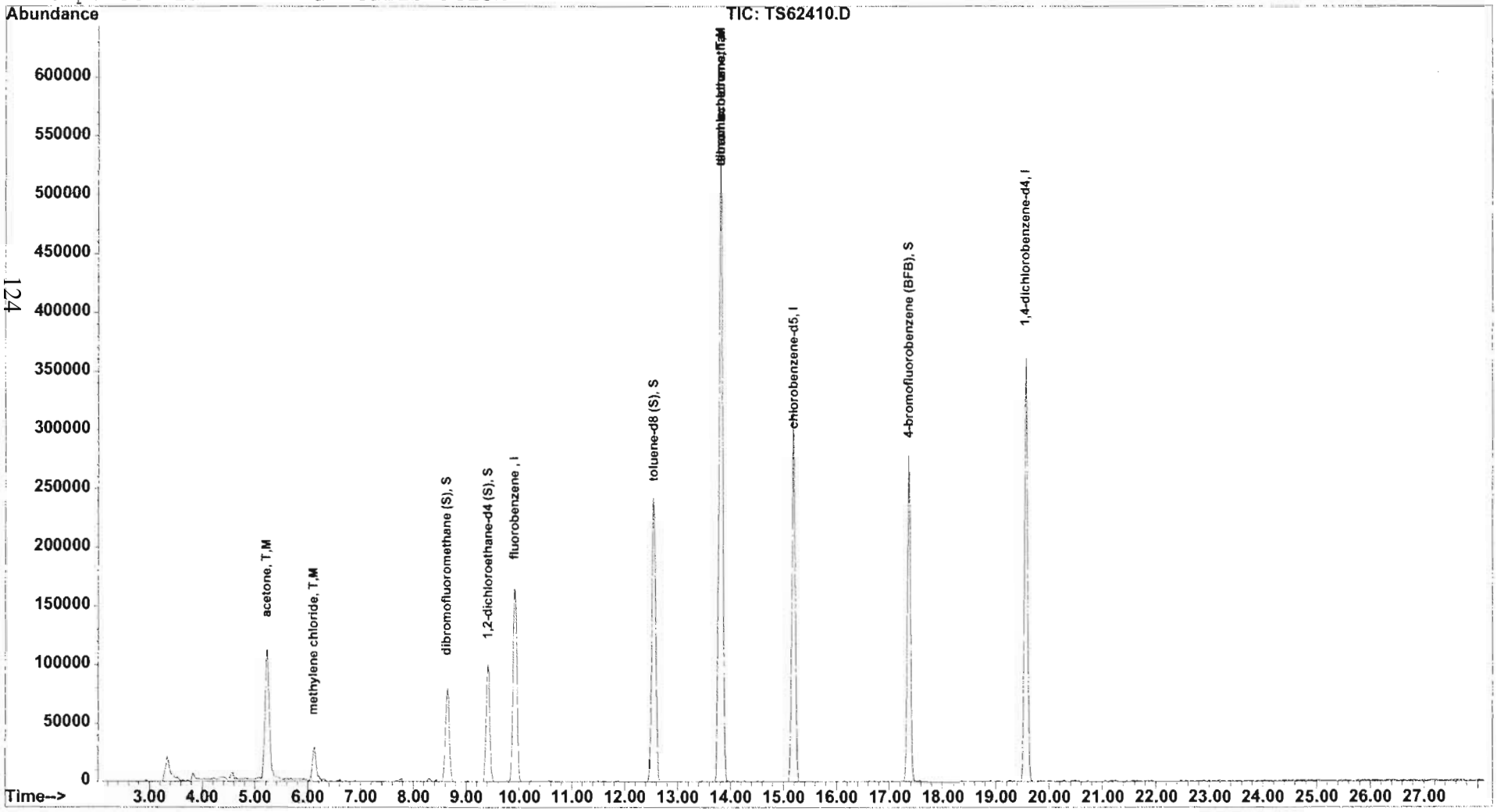
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3426062	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.20	117	3735405	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.57	152	2248712	15.00	ug/L	-0.18
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.66	113	1277558	31.68	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.60%			
26) 1,2-dichloroethane-d4 (S)	9.43	102	261098	29.52	ug/L	-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.40%			
36) toluene-d8 (S)	12.56	98	4035857	30.62	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.07%			
53) 4-bromofluorobenzene (BFB)	17.38	95	2411369	28.47	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.90%			
Target Compounds						Qvalue
14) acetone	5.24	58	859805	59.29	ug/L	85
17) methylene chloride	6.13	84	330365	4.20	ug/L #	100
41) tetrachloroethene	13.83	166	4254101	63.02	ug/L #	100
42) dibromochloromethane	13.83	129	3034399	51.66	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62410.D Vial: 12
Acq On : 30 Jul 2011 12:23 am Operator: A. Thomas
Sample : T48 NZ 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62411.D Vial: 13
Acq On : 30 Jul 2011 12:56 am Operator: A. Thomas
Sample : T48 NZ 2.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

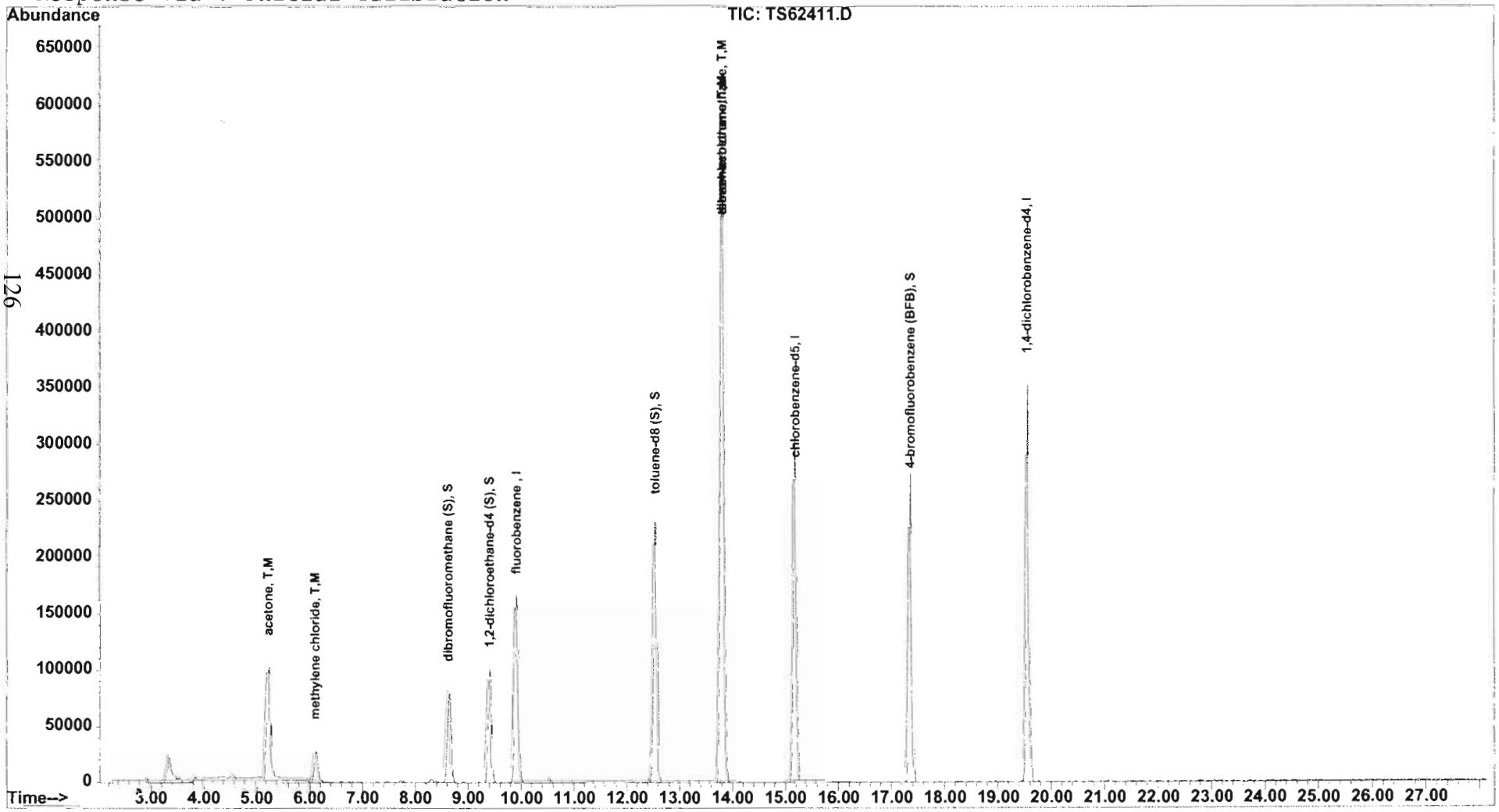
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3345688	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.20	117	3667270	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.57	152	2174186	15.00	ug/L	-0.18
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1233549	31.32	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.40%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	261072	30.22	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.73%			
36) toluene-d8 (S)	12.56	98	3928216	30.52	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.73%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2330516	28.03	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.43%			
Target Compounds						Qvalue
14) acetone	5.24	58	763853	53.94	ug/L	80
17) methylene chloride	6.13	84	310337	4.04	ug/L #	100
41) tetrachloroethene	13.83	166	4643556	70.44	ug/L #	76
42) dibromochloromethane	13.83	129	3254077	56.73	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62411.D Vial: 13
Acq On : 30 Jul 2011 12:56 am Operator: A. Thomas
Sample : T48 NZ 2.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62412.D Vial: 14
Acq On : 30 Jul 2011 1:29 am Operator: A. Thomas
Sample : T48 NZ 2.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

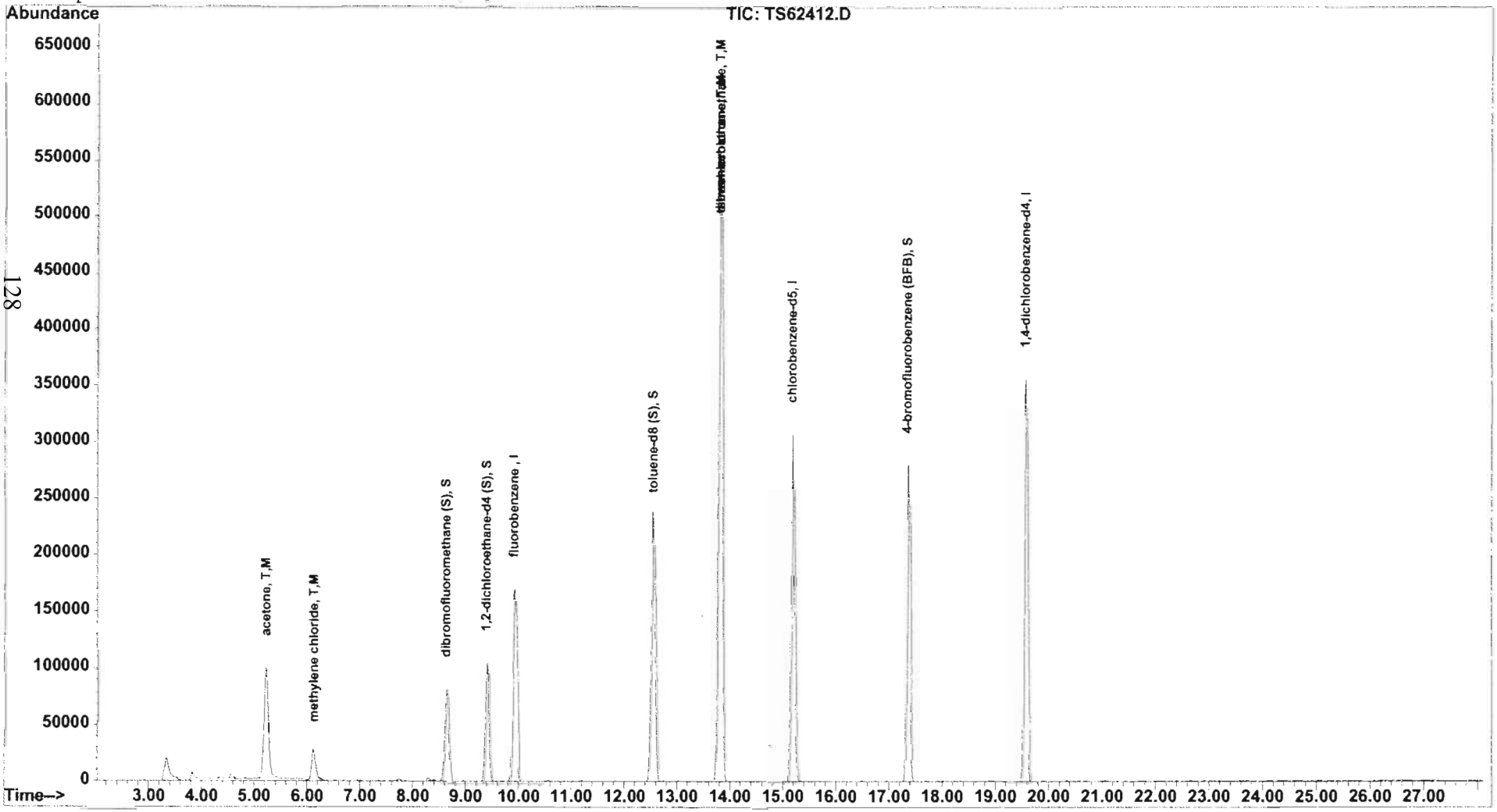
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3444517	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3781263	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.57	152	2287977	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1259951	31.07	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.57%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	255991	28.78	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.93%			
36) toluene-d8 (S)	12.55	98	4024571	30.37	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.23%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2361831	27.55	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.83%			
Target Compounds						Qvalue
14) acetone	5.24	58	784638	53.82	ug/L	88
17) methylene chloride	6.13	84	296837	3.75	ug/L #	100
41) tetrachloroethene	13.82	166	4648794	68.50	ug/L #	76
42) dibromochloromethane	13.82	129	3172546	53.72	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62412.D Vial: 14
Acq On : 30 Jul 2011 1:29 am Operator: A. Thomas
Sample : T48 NZ 2.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



IV-1 Method Tunes

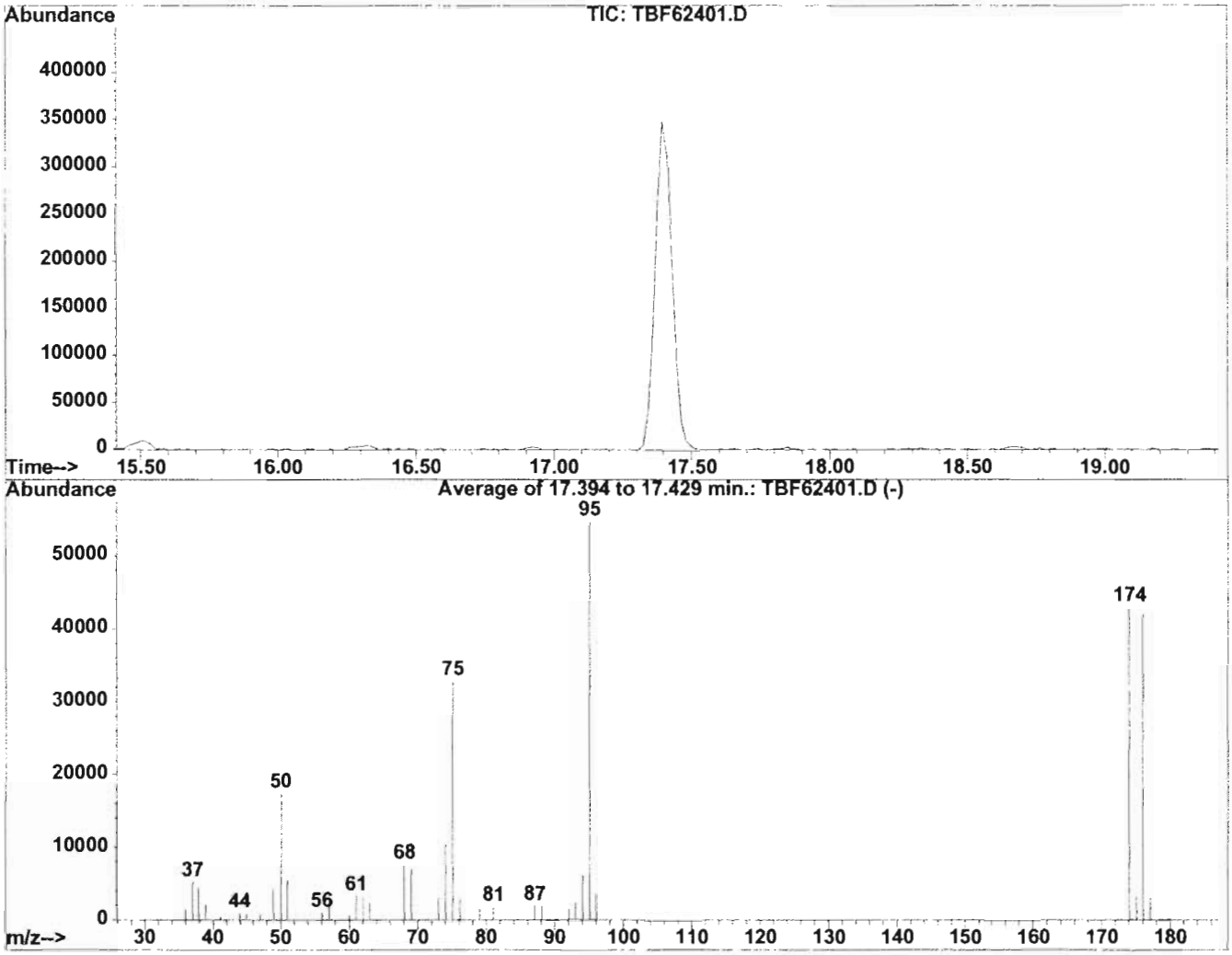
IV-2 Method Blanks

IV-3 Daily Calibration

IV-4 Laboratory Control Samples

BFB

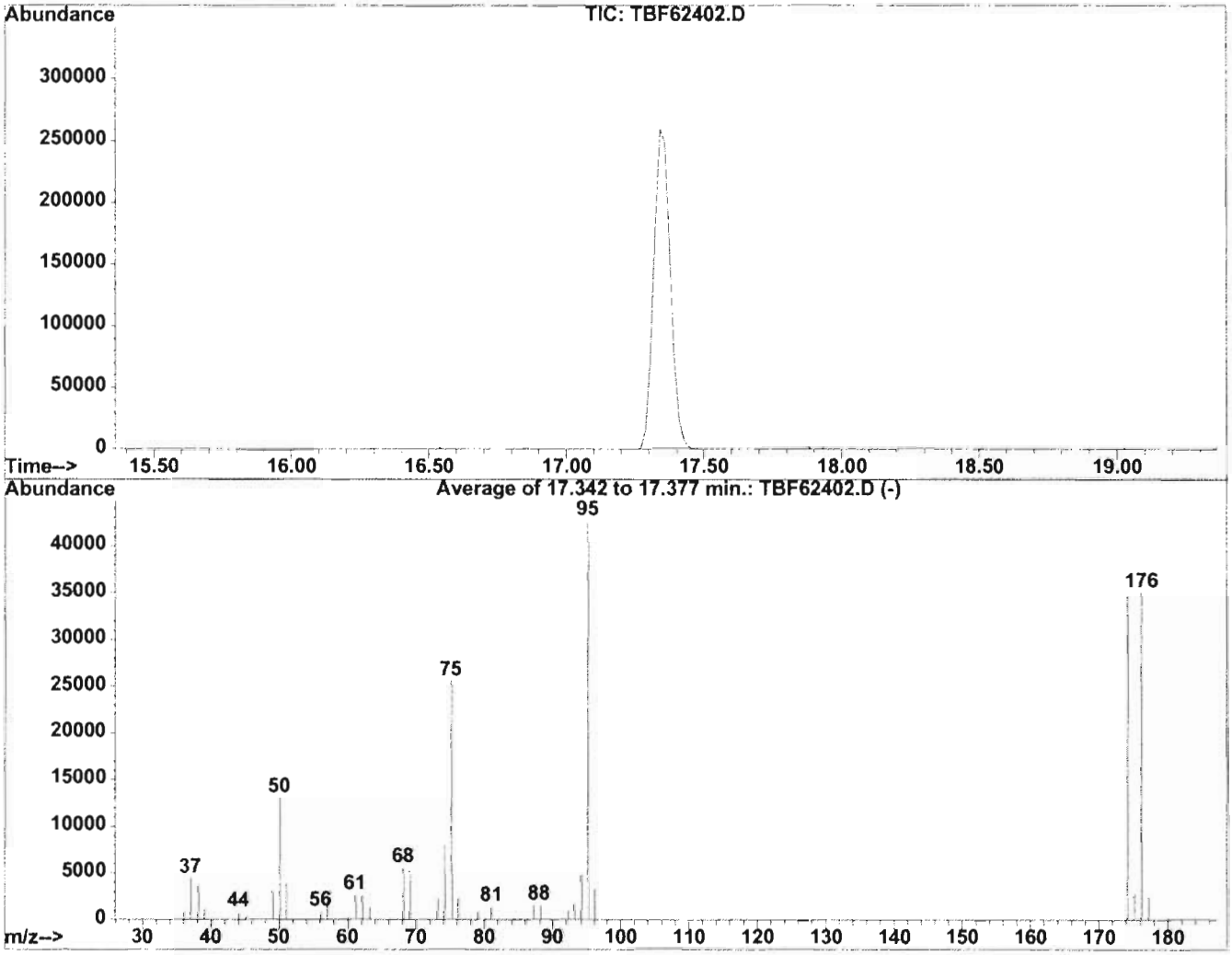
Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TBF62401.D Vial: 1
Acq On : 29 Jul 2011 5:10 pm Operator: A. Thomas
Sample : 50ng bfb 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA



AutoFind: Scans 887, 888, 889; Background Corrected with Scan 880

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	31.8	17405	PASS
75	95	30	70	60.0	32824	PASS
95	95	100	100	100.0	54739	PASS
96	95	5	9	7.2	3923	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	78.5	42944	PASS
175	174	5	9	7.3	3145	PASS
176	174	95	101	97.7	41936	PASS
177	176	5	9	7.1	2988	PASS

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TBF62402.D Vial: 24
Acq On : 30 Jul 2011 6:59 am Operator: A. Thomas
Sample : 50ng bfb 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA



AutoFind: Scans 884, 885, 886; Background Corrected with Scan 877

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	30.5	13030	PASS
75	95	30	70	59.8	25555	PASS
95	95	100	100	100.0	42712	PASS
96	95	5	9	7.7	3275	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	81.4	34747	PASS
175	174	5	9	7.9	2760	PASS
176	174	95	101	100.9	35043	PASS
177	176	5	9	6.9	2412	PASS

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TBL62401.D Vial: 1
Acq On : 29 Jul 2011 5:44 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.96	96	3988284	15.00	ug/l	-0.15
44) chlorobenzene-d5	15.23	117	4269113	15.00	ug/L	-0.15
56) 1,4-dichlorobenzene-d4	19.61	152	2437464	15.00	ug/L	-0.15
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.68	113	1410201	30.04	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.13%			
26) 1,2-dichloroethane-d4 (S)	9.45	102	330295	32.08	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 106.93%			
36) toluene-d8 (S)	12.58	98	4747271	30.94	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.13%			
53) 4-bromofluorobenzene (BFB)	17.40	95	2786663	28.79	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.97%			

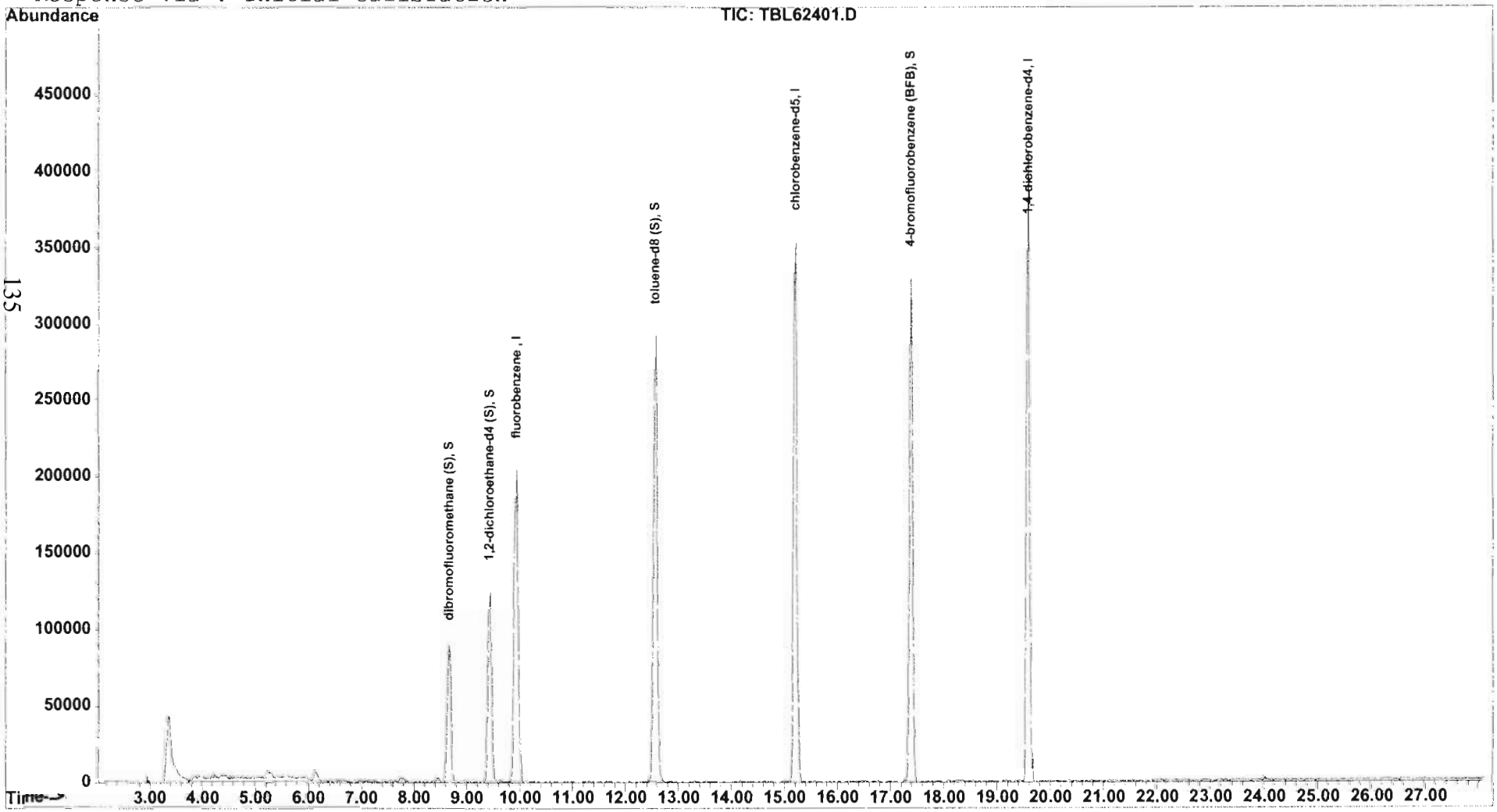
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TBL62401.D Vial: 1
Acq On : 29 Jul 2011 5:44 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62401.D Vial: 1
Acq On : 29 Jul 2011 6:17 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1 I	fluorobenzene	1.000	1.000	0.0 78	-0.16
3 T,M	chloromethane	0.312	0.190	39.1# 47#	-0.08
4 C,T,M	vinyl chloride	0.184	0.195	-6.0 88	-0.10
5 T,M	bromomethane	0.144	0.057	60.4# 33#	-0.11
6 T,M	chloroethane	0.225	0.209	7.1 68	-0.10
7 t	112-Trichloro-122-Trifluoro	0.289	0.214	26.0 53	-0.15
8 t	Methyl Acetate	0.047	0.049	-4.3 74	-0.14
9 T,M	carbon disulfide	0.586	0.394	32.8# 46#	-0.16
10 T,M	MTBE	0.785	0.744	5.2 78	-0.13
11 t	1,4 Dioxane	0.028	0.024	14.3 57	-0.13
12 T,M	tert-butyl alcohol	0.054	0.050	7.4 66	-0.13
13 T,M	MEK	0.044	0.043	2.3 70	-0.12
14 T,M	acetone	0.049	0.187	-281.6# 325#	-0.12
15 T,M	trichlorofluoromethane	0.385	0.288	25.2 50	-0.15
16 C,T,M	1,1-dichloroethene	0.514	0.368	28.4 51	-0.14
17 T,M	methylene chloride	0.345	0.294	14.8 65	-0.14
18 T,M	trans-1,2-dichloroethene	0.525	0.414	21.1 58	-0.15
19 T,M	1,1-dichloroethane	0.651	0.526	19.2 58	-0.15
20 C,T,M	chloroform	0.380	0.326	14.2 63	-0.15
21 S	dibromofluoromethane (S)	0.177	0.202	-14.1 89	-0.16
22 T,M	bromochloromethane	0.149	0.113	24.2 51	-0.15
23 t	Cyclohexane	0.417	0.317	24.0 52	-0.16
24 T,M	1,1,1-trichloroethane	0.440	0.400	9.1 64	-0.15
25 T,M	carbon tetrachloride	0.326	0.298	8.6 62	-0.15
26 S	1,2-dichloroethane-d4 (S)	0.039	0.044	-12.8 86	-0.15
27 T,M	1,2-dichloroethane	0.545	0.513	5.9 70	-0.15
28 T,M	benzene	1.096	0.835	23.8 54	-0.15
29 T,M	trichloroethene	0.285	0.232	18.6 55	-0.15
30 t	Methyl Cyclohexane	0.479	0.386	19.4 56	-0.15
31 C,T,M	1,2-dichloropropane	0.325	0.271	16.6 61	-0.15
32 T,M	MIBK	0.036	0.030	16.7 63	-0.16
33 T,M	cis-1,2-dichloroethene	0.532	0.440	17.3 61	-0.15
34 T,M	bromodichloromethane	0.353	0.310	12.2 61	-0.15
35 T,M	cis-1,3-dichloropropene	0.426	0.358	16.0 58	-0.15
36 S	toluene-d8 (S)	0.577	0.618	-7.1 81	-0.15
37 C,T,M	toluene	1.119	0.894	20.1 52	-0.16
38 T,M	trans-1,3-dichloropropene	0.447	0.323	27.7 52	-0.03
39 T,M	2-hexanone	0.130	0.108	16.9 72	-0.15
40 T,M	1,1,2-trichloroethane	0.210	0.180	14.3 61	-0.15
41 T,M	tetrachloroethene	0.296	0.258	12.8 57	-0.15
42 T,M	dibromochloromethane	0.218	0.188	13.8 56	-0.15
43 T,M	1,2-dibromoethane	0.253	0.222	12.3 61	-0.15
44 I	chlorobenzene-d5	1.000	1.000	0.0 71	-0.15
45 M,T	chlorobenzene	0.554	0.476	14.1 58	-0.15

46	C,T,M	ethyl benzene	1.066	0.931	12.7	58	-0.15
47	T,M	m/p-xylene	0.929	0.813	12.5	52	-0.15
48	T,M	o-xylene	0.874	0.783	10.4	59	-0.15
49	T,M	styrene	0.528	0.447	15.3	56	-0.15
50	T,M	isopropyl benzene	0.953	0.835	12.4	58	-0.15
51	T,M	bromoform	0.123	0.093	24.4	53	-0.15
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.247	9.9	64	-0.15
53	S	4-bromofluorobenzene (BFB)	0.340	0.330	2.9	69	-0.15
54	T,M	1,3-dichlorobenzene	0.404	0.333	17.6	54	-0.15
55	T,M	1,2-dichlorobenzene	0.383	0.315	17.8	55	-0.16
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	64	-0.15
57	T,M	1,4-dichlorobenzene	0.639	0.611	4.4	61	-0.16
58	T,M	1,2-dibromo-3-chloropropane	0.069	0.060	13.0	74	-0.15
59	T,M	1,2,4-trichlorobenzene	0.387	0.352	9.0	56	-0.16
60	T,M	Napthalene	0.822	0.729	11.3	62	-0.16
61	T,M	1,2,3-trichlorobenzene	0.343	0.326	5.0	61	-0.16

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 11:48:34 2012 GCMS2

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62402.D Vial: 25
Acq On : 30 Jul 2011 7:32 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1	I	fluorobenzene	1.000	1.000	0.0	61	-0.20
3	T,M	chloromethane	0.312	0.169	45.8#	32#	-0.11
4	C,T,M	vinyl chloride	0.184	0.180	2.2	64	-0.11
5	T,M	bromomethane	0.144	0.074	48.6#	33#	-0.16
6	T,M	chloroethane	0.225	0.211	6.2	54	-0.14
7	t	112-Trichloro-122-Trifluoro	0.289	0.253	12.5	49#	-0.15
8	t	Methyl Acetate	0.047	0.050	-6.4	59	-0.17
9	T,M	carbon disulfide	0.586	0.431	26.5	40#	-0.18
10	T,M	MTBE	0.785	0.807	-2.8	66	-0.16
11	t	1,4 Dioxane	0.028	0.037	-32.1#	67	-0.17
12	T,M	tert-butyl alcohol	0.054	0.039	27.8	40#	-0.19
13	T,M	MEK	0.044	0.031	29.5	39#	-0.16
14	T,M	acetone	0.049	0.164	-234.7#	223#	-0.17
15	T,M	trichlorofluoromethane	0.385	0.371	3.6	51	-0.15
16	C,T,M	1,1-dichloroethene	0.514	0.458	10.9	49#	-0.17
17	T,M	methylene chloride	0.345	0.365	-5.8	63	-0.17
18	T,M	trans-1,2-dichloroethene	0.525	0.504	4.0	55	-0.18
19	T,M	1,1-dichloroethane	0.651	0.629	3.4	55	-0.18
20	C,T,M	chloroform	0.380	0.434	-14.2	65	-0.19
21	S	dibromofluoromethane (S)	0.177	0.206	-16.4	71	-0.19
22	T,M	bromochloromethane	0.149	0.162	-8.7	57	-0.19
23	t	Cyclohexane	0.417	0.390	6.5	50	-0.19
24	T,M	1,1,1-trichloroethane	0.440	0.517	-17.5	65	-0.19
25	T,M	carbon tetrachloride	0.326	0.379	-16.3	62	-0.19
26	S	1,2-dichloroethane-d4 (S)	0.039	0.044	-12.8	66	-0.18
27	T,M	1,2-dichloroethane	0.545	0.635	-16.5	68	-0.19
28	T,M	benzene	1.096	1.062	3.1	54	-0.19
29	T,M	trichloroethene	0.285	0.305	-7.0	56	-0.19
30	t	Methyl Cyclohexane	0.479	0.445	7.1	50	-0.19
31	C,T,M	1,2-dichloropropane	0.325	0.336	-3.4	59	-0.19
32	T,M	MIBK	0.036	0.024	33.3#	38#	-0.20
33	T,M	cis-1,2-dichloroethene	0.532	0.541	-1.7	58	-0.19
34	T,M	bromodichloromethane	0.353	0.392	-11.0	60	-0.19
35	T,M	cis-1,3-dichloropropene	0.426	0.395	7.3	50	-0.19
36	S	toluene-d8 (S)	0.577	0.629	-9.0	64	-0.19
37	C,T,M	toluene	1.119	1.102	1.5	50	-0.19
38	T,M	trans-1,3-dichloropropene	0.447	0.340	23.9	43#	-0.07
39	T,M	2-hexanone	0.130	0.087	33.1#	45#	-0.18
40	T,M	1,1,2-trichloroethane	0.210	0.219	-4.3	59	-0.19
41	T,M	tetrachloroethene	0.296	0.355	-19.9	61	-0.19
42	T,M	dibromochloromethane	0.218	0.247	-13.3	57	-0.20
43	T,M	1,2-dibromoethane	0.253	0.278	-9.9	60	-0.20
44	I	chlorobenzene-d5	1.000	1.000	0.0	59	-0.20
45	M,T	chlorobenzene	0.554	0.571	-3.1	58	-0.20

46	C,T,M	ethyl benzene	1.066	1.097	-2.9	57	-0.19
47	T,M	m/p-xylene	0.929	0.948	-2.0	51	-0.19
48	T,M	o-xylene	0.874	0.940	-7.6	60	-0.20
49	T,M	styrene	0.528	0.545	-3.2	57	-0.19
50	T,M	isopropyl benzene	0.953	1.030	-8.1	60	-0.20
51	T,M	bromoform	0.123	0.101	17.9	48#	-0.20
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.254	7.3	56	-0.19
53	S	4-bromofluorobenzene (BFB)	0.340	0.327	3.8	58	-0.20
54	T,M	1,3-dichlorobenzene	0.404	0.383	5.2	52	-0.20
55	T,M	1,2-dichlorobenzene	0.383	0.338	11.7	50#	-0.20
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	56	-0.20
57	T,M	1,4-dichlorobenzene	0.639	0.715	-11.9	63	-0.22
59	T,M	1,2,4-trichlorobenzene	0.387	0.402	-3.9	56	-0.21
60	T,M	Napthalene	0.822	0.650	20.9	49#	-0.21
61	T,M	1,2,3-trichlorobenzene	0.343	0.357	-4.1	59	-0.21

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 11:50:53 2012 GCMS2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62401.D Vial: 1
Acq On : 29 Jul 2011 6:17 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:48 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	3811807m	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.23	117	4208965	15.00	ug/L	-0.15
56) 1,4-dichlorobenzene-d4	19.60	152	2545613	15.00	ug/L	-0.15
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1536609	34.24	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 114.13%			
26) 1,2-dichloroethane-d4 (S)	9.45	102	338713	34.42	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 114.73%			
36) toluene-d8 (S)	12.59	98	4711292	32.12	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.07%			
53) 4-bromofluorobenzene (BFB)	17.40	95	2782074	29.15	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.17%			
Target Compounds						Qvalue
3) chloromethane	3.50	50	965444	12.16	ug/L	
4) vinyl chloride	3.63	62	989327	21.13	ug/L	
5) bromomethane	4.24	96	289340	7.92	ug/L	
6) chloroethane	4.32	64	1062971	18.62	ug/L	
7) 112-Trichloro-122-Trifluor	5.19	101	1089774	14.81	ug/l	
8) Methyl Acetate	5.88	74	247745	17.28	ug/l	
9) carbon disulfide	6.26	76	2004979	13.47	ug/L	
10) MTBE	6.33	73	3783110	18.98	ug/L	
11) 1,4 Dioxane	6.17	88	124373	15.55	ug/l	#
12) tert-butyl alcohol	5.53	59	1269677	93.27	ug/l	
13) MEK	7.78	72	216638	19.44	ug/L	
14) acetone	5.27	58	949683	58.86	ug/L	
15) trichlorofluoromethane	4.63	101	1463824m	14.97	ug/L	
16) 1,1-dichloroethene	5.48	61	1870590	14.31	ug/L	#
17) methylene chloride	6.16	84	1492996	17.05	ug/L	#
18) trans-1,2-dichloroethene	6.58	61	2106600	15.78	ug/L	#
19) 1,1-dichloroethane	7.19	63	2671879	16.14	ug/L	#
20) chloroform	8.34	85	1655172	17.15	ug/L	#
22) bromochloromethane	8.62	128	575693	15.23	ug/L	
23) Cyclohexane	9.02	84	1609542	15.20	ug/l	#
24) 1,1,1-trichloroethane	8.97	97	2032574	18.19	ug/L	#
25) carbon tetrachloride	9.39	117	1513819	17.02	ug/L	
27) 1,2-dichloroethane	9.60	62	2608742	18.83	ug/L	#
28) benzene	9.65	78	4245038	15.24	ug/L	
29) trichloroethene	10.61	130	1180682	16.31	ug/L	#
30) Methyl Cyclohexane	10.72	83	1961802	16.10	ug/l	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62401.D Vial: 1
Acq On : 29 Jul 2011 6:17 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:48 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

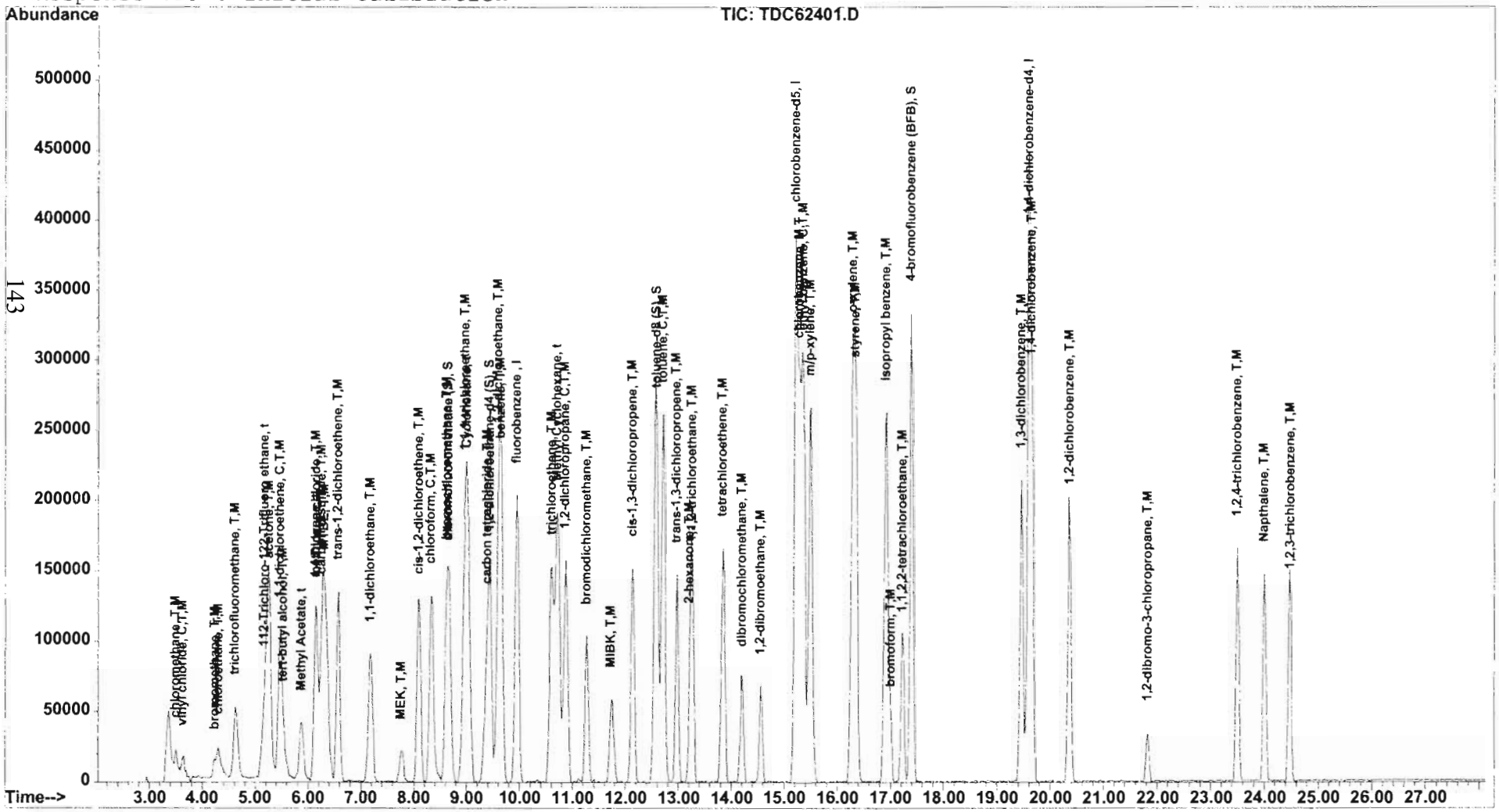
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
31)	1,2-dichloropropane	10.88	63	1378452	16.69	ug/L	#	
32)	MIBK	11.74	100	153558	15.16	ug/L		
33)	cis-1,2-dichloroethene	8.10	61	2234714	16.52	ug/L	#	
34)	bromodichloromethane	11.28	83	1575694	15.75	ug/L	#	
35)	cis-1,3-dichloropropene	12.15	75	1819112	15.53	ug/L		
37)	toluene	12.72	91	4544097m	15.98	ug/L		
38)	trans-1,3-dichloropropene	12.98	75	1641762	14.45	ug/L	#	
39)	2-hexanone	13.22	58	548314m	16.55	ug/L		
40)	1,1,2-trichloroethane	13.27	83	913832	17.09	ug/L	#	
41)	tetrachloroethene	13.86	166	1309311	17.43	ug/L	#	
42)	dibromochloromethane	14.21	129	956887	14.64	ug/L	#	
43)	1,2-dibromoethane	14.56	107	1126099	17.55	ug/L	#	
45)	chlorobenzene	15.30	112	2669017	17.17	ug/L	#	85
46)	ethyl benzene	15.36	91	5226542	17.47	ug/L	#	100
47)	m/p-xylene	15.50	91	4563656	17.51	ug/L	#	100
48)	o-xylene	16.29	91	4395974	17.93	ug/L	#	81
49)	styrene	16.36	104	2507399	16.93	ug/L		84
50)	isopropyl benzene	16.93	105	4685092	17.52	ug/L		100
51)	bromoform	17.01	173	523162	11.51	ug/L		99
52)	1,1,2,2-tetrachloroethane	17.24	83	1385904	15.32	ug/L	#	100
54)	1,3-dichlorobenzene	19.47	146	1866455	16.45	ug/L	#	98
55)	1,2-dichlorobenzene	20.37	146	1769649	16.48	ug/L	#	59
57)	1,4-dichlorobenzene	19.66	146	2073301m	19.11	ug/L		
58)	1,2-dibromo-3-chloropropan	21.84	75	204713	11.76	ug/L		76
59)	1,2,4-trichlorobenzene	23.51	180	1193131	18.16	ug/L		97
60)	Napthalene	24.01	128	2473814	17.74	ug/L		100
61)	1,2,3-trichlorobenzene	24.49	180	1107567	19.03	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62401.D Vial: 1
Acq On : 29 Jul 2011 6:17 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:48 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62402.D Vial: 25
Acq On : 30 Jul 2011 7:32 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:50 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	2981355m	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.18	117	3525764	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.56	152	2235020	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1227592	34.98	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 116.60%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	259518	33.71	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 112.37%			
36) toluene-d8 (S)	12.54	98	3750218	32.69	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 108.97%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2307610	28.87	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.23%			
Target Compounds						Qvalue
3) chloromethane	3.47	50	671972m	10.82	ug/L	
4) vinyl chloride	3.62	62	714536m	19.51	ug/L	
5) bromomethane	4.19	96	292606m	10.24	ug/L	
6) chloroethane	4.28	64	838868m	18.78	ug/L	
7) 112-Trichloro-122-Trifluor	5.18	101	1006138	17.49	ug/l	
8) Methyl Acetate	5.85	74	197123m	17.58	ug/l	
9) carbon disulfide	6.25	76	1711609m	14.70	ug/L	
10) MTBE	6.29	73	3206740	20.56	ug/L	
11) 1,4 Dioxane	6.13	88	145259	23.22	ug/l	#
12) tert-butyl alcohol	5.48	59	776489m	72.93	ug/l	
13) MEK	7.74	72	122033m	14.00	ug/L	
14) acetone	5.22	58	650886m	51.58	ug/L	
15) trichlorofluoromethane	4.62	101	1474879	19.29	ug/L	
16) 1,1-dichloroethene	5.45	61	1821697	17.82	ug/L	#
17) methylene chloride	6.12	84	1450656	21.19	ug/L	#
18) trans-1,2-dichloroethene	6.55	61	2003415	19.18	ug/L	#
19) 1,1-dichloroethane	7.16	63	2501451	19.32	ug/L	#
20) chloroform	8.31	85	1723773	22.84	ug/L	
22) bromochloromethane	8.58	128	643264	21.75	ug/L	
23) Cyclohexane	8.99	84	1549636	18.71	ug/l	
24) 1,1,1-trichloroethane	8.94	97	2055433	23.52	ug/L	#
25) carbon tetrachloride	9.35	117	1508267	21.68	ug/L	#
27) 1,2-dichloroethane	9.56	62	2524503	23.30	ug/L	#
28) benzene	9.62	78	4222483	19.39	ug/L	
29) trichloroethene	10.57	130	1210741	21.38	ug/L	#
30) Methyl Cyclohexane	10.68	83	1769405	18.57	ug/l	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62402.D Vial: 25
Acq On : 30 Jul 2011 7:32 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:50 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

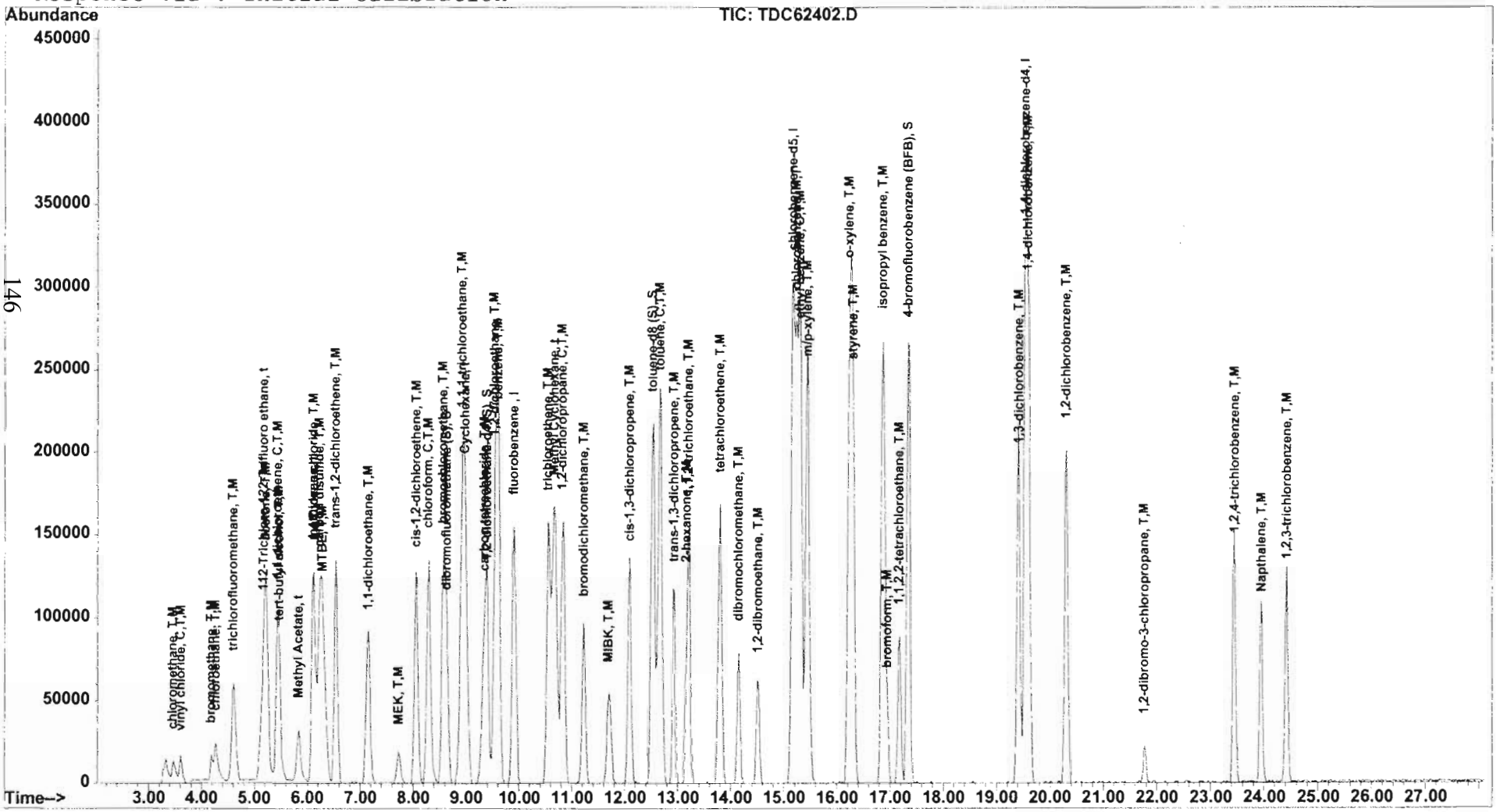
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
31)	1,2-dichloropropane	10.84	63	1336985	20.70	ug/L	#	
32)	MIBK	11.70	100	94546	11.94	ug/L		
33)	cis-1,2-dichloroethene	8.07	61	2150919	20.33	ug/L		
34)	bromodichloromethane	11.24	83	1558430	19.92	ug/L	#	
35)	cis-1,3-dichloropropene	12.10	75	1571918	17.16	ug/L	#	
37)	toluene	12.68	91	4379658	19.69	ug/L	#	
38)	trans-1,3-dichloropropene	12.94	75	1352672	15.22	ug/L	#	
39)	2-hexanone	13.19	58	346160	13.36	ug/L	#	
40)	1,1,2-trichloroethane	13.22	83	871754	20.85	ug/L	#	
41)	tetrachloroethene	13.81	166	1411989	24.04	ug/L	#	
42)	dibromochloromethane	14.16	129	980136	19.17	ug/L	#	
43)	1,2-dibromoethane	14.52	107	1106597	22.04	ug/L	#	
45)	chlorobenzene	15.25	112	2683576	20.61	ug/L	#	100
46)	ethyl benzene	15.32	91	5154827	20.57	ug/L	#	100
47)	m/p-xylene	15.46	91	4455293	20.41	ug/L	#	100
48)	o-xylene	16.25	91	4417648	21.51	ug/L	#	81
49)	styrene	16.31	104	2561208	20.64	ug/L		89
50)	isopropyl benzene	16.88	105	4840583	21.61	ug/L		99
51)	bromoform	16.96	173	473560	12.44	ug/L	#	78
52)	1,1,2,2-tetrachloroethane	17.19	83	1192729	15.74	ug/L	#	100
54)	1,3-dichlorobenzene	19.42	146	1800477	18.94	ug/L	#	99
55)	1,2-dichlorobenzene	20.32	146	1586977	17.64	ug/L	#	75
57)	1,4-dichlorobenzene	19.60	146	2130230m	22.36	ug/L		
58)	1,2-dibromo-3-chloropropan	21.79	75	129631	8.48	ug/L		85
59)	1,2,4-trichlorobenzene	23.46	180	1197141	20.76	ug/L		98
60)	Napthalene	23.96	128	1936767	15.82	ug/L		100
61)	1,2,3-trichlorobenzene	24.43	180	1062705	20.80	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62402.D Vial: 25
Acq On : 30 Jul 2011 7:32 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:50 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TLC62401.D Vial: 2
Acq On : 29 Jul 2011 6:50 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.96	96	4012340	15.00	ug/l	-0.15
44) chlorobenzene-d5	15.23	117	4280728	15.00	ug/L	-0.15
56) 1,4-dichlorobenzene-d4	19.60	152	2492132	15.00	ug/L	-0.16
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.68	113	1539918	32.60	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 108.67%			
26) 1,2-dichloroethane-d4 (S)	9.45	102	323104	31.19	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.97%			
36) toluene-d8 (S)	12.58	98	4645235	30.09	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.30%			
53) 4-bromofluorobenzene (BFB)	17.40	95	2816875	29.02	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.73%			
Target Compounds						Qvalue
3) chloromethane	3.51	50	600360	7.18	ug/L	96
4) vinyl chloride	3.64	62	443000	8.99	ug/L #	77
5) bromomethane	4.24	96	344955	8.97	ug/L	95
6) chloroethane	4.32	64	720243	11.98	ug/L #	90
7) 112-Trichloro-122-Trifluor	5.20	101	1260978	16.29	ug/l	99
8) Methyl Acetate	5.88	74	277242	18.37	ug/l	95
9) carbon disulfide	6.28	76	1984626	12.66	ug/L #	100
10) MTBE	6.32	73	4667522	22.24	ug/L	95
11) 1,4 Dioxane	6.15	88	172460	20.48	ug/l #	100
12) tert-butyl alcohol	5.53	59	1269495	88.60	ug/l	90
13) MEK	7.78	72	199510	17.01	ug/L	31
14) acetone	5.27	58	1048824	61.76	ug/L	91
15) trichlorofluoromethane	4.64	101	1692433	16.45	ug/L	98
16) 1,1-dichloroethene	5.48	61	2339588	17.01	ug/L #	85
17) methylene chloride	6.16	84	1858590	20.17	ug/L #	100
18) trans-1,2-dichloroethene	6.58	61	2599388	18.49	ug/L #	100
19) 1,1-dichloroethane	7.19	63	3335945	19.14	ug/L #	100
20) chloroform	8.34	85	2123642	20.90	ug/L	98
22) bromochloromethane	8.62	128	746958	18.77	ug/L	89
23) Cyclohexane	9.02	84	1953572	17.53	ug/l	84
24) 1,1,1-trichloroethane	8.97	97	2460891	20.92	ug/L #	100
25) carbon tetrachloride	9.39	117	1880098	20.08	ug/L #	50
27) 1,2-dichloroethane	9.60	62	3262206	22.37	ug/L #	98
28) benzene	9.65	78	5307594	18.11	ug/L	99
29) trichloroethene	10.61	130	1491573	19.57	ug/L #	100
30) Methyl Cyclohexane	10.72	83	2409719	18.79	ug/l	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TLC62401.D Vial: 2
Acq On : 29 Jul 2011 6:50 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

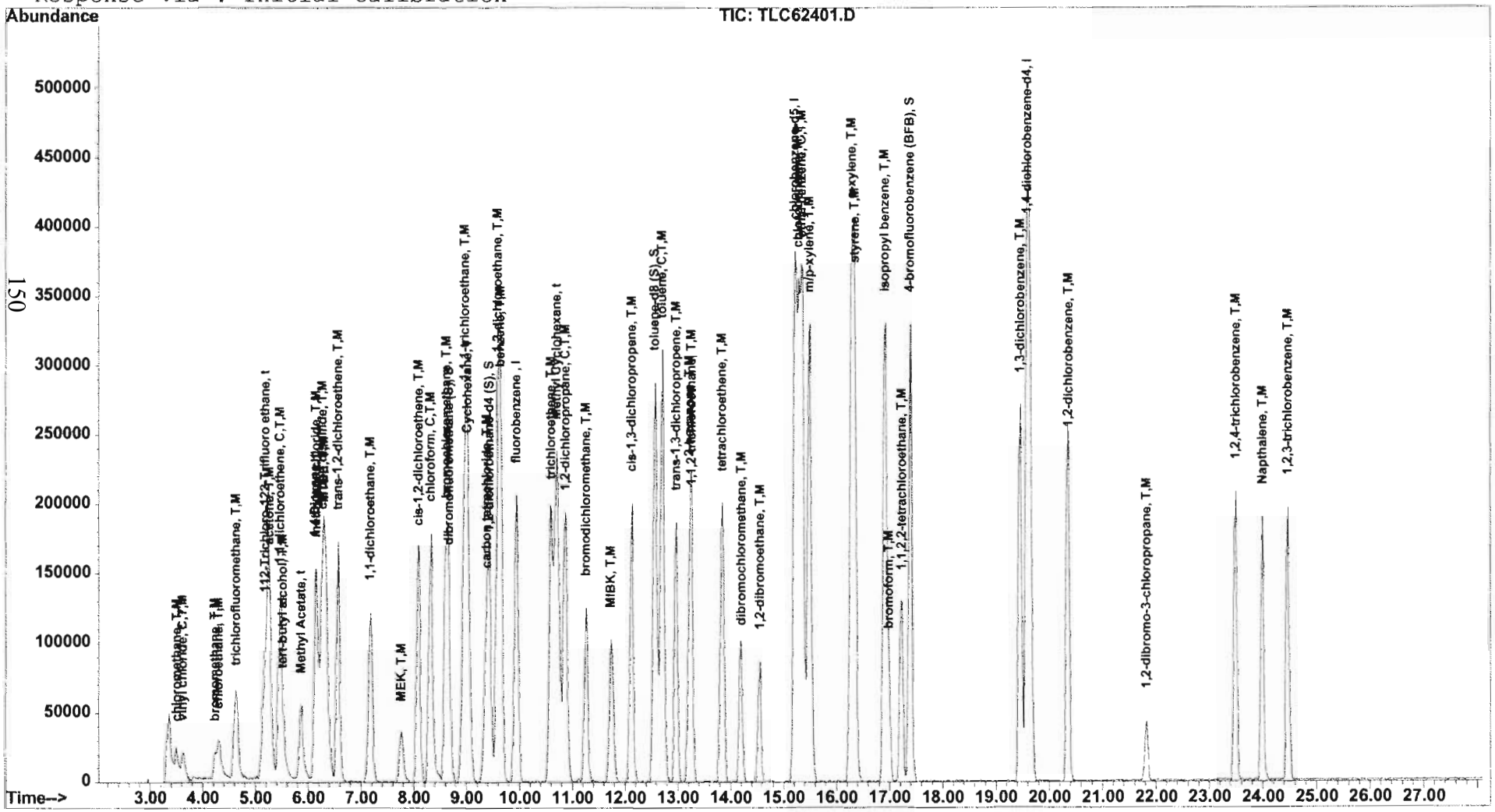
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
31)	1,2-dichloropropane	10.89	63	1718409	19.77 ug/L	#	86
32)	MIBK	11.75	100	200825	18.84 ug/L		73
33)	cis-1,2-dichloroethene	8.10	61	2749633	19.31 ug/L	#	63
34)	bromodichloromethane	11.28	83	2003608	19.03 ug/L	#	100
35)	cis-1,3-dichloropropene	12.14	75	2360887	19.15 ug/L	#	93
37)	toluene	12.72	91	5384863	17.99 ug/L	#	75
38)	trans-1,3-dichloropropene	12.98	75	2118985	17.72 ug/L	#	93
39)	2-hexanone	13.23	58	690705	19.80 ug/L	#	97
40)	1,1,2-trichloroethane	13.27	83	1151517	20.46 ug/L	#	45
41)	tetrachloroethene	13.86	166	1677813	21.22 ug/L	#	99
42)	dibromochloromethane	14.21	129	1243240	18.07 ug/L	#	61
43)	1,2-dibromoethane	14.57	107	1427393	21.13 ug/L	#	99
45)	chlorobenzene	15.30	112	3336065	21.11 ug/L	#	85
46)	ethyl benzene	15.37	91	6480111	21.30 ug/L	#	100
47)	m/p-xylene	15.50	91	5547381	20.93 ug/L	#	100
48)	o-xylene	16.29	91	5409034	21.70 ug/L		98
49)	styrene	16.35	104	3306157	21.94 ug/L		90
50)	isopropyl benzene	16.93	105	5955887	21.90 ug/L		98
51)	bromoform	17.00	173	709458	15.35 ug/L	#	78
52)	1,1,2,2-tetrachloroethane	17.24	83	1734171	18.84 ug/L	#	100
54)	1,3-dichlorobenzene	19.47	146	2357941	20.43 ug/L	#	99
55)	1,2-dichlorobenzene	20.37	146	2071120	18.97 ug/L	#	75
58)	1,2-dibromo-3-chloropropan	21.84	75	255585	15.00 ug/L		80
59)	1,2,4-trichlorobenzene	23.51	180	1554839	24.18 ug/L		99
60)	Napthalene	24.01	128	3229173	23.65 ug/L		100
61)	1,2,3-trichlorobenzene	24.48	180	1405338	24.66 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TLC62401.D Vial: 2
Acq On : 29 Jul 2011 6:50 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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1580 Reed Road
Suite A1
Pennington, NJ 08534

Tel: (609) 737-3477
Fax: (609) 737-3052
www.njal.com

Laboratory Deliverables

Prepared For

PARS Environmental

Drum Bench Study

Lab ID

Enhanced Reductive Dechlorination (ERD)

Samples Received

27-Jul-11

Reported

7/27/11 to 8/12/11

NJDEP Certified Lab 11005

Precision testing for a cleaner environment.

Study: ERD
NZVI

Time point: T=3 days/ 72Hours

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T72 NZ-c1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62401.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	710	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	29	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	820	D
127-18-4	tetrachloroethene	1000	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T72 NZ C2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ C-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62402.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	770	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	32	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	880	D
127-18-4	tetrachloroethene	1100	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T72 NZ C3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ C-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62403.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	700	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	31	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	890	D
127-18-4	tetrachloroethene	1100	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T72 NZ 0.5-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ .5-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62404.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	750	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	30	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	490	D
127-18-4	tetrachloroethene	600	D
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T72 NZ 0.5-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ .5-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62405.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	730	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	34	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	620	D
127-18-4	tetrachloroethene	780	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T72 NZ 0.5-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ .5-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62406.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	640	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	30	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	640	D
127-18-4	tetrachloroethene	780	D
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T72 NZ 1.0-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ 1.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62407.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	680	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	30	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	510	D
127-18-4	tetrachloroethene	630	D
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T72 NZ 1.0-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ 1.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62408.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	680	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	31	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	520	D
127-18-4	tetrachloroethene	650	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T72 NZ 1.0-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ 1.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62409.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	540	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	28	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	440	D
127-18-4	tetrachloroethene	560	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T72 NZ 2.0-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62410.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	640	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	29	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	440	D
127-18-4	tetrachloroethene	530	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T72 NZ 2.0-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62410.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
75-25-2	bromoform	20	U
98-82-8	isopropyl benzene	20	U
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

T72 NZ 2.0-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62410.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T72 NZ 2.0-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ 2.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62411.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	680	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	32	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	480	D
127-18-4	tetrachloroethene	590	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T72 NZ 2.0-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T72 NZ 2.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62412.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	560	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	29	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	480	D
127-18-4	tetrachloroethene	610	D
108-90-7	chlorobenzene	20	U

Data Summaries

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62401.D Vial: 3
Acq On : 30 Jul 2011 6:39 pm Operator: A. Thomas
Sample : T72 NZ C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

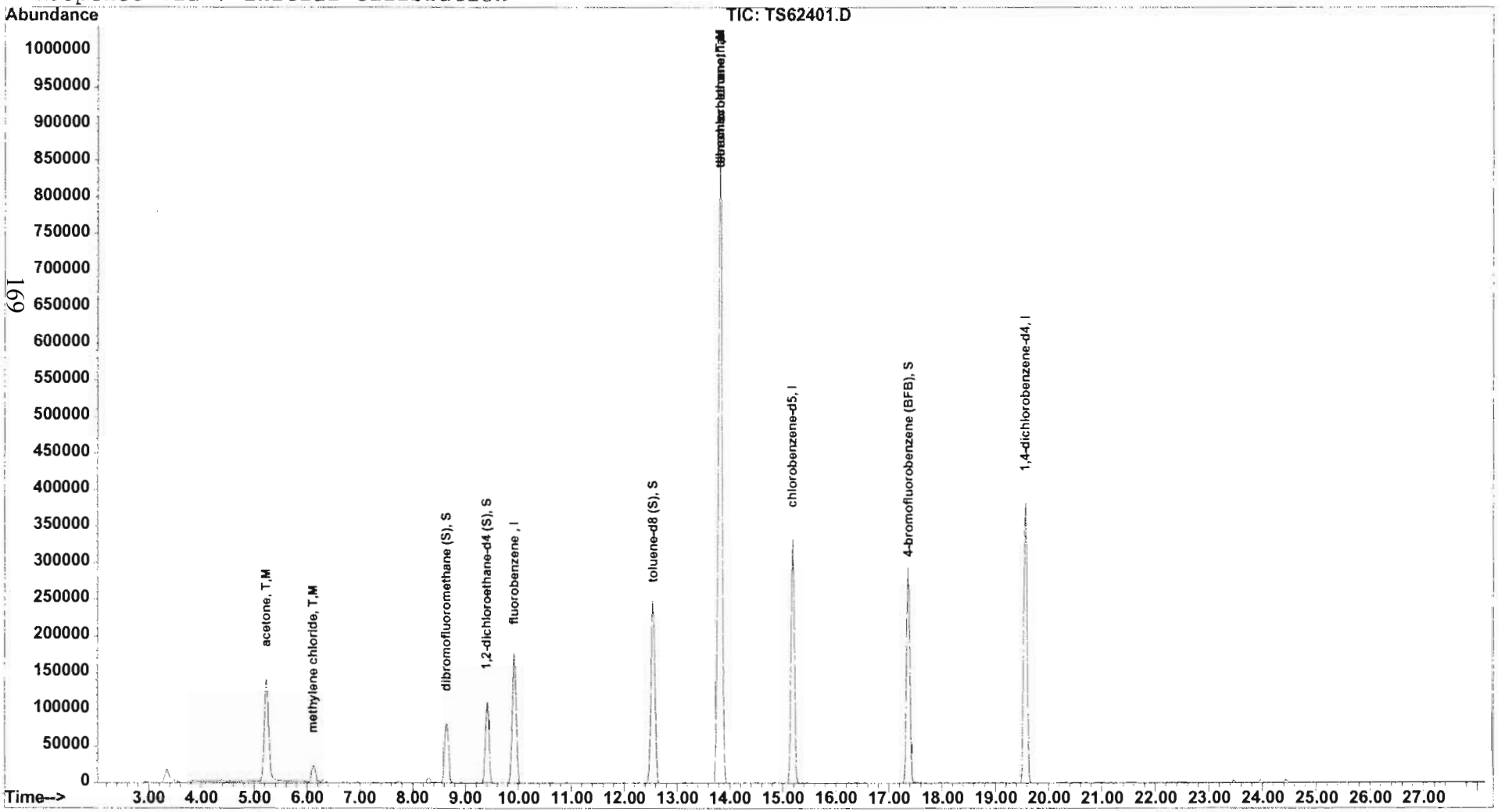
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3439638	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3902524	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.57	152	2361065	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1329645	32.84	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 109.47%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	279958	31.52	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.07%			
36) toluene-d8 (S)	12.55	98	4114414	31.09	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.63%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2490320	28.14	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.80%			
Target Compounds						Qvalue
14) acetone	5.24	58	1032631	70.93	ug/L	79
17) methylene chloride	6.13	84	232528	2.94	ug/L #	100
41) tetrachloroethene	13.83	166	6985844	103.08	ug/L #	100
42) dibromochloromethane	13.82	129	4864655	82.49	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62401.D Vial: 3
Acq On : 30 Jul 2011 6:39 pm Operator: A. Thomas
Sample : T72 NZ C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62402.D Vial: 4
Acq On : 30 Jul 2011 7:12 pm Operator: A. Thomas
Sample : T72 NZ C-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

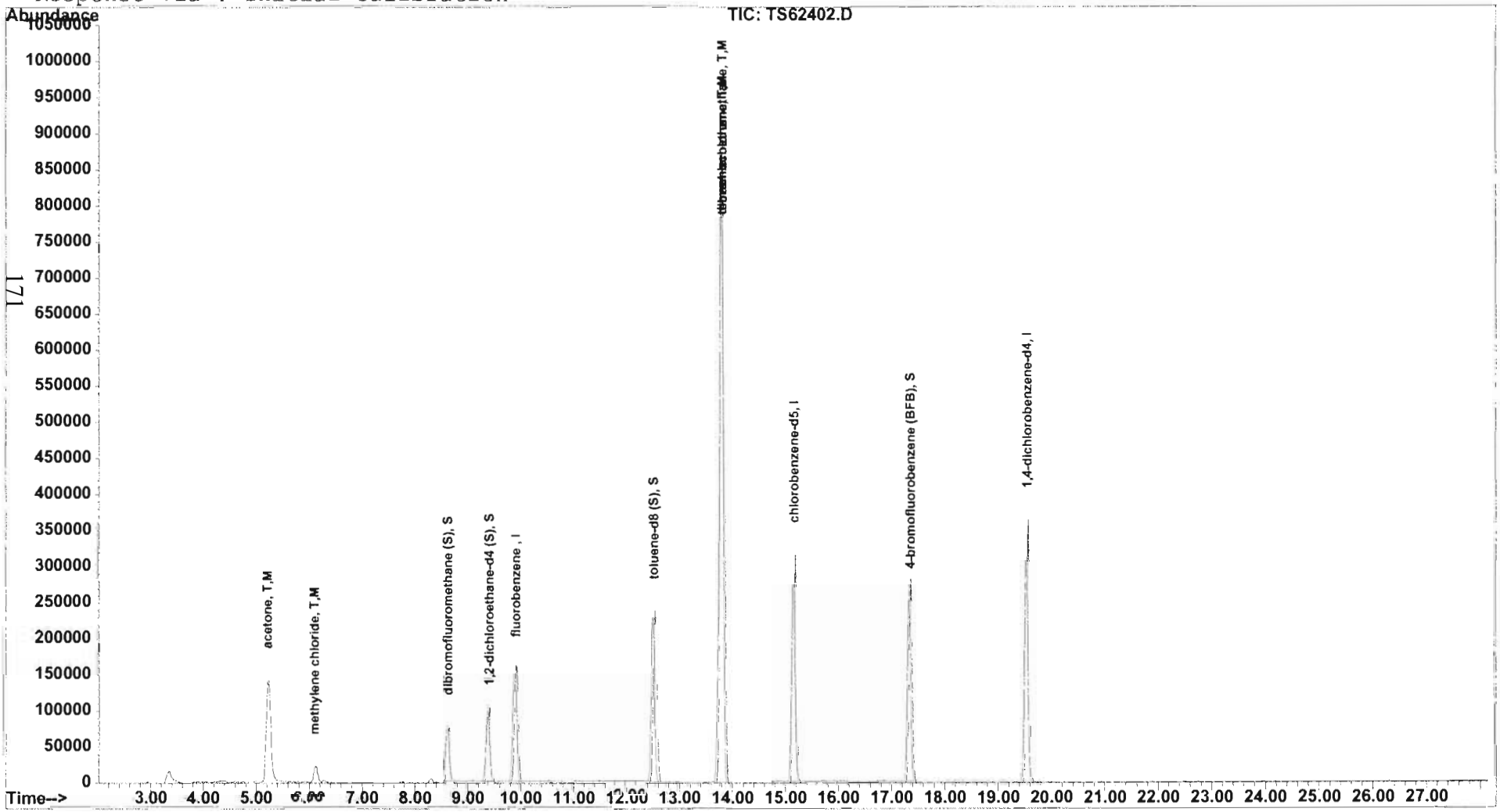
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3283854	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3685037	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.57	152	2225739	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1268172	32.81	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 109.37%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	274407	32.37	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.90%			
36) toluene-d8 (S)	12.55	98	3869517	30.63	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.10%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2398326	28.70	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.67%			
Target Compounds						Qvalue
14) acetone	5.23	58	1069045	76.92	ug/L	81
17) methylene chloride	6.12	84	244186	3.24	ug/L #	100
41) tetrachloroethene	13.82	166	7048075	108.93	ug/L #	76
42) dibromochloromethane	13.82	129	4945275	87.83	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62402.D Vial: 4
Acq On : 30 Jul 2011 7:12 pm Operator: A. Thomas
Sample : T72 NZ C-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62403.D Vial: 5
Acq On : 30 Jul 2011 7:45 pm Operator: A. Thomas
Sample : T72 NZ C-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

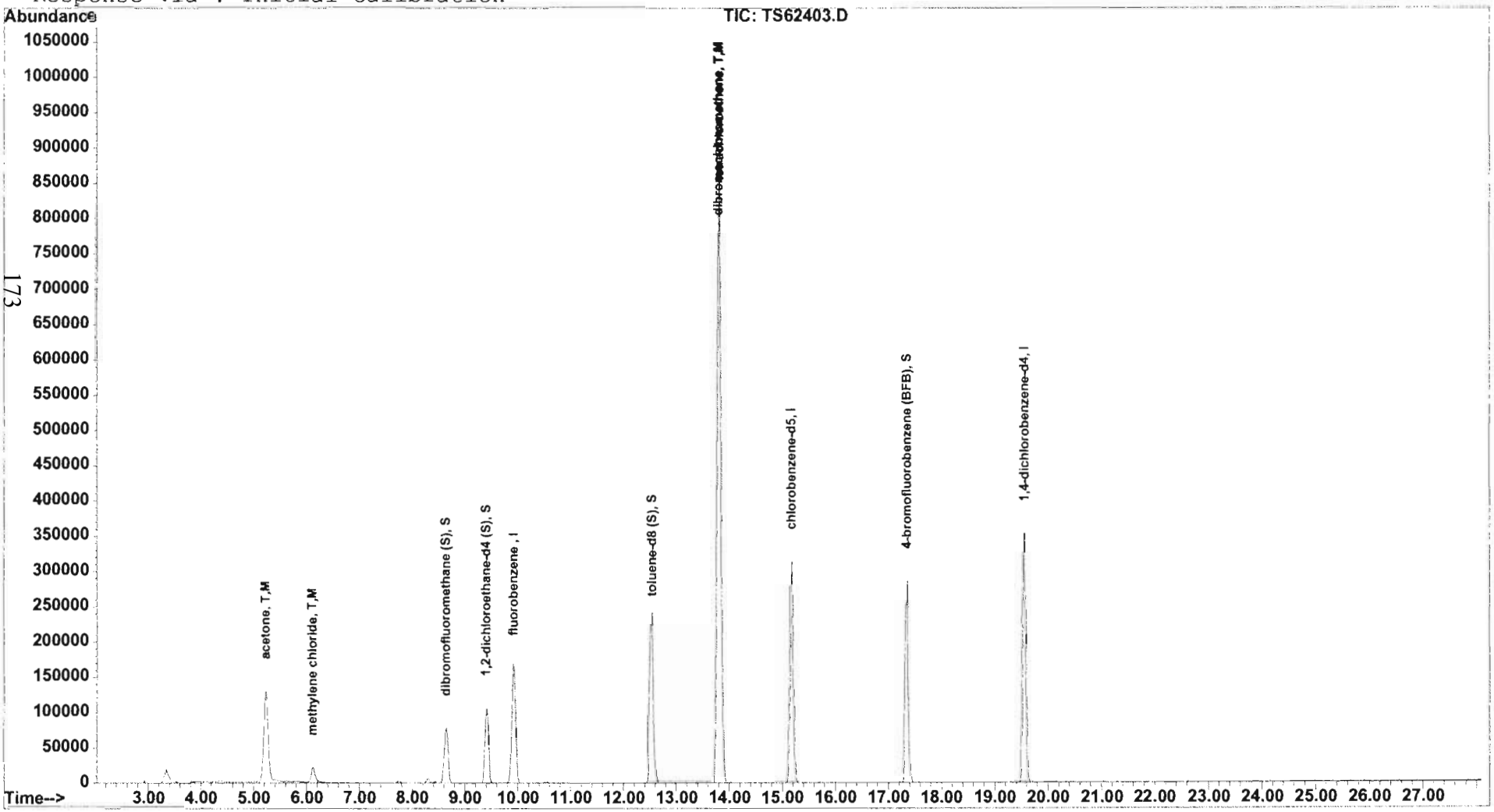
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3305928	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3736024	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.57	152	2163816	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1271212	32.66	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 108.87%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	256285	30.03	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.10%			
36) toluene-d8 (S)	12.55	98	3931735	30.91	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.03%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2346485	27.70	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.33%			
Target Compounds						Qvalue
14) acetone	5.24	58	972999	69.54	ug/L	79
17) methylene chloride	6.13	84	238006	3.13	ug/L #	100
41) tetrachloroethene	13.83	166	7188669	110.36	ug/L #	100
42) dibromochloromethane	13.82	129	5064067	89.34	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62403.D Vial: 5
Acq On : 30 Jul 2011 7:45 pm Operator: A. Thomas
Sample : T72 NZ C-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62404.D Vial: 6
Acq On : 30 Jul 2011 8:19 pm Operator: A. Thomas
Sample : T72 NZ .5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

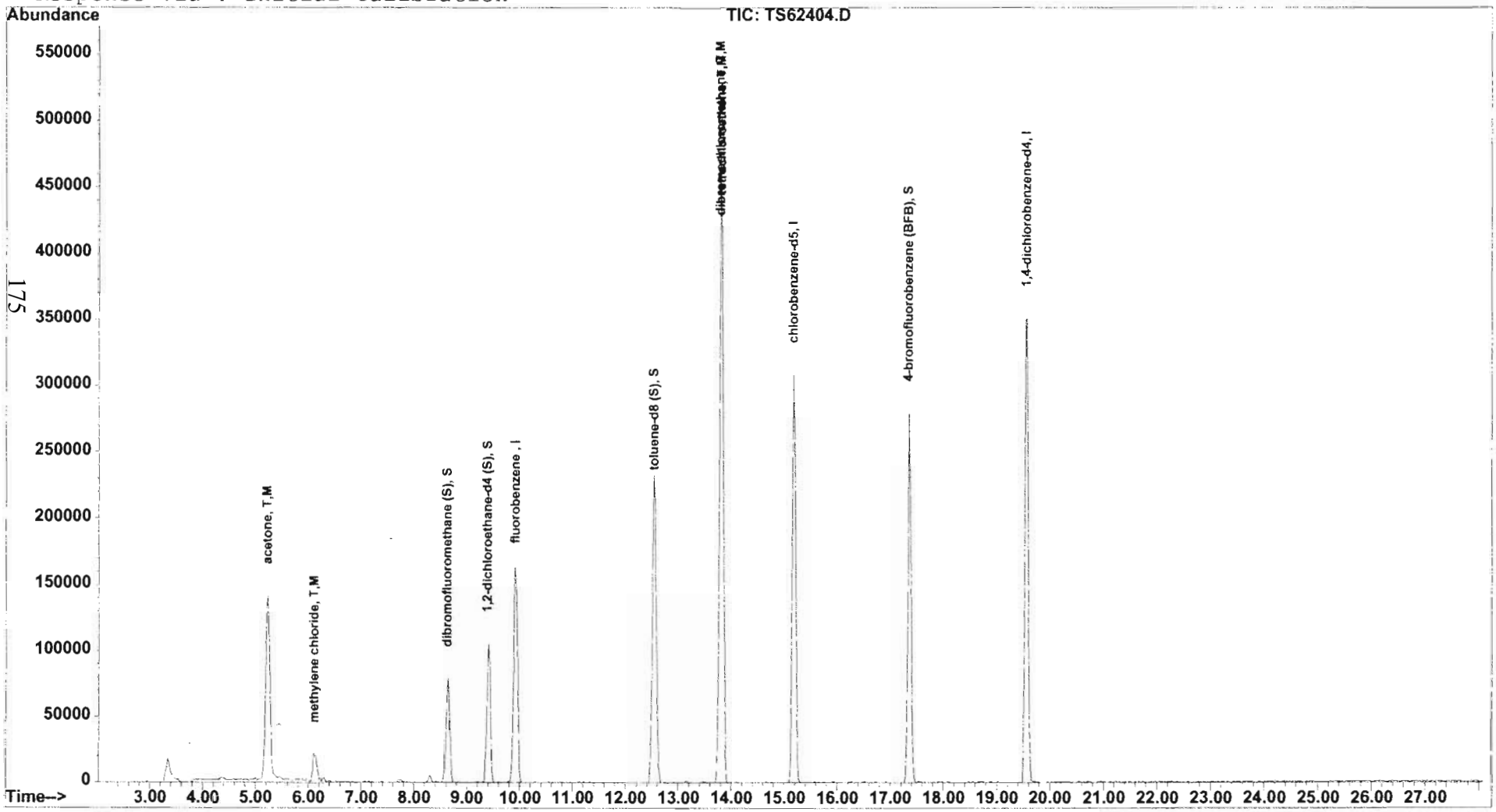
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3245237	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3695913	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.57	152	2198869	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1215450	31.82	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 106.07%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	264804	31.60	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.33%			
36) toluene-d8 (S)	12.55	98	3883484	31.10	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.67%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2351322	28.06	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.53%			
Target Compounds						Qvalue
14) acetone	5.24	58	1026804	74.76	ug/L	80
17) methylene chloride	6.13	84	225347	3.02	ug/L #	100
41) tetrachloroethene	13.82	166	3813961	59.65	ug/L #	76
42) dibromochloromethane	13.82	129	2718611	48.86	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62404.D Vial: 6
Acq On : 30 Jul 2011 8:19 pm Operator: A. Thomas
Sample : T72 NZ .5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62405.D Vial: 7
Acq On : 30 Jul 2011 8:52 pm Operator: A. Thomas
Sample : T72 NZ .5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

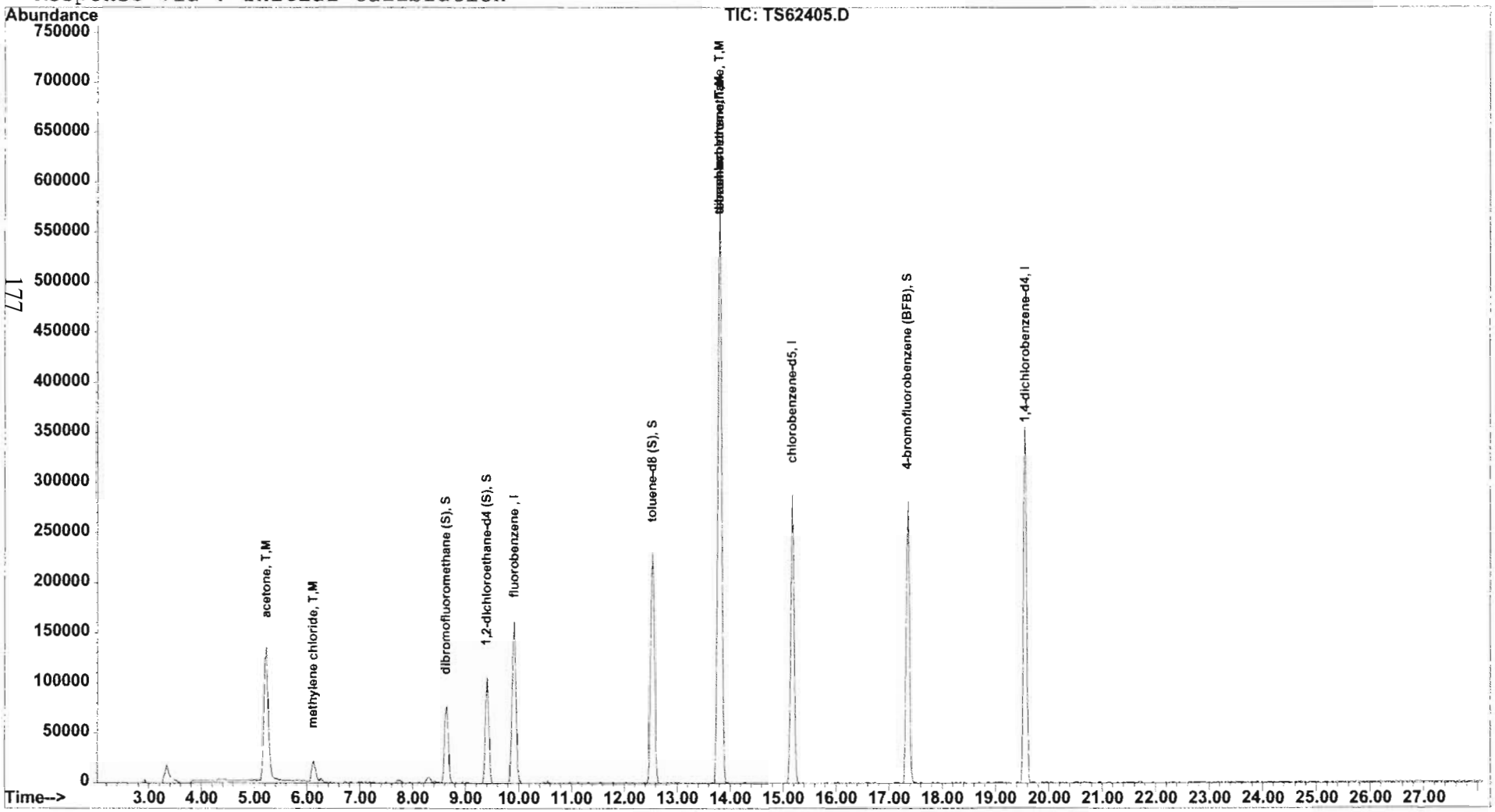
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3195477	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3548874	15.00	ug/L	-0.19
56) 1,4-dichlorobenzene-d4	19.57	152	2164617	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1210032	32.17	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.23%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	258856	31.38	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.60%			
36) toluene-d8 (S)	12.55	98	3725050	30.30	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.00%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2320765	28.84	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.13%			
Target Compounds						Qvalue
14) acetone	5.24	58	988295	73.07	ug/L	76
17) methylene chloride	6.13	84	246911	3.36	ug/L #	100
41) tetrachloroethene	13.82	166	4886804	77.61	ug/L #	76
42) dibromochloromethane	13.82	129	3419307	62.41	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62405.D Vial: 7
Acq On : 30 Jul 2011 8:52 pm Operator: A. Thomas
Sample : T72 NZ .5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62406.D Vial: 8
Acq On : 30 Jul 2011 9:25 pm Operator: A. Thomas
Sample : T72 NZ .5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

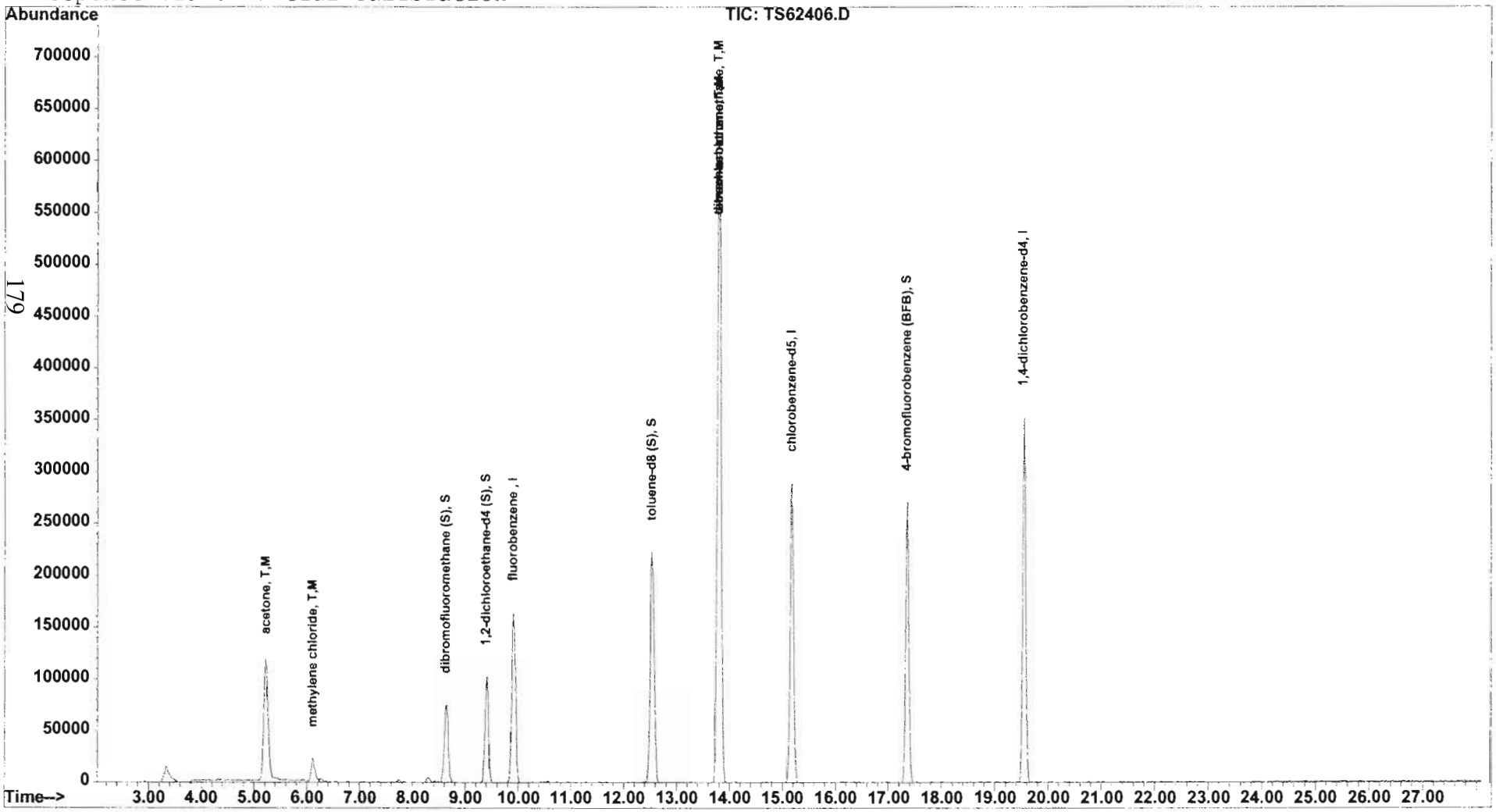
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3219434	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.19	117	3569062	15.00	ug/L	-0.19
56) 1,4-dichlorobenzene-d4	19.56	152	2088392	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1203683	31.76	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.87%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	257603	30.99	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.30%			
36) toluene-d8 (S)	12.55	98	3710499	29.96	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.87%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2218939	27.42	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.40%			
Target Compounds						Qvalue
14) acetone	5.23	58	869859	63.84	ug/L	77
17) methylene chloride	6.12	84	222131	3.00	ug/L #	100
41) tetrachloroethene	13.82	166	4925937	77.65	ug/L #	76
42) dibromochloromethane	13.81	129	3558135	64.46	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62406.D Vial: 8
Acq On : 30 Jul 2011 9:25 pm Operator: A. Thomas
Sample : T72 NZ .5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62407.D Vial: 9
Acq On : 30 Jul 2011 9:58 pm Operator: A. Thomas
Sample : T72 NZ 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

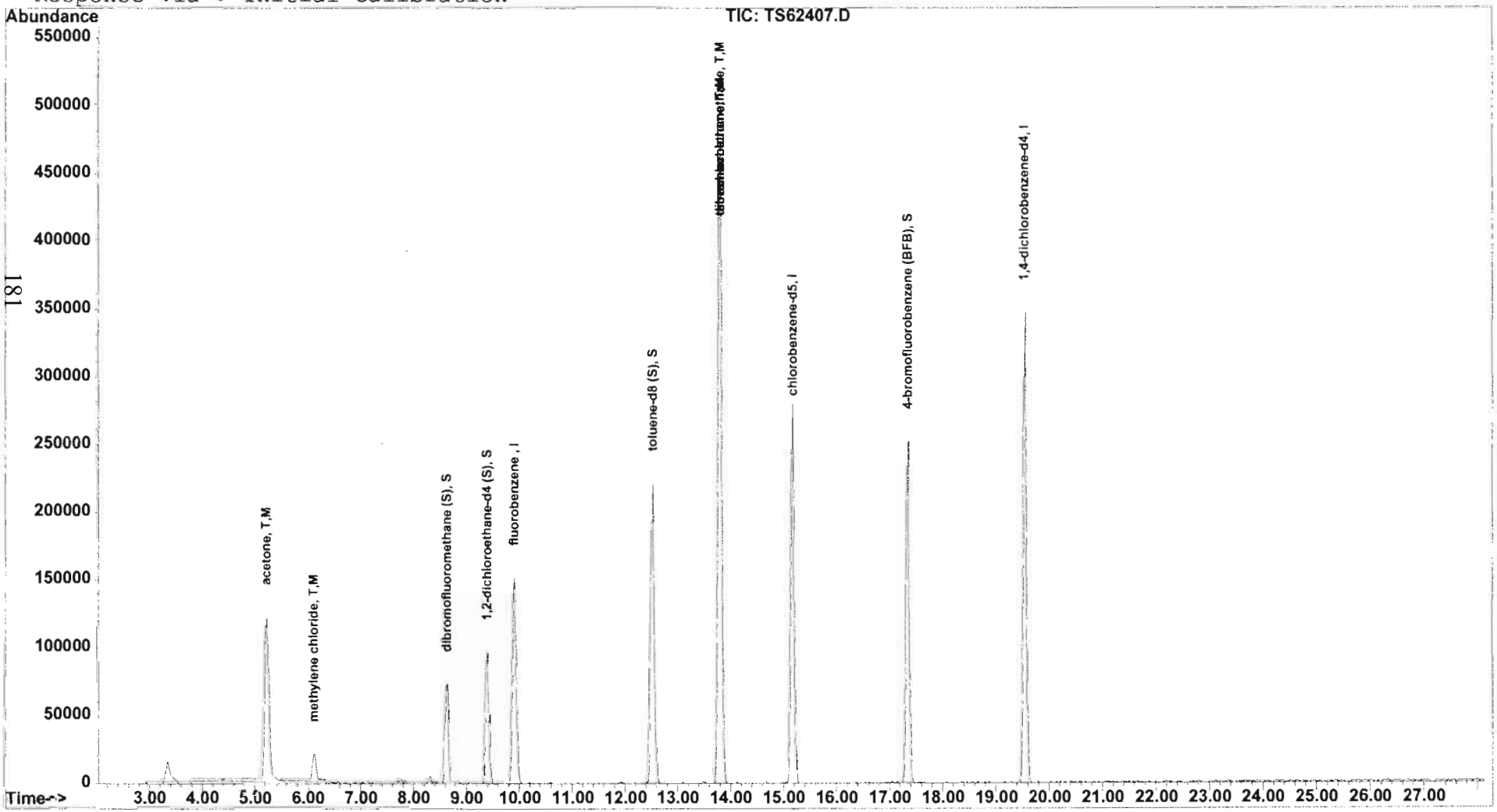
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3116855	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3419649	15.00	ug/L	-0.19
56) 1,4-dichlorobenzene-d4	19.56	152	2118858	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1142489	31.14	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.80%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	240234	29.85	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.50%			
36) toluene-d8 (S)	12.55	98	3656207	30.49	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.63%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2214946	28.57	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.23%			
Target Compounds						Qvalue
14) acetone	5.23	58	892870	67.68	ug/L	77
17) methylene chloride	6.12	84	215745	3.01	ug/L #	100
41) tetrachloroethene	13.81	166	3867764	62.98	ug/L #	76
42) dibromochloromethane	13.81	129	2715878	50.82	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62407.D Vial: 9
Acq On : 30 Jul 2011 9:58 pm Operator: A. Thomas
Sample : T72 NZ 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62408.D Vial: 10
Acq On : 30 Jul 2011 10:31 pm Operator: A. Thomas
Sample : T72 NZ 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

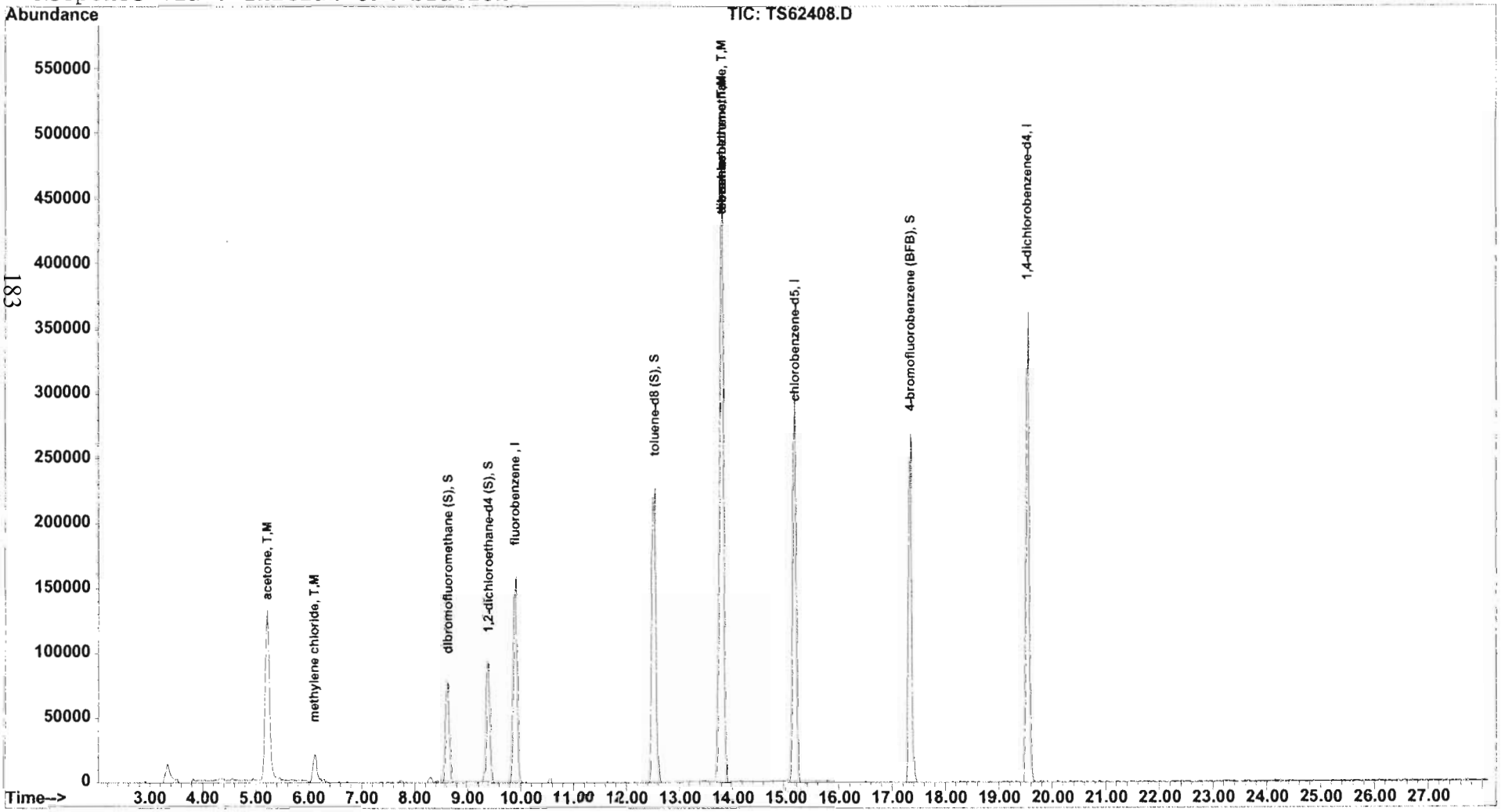
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3235709	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3622981	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.56	152	2206741	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1200789	31.52	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.07%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	233945	28.00	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.33%			
36) toluene-d8 (S)	12.54	98	3814437	30.64	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.13%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2264091	27.56	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.87%			
Target Compounds						Qvalue
14) acetone	5.23	58	925629	67.59	ug/L	68
17) methylene chloride	6.13	84	229997	3.09	ug/L #	100
41) tetrachloroethene	13.81	166	4137903	64.90	ug/L #	100
42) dibromochloromethane	13.81	129	2882101	51.95	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62408.D Vial: 10
Acq On : 30 Jul 2011 10:31 pm Operator: A. Thomas
Sample : T72 NZ 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



183

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62409.D Vial: 11
Acq On : 30 Jul 2011 11:04 pm Operator: A. Thomas
Sample : T72 NZ 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

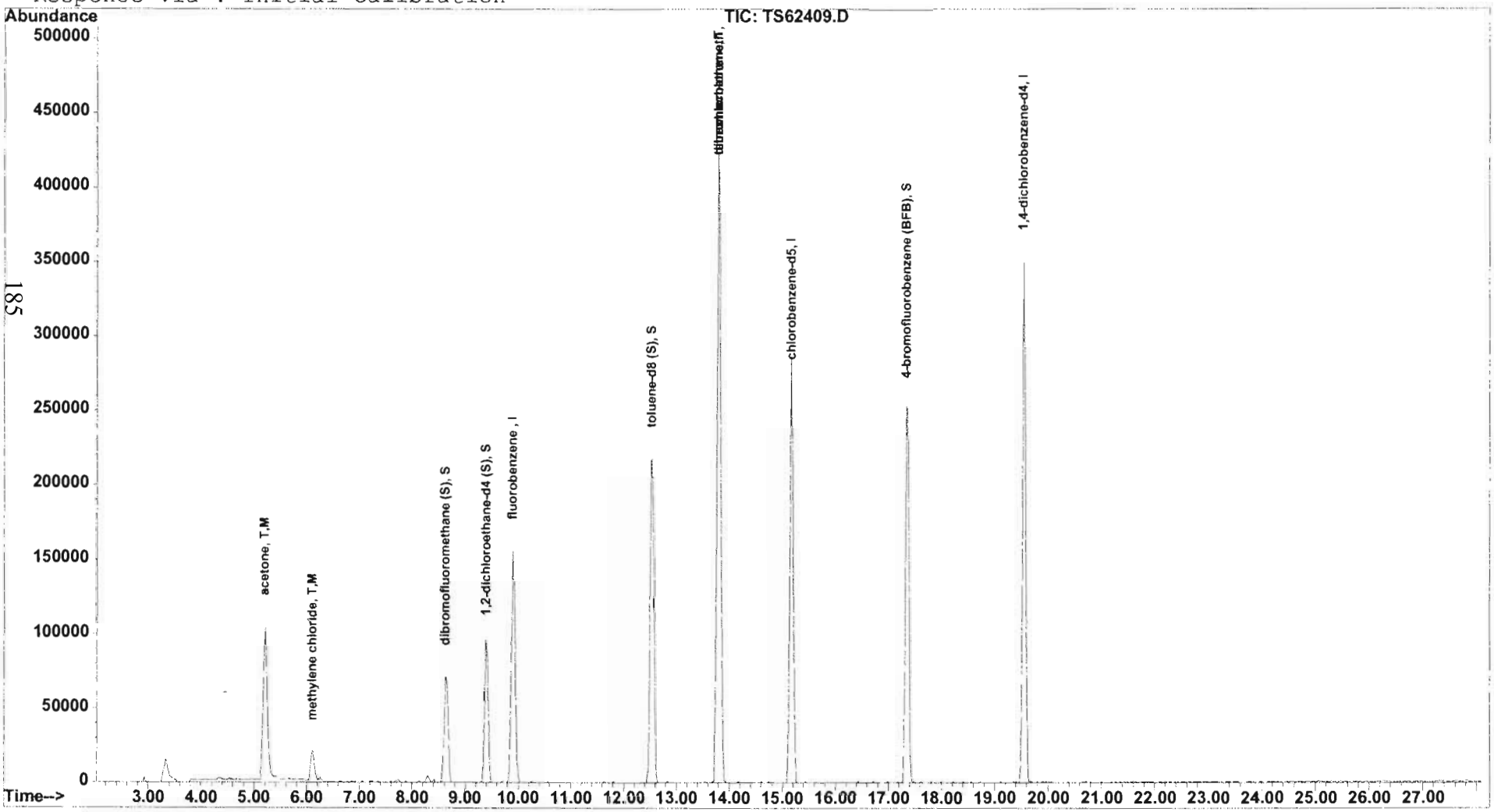
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3070896	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3467125	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.56	152	2097515	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1154399	31.93	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 106.43%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	237211	29.92	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.73%			
36) toluene-d8 (S)	12.54	98	3642596	30.83	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.77%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2207371	28.08	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.60%			
Target Compounds						Qvalue
14) acetone	5.22	58	708051	54.48	ug/L	67
17) methylene chloride	6.12	84	200521	2.84	ug/L #	100
41) tetrachloroethene	13.81	166	3401053	56.21	ug/L #	99
42) dibromochloromethane	13.81	129	2340430	44.45	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62409.D Vial: 11
Acq On : 30 Jul 2011 11:04 pm Operator: A. Thomas
Sample : T72 NZ 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



185

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62410.D Vial: 12
Acq On : 30 Jul 2011 11:37 pm Operator: A. Thomas
Sample : T72 NZ 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

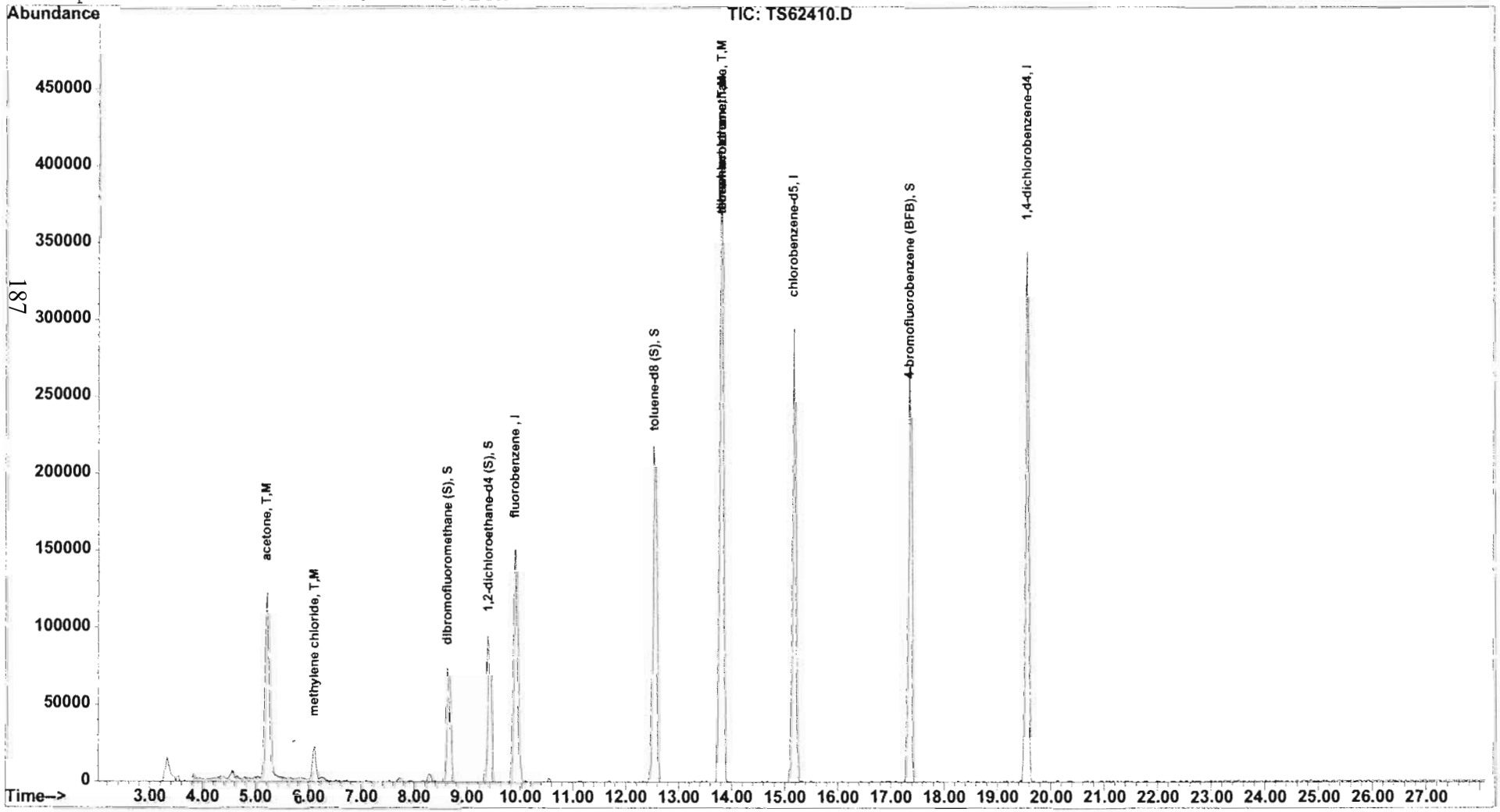
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3151359	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3500926	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.55	152	2171716	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1154945	31.13	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.77%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	238373	29.30	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.67%			
36) toluene-d8 (S)	12.54	98	3656311	30.16	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.53%			
53) 4-bromofluorobenzene (BFB)	17.35	95	2179775	27.46	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.53%			
Target Compounds						Qvalue
14) acetone	5.23	58	850029	63.73	ug/L	73
17) methylene chloride	6.12	84	212079	2.93	ug/L #	100
41) tetrachloroethene	13.81	166	3285587	52.91	ug/L #	76
42) dibromochloromethane	13.81	129	2359060	43.66	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62410.D Vial: 12
Acq On : 30 Jul 2011 11:37 pm Operator: A. Thomas
Sample : T72 NZ 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62411.D Vial: 13
Acq On : 31 Jul 2011 12:10 am Operator: A. Thomas
Sample : T72 NZ 2.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

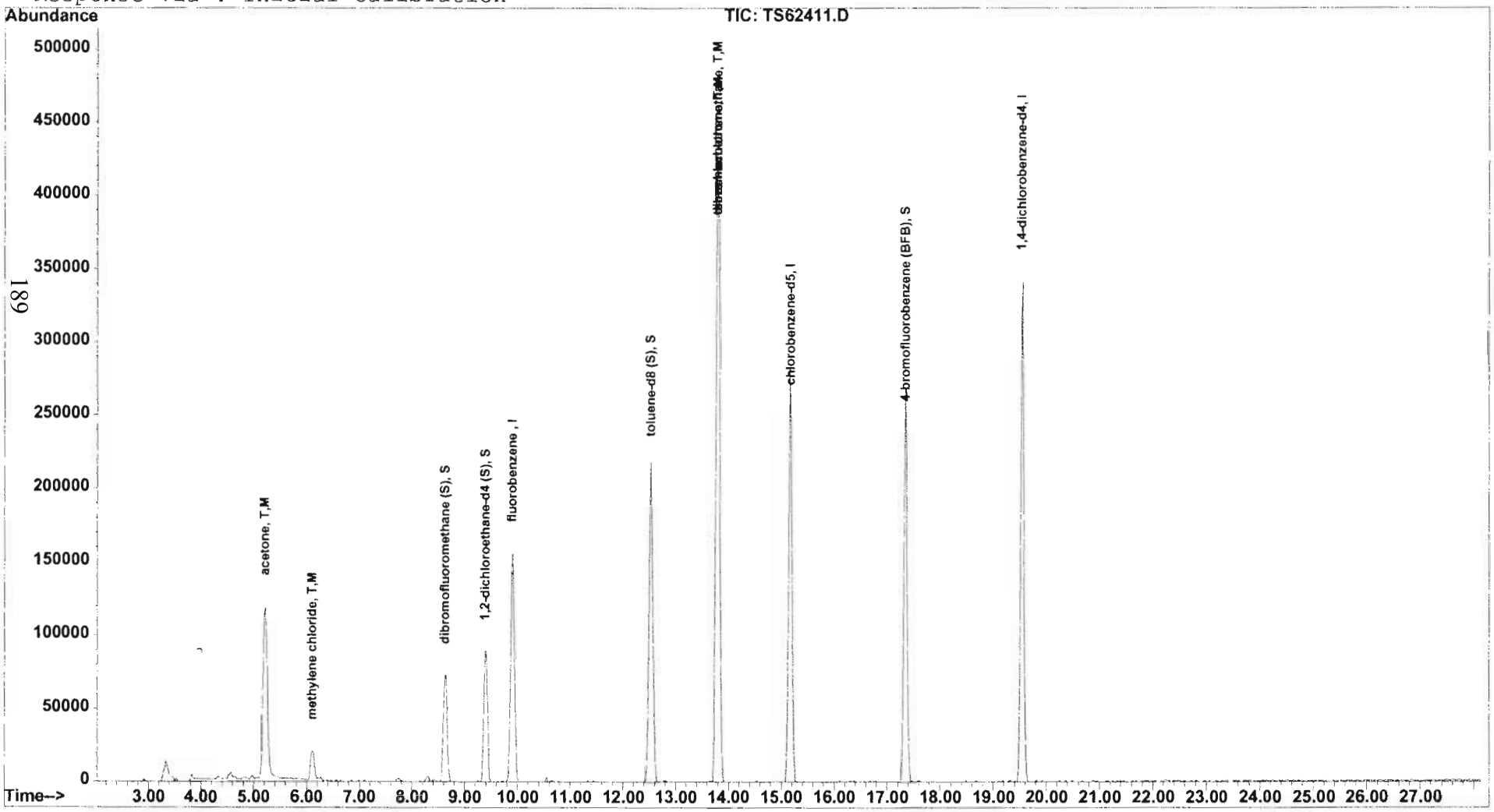
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3079770	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3426649	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.55	152	2139903	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1109360	30.60	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.00%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	257575	32.39	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.97%			
36) toluene-d8 (S)	12.54	98	3704101	31.26	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.20%			
53) 4-bromofluorobenzene (BFB)	17.35	95	2186112	28.14	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.80%			
Target Compounds						Qvalue
14) acetone	5.23	58	892456	68.47	ug/L	83
17) methylene chloride	6.13	84	226915	3.21	ug/L #	100
41) tetrachloroethene	13.81	166	3598634	59.30	ug/L #	76
42) dibromochloromethane	13.81	129	2518553	47.70	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62411.D Vial: 13
Acq On : 31 Jul 2011 12:10 am Operator: A. Thomas
Sample : T72 NZ 2.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62412.D Vial: 14
Acq On : 31 Jul 2011 12:43 am Operator: A. Thomas
Sample : T72 NZ 2.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

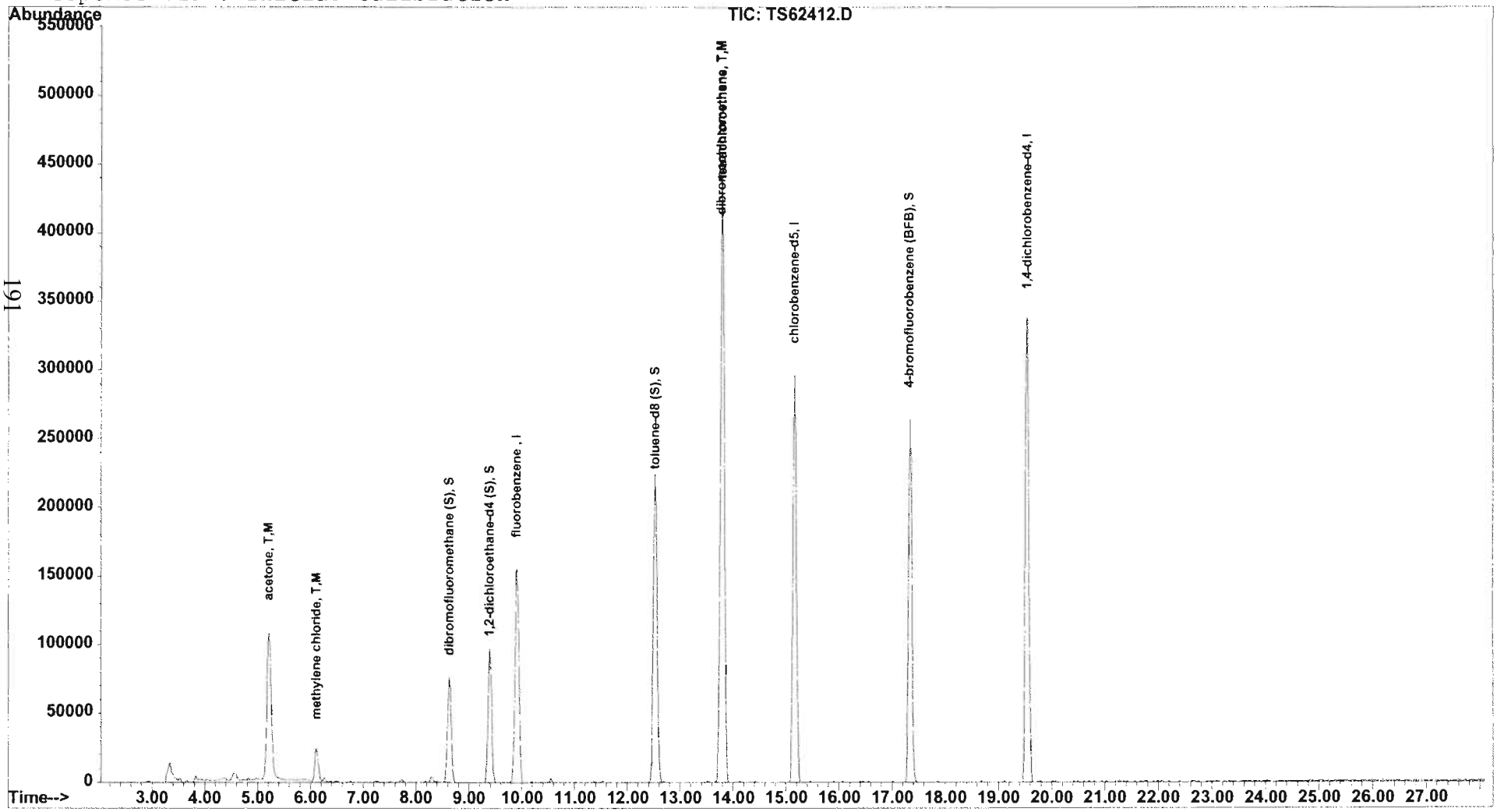
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	3140180	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.18	117	3590703	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.55	152	2189128	15.00	ug/L	-0.21
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1146137	31.01	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.37%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	236631	29.19	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.30%			
36) toluene-d8 (S)	12.54	98	3643057	30.15	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.50%			
53) 4-bromofluorobenzene (BFB)	17.35	95	2292281	28.16	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.87%			
Target Compounds						Qvalue
14) acetone	5.22	58	742907	55.90	ug/L	67
17) methylene chloride	6.12	84	207868	2.88	ug/L #	100
41) tetrachloroethene	13.81	166	3760310	60.77	ug/L #	76
42) dibromochloromethane	13.80	129	2605074	48.39	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62412.D Vial: 14
Acq On : 31 Jul 2011 12:43 am Operator: A. Thomas
Sample : T72 NZ 2.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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III-1 Raw Chromatograms

IV-1 Method Tunes

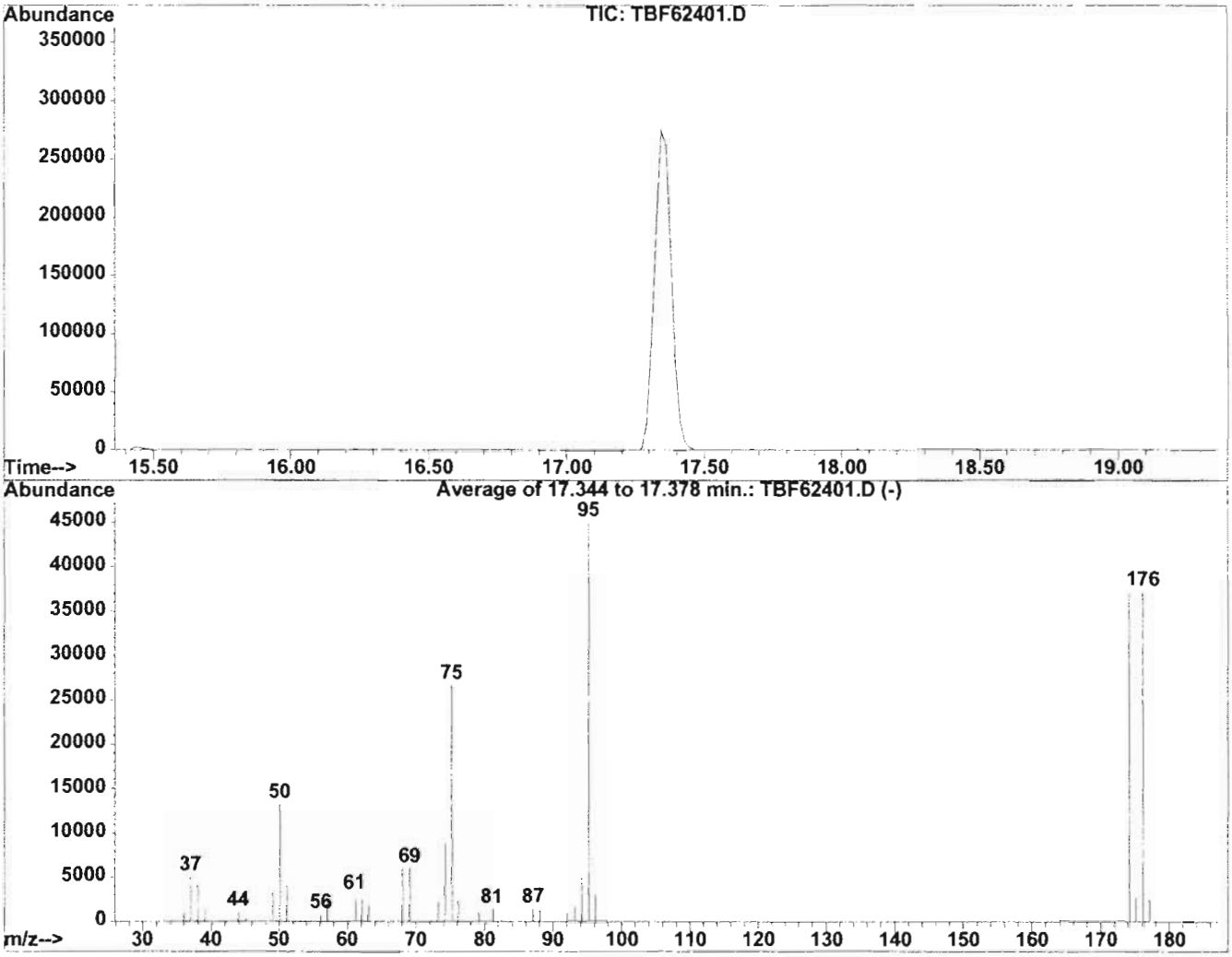
IV-2 Method Blanks

IV-3 Daily Calibration

IV-4 Laboratory Control Samples

BFB

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TBF62401.D Vial: 1
Acq On : 30 Jul 2011 4:26 pm Operator: A. Thomas
Sample : 50ng bfb 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA

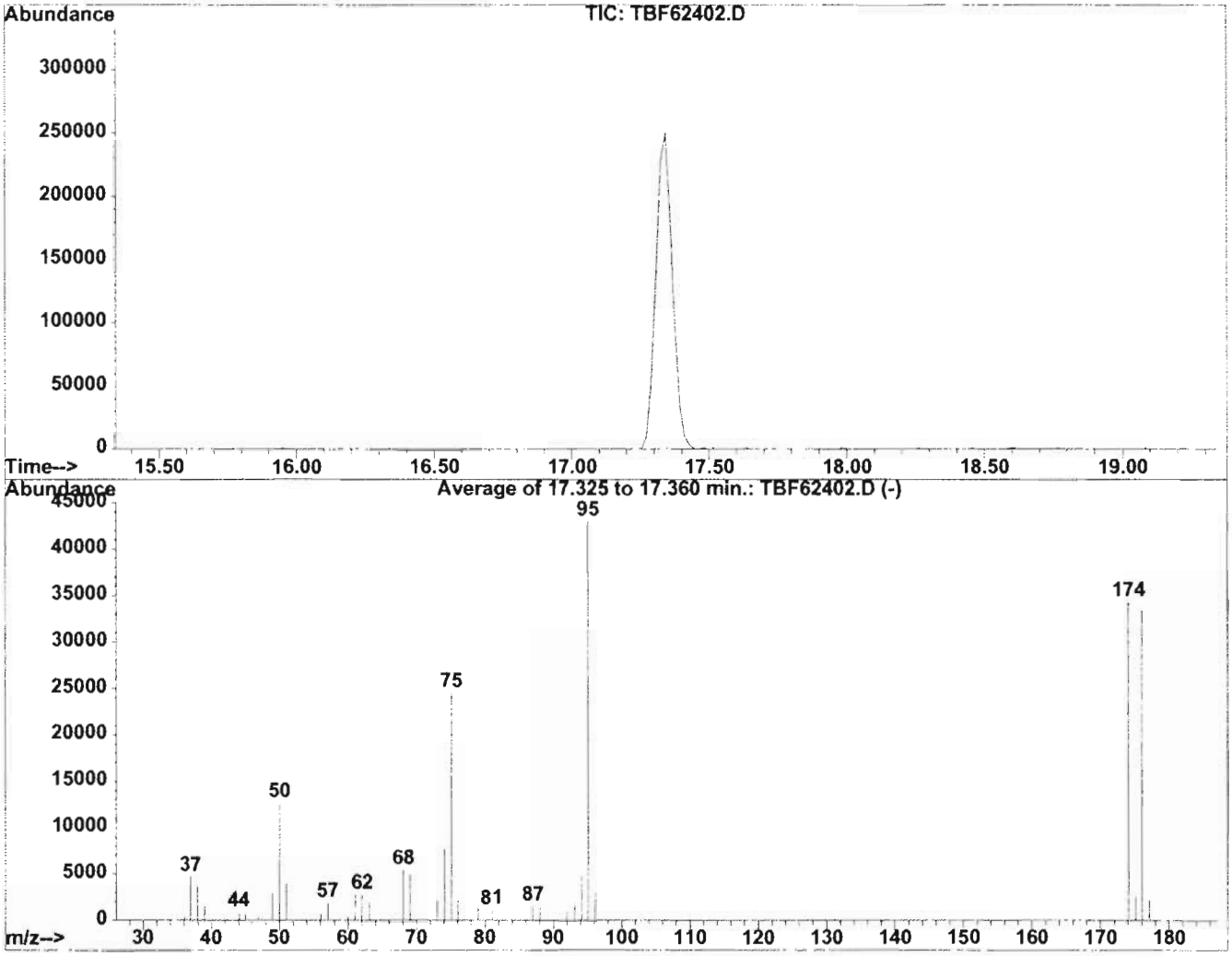


AutoFind: Scans 885, 886, 887; Background Corrected with Scan 878

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	29.5	13265	PASS
75	95	30	70	59.2	26672	PASS
95	95	100	100	100.0	45040	PASS
96	95	5	9	6.5	2923	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	82.0	36949	PASS
175	174	5	9	7.3	2696	PASS
176	174	95	101	100.7	37211	PASS
177	176	5	9	6.7	2491	PASS

BFB

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TBF62402.D Vial: 21
Acq On : 31 Jul 2011 4:34 am Operator: A. Thomas
Sample : 50ng bfb 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA



AutoFind: Scans 883, 884, 885; Background Corrected with Scan 877

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	29.4	12630	PASS
75	95	30	70	56.9	24501	PASS
95	95	100	100	100.0	43032	PASS
96	95	5	9	7.0	3024	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	79.7	34315	PASS
175	174	5	9	7.6	2597	PASS
176	174	95	101	97.2	33339	PASS
177	176	5	9	6.7	2234	PASS

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TBL62401.D Vial: 1
Acq On : 30 Jul 2011 4:59 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3276907	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3652707	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.56	152	2239079	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1213316	31.45	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.83%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	261256	30.88	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.93%			
36) toluene-d8 (S)	12.54	98	3892011	30.87	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.90%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2307132	27.86	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.87%			

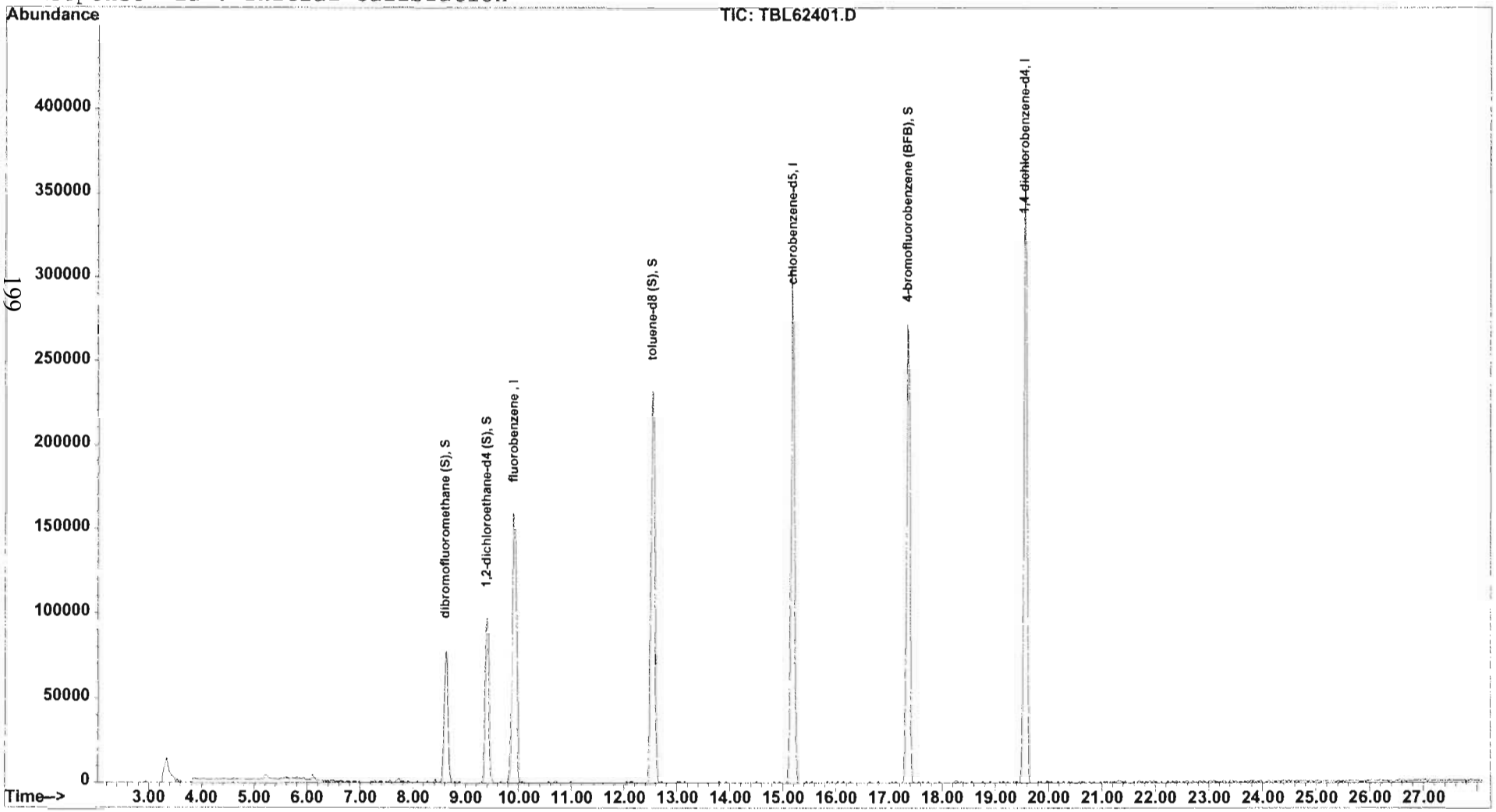
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TBL62401.D Vial: 1
Acq On : 30 Jul 2011 4:59 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62401.D Vial: 1
Acq On : 30 Jul 2011 5:32 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1 I	fluorobenzene	1.000	1.000	0.0	69	-0.19
3 T,M	chloromethane	0.312	0.195	37.5#	42#	-0.11
4 C,T,M	vinyl chloride	0.184	0.167	9.2	66	-0.13
5 T,M	bromomethane	0.144	0.070	51.4#	35#	-0.14
6 T,M	chloroethane	0.225	0.225	0.0	64	-0.14
7 t	112-Trichloro-122-Trifluoro	0.289	0.246	14.9	53	-0.17
8 t	Methyl Acetate	0.047	0.055	-17.0	73	-0.19
9 T,M	carbon disulfide	0.586	0.587	-0.2	61	-0.19
10 T,M	MTBE	0.785	0.862	-9.8	80	-0.16
11 t	1,4 Dioxane	0.028	0.030	-7.1	62	-0.17
12 T,M	tert-butyl alcohol	0.054	0.051	5.6	59	-0.17
13 T,M	MEK	0.044	0.031	29.5	45#	-0.17
14 T,M	acetone	0.049	0.234	-377.6#	359#	-0.16
15 T,M	trichlorofluoromethane	0.385	0.357	7.3	55	-0.16
16 C,T,M	1,1-dichloroethene	0.514	0.441	14.2	53	-0.17
17 T,M	methylene chloride	0.345	0.341	1.2	66	-0.17
18 T,M	trans-1,2-dichloroethene	0.525	0.508	3.2	63	-0.18
19 T,M	1,1-dichloroethane	0.651	0.638	2.0	62	-0.19
20 C,T,M	chloroform	0.380	0.424	-11.6	72	-0.19
21 S	dibromofluoromethane (S)	0.177	0.201	-13.6	78	-0.19
22 T,M	bromochloromethane	0.149	0.145	2.7	58	-0.19
23 t	Cyclohexane	0.417	0.369	11.5	53	-0.19
24 T,M	1,1,1-trichloroethane	0.440	0.500	-13.6	70	-0.20
25 T,M	carbon tetrachloride	0.326	0.375	-15.0	69	-0.19
26 S	1,2-dichloroethane-d4 (S)	0.039	0.039	0.0	65	-0.19
27 T,M	1,2-dichloroethane	0.545	0.647	-18.7	78	-0.19
28 T,M	benzene	1.096	1.030	6.0	59	-0.19
29 T,M	trichloroethene	0.285	0.296	-3.9	61	-0.19
30 t	Methyl Cyclohexane	0.479	0.469	2.1	60	-0.18
31 C,T,M	1,2-dichloropropane	0.325	0.325	0.0	64	-0.19
32 T,M	MIBK	0.036	0.033	8.3	61	-0.18
33 T,M	cis-1,2-dichloroethene	0.532	0.530	0.4	64	-0.19
34 T,M	bromodichloromethane	0.353	0.392	-11.0	68	-0.19
35 T,M	cis-1,3-dichloropropene	0.426	0.425	0.2	61	-0.19
36 S	toluene-d8 (S)	0.577	0.592	-2.6	68	-0.19
37 C,T,M	toluene	1.119	1.073	4.1	55	-0.19
38 T,M	trans-1,3-dichloropropene	0.447	0.382	14.5	55	-0.06
39 T,M	2-hexanone	0.130	0.116	10.8	68	-0.18
40 T,M	1,1,2-trichloroethane	0.210	0.232	-10.5	70	-0.19
41 T,M	tetrachloroethene	0.296	0.349	-17.9	68	-0.19
42 T,M	dibromochloromethane	0.218	0.240	-10.1	63	-0.19
43 T,M	1,2-dibromoethane	0.253	0.283	-11.9	69	-0.19
44 I	chlorobenzene-d5	1.000	1.000	0.0	64	-0.19
45 M,T	chlorobenzene	0.554	0.596	-7.6	65	-0.19

46	C,T,M	ethyl benzene	1.066	1.143	-7.2	64	-0.19
47	T,M	m/p-xylene	0.929	0.977	-5.2	56	-0.19
48	T,M	o-xylene	0.874	0.956	-9.4	65	-0.19
49	T,M	styrene	0.528	0.563	-6.6	64	-0.19
50	T,M	isopropyl benzene	0.953	1.055	-10.7	66	-0.18
51	T,M	bromoform	0.123	0.105	14.6	54	-0.19
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.278	-1.5	65	-0.19
53	S	4-bromofluorobenzene (BFB)	0.340	0.324	4.7	61	-0.19
54	T,M	1,3-dichlorobenzene	0.404	0.433	-7.2	63	-0.19
55	T,M	1,2-dichlorobenzene	0.383	0.450	-17.5	71	-0.20
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	58	-0.19
57	T,M	1,4-dichlorobenzene	0.639	0.782	-22.4	71	-0.20
58	T,M	1,2-dibromo-3-chloropropane	0.069	0.059	14.5	65	-0.19
59	T,M	1,2,4-trichlorobenzene	0.387	0.445	-15.0	64	-0.20
60	T,M	Napthalene	0.822	0.845	-2.8	65	-0.20
61	T,M	1,2,3-trichlorobenzene	0.343	0.408	-19.0	69	-0.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 11:58:33 2012 GCMS2

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62402.D Vial: 21
Acq On : 31 Jul 2011 5:07 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1	I	fluorobenzene	1.000	1.000	0.0	62	-0.21
3	T,M	chloromethane	0.312	0.172	44.9#	33#	-0.12
4	C,T,M	vinyl chloride	0.184	0.162	12.0	58	-0.13
5	T,M	bromomethane	0.144	0.064	55.6#	29#	-0.15
6	T,M	chloroethane	0.225	0.185	17.8	47#	-0.16
7	t	112-Trichloro-122-Trifluoro	0.289	0.244	15.6	48#	-0.16
8	t	Methyl Acetate	0.047	0.043	8.5	52	-0.19
9	T,M	carbon disulfide	0.586	0.281	52.0#	26#	-0.18
10	T,M	MTBE	0.785	0.758	3.4	63	-0.17
11	t	1,4 Dioxane	0.028	0.029	-3.6	54	-0.18
12	T,M	tert-butyl alcohol	0.054	0.037	31.5#	38#	-0.19
13	T,M	MEK	0.044	0.026	40.9#	33#	-0.21
14	T,M	acetone	0.049	0.248	-406.1#	341#	-0.17
15	T,M	trichlorofluoromethane	0.385	0.353	8.3	49#	-0.16
16	C,T,M	1,1-dichloroethene	0.514	0.452	12.1	49#	-0.17
17	T,M	methylene chloride	0.345	0.343	0.6	60	-0.18
18	T,M	trans-1,2-dichloroethene	0.525	0.493	6.1	55	-0.19
19	T,M	1,1-dichloroethane	0.651	0.622	4.5	55	-0.19
20	C,T,M	chloroform	0.380	0.424	-11.6	65	-0.20
21	S	dibromofluoromethane (S)	0.177	0.197	-11.3	69	-0.20
22	T,M	bromochloromethane	0.149	0.147	1.3	53	-0.20
23	t	Cyclohexane	0.417	0.368	11.8	48#	-0.20
24	T,M	1,1,1-trichloroethane	0.440	0.491	-11.6	62	-0.21
25	T,M	carbon tetrachloride	0.326	0.365	-12.0	60	-0.21
26	S	1,2-dichloroethane-d4 (S)	0.039	0.039	0.0	60	-0.20
27	T,M	1,2-dichloroethane	0.545	0.624	-14.5	68	-0.20
28	T,M	benzene	1.096	1.022	6.8	52	-0.20
29	T,M	trichloroethene	0.285	0.298	-4.6	55	-0.20
30	t	Methyl Cyclohexane	0.479	0.439	8.4	50	-0.20
31	C,T,M	1,2-dichloropropane	0.325	0.323	0.6	58	-0.20
32	T,M	MIBK	0.036	0.026	27.8	42#	-0.21
33	T,M	cis-1,2-dichloroethene	0.532	0.525	1.3	57	-0.20
34	T,M	bromodichloromethane	0.353	0.375	-6.2	58	-0.20
35	T,M	cis-1,3-dichloropropene	0.426	0.389	8.7	50	-0.20
36	S	toluene-d8 (S)	0.577	0.585	-1.4	61	-0.21
37	C,T,M	toluene	1.119	1.060	5.3	49#	-0.21
38	T,M	trans-1,3-dichloropropene	0.447	0.341	23.7	44#	-0.08
39	T,M	2-hexanone	0.130	0.115	11.5	60	-0.20
40	T,M	1,1,2-trichloroethane	0.210	0.221	-5.2	60	-0.21
41	T,M	tetrachloroethene	0.296	0.357	-20.6	62	-0.21
42	T,M	dibromochloromethane	0.218	0.229	-5.0	54	-0.21
43	T,M	1,2-dibromoethane	0.253	0.258	-2.0	56	-0.21
44	I	chlorobenzene-d5	1.000	1.000	0.0	57	-0.21
45	M,T	chlorobenzene	0.554	0.587	-6.0	58	-0.21

46	C,T,M	ethyl benzene	1.066	1.147	-7.6	58	-0.21
47	T,M	m/p-xylene	0.929	0.970	-4.4	50	-0.21
48	T,M	o-xylene	0.874	0.965	-10.4	59	-0.21
49	T,M	styrene	0.528	0.565	-7.0	57	-0.21
50	T,M	isopropyl benzene	0.953	1.062	-11.4	60	-0.21
51	T,M	bromoform	0.123	0.098	20.3	45#	-0.22
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.249	9.1	52	-0.21
53	S	4-bromofluorobenzene (BFB)	0.340	0.328	3.5	56	-0.21
54	T,M	1,3-dichlorobenzene	0.404	0.387	4.2	51	-0.22
55	T,M	1,2-dichlorobenzene	0.383	0.445	-16.2	63	-0.22
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	55	-0.21
57	T,M	1,4-dichlorobenzene	0.639	0.746	-16.7	64	-0.22
59	T,M	1,2,4-trichlorobenzene	0.387	0.426	-10.1	58	-0.22
60	T,M	Napthalene	0.822	0.644	21.7	47#	-0.22
61	T,M	1,2,3-trichlorobenzene	0.343	0.369	-7.6	60	-0.22

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 12:00:32 2012 GCMS2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62401.D Vial: 1
Acq On : 30 Jul 2011 5:32 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:58 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3354883	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.19	117	3784841	15.00	ug/L	-0.19
56) 1,4-dichlorobenzene-d4	19.57	152	2298522	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1348598	34.15	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 113.83%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	259394	29.95	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.83%			
36) toluene-d8 (S)	12.55	98	3972052	30.77	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.57%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2453872	28.60	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.33%			
Target Compounds						Qvalue
3) chloromethane	3.47	50	870465m	12.46	ug/L	
4) vinyl chloride	3.61	62	746445m	18.12	ug/L	
5) bromomethane	4.21	96	312995m	9.74	ug/L	
6) chloroethane	4.28	64	1007084m	20.04	ug/L	
7) 112-Trichloro-122-Trifluor	5.17	101	1098628	16.97	ug/l	96
8) Methyl Acetate	5.83	74	244756m	19.40	ug/l	
9) carbon disulfide	6.23	76	2625778m	20.04	ug/L	
10) MTBE	6.29	73	3857778	21.99	ug/L	96
11) 1,4 Dioxane	6.13	88	133489	18.96	ug/l #	100
12) tert-butyl alcohol	5.50	59	1142123m	95.33	ug/l	
13) MEK	7.72	72	140181m	14.29	ug/L	
14) acetone	5.23	58	1048746	73.86	ug/L	70
15) trichlorofluoromethane	4.61	101	1595180	18.54	ug/L	95
16) 1,1-dichloroethene	5.45	61	1971459	17.14	ug/L #	100
17) methylene chloride	6.13	84	1523288	19.77	ug/L #	100
18) trans-1,2-dichloroethene	6.54	61	2271919	19.33	ug/L #	100
19) 1,1-dichloroethane	7.15	63	2855516	19.60	ug/L #	100
20) chloroform	8.30	85	1896743	22.33	ug/L	99
22) bromochloromethane	8.58	128	650257	19.54	ug/L	85
23) Cyclohexane	8.98	84	1649663	17.70	ug/l	86
24) 1,1,1-trichloroethane	8.93	97	2238343	22.76	ug/L #	100
25) carbon tetrachloride	9.35	117	1675253	21.40	ug/L #	50
27) 1,2-dichloroethane	9.56	62	2894473	23.74	ug/L #	81
28) benzene	9.61	78	4608828	18.80	ug/L #	89
29) trichloroethene	10.57	130	1324076	20.78	ug/L #	100
30) Methyl Cyclohexane	10.69	83	2099606	19.58	ug/l	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62401.D Vial: 1
Acq On : 30 Jul 2011 5:32 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:58 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

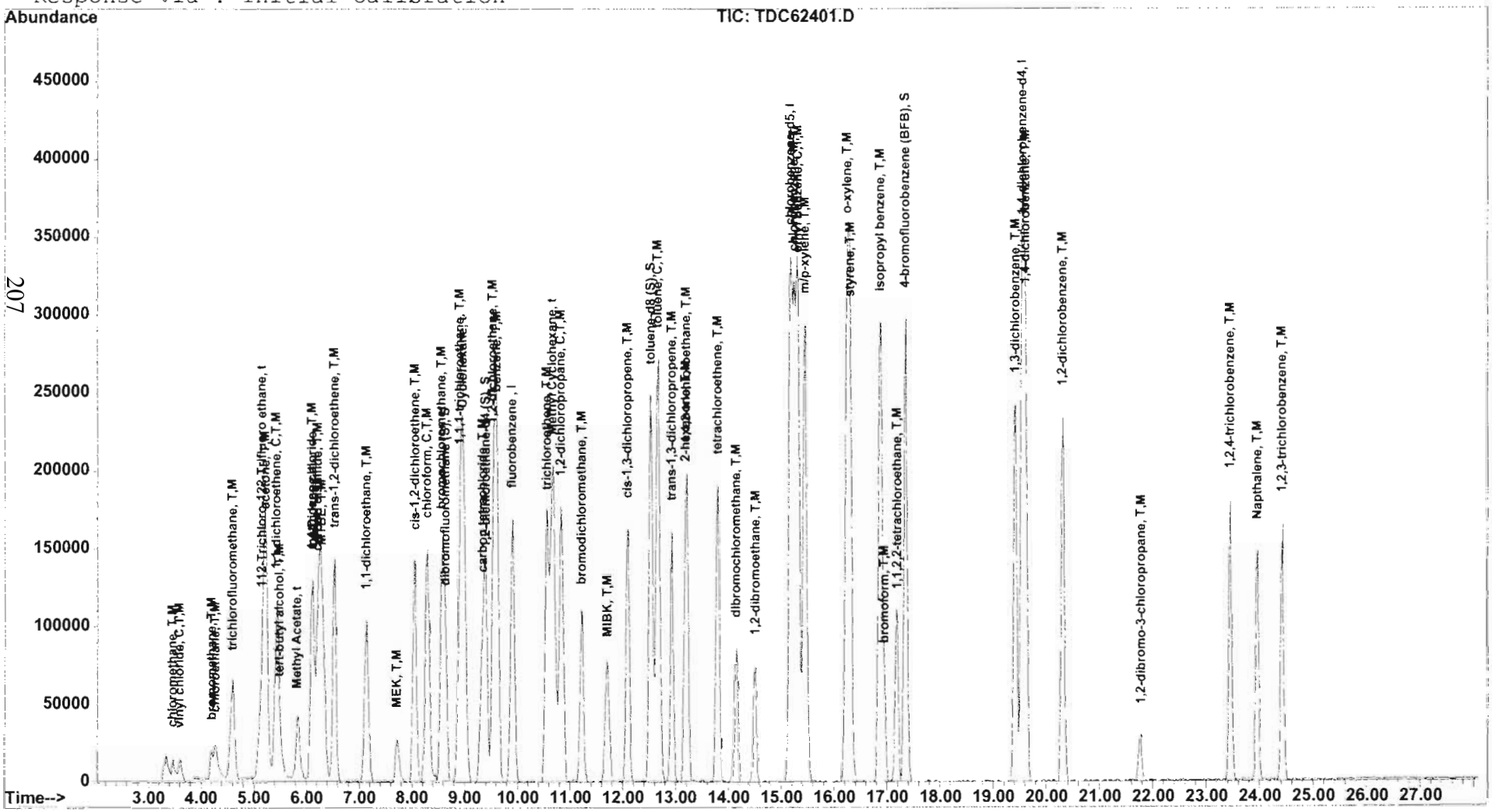
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
31)	1,2-dichloropropane	10.84	63	1453479	19.99 ug/L	#	86
32)	MIBK	11.72	100	149454	16.77 ug/L		52
33)	cis-1,2-dichloroethene	8.07	61	2370654	19.92 ug/L		96
34)	bromodichloromethane	11.24	83	1751288	19.89 ug/L	#	99
35)	cis-1,3-dichloropropene	12.11	75	1901199	18.44 ug/L	#	93
37)	toluene	12.68	91	4800407	19.18 ug/L	#	75
38)	trans-1,3-dichloropropene	12.95	75	1708350	17.09 ug/L		100
39)	2-hexanone	13.20	58	519036	17.80 ug/L	#	96
40)	1,1,2-trichloroethane	13.23	83	1039924	22.10 ug/L	#	45
41)	tetrachloroethene	13.82	166	1561251	23.62 ug/L	#	99
42)	dibromochloromethane	14.17	129	1072197	18.64 ug/L	#	61
43)	1,2-dibromoethane	14.53	107	1266922	22.43 ug/L	#	98
45)	chlorobenzene	15.26	112	3006571	21.51 ug/L	#	100
46)	ethyl benzene	15.33	91	5767513	21.44 ug/L	#	100
47)	m/p-xylene	15.46	91	4930128	21.04 ug/L	#	100
48)	o-xylene	16.25	91	4823743	21.88 ug/L	#	81
49)	styrene	16.32	104	2843106	21.34 ug/L		86
50)	isopropyl benzene	16.89	105	5324816	22.15 ug/L		99
51)	bromoform	16.97	173	527744	12.91 ug/L		98
52)	1,1,2,2-tetrachloroethane	17.20	83	1404019	17.26 ug/L	#	100
54)	1,3-dichlorobenzene	19.43	146	2187249	21.43 ug/L	#	100
55)	1,2-dichlorobenzene	20.32	146	2268983m	23.50 ug/L		
57)	1,4-dichlorobenzene	19.62	146	2396600m	24.46 ug/L		
58)	1,2-dibromo-3-chloropropan	21.79	75	181080	11.52 ug/L		82
59)	1,2,4-trichlorobenzene	23.47	180	1363082	22.98 ug/L		98
60)	Napthalene	23.97	128	2590154	20.57 ug/L		100
61)	1,2,3-trichlorobenzene	24.44	180	1250664	23.80 ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62401.D Vial: 1
Acq On : 30 Jul 2011 5:32 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:58 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62402.D Vial: 21
Acq On : 31 Jul 2011 5:07 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:00 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.90	96	3014786	15.00	ug/l	-0.21
44) chlorobenzene-d5	15.17	117	3399919	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.54	152	2186121	15.00	ug/L	-0.21
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1187466	33.46	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 111.53%			
26) 1,2-dichloroethane-d4 (S)	9.40	102	236574	30.39	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.30%			
36) toluene-d8 (S)	12.53	98	3529535	30.43	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.43%			
53) 4-bromofluorobenzene (BFB)	17.34	95	2228560	28.91	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.37%			
Target Compounds						Qvalue
3) chloromethane	3.47	50	693253m	11.04	ug/L	
4) vinyl chloride	3.60	62	650865m	17.58	ug/L	
5) bromomethane	4.20	96	258591	8.95	ug/L	99
6) chloroethane	4.26	64	743045m	16.45	ug/L	
7) 112-Trichloro-122-Trifluor	5.17	101	981172	16.86	ug/l	97
8) Methyl Acetate	5.83	74	172876m	15.25	ug/l	
9) carbon disulfide	6.24	76	1131032	9.61	ug/L #	100
10) MTBE	6.28	73	3047008	19.32	ug/L	97
11) 1,4 Dioxane	6.11	88	117803	18.62	ug/l #	100
12) tert-butyl alcohol	5.48	59	736515m	68.41	ug/l	
13) MEK	7.69	72	102536m	11.63	ug/L	
14) acetone	5.23	58	997242	78.15	ug/L	69
15) trichlorofluoromethane	4.62	101	1418673	18.35	ug/L	97
16) 1,1-dichloroethene	5.45	61	1817486	17.58	ug/L #	85
17) methylene chloride	6.11	84	1376785	19.88	ug/L #	100
18) trans-1,2-dichloroethene	6.54	61	1982898	18.78	ug/L #	100
19) 1,1-dichloroethane	7.15	63	2501118	19.10	ug/L #	100
20) chloroform	8.30	85	1705429	22.34	ug/L #	26
22) bromochloromethane	8.57	128	590857	19.76	ug/L	89
23) Cyclohexane	8.98	84	1479137	17.66	ug/l	87
24) 1,1,1-trichloroethane	8.92	97	1973047	22.33	ug/L #	100
25) carbon tetrachloride	9.34	117	1465287	20.83	ug/L	98
27) 1,2-dichloroethane	9.55	62	2508221	22.89	ug/L #	98
28) benzene	9.60	78	4106707	18.64	ug/L #	89
29) trichloroethene	10.56	130	1199861	20.95	ug/L #	100
30) Methyl Cyclohexane	10.67	83	1765093	18.32	ug/l	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62402.D Vial: 21
Acq On : 31 Jul 2011 5:07 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:00 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

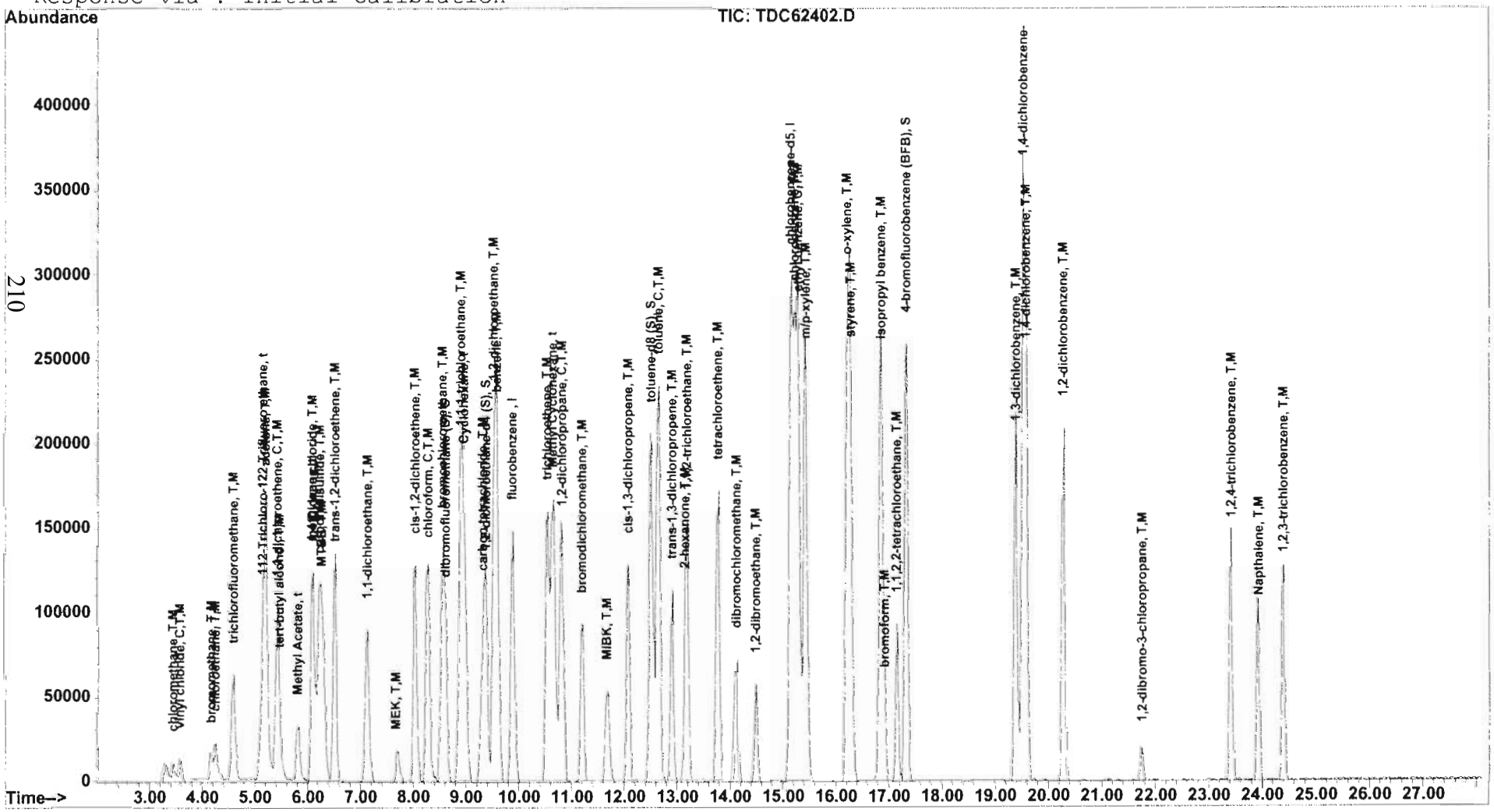
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
31) 1,2-dichloropropane	10.83	63	1300002	19.90 ug/L	#	86
32) MIBK	11.69	100	104042m	12.99 ug/L		
33) cis-1,2-dichloroethene	8.06	61	2109307	19.72 ug/L	#	85
34) bromodichloromethane	11.22	83	1507510	19.06 ug/L	#	100
35) cis-1,3-dichloropropene	12.09	75	1564759	16.89 ug/L	#	93
37) toluene	12.67	91	4261281	18.94 ug/L	#	75
38) trans-1,3-dichloropropene	12.93	75	1370424m	15.25 ug/L		
39) 2-hexanone	13.17	58	462581m	17.65 ug/L		
40) 1,1,2-trichloroethane	13.21	83	887629	20.99 ug/L	#	45
41) tetrachloroethene	13.80	166	1434015	24.14 ug/L	#	76
42) dibromochloromethane	14.15	129	920630	17.81 ug/L	#	61
43) 1,2-dibromoethane	14.51	107	1038895	20.47 ug/L	#	99
45) chlorobenzene	15.24	112	2661837	21.20 ug/L	#	85
46) ethyl benzene	15.30	91	5199034	21.51 ug/L	#	100
47) m/p-xylene	15.44	91	4397469	20.89 ug/L	#	100
48) o-xylene	16.24	91	4374518	22.09 ug/L		98
49) styrene	16.30	104	2560302	21.40 ug/L		88
50) isopropyl benzene	16.87	105	4813492	22.29 ug/L		99
51) bromoform	16.94	173	443119	12.07 ug/L		98
52) 1,1,2,2-tetrachloroethane	17.17	83	1127098m	15.42 ug/L		
54) 1,3-dichlorobenzene	19.41	146	1753376	19.13 ug/L	#	79
55) 1,2-dichlorobenzene	20.30	146	2017942m	23.27 ug/L		
57) 1,4-dichlorobenzene	19.60	146	2173471m	23.33 ug/L		
58) 1,2-dibromo-3-chloropropan	21.78	75	121079	8.10 ug/L		83
59) 1,2,4-trichlorobenzene	23.44	180	1242871	22.03 ug/L		96
60) Napthalene	23.95	128	1878486	15.68 ug/L		100
61) 1,2,3-trichlorobenzene	24.42	180	1075710	21.52 ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62402.D Vial: 21
Acq On : 31 Jul 2011 5:07 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:00 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



210

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TLC62401.D Vial: 2
Acq On : 30 Jul 2011 6:05 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3399680	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3806953	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.57	152	2382219	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1385427	34.62	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 115.40%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	273105	31.11	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.70%			
36) toluene-d8 (S)	12.55	98	4009291	30.65	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.17%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2540577	29.43	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.10%			
Target Compounds						Qvalue
3) chloromethane	3.49	50	398067	5.62	ug/L #	85
4) vinyl chloride	3.62	62	361525	8.66	ug/L #	90
5) bromomethane	4.21	96	325161	9.98	ug/L	95
6) chloroethane	4.29	64	565830	11.11	ug/L #	90
7) 112-Trichloro-122-Trifluor	5.16	101	1132170	17.26	ug/l	99
8) Methyl Acetate	5.86	74	214362	16.77	ug/l	98
9) carbon disulfide	6.24	76	1488602	11.21	ug/L #	100
10) MTBE	6.29	73	3998868	22.49	ug/L	95
11) 1,4 Dioxane	6.13	88	135876	19.05	ug/l #	100
12) tert-butyl alcohol	5.50	59	884750	72.87	ug/l	91
13) MEK	7.75	72	153122	15.40	ug/L	22
14) acetone	5.24	58	1360365	94.54	ug/L	82
15) trichlorofluoromethane	4.61	101	1562381	17.92	ug/L	100
16) 1,1-dichloroethene	5.45	61	2019666	17.33	ug/L #	85
17) methylene chloride	6.13	84	1544002	19.77	ug/L #	100
18) trans-1,2-dichloroethene	6.54	61	2216134	18.61	ug/L #	100
19) 1,1-dichloroethane	7.16	63	2925881	19.82	ug/L #	100
20) chloroform	8.31	85	1910298	22.19	ug/L #	26
22) bromochloromethane	8.58	128	668608	19.83	ug/L	87
23) Cyclohexane	8.99	84	1689912	17.90	ug/l #	83
24) 1,1,1-trichloroethane	8.93	97	2270628	22.78	ug/L #	100
25) carbon tetrachloride	9.35	117	1705540	21.50	ug/L	98
27) 1,2-dichloroethane	9.56	62	2998232	24.27	ug/L #	97
28) benzene	9.62	78	4654697	18.74	ug/L	100
29) trichloroethene	10.57	130	1364439	21.13	ug/L #	100
30) Methyl Cyclohexane	10.69	83	2138881	19.68	ug/l	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TLC62401.D Vial: 2
Acq On : 30 Jul 2011 6:05 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

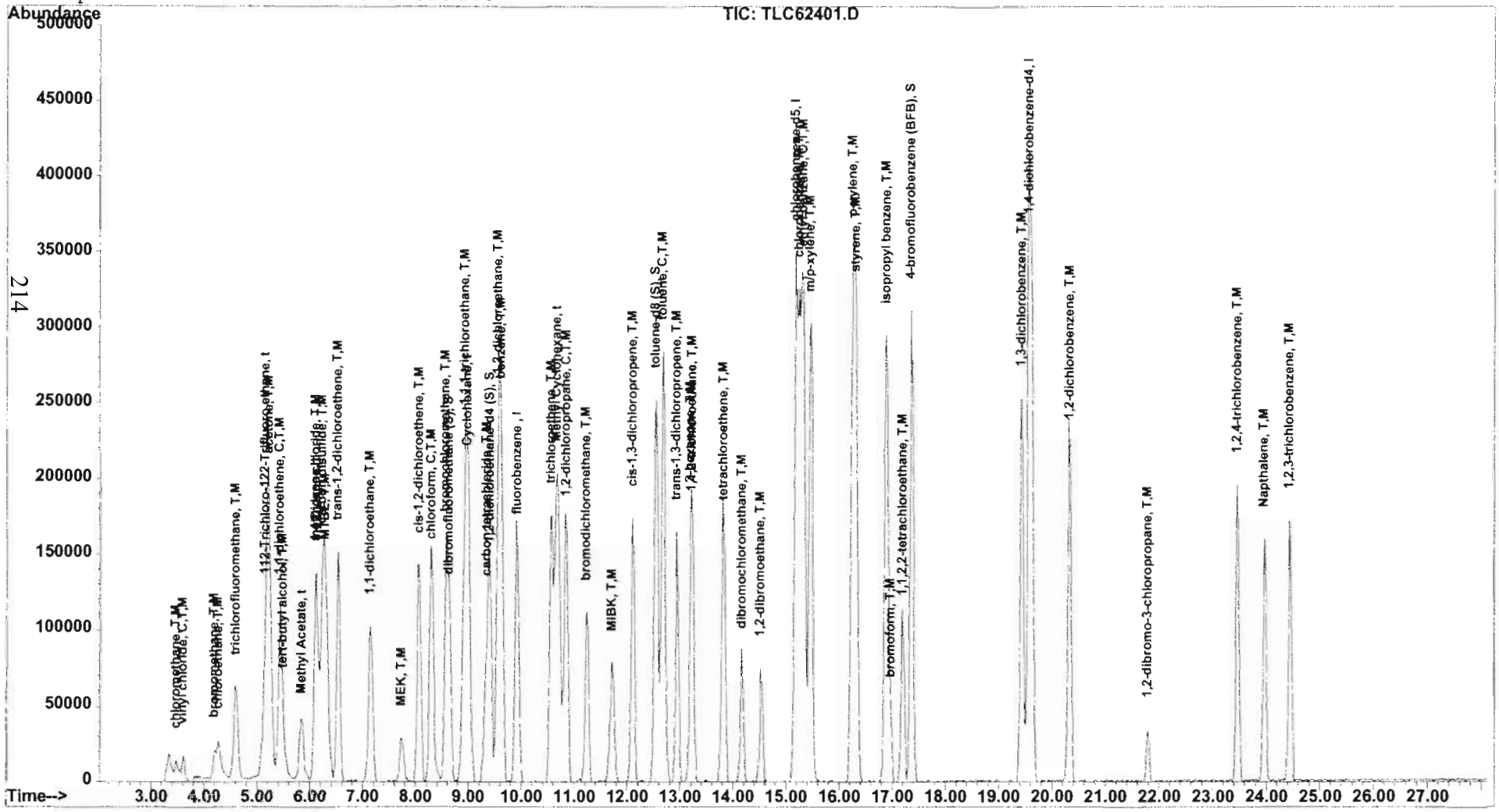
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) 1,2-dichloropropane	10.85	63	1474399	20.02 ug/L #	86
32) MIBK	11.73	100	155480	17.22 ug/L	60
33) cis-1,2-dichloroethene	8.07	61	2514919	20.85 ug/L	96
34) bromodichloromethane	11.24	83	1795565	20.13 ug/L #	100
35) cis-1,3-dichloropropene	12.11	75	1982096	18.97 ug/L	99
37) toluene	12.69	91	4882952	19.25 ug/L #	75
38) trans-1,3-dichloropropene	12.95	75	1789263	17.66 ug/L #	93
39) 2-hexanone	13.20	58	500700	16.94 ug/L #	99
40) 1,1,2-trichloroethane	13.23	83	1044772	21.91 ug/L #	45
41) tetrachloroethene	13.82	166	1522597	22.73 ug/L #	76
42) dibromochloromethane	14.17	129	1088914	18.68 ug/L	99
43) 1,2-dibromoethane	14.53	107	1275739	22.29 ug/L #	99
45) chlorobenzene	15.26	112	2971048	21.14 ug/L #	85
46) ethyl benzene	15.33	91	5897854	21.80 ug/L #	100
47) m/p-xylene	15.47	91	5035274	21.37 ug/L #	100
48) o-xylene	16.26	91	4929263	22.23 ug/L #	81
49) styrene	16.32	104	2912964	21.74 ug/L	86
50) isopropyl benzene	16.89	105	5406357	22.36 ug/L	97
51) bromoform	16.97	173	557494	13.56 ug/L #	78
52) 1,1,2,2-tetrachloroethane	17.20	83	1458921	17.83 ug/L #	100
54) 1,3-dichlorobenzene	19.43	146	2071932	20.19 ug/L #	98
55) 1,2-dichlorobenzene	20.33	146	1912119	19.69 ug/L #	59
58) 1,2-dibromo-3-chloropropan	21.80	75	207521	12.74 ug/L	73
59) 1,2,4-trichlorobenzene	23.47	180	1446109	23.53 ug/L	99
60) Napthalene	23.98	128	2755587	21.11 ug/L	100
61) 1,2,3-trichlorobenzene	24.45	180	1313933	24.12 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TLC62401.D Vial: 2
Acq On : 30 Jul 2011 6:05 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Laboratory Deliverables

Prepared For

PARS Environmental

Drum Bench Study

Lab ID

Enhanced Reductive Dechlorination (ERD)

Samples Received

27-Jul-11

Reported

7/27/11 to 8/12/11

NJDEP Certified Lab 11005

Precision testing for a cleaner environment.

I Study Information

Study: ERD
NZVI

Time point: T=7 days/ 168Hours

Data Summaries

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ 1868-C1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62401.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	440	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ 1868-C1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62401.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	10	JD

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ 1868-C1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62401.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T168 C2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 C-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62402.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	420	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T168 C2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 C-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62402.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T168 C2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 C-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62402.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ 168 C3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 C-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62403.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	430	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ 168 C3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 C-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62403.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ 168 C3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 C-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62403.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ 168 .5-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 0.5-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62404.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	320	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ 168 .5-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 0.5-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62404.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ 168 .5-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 0.5-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62404.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T168 .5-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 0.5-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62405.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	320	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T168 .5-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 0.5-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62405.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T168 .5-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 0.5-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62405.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ 168 .5-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 0.5-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62406.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	290	D
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	62	D
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	310	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ 168 .5-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 0.5-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62406.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ 168 .5-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 0.5-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62406.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T168 1.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 1.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62407.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	180	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T168 1.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 1.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62407.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T168 1.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 1.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62407.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T168- 1.0-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 1.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62408.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	23	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	210	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T168- 1.0-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 1.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62408.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T168- 1.0-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 1.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62408.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T168-1.0-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 1.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62409.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	200	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T168-1.0-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 1.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62409.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T168-1.0-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 1.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62409.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T168-2.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62410.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	48	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T168-2.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62410.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T168-2.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62410.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T168-2.0-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 2.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62411.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	43	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T168-2.0-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 2.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62411.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T168-2.0-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 2.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62411.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ T168 2.0-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 2.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62412.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	12	JD
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	42	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ T168 2.0-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 2.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62412.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

NZ T168 2.0-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ T168 2.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62412.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

III-1 Raw Chromatograms

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62401.D Vial: 3
Acq On : 5 Aug 2011 11:53 am Operator: A. Thomas
Sample : NZ T168 C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

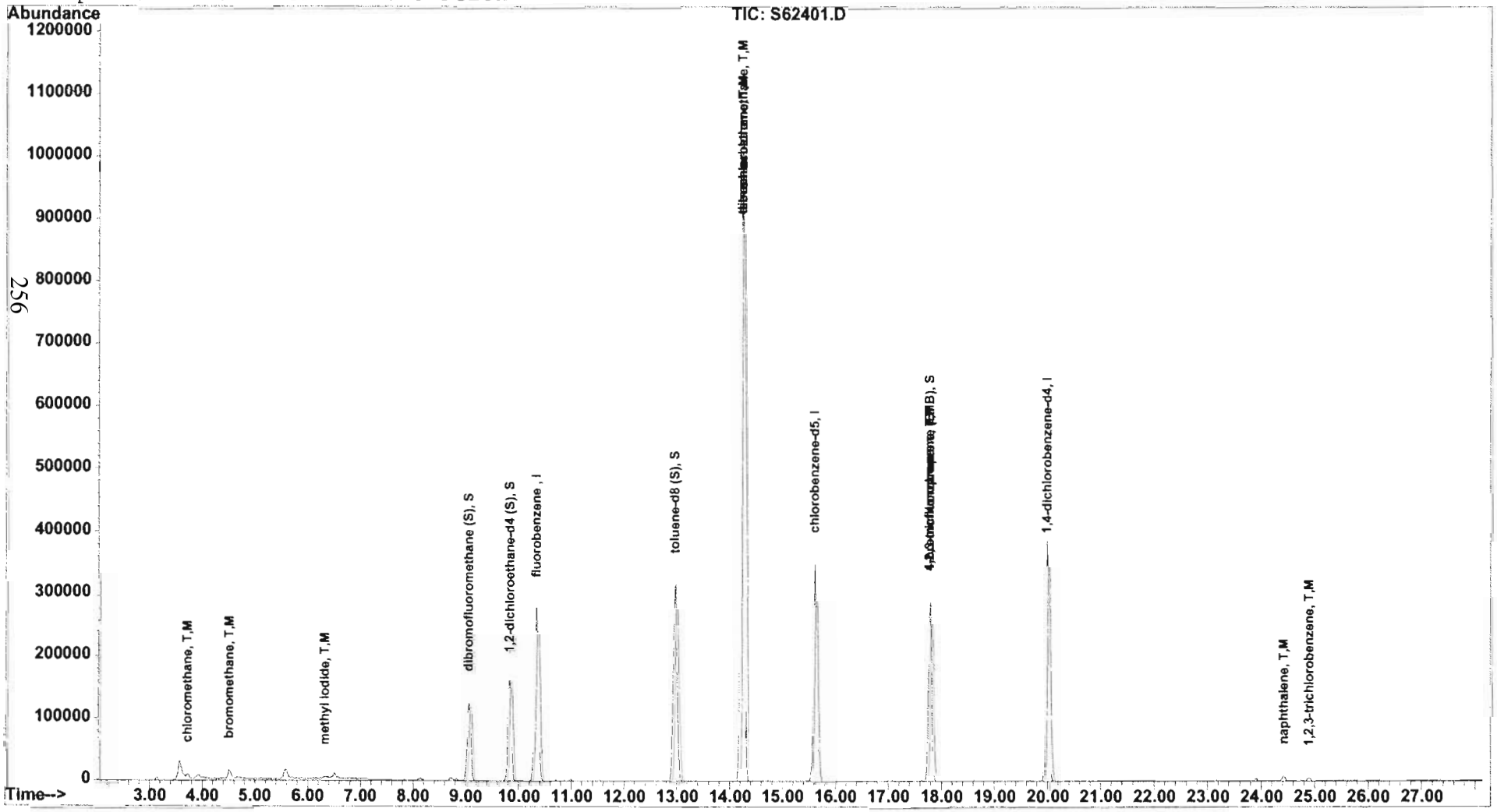
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4773890	15.00	ug/l	0.34
58) chlorobenzene-d5	15.62	117	4161037	15.00	ug/L	0.35
84) 1,4-dichlorobenzene-d4	20.00	152	2314153	15.00	ug/L	0.36
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1929068	31.46	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.87%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	432220	32.71	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 109.03%			
48) toluene-d8 (S)	12.98	98	5216201	27.91	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.03%			
68) 4-bromofluorobenzene (BFB)	17.79	95	2429760	26.88	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 89.60%			
Target Compounds						Qvalue
3) chloromethane	3.74	50	190561	1.24	ug/L #	100
5) bromomethane	4.52	96	281633	4.01	ug/L	98
8) methyl iodide	6.33	142	180443	2.15	ug/l #	100
55) tetrachloroethene	14.25	166	7754636	50.96	ug/L #	66
56) dibromochloromethane	14.25	129	5400069	66.12	ug/L #	100
69) 1,2,3-trichloropropane	17.79	75	1414528	20.64	ug/L #	100
89) naphthalene	24.44	128	188799	1.45	ug/L	100
90) 1,2,3-trichlorobenzene	24.91	180	58391	1.00	ug/L #	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62401.D Vial: 3
Acq On : 5 Aug 2011 11:53 am Operator: A. Thomas
Sample : NZ T168 C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



256

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62402.D Vial: 4
Acq On : 5 Aug 2011 12:28 pm Operator: A. Thomas
Sample : NZ T168 C-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

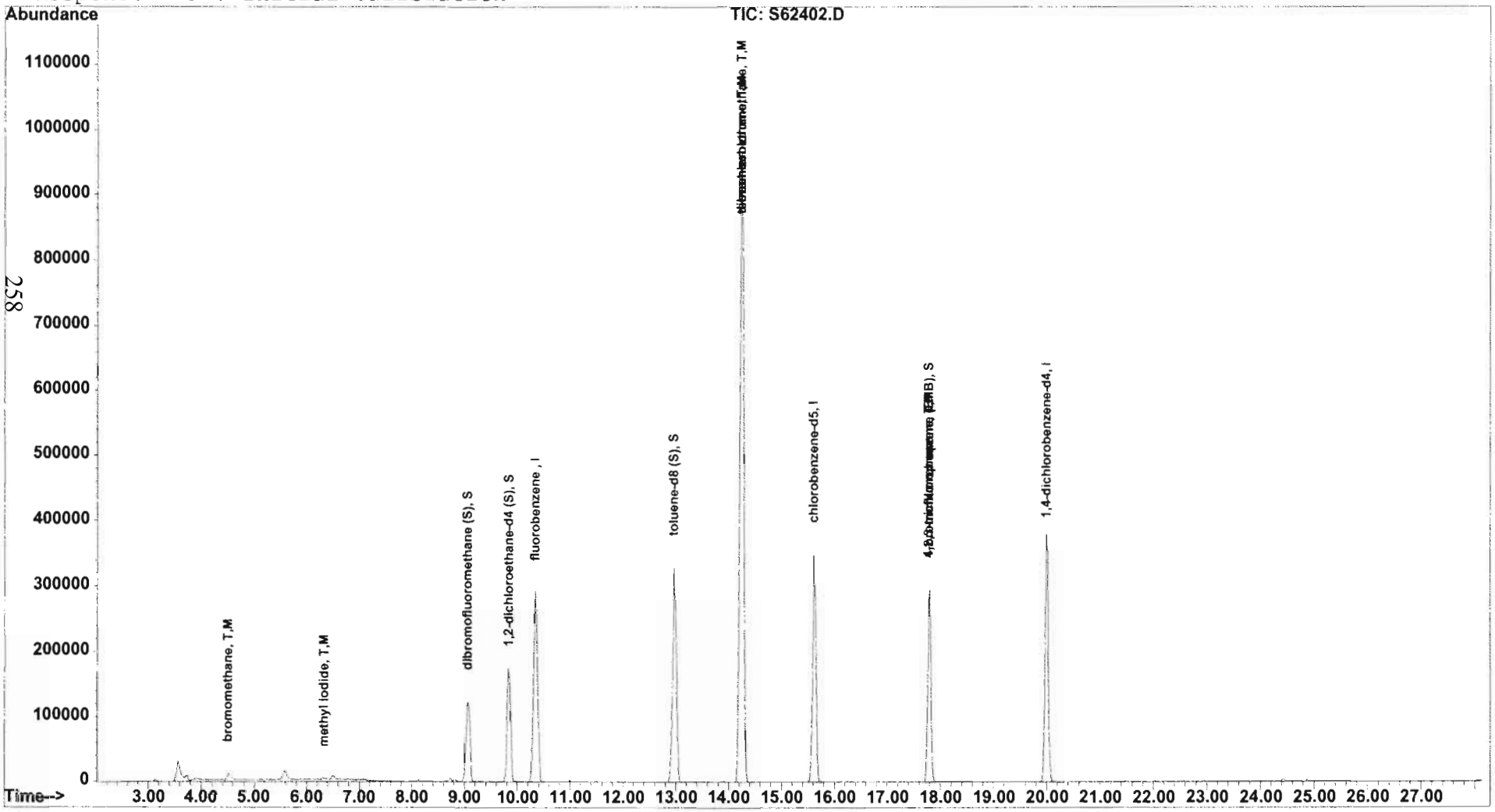
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	5029202	15.00	ug/l	0.34
58) chlorobenzene-d5	15.62	117	4256169	15.00	ug/L	0.35
84) 1,4-dichlorobenzene-d4	20.00	152	2357084	15.00	ug/L	0.35
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1867264	28.91	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.37%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	467230	33.57	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 111.90%			
48) toluene-d8 (S)	12.98	98	5275901	26.80	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 89.33%			
68) 4-bromofluorobenzene (BFB)	17.79	95	2398006	25.94	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 86.47%			
Target Compounds						Qvalue
5) bromomethane	4.52	96	196500	2.66	ug/L	96
8) methyl iodide	6.35	142	108031	1.22	ug/l #	100
55) tetrachloroethene	14.25	166	7785540	48.56	ug/L #	66
56) dibromochloromethane	14.25	129	5359341	62.29	ug/L #	100
69) 1,2,3-trichloropropane	17.79	75	1446968	20.65	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62402.D Vial: 4
Acq On : 5 Aug 2011 12:28 pm Operator: A. Thomas
Sample : NZ T168 C-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



258

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62403.D Vial: 5
Acq On : 5 Aug 2011 1:03 pm Operator: A. Thomas
Sample : NZ T168 C-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

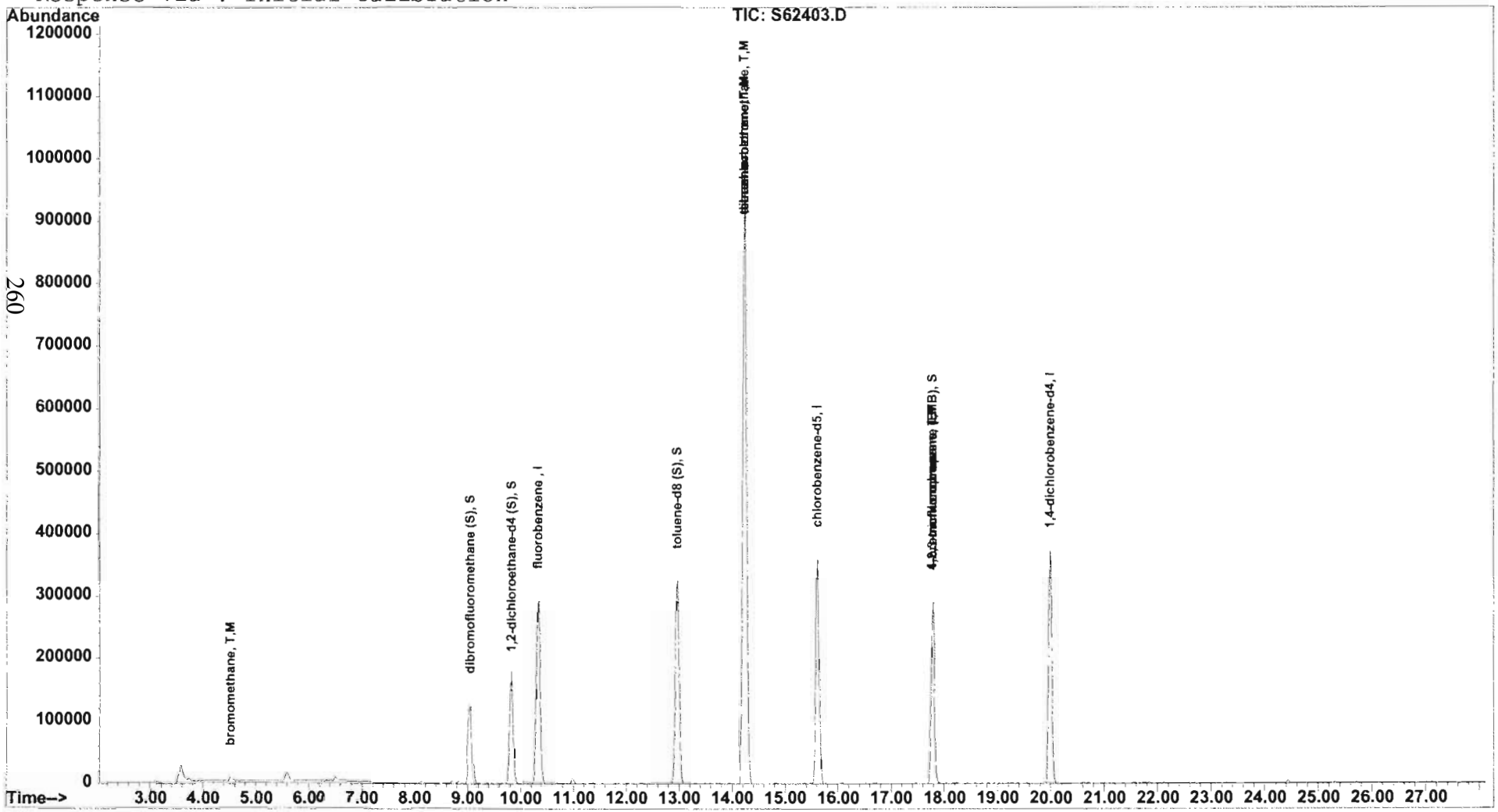
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4826791	15.00	ug/l	0.35
58) chlorobenzene-d5	15.63	117	4234606	15.00	ug/L	0.36
84) 1,4-dichlorobenzene-d4	20.00	152	2294381	15.00	ug/L	0.36
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1885337	30.41	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.37%			
35) 1,2-dichloroethane-d4 (S)	9.85	102	463496	34.69	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 115.63%			
48) toluene-d8 (S)	12.98	98	5315535	28.13	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.77%			
68) 4-bromofluorobenzene (BFB)	17.80	95	2407528	26.17	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 87.23%			
Target Compounds						Qvalue
5) bromomethane	4.53	96	164198	2.31	ug/L	100
55) tetrachloroethene	14.25	166	7940223	51.61	ug/L #	66
56) dibromochloromethane	14.25	129	5502087	66.63	ug/L #	100
69) 1,2,3-trichloropropane	17.80	75	1404355	20.14	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62403.D Vial: 5
Acq On : 5 Aug 2011 1:03 pm Operator: A. Thomas
Sample : NZ T168 C-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



260

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62404.D Vial: 6
Acq On : 5 Aug 2011 1:39 pm Operator: A. Thomas
Sample : NZ T168 0.5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

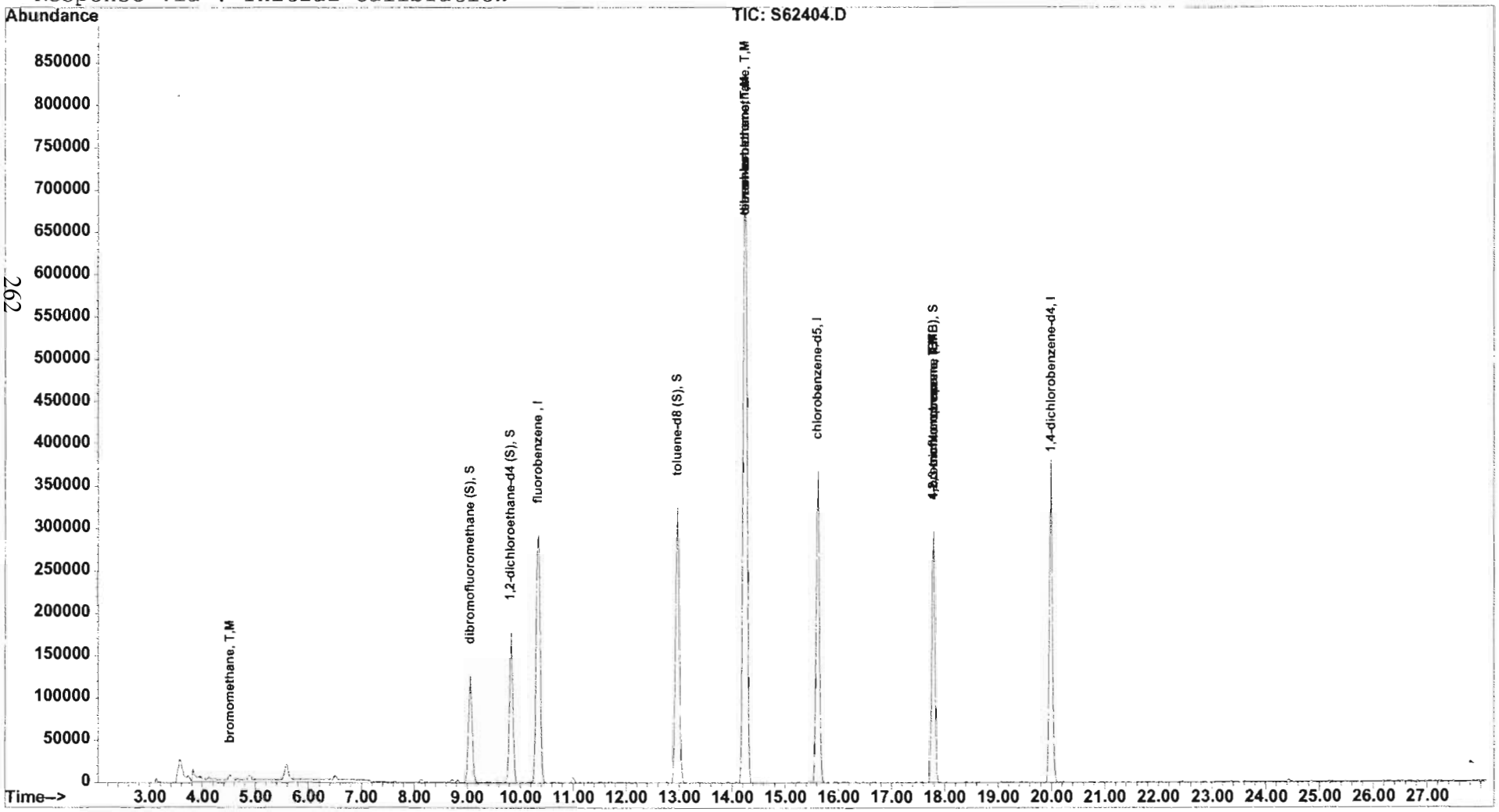
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4909424	15.00	ug/l	0.35
58) chlorobenzene-d5	15.63	117	4233481	15.00	ug/L	0.36
84) 1,4-dichlorobenzene-d4	20.00	152	2226895	15.00	ug/L	0.36
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1857753	29.46	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.20%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	455540	33.53	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 111.77%			
48) toluene-d8 (S)	12.98	98	5191949	27.02	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 90.07%			
68) 4-bromofluorobenzene (BFB)	17.80	95	2405665	26.16	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 87.20%			
Target Compounds						Qvalue
5) bromomethane	4.53	96	146662	2.03	ug/L	95
55) tetrachloroethene	14.26	166	5895199	37.67	ug/L #	66
56) dibromochloromethane	14.25	129	4057565	48.31	ug/L #	100
69) 1,2,3-trichloropropane	17.80	75	1445891	20.74	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62404.D Vial: 6
Acq On : 5 Aug 2011 1:39 pm Operator: A. Thomas
Sample : NZ T168 0.5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62405.D Vial: 7
Acq On : 5 Aug 2011 2:14 pm Operator: A. Thomas
Sample : NZ T168 0.5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

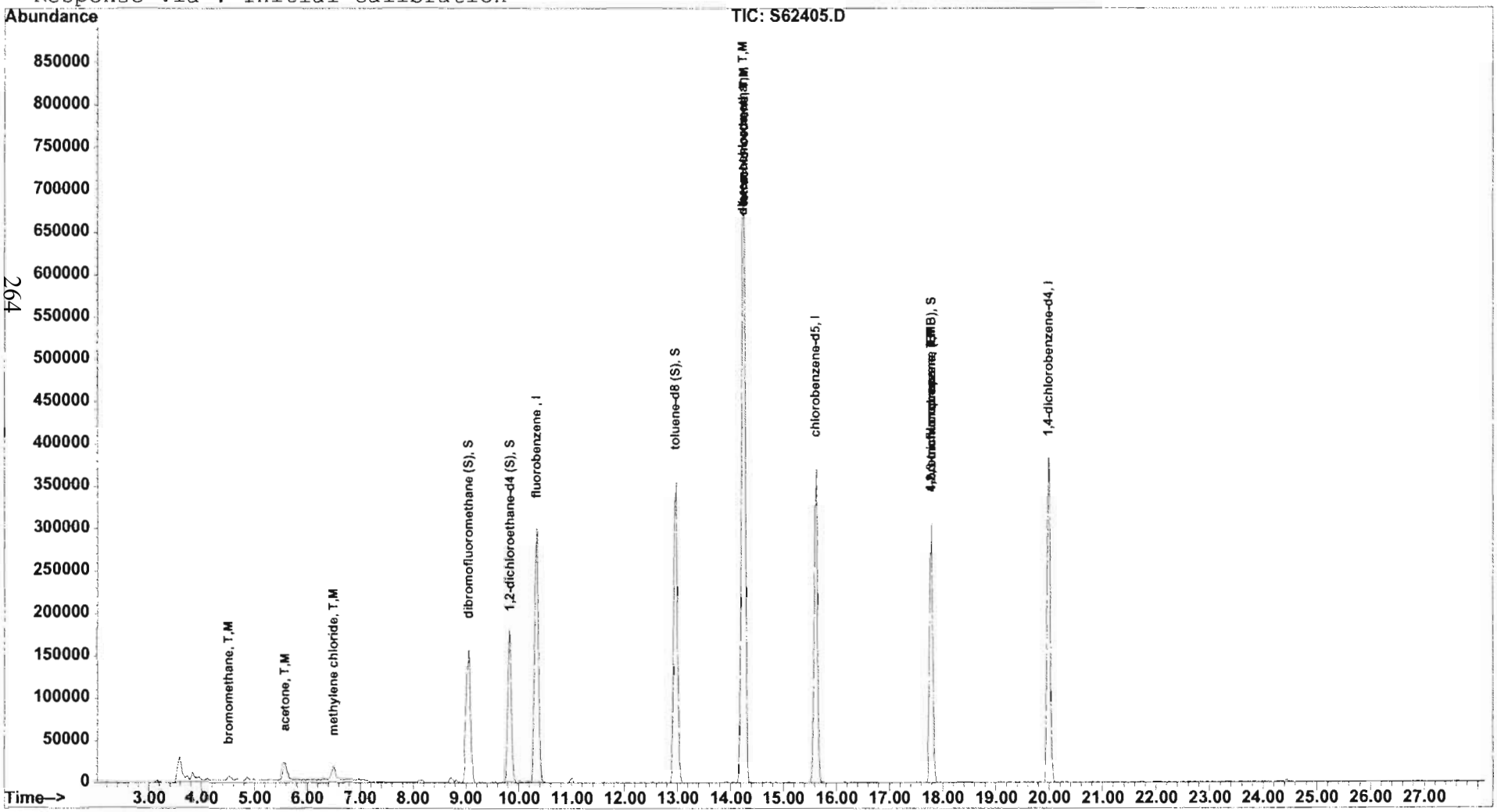
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4933239	15.00	ug/l	0.35
58) chlorobenzene-d5	15.63	117	4255677	15.00	ug/L	0.36
84) 1,4-dichlorobenzene-d4	20.00	152	2328520	15.00	ug/L	0.36
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1916951	30.25	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.83%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	472824	34.63	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 115.43%			
48) toluene-d8 (S)	12.98	98	5453233	28.24	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.13%			
68) 4-bromofluorobenzene (BFB)	17.80	95	2413498	26.11	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 87.03%			
Target Compounds						Qvalue
5) bromomethane	4.53	96	108427	1.49	ug/L	92
17) acetone	5.59	58	142054	9.28	ug/L #	100
20) methylene chloride	6.50	84	123141	1.22	ug/L #	100
55) tetrachloroethene	14.26	166	5881837	37.40	ug/L #	66
56) dibromochloromethane	14.25	129	4166026	49.36	ug/L #	100
69) 1,2,3-trichloropropane	17.80	75	1474713	21.04	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62405.D Vial: 7
Acq On : 5 Aug 2011 2:14 pm Operator: A. Thomas
Sample : NZ T168 0.5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62406.D Vial: 8
Acq On : 5 Aug 2011 2:50 pm Operator: A. Thomas
Sample : NZ T168 0.5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

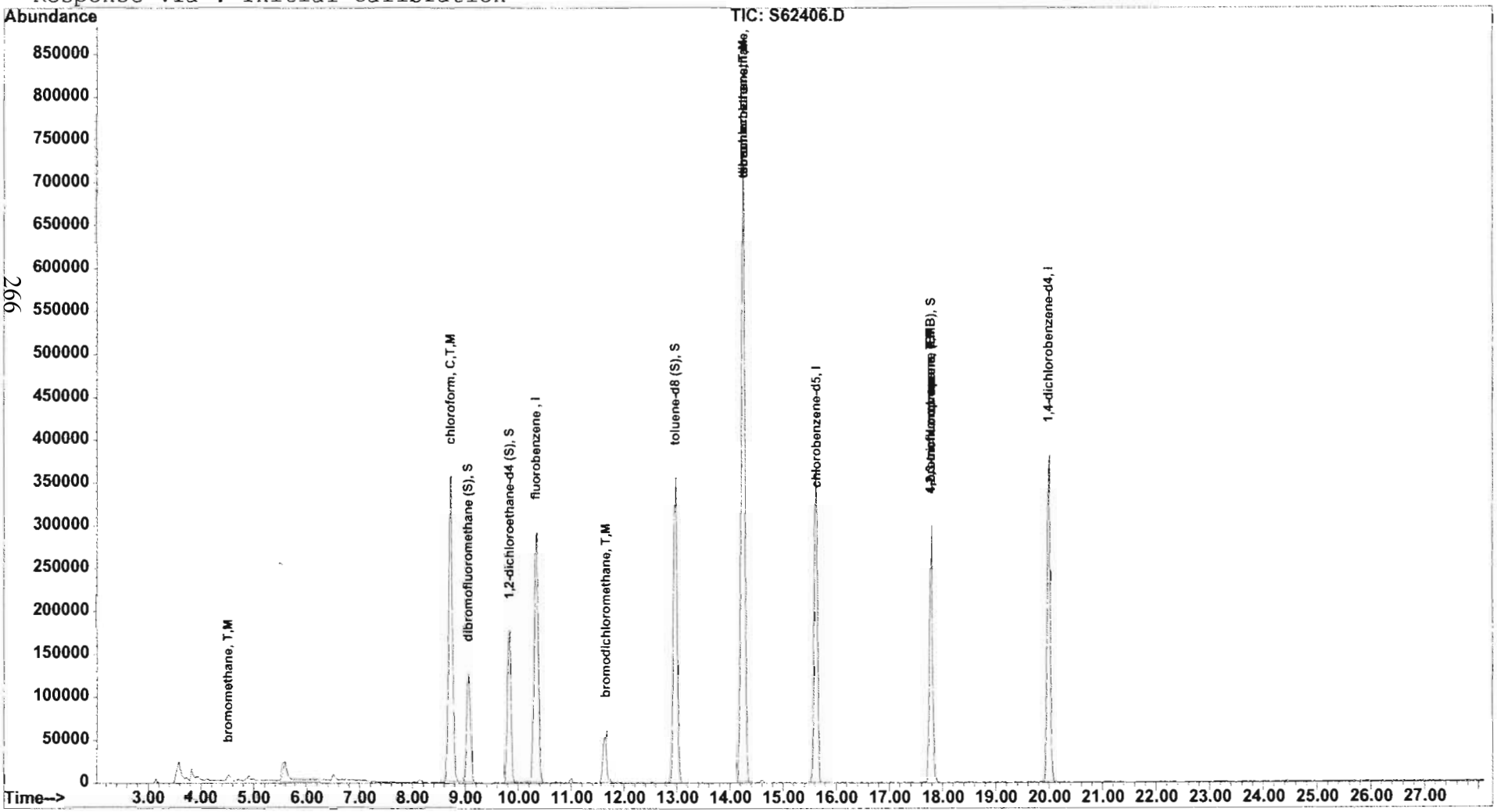
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4560317	15.00	ug/l	0.35
58) chlorobenzene-d5	15.63	117	4190034	15.00	ug/L	0.36
84) 1,4-dichlorobenzene-d4	20.01	152	2258969	15.00	ug/L	0.36
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1995756	34.07	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 113.57%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	445699	35.31	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 117.70%			
48) toluene-d8 (S)	12.98	98	5501711	30.82	ug/L	0.36
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.73%			
68) 4-bromofluorobenzene (BFB)	17.80	95	2425218	26.65	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 88.83%			
Target Compounds						Qvalue
5) bromomethane	4.53	96	126160	1.88	ug/L	96
28) chloroform	8.73	85	4145827	35.99	ug/L #	100
46) bromodichloromethane	11.68	83	920202	7.69	ug/L #	100
55) tetrachloroethene	14.26	166	5659503	38.93	ug/L #	66
56) dibromochloromethane	14.26	129	4045341	51.85	ug/L #	100
69) 1,2,3-trichloropropane	17.80	75	1448477	20.99	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62406.D Vial: 8
Acq On : 5 Aug 2011 2:50 pm Operator: A. Thomas
Sample : NZ T168 0.5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62407.D Vial: 9
Acq On : 5 Aug 2011 3:26 pm Operator: A. Thomas
Sample : NZ T168 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

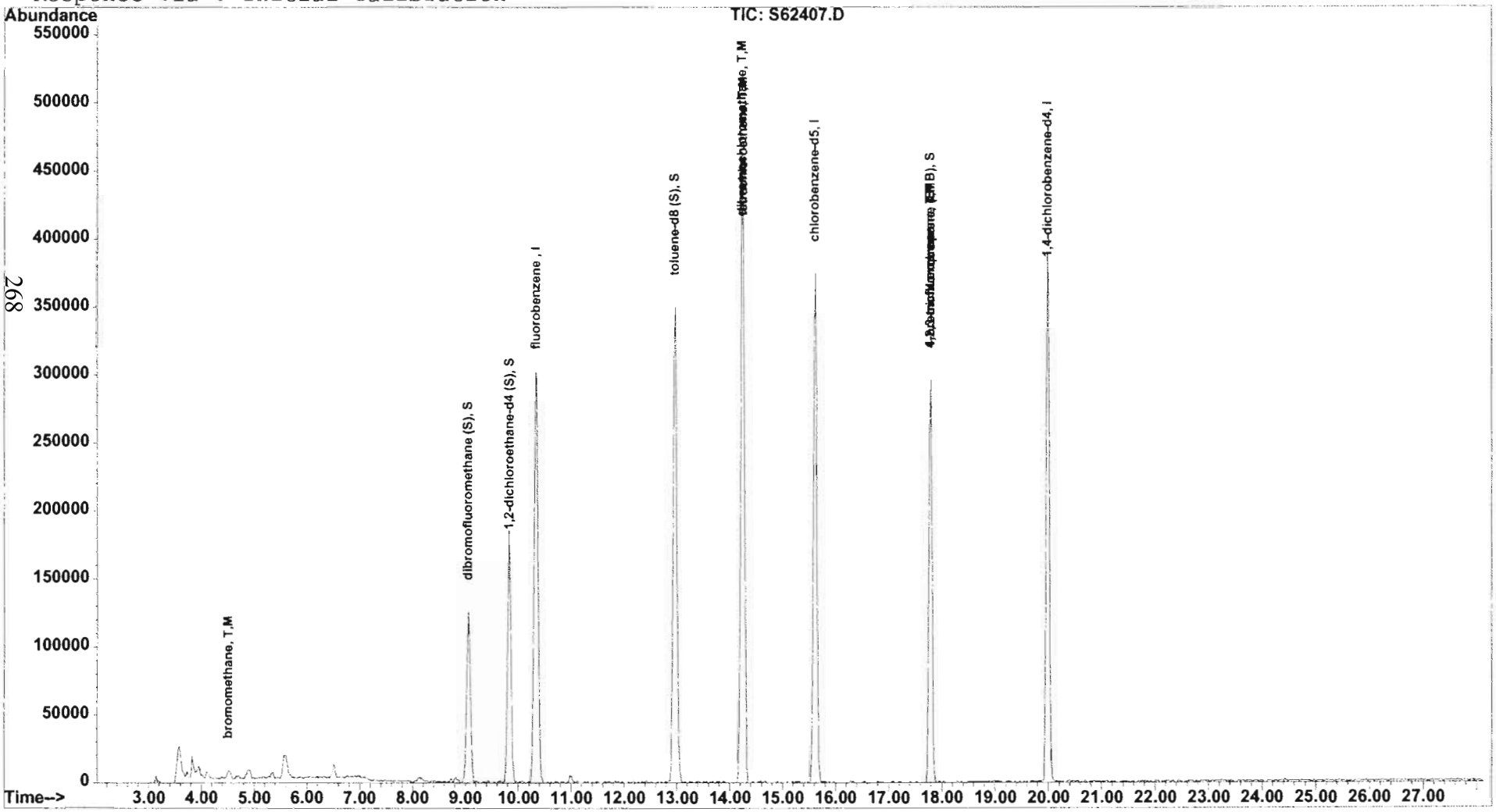
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4885289	15.00	ug/l	0.34
58) chlorobenzene-d5	15.63	117	4332571	15.00	ug/L	0.36
84) 1,4-dichlorobenzene-d4	20.00	152	2277013	15.00	ug/L	0.36
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1842234	29.36	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.87%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	449102	33.21	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 110.70%			
48) toluene-d8 (S)	12.98	98	5524377	28.89	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.30%			
68) 4-bromofluorobenzene (BFB)	17.80	95	2372604	25.21	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 84.03%			
Target Compounds						Qvalue
5) bromomethane	4.53	96	101134	1.41	ug/L	88
55) tetrachloroethene	14.26	166	3381029	21.71	ug/L #	66
56) dibromochloromethane	14.25	129	2453245	29.35	ug/L #	100
69) 1,2,3-trichloropropane	17.80	75	1457185	20.42	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62407.D Vial: 9
Acq On : 5 Aug 2011 3:26 pm Operator: A. Thomas
Sample : NZ T168 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62408.D Vial: 10
Acq On : 5 Aug 2011 4:01 pm Operator: A. Thomas
Sample : NZ T168 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

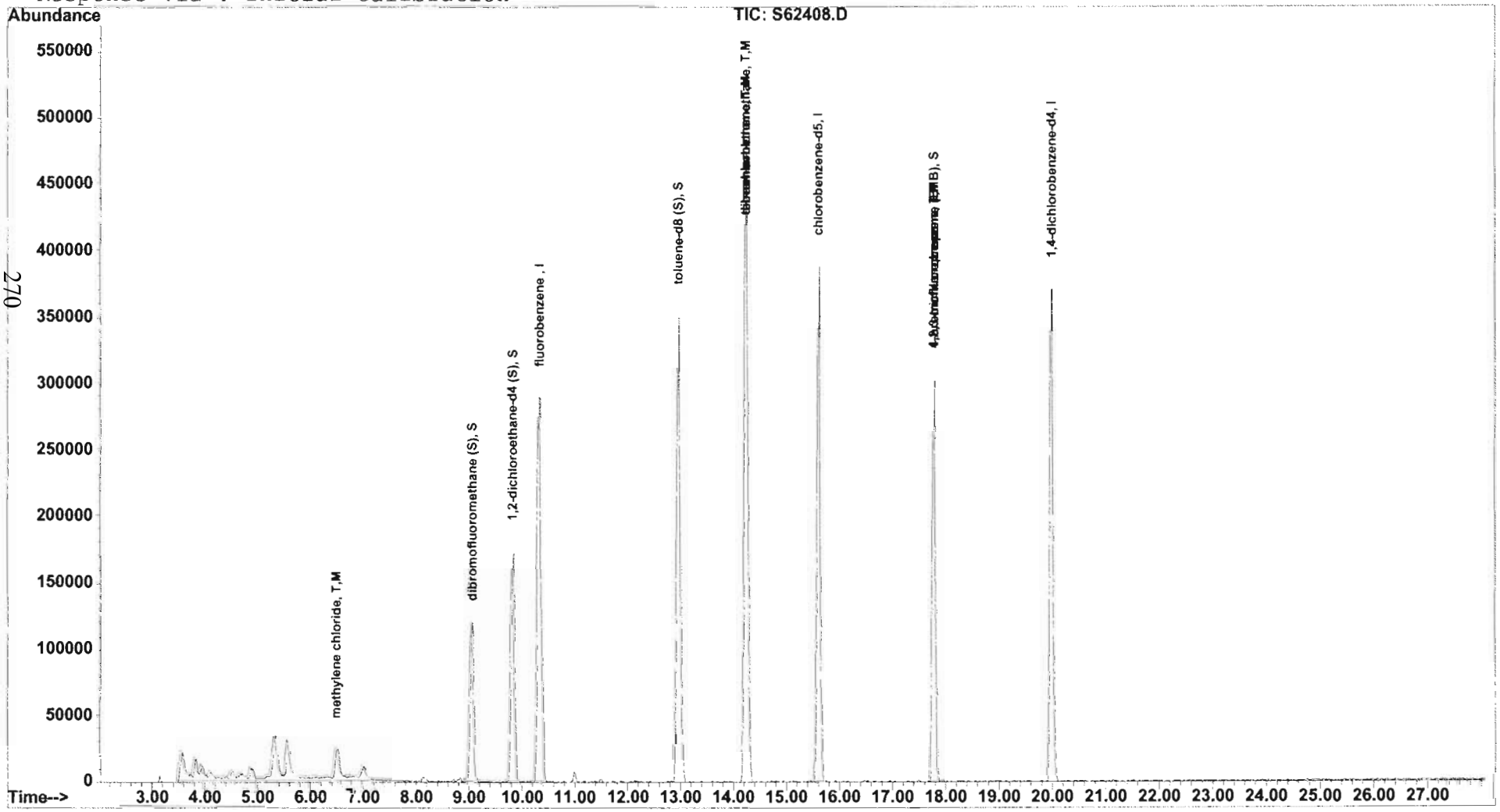
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4516456	15.00	ug/l	0.34
58) chlorobenzene-d5	15.63	117	4292404	15.00	ug/L	0.36
84) 1,4-dichlorobenzene-d4	20.00	152	2293670	15.00	ug/L	0.36
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1854546	31.97	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 106.57%			
35) 1,2-dichloroethane-d4 (S)	9.85	102	453394	36.27	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 120.90%#			
48) toluene-d8 (S)	12.98	98	5429177	30.71	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.37%			
68) 4-bromofluorobenzene (BFB)	17.80	95	2391850	25.65	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 85.50%			
Target Compounds						Qvalue
20) methylene chloride	6.51	84	262391	2.84	ug/L #	100
55) tetrachloroethene	14.26	166	3702446	25.72	ug/L #	66
56) dibromochloromethane	14.25	129	2576038	33.34	ug/L #	100
69) 1,2,3-trichloropropane	17.80	75	1419373	20.08	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62408.D Vial: 10
Acq On : 5 Aug 2011 4:01 pm Operator: A. Thomas
Sample : NZ T168 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:05 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62409.D Vial: 11
Acq On : 5 Aug 2011 4:37 pm Operator: A. Thomas
Sample : NZ T168 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

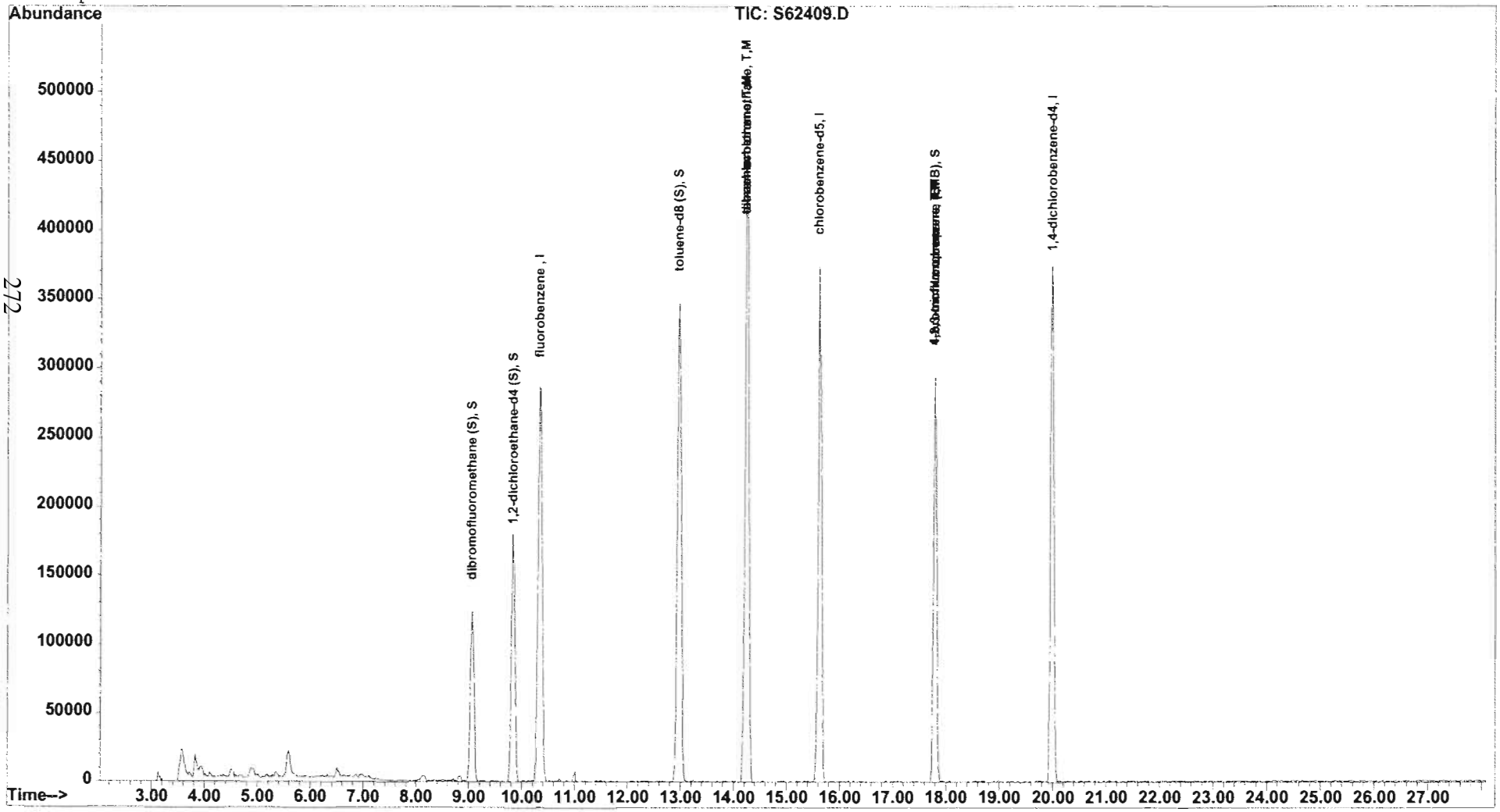
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4711694	15.00	ug/l	0.34
58) chlorobenzene-d5	15.63	117	4276629	15.00	ug/L	0.36
84) 1,4-dichlorobenzene-d4	20.00	152	2163974	15.00	ug/L	0.36
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1829044	30.22	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.73%			
35) 1,2-dichloroethane-d4 (S)	9.85	102	455559	34.93	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 116.43%			
48) toluene-d8 (S)	12.98	98	5485180	29.74	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.13%			
68) 4-bromofluorobenzene (BFB)	17.79	95	2357543	25.38	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 84.60%			
Target Compounds						Qvalue
55) tetrachloroethene	14.26	166	3610287	24.04	ug/L #	66
56) dibromochloromethane	14.25	129	2528092	31.36	ug/L #	100
69) 1,2,3-trichloropropane	17.80	75	1429410	20.30	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62409.D Vial: 11
Acq On : 5 Aug 2011 4:37 pm Operator: A. Thomas
Sample : NZ T168 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62410.D Vial: 12
Acq On : 5 Aug 2011 5:12 pm Operator: A. Thomas
Sample : NZ T168 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

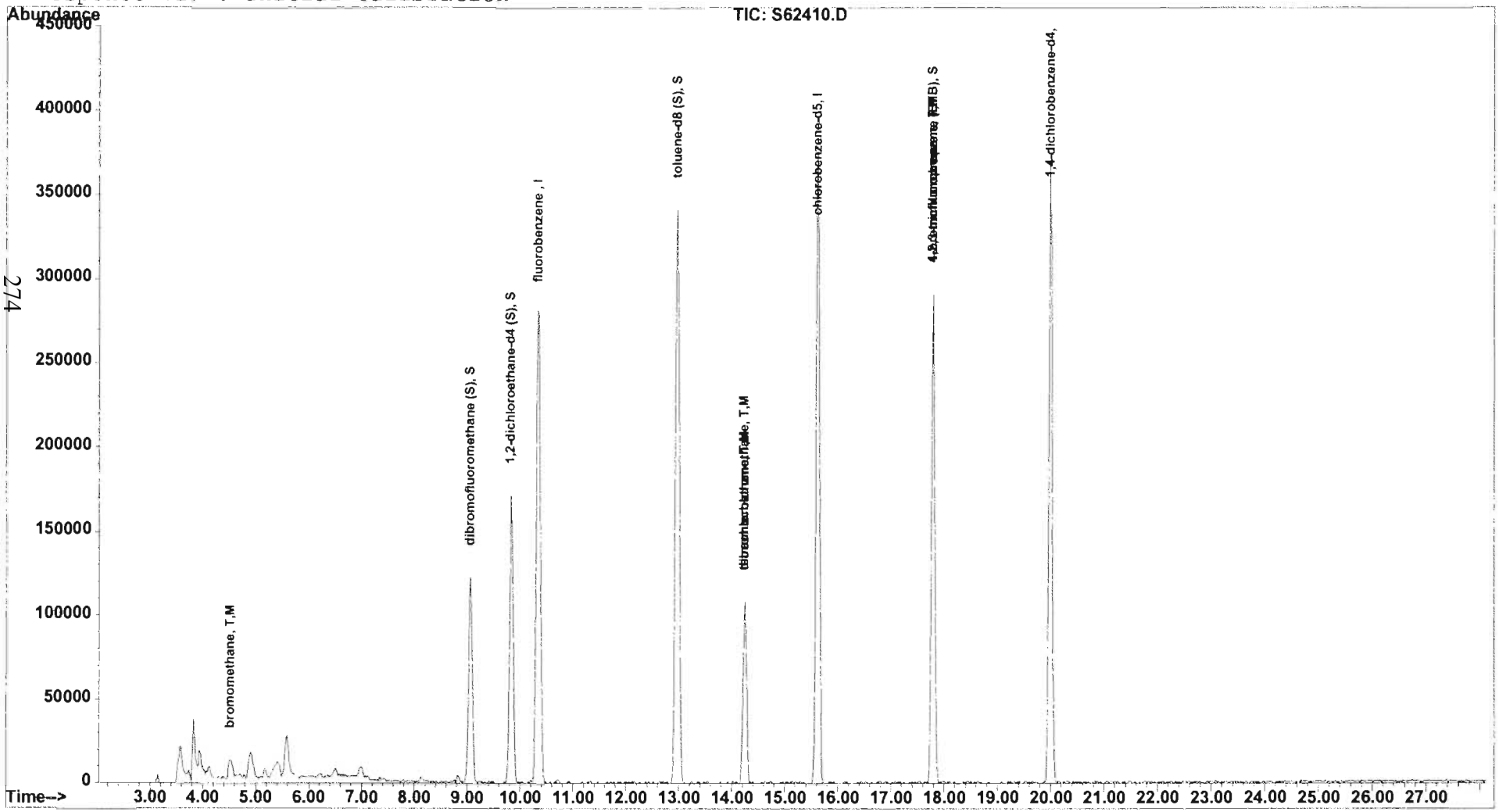
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4749483	15.00	ug/l	0.35
58) chlorobenzene-d5	15.63	117	4259854	15.00	ug/L	0.36
84) 1,4-dichlorobenzene-d4	20.00	152	2215911	15.00	ug/L	0.36
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1814389	29.74	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.13%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	441375	33.58	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 111.93%			
48) toluene-d8 (S)	12.98	98	5271862	28.36	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.53%			
68) 4-bromofluorobenzene (BFB)	17.80	95	2333555	25.22	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 84.07%			
Target Compounds						Qvalue
5) bromomethane	4.52	96	119161	1.71	ug/L	89
55) tetrachloroethene	14.25	166	852208	5.63	ug/L #	66
56) dibromochloromethane	14.25	129	599169	7.37	ug/L #	100
69) 1,2,3-trichloropropane	17.80	75	1440260	20.53	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62410.D Vial: 12
Acq On : 5 Aug 2011 5:12 pm Operator: A. Thomas
Sample : NZ T168 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62411.D Vial: 13
Acq On : 5 Aug 2011 5:48 pm Operator: A. Thomas
Sample : NZ T168 2.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

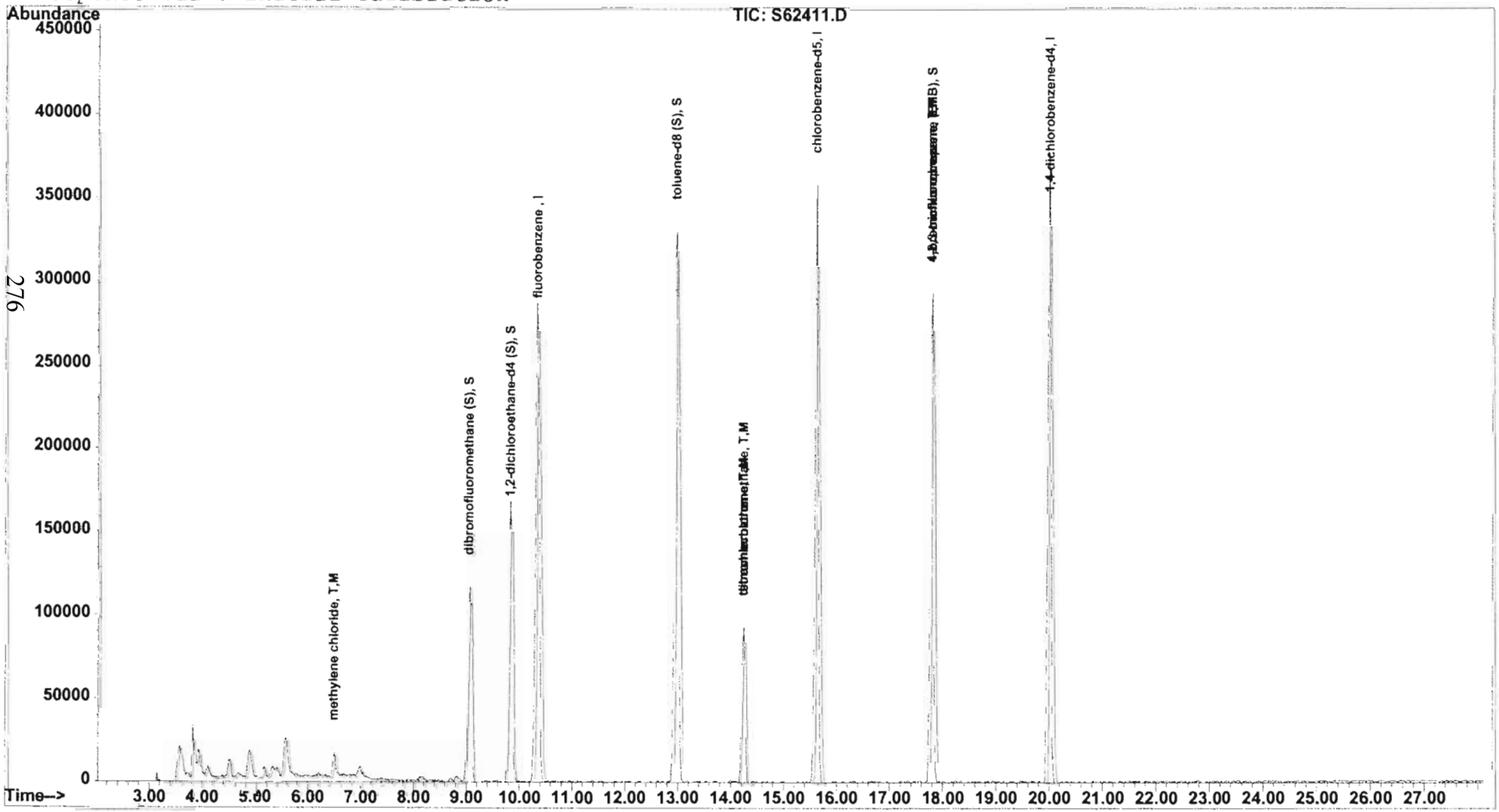
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4685129	15.00	ug/l	0.34
58) chlorobenzene-d5	15.62	117	4116192	15.00	ug/L	0.35
84) 1,4-dichlorobenzene-d4	20.00	152	2185060	15.00	ug/L	0.35
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1738213	28.88	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.27%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	419608	32.36	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.87%			
48) toluene-d8 (S)	12.98	98	5322024	29.02	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.73%			
68) 4-bromofluorobenzene (BFB)	17.79	95	2402499	26.87	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 89.57%			
Target Compounds						Qvalue
20) methylene chloride	6.52	84	108491	1.13	ug/L #	100
55) tetrachloroethene	14.25	166	744142	4.98	ug/L #	66
56) dibromochloromethane	14.25	129	508864	6.35	ug/L #	100
69) 1,2,3-trichloropropane	17.80	75	1443146	21.29	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62411.D Vial: 13
Acq On : 5 Aug 2011 5:48 pm Operator: A. Thomas
Sample : NZ T168 2.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62412.D Vial: 14
Acq On : 5 Aug 2011 6:23 pm Operator: A. Thomas
Sample : NZ T168 2.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

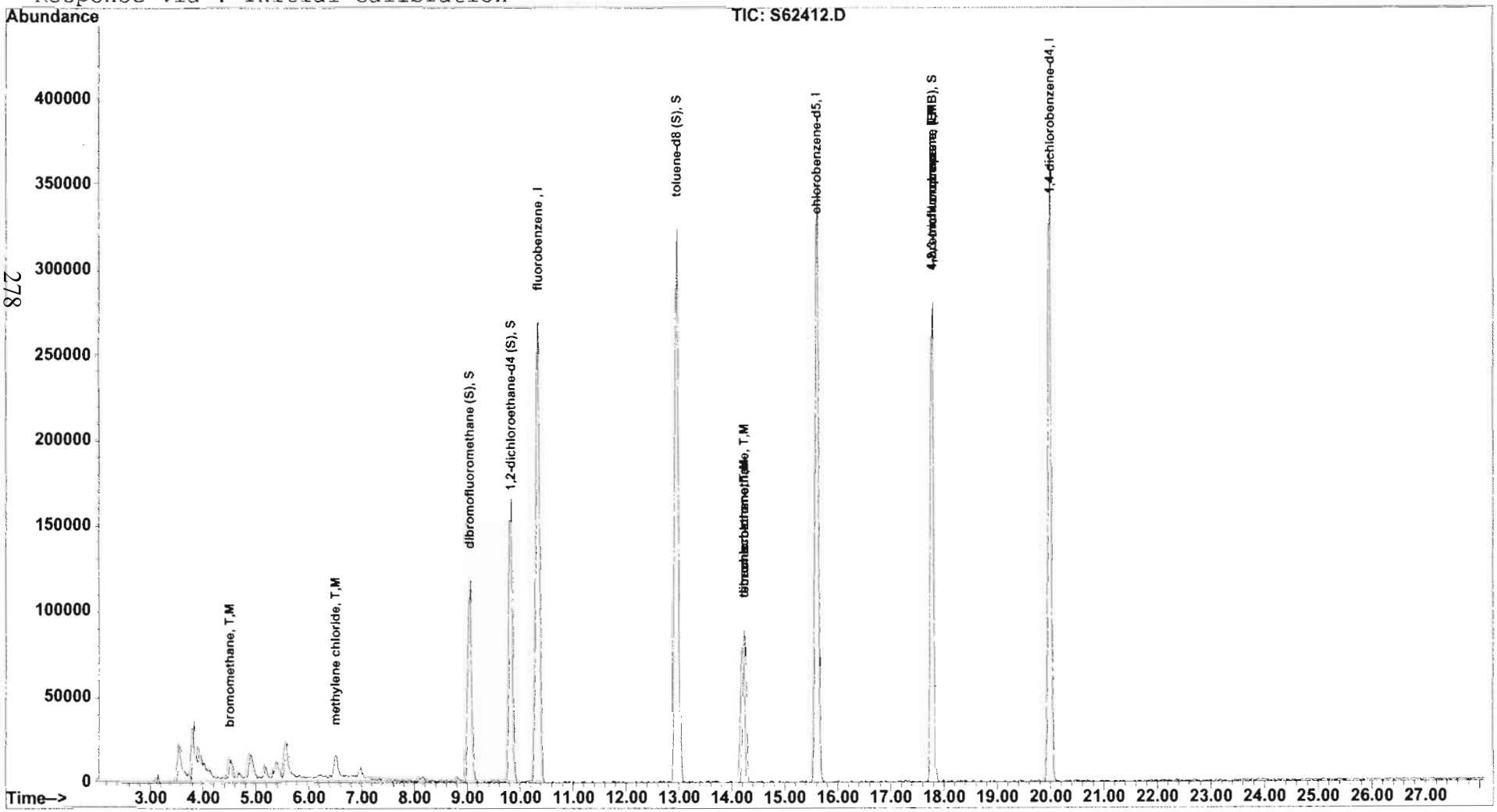
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4465703	15.00	ug/l	0.34
58) chlorobenzene-d5	15.62	117	4060523	15.00	ug/L	0.35
84) 1,4-dichlorobenzene-d4	20.00	152	2147815	15.00	ug/L	0.35
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1710735	29.83	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.43%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	417413	33.77	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 112.57%			
48) toluene-d8 (S)	12.98	98	5114849	29.26	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.53%			
68) 4-bromofluorobenzene (BFB)	17.79	95	2322124	26.33	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 87.77%			
Target Compounds						Qvalue
5) bromomethane	4.52	96	119273	1.82	ug/L	93
20) methylene chloride	6.52	84	136766	1.49	ug/L #	100
55) tetrachloroethene	14.25	166	709332	4.98	ug/L #	97
56) dibromochloromethane	14.25	129	522933	6.84	ug/L #	100
69) 1,2,3-trichloropropane	17.79	75	1426367	21.33	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62412.D Vial: 14
Acq On : 5 Aug 2011 6:23 pm Operator: A. Thomas
Sample : NZ T168 2.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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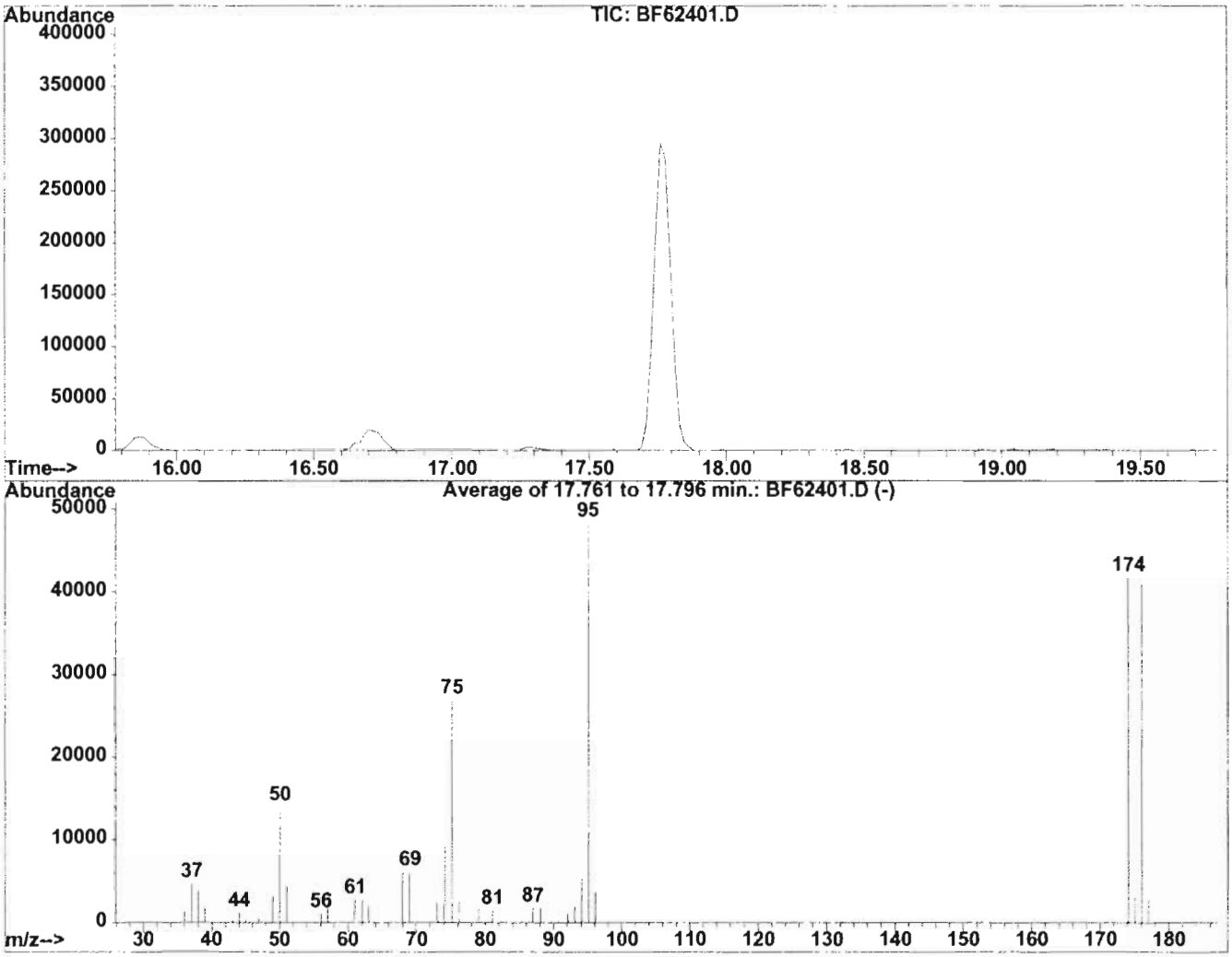
IV-1 Method Tunes

IV-2 Method Blanks

IV-3 Daily Calibration

IV-4 Laboratory Control Samples

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BF62401.D Vial: 1
Acq On : 5 Aug 2011 9:33 am Operator: A. Thomas
Sample : 50 ng bfb 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA

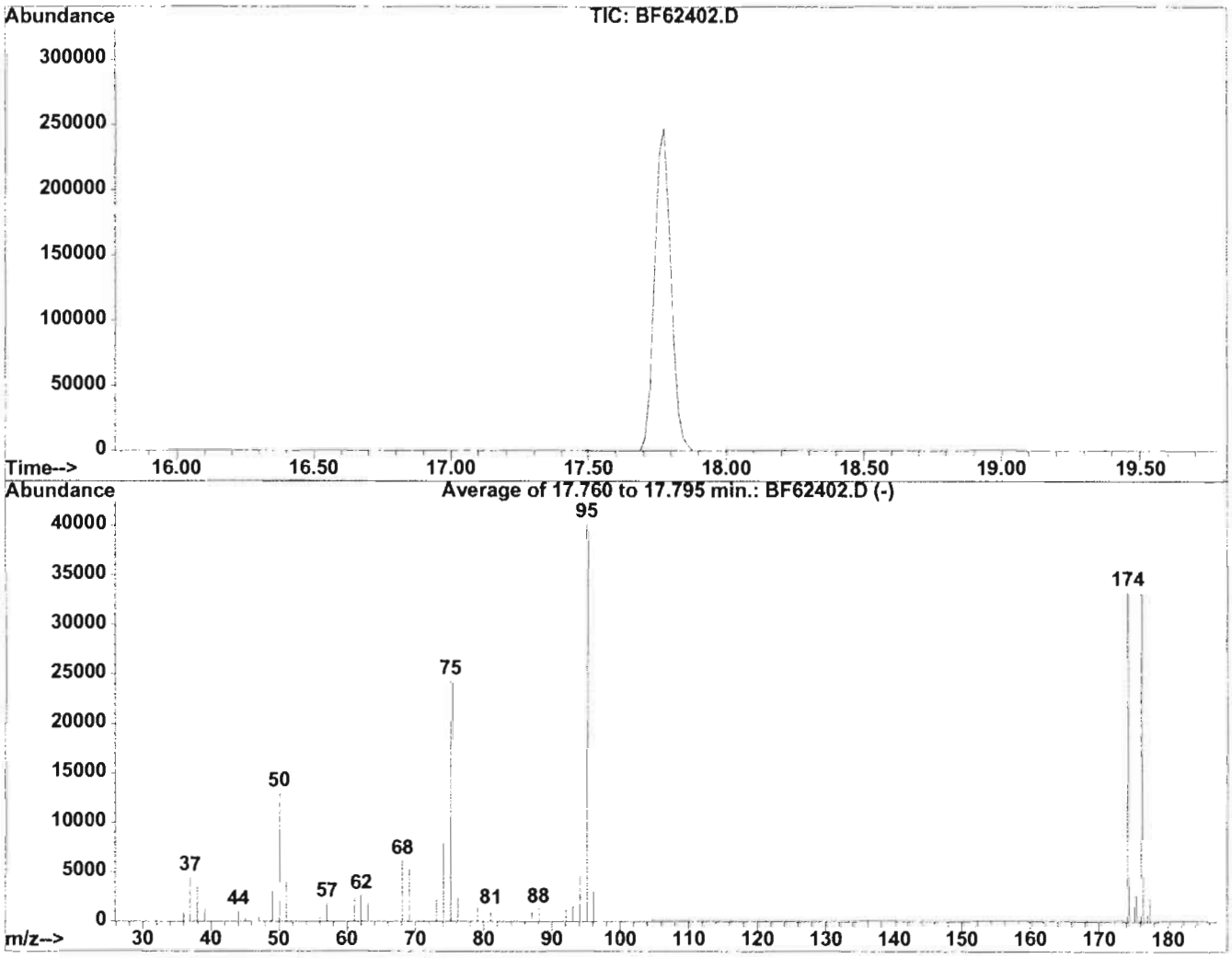


Spectrum Information: Average of 17.761 to 17.796 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	29.0	14024	PASS
75	95	30	70	55.9	27013	PASS
95	95	100	100	100.0	48357	PASS
96	95	5	9	7.7	3718	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	86.4	41760	PASS
175	174	5	9	7.7	3207	PASS
176	174	95	101	97.8	40851	PASS
177	176	5	9	6.7	2732	PASS

BF62401.D T6072011.M Fri Feb 24 12:42:07 2012 GCMS2

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BF62402.D Vial: 21
Acq On : 5 Aug 2011 10:27 pm Operator: A. Thomas
Sample : 50ng bfb2 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA



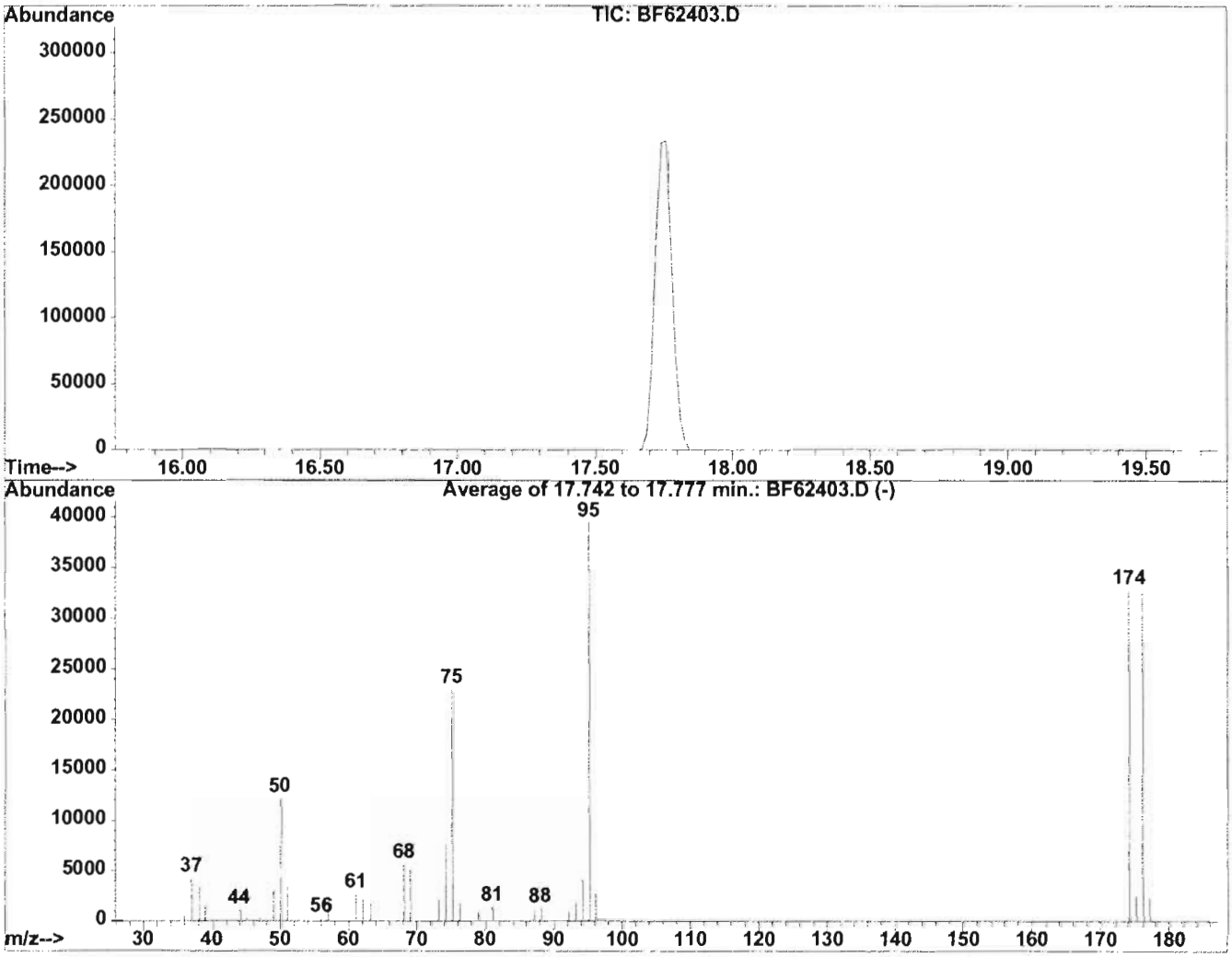
Spectrum Information: Average of 17.760 to 17.795 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	32.4	13047	PASS
75	95	30	70	60.5	24389	PASS
95	95	100	100	100.0	40299	PASS
96	95	5	9	7.7	3105	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	82.8	33371	PASS
175	174	5	9	7.7	2554	PASS
176	174	95	101	99.3	33149	PASS
177	176	5	9	6.8	2239	PASS

BF62402.D T6072011.M Fri Feb 24 12:42:15 2012 GCMS2

BFB

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BF62403.D Vial: 35
Acq On : 6 Aug 2011 7:05 am Operator: A. Thomas
Sample : 50ng bfb 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA



Spectrum Information: Average of 17.742 to 17.777 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	30.9	12229	PASS
75	95	30	70	58.2	23026	PASS
95	95	100	100	100.0	39552	PASS
96	95	5	9	6.9	2726	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	83.0	32843	PASS
175	174	5	9	7.2	2350	PASS
176	174	95	101	99.3	32627	PASS
177	176	5	9	6.9	2238	PASS

BF62403.D T6072011.M Fri Feb 24 12:42:21 2012 GCMS2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BL62401.D Vial: 1
Acq On : 5 Aug 2011 10:07 am Operator: A. Thomas
Sample : blank 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:05 19112 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.33	96	5370421	15.00	ug/l	0.33
58) chlorobenzene-d5	15.61	117	4379327	15.00	ug/L	0.34
84) 1,4-dichlorobenzene-d4	19.99	152	2467677	15.00	ug/L	0.34
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.05	113	2016675	29.24	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.47%			
35) 1,2-dichloroethane-d4 (S)	9.82	102	478851	32.22	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.40%			
48) toluene-d8 (S)	12.96	98	5523163	26.27	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 87.57%			
68) 4-bromofluorobenzene (BFB)	17.78	95	2529381	26.59	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 88.63%			

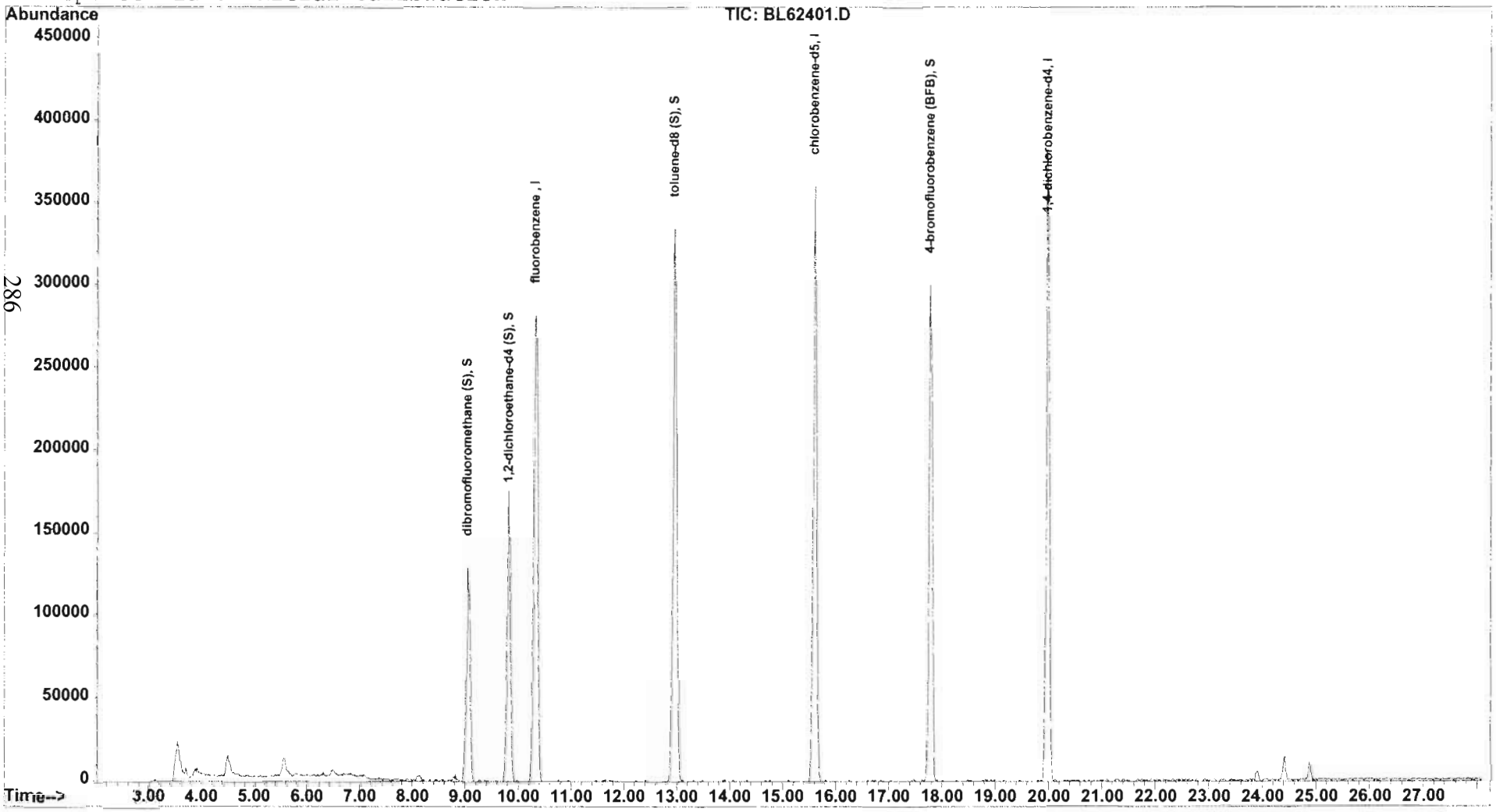
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BL62401.D Vial: 1
Acq On : 5 Aug 2011 10:07 am Operator: A. Thomas
Sample : blank 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:05 19112 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BL62403.D Vial: 35
Acq On : 6 Aug 2011 7:38 am Operator: A. Thomas
Sample : Blank 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 15:04 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.32	96	4487500m	15.00	ug/l	0.31
58) chlorobenzene-d5	15.59	117	3411275	15.00	ug/L	0.32
84) 1,4-dichlorobenzene-d4	19.96	152	1938925	15.00	ug/L	0.32
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.04	113	1435740	24.91	ug/L	0.32
Spiked Amount 30.000	Range 80 - 120		Recovery = 83.03%			
35) 1,2-dichloroethane-d4 (S)	9.81	102	336066	27.06	ug/L	0.32
Spiked Amount 30.000	Range 80 - 120		Recovery = 90.20%			
48) toluene-d8 (S)	12.95	98	4312851	24.55	ug/L	0.32
Spiked Amount 30.000	Range 80 - 120		Recovery = 81.83%			
68) 4-bromofluorobenzene (BFB)	17.76	95	1900973	25.66	ug/L	0.31
Spiked Amount 30.000	Range 80 - 120		Recovery = 85.53%			

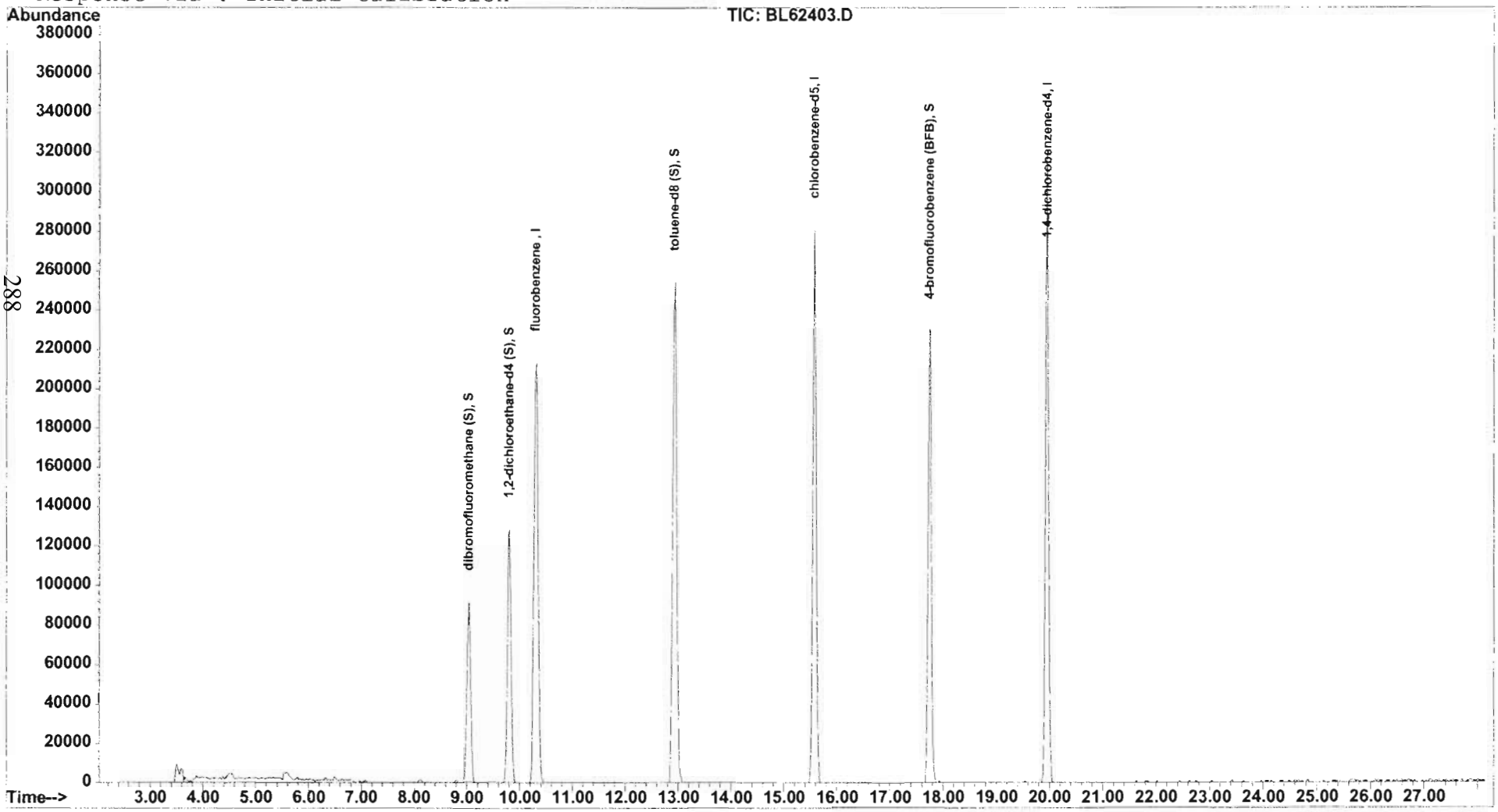
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BL62403.D Vial: 35
Acq On : 6 Aug 2011 7:38 am Operator: A. Thomas
Sample : Blank 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 15:04 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62402.D Vial: 21
Acq On : 5 Aug 2011 11:02 pm Operator: A. Thomas
Sample : 20ppb cal2 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
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)
1	I	fluorobenzene	1.000	1.000	0.0	94	-0.02
2	T,M	Dichlorodifuloromethane	0.241	0.199	17.4	75	-0.03
3	T,M	chloromethane	0.265	0.317	-19.6	107	0.00
4	C,T,M	vinyl chloride	0.219	0.209	4.6	84	-0.03
5	T,M	bromomethane	0.079	0.113	-43.0#	130	-0.03
6	T,M	chloroethane	0.161	0.156	3.1	85	-0.02
9	T,M	carbon disulfide	0.402	0.394	2.0	83	0.00
10	T,M	MTBE	0.627	0.325	48.2#	52	-0.02
11	t	1,4 Dioxane	0.022	0.018	18.2	70	0.00
12	T,M	tert-butyl alcohol	0.024	0.028	-16.7	101	-0.02
13	T,M	MEK	0.021	0.017	19.0	70	-0.02
14	T,M	acetone	0.072	0.023	68.1#	49#	0.00
15	T,M	trichlorofluoromethane	0.389	0.289	25.7	67	0.03
16	C,T,M	1,1-dichloroethene	0.421	0.453	-7.6	101	0.00
17	T,M	methylene chloride	0.305	0.220	27.9	83	0.00
18	T,M	trans-1,2-dichloroethene	0.397	0.361	9.1	85	0.00
19	T,M	1,1-dichloroethane	0.462	0.427	7.6	87	0.00
20	C,T,M	chloroform	0.283	0.289	-2.1	94	-0.01
21	S	dibromofluoromethane (S)	0.168	0.173	-3.0	96	-0.01
22	T,M	bromochloromethane	0.101	0.078	22.8	69	0.01
24	T,M	1,1,1-trichloroethane	0.341	0.256	24.9	68	-0.02
25	T,M	carbon tetrachloride	0.244	0.210	13.9	76	-0.01
26	S	1,2-dichloroethane-d4 (S)	0.038	0.039	-2.6	100	-0.02
27	T,M	1,2-dichloroethane	0.435	0.429	1.4	93	-0.02
28	T,M	benzene	0.735	0.723	1.6	91	-0.02
29	T,M	trichloroethene	0.200	0.207	-3.5	93	-0.02
31	C,T,M	1,2-dichloropropane	0.221	0.223	-0.9	94	-0.02
33	T,M	cis-1,2-dichloroethene	0.378	0.361	4.5	90	-0.01
34	T,M	bromodichloromethane	0.237	0.242	-2.1	91	-0.02
35	T,M	cis-1,3-dichloropropene	0.259	0.147	43.2#	51	-0.02
36	S	toluene-d8 (S)	0.484	0.490	-1.2	94	-0.02
37	C,T,M	toluene	0.729	0.716	1.8	92	-0.03
38	T,M	trans-1,3-dichloropropene	0.228	0.093	59.2#	38#	-0.02
40	T,M	1,1,2-trichloroethane	0.146	0.144	1.4	87	-0.03
41	T,M	tetrachloroethene	0.234	0.331	-41.5#	132	-0.03
42	T,M	dibromochloromethane	0.153	0.141	7.8	84	-0.02
43	T,M	1,2-dibromoethane	0.179	0.175	2.2	89	-0.02
44	I	chlorobenzene-d5	1.000	1.000	0.0	98	-0.02
45	M,T	chlorobenzene	0.580	0.533	8.1	89	-0.02
46	C,T,M	ethyl benzene	1.110	1.043	6.0	90	-0.02
47	T,M	m/p-xylene	0.947	1.812	1.3	181	-0.02
48	T,M	o-xylene	0.934	0.856	8.4	88	-0.02
49	T,M	styrene	0.530	0.486	9.8	84	-0.02
50	T,M	isopropyl benzene	1.024	0.953	6.9	89	-0.02

51	T,M	bromoform	0.110	0.082	25.5	76	-0.02
52	T,M	1,1,2,2-tetrachloroethane	0.269	0.238	11.5	82	-0.02
53	S	4-bromofluorobenzene (BFB)	0.289	0.278	3.8	94	-0.02
54	T,M	1,3-dichlorobenzene	0.450	0.423	6.0	89	-0.02
55	T,M	1,2-dichlorobenzene	0.433	0.403	6.9	89	-0.02
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	97	-0.02
57	T,M	1,4-dichlorobenzene	0.821	0.771	6.1	89	-0.01
58	T,M	1,2-dibromo-3-chloropropane	0.072	0.055	23.6	89	-0.03
59	T,M	1,2,4-trichlorobenzene	0.490	0.456	6.9	87	-0.03
60	T,M	Napthalene	0.947	0.751	20.7	75	-0.03
61	T,M	1,2,3-trichlorobenzene	0.458	0.427	6.8	88	-0.03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CT62418.D T6080311.M Fri Feb 24 13:00:31 2012 GCMS2

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62401.D Vial: 1
Acq On : 5 Aug 2011 10:42 am Operator: A. Thomas
Sample : 20ppb cal 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
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)
1	I	fluorobenzene	1.000	1.000	0.0	113	-0.01
3	T,M	chloromethane	0.265	0.196	26.0	80	-0.01
4	C,T,M	vinyl chloride	0.219	0.168	23.3	81	-0.03
5	T,M	bromomethane	0.079	0.146	-84.8#	203#	-0.03
6	T,M	chloroethane	0.161	0.137	14.9	91	-0.02
8	t	Methyl Acetate	0.031	0.022	29.0	81	-0.02
9	T,M	carbon disulfide	0.402	0.360	10.4	91	-0.01
10	T,M	MTBE	0.627	0.273	56.5#	53	-0.01
11	t	1,4 Dioxane	0.022	0.018	18.2	83	0.00
12	T,M	tert-butyl alcohol	0.024	0.025	-4.2	109	0.00
13	T,M	MEK	0.021	0.017	19.0	82	0.00
15	T,M	trichlorofluoromethane	0.389	0.272	30.1#	76	0.00
16	C,T,M	1,1-dichloroethene	0.421	0.352	16.4	95	-0.01
17	T,M	methylene chloride	0.305	0.200	34.4#	91	-0.02
18	T,M	trans-1,2-dichloroethene	0.397	0.289	27.2	82	-0.01
19	T,M	1,1-dichloroethane	0.462	0.354	23.4	87	-0.01
20	C,T,M	chloroform	0.283	0.230	18.7	90	0.00
21	S	dibromofluoromethane (S)	0.168	0.168	0.0	113	-0.01
22	T,M	bromochloromethane	0.101	0.074	26.7	79	0.00
24	T,M	1,1,1-trichloroethane	0.341	0.224	34.3#	72	-0.02
25	T,M	carbon tetrachloride	0.244	0.179	26.6	78	0.00
26	S	1,2-dichloroethane-d4 (S)	0.038	0.040	-5.3	123	-0.01
27	T,M	1,2-dichloroethane	0.435	0.323	25.7	84	-0.02
28	T,M	benzene	0.735	0.559	23.9	85	-0.02
29	T,M	trichloroethene	0.200	0.162	19.0	88	-0.01
31	C,T,M	1,2-dichloropropane	0.221	0.172	22.2#	88	-0.02
33	T,M	cis-1,2-dichloroethene	0.378	0.324	14.3	98	-0.01
34	T,M	bromodichloromethane	0.237	0.183	22.8	83	-0.01
35	T,M	cis-1,3-dichloropropene	0.259	0.138	46.7#	57	-0.01
36	S	toluene-d8 (S)	0.484	0.469	3.1	108	-0.01
37	C,T,M	toluene	0.729	0.550	24.6#	85	-0.02
38	T,M	trans-1,3-dichloropropene	0.228	0.090	60.5#	44#	-0.01
40	T,M	1,1,2-trichloroethane	0.146	0.110	24.7	80	-0.02
41	T,M	tetrachloroethene	0.234	0.271	-15.8	131	-0.01
42	T,M	dibromochloromethane	0.153	0.107	30.1#	77	-0.01
43	T,M	1,2-dibromoethane	0.179	0.138	22.9	85	-0.01
44	I	chlorobenzene-d5	1.000	1.000	0.0	111	-0.01
45	M,T	chlorobenzene	0.580	0.444	23.4	84	-0.01
46	C,T,M	ethyl benzene	1.110	0.836	2.7	82	-0.01
47	T,M	m/p-xylene	0.947	1.441	2.2	163	0.00
48	T,M	o-xylene	0.934	0.717	23.2	84	0.00
49	T,M	styrene	0.539	0.399	26.0	78	0.00
50	T,M	isopropyl benzene	1.002	0.774	24.4	82	0.00
51	T,M	bromoform	0.110	0.076	30.9#	80	0.00

52	T,M	1,1,2,2-tetrachloroethane	0.269	0.202	24.9	78	0.00
53	S	4-bromofluorobenzene (BFB)	0.289	0.289	0.0	111	0.00
54	T,M	1,3-dichlorobenzene	0.450	0.356	20.9	85	0.00
55	T,M	1,2-dichlorobenzene	0.433	0.334	22.9	83	0.00
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	112	0.00
57	T,M	1,4-dichlorobenzene	0.821	0.617	24.8	82	0.00
58	T,M	1,2-dibromo-3-chloropropane	0.072	0.051	29.2	95	-0.01
59	T,M	1,2,4-trichlorobenzene	0.490	0.398	18.8	88	0.00
60	T,M	Napthalene	0.947	0.765	19.2	88	-0.01
61	T,M	1,2,3-trichlorobenzene	0.458	0.374	18.3	89	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 3

CT62418.D T6080311.M Fri Feb 24 13:02:00 2012 GCMS2

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DC62403.D Vial: 34
Acq On : 6 Aug 2011 6:31 am Operator: A. Thomas
Sample : 20ppb cal3 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
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)
1	I	fluorobenzene	1.000	1.000	0.0	85	-0.05
2	T,M	Dichlorodifuloromethane	0.241	0.213	11.6	73	-0.04
3	T,M	chloromethane	0.265	0.350	-32.1#	108	-0.03
4	C,T,M	vinyl chloride	0.219	0.228	-4.1	83	-0.04
5	T,M	bromomethane	0.079	0.117	-48.1#	122	-0.04
6	T,M	chloroethane	0.161	0.168	-4.3	83	-0.03
9	T,M	carbon disulfide	0.402	0.388	3.5	74	0.00
10	T,M	MTBE	0.627	0.321	48.8#	47#	-0.04
11	t	1,4 Dioxane	0.022	0.020	9.1	70	-0.03
12	T,M	tert-butyl alcohol	0.024	0.029	-20.8	92	-0.04
13	T,M	MEK	0.021	0.017	19.0	62	-0.03
15	T,M	trichlorofluoromethane	0.389	0.300	22.9	63	0.02
16	C,T,M	1,1-dichloroethene	0.421	0.473	-12.4	96	-0.02
17	T,M	methylene chloride	0.305	0.240	21.3	82	-0.02
18	T,M	trans-1,2-dichloroethene	0.397	0.354	10.8	76	-0.03
19	T,M	1,1-dichloroethane	0.462	0.422	8.7	78	-0.03
20	C,T,M	chloroform	0.283	0.275	2.8	81	-0.03
21	S	dibromofluoromethane (S)	0.168	0.170	-1.2	86	-0.03
22	T,M	bromochloromethane	0.101	0.082	18.8	66	-0.02
24	T,M	1,1,1-trichloroethane	0.341	0.257	24.6	62	-0.03
25	T,M	carbon tetrachloride	0.244	0.212	13.1	70	-0.03
26	S	1,2-dichloroethane-d4 (S)	0.038	0.039	-2.6	90	-0.04
27	T,M	1,2-dichloroethane	0.435	0.417	4.1	82	-0.04
28	T,M	benzene	0.735	0.699	4.9	80	-0.04
29	T,M	trichloroethene	0.200	0.212	-6.0	86	-0.05
31	C,T,M	1,2-dichloropropane	0.221	0.217	1.8	83	-0.04
32	T,M	MIBK	0.023	0.017	26.1	63	-0.04
33	T,M	cis-1,2-dichloroethene	0.378	0.367	2.9	83	-0.03
34	T,M	bromodichloromethane	0.237	0.236	0.4	80	-0.04
35	T,M	cis-1,3-dichloropropene	0.259	0.146	43.6#	45#	-0.05
36	S	toluene-d8 (S)	0.484	0.493	-1.9	86	-0.04
37	C,T,M	toluene	0.729	0.711	2.5	83	-0.05
38	T,M	trans-1,3-dichloropropene	0.228	0.088	61.4#	32#	-0.04
39	T,M	2-hexanone	0.072	0.058	19.4	63	-0.05
40	T,M	1,1,2-trichloroethane	0.146	0.133	8.9	73	-0.05
41	T,M	tetrachloroethene	0.234	0.302	-29.1	110	-0.05
42	T,M	dibromochloromethane	0.153	0.131	14.4	71	-0.05
43	T,M	1,2-dibromoethane	0.179	0.163	8.9	76	-0.04
44	I	chlorobenzene-d5	1.000	1.000	0.0	87	-0.04
45	M,T	chlorobenzene	0.580	0.547	5.7	81	-0.05
46	C,T,M	ethyl benzene	1.110	1.063	4.2	82	-0.04
47	T,M	m/p-xylene	0.947	1.812	1.3	161	-0.04
48	T,M	o-xylene	0.934	0.908	2.8	83	-0.04
49	T,M	styrene	0.539	0.509	5.6	78	-0.04

50	T,M	isopropyl benzene	1.024	0.996	2.7	83	-0.04
51	T,M	bromoform	0.110	0.086	21.8	71	-0.05
52	T,M	1,1,2,2-tetrachloroethane	0.269	0.243	9.7	74	-0.04
53	S	4-bromofluorobenzene (BFB)	0.289	0.293	-1.4	88	-0.04
54	T,M	1,3-dichlorobenzene	0.450	0.458	-1.8	86	-0.04
55	T,M	1,2-dichlorobenzene	0.433	0.425	1.8	83	-0.05
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	94	-0.05
57	T,M	1,4-dichlorobenzene	0.821	0.757	7.8	84	-0.03
59	T,M	1,2,4-trichlorobenzene	0.490	0.458	6.5	84	-0.06
60	T,M	Napthalene	0.947	0.732	22.7	71	-0.06
61	T,M	1,2,3-trichlorobenzene	0.458	0.419	8.5	84	-0.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CT62418.D T6080311.M Fri Feb 24 13:03:34 2012 GCMS2

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DC62403.D Vial: 34
Acq On : 6 Aug 2011 6:31 am Operator: A. Thomas
Sample : 20ppb cal3 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:57 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.31	96	4473168	15.00	ug/l	-0.05
44) chlorobenzene-d5	15.59	117	3506251	15.00	ug/L	-0.04
56) 1,4-dichlorobenzene-d4	19.96	152	2115892	15.00	ug/L	-0.05
System Monitoring Compounds						
21) dibromofluoromethane (S)	9.04	113	1517180	30.21	ug/L	-0.03
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.70%			
26) 1,2-dichloroethane-d4 (S)	9.81	102	349986	30.75	ug/L	-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.50%			
36) toluene-d8 (S)	12.94	98	4406473	30.51	ug/L	-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.70%			
53) 4-bromofluorobenzene (BFB)	17.76	95	2056429	30.41	ug/L	-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.37%			
Target Compounds						Qvalue
2) Dichlorodifuloromethane	3.39	85	1270823	17.67	ug/L	98
3) chloromethane	3.80	50	2086597	26.44	ug/L	100
4) vinyl chloride	3.87	62	1359639	20.77	ug/L	100
5) bromomethane	4.50	96	698762	21.58	ug/L	97
6) chloroethane	4.60	64	999888	20.77	ug/L #	100
9) carbon disulfide	6.65	76	2313940	14.78	ug/L #	100
10) MTBE	6.65	73	1914204	10.23	ug/L	95
11) 1,4 Dioxane	6.49	88	118317	18.14	ug/l #	100
12) tert-butyl alcohol	5.83	59	851837	23.44	ug/l #	43
13) MEK	8.12	72	99625	14.16	ug/L	71
14) acetone	5.59	58	164868	18.98	ug/L	88
15) trichlorofluoromethane	4.99	101	1788399	15.43	ug/L	99
16) 1,1-dichloroethene	5.82	61	2818875	22.43	ug/L #	100
17) methylene chloride	6.50	84	1430291	21.31	ug/L #	100
18) trans-1,2-dichloroethene	6.93	61	2111320	17.83	ug/L #	100
19) 1,1-dichloroethane	7.55	63	2519655	18.29	ug/L #	99
20) chloroform	8.70	85	1638014	19.43	ug/L #	100
22) bromochloromethane	9.00	128	491758	16.31	ug/L	98
24) 1,1,1-trichloroethane	9.34	97	1531472	15.04	ug/L #	100
25) carbon tetrachloride	9.76	117	1264410	14.94	ug/L #	100
27) 1,2-dichloroethane	9.96	62	2487603	19.16	ug/L #	83
28) benzene	10.02	78	4170225	19.03	ug/L #	100
29) trichloroethene	10.97	130	1261591	21.16	ug/L #	68
31) 1,2-dichloropropane	11.25	63	1293611	19.66	ug/L #	100
32) MIBK	12.10	100	101980	13.54	ug/L	77
33) cis-1,2-dichloroethene	8.46	61	2190835	19.44	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DC62403.D Vial: 34
Acq On : 6 Aug 2011 6:31 am Operator: A. Thomas
Sample : 20ppb cal3 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:57 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

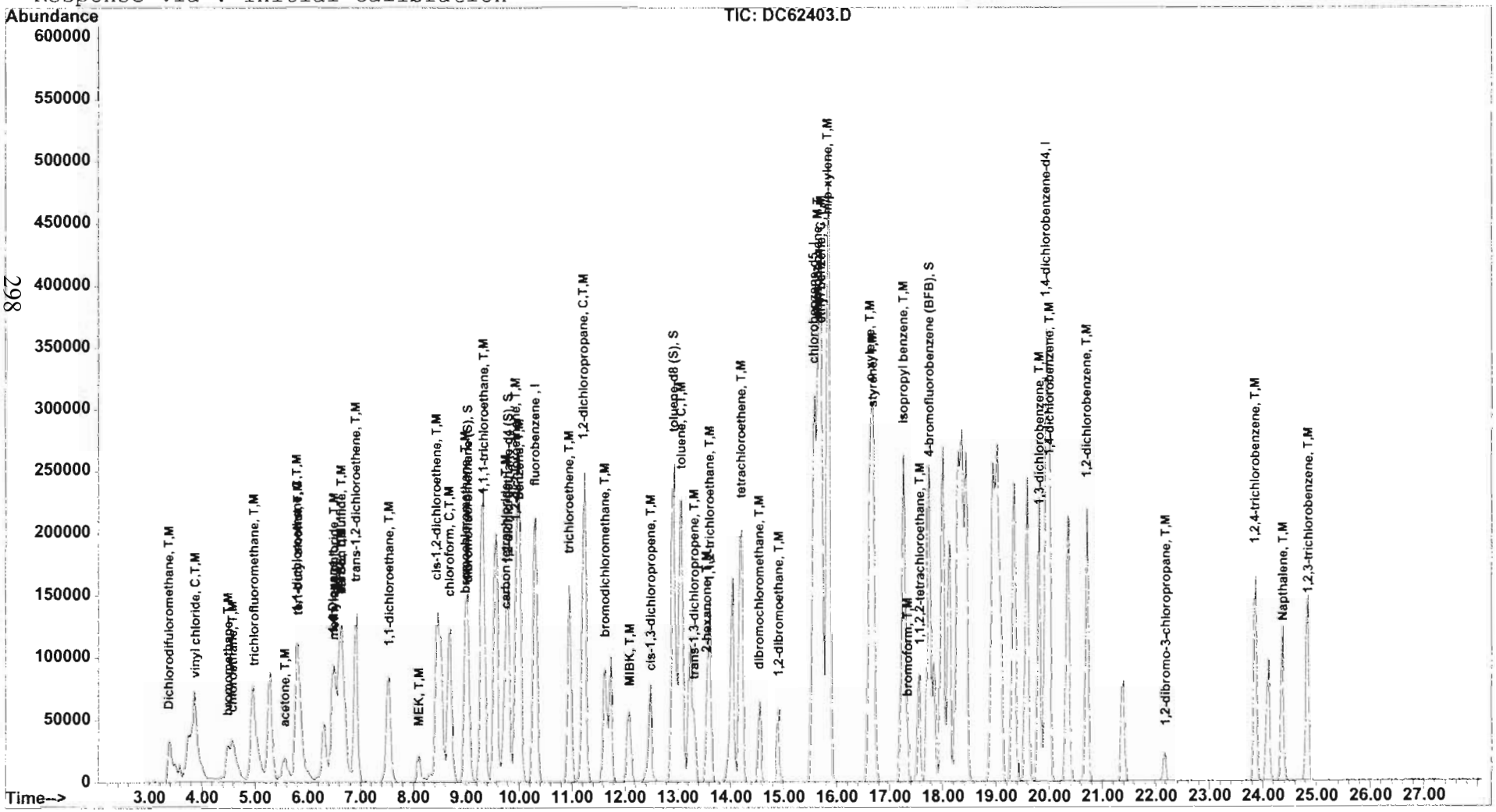
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
34)	bromodichloromethane	11.64	83	1410378	16.17	ug/L	#	66
35)	cis-1,3-dichloropropene	12.50	75	868133	9.66	ug/L	#	93
37)	toluene	13.08	91	4242040	19.50	ug/L	#	100
38)	trans-1,3-dichloropropene	13.34	75	527492	6.32	ug/L	#	100
39)	2-hexanone	13.57	58	344240	14.22	ug/L	#	74
40)	1,1,2-trichloroethane	13.62	83	792140	18.20	ug/L	#	100
41)	tetrachloroethene	14.22	166	1800583	25.84	ug/L	#	76
42)	dibromochloromethane	14.57	129	779704	13.57	ug/L	#	100
43)	1,2-dibromoethane	14.93	107	974198	18.27	ug/L	#	98
45)	chlorobenzene	15.66	112	2555638	18.85	ug/L	#	100
46)	ethyl benzene	15.72	91	4969757	19.15	ug/L		100
47)	m/p-xylene	15.86	91	8470791	38.25	ug/L		100
48)	o-xylene	16.65	91	4245054	19.44	ug/L	#	83
49)	styrene	16.71	104	2381097	18.90	ug/L		95
50)	isopropyl benzene	17.28	105	4654684	19.44	ug/L		99
51)	bromoform	17.37	173	401490	11.32	ug/L	#	100
52)	1,1,2,2-tetrachloroethane	17.58	83	1135906	16.92	ug/L	#	98
54)	1,3-dichlorobenzene	19.83	146	2143075	20.37	ug/L	#	100
55)	1,2-dichlorobenzene	20.72	146	1987443	19.61	ug/L	#	74
57)	1,4-dichlorobenzene	20.02	146	2134444	18.42	ug/L	#	72
58)	1,2-dibromo-3-chloropropan	22.19	75	133382	11.13	ug/L		97
59)	1,2,4-trichlorobenzene	23.87	180	1291090	18.66	ug/L		98
60)	Napthalene	24.38	128	2064964	15.46	ug/L		100
61)	1,2,3-trichlorobenzene	24.85	180	1181715	18.29	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DC62403.D Vial: 34
Acq On : 6 Aug 2011 6:31 am Operator: A. Thomas
Sample : 20ppb cal3 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:57 19112 Quant Results File: T6080311.RES

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62401.D Vial: 1
Acq On : 5 Aug 2011 10:42 am Operator: A. Thomas
Sample : 20ppb cal 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	10.35	96	5953754	15.00	ug/l		-0.01
44) chlorobenzene-d5	15.62	117	4453756	15.00	ug/L		-0.01
56) 1,4-dichlorobenzene-d4	20.00	152	2524334	15.00	ug/L		0.00
System Monitoring Compounds							
21) dibromofluoromethane (S)	9.06	113	1996729	29.87	ug/L		-0.01
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.57%				
26) 1,2-dichloroethane-d4 (S)	9.84	102	475876	31.41	ug/L		-0.01
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.70%				
36) toluene-d8 (S)	12.97	98	5578935	29.03	ug/L		-0.01
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.77%				
53) 4-bromofluorobenzene (BFB)	17.79	95	2571044	29.93	ug/L		0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.77%				
Target Compounds							Qvalue
2) Dichlorodifuloromethane	3.41	85	1256635	13.13	ug/L		97
3) chloromethane	3.82	50	1554437	14.80	ug/L		96
4) vinyl chloride	3.89	62	1329964	15.27	ug/L		97
5) bromomethane	4.51	96	1160509	26.93	ug/L		97
6) chloroethane	4.61	64	1085380	16.94	ug/L	#	100
8) Methyl Acetate	6.23	74	173052	12.35	ug/l		69
9) carbon disulfide	6.65	76	2856038	13.70	ug/L	#	100
10) MTBE	6.69	73	2167297	8.70	ug/L		94
11) 1,4 Dioxane	6.52	88	139076	16.02	ug/l	#	100
12) tert-butyl alcohol	5.86	59	1005459	103.93	ug/l		88
13) MEK	8.15	72	131486	14.04	ug/L		78
14) acetone	5.59	58	201891	17.46	ug/L		92
15) trichlorofluoromethane	4.97	101	2157909	13.99	ug/L		99
16) 1,1-dichloroethene	5.83	61	2795658	16.71	ug/L	#	100
17) methylene chloride	6.51	84	1583832	17.73	ug/L	#	100
18) trans-1,2-dichloroethene	6.94	61	2291184	14.53	ug/L	#	100
19) 1,1-dichloroethane	7.56	63	2810932	15.33	ug/L	#	100
20) chloroform	8.73	85	1826754	16.28	ug/L	#	100
22) bromochloromethane	9.01	128	589411	14.68	ug/L		94
24) 1,1,1-trichloroethane	9.36	97	1782124	13.15	ug/L	#	100
25) carbon tetrachloride	9.78	117	1417073	12.58	ug/L	#	100
27) 1,2-dichloroethane	9.98	62	2560229	14.81	ug/L	#	100
28) benzene	10.04	78	4438229	15.22	ug/L	#	100
29) trichloroethene	11.00	130	1287250	16.22	ug/L	#	33
31) 1,2-dichloropropane	11.27	63	1365294	15.59	ug/L	#	100
32) MIBK	12.13	100	98906	9.86	ug/L		87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62401.D Vial: 1
Acq On : 5 Aug 2011 10:42 am Operator: A. Thomas
Sample : 20ppb cal 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

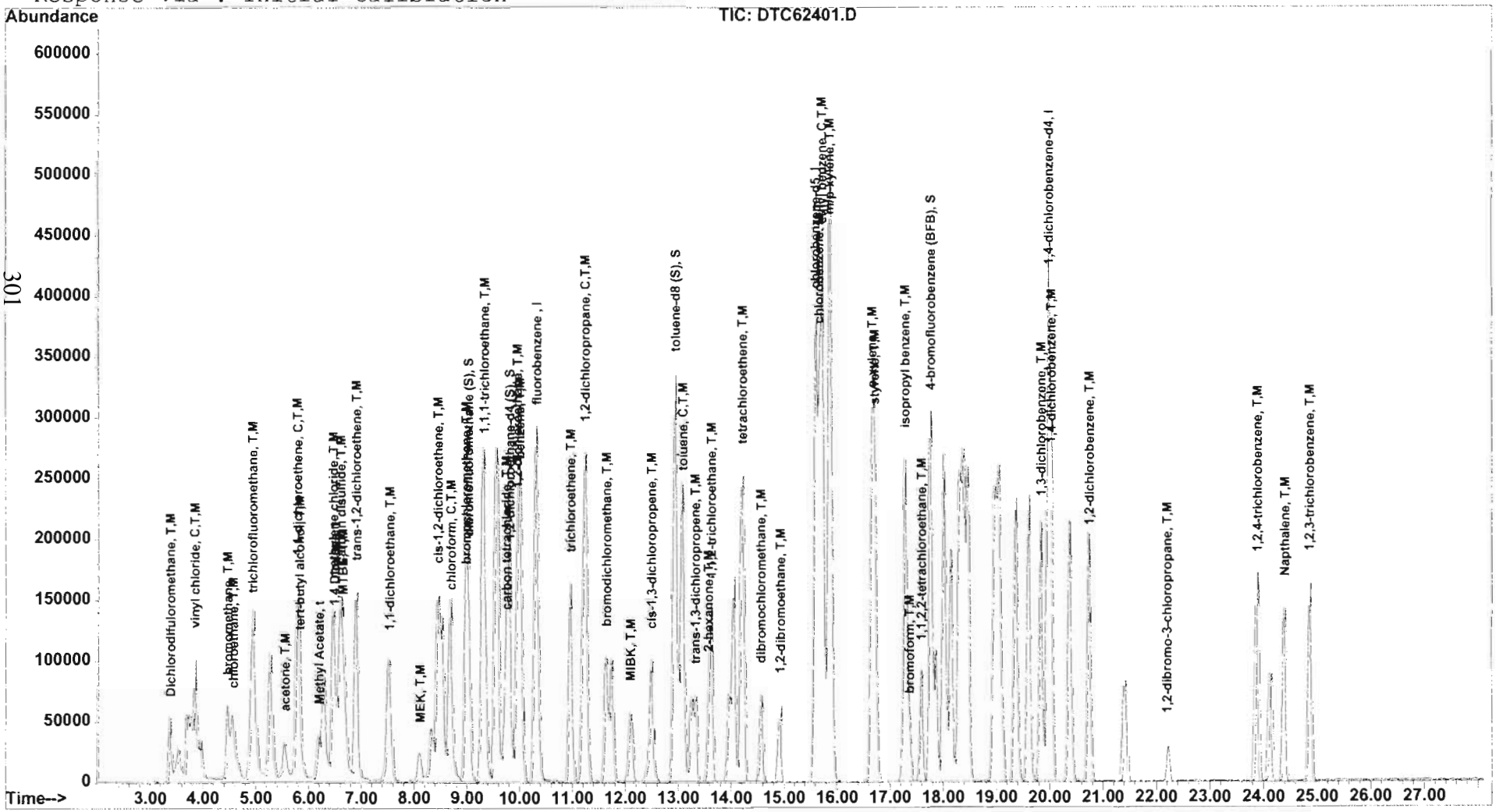
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
33)	cis-1,2-dichloroethene	8.49	61	2574191	17.16	ug/L	#	100
34)	bromodichloromethane	11.67	83	1454710	12.53	ug/L	#	66
35)	cis-1,3-dichloropropene	12.53	75	1097602	9.18	ug/L		99
37)	toluene	13.11	91	4367159	15.08	ug/L	#	100
38)	trans-1,3-dichloropropene	13.37	75	716994	6.46	ug/L	#	100
39)	2-hexanone	13.61	58	333358	10.34	ug/L	#	75
40)	1,1,2-trichloroethane	13.65	83	872314	15.06	ug/L	#	100
41)	tetrachloroethene	14.25	166	2150740	23.19	ug/L	#	76
42)	dibromochloromethane	14.60	129	848237	11.09	ug/L	#	100
43)	1,2-dibromoethane	14.96	107	1098436	15.48	ug/L	#	92
45)	chlorobenzene	15.69	112	2634734	15.30	ug/L	#	100
46)	ethyl benzene	15.75	91	4966852	15.07	ug/L		100
47)	m/p-xylene	15.89	91	8554552	30.41	ug/L	#	82
48)	o-xylene	16.69	91	4256096	15.34	ug/L		100
49)	styrene	16.74	104	2366768	14.79	ug/L		94
50)	isopropyl benzene	17.31	105	4594257	15.11	ug/L		100
51)	bromoform	17.40	173	453134	10.06	ug/L	#	100
52)	1,1,2,2-tetrachloroethane	17.62	83	1196752	14.04	ug/L	#	98
54)	1,3-dichlorobenzene	19.86	146	2111897	15.81	ug/L	#	100
55)	1,2-dichlorobenzene	20.77	146	1982623	15.40	ug/L		98
57)	1,4-dichlorobenzene	20.06	146	2076769	15.02	ug/L	#	91
58)	1,2-dibromo-3-chloropropan	22.23	75	171517	11.99	ug/L		97
59)	1,2,4-trichlorobenzene	23.92	180	1340944	16.25	ug/L		95
60)	Napthalene	24.43	128	2575739	16.16	ug/L		100
61)	1,2,3-trichlorobenzene	24.90	180	1260120	16.35	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62401.D Vial: 1
Acq On : 5 Aug 2011 10:42 am Operator: A. Thomas
Sample : 20ppb cal 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62402.D Vial: 21
Acq On : 5 Aug 2011 11:02 pm Operator: A. Thomas
Sample : 20ppb cal2 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	10.34	96	4921902	15.00	ug/l		-0.02
44) chlorobenzene-d5	15.61	117	3930679	15.00	ug/L		-0.02
56) 1,4-dichlorobenzene-d4	19.98	152	2189955	15.00	ug/L		-0.02
System Monitoring Compounds							
21) dibromofluoromethane (S)	9.06	113	1698244	30.73	ug/L		-0.01
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.43%				
26) 1,2-dichloroethane-d4 (S)	9.83	102	386781	30.88	ug/L		-0.02
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.93%				
36) toluene-d8 (S)	12.96	98	4819323	30.33	ug/L		-0.02
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.10%				
53) 4-bromofluorobenzene (BFB)	17.78	95	2183478	28.81	ug/L		-0.02
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.03%				
Target Compounds							Qvalue
2) Dichlorodifuloromethane	3.40	85	1302791	16.47	ug/L		100
3) chloromethane	3.83	50	2080988	23.96	ug/L		92
4) vinyl chloride	3.88	62	1373739	19.07	ug/L		98
5) bromomethane	4.51	96	743213	20.86	ug/L		99
6) chloroethane	4.61	64	1024636	19.35	ug/L	#	100
8) Methyl Acetate	6.23	74	687617	59.35	ug/l		82
9) carbon disulfide	6.66	76	2584418	15.00	ug/L	#	100
10) MTBE	6.68	73	2132263	10.36	ug/L		95
11) 1,4 Dioxane	6.52	88	118247	16.48	ug/l	#	100
12) tert-butyl alcohol	5.85	59	929312	116.20	ug/l		91
13) MEK	8.14	72	112082	14.48	ug/L		99
14) acetone	5.60	58	148392	15.53	ug/L		82
15) trichlorofluoromethane	5.00	101	1896980	14.88	ug/L		99
16) 1,1-dichloroethene	5.84	61	2970490	21.48	ug/L	#	100
17) methylene chloride	6.52	84	1442334	19.53	ug/L	#	100
18) trans-1,2-dichloroethene	6.95	61	2367102	18.16	ug/L	#	100
19) 1,1-dichloroethane	7.57	63	2805358	18.51	ug/L	#	99
20) chloroform	8.73	85	1893501	20.41	ug/L	#	100
22) bromochloromethane	9.03	128	514893	15.52	ug/L		90
24) 1,1,1-trichloroethane	9.36	97	1677404	14.97	ug/L	#	100
25) carbon tetrachloride	9.78	117	1381240	14.83	ug/L	#	100
27) 1,2-dichloroethane	9.98	62	2814010	19.69	ug/L	#	100
28) benzene	10.04	78	4742569	19.67	ug/L	#	100
29) trichloroethene	10.99	130	1361173	20.75	ug/L	#	33
31) 1,2-dichloropropane	11.27	63	1463223	20.22	ug/L	#	100
33) cis-1,2-dichloroethene	8.49	61	2370599	19.12	ug/L	#	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62402.D Vial: 21
Acq On : 5 Aug 2011 11:02 pm Operator: A. Thomas
Sample : 20ppb cal2 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

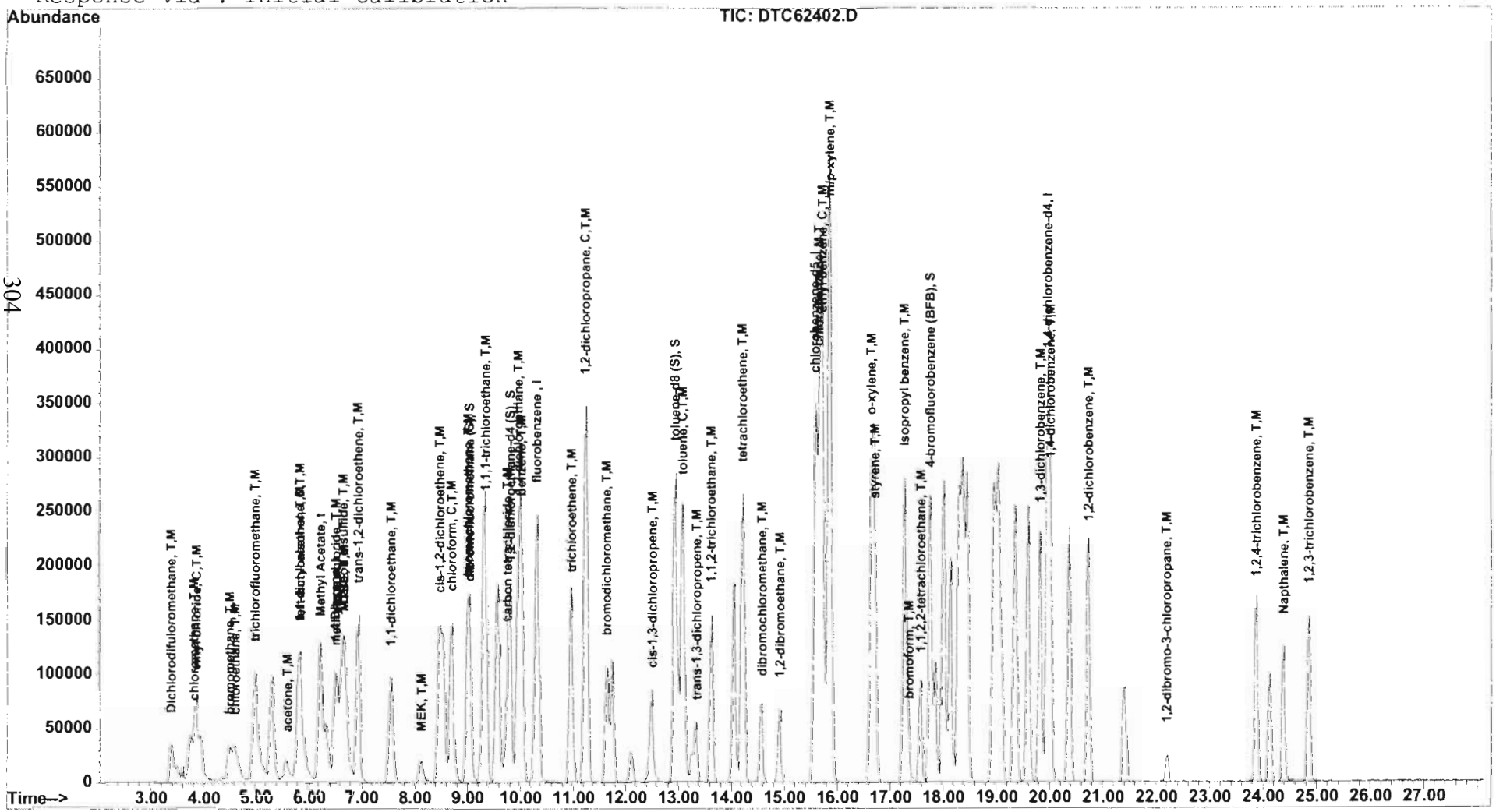
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
34) bromodichloromethane	11.66	83	1589312	16.56 ug/L #	98
35) cis-1,3-dichloropropene	12.52	75	966766	9.78 ug/L #	93
37) toluene	13.10	91	4700867	19.64 ug/L #	100
38) trans-1,3-dichloropropene	13.36	75	612223	6.67 ug/L #	100
40) 1,1,2-trichloroethane	13.65	83	942184	19.68 ug/L #	100
41) tetrachloroethene	14.24	166	2173991	28.35 ug/L #	99
42) dibromochloromethane	14.59	129	927029	14.66 ug/L #	100
43) 1,2-dibromoethane	14.95	107	1147077	19.55 ug/L #	100
45) chlorobenzene	15.68	112	2794480	18.39 ug/L #	100
46) ethyl benzene	15.74	91	5464715	18.78 ug/L #	89
47) m/p-xylene	15.88	91	9496706	38.25 ug/L #	82
48) o-xylene	16.67	91	4484975	18.32 ug/L #	83
49) styrene	16.73	104	2547573	18.04 ug/L	96
50) isopropyl benzene	17.30	105	4993589	18.60 ug/L	99
51) bromoform	17.39	173	431296	10.84 ug/L #	100
52) 1,1,2,2-tetrachloroethane	17.60	83	1249865	16.61 ug/L #	100
54) 1,3-dichlorobenzene	19.85	146	2216133	18.79 ug/L #	68
55) 1,2-dichlorobenzene	20.75	146	2111934	18.59 ug/L #	84
57) 1,4-dichlorobenzene	20.04	146	2252380	18.78 ug/L #	72
58) 1,2-dibromo-3-chloropropan	22.22	75	160655	12.95 ug/L	95
59) 1,2,4-trichlorobenzene	23.90	180	1331658	18.60 ug/L	97
60) Napthalene	24.41	128	2192434	15.86 ug/L	100
61) 1,2,3-trichlorobenzene	24.88	180	1247697	18.66 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62402.D Vial: 21
Acq On : 5 Aug 2011 11:02 pm Operator: A. Thomas
Sample : 20ppb cal2 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62401.D Vial: 2
Acq On : 5 Aug 2011 11:18 am Operator: A. Thomas
Sample : 20ppb lcs 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	10.35	96	5842514	15.00	ug/l		-0.01
44) chlorobenzene-d5	15.63	117	4509443	15.00	ug/L		0.00
56) 1,4-dichlorobenzene-d4	20.00	152	2531485	15.00	ug/L		0.00
System Monitoring Compounds							
21) dibromofluoromethane (S)	9.07	113	2067655	31.52	ug/L		0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.07%				
26) 1,2-dichloroethane-d4 (S)	9.84	102	464017	31.21	ug/L		-0.01
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.03%				
36) toluene-d8 (S)	12.98	98	5520124	29.27	ug/L		0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.57%				
53) 4-bromofluorobenzene (BFB)	17.79	95	2574354	29.60	ug/L		0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.67%				
Target Compounds							Qvalue
2) Dichlorodifuloromethane	3.41	85	1396084	14.87	ug/L		99
3) chloromethane	3.81	50	1710494	16.59	ug/L		98
4) vinyl chloride	3.89	62	1361779	15.93	ug/L		98
5) bromomethane	4.52	96	1204904	28.49	ug/L		96
6) chloroethane	4.60	64	1105408	17.58	ug/L	#	100
8) Methyl Acetate	6.23	74	205965	14.98	ug/l		82
9) carbon disulfide	6.65	76	3049488	14.91	ug/L	#	100
10) MTBE	6.68	73	2882444	11.80	ug/L		97
11) 1,4 Dioxane	6.51	88	135838	15.95	ug/l	#	100
12) tert-butyl alcohol	5.86	59	1109166	23.37	ug/l		90
13) MEK	8.15	72	101536	11.05	ug/L		82
14) acetone	5.60	58	202041	17.81	ug/L		95
15) trichlorofluoromethane	4.98	101	2336980	15.44	ug/L		98
16) 1,1-dichloroethene	5.83	61	2829761	17.24	ug/L	#	100
17) methylene chloride	6.51	84	1684046	19.21	ug/L	#	100
18) trans-1,2-dichloroethene	6.94	61	2418532	15.63	ug/L	#	100
19) 1,1-dichloroethane	7.56	63	3087275	17.16	ug/L	#	100
20) chloroform	8.73	85	1909086	17.34	ug/L	#	100
22) bromochloromethane	9.01	128	644986	16.37	ug/L		97
24) 1,1,1-trichloroethane	9.36	97	2003917	15.07	ug/L	#	100
25) carbon tetrachloride	9.78	117	1593220	14.42	ug/L	#	100
27) 1,2-dichloroethane	9.99	62	2808064	16.56	ug/L	#	83
28) benzene	10.04	78	4969063	17.36	ug/L	#	100
29) trichloroethene	11.00	130	1350964	17.35	ug/L	#	64
31) 1,2-dichloropropane	11.28	63	1444591	16.81	ug/L	#	100
32) MIBK	12.13	100	81738	8.31	ug/L		64

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62401.D Vial: 2
Acq On : 5 Aug 2011 11:18 am Operator: A. Thomas
Sample : 20ppb 1cs 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

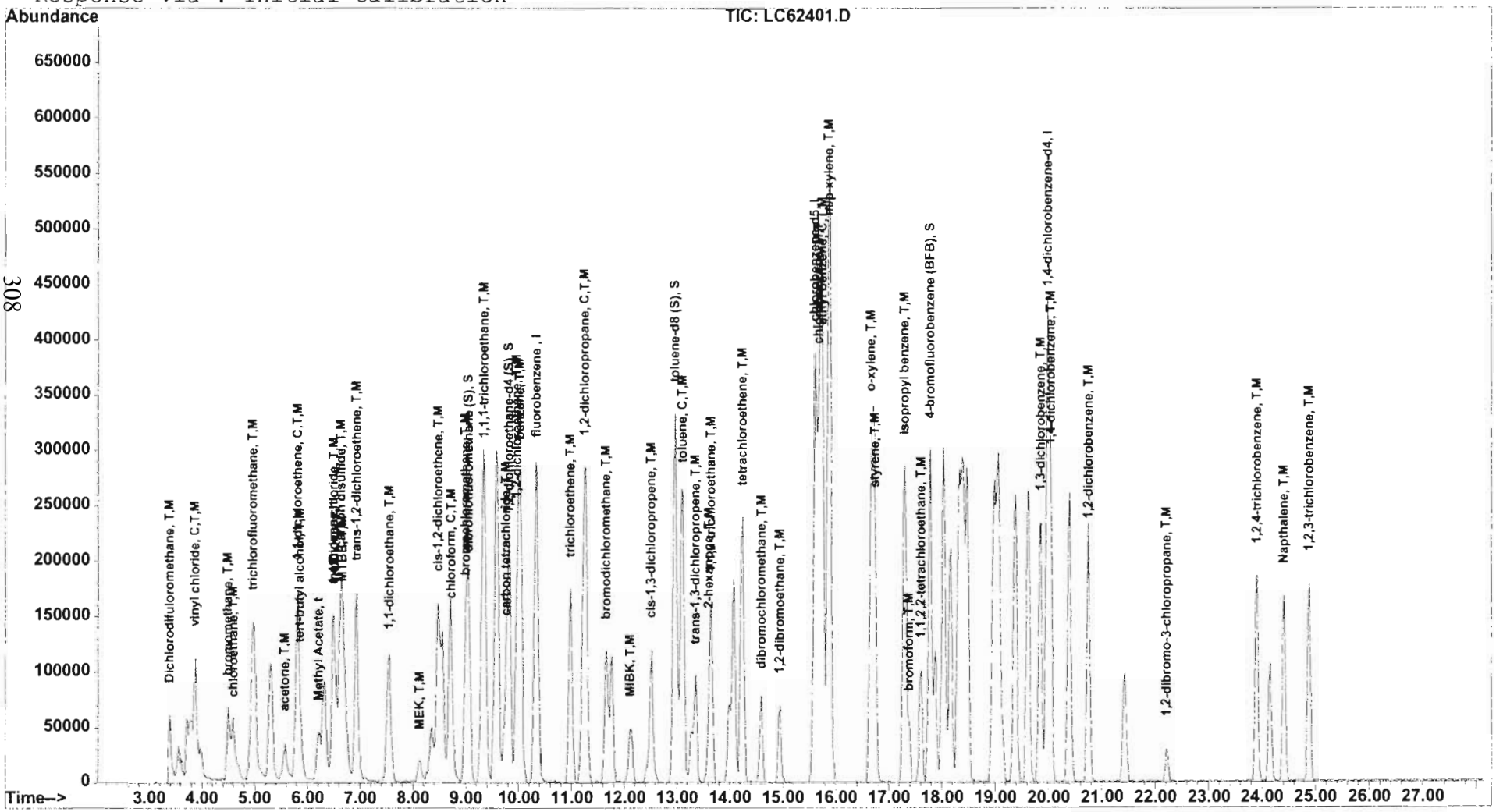
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
33)	cis-1,2-dichloroethene	8.48	61	2740912	18.62	ug/L	#	100
34)	bromodichloromethane	11.67	83	1677890	14.73	ug/L	#	66
35)	cis-1,3-dichloropropene	12.53	75	1334005	11.36	ug/L	#	93
37)	toluene	13.12	91	4713072	16.59	ug/L	#	100
38)	trans-1,3-dichloropropene	13.37	75	984370	9.03	ug/L	#	100
39)	2-hexanone	13.61	58	291134	9.20	ug/L	#	76
40)	1,1,2-trichloroethane	13.65	83	950277	16.72	ug/L	#	100
41)	tetrachloroethene	14.25	166	1985105	21.81	ug/L	#	100
42)	dibromochloromethane	14.61	129	968933	12.91	ug/L	#	100
43)	1,2-dibromoethane	14.97	107	1158217	16.63	ug/L	#	99
45)	chlorobenzene	15.69	112	2835170	16.26	ug/L	#	100
46)	ethyl benzene	15.75	91	5389155	16.14	ug/L		100
47)	m/p-xylene	15.89	91	9215524	32.35	ug/L	#	82
48)	o-xylene	16.69	91	4624631	16.46	ug/L	#	83
49)	styrene	16.74	104	2713744	16.75	ug/L		100
50)	isopropyl benzene	17.31	105	5092158	16.54	ug/L		99
51)	bromoform	17.40	173	526372	11.54	ug/L	#	100
52)	1,1,2,2-tetrachloroethane	17.62	83	1342282	15.55	ug/L	#	98
54)	1,3-dichlorobenzene	19.86	146	2282201	16.87	ug/L	#	68
55)	1,2-dichlorobenzene	20.77	146	2181660	16.74	ug/L	#	59
57)	1,4-dichlorobenzene	20.06	146	2277635	16.43	ug/L	#	90
58)	1,2-dibromo-3-chloropropan	22.23	75	194983	13.60	ug/L		97
59)	1,2,4-trichlorobenzene	23.92	180	1484913	17.94	ug/L		97
60)	Napthalene	24.43	128	2854589	17.86	ug/L		100
61)	1,2,3-trichlorobenzene	24.90	180	1403765	18.16	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62401.D Vial: 2
Acq On : 5 Aug 2011 11:18 am Operator: A. Thomas
Sample : 20ppb lcs 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62402.D Vial: 35
Acq On : 6 Aug 2011 8:13 am Operator: A. Thomas
Sample : 20ppb lcs2 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	10.32	96	4634331	15.00	ug/l		-0.04
44) chlorobenzene-d5	15.59	117	3642916	15.00	ug/L		-0.04
56) 1,4-dichlorobenzene-d4	19.96	152	2081078	15.00	ug/L		-0.04
System Monitoring Compounds							
21) dibromofluoromethane (S)	9.05	113	1546952	29.73	ug/L		-0.03
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.10%				
26) 1,2-dichloroethane-d4 (S)	9.81	102	343129	29.09	ug/L		-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.97%				
36) toluene-d8 (S)	12.95	98	4500523	30.08	ug/L		-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.27%				
53) 4-bromofluorobenzene (BFB)	17.76	95	2129262	30.31	ug/L		-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.03%				
Target Compounds							Qvalue
2) Dichlorodifuloromethane	3.39	85	1396868	18.75	ug/L		99
3) chloromethane	3.80	50	2271199	27.77	ug/L		98
4) vinyl chloride	3.88	62	1456826	21.48	ug/L		97
5) bromomethane	4.50	96	815285	24.30	ug/L		97
6) chloroethane	4.60	64	1094002	21.94	ug/L	#	100
8) Methyl Acetate	6.22	74	67689	6.20	ug/l	#	15
9) carbon disulfide	6.65	76	2761211	17.02	ug/L	#	100
10) MTBE	6.66	73	2224312	11.48	ug/L		95
11) 1,4 Dioxane	6.51	88	196675	29.11	ug/l	#	100
12) tert-butyl alcohol	5.84	59	942167	25.02	ug/l		86
13) MEK	8.11	72	109944	15.09	ug/L		96
14) acetone	5.58	58	633350	70.37	ug/L		82
15) trichlorofluoromethane	5.00	101	2002372	16.68	ug/L		99
16) 1,1-dichloroethene	5.82	61	3017337	23.18	ug/L	#	100
17) methylene chloride	6.51	84	2061606	29.65	ug/L	#	100
18) trans-1,2-dichloroethene	6.93	61	2301317	18.75	ug/L	#	100
19) 1,1-dichloroethane	7.55	63	2778199	19.47	ug/L	#	99
20) chloroform	8.71	85	1824155	20.88	ug/L	#	100
22) bromochloromethane	8.99	128	490890	15.71	ug/L		93
24) 1,1,1-trichloroethane	9.34	97	1673215	15.86	ug/L	#	100
25) carbon tetrachloride	9.76	117	1396591	15.93	ug/L	#	100
27) 1,2-dichloroethane	9.96	62	2650615	19.70	ug/L	#	83
28) benzene	10.02	78	4479130	19.73	ug/L	#	100
29) trichloroethene	10.97	130	1358078	21.98	ug/L	#	33
31) 1,2-dichloropropane	11.25	63	1381342	20.27	ug/L	#	100
32) MIBK	12.10	100	94230	12.07	ug/L		40

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62402.D Vial: 35
Acq On : 6 Aug 2011 8:13 am Operator: A. Thomas
Sample : 20ppb lcs2 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

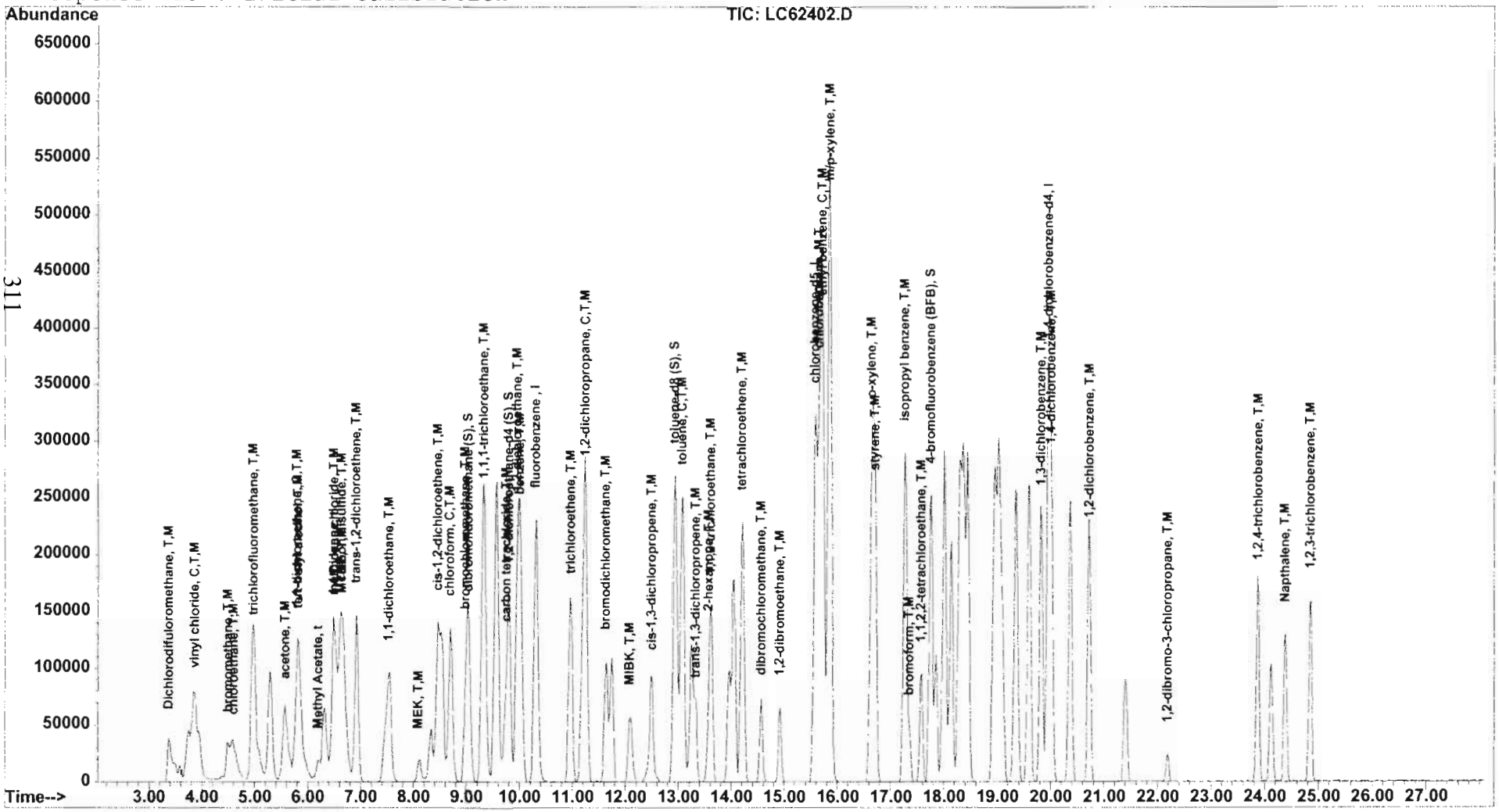
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) cis-1,2-dichloroethene	8.47	61	2354938	20.17 ug/L #	100
34) bromodichloromethane	11.64	83	1530976	16.94 ug/L #	66
35) cis-1,3-dichloropropene	12.50	75	1101817	11.83 ug/L #	93
37) toluene	13.08	91	4523164	20.07 ug/L #	100
38) trans-1,3-dichloropropene	13.34	75	702633	8.13 ug/L #	100
39) 2-hexanone	13.58	58	339198	13.52 ug/L #	74
40) 1,1,2-trichloroethane	13.63	83	888743	19.71 ug/L #	100
41) tetrachloroethene	14.22	166	1957548	27.11 ug/L #	99
42) dibromochloromethane	14.57	129	893043	15.00 ug/L #	100
43) 1,2-dibromoethane	14.93	107	1079985	19.55 ug/L #	100
45) chlorobenzene	15.66	112	2743979	19.48 ug/L #	100
46) ethyl benzene	15.72	91	5366142	19.90 ug/L #	89
47) m/p-xylene	15.86	91	9148288	39.76 ug/L #	82
48) o-xylene	16.65	91	4567290	20.13 ug/L #	83
49) styrene	16.71	104	2598448	19.85 ug/L	96
50) isopropyl benzene	17.28	105	5097895	20.49 ug/L	99
51) bromoform	17.37	173	440440	11.95 ug/L #	100
52) 1,1,2,2-tetrachloroethane	17.59	83	1211796	17.38 ug/L #	98
54) 1,3-dichlorobenzene	19.83	146	2302722	21.07 ug/L #	100
55) 1,2-dichlorobenzene	20.73	146	2144199	20.37 ug/L #	59
57) 1,4-dichlorobenzene	20.02	146	2271123	19.93 ug/L #	72
58) 1,2-dibromo-3-chloropropan	22.20	75	141272	11.98 ug/L	92
59) 1,2,4-trichlorobenzene	23.88	180	1428502	21.00 ug/L	96
60) Napthalene	24.39	128	2291915	17.44 ug/L	100
61) 1,2,3-trichlorobenzene	24.86	180	1274018	20.05 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62402.D Vial: 35
Acq On : 6 Aug 2011 8:13 am Operator: A. Thomas
Sample : 20ppb lcs2 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration



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Laboratory Deliverables

Prepared For

PARS Environmental

Drum Bench Study

Lab ID

Enhanced Reductive Dechlorination (ERD)

Samples Received

27-Jul-11

Reported

7/27/11 to 8/12/11

NJDEP Certified Lab 11005

Precision testing for a cleaner environment.

Study: ERD
NZVI

Time point: T=30 days

Data Summaries

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ-T30 C-1

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day C-1 1:2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62411.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 2.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	4	U
74-87-3	chloromethane	4	U
75-01-4	vinyl chloride	4	U
74-83-9	bromomethane	4	U
75-00-3	chloroethane	4	U
75-15-0	carbon disulfide	4	U
75-65-0	tert-butyl alcohol	4	U
1634-04-4	MTBE	4	U
78-93-3	MEK	10	U
67-64-1	acetone	10	U
75-69-4	trichlorofluoromethane	4	U
75-35-4	1,1-dichloroethene	4	U
75-09-2	methylene chloride	4	U
156-60-5	trans-1,2-dichloroethene	4	U
75-34-3	1,1-dichloroethane	4	U
67-66-3	chloroform	4	U
108-10-1	MIBK	4	U
74-97-5	bromochloromethane	4	U
71-55-6	1,1,1-trichloroethane	4	U
56-23-5	carbon tetrachloride	4	U
107-06-2	1,2-dichloroethane	4	U
71-43-2	benzene	4	U
79-01-6	trichloroethene	4	D
78-87-5	1,2-dichloropropane	4	U
156-59-4	cis-1,2-dichloroethene	4	U
75-27-4	bromodichloromethane	4	U
10061-01-5	cis-1,3-dichloropropene	4	U
108-88-3	toluene	4	U
10061-02-6	trans-1,3-dichloropropene	4	U
591-78-6	2-hexanone	10	U
79-00-5	1,1,2-trichloroethane	4	U
127-18-4	tetrachloroethene	640	ED
124-48-1	dibromochloromethane	4	U
108-90-7	chlorobenzene	4	U
108-38-3	m/p-xylene	4	U
95-47-6	o-xylene	4	U
100-42-5	styrene	4	U
98-82-8	isopropyl benzene	4	U
75-25-2	bromoform	4	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 C-1

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day C-1 1:2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62411.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 2.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	4	U
541-73-1	1,3-dichlorobenzene	4	U
95-50-1	1,2-dichlorobenzene	4	U
106-46-7	1,4-dichlorobenzene	4	U
120-82-1	1,2,4-trichlorobenzene	4	U
87-61-6	1,2,3-trichlorobenzene	4	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ-T30 C-2

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day C-2 1:2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62412.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 2.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	4	U
74-87-3	chloromethane	4	U
75-01-4	vinyl chloride	4	U
74-83-9	bromomethane	4	U
75-00-3	chloroethane	4	U
75-15-0	carbon disulfide	4	U
75-65-0	tert-butyl alcohol	4	U
1634-04-4	MTBE	4	U
78-93-3	MEK	10	U
67-64-1	acetone	10	U
75-69-4	trichlorofluoromethane	4	U
75-35-4	1,1-dichloroethene	4	U
75-09-2	methylene chloride	4	U
156-60-5	trans-1,2-dichloroethene	4	U
75-34-3	1,1-dichloroethane	4	U
67-66-3	chloroform	4	D
108-10-1	MIBK	4	U
74-97-5	bromochloromethane	4	U
71-55-6	1,1,1-trichloroethane	4	U
56-23-5	carbon tetrachloride	4	U
107-06-2	1,2-dichloroethane	4	U
71-43-2	benzene	4	U
79-01-6	trichloroethene	5	D
78-87-5	1,2-dichloropropane	4	U
156-59-4	cis-1,2-dichloroethene	4	U
75-27-4	bromodichloromethane	4	U
10061-01-5	cis-1,3-dichloropropene	4	U
108-88-3	toluene	4	U
10061-02-6	trans-1,3-dichloropropene	4	U
591-78-6	2-hexanone	10	U
79-00-5	1,1,2-trichloroethane	4	U
127-18-4	tetrachloroethene	580	ED
124-48-1	dibromochloromethane	4	U
108-90-7	chlorobenzene	4	U
108-38-3	m/p-xylene	4	U
95-47-6	o-xylene	4	U
100-42-5	styrene	4	U
98-82-8	isopropyl benzene	4	U
75-25-2	bromoform	4	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 C-2

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day C-2 1:2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62412.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 2.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	4	U
541-73-1	1,3-dichlorobenzene	4	U
95-50-1	1,2-dichlorobenzene	4	U
106-46-7	1,4-dichlorobenzene	4	U
120-82-1	1,2,4-trichlorobenzene	4	U
87-61-6	1,2,3-trichlorobenzene	4	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 C-3

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day C-3 1:2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62413.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 2.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	4	U
74-87-3	chloromethane	4	U
75-01-4	vinyl chloride	4	U
74-83-9	bromomethane	4	U
75-00-3	chloroethane	4	U
75-15-0	carbon disulfide	4	U
75-65-0	tert-butyl alcohol	4	U
1634-04-4	MTBE	4	U
78-93-3	MEK	10	U
67-64-1	acetone	10	U
75-69-4	trichlorofluoromethane	4	U
75-35-4	1,1-dichloroethene	4	U
75-09-2	methylene chloride	4	U
156-60-5	trans-1,2-dichloroethene	4	U
75-34-3	1,1-dichloroethane	4	U
67-66-3	chloroform	6	D
108-10-1	MIBK	4	U
74-97-5	bromochloromethane	4	U
71-55-6	1,1,1-trichloroethane	4	U
56-23-5	carbon tetrachloride	4	U
107-06-2	1,2-dichloroethane	4	U
71-43-2	benzene	4	U
79-01-6	trichloroethene	5	D
78-87-5	1,2-dichloropropane	4	U
156-59-4	cis-1,2-dichloroethene	4	U
75-27-4	bromodichloromethane	4	U
10061-01-5	cis-1,3-dichloropropene	4	U
108-88-3	toluene	4	U
10061-02-6	trans-1,3-dichloropropene	4	U
591-78-6	2-hexanone	10	U
79-00-5	1,1,2-trichloroethane	4	U
127-18-4	tetrachloroethene	620	ED
124-48-1	dibromochloromethane	4	U
108-90-7	chlorobenzene	4	U
108-38-3	m/p-xylene	4	U
95-47-6	o-xylene	4	U
100-42-5	styrene	4	U
98-82-8	isopropyl benzene	4	U
75-25-2	bromoform	4	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 C-3

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day C-3 1:2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62413.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 2.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	4	U
541-73-1	1,3-dichlorobenzene	4	U
95-50-1	1,2-dichlorobenzene	4	U
106-46-7	1,4-dichlorobenzene	4	U
120-82-1	1,2,4-trichlorobenzene	4	U
87-61-6	1,2,3-trichlorobenzene	4	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ-T30 .5g-1

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 0.5g-1

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62408.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	2	
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	5	U
67-64-1	acetone	5	U
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	2	U
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	2	U
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	2	U
79-01-6	trichloroethene	8	
78-87-5	1,2-dichloropropane	2	U
156-59-4	cis-1,2-dichloroethene	0	J
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	2	U
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	5	U
79-00-5	1,1,2-trichloroethane	2	U
127-18-4	tetrachloroethene	470	E
124-48-1	dibromochloromethane	2	U
108-90-7	chlorobenzene	2	U
108-38-3	m/p-xylene	2	U
95-47-6	o-xylene	2	U
100-42-5	styrene	2	U
98-82-8	isopropyl benzene	2	U
75-25-2	bromoform	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 .5g-1

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 0.5g-1

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62408.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	2	U
541-73-1	1,3-dichlorobenzene	2	U
95-50-1	1,2-dichlorobenzene	2	U
106-46-7	1,4-dichlorobenzene	2	U
120-82-1	1,2,4-trichlorobenzene	2	U
87-61-6	1,2,3-trichlorobenzene	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 .5g-2

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 0.5g-2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62409.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	2	J
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	5	U
67-64-1	acetone	5	U
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	2	U
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	4	
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	2	U
79-01-6	trichloroethene	7	
78-87-5	1,2-dichloropropane	2	U
156-59-4	cis-1,2-dichloroethene	0	J
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	2	U
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	5	U
79-00-5	1,1,2-trichloroethane	2	U
127-18-4	tetrachloroethene	450	E
124-48-1	dibromochloromethane	2	U
108-90-7	chlorobenzene	2	U
108-38-3	m/p-xylene	2	U
95-47-6	o-xylene	2	U
100-42-5	styrene	2	U
98-82-8	isopropyl benzene	2	U
75-25-2	bromoform	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 .5g-2

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 0.5g-2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62409.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	2	U
541-73-1	1,3-dichlorobenzene	2	U
95-50-1	1,2-dichlorobenzene	2	U
106-46-7	1,4-dichlorobenzene	2	U
120-82-1	1,2,4-trichlorobenzene	2	U
87-61-6	1,2,3-trichlorobenzene	2	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ-T30 .5g-3

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 0.5g-3

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62410.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	2	J
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	5	U
67-64-1	acetone	5	U
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	2	U
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	3	
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	2	U
79-01-6	trichloroethene	8	
78-87-5	1,2-dichloropropane	2	U
156-59-4	cis-1,2-dichloroethene	0	J
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	2	U
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	5	U
79-00-5	1,1,2-trichloroethane	2	U
127-18-4	tetrachloroethene	470	E
124-48-1	dibromochloromethane	2	U
108-90-7	chlorobenzene	2	U
108-38-3	m/p-xylene	2	U
95-47-6	o-xylene	2	U
100-42-5	styrene	2	U
98-82-8	isopropyl benzene	2	U
75-25-2	bromoform	2	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ-T30 .5g-3

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 0.5g-3

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62410.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	2	U
541-73-1	1,3-dichlorobenzene	2	U
95-50-1	1,2-dichlorobenzene	2	U
106-46-7	1,4-dichlorobenzene	2	U
120-82-1	1,2,4-trichlorobenzene	2	U
87-61-6	1,2,3-trichlorobenzene	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 1g-1

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 1g-1

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62405.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	2	
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	5	U
67-64-1	acetone	5	U
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	2	U
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	2	U
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	2	U
79-01-6	trichloroethene	2	U
78-87-5	1,2-dichloropropane	2	U
156-59-4	cis-1,2-dichloroethene	2	U
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	2	U
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	5	U
79-00-5	1,1,2-trichloroethane	2	U
127-18-4	tetrachloroethene	8	
124-48-1	dibromochloromethane	2	U
108-90-7	chlorobenzene	2	U
108-38-3	m/p-xylene	2	U
95-47-6	o-xylene	2	U
100-42-5	styrene	2	U
98-82-8	isopropyl benzene	2	U
75-25-2	bromoform	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 1g-1

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 1g-1

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62405.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	2	U
541-73-1	1,3-dichlorobenzene	2	U
95-50-1	1,2-dichlorobenzene	2	U
106-46-7	1,4-dichlorobenzene	2	U
120-82-1	1,2,4-trichlorobenzene	2	U
87-61-6	1,2,3-trichlorobenzene	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 1g-2

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 1g-2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62406.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	3	
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	5	U
67-64-1	acetone	5	U
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	2	U
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	2	U
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	2	U
79-01-6	trichloroethene	2	U
78-87-5	1,2-dichloropropane	2	U
156-59-4	cis-1,2-dichloroethene	2	U
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	0	J
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	5	U
79-00-5	1,1,2-trichloroethane	2	U
127-18-4	tetrachloroethene	7	
124-48-1	dibromochloromethane	2	U
108-90-7	chlorobenzene	2	U
108-38-3	m/p-xylene	2	U
95-47-6	o-xylene	2	U
100-42-5	styrene	2	U
98-82-8	isopropyl benzene	2	U
75-25-2	bromoform	2	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ-T30 1g-2

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 1g-2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62406.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	2	U
541-73-1	1,3-dichlorobenzene	2	U
95-50-1	1,2-dichlorobenzene	2	U
106-46-7	1,4-dichlorobenzene	2	U
120-82-1	1,2,4-trichlorobenzene	2	U
87-61-6	1,2,3-trichlorobenzene	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 1g-3

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 1g-3

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62407.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	2	
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	5	U
67-64-1	acetone	5	U
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	2	U
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	2	U
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	2	U
79-01-6	trichloroethene	2	U
78-87-5	1,2-dichloropropane	2	U
156-59-4	cis-1,2-dichloroethene	2	U
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	2	U
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	5	U
79-00-5	1,1,2-trichloroethane	2	U
127-18-4	tetrachloroethene	13	
124-48-1	dibromochloromethane	2	U
108-90-7	chlorobenzene	2	U
108-38-3	m/p-xylene	2	U
95-47-6	o-xylene	2	U
100-42-5	styrene	2	U
98-82-8	isopropyl benzene	2	U
75-25-2	bromoform	2	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ-T30 1g-3

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 1g-3

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62407.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	2	U
541-73-1	1,3-dichlorobenzene	2	U
95-50-1	1,2-dichlorobenzene	2	U
106-46-7	1,4-dichlorobenzene	2	U
120-82-1	1,2,4-trichlorobenzene	2	U
87-61-6	1,2,3-trichlorobenzene	2	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ-T30 2g-1

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 2g-1

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62402.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	2	J
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	5	U
67-64-1	acetone	5	U
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	2	U
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	2	U
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	2	U
79-01-6	trichloroethene	2	U
78-87-5	1,2-dichloropropane	2	U
156-59-4	cis-1,2-dichloroethene	2	U
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	2	U
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	5	U
79-00-5	1,1,2-trichloroethane	2	U
127-18-4	tetrachloroethene	2	U
124-48-1	dibromochloromethane	2	U
108-90-7	chlorobenzene	2	U
108-38-3	m/p-xylene	0	J
95-47-6	o-xylene	2	U
100-42-5	styrene	2	U
98-82-8	isopropyl benzene	2	U
75-25-2	bromoform	2	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

NZ-T30 2g-2

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 2g-2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62403.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	2	
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	5	U
67-64-1	acetone	5	U
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	2	U
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	2	U
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	2	U
79-01-6	trichloroethene	2	U
78-87-5	1,2-dichloropropane	2	U
156-59-4	cis-1,2-dichloroethene	2	U
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	0	J
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	5	U
79-00-5	1,1,2-trichloroethane	2	U
127-18-4	tetrachloroethene	2	U
124-48-1	dibromochloromethane	2	U
108-90-7	chlorobenzene	2	U
108-38-3	m/p-xylene	2	U
95-47-6	o-xylene	2	U
100-42-5	styrene	2	U
98-82-8	isopropyl benzene	2	U
75-25-2	bromoform	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 2g-2

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 2g-2

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62403.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	2	U
541-73-1	1,3-dichlorobenzene	2	U
95-50-1	1,2-dichlorobenzene	2	U
106-46-7	1,4-dichlorobenzene	2	U
120-82-1	1,2,4-trichlorobenzene	2	U
87-61-6	1,2,3-trichlorobenzene	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 2g-3

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 2g-3

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62404.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	2	
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	5	U
67-64-1	acetone	5	U
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	2	U
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	2	U
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	0	J
79-01-6	trichloroethene	2	U
78-87-5	1,2-dichloropropane	2	U
156-59-4	cis-1,2-dichloroethene	2	U
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	0	J
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	5	U
79-00-5	1,1,2-trichloroethane	2	U
127-18-4	tetrachloroethene	2	U
124-48-1	dibromochloromethane	2	U
108-90-7	chlorobenzene	2	U
108-38-3	m/p-xylene	2	U
95-47-6	o-xylene	2	U
100-42-5	styrene	2	U
98-82-8	isopropyl benzene	2	U
75-25-2	bromoform	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 2g-3

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 2g-3

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62404.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	2	U
541-73-1	1,3-dichlorobenzene	2	U
95-50-1	1,2-dichlorobenzene	2	U
106-46-7	1,4-dichlorobenzene	2	U
120-82-1	1,2,4-trichlorobenzene	2	U
87-61-6	1,2,3-trichlorobenzene	2	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

NZ-T30 2g-1

Lab Name: NJAL Contract: Drum

Lab Code: DEP 11005 Case No.: NZVI SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: NZ-T30day 2g-1

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62402.D

Level: (low/med) LOW Date Received: 07/12/11

% Moisture: not dec. Date Analyzed: 08/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	2	U
541-73-1	1,3-dichlorobenzene	2	U
95-50-1	1,2-dichlorobenzene	2	U
106-46-7	1,4-dichlorobenzene	2	U
120-82-1	1,2,4-trichlorobenzene	2	U
87-61-6	1,2,3-trichlorobenzene	2	U

III-1 Raw Chromatograms

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62402.D Vial: 6
Acq On : 30 Aug 2011 4:00 pm Operator: A. Thomas
Sample : NZ-T30day 2g-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:17 19111 Quant Results File: 62081211.RES

Quant Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

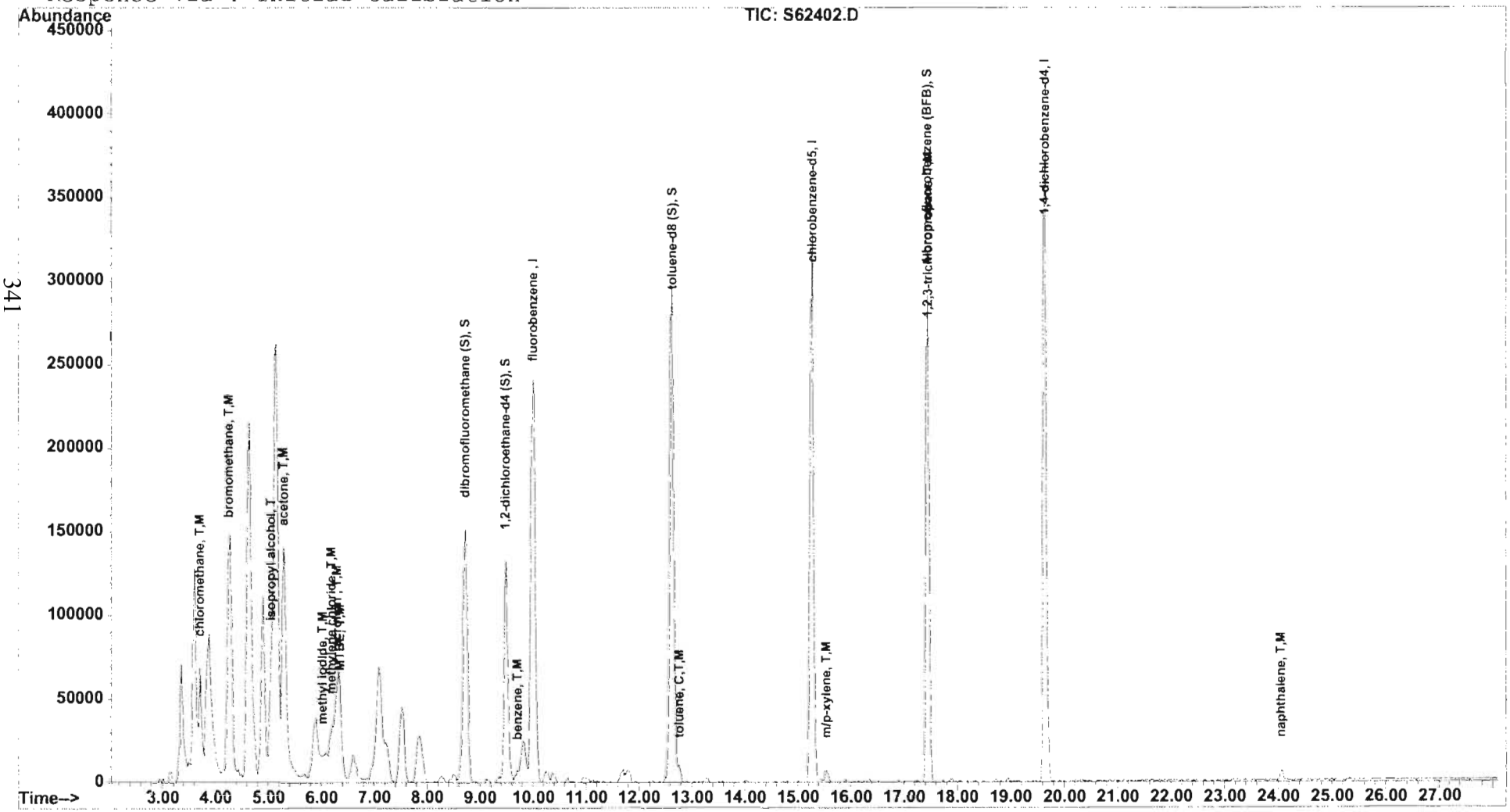
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.02	96	5018183	15.00	ug/l	-0.25
58) chlorobenzene-d5	15.28	117	4203917	15.00	ug/L	-0.26
84) 1,4-dichlorobenzene-d4	19.66	152	2494901	15.00	ug/L	-0.25
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.74	113	1605780	28.02	ug/L	-0.25
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.40%			
35) 1,2-dichloroethane-d4 (S)	9.51	102	373288	28.41	ug/L	-0.25
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.70%			
48) toluene-d8 (S)	12.64	98	4987889	30.21	ug/L	-0.26
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.70%			
68) 4-bromofluorobenzene (BFB)	17.46	95	2370768	29.46	ug/L	-0.26
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.20%			
Target Compounds						Qvalue
3) chloromethane	3.72	50	195798	1.63	ug/L #	65
5) bromomethane	4.27	96	182730	5.10	ug/L	99
8) methyl iodide	6.03	142	234098	4.88	ug/l #	30
11) MTBE	6.37	73	123365	0.74	ug/L #	47
13) isopropyl alcohol	5.06	45	870913	8.49	ug/L #	31
14) acrolein	6.31	56	597360	75.44	ug/l #	1
17) acetone	5.30	58	1115858	135.06	ug/L	96
20) methylene chloride	6.20	84	304050	4.48	ug/L #	84
37) benzene	9.72	78	189938	0.79	ug/L #	89
49) toluene	12.78	91	211566	0.88	ug/L #	94
62) m/p-xylene	15.56	91	212660	0.88	ug/L	96
69) 1,2,3-trichloropropane	17.46	75	1335682	18.79	ug/L #	47
89) naphthalene	24.08	128	210574	1.29	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62402.D Vial: 6
Acq On : 30 Aug 2011 4:00 pm Operator: A. Thomas
Sample : NZ-T30day 2g-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:17 19111 Quant Results File: 62081211.RES

Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62403.D Vial: 7
Acq On : 30 Aug 2011 4:35 pm Operator: A. Thomas
Sample : NZ-T30day 2g-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:17 19111 Quant Results File: 62081211.RES

Quant Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

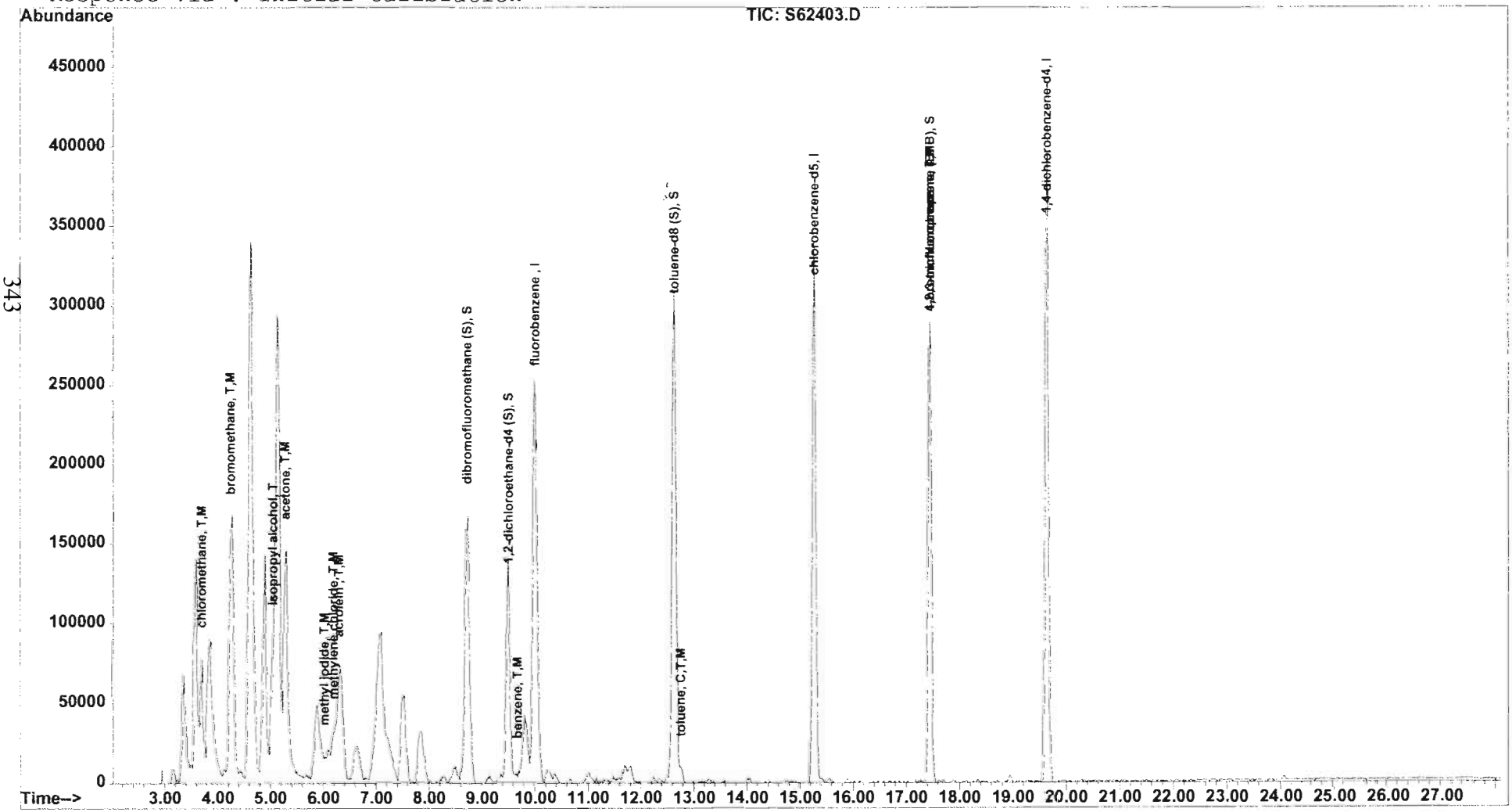
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.01	96	5069838	15.00	ug/l	-0.26
58) chlorobenzene-d5	15.28	117	4303737	15.00	ug/L	-0.26
84) 1,4-dichlorobenzene-d4	19.66	152	2548026	15.00	ug/L	-0.25
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.73	113	1590332	27.47	ug/L	-0.26
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.57%			
35) 1,2-dichloroethane-d4 (S)	9.51	102	394762	29.74	ug/L	-0.25
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.13%			
48) toluene-d8 (S)	12.64	98	5097283	30.55	ug/L	-0.26
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.83%			
68) 4-bromofluorobenzene (BFB)	17.46	95	2445548	29.68	ug/L	-0.25
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.93%			
Target Compounds						Qvalue
3) chloromethane	3.72	50	261836	2.16	ug/L #	83
5) bromomethane	4.27	96	159348	4.41	ug/L	97
8) methyl iodide	6.03	142	197663	4.08	ug/l #	30
13) isopropyl alcohol	5.06	45	849273	8.19	ug/L #	29
14) acrolein	6.31	56	716028	89.51	ug/l #	1
17) acetone	5.30	58	1161419	139.14	ug/L	99
20) methylene chloride	6.20	84	291811	4.26	ug/L #	18
37) benzene	9.70	78	166178	0.68	ug/L #	89
49) toluene	12.78	91	196288	0.80	ug/L #	94
69) 1,2,3-trichloropropane	17.46	75	1338957	18.40	ug/L #	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62403.D Vial: 7
Acq On : 30 Aug 2011 4:35 pm Operator: A. Thomas
Sample : NZ-T30day 2g-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:17 19111 Quant Results File: 62081211.RES

Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62404.D Vial: 8
Acq On : 30 Aug 2011 5:11 pm Operator: A. Thomas
Sample : NZ-T30day 2g-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:17 19111 Quant Results File: 62081211.RES

Quant Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

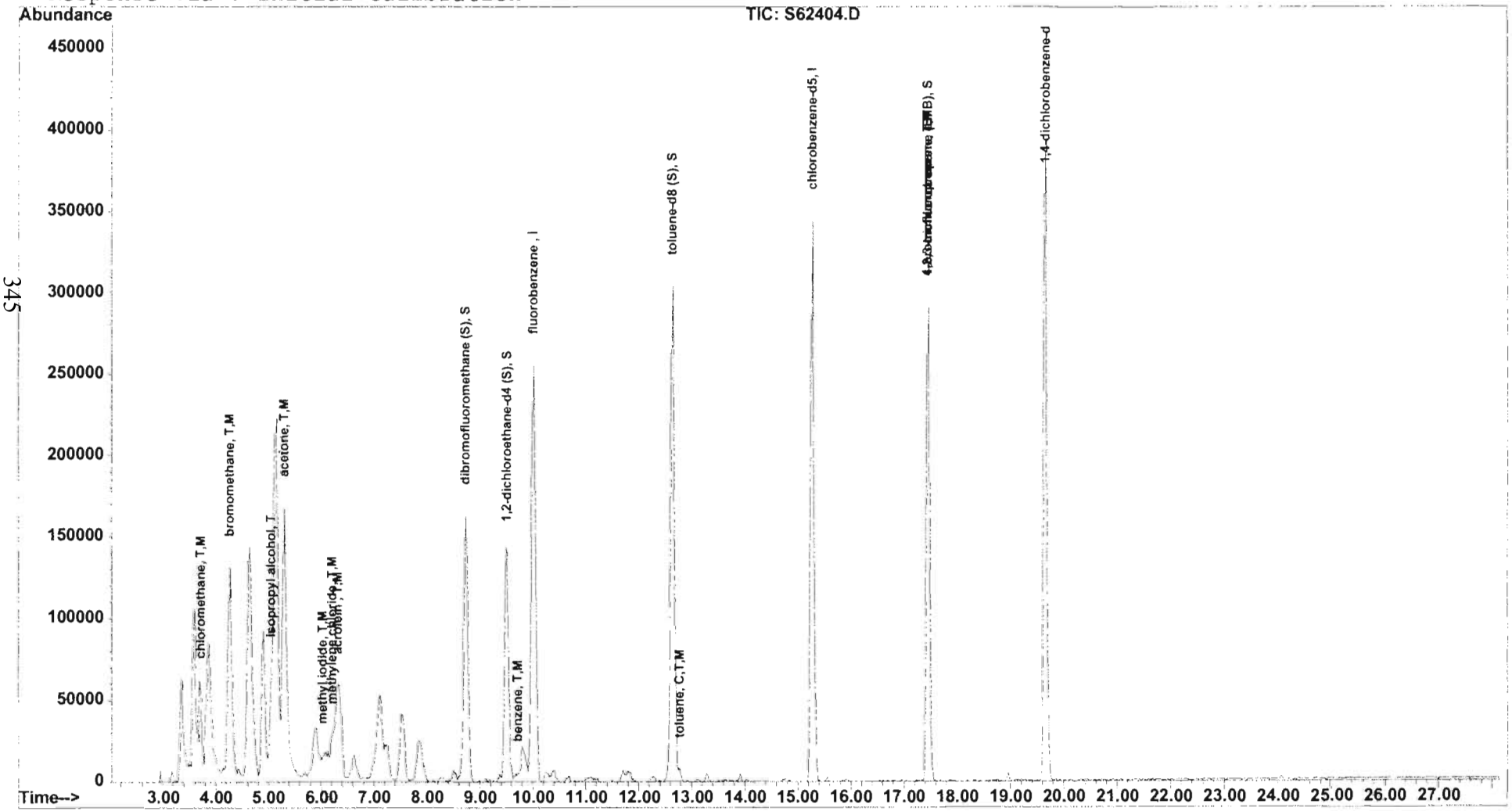
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.02	96	5211533	15.00	ug/l	-0.25
58) chlorobenzene-d5	15.29	117	4262320	15.00	ug/L	-0.25
84) 1,4-dichlorobenzene-d4	19.67	152	2499989	15.00	ug/L	-0.24
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.74	113	1678833	28.21	ug/L	-0.25
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.03%			
35) 1,2-dichloroethane-d4 (S)	9.52	102	407505	29.87	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.57%			
48) toluene-d8 (S)	12.65	98	4994990	29.13	ug/L	-0.25
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.10%			
68) 4-bromofluorobenzene (BFB)	17.47	95	2399121	29.40	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.00%			
Target Compounds						Qvalue
3) chloromethane	3.73	50	296825	2.38	ug/L #	65
5) bromomethane	4.27	96	118337	3.18	ug/L	99
8) methyl iodide	6.03	142	127340	2.56	ug/l #	30
13) isopropyl alcohol	5.06	45	956074	8.99	ug/L #	33
14) acrolein	6.31	56	542293	65.95	ug/l #	1
17) acetone	5.31	58	1295013	150.93	ug/L	96
20) methylene chloride	6.21	84	242519	3.44	ug/L #	18
37) benzene	9.72	78	151410	0.61	ug/L #	89
49) toluene	12.78	91	177854	0.71	ug/L #	94
69) 1,2,3-trichloropropane	17.47	75	1354307	18.80	ug/L #	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62404.D Vial: 8
Acq On : 30 Aug 2011 5:11 pm Operator: A. Thomas
Sample : NZ-T30day 2g-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:17 19111 Quant Results File: 62081211.RES

Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62405.D Vial: 9
Acq On : 30 Aug 2011 5:46 pm Operator: A. Thomas
Sample : NZ-T30day 1g-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:17 19111 Quant Results File: 62081211.RES

Quant Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

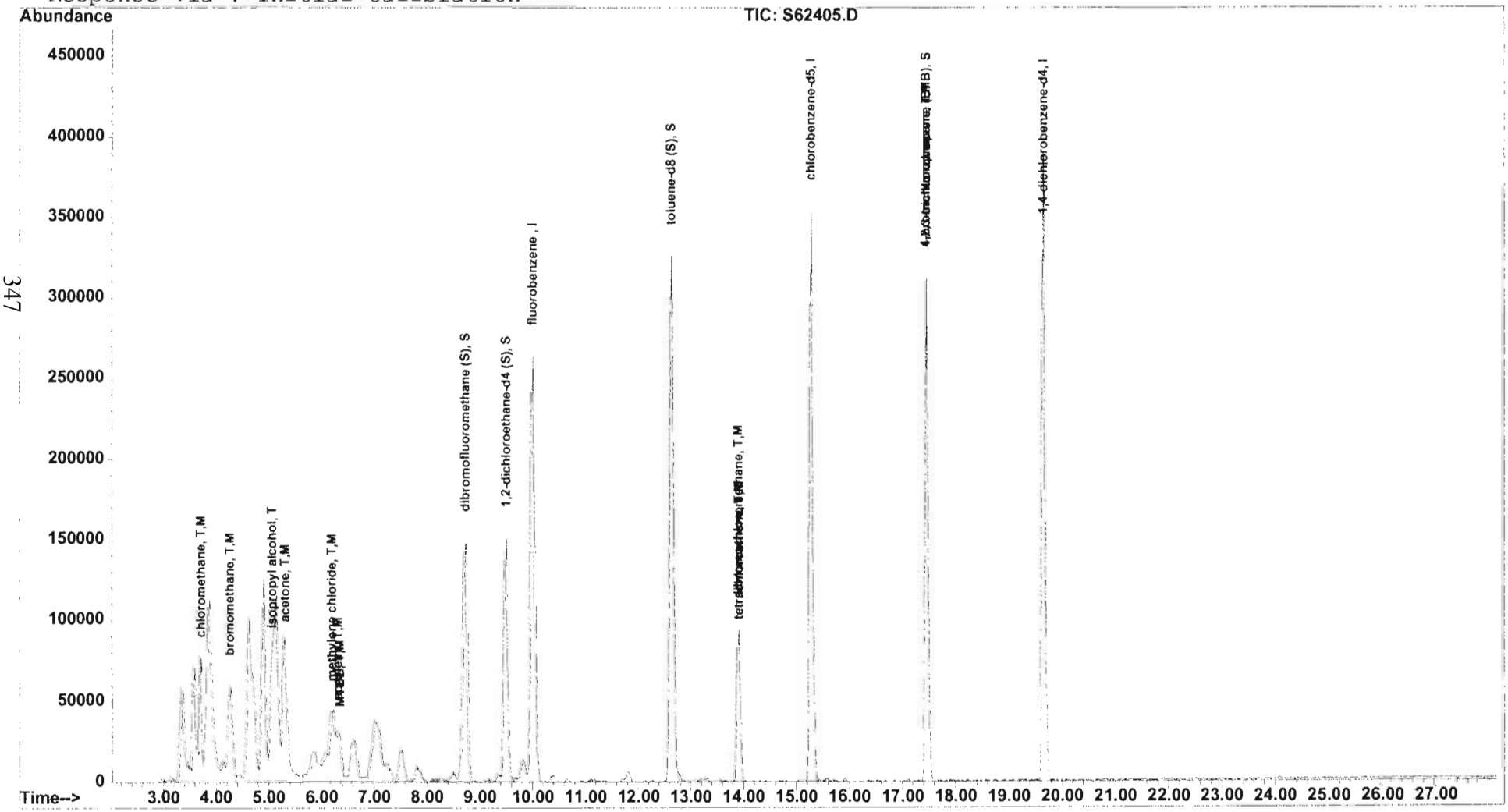
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.03	96	5255587	15.00	ug/l	-0.24
58) chlorobenzene-d5	15.30	117	4427249	15.00	ug/L	-0.24
84) 1,4-dichlorobenzene-d4	19.68	152	2530449	15.00	ug/L	-0.24
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.75	113	1700115	28.32	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.40%			
35) 1,2-dichloroethane-d4 (S)	9.52	102	421622	30.64	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.13%			
48) toluene-d8 (S)	12.65	98	5293267	30.61	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.03%			
68) 4-bromofluorobenzene (BFB)	17.47	95	2505354	29.56	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.53%			
Target Compounds						Qvalue
3) chloromethane	3.73	50	312883	2.49	ug/L #	78
5) bromomethane	4.28	96	101987	2.72	ug/L	85
11) MTBE	6.37	73	141802	0.81	ug/L #	47
13) isopropyl alcohol	5.08	45	401363	3.71	ug/L #	32
14) acrolein	6.33	56	238787	28.80	ug/l #	1
17) acetone	5.32	58	697566	80.62	ug/L	88
20) methylene chloride	6.21	84	289026	4.07	ug/L #	81
55) tetrachloroethene	13.93	166	791393	8.32	ug/L #	76
56) dibromochloromethane	13.92	129	510069	7.83	ug/L #	93
69) 1,2,3-trichloropropane	17.47	75	1425322	19.04	ug/L #	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62405.D Vial: 9
Acq On : 30 Aug 2011 5:46 pm Operator: A. Thomas
Sample : NZ-T30day 1g-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:17 19111 Quant Results File: 62081211.RES

Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62406.D Vial: 10
Acq On : 30 Aug 2011 6:21 pm Operator: A. Thomas
Sample : NZ-T30day 1g-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Quant Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

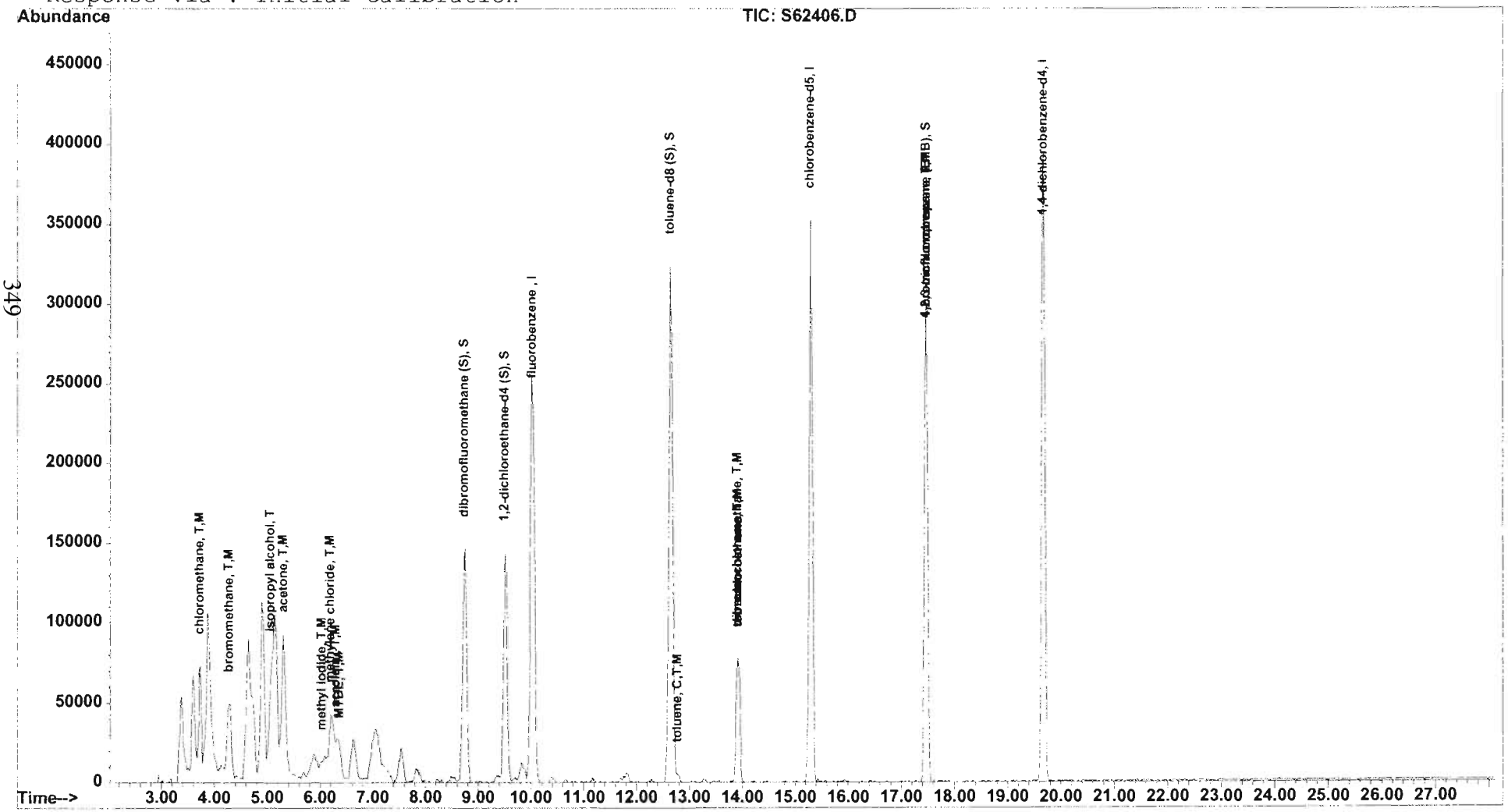
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.03	96	5149550	15.00	ug/l	-0.24
58) chlorobenzene-d5	15.30	117	4206040	15.00	ug/L	-0.24
84) 1,4-dichlorobenzene-d4	19.68	152	2510445	15.00	ug/L	-0.23
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.75	113	1669169	28.38	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.60%			
35) 1,2-dichloroethane-d4 (S)	9.52	102	399728	29.65	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.83%			
48) toluene-d8 (S)	12.65	98	5307939	31.32	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.40%			
68) 4-bromofluorobenzene (BFB)	17.47	95	2481791	30.82	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.73%			
Target Compounds						Qvalue
3) chloromethane	3.73	50	316901	2.57	ug/L #	76
5) bromomethane	4.29	96	91103	2.48	ug/L	96
8) methyl iodide	6.06	142	94931	1.93	ug/l #	30
11) MTBE	6.39	73	133446	0.77	ug/L #	47
13) isopropyl alcohol	5.08	45	412482	3.89	ug/L #	31
14) acrolein	6.31	56	211403	26.02	ug/l #	1
17) acetone	5.32	58	687628	81.11	ug/L	86
20) methylene chloride	6.21	84	275489	3.96	ug/L #	89
49) toluene	12.79	91	130449	0.53	ug/L #	94
55) tetrachloroethene	13.94	166	681347	7.31	ug/L #	99
56) dibromochloromethane	13.92	129	493122	7.73	ug/L #	93
69) 1,2,3-trichloropropane	17.47	75	1395218	19.62	ug/L #	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62406.D Vial: 10
Acq On : 30 Aug 2011 6:21 pm Operator: A. Thomas
Sample : NZ-T30day 1g-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data.File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62407.D Vial: 11
Acq On : 30 Aug 2011 6:57 pm Operator: A. Thomas
Sample : NZ-T30day 1g-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Quant Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

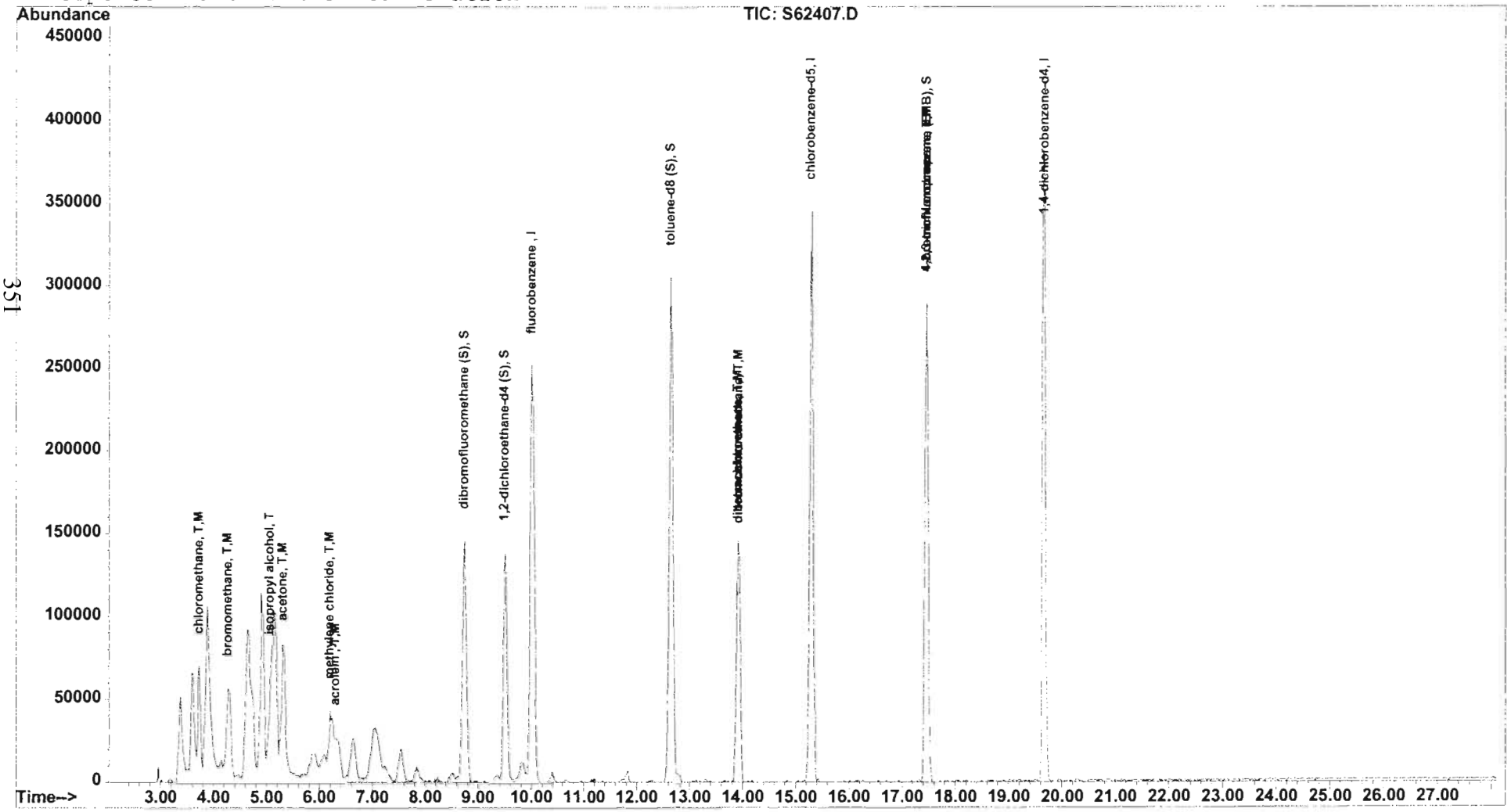
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.03	96	5100892	15.00	ug/l	-0.24
58) chlorobenzene-d5	15.30	117	4251770	15.00	ug/L	-0.24
84) 1,4-dichlorobenzene-d4	19.67	152	2508965	15.00	ug/L	-0.24
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.75	113	1688598	28.99	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.63%			
35) 1,2-dichloroethane-d4 (S)	9.52	102	378928	28.38	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.60%			
48) toluene-d8 (S)	12.66	98	4915654	29.29	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.63%			
68) 4-bromofluorobenzene (BFB)	17.47	95	2366536	29.07	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.90%			
Target Compounds						Qvalue
3) chloromethane	3.74	50	292330	2.40	ug/L #	79
5) bromomethane	4.28	96	87827	2.41	ug/L	99
13) isopropyl alcohol	5.08	45	360371	3.43	ug/L #	27
14) acrolein	6.31	56	224286	27.87	ug/l #	1
17) acetone	5.32	58	629539	74.96	ug/L	90
20) methylene chloride	6.21	84	214986	3.12	ug/L #	98
55) tetrachloroethene	13.93	166	1244978	13.49	ug/L #	76
56) dibromochloromethane	13.93	129	836324	13.23	ug/L #	93
69) 1,2,3-trichloropropane	17.47	75	1346583	18.73	ug/L #	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62407.D Vial: 11
Acq On : 30 Aug 2011 6:57 pm Operator: A. Thomas
Sample : NZ-T30day 1g-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62408.D Vial: 12
Acq On : 30 Aug 2011 7:32 pm Operator: A. Thomas
Sample : NZ-T30day 0.5g-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Quant Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

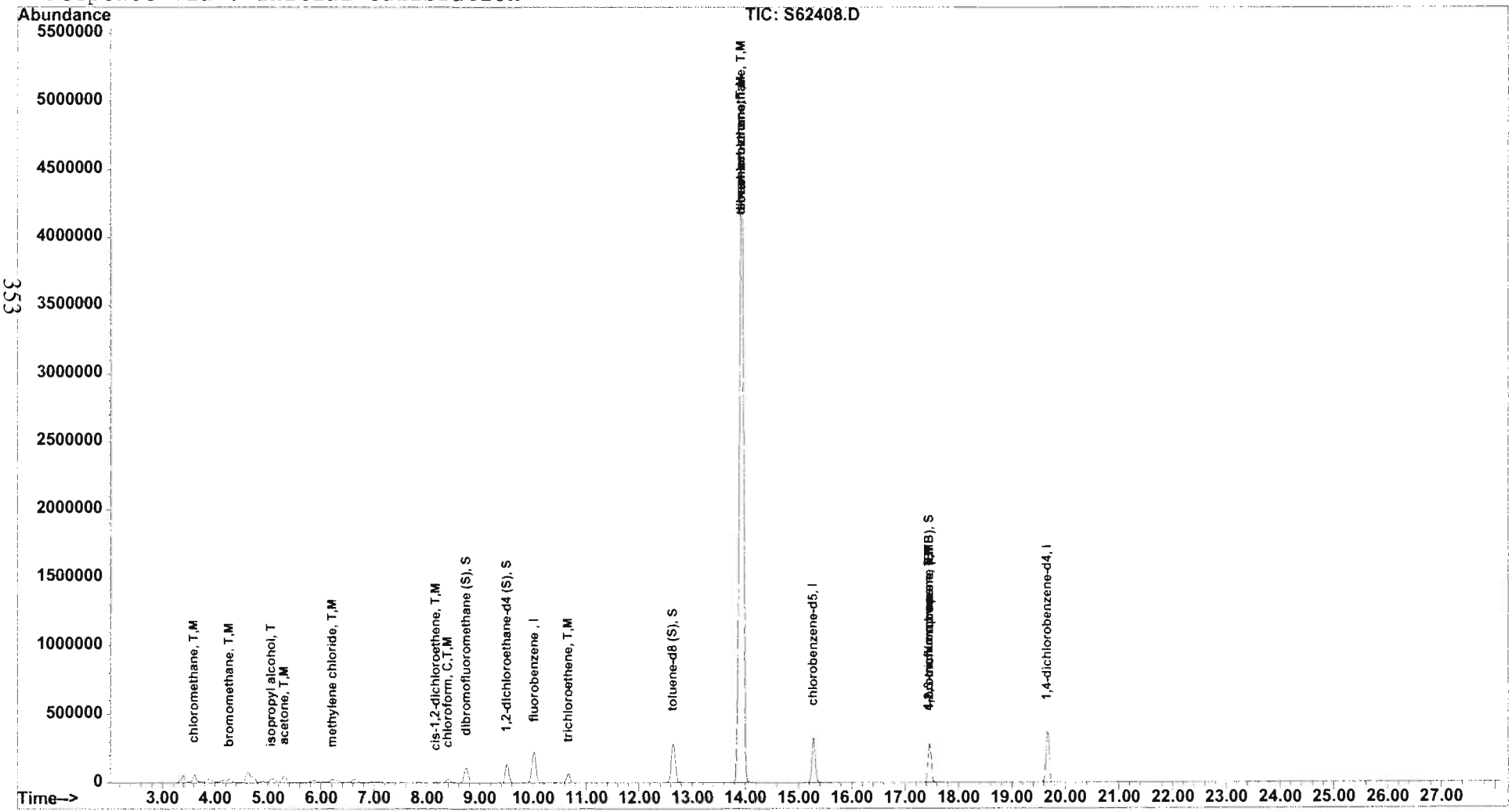
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.03	96	4832851	15.00	ug/l	-0.24
58) chlorobenzene-d5	15.30	117	4138288	15.00	ug/L	-0.25
84) 1,4-dichlorobenzene-d4	19.67	152	2376337	15.00	ug/L	-0.24
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.75	113	1607254	29.12	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.07%			
35) 1,2-dichloroethane-d4 (S)	9.52	102	382063	30.20	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.67%			
48) toluene-d8 (S)	12.66	98	4848538	30.49	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.63%			
68) 4-bromofluorobenzene (BFB)	17.47	95	2303067	29.07	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.90%			
Target Compounds						Qvalue
3) chloromethane	3.62	50	256924	2.22	ug/L #	68
5) bromomethane	4.28	96	84488	2.45	ug/L	98
13) isopropyl alcohol	5.07	45	180181	1.81	ug/L #	30
17) acetone	5.32	58	375747	47.22	ug/L	95
20) methylene chloride	6.22	84	149766	2.29	ug/L #	18
28) chloroform	8.41	85	326022	3.60	ug/L #	100
38) trichloroethene	10.68	130	537777	7.97	ug/L #	33
45) cis-1,2-dichloroethene	8.18	61	87094	0.68	ug/L #	69
55) tetrachloroethene	13.93	166	41079035	469.73	ug/L #	76
56) dibromochloromethane	13.93	129	27099597	452.64	ug/L #	93
69) 1,2,3-trichloropropane	17.47	75	1336074	19.10	ug/L #	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62408.D Vial: 12
Acq On : 30 Aug 2011 7:32 pm Operator: A. Thomas
Sample : NZ-T30day 0.5g-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62409.D Vial: 13
Acq On : 30 Aug 2011 8:06 pm Operator: A. Thomas
Sample : NZ-T30day 0.5g-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Quant Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

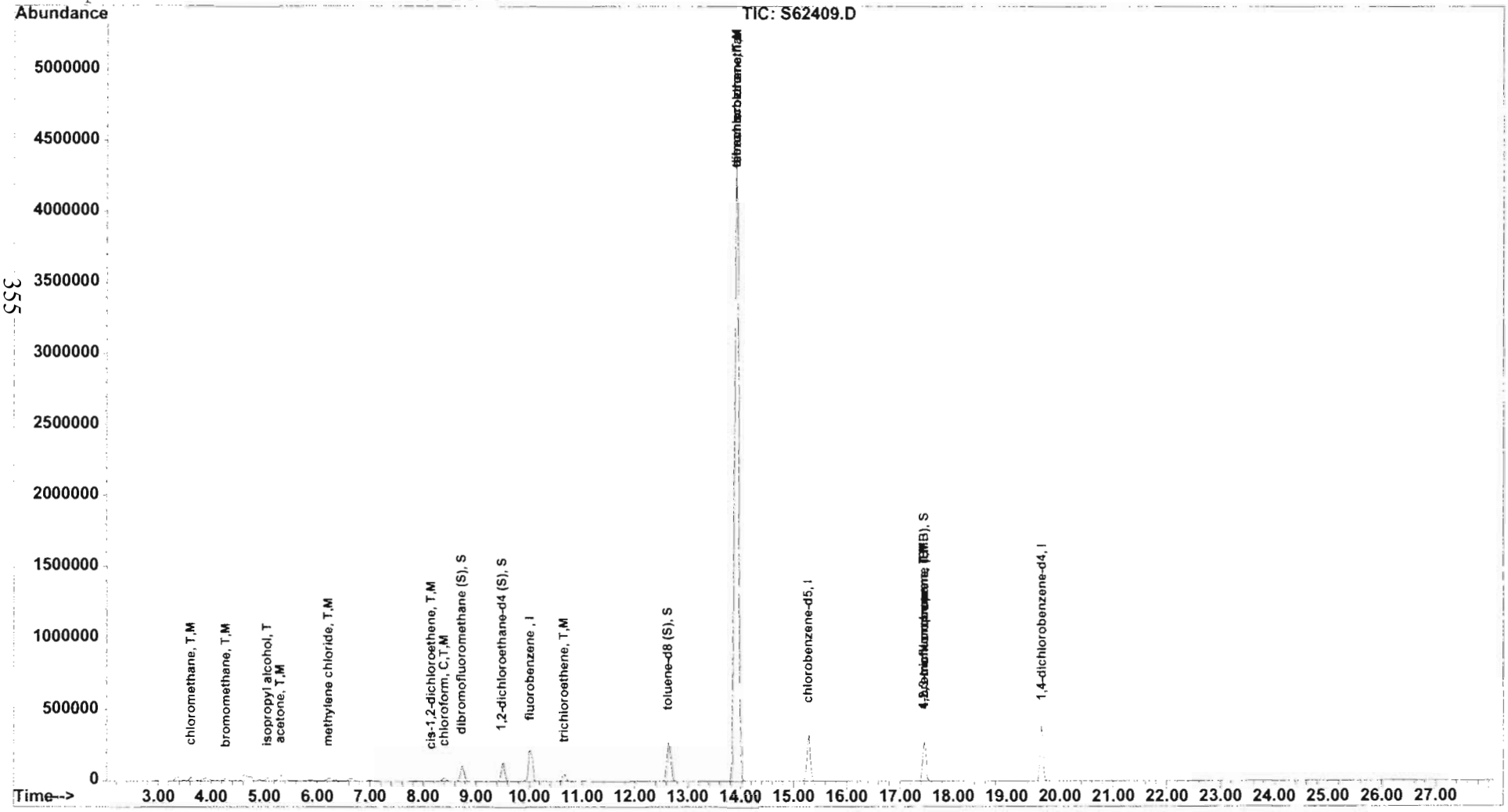
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.03	96	4751415	15.00	ug/l	-0.24
58) chlorobenzene-d5	15.30	117	4128227	15.00	ug/L	-0.25
84) 1,4-dichlorobenzene-d4	19.67	152	2418529	15.00	ug/L	-0.24
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.76	113	1608680	29.64	ug/L	-0.23
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.80%			
35) 1,2-dichloroethane-d4 (S)	9.52	102	346835	27.88	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.93%			
48) toluene-d8 (S)	12.66	98	4740537	30.32	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.07%			
68) 4-bromofluorobenzene (BFB)	17.47	95	2307751	29.20	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.33%			
Target Compounds						Qvalue
3) chloromethane	3.63	50	225709	1.99	ug/L #	44
5) bromomethane	4.30	96	60662	1.79	ug/L	91
13) isopropyl alcohol	5.07	45	204486	2.09	ug/L #	20
17) acetone	5.33	58	368127	47.06	ug/L	85
20) methylene chloride	6.23	84	134632	2.10	ug/L #	98
28) chloroform	8.42	85	326384	3.66	ug/L #	100
38) trichloroethene	10.68	130	457834	6.90	ug/L #	33
45) cis-1,2-dichloroethene	8.19	61	74896	0.59	ug/L #	69
55) tetrachloroethene	13.93	166	38670738	449.77	ug/L #	76
56) dibromochloromethane	13.93	129	25887306	439.80	ug/L #	93
69) 1,2,3-trichloropropane	17.47	75	1323662	18.97	ug/L #	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62409.D Vial: 13
Acq On : 30 Aug 2011 8:06 pm Operator: A. Thomas
Sample : NZ-T30day 0.5g-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62410.D Vial: 14
Acq On : 30 Aug 2011 8:41 pm Operator: A. Thomas
Sample : NZ-T30day 0.5g-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Quant Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

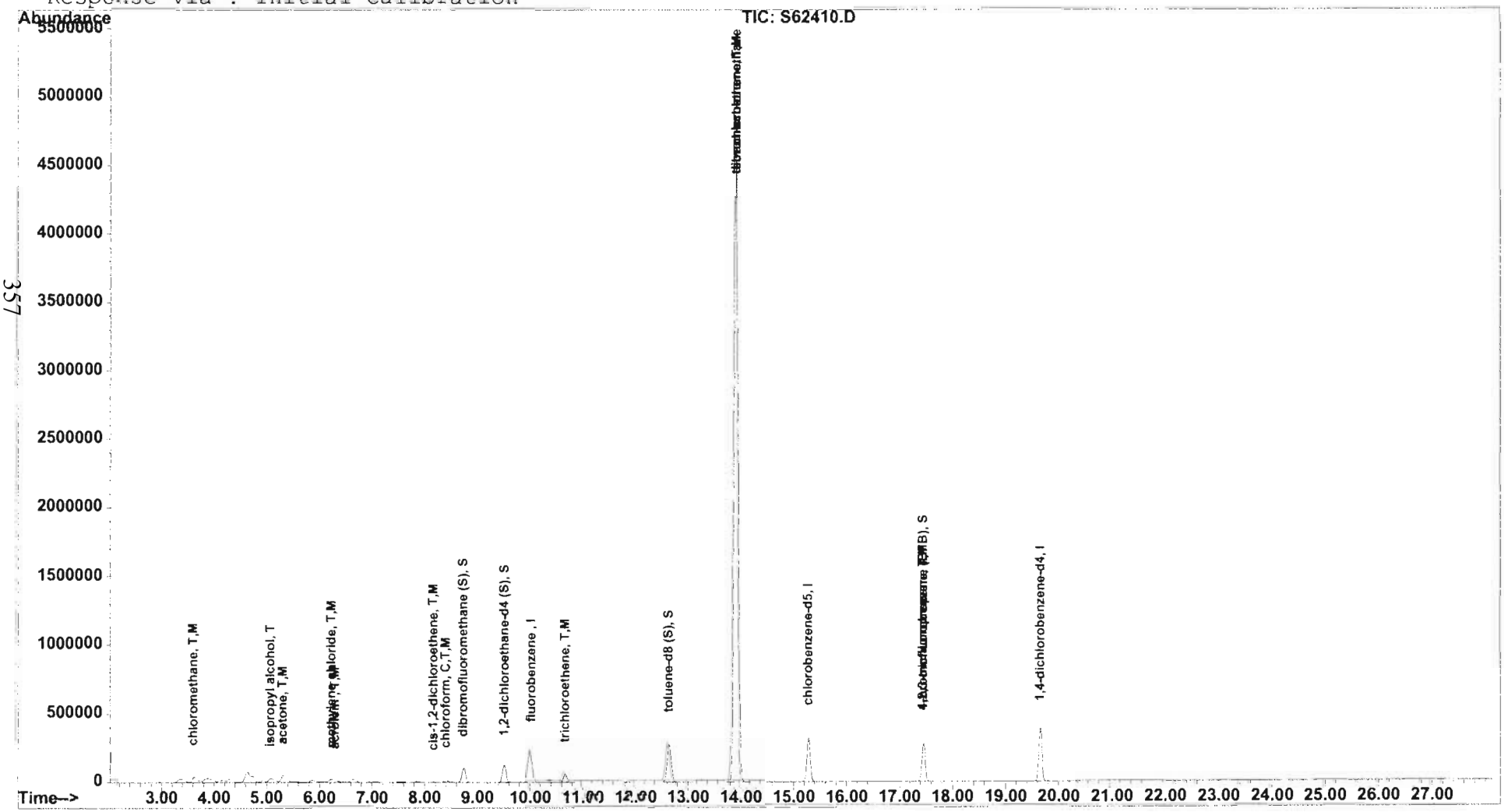
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.03	96	4767496	15.00	ug/l	-0.24
58) chlorobenzene-d5	15.30	117	4224021	15.00	ug/L	-0.25
84) 1,4-dichlorobenzene-d4	19.67	152	2482466	15.00	ug/L	-0.24
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.75	113	1576877	28.96	ug/L	-0.23
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.53%			
35) 1,2-dichloroethane-d4 (S)	9.53	102	357288	28.63	ug/L	-0.23
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.43%			
48) toluene-d8 (S)	12.65	98	4875922	31.08	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.60%			
68) 4-bromofluorobenzene (BFB)	17.47	95	2368219	29.29	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.63%			
Target Compounds						Qvalue
3) chloromethane	3.63	50	226739	1.99	ug/L #	74
13) isopropyl alcohol	5.08	45	180309	1.83	ug/L #	35
14) acrolein	6.32	56	67751	9.01	ug/l #	1
17) acetone	5.33	58	427030	54.40	ug/L	90
20) methylene chloride	6.24	84	140517	2.18	ug/L #	18
28) chloroform	8.41	85	272943	3.05	ug/L #	100
38) trichloroethene	10.68	130	520547	7.82	ug/L	97
45) cis-1,2-dichloroethene	8.17	61	78098	0.62	ug/L #	69
55) tetrachloroethene	13.93	166	40464672	469.05	ug/L #	76
56) dibromochloromethane	13.93	129	26762400	453.14	ug/L #	93
69) 1,2,3-trichloropropane	17.47	75	1319846	18.48	ug/L #	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62410.D Vial: 14
Acq On : 30 Aug 2011 8:41 pm Operator: A. Thomas
Sample : NZ-T30day 0.5g-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62411.D Vial: 15
Acq On : 30 Aug 2011 9:16 pm Operator: A. Thomas
Sample : NZ-T30day C-1 1:2dil Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Quant Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

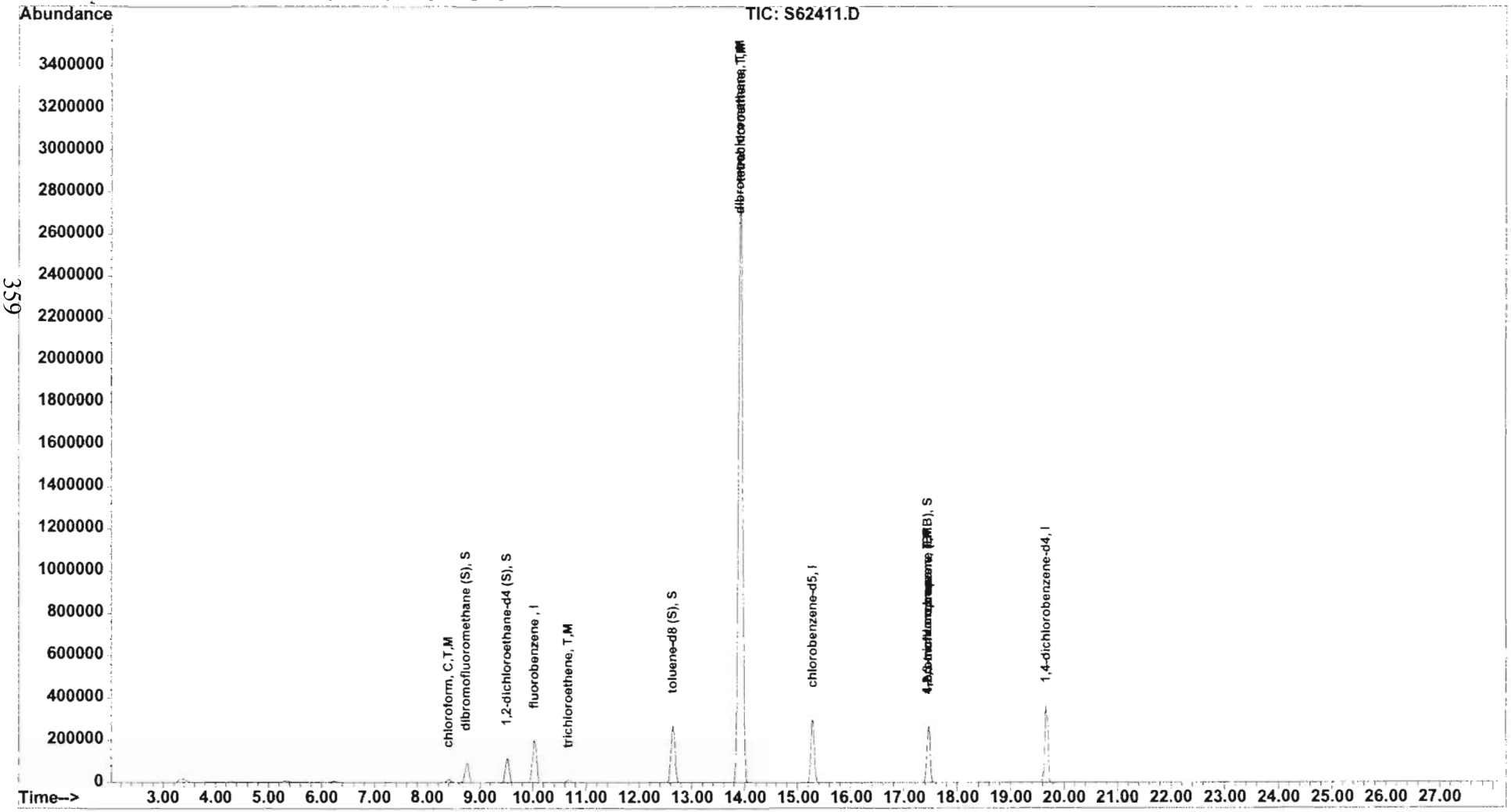
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.04	96	4528651	15.00	ug/l	-0.23
58) chlorobenzene-d5	15.29	117	4013339	15.00	ug/L	-0.25
84) 1,4-dichlorobenzene-d4	19.67	152	2398375	15.00	ug/L	-0.24
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.76	113	1512805	29.25	ug/L	-0.23
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.50%			
35) 1,2-dichloroethane-d4 (S)	9.52	102	353962	29.85	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.50%			
48) toluene-d8 (S)	12.65	98	4701543	31.55	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.17%			
68) 4-bromofluorobenzene (BFB)	17.47	95	2239141	29.14	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.13%			
Target Compounds						Qvalue
28) chloroform	8.42	85	212264	2.50	ug/L #	100
38) trichloroethene	10.67	130	142644	2.26	ug/L #	33
55) tetrachloroethene	13.93	166	26311172	321.07	ug/L #	100
56) dibromochloromethane	13.92	129	17652522	314.65	ug/L #	93
69) 1,2,3-trichloropropane	17.47	75	1267332	18.68	ug/L #	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62411.D Vial: 15
Acq On : 30 Aug 2011 9:16 pm Operator: A. Thomas
Sample : NZ-T30day C-1 1:2dil Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62412.D Vial: 16
Acq On : 30 Aug 2011 9:51 pm Operator: A. Thomas
Sample : NZ-T30day C-2 1:2dil Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Quant Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

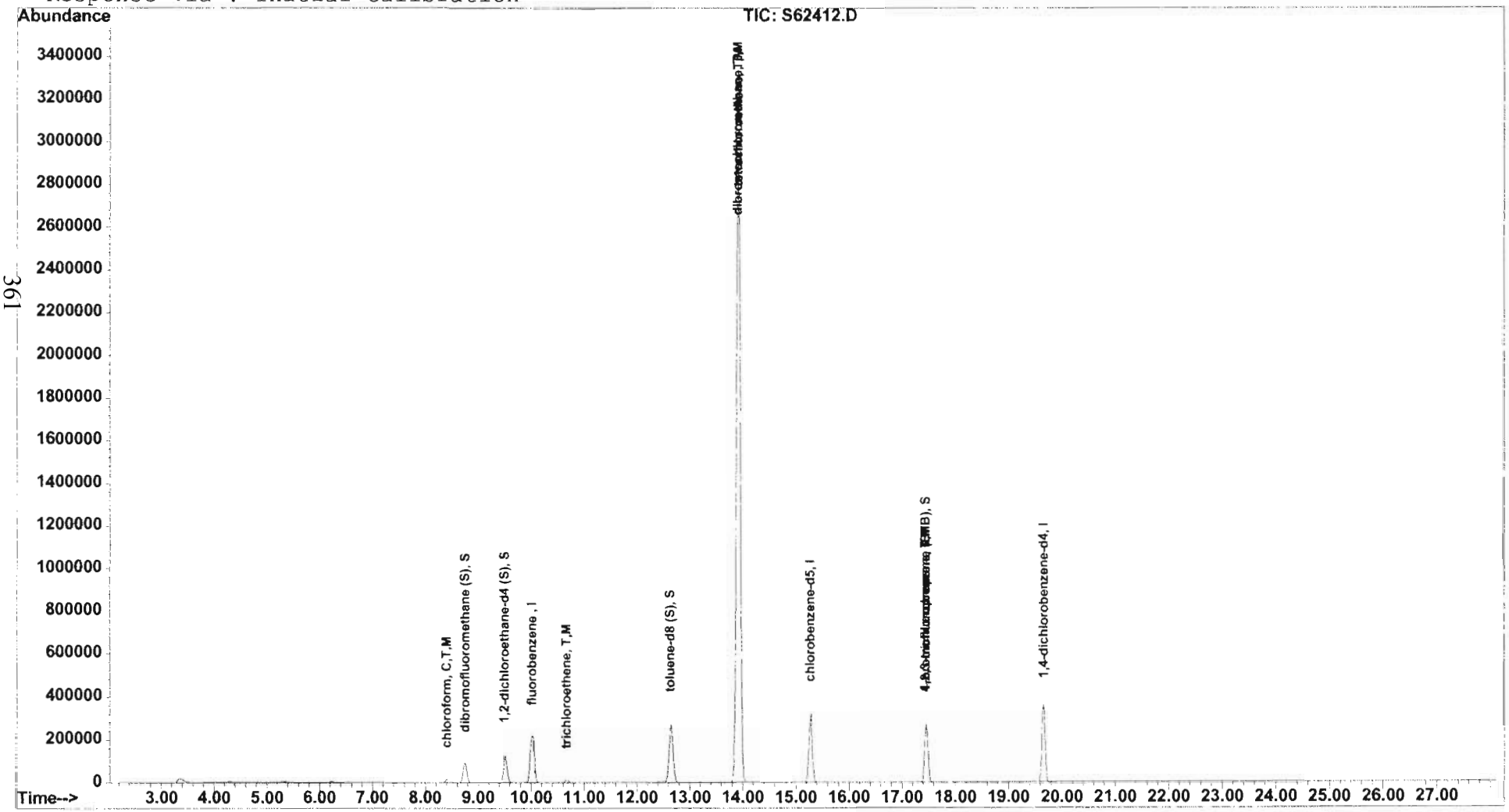
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.04	96	4875696	15.00	ug/l	-0.24
58) chlorobenzene-d5	15.30	117	4065429	15.00	ug/L	-0.25
84) 1,4-dichlorobenzene-d4	19.67	152	2336816	15.00	ug/L	-0.24
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.76	113	1550851	27.85	ug/L	-0.23
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.83%			
35) 1,2-dichloroethane-d4 (S)	9.53	102	372391	29.17	ug/L	-0.23
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.23%			
48) toluene-d8 (S)	12.66	98	4720322	29.42	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.07%			
68) 4-bromofluorobenzene (BFB)	17.47	95	2192807	28.17	ug/L	-0.24
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.90%			
Target Compounds						Qvalue
28) chloroform	8.41	85	205740	2.25	ug/L #	100
38) trichloroethene	10.69	130	157172	2.31	ug/L	92
55) tetrachloroethene	13.93	166	25536588	289.44	ug/L #	76
56) dibromochloromethane	13.93	129	16897731	279.76	ug/L #	93
69) 1,2,3-trichloropropane	17.47	75	1279177	18.61	ug/L #	47

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62412.D Vial: 16
Acq On : 30 Aug 2011 9:51 pm Operator: A. Thomas
Sample : NZ-T30day C-2 1:2dil Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

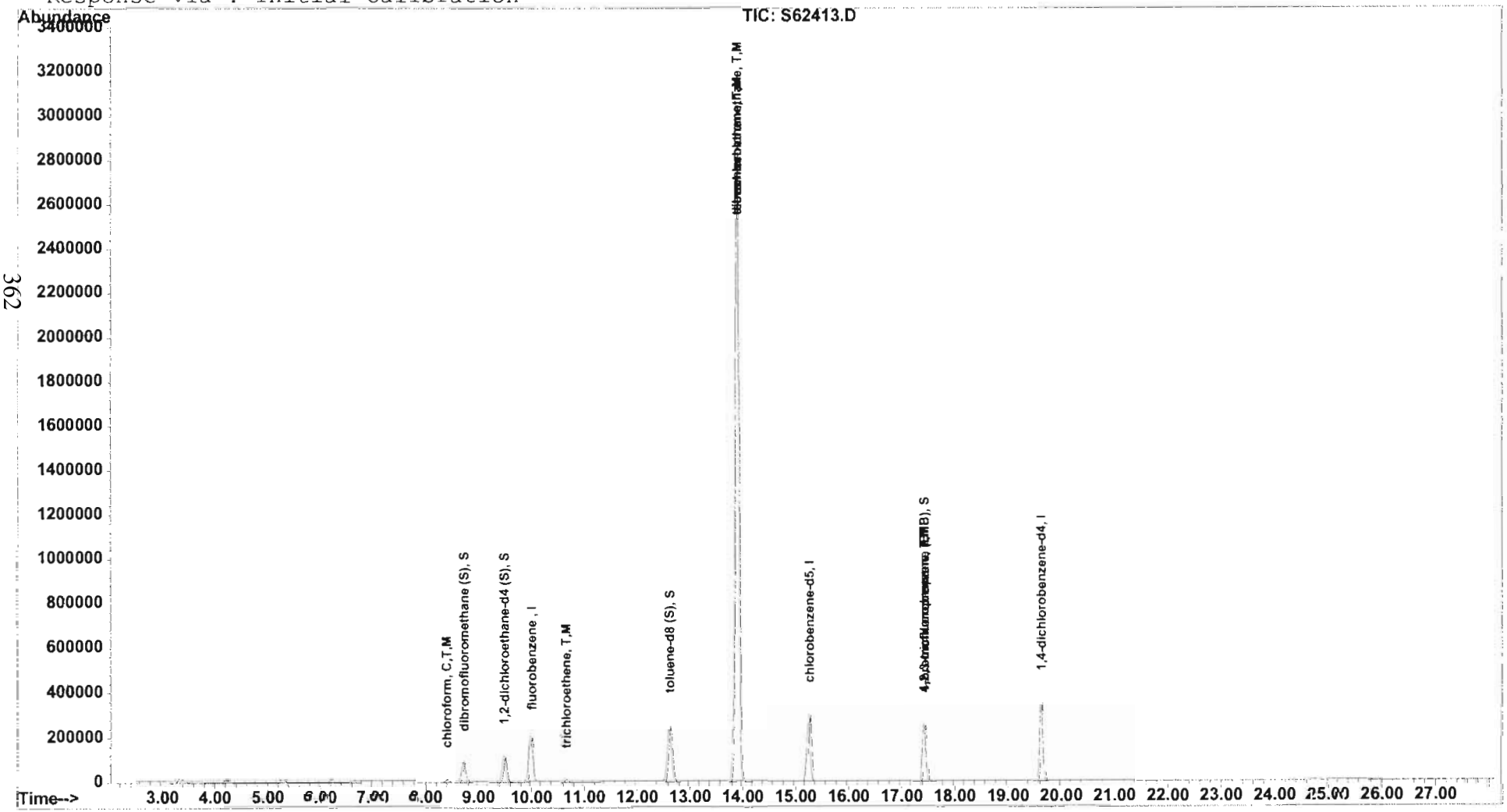
Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG30\S62413.D Vial: 17
Acq On : 30 Aug 2011 10:26 pm Operator: A. Thomas
Sample : NZ-T30day C-3 1:2dil Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 31 15:18 19111 Quant Results File: 62081211.RES

Method : C:\HPCHEM\1\METHODS\62081211.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 16 09:36:33 2011
Response via : Initial Calibration



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Pennington, NJ 08534

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Laboratory Deliverables

Prepared For

PARS Environmental

Drum Bench Study

Lab ID

Chemical Oxidation

Samples Received

27-Jul-11

Reported

7/27/11 to 8/12/11

NJDEP Certified Lab 11005

Precision testing for a cleaner environment.

I Study Information

Study:	Chemical Oxidation Permanganate
Time point:	T=0 days/Hours T=1 Day/24 Hours

II Sample Results

Data Summaries

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

=0 GW Initial Ev

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0000316 drum scre

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62409.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/27/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	2	U
74-87-3	chloromethane	2	U
75-01-4	vinyl chloride	2	U
74-83-9	bromomethane	2	U
75-00-3	chloroethane	2	U
75-15-0	carbon disulfide	2	U
75-65-0	tert-butyl alcohol	2	U
1634-04-4	MTBE	2	U
78-93-3	MEK	5	U
67-64-1	acetone	5	U
75-69-4	trichlorofluoromethane	2	U
75-35-4	1,1-dichloroethene	2	U
75-09-2	methylene chloride	2	U
156-60-5	trans-1,2-dichloroethene	2	U
75-34-3	1,1-dichloroethane	2	U
67-66-3	chloroform	2	U
108-10-1	MIBK	2	U
74-97-5	bromochloromethane	2	U
71-55-6	1,1,1-trichloroethane	2	U
56-23-5	carbon tetrachloride	2	U
107-06-2	1,2-dichloroethane	2	U
71-43-2	benzene	2	U
79-01-6	trichloroethene	4	
78-87-5	1,2-dichloropropane	2	U
156-59-4	cis-1,2-dichloroethene	2	U
75-27-4	bromodichloromethane	2	U
10061-01-5	cis-1,3-dichloropropene	2	U
108-88-3	toluene	2	U
10061-02-6	trans-1,3-dichloropropene	2	U
591-78-6	2-hexanone	5	U
79-00-5	1,1,2-trichloroethane	2	U
127-18-4	tetrachloroethene	380	
124-48-1	dibromochloromethane	2	U
108-90-7	chlorobenzene	2	U
108-38-3	m/p-xylene	2	U
95-47-6	o-xylene	2	U
100-42-5	styrene	2	U
98-82-8	isopropyl benzene	2	U
75-25-2	bromoform	2	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

=0 GW Initial Ev

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 0000316 drum scre

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: S62409.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/27/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	2	U
541-73-1	1,3-dichlorobenzene	2	U
95-50-1	1,2-dichlorobenzene	2	U
106-46-7	1,4-dichlorobenzene	2	U
120-82-1	1,2,4-trichlorobenzene	2	U
87-61-6	1,2,3-trichlorobenzene	2	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T-24 PM C-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62413.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	570	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	47	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	880	D
127-18-4	tetrachloroethene	1100	D
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T-24 PM C-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62414.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	480	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	47	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	880	D
127-18-4	tetrachloroethene	1100	D
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T-24 PM C-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62415.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	490	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	45	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	850	D
127-18-4	tetrachloroethene	1100	D
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T-24 PM 0.5-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM 0.5-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62416.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	460	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	42	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	31	D
127-18-4	tetrachloroethene	38	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T-24 PM 0.5-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM 0.5-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62417.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	470	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	42	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T-24 PM 0.5-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM 0.5-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62418.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	550	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	43	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T-24 PM 1.0-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM 1.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62419.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	600	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	52	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T-24 PM 1.0-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM 1.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62420.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	570	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	50	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T-24 PM 1.0-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM 1.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62421.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	530	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	49	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T-24 PM 2.0-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62422.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	510	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	52	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T-24 PM 2.0-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM 2.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62423.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	530	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	52	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T-24 PM 2.0-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-24 PM 2.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62424.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/30/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	460	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	50	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

III-1 Raw Chromatograms

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62413.D Vial: 15
Acq On : 30 Jul 2011 2:02 am Operator: A. Thomas
Sample : T-24 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

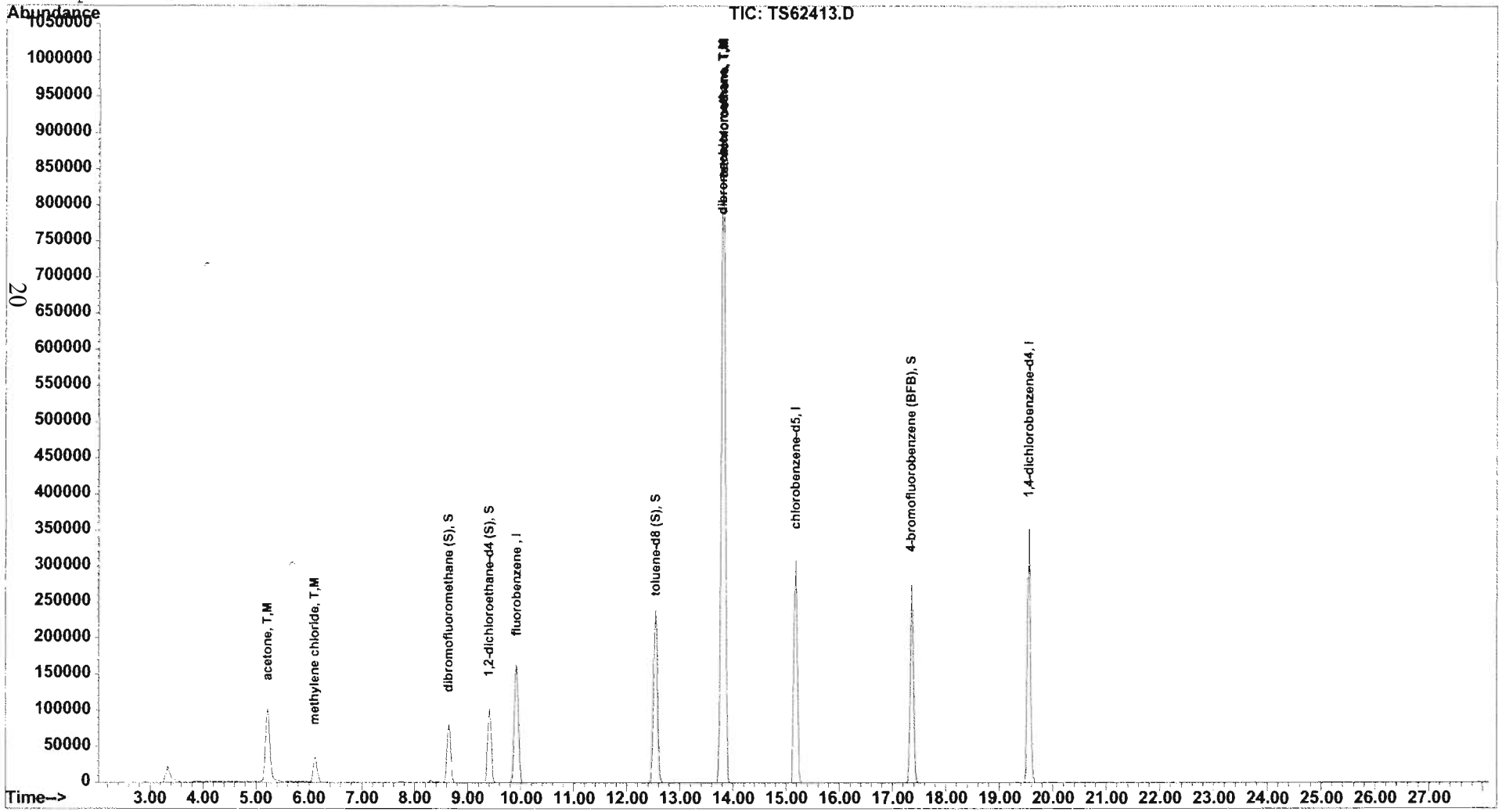
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3267660	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3658949	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.57	152	2245827	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1232292	32.04	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 106.80%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	260321	30.86	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.87%			
36) toluene-d8 (S)	12.55	98	3928195	31.25	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.17%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2314071	27.89	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.97%			
Target Compounds						Qvalue
14) acetone	5.24	58	790593	57.16	ug/L	89
17) methylene chloride	6.13	84	351243	4.68	ug/L #	100
41) tetrachloroethene	13.82	166	7155137	111.13	ug/L #	100
42) dibromochloromethane	13.82	129	4918873	87.80	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62413.D Vial: 15
Acq On : 30 Jul 2011 2:02 am Operator: A. Thomas
Sample : T-24 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62414.D Vial: 16
Acq On : 30 Jul 2011 2:35 am Operator: A. Thomas
Sample : T-24 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

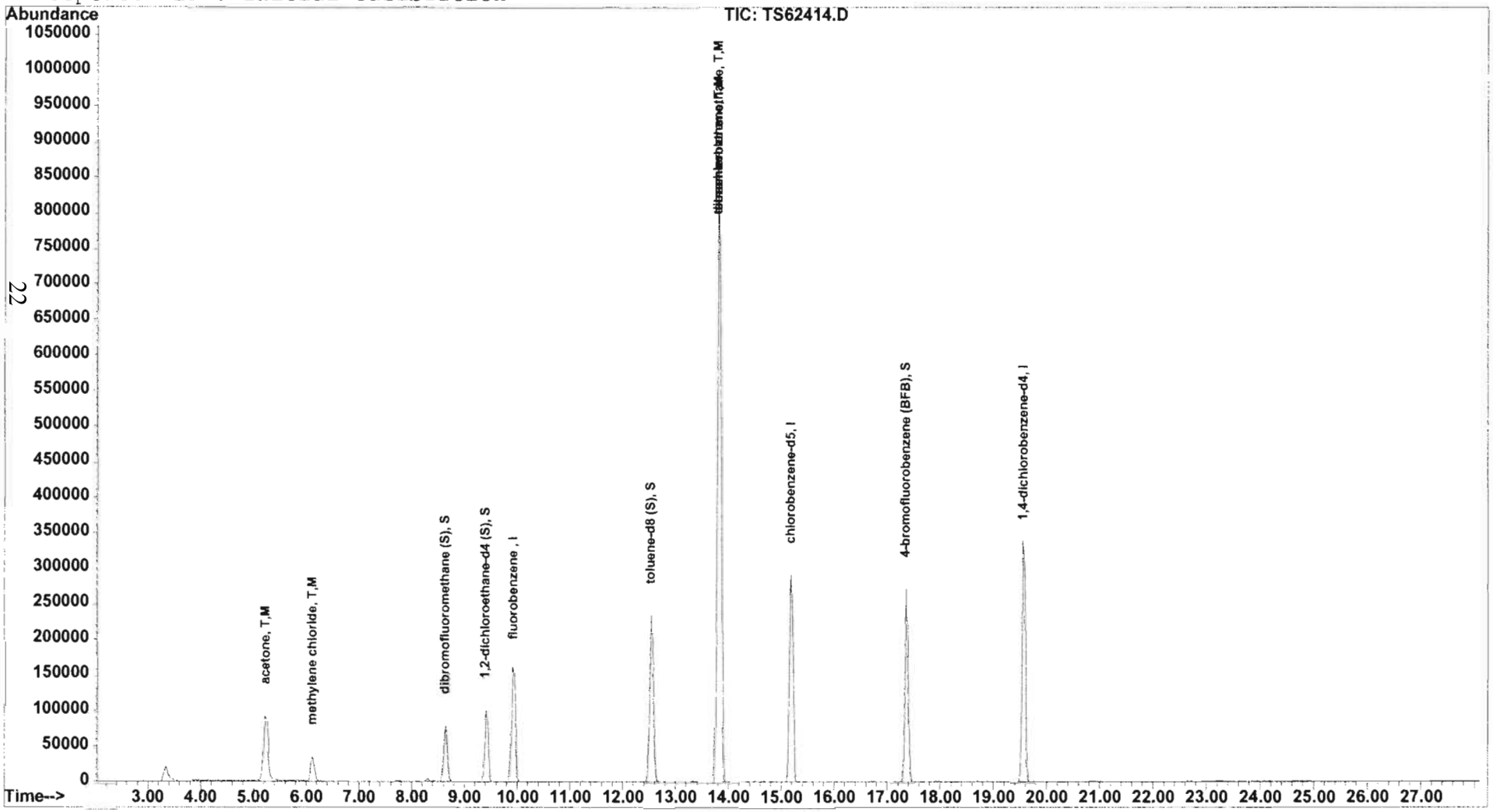
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3255069	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3610190	15.00	ug/L	-0.19
56) 1,4-dichlorobenzene-d4	19.57	152	2193957	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1207844	31.52	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.07%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	257852	30.68	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.27%			
36) toluene-d8 (S)	12.55	98	3856331	30.79	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.63%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2266909	27.69	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.30%			
Target Compounds						Qvalue
14) acetone	5.24	58	656174	47.63	ug/L	67
17) methylene chloride	6.13	84	353923	4.73	ug/L #	100
41) tetrachloroethene	13.82	166	7046990	109.87	ug/L #	76
42) dibromochloromethane	13.82	129	4895269	87.71	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62414.D Vial: 16
Acq On : 30 Jul 2011 2:35 am Operator: A. Thomas
Sample : T-24 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



22

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62415.D Vial: 17
Acq On : 30 Jul 2011 3:07 am Operator: A. Thomas
Sample : T-24 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

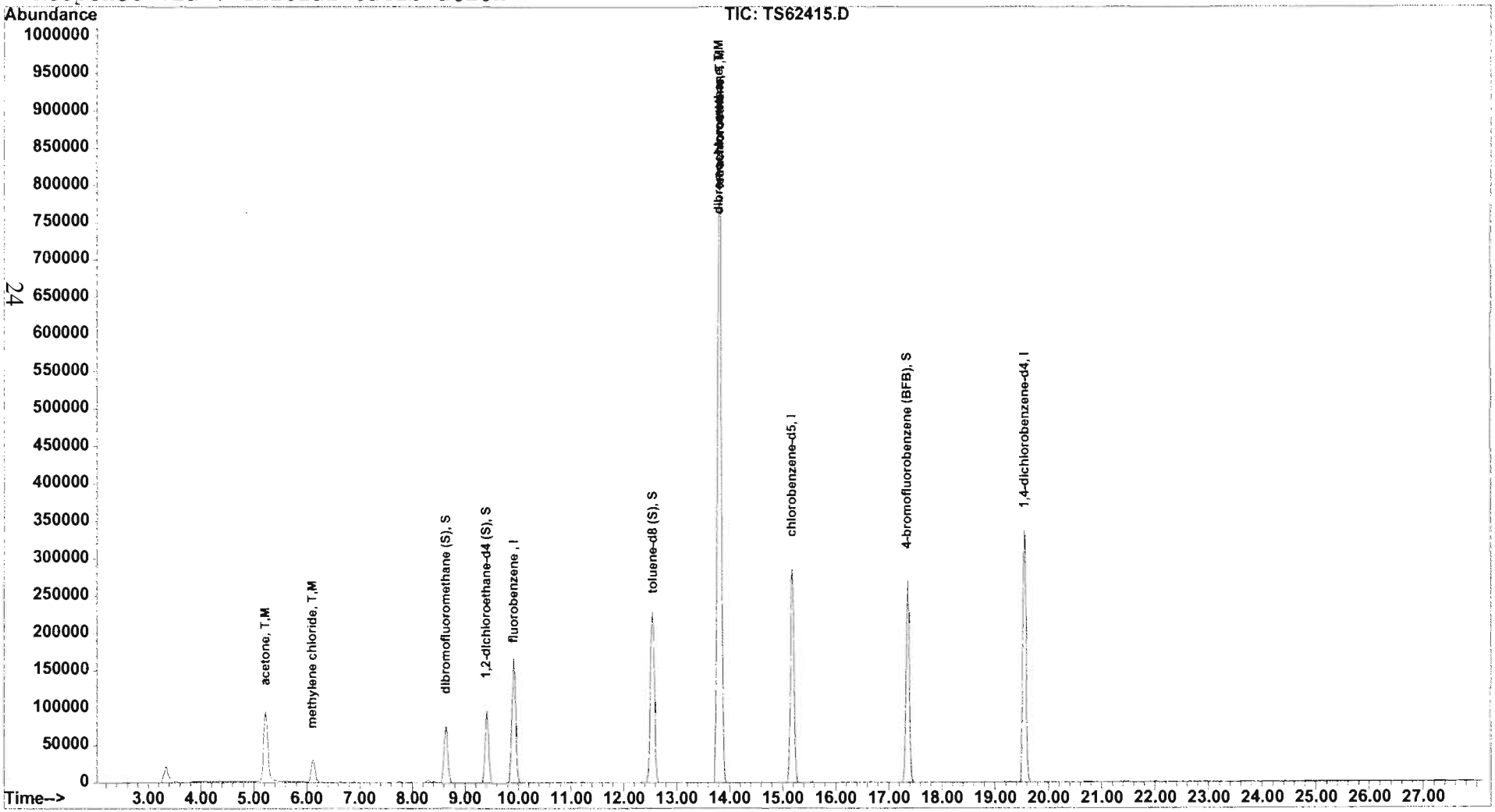
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3260128	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3571906	15.00	ug/L	-0.19
56) 1,4-dichlorobenzene-d4	19.57	152	2124586	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1210973	31.55	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.17%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	265392	31.53	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.10%			
36) toluene-d8 (S)	12.55	98	3888565	31.00	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.33%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2241314	27.68	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.27%			
Target Compounds						Qvalue
14) acetone	5.24	58	678537	49.17	ug/L	77
17) methylene chloride	6.13	84	339251	4.53	ug/L #	100
41) tetrachloroethene	13.82	166	6828631	106.31	ug/L #	76
42) dibromochloromethane	13.82	129	4753544	85.04	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62415.D Vial: 17
Acq On : 30 Jul 2011 3:07 am Operator: A. Thomas
Sample : T-24 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



24

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62416.D Vial: 18
Acq On : 30 Jul 2011 3:41 am Operator: A. Thomas
Sample : T-24 PM 0.5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

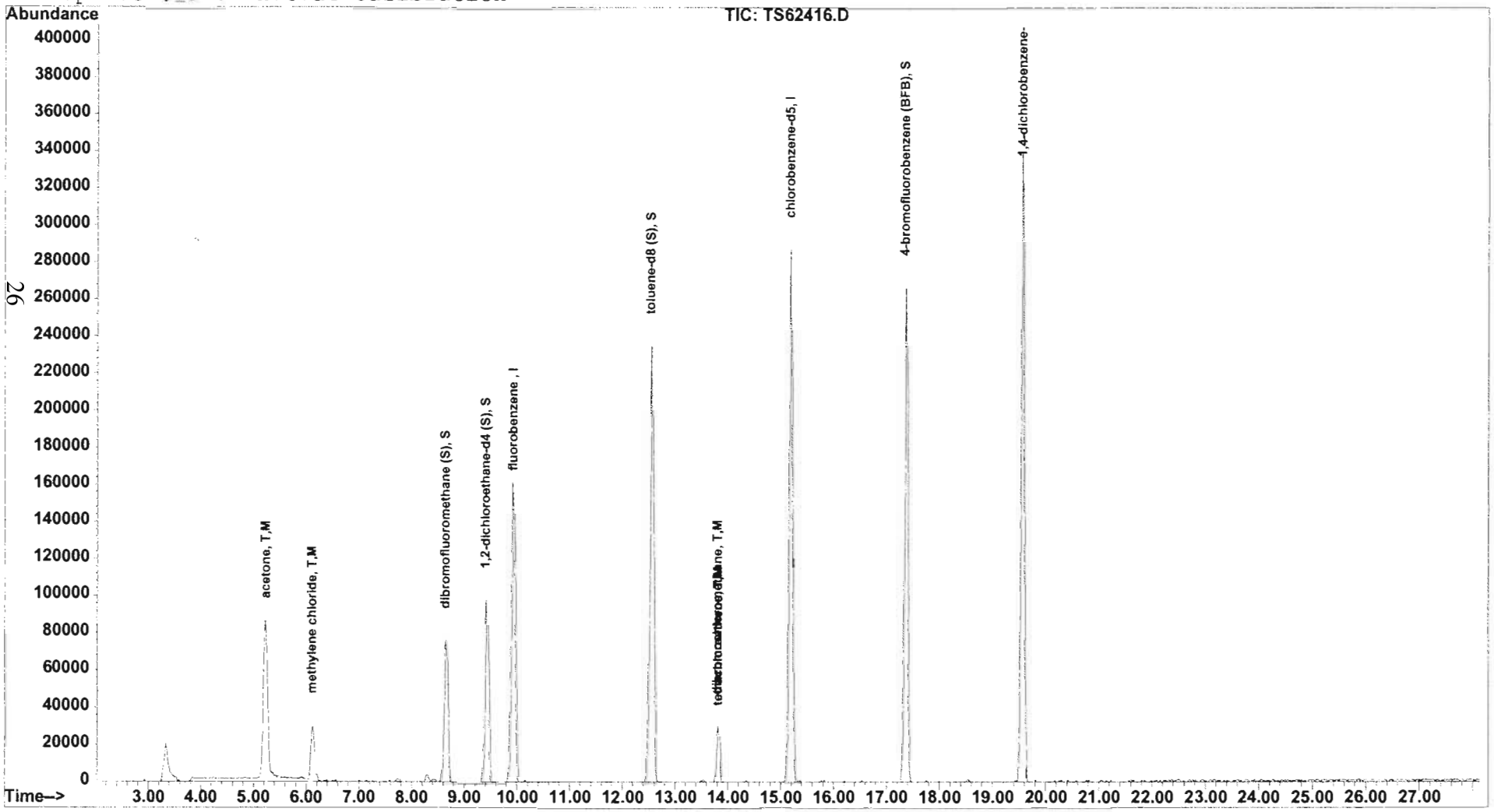
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3250166	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3628065	15.00	ug/L	-0.19
56) 1,4-dichlorobenzene-d4	19.57	152	2128147	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1205933	31.52	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.07%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	254949	30.38	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.27%			
36) toluene-d8 (S)	12.55	98	3853765	30.82	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.73%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2253485	27.39	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.30%			
Target Compounds						Qvalue
14) acetone	5.23	58	630481	45.83	ug/L	76
17) methylene chloride	6.13	84	314926	4.22	ug/L #	100
41) tetrachloroethene	13.82	166	242816	3.79	ug/L #	76
42) dibromochloromethane	13.81	129	171715	3.08	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62416.D Vial: 18
Acq On : 30 Jul 2011 3:41 am Operator: A. Thomas
Sample : T-24 PM 0.5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62417.D Vial: 19
Acq On : 30 Jul 2011 4:14 am Operator: A. Thomas
Sample : T-24 PM 0.5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

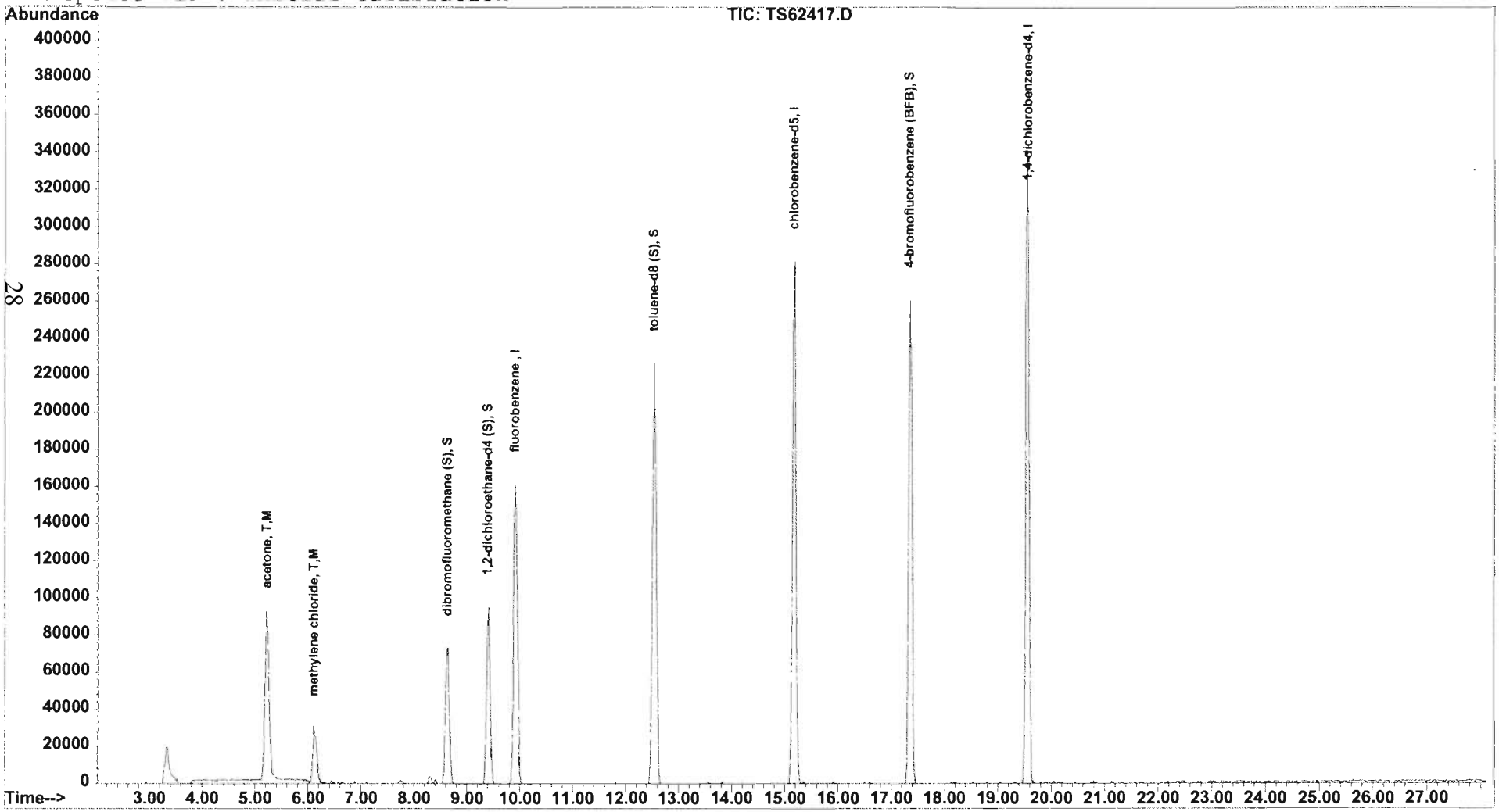
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3177052	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.19	117	3559843	15.00	ug/L	-0.19
56) 1,4-dichlorobenzene-d4	19.56	152	2114329	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1183924	31.66	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.53%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	248271	30.27	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.90%			
36) toluene-d8 (S)	12.55	98	3744302	30.63	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.10%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2201890	27.28	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 90.93%			
Target Compounds						Qvalue
14) acetone	5.23	58	633435	47.11	ug/L	75
17) methylene chloride	6.13	84	309696	4.24	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62417.D Vial: 19
Acq On : 30 Jul 2011 4:14 am Operator: A. Thomas
Sample : T-24 PM 0.5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



28

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62418.D Vial: 20
Acq On : 30 Jul 2011 4:47 am Operator: A. Thomas
Sample : T-24 PM 0.5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

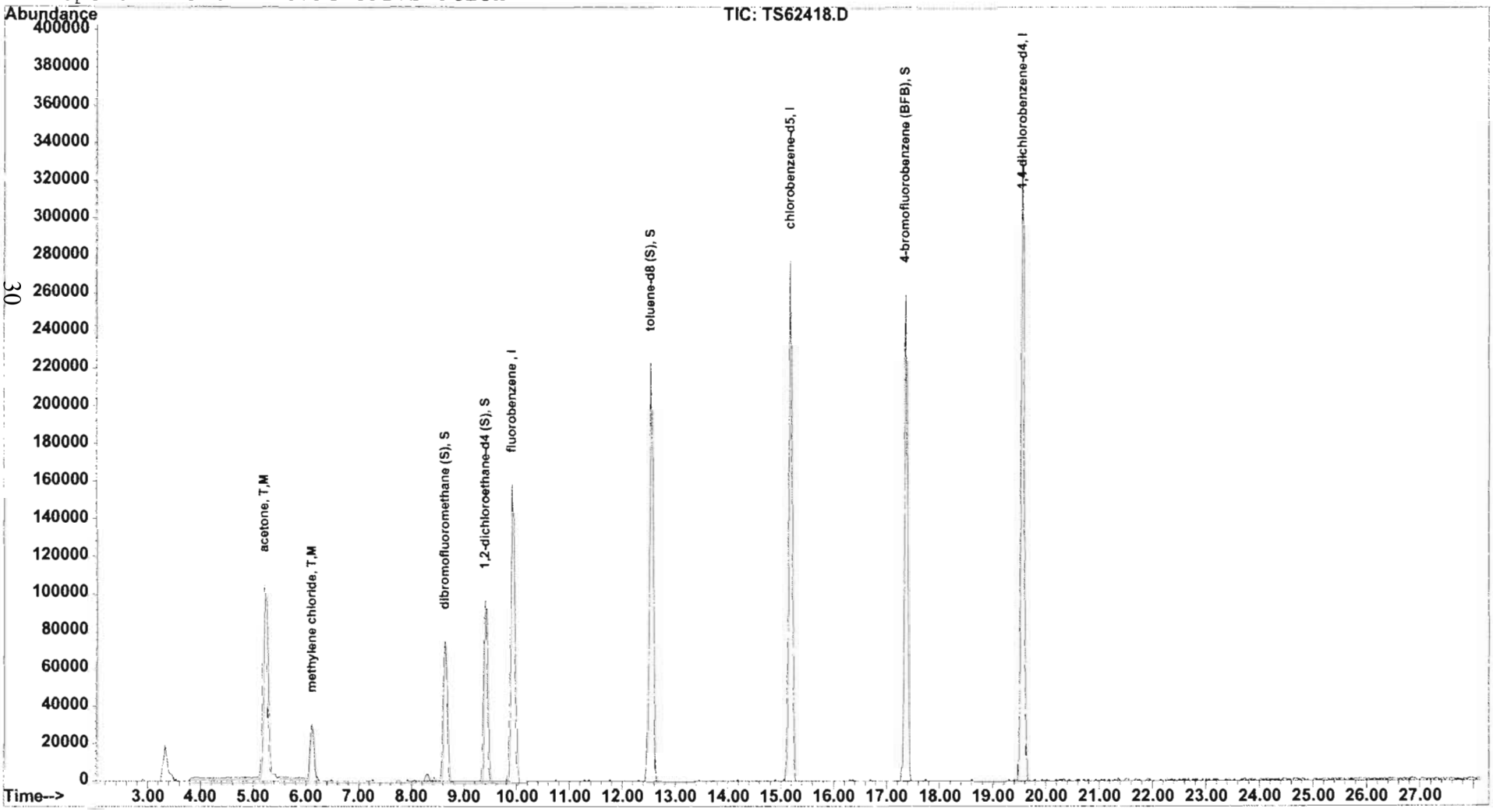
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3186387	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.19	117	3415868	15.00	ug/L	-0.19
56) 1,4-dichlorobenzene-d4	19.57	152	2127917	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1155604	30.81	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.70%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	251567	30.58	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.93%			
36) toluene-d8 (S)	12.55	98	3705976	30.23	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.77%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2200958	28.42	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.73%			
Target Compounds						Qvalue
14) acetone	5.23	58	742895	55.08	ug/L	77
17) methylene chloride	6.13	84	314929	4.30	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62418.D Vial: 20
Acq On : 30 Jul 2011 4:47 am Operator: A. Thomas
Sample : T-24 PM 0.5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



30

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62419.D Vial: 21
Acq On : 30 Jul 2011 5:20 am Operator: A. Thomas
Sample : T-24 PM 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

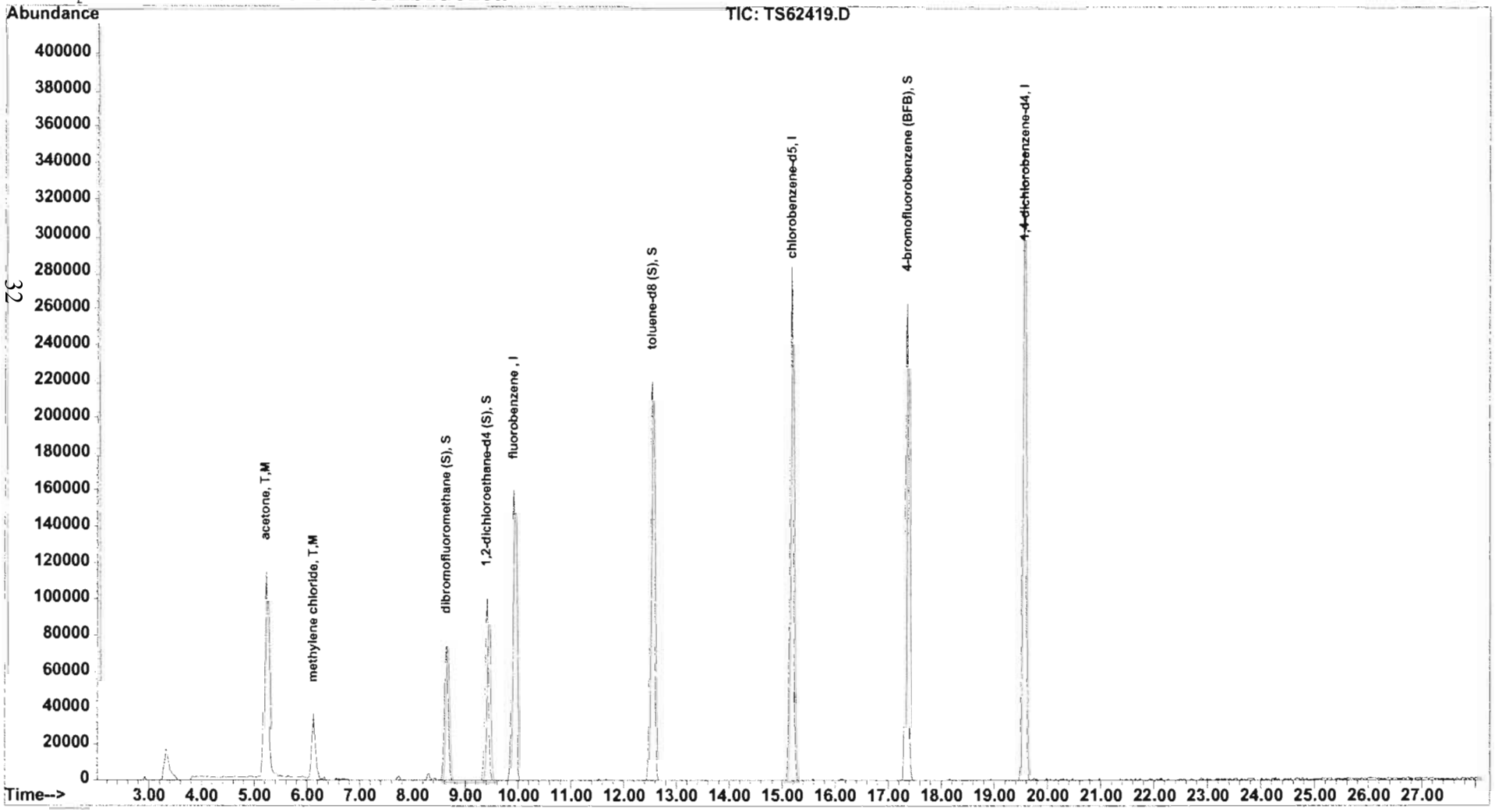
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3196372	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3500482	15.00	ug/L	-0.19
56) 1,4-dichlorobenzene-d4	19.56	152	2156596	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1153207	30.65	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.17%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	262994	31.87	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 106.23%			
36) toluene-d8 (S)	12.55	98	3730378	30.33	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.10%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2246188	28.30	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.33%			
Target Compounds						Qvalue
14) acetone	5.23	58	814379	60.20	ug/L	79
17) methylene chloride	6.13	84	379070	5.16	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62419.D Vial: 21
Acq On : 30 Jul 2011 5:20 am Operator: A. Thomas
Sample : T-24 PM 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62420.D Vial: 22
Acq On : 30 Jul 2011 5:53 am Operator: A. Thomas
Sample : T-24 PM 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

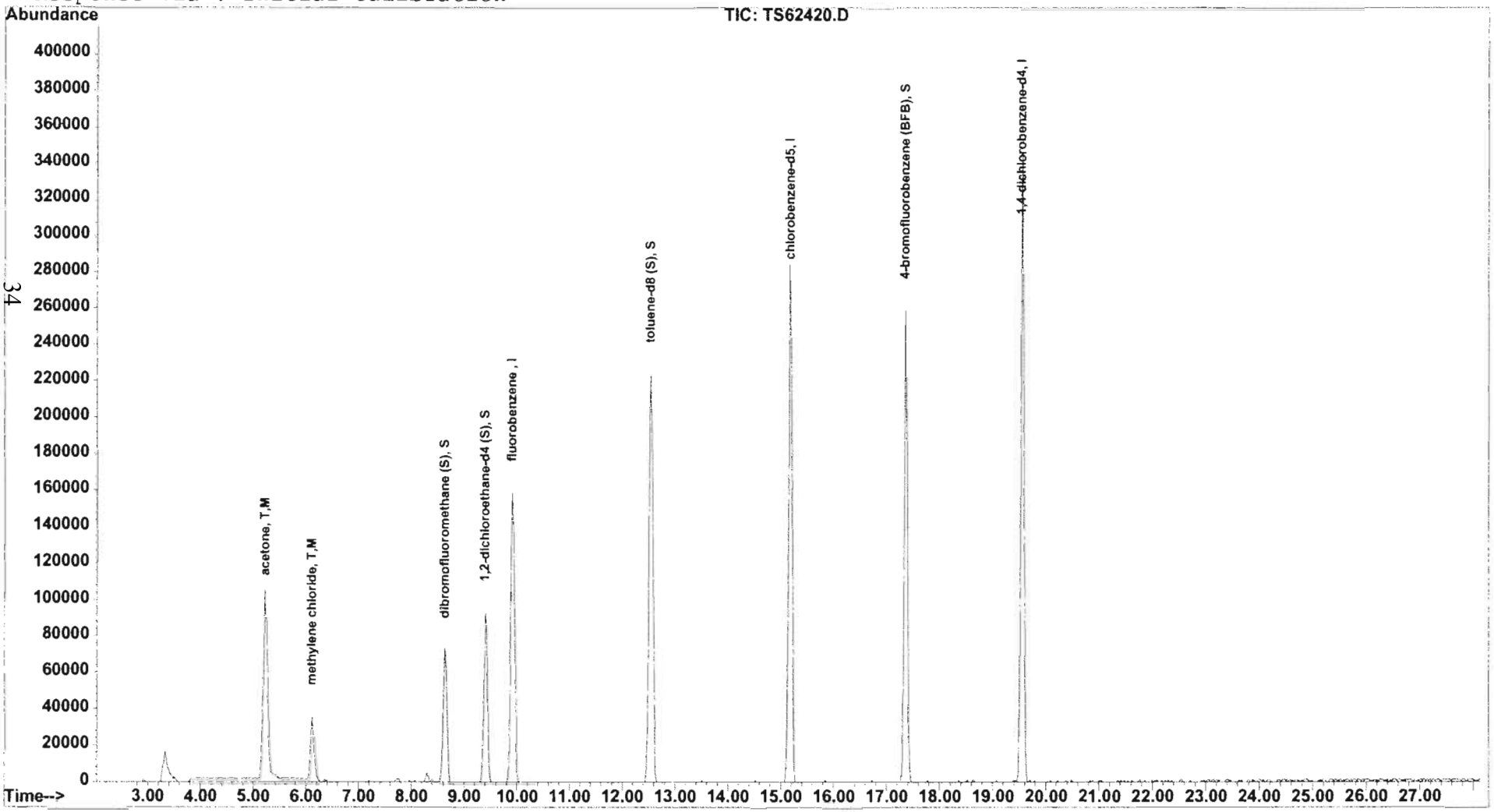
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3169700	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3566885	15.00	ug/L	-0.19
56) 1,4-dichlorobenzene-d4	19.56	152	2130632	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1159027	31.06	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.53%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	262737	32.10	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.00%			
36) toluene-d8 (S)	12.54	98	3719836	30.50	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.67%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2199765	27.20	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 90.67%			
Target Compounds						Qvalue
14) acetone	5.23	58	760944	56.72	ug/L	82
17) methylene chloride	6.13	84	367727	5.05	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62420.D Vial: 22
Acq On : 30 Jul 2011 5:53 am Operator: A. Thomas
Sample : T-24 PM 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62421.D Vial: 23
Acq On : 30 Jul 2011 6:26 am Operator: A. Thomas
Sample : T-24 PM 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

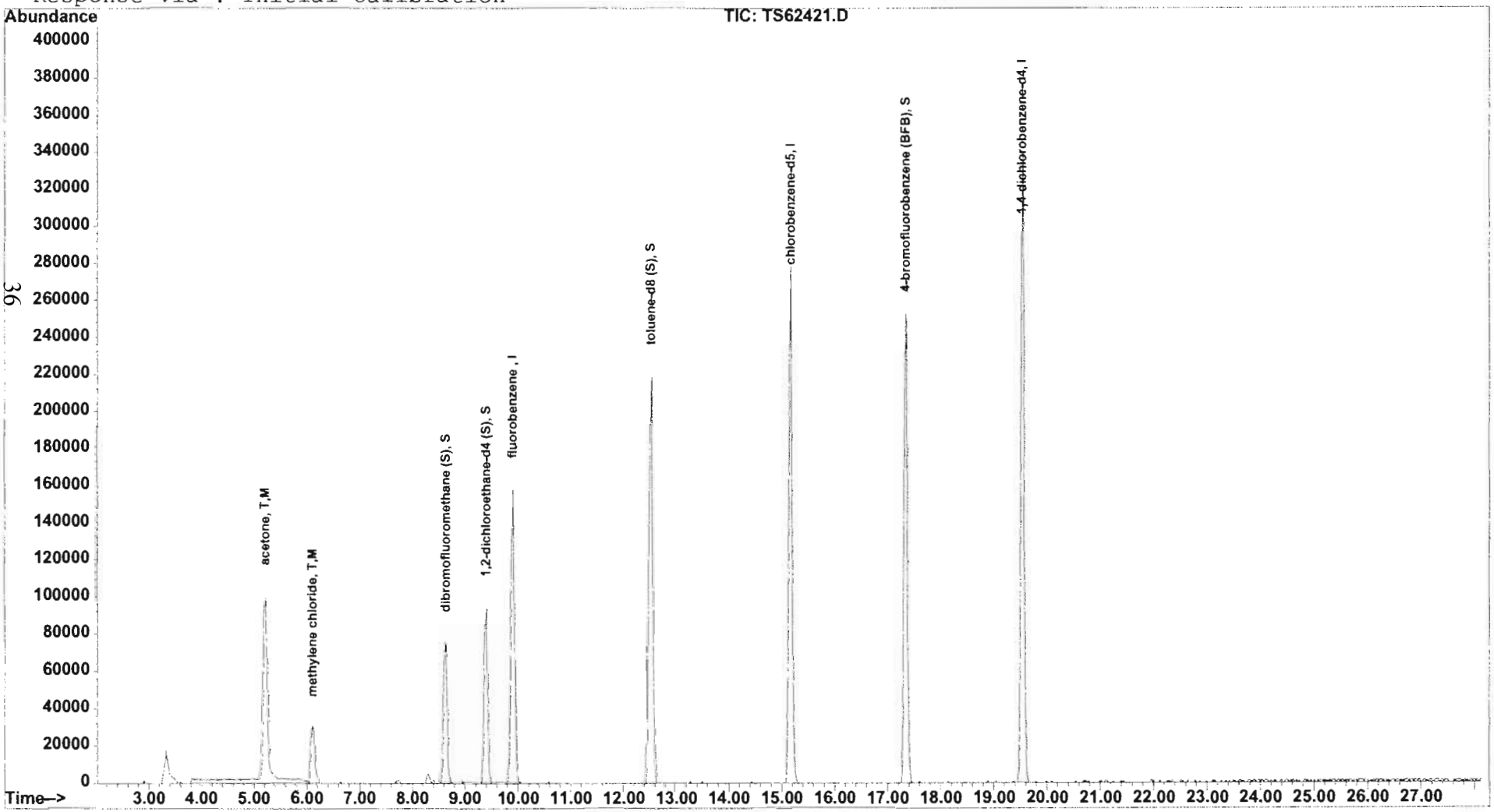
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3137466	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3448559	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.56	152	2092639	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1167168	31.60	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.33%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	239917	29.62	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.73%			
36) toluene-d8 (S)	12.54	98	3667929	30.39	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.30%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2185115	27.95	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.17%			
Target Compounds						Qvalue
14) acetone	5.23	58	698709	52.62	ug/L	69
17) methylene chloride	6.12	84	351056	4.87	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62421.D Vial: 23
Acq On : 30 Jul 2011 6:26 am Operator: A. Thomas
Sample : T-24 PM 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62422.D Vial: 26
Acq On : 30 Jul 2011 8:05 am Operator: A. Thomas
Sample : T-24 PM 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

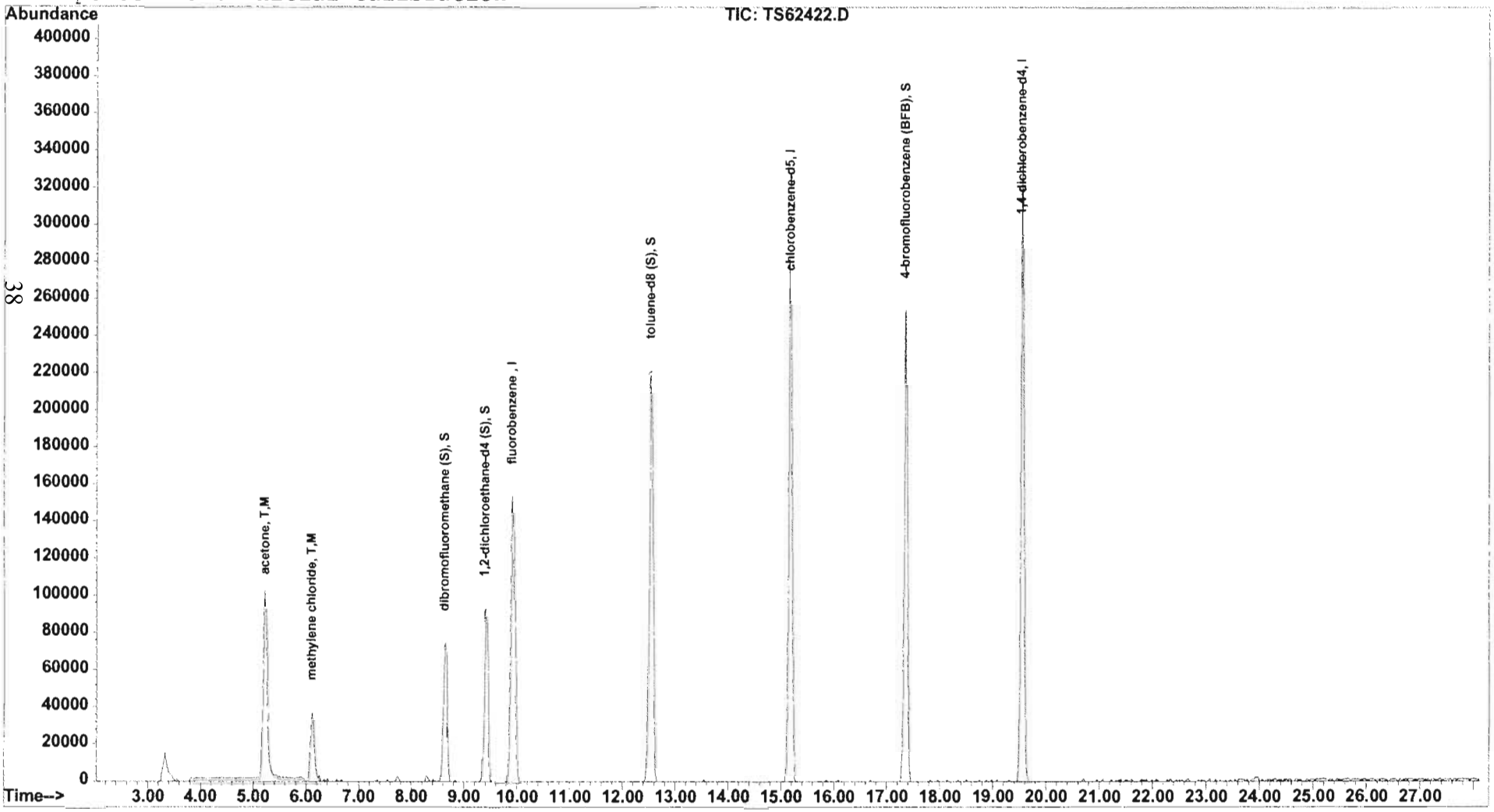
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3177513	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3467936	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.56	152	2173999	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1185327	31.69	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.63%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	251541	30.66	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.20%			
36) toluene-d8 (S)	12.54	98	3738564	30.58	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.93%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2243862	28.54	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.13%			
Target Compounds						Qvalue
14) acetone	5.23	58	692090	51.46	ug/L	77
17) methylene chloride	6.13	84	376903	5.16	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62422.D Vial: 26
Acq On : 30 Jul 2011 8:05 am Operator: A. Thomas
Sample : T-24 PM 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62423.D Vial: 27
Acq On : 30 Jul 2011 8:38 am Operator: A. Thomas
Sample : T-24 PM 2.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

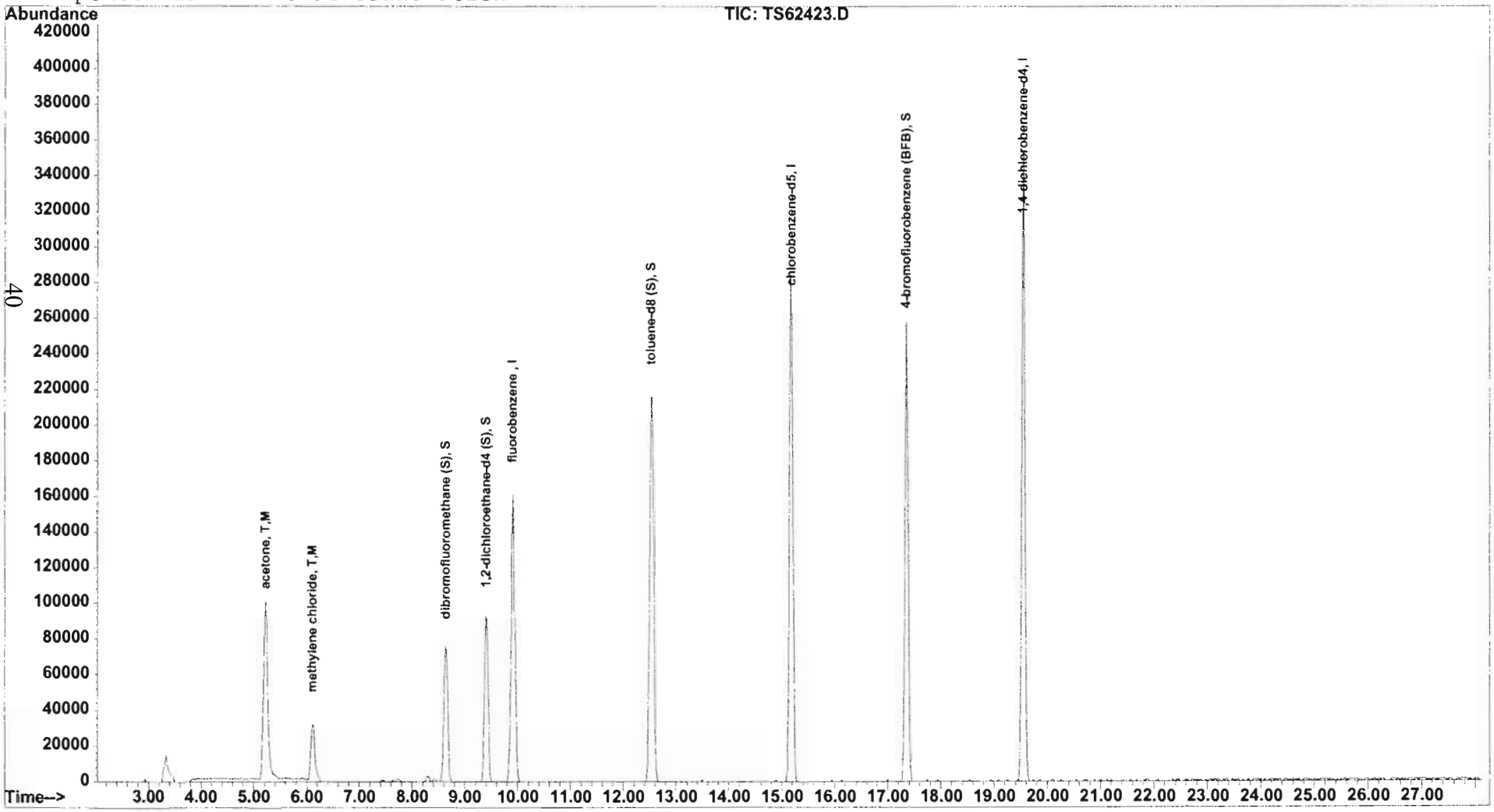
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3214676	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3522665	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.56	152	2159430	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1177021	31.10	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.67%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	233291	28.11	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.70%			
36) toluene-d8 (S)	12.54	98	3768659	30.47	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.57%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2180477	27.30	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.00%			
Target Compounds						Qvalue
14) acetone	5.23	58	717462	52.73	ug/L	78
17) methylene chloride	6.12	84	384862	5.21	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62423.D Vial: 27
Acq On : 30 Jul 2011 8:38 am Operator: A. Thomas
Sample : T-24 PM 2.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



40

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62424.D Vial: 28
Acq On : 30 Jul 2011 9:11 am Operator: A. Thomas
Sample : T-24 PM 2.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

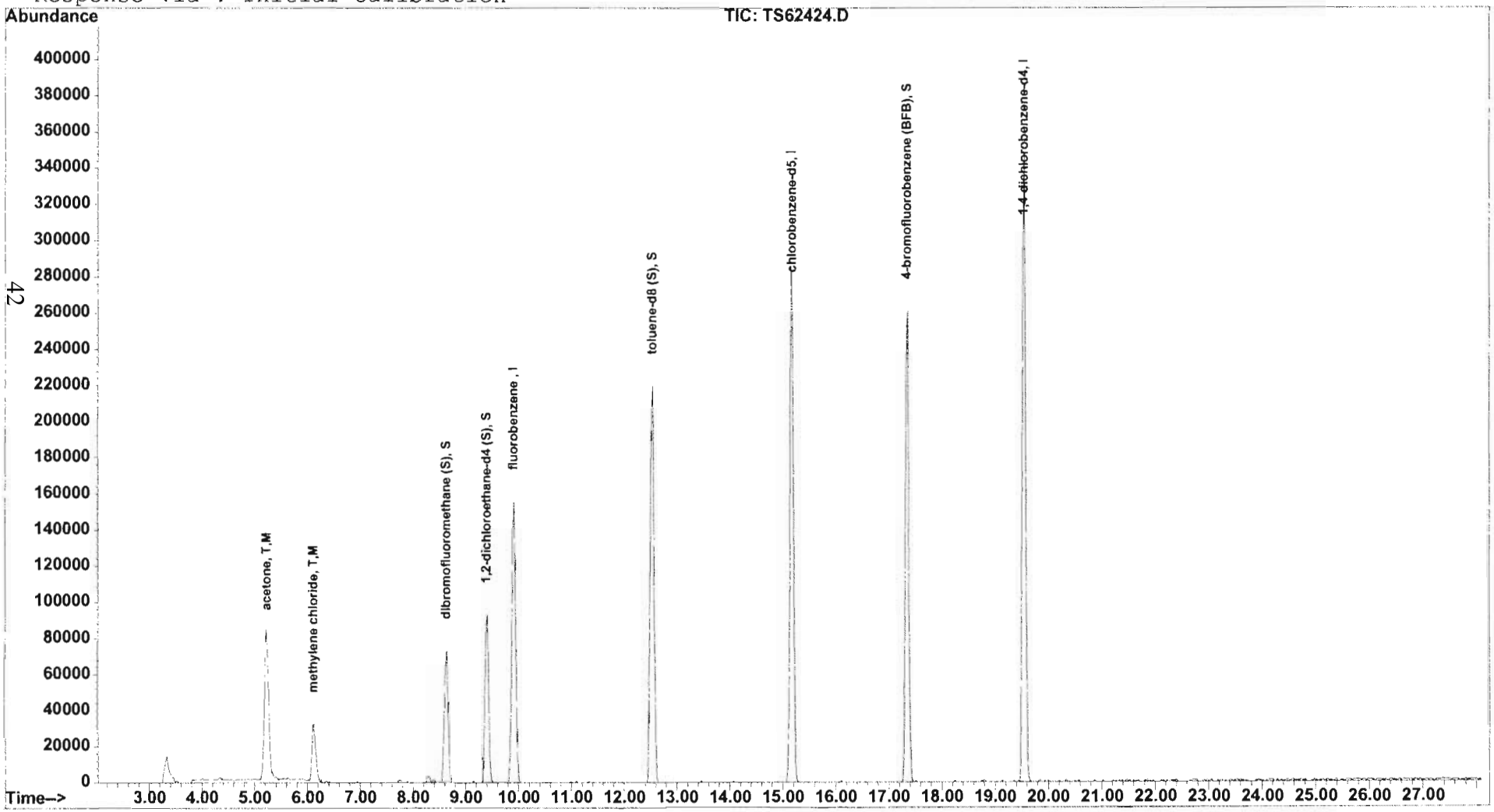
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3089864	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3523719	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.56	152	2183134	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1144422	31.46	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.87%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	245697	30.80	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.67%			
36) toluene-d8 (S)	12.54	98	3712145	31.23	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.10%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2239878	28.04	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.47%			
Target Compounds						Qvalue
14) acetone	5.23	58	597480	45.69	ug/L	76
17) methylene chloride	6.12	84	355917	5.02	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TS62424.D Vial: 28
Acq On : 30 Jul 2011 9:11 am Operator: A. Thomas
Sample : T-24 PM 2.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:20 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL27\S62409.D Vial: 13
Acq On : 27 Jul 2011 5:22 pm Operator: A. Thomas
Sample : 0000316 drum screen Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 2 17:24 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 16:45:00 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

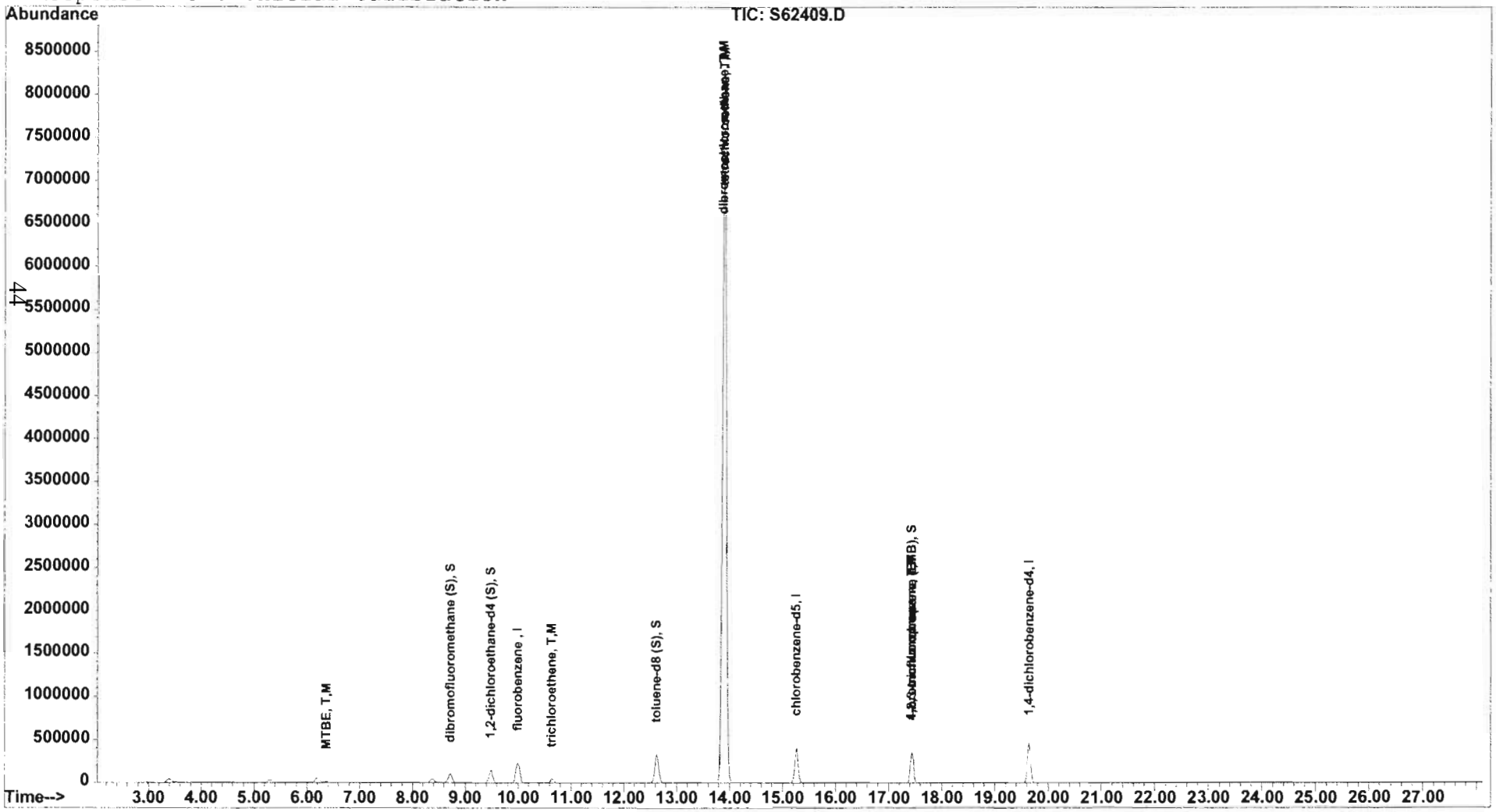
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.01	96	4567034	15.00	ug/l	0.00
58) chlorobenzene-d5	15.28	117	4615072	15.00	ug/L	0.00
84) 1,4-dichlorobenzene-d4	19.65	152	2536577	15.00	ug/L	0.00
System Monitoring Compounds						
29) dibromofluoromethane (S)	8.73	113	1679765	28.64	ug/L	0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.47%			
35) 1,2-dichloroethane-d4 (S)	9.50	102	369860	29.26	ug/L	0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.53%			
48) toluene-d8 (S)	12.64	98	5220002	29.20	ug/L	0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.33%			
68) 4-bromofluorobenzene (BFB)	17.45	95	3002846	29.96	ug/L	0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.87%			
Target Compounds						Qvalue
11) MTBE	6.39	73	319321	1.30	ug/L #	57
38) trichloroethene	10.65	130	347994	4.22	ug/L #	67
55) tetrachloroethene	13.91	166	55352961	380.21	ug/L #	96
56) dibromochloromethane	13.91	129	41464726	530.71	ug/L #	100
69) 1,2,3-trichloropropane	17.45	75	1772719	23.33	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL27\S62409.D Vial: 13
Acq On : 27 Jul 2011 5:22 pm Operator: A. Thomas
Sample : 0000316 drum screen Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 2 17:24 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



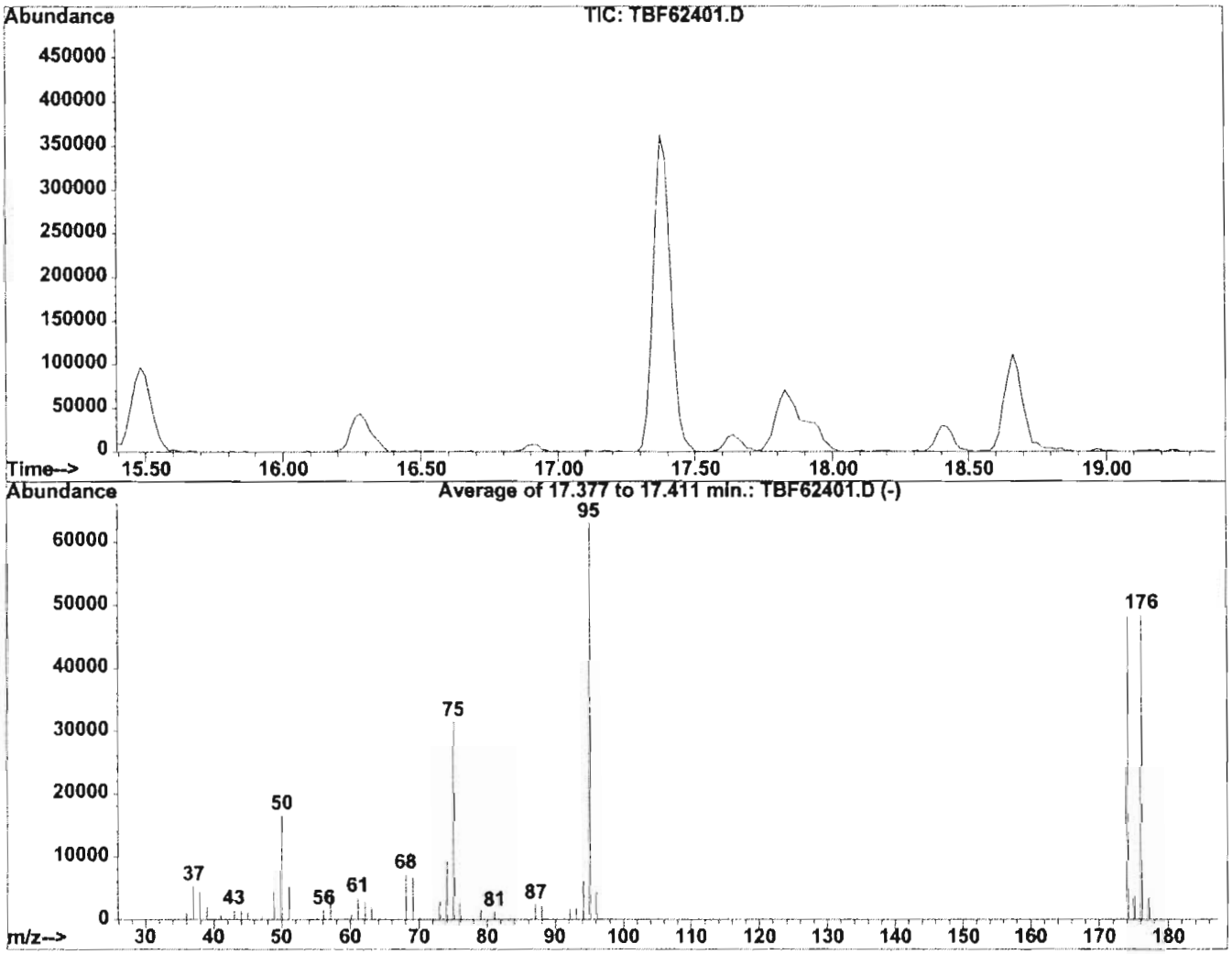
IV-1 Method Tunes

IV-2 Method Blanks

IV-3 Daily Calibration

IV-4 Laboratory Control Samples

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TBF62401.D Vial: 11
Acq On : 28 Jul 2011 10:41 pm Operator: A. Thomas
Sample : 50ng bfb 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T8071811.M (Chemstation Integrator)
Title : VOA



Spectrum Information: Average of 17.377 to 17.411 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.4	16618	PASS
75	95	30	70	49.9	31485	PASS
95	95	100	100	100.0	63040	PASS
96	95	5	9	6.9	4364	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	76.3	48120	PASS
175	174	5	9	7.8	3738	PASS
176	174	95	101	100.7	48448	PASS
177	176	5	9	7.2	3477	PASS

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TBL62401.D Vial: 11
Acq On : 28 Jul 2011 11:14 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:16 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	4818763	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.21	117	5020530	15.00	ug/L	-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	2928734	15.00	ug/L	-0.17
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.68	113	1600981	28.22	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.07%			
26) 1,2-dichloroethane-d4 (S)	9.44	102	393502	31.63	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.43%			
36) toluene-d8 (S)	12.57	98	5595855	30.18	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.60%			
53) 4-bromofluorobenzene (BFB)	17.39	95	3358868	29.51	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.37%			

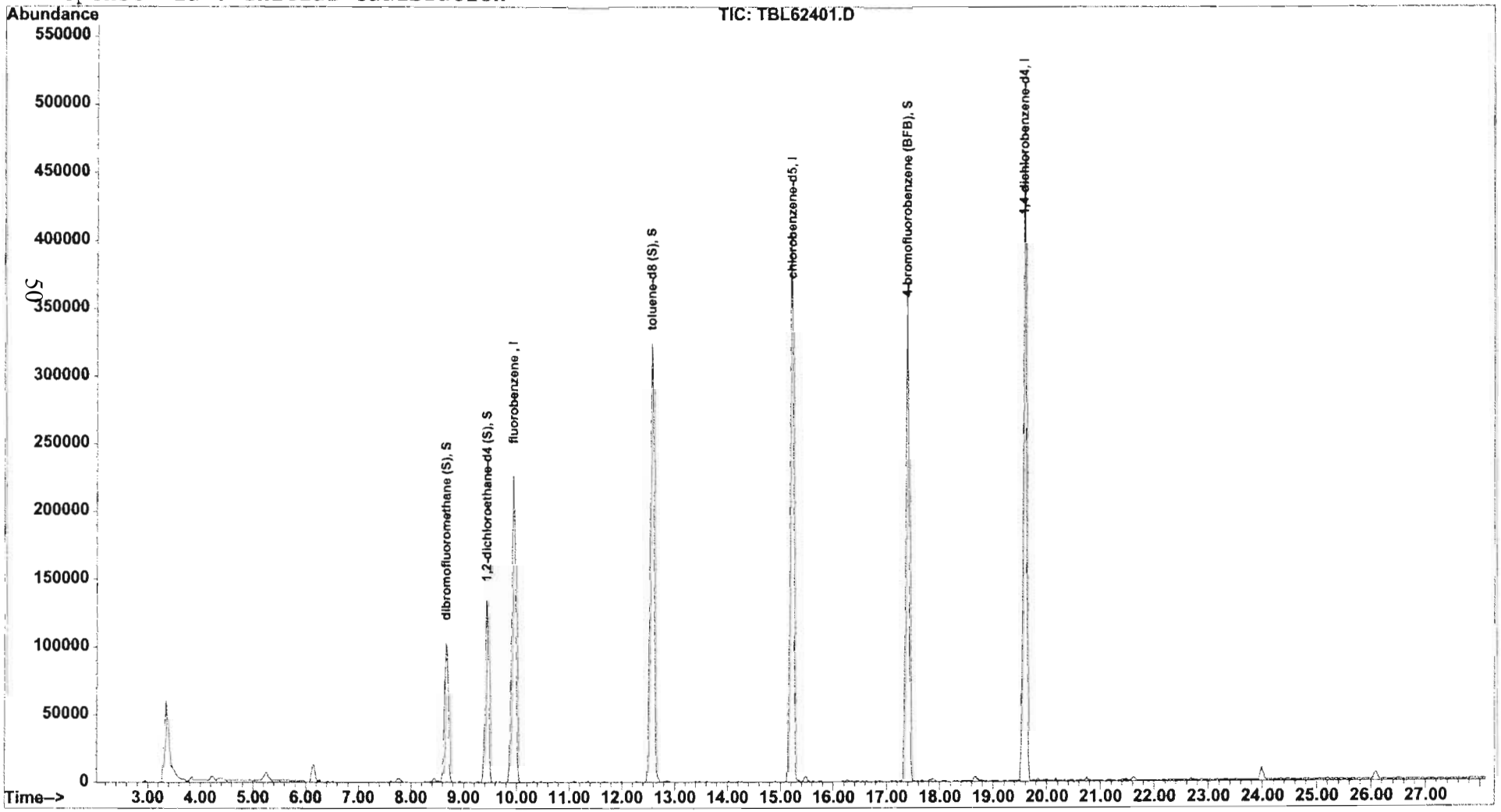
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TBL62401.D Vial: 11
Acq On : 28 Jul 2011 11:14 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:16 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62401.D Vial: 12
Acq On : 28 Jul 2011 11:47 pm Operator: A. Thomas
Sample : 20ppb cal 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1	I	fluorobenzene	1.000	1.000	0.0	99	-0.16
3	T,M	chloromethane	0.312	0.217	30.4#	68	-0.10
4	C,T,M	vinyl chloride	0.184	0.155	15.8	89	-0.10
5	T,M	bromomethane	0.144	0.057	60.4#	41#	-0.12
6	T,M	chloroethane	0.225	0.234	-4.0	97	-0.12
7	t	112-Trichloro-122-Trifluoro	0.289	0.216	25.3	68	-0.13
8	t	Methyl Acetate	0.047	0.050	-6.4	96	-0.15
9	T,M	carbon disulfide	0.586	0.428	27.0	64	-0.16
10	T,M	MTBE	0.785	0.722	8.0	96	-0.14
11	t	1,4 Dioxane	0.028	0.023	17.9	69	-0.14
12	T,M	tert-butyl alcohol	0.054	0.045	16.7	76	-0.17
13	T,M	MEK	0.044	0.036	18.2	75	-0.16
14	T,M	acetone	0.049	0.042	14.3	92	-0.12
15	T,M	trichlorofluoromethane	0.385	0.275	28.6	61	-0.13
16	C,T,M	1,1-dichloroethene	0.514	0.380	26.1	66	-0.15
17	T,M	methylene chloride	0.345	0.269	22.0	76	-0.15
18	T,M	trans-1,2-dichloroethene	0.525	0.435	17.1	78	-0.15
19	T,M	1,1-dichloroethane	0.651	0.562	13.7	79	-0.16
20	C,T,M	chloroform	0.380	0.339	10.8	83	-0.16
21	S	dibromofluoromethane (S)	0.177	0.183	-3.4	102	-0.15
22	T,M	bromochloromethane	0.149	0.131	12.1	76	-0.16
23	t	Cyclohexane	0.417	0.333	20.1	70	-0.16
24	T,M	1,1,1-trichloroethane	0.440	0.398	9.5	81	-0.16
25	T,M	carbon tetrachloride	0.326	0.297	8.9	79	-0.16
26	S	1,2-dichloroethane-d4 (S)	0.039	0.040	-2.6	99	-0.16
27	T,M	1,2-dichloroethane	0.545	0.495	9.2	86	-0.16
28	T,M	benzene	1.096	0.936	14.6	77	-0.16
29	T,M	trichloroethene	0.285	0.266	6.7	79	-0.16
30	t	Methyl Cyclohexane	0.479	0.405	15.4	74	-0.16
31	C,T,M	1,2-dichloropropane	0.325	0.299	8.0	85	-0.15
32	T,M	MIBK	0.036	0.030	16.7	79	-0.14
33	T,M	cis-1,2-dichloroethene	0.532	0.463	13.0	81	-0.16
34	T,M	bromodichloromethane	0.353	0.327	7.4	82	-0.16
35	T,M	cis-1,3-dichloropropene	0.426	0.385	9.6	80	-0.16
36	S	toluene-d8 (S)	0.577	0.587	-1.7	98	-0.16
37	C,T,M	toluene	1.119	0.955	14.7	71	-0.16
38	T,M	trans-1,3-dichloropropene	0.447	0.330	26.2	68	-0.04
39	T,M	2-hexanone	0.130	0.109	16.2	92	-0.16
40	T,M	1,1,2-trichloroethane	0.210	0.200	4.8	87	-0.16
41	T,M	tetrachloroethene	0.296	0.291	1.7	82	-0.16
42	T,M	dibromochloromethane	0.218	0.210	3.7	80	-0.16
43	T,M	1,2-dibromoethane	0.253	0.240	5.1	84	-0.16
44	I	chlorobenzene-d5	1.000	1.000	0.0	87	-0.16
45	M,T	chlorobenzene	0.554	0.551			

46	C,T,M	ethyl benzene	1.066	1.044	2.1	80	-0.16
47	T,M	m/p-xylene	0.929	0.881	5.2	69	-0.16
48	T,M	o-xylene	0.874	0.871	0.3	81	-0.16
49	T,M	styrene	0.528	0.513	2.8	79	-0.16
50	T,M	isopropyl benzene	0.953	0.947	0.6	81	-0.16
51	T,M	bromoform	0.123	0.118	4.1	82	-0.17
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.269	1.8	86	-0.16
53	S	4-bromofluorobenzene (BFB)	0.340	0.329	3.2	85	-0.16
54	T,M	1,3-dichlorobenzene	0.404	0.392	3.0	78	-0.16
55	T,M	1,2-dichlorobenzene	0.383	0.393	-2.6	85	-0.17
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	76	-0.17
57	T,M	1,4-dichlorobenzene	0.639	0.727	-13.8	86	-0.18
58	T,M	1,2-dibromo-3-chloropropane	0.069	0.066	4.3	96	-0.16
59	T,M	1,2,4-trichlorobenzene	0.387	0.425	-9.8	80	-0.17
60	T,M	Napthalene	0.822	0.820	0.2	83	-0.17
61	T,M	1,2,3-trichlorobenzene	0.343	0.380	-10.8	85	-0.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 11:39:45 2012 GCMS2

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62402.D Vial: 27
Acq On : 29 Jul 2011 8:04 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1	I	fluorobenzene	1.000	1.000	0.0	82	-0.16
3	T,M	chloromethane	0.312	0.207	33.7#	53	-0.10
4	C,T,M	vinyl chloride	0.184	0.177	3.8	84	-0.10
5	T,M	bromomethane	0.144	0.064	55.6#	39#	-0.12
6	T,M	chloroethane	0.225	0.234	-4.0	79	-0.12
7	t	112-Trichloro-122-Trifluoro	0.289	0.242	16.3	63	-0.15
8	t	Methyl Acetate	0.047	0.047	0.0	76	-0.15
9	T,M	carbon disulfide	0.586	0.430	26.6	53	-0.16
10	T,M	MTBE	0.785	0.775	1.3	85	-0.15
11	t	1,4 Dioxane	0.028	0.026	7.1	65	-0.16
12	T,M	tert-butyl alcohol	0.054	0.044	18.5	61	-0.15
13	T,M	MEK	0.044	0.027	38.6#	47#	-0.16
14	T,M	acetone	0.049	0.038	22.4	70	-0.14
15	T,M	trichlorofluoromethane	0.385	0.334	13.2	61	-0.14
16	C,T,M	1,1-dichloroethene	0.514	0.435	15.4	63	-0.15
17	T,M	methylene chloride	0.345	0.293	15.1	68	-0.15
18	T,M	trans-1,2-dichloroethene	0.525	0.474	9.7	70	-0.16
19	T,M	1,1-dichloroethane	0.651	0.604	7.2	70	-0.16
20	C,T,M	chloroform	0.380	0.395	-3.9	80	-0.16
21	S	dibromofluoromethane (S)	0.177	0.194	-9.6	90	-0.16
22	T,M	bromochloromethane	0.149	0.138	7.4	66	-0.16
23	t	Cyclohexane	0.417	0.365	12.5	63	-0.16
24	T,M	1,1,1-trichloroethane	0.440	0.464	-5.5	78	-0.16
25	T,M	carbon tetrachloride	0.326	0.354	-8.6	77	-0.17
26	S	1,2-dichloroethane-d4 (S)	0.039	0.040	-2.6	81	-0.16
27	T,M	1,2-dichloroethane	0.545	0.589	-8.1	84	-0.17
28	T,M	benzene	1.096	0.996	9.1	68	-0.16
29	T,M	trichloroethene	0.285	0.284	0.4	70	-0.16
30	t	Methyl Cyclohexane	0.479	0.420	12.3	63	-0.16
31	C,T,M	1,2-dichloropropane	0.325	0.311	4.3	73	-0.16
32	T,M	MIBK	0.036	0.032	11.1	70	-0.16
33	T,M	cis-1,2-dichloroethene	0.532	0.510	4.1	74	-0.16
34	T,M	bromodichloromethane	0.353	0.373	-5.7	77	-0.16
35	T,M	cis-1,3-dichloropropene	0.426	0.377	11.5	64	-0.16
36	S	toluene-d8 (S)	0.577	0.588	-1.9	81	-0.16
37	C,T,M	toluene	1.119	1.014	9.4	62	-0.16
38	T,M	trans-1,3-dichloropropene	0.447	0.332	25.7	57	-0.04
39	T,M	2-hexanone	0.130	0.099	23.8	69	-0.15
40	T,M	1,1,2-trichloroethane	0.210	0.205	2.4	73	-0.17
41	T,M	tetrachloroethene	0.296	0.305	-3.0	71	-0.16
42	T,M	dibromochloromethane	0.218	0.233	-6.9	73	-0.17
43	T,M	1,2-dibromoethane	0.253	0.260	-2.8	75	-0.17
44	I	chlorobenzene-d5	1.000	1.000	0.0	73	-0.17
45	M,T	chlorobenzene	0.554	0.580	4.7	73	-0.17

46	C,T,M	ethyl benzene	1.066	1.111	-4.2	71	-0.17
47	T,M	m/p-xylene	0.929	0.963	-3.7	63	-0.17
48	T,M	o-xylene	0.874	0.927	-6.1	72	-0.17
49	T,M	styrene	0.528	0.552	-4.5	71	-0.17
50	T,M	isopropyl benzene	0.953	0.999	-4.8	72	-0.17
51	T,M	bromoform	0.123	0.117	4.9	68	-0.17
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.273	0.4	73	-0.17
53	S	4-bromofluorobenzene (BFB)	0.340	0.327	3.8	71	-0.17
54	T,M	1,3-dichlorobenzene	0.404	0.436	-7.9	73	-0.18
55	T,M	1,2-dichlorobenzene	0.383	0.414	-8.1	75	-0.19
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	66	-0.17
57	T,M	1,4-dichlorobenzene	0.639	0.714	-11.7	74	-0.18
58	T,M	1,2-dibromo-3-chloropropane	0.069	0.062	10.1	79	-0.17
59	T,M	1,2,4-trichlorobenzene	0.387	0.401	-3.6	66	-0.18
60	T,M	Napthalene	0.822	0.741	9.9	65	-0.18
61	T,M	1,2,3-trichlorobenzene	0.343	0.372	-8.5	72	-0.18

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 11:41:18 2012 GCMS2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62401.D Vial: 12
Acq On : 28 Jul 2011 11:47 pm Operator: A. Thomas
Sample : 20ppb cal 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:39 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	9.95	96	4848438	15.00	ug/l		-0.16
44) chlorobenzene-d5	15.22	117	5162147	15.00	ug/L		-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	3018416	15.00	ug/L		-0.17
System Monitoring Compounds							
21) dibromofluoromethane (S)	8.68	113	1774608	31.09	ug/L		-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.63%				
26) 1,2-dichloroethane-d4 (S)	9.44	102	391291	31.26	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.20%				
36) toluene-d8 (S)	12.58	98	5689322	30.50	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.67%				
53) 4-bromofluorobenzene (BFB)	17.39	95	3396958	29.02	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.73%				
Target Compounds							Qvalue
3) chloromethane	3.48	50	1402039m	13.88	ug/L		
4) vinyl chloride	3.63	62	1002481m	16.83	ug/L		
5) bromomethane	4.23	96	366065	7.88	ug/L		95
6) chloroethane	4.30	64	1513440m	20.84	ug/L		
7) 112-Trichloro-122-Trifluor	5.20	101	1397619m	14.94	ug/l		
8) Methyl Acetate	5.86	74	321782m	17.65	ug/l		
9) carbon disulfide	6.26	76	2769129m	14.62	ug/L		
10) MTBE	6.32	73	4667780	18.41	ug/L		95
11) 1,4 Dioxane	6.15	88	148924	14.64	ug/l	#	100
12) tert-butyl alcohol	5.50	59	1468551m	84.81	ug/l		
13) MEK	7.74	72	232831m	16.42	ug/L		
14) acetone	5.27	58	269521m	13.13	ug/L		
15) trichlorofluoromethane	4.65	101	1778992m	14.31	ug/L		
16) 1,1-dichloroethene	5.47	61	2454668	14.77	ug/L	#	99
17) methylene chloride	6.15	84	1736467	15.59	ug/L	#	100
18) trans-1,2-dichloroethene	6.57	61	2813617	16.57	ug/L	#	100
19) 1,1-dichloroethane	7.18	63	3632489	17.25	ug/L	#	100
20) chloroform	8.34	85	2191432	17.85	ug/L		98
22) bromochloromethane	8.61	128	849996	17.68	ug/L		94
23) Cyclohexane	9.02	84	2153865	15.99	ug/l		85
24) 1,1,1-trichloroethane	8.97	97	2571733	18.09	ug/L	#	100
25) carbon tetrachloride	9.39	117	1922476	17.00	ug/L		99
27) 1,2-dichloroethane	9.59	62	3203127	18.18	ug/L	#	81
28) benzene	9.65	78	6050014	17.08	ug/L	#	89
29) trichloroethene	10.60	130	1720020	18.68	ug/L	#	100
30) Methyl Cyclohexane	10.71	83	2617347	16.89	ug/l		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62401.D Vial: 12
Acq On : 28 Jul 2011 11:47 pm Operator: A. Thomas
Sample : 20ppb cal 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:39 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

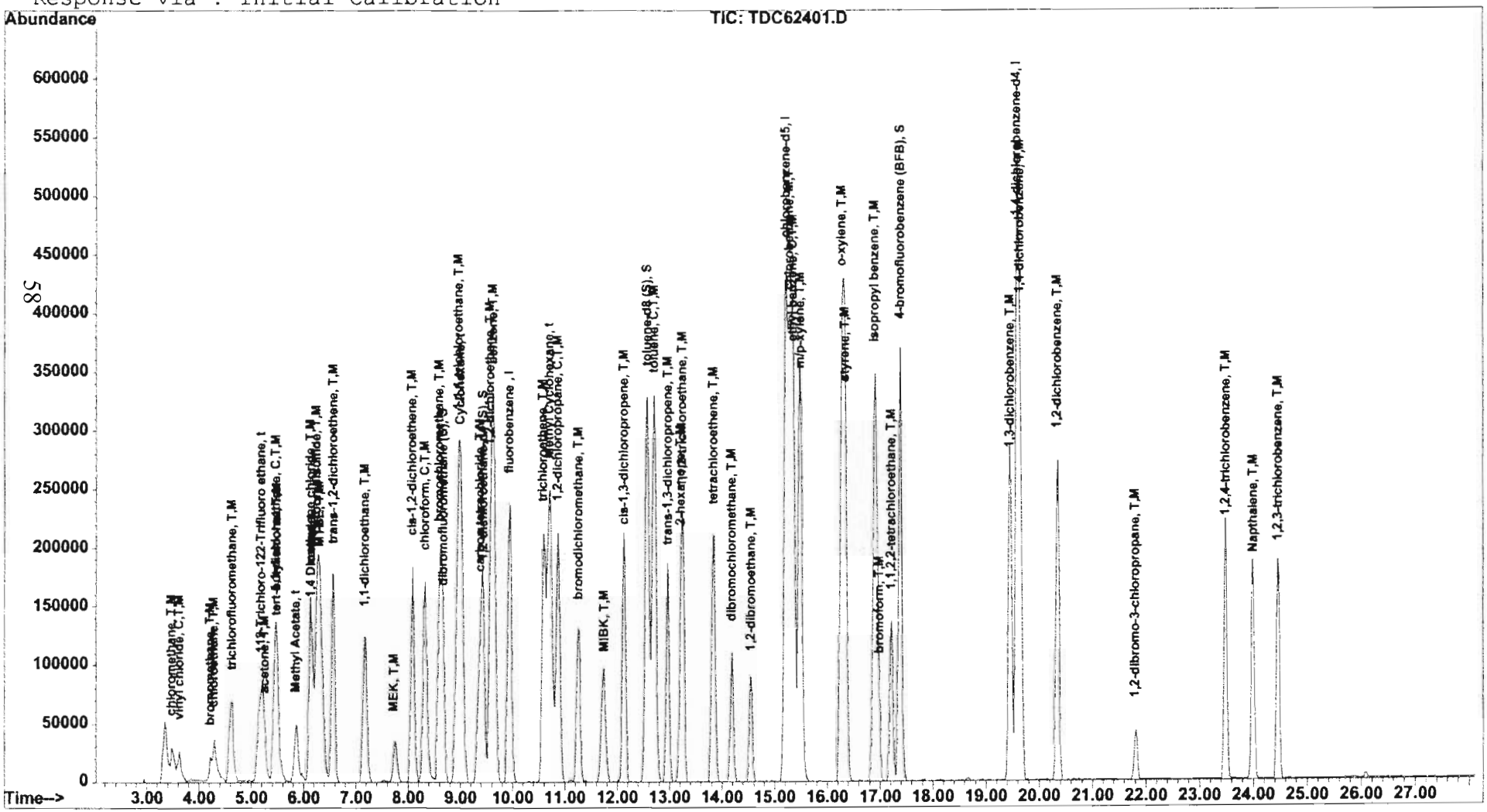
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
31) 1,2-dichloropropane	10.88	63	1930326	18.37 ug/L	95
32) MIBK	11.75	100	193944	15.06 ug/L	68
33) cis-1,2-dichloroethene	8.10	61	2994518	17.41 ug/L	98
34) bromodichloromethane	11.27	83	2114295	16.62 ug/L #	99
35) cis-1,3-dichloropropene	12.14	75	2491733	16.72 ug/L #	93
37) toluene	12.71	91	6173451	17.06 ug/L #	75
38) trans-1,3-dichloropropene	12.97	75	2135854	14.78 ug/L #	93
39) 2-hexanone	13.21	58	702621	16.67 ug/L #	100
40) 1,1,2-trichloroethane	13.26	83	1291657	18.99 ug/L #	45
41) tetrachloroethene	13.85	166	1882922	19.71 ug/L #	100
42) dibromochloromethane	14.20	129	1357291	16.33 ug/L	100
43) 1,2-dibromoethane	14.55	107	1550245	18.99 ug/L #	99
45) chlorobenzene	15.29	112	3793626	19.90 ug/L #	85
46) ethyl benzene	15.35	91	7188122	19.59 ug/L #	100
47) m/p-xylene	15.49	91	6061188	18.97 ug/L #	100
48) o-xylene	16.28	91	5994943	19.94 ug/L #	81
49) styrene	16.34	104	3530752	19.43 ug/L	93
50) isopropyl benzene	16.92	105	6520239	19.88 ug/L	100
51) bromoform	16.99	173	809228	14.52 ug/L	99
52) 1,1,2,2-tetrachloroethane	17.22	83	1853046	16.70 ug/L #	100
54) 1,3-dichlorobenzene	19.46	146	2701049	19.41 ug/L #	99
55) 1,2-dichlorobenzene	20.35	146	2704412m	20.54 ug/L	
57) 1,4-dichlorobenzene	19.64	146	2924326m	22.73 ug/L	
58) 1,2-dibromo-3-chloropropan	21.82	75	267235	12.95 ug/L	83
59) 1,2,4-trichlorobenzene	23.50	180	1710607	21.96 ug/L	97
60) Napthalene	24.00	128	3301848	19.97 ug/L	100
61) 1,2,3-trichlorobenzene	24.47	180	1531053	22.18 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62401.D Vial: 12
Acq On : 28 Jul 2011 11:47 pm Operator: A. Thomas
Sample : 20ppb cal 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:39 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62402.D Vial: 27
Acq On : 29 Jul 2011 8:04 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:41 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	9.95	96	3994898	15.00	ug/l		-0.16
44) chlorobenzene-d5	15.21	117	4327341	15.00	ug/L		-0.17
56) 1,4-dichlorobenzene-d4	19.58	152	2624093	15.00	ug/L		-0.17
System Monitoring Compounds							
21) dibromofluoromethane (S)	8.67	113	1551412	32.99	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 109.97%				
26) 1,2-dichloroethane-d4 (S)	9.44	102	321241	31.15	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.83%				
36) toluene-d8 (S)	12.57	98	4694933	30.55	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.83%				
53) 4-bromofluorobenzene (BFB)	17.39	95	2831905	28.86	ug/L		-0.17
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.20%				
Target Compounds							Qvalue
3) chloromethane	3.48	50	1101558m	13.24	ug/L		
4) vinyl chloride	3.63	62	940878m	19.18	ug/L		
5) bromomethane	4.23	96	343416m	8.97	ug/L		
6) chloroethane	4.30	64	1244533m	20.80	ug/L		
7) 112-Trichloro-122-Trifluor	5.19	101	1288623	16.72	ug/l		100
8) Methyl Acetate	5.86	74	252289m	16.79	ug/l		
9) carbon disulfide	6.26	76	2288331m	14.67	ug/L		
10) MTBE	6.31	73	4126085	19.75	ug/L		96
11) 1,4 Dioxane	6.14	88	139962	16.70	ug/l	#	100
12) tert-butyl alcohol	5.52	59	1166447m	81.76	ug/l		
13) MEK	7.74	72	145306m	12.44	ug/L		
14) acetone	5.26	58	204094	12.07	ug/L		56
15) trichlorofluoromethane	4.64	101	1779612	17.37	ug/L		97
16) 1,1-dichloroethene	5.48	61	2314609	16.90	ug/L	#	100
17) methylene chloride	6.15	84	1559814	17.00	ug/L	#	100
18) trans-1,2-dichloroethene	6.57	61	2524460	18.04	ug/L	#	100
19) 1,1-dichloroethane	7.18	63	3216074	18.54	ug/L	#	100
20) chloroform	8.33	85	2101573	20.78	ug/L	#	26
22) bromochloromethane	8.60	128	737425	18.61	ug/L		91
23) Cyclohexane	9.01	84	1945702	17.54	ug/l		87
24) 1,1,1-trichloroethane	8.97	97	2470507	21.10	ug/L	#	100
25) carbon tetrachloride	9.38	117	1886703	20.24	ug/L		98
27) 1,2-dichloroethane	9.58	62	3138166	21.61	ug/L	#	98
28) benzene	9.64	78	5306404	18.18	ug/L		100
29) trichloroethene	10.60	130	1513252	19.94	ug/L	#	100
30) Methyl Cyclohexane	10.71	83	2234510	17.50	ug/l		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62402.D Vial: 27
Acq On : 29 Jul 2011 8:04 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:41 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

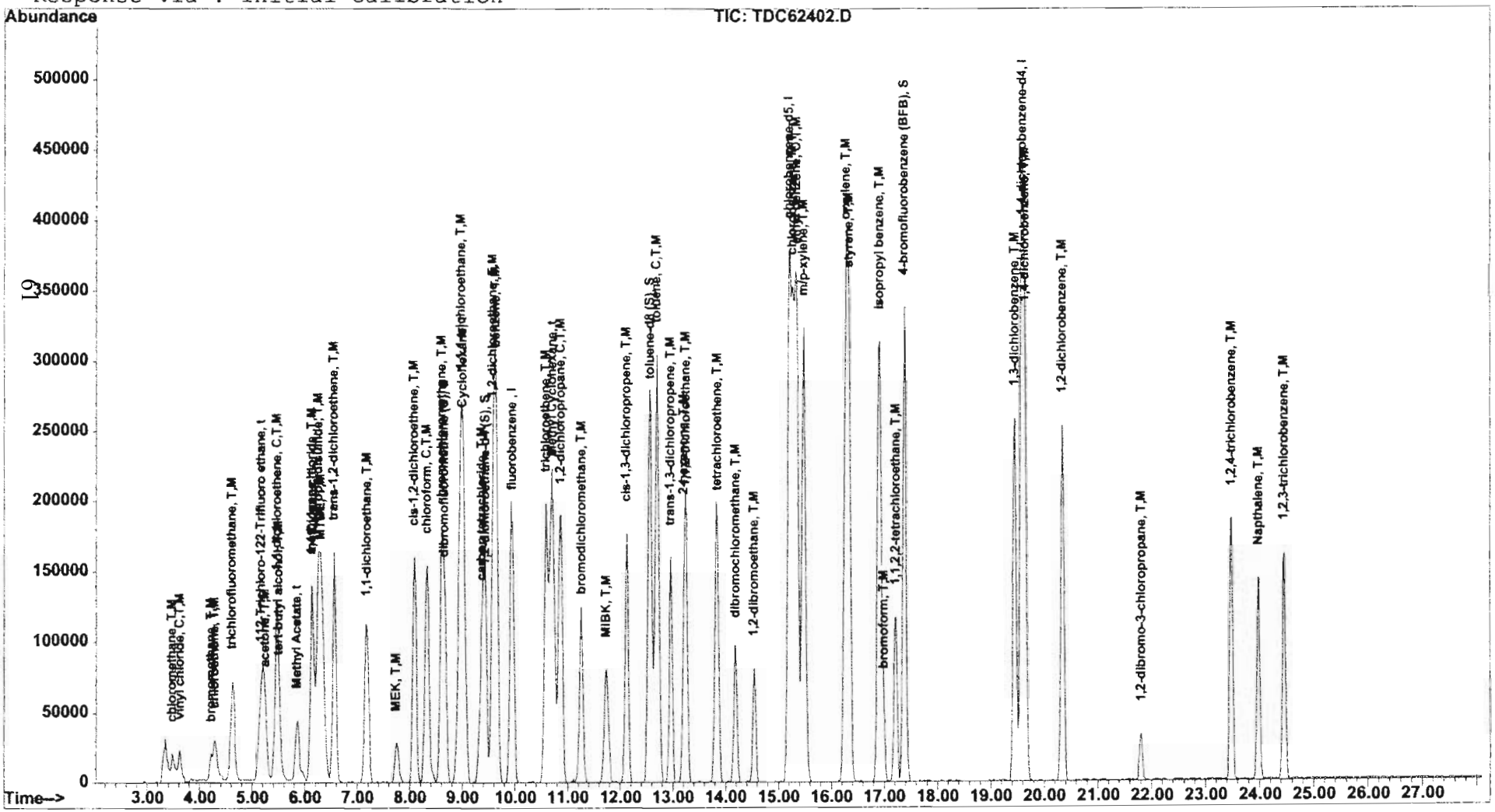
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
31)	1,2-dichloropropane	10.87	63	1656366	19.14	ug/L	#	86
32)	MIBK	11.74	100	172188	16.22	ug/L		81
33)	cis-1,2-dichloroethene	8.10	61	2719128	19.18	ug/L	#	63
34)	bromodichloromethane	11.27	83	1989063	18.97	ug/L	#	100
35)	cis-1,3-dichloropropene	12.13	75	2007647	16.35	ug/L	#	93
37)	toluene	12.71	91	5400098	18.12	ug/L	#	75
38)	trans-1,3-dichloropropene	12.97	75	1769927	14.87	ug/L	#	93
39)	2-hexanone	13.22	58	526689	15.16	ug/L	#	95
40)	1,1,2-trichloroethane	13.25	83	1090897	19.47	ug/L	#	45
41)	tetrachloroethene	13.84	166	1624515	20.64	ug/L	#	100
42)	dibromochloromethane	14.19	129	1238795	18.09	ug/L		100
43)	1,2-dibromoethane	14.55	107	1386695	20.62	ug/L	#	97
45)	chlorobenzene	15.28	112	3344337	20.93	ug/L	#	100
46)	ethyl benzene	15.35	91	6408638	20.84	ug/L	#	100
47)	m/p-xylene	15.48	91	5556131	20.74	ug/L	#	100
48)	o-xylene	16.28	91	5350448	21.23	ug/L		99
49)	styrene	16.34	104	3182299	20.89	ug/L		92
50)	isopropyl benzene	16.91	105	5766281	20.98	ug/L		99
51)	bromoform	16.99	173	673206	14.41	ug/L		99
52)	1,1,2,2-tetrachloroethane	17.22	83	1576338	16.94	ug/L	#	100
54)	1,3-dichlorobenzene	19.45	146	2514869m	21.55	ug/L		
55)	1,2-dichlorobenzene	20.33	146	2388092m	21.63	ug/L		
57)	1,4-dichlorobenzene	19.64	146	2498658m	22.34	ug/L		
58)	1,2-dibromo-3-chloropropan	21.81	75	218649	12.19	ug/L		79
59)	1,2,4-trichlorobenzene	23.48	180	1402093	20.71	ug/L		94
60)	Napthalene	23.99	128	2592617	18.03	ug/L		100
61)	1,2,3-trichlorobenzene	24.46	180	1302524	21.71	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TDC62402.D Vial: 27
Acq On : 29 Jul 2011 8:04 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:41 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TLC62401.D Vial: 13
Acq On : 29 Jul 2011 12:20 am Operator: A. Thomas
Sample : 20ppb lcs 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:42 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	9.96	96	4821037	15.00	ug/l		-0.16
44) chlorobenzene-d5	15.22	117	5033373	15.00	ug/L		-0.16
56) 1,4-dichlorobenzene-d4	19.59	152	3047350	15.00	ug/L		-0.16
System Monitoring Compounds							
21) dibromofluoromethane (S)	8.67	113	1749764	30.83	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.77%				
26) 1,2-dichloroethane-d4 (S)	9.44	102	391894	31.48	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.93%				
36) toluene-d8 (S)	12.58	98	5693123	30.69	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.30%				
53) 4-bromofluorobenzene (BFB)	17.39	95	3404071	29.83	ug/L		-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.43%				
Target Compounds							Qvalue
3) chloromethane	3.50	50	981061m	9.77	ug/L		
4) vinyl chloride	3.63	62	1060346m	17.91	ug/L		
5) bromomethane	4.23	96	380013	8.23	ug/L		97
6) chloroethane	4.31	64	867274	12.01	ug/L	#	90
7) 112-Trichloro-122-Trifluor	5.20	101	1350647	14.52	ug/l		98
8) Methyl Acetate	5.87	74	261087	14.40	ug/l		96
9) carbon disulfide	6.27	76	2709286	14.39	ug/L	#	100
10) MTBE	6.32	73	4594615	18.22	ug/L		93
11) 1,4 Dioxane	6.15	88	139874	13.83	ug/l	#	100
12) tert-butyl alcohol	5.53	59	1491423m	86.62	ug/l		
13) MEK	7.78	72	225844m	16.02	ug/L		
14) acetone	5.25	58	280035m	13.72	ug/L		
15) trichlorofluoromethane	4.64	101	1782436	14.41	ug/L		98
16) 1,1-dichloroethene	5.48	61	2502970	15.14	ug/L	#	85
17) methylene chloride	6.15	84	1744012	15.75	ug/L	#	100
18) trans-1,2-dichloroethene	6.57	61	2933650	17.37	ug/L	#	100
19) 1,1-dichloroethane	7.18	63	3625439	17.32	ug/L	#	100
20) chloroform	8.34	85	2257102	18.49	ug/L		98
22) bromochloromethane	8.61	128	822454	17.20	ug/L		88
23) Cyclohexane	9.02	84	2216716	16.56	ug/l		86
24) 1,1,1-trichloroethane	8.97	97	2728754	19.31	ug/L	#	100
25) carbon tetrachloride	9.39	117	1982843	17.63	ug/L		100
27) 1,2-dichloroethane	9.59	62	3244328	18.52	ug/L	#	100
28) benzene	9.65	78	6169190	17.51	ug/L	#	89
29) trichloroethene	10.61	130	1697368	18.54	ug/L	#	100
30) Methyl Cyclohexane	10.71	83	2666894	17.31	ug/l		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TLC62401.D Vial: 13
Acq On : 29 Jul 2011 12:20 am Operator: A. Thomas
Sample : 20ppb lcs 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:42 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

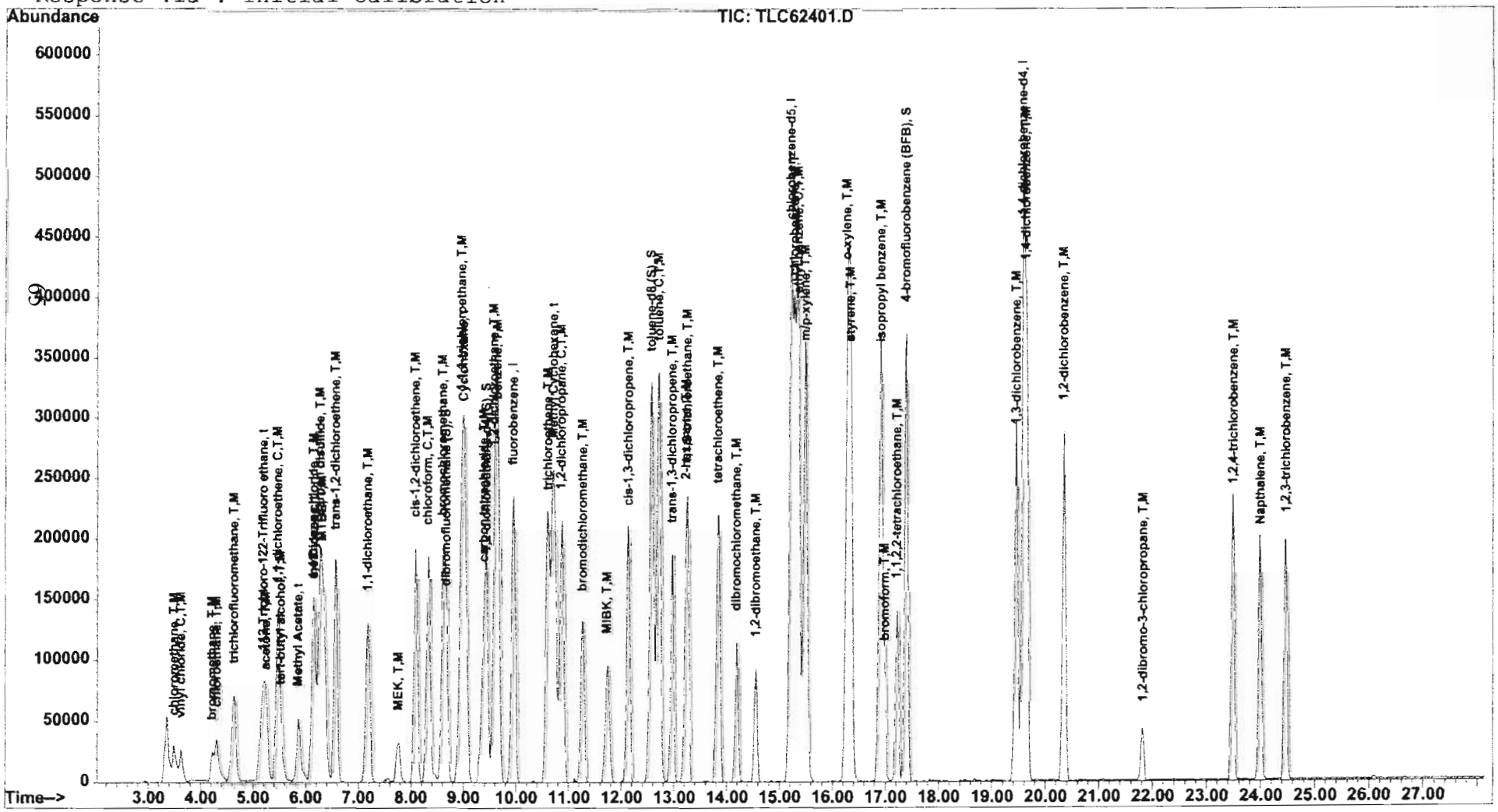
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
31)	1,2-dichloropropane	10.88	63	1949883	18.67 ug/L	#	86
32)	MIBK	11.75	100	194671	15.20 ug/L		79
33)	cis-1,2-dichloroethene	8.10	61	3138840	18.35 ug/L		96
34)	bromodichloromethane	11.27	83	2187982	17.29 ug/L	#	99
35)	cis-1,3-dichloropropene	12.14	75	2522930	17.03 ug/L	#	93
37)	toluene	12.71	91	6209621	17.26 ug/L	#	75
38)	trans-1,3-dichloropropene	12.97	75	2127672	14.81 ug/L	#	93
39)	2-hexanone	13.23	58	658034	15.70 ug/L	#	96
40)	1,1,2-trichloroethane	13.26	83	1304471	19.29 ug/L	#	97
41)	tetrachloroethene	13.85	166	1919843	20.21 ug/L	#	76
42)	dibromochloromethane	14.20	129	1359661	16.45 ug/L	#	61
43)	1,2-dibromoethane	14.56	107	1560271	19.22 ug/L		99
45)	chlorobenzene	15.29	112	3884876	20.90 ug/L	#	100
46)	ethyl benzene	15.36	91	7255333	20.28 ug/L	#	100
47)	m/p-xylene	15.49	91	6157815	19.76 ug/L	#	100
48)	o-xylene	16.29	91	5963411	20.34 ug/L	#	81
49)	styrene	16.35	104	3680884	20.78 ug/L		93
50)	isopropyl benzene	16.92	105	6633936	20.75 ug/L		99
51)	bromoform	17.00	173	839572	15.45 ug/L		100
52)	1,1,2,2-tetrachloroethane	17.23	83	1884573	17.42 ug/L	#	100
54)	1,3-dichlorobenzene	19.46	146	2785516	20.53 ug/L	#	100
55)	1,2-dichlorobenzene	20.36	146	2509465	19.54 ug/L	#	76
57)	1,4-dichlorobenzene	19.64	146	2989517m	23.02 ug/L		
58)	1,2-dibromo-3-chloropropan	21.82	75	249852	11.99 ug/L		84
59)	1,2,4-trichlorobenzene	23.50	180	1795880	22.84 ug/L		97
60)	Napthalene	24.00	128	3577618	21.43 ug/L		100
61)	1,2,3-trichlorobenzene	24.47	180	1642280	23.57 ug/L		98

(#) = qualifier out of range (m) = manual integration

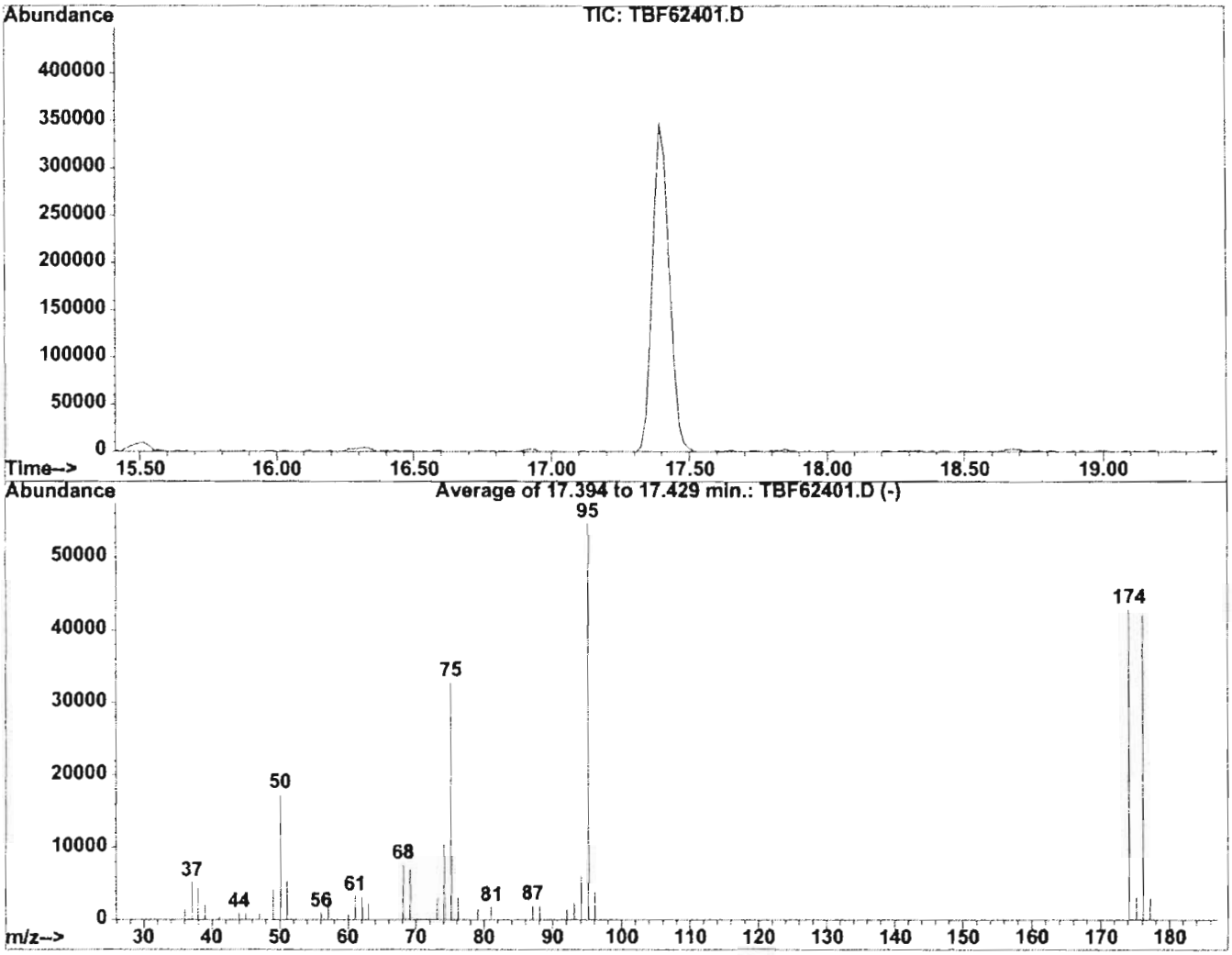
Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL28\TLC62401.D Vial: 13
Acq On : 29 Jul 2011 12:20 am Operator: A. Thomas
Sample : 20ppb lcs 624/5ml 7/28/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:42 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TBF62401.D Vial: 1
Acq On : 29 Jul 2011 5:10 pm Operator: A. Thomas
Sample : 50ng bfb 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA



AutoFind: Scans 887, 888, 889; Background Corrected with Scan 880

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	31.8	17405	PASS
75	95	30	70	60.0	32824	PASS
95	95	100	100	100.0	54739	PASS
96	95	5	9	7.2	3923	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	78.5	42944	PASS
175	174	5	9	7.3	3145	PASS
176	174	95	101	97.7	41936	PASS
177	176	5	9	7.1	2988	PASS

New
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1580 Reed Road
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Pennington, NJ 08534

Tel: (609) 737-3477
Fax: (609) 737-3052
www.njal.com

Laboratory Deliverables

Prepared For

PARS Environmental

Drum Bench Study

Lab ID

Chemical Oxidation

Samples Received

27-Jul-11

Reported

7/27/11 to 8/12/11

NJDEP Certified Lab 11005

Precision testing for a cleaner environment.

I Study Information

Study: Chemical Oxidation
Permanganate

Time point: T=2 days/ 48Hours

Data Summaries

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T48 PM C1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62413.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	580	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	28	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	900	D
127-18-4	tetrachloroethene	1100	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 PM C1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62414.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	570	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	28	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	860	D
127-18-4	tetrachloroethene	1100	D
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T48 PM C1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62415.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	530	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	27	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	810	D
127-18-4	tetrachloroethene	1000	D
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 PM 0.5-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM 0.5-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62416.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	550	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	31	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T48 PM 0.5-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM 0.5-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62417.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	520	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	33	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 PM 0.5-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM 0.5-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62418.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	500	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	29	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 PM 1.0-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM 1.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62419.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	580	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	32	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 PM 1.0-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM 1.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62420.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	490	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	32	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

T48 PM 1.0-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM 1.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62421.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	590	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	31	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T48 PM 2.0-1

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62422.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	480	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	36	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T48 PM 2.0-2

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM 2.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62423.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	550	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	39	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

T48 PM 2.0-3

Lab Name: NJAL Contract:

Lab Code: DEP 11005 Case No.: SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: T-48 PM 2.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: TS62424.D

Level: (low/med) LOW Date Received: 07/27/11

% Moisture: not dec. Date Analyzed: 07/31/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	520	D
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	36	D
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
76-13-1	112-Trichloro-122-Trifluoroethane	20	U
91-20-3	Napthalene	20	U
79-20-9	Methyl Acetate	50	U
110-82-7	Cyclohexane	20	U
108-87-2	Methyl Cyclohexane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
124-48-1	dibromochloromethane	20	U
127-18-4	tetrachloroethene	20	U
108-90-7	chlorobenzene	20	U

III-1 Raw Chromatograms

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62413.D Vial: 15
Acq On : 31 Jul 2011 1:16 am Operator: A. Thomas
Sample : T-48 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

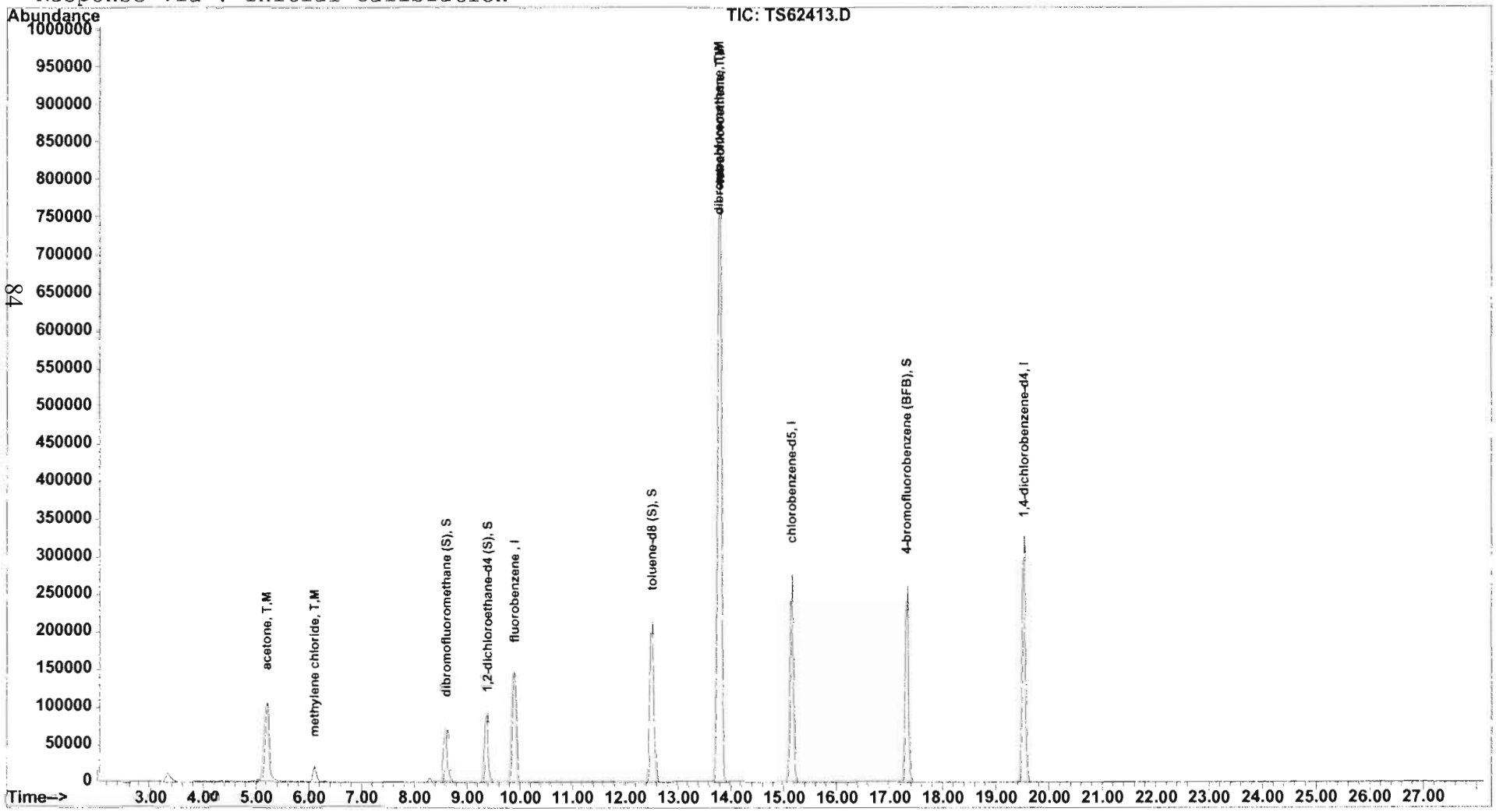
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	3042103	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.17	117	3352249	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.55	152	2048617	15.00	ug/L	-0.21
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1090956	30.46	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.53%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	243693	31.03	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.43%			
36) toluene-d8 (S)	12.53	98	3558772	30.41	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.37%			
53) 4-bromofluorobenzene (BFB)	17.35	95	2186158	28.76	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.87%			
Target Compounds						Qvalue
14) acetone	5.22	58	745619	57.91	ug/L	69
17) methylene chloride	6.12	84	199104	2.85	ug/L #	100
41) tetrachloroethene	13.81	166	6801086	113.46	ug/L #	76
42) dibromochloromethane	13.80	129	4700433	90.12	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62413.D Vial: 15
Acq On : 31 Jul 2011 1:16 am Operator: A. Thomas
Sample : T-48 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62414.D Vial: 16
Acq On : 31 Jul 2011 1:49 am Operator: A. Thomas
Sample : T-48 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

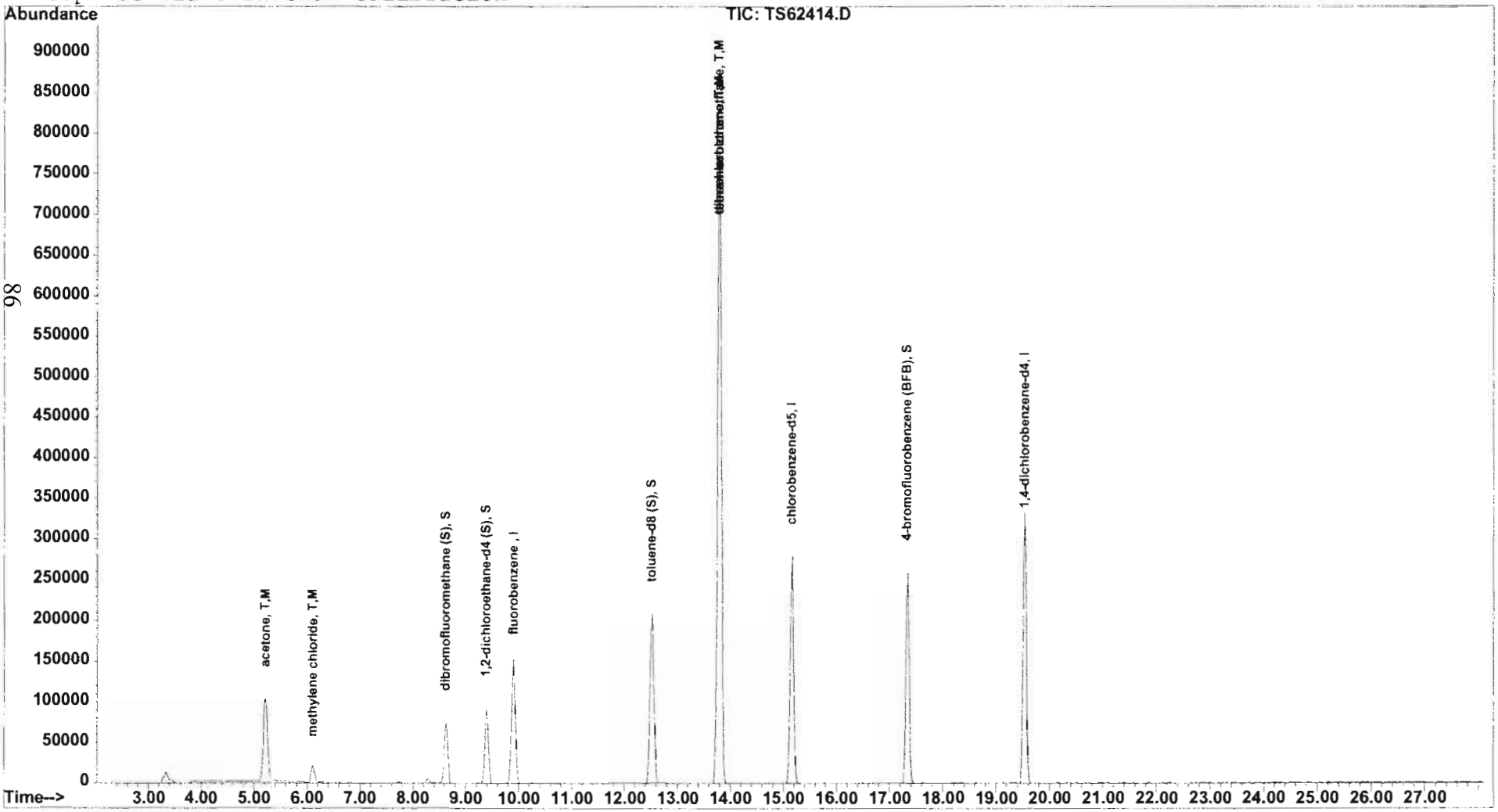
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	3010729	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.17	117	3404730	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.55	152	2089218	15.00	ug/L	-0.21
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1091754	30.80	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.67%			
26) 1,2-dichloroethane-d4 (S)	9.40	102	246259	31.68	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.60%			
36) toluene-d8 (S)	12.53	98	3526259	30.44	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.47%			
53) 4-bromofluorobenzene (BFB)	17.35	95	2130079	27.59	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.97%			
Target Compounds						Qvalue
14) acetone	5.22	58	720925	56.57	ug/L	71
17) methylene chloride	6.13	84	190036	2.75	ug/L #	100
41) tetrachloroethene	13.80	166	6375904	107.48	ug/L #	100
42) dibromochloromethane	13.80	129	4417341	85.57	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62414.D Vial: 16
Acq On : 31 Jul 2011 1:49 am Operator: A. Thomas
Sample : T-48 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



98

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62415.D Vial: 17
Acq On : 31 Jul 2011 2:22 am Operator: A. Thomas
Sample : T-48 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

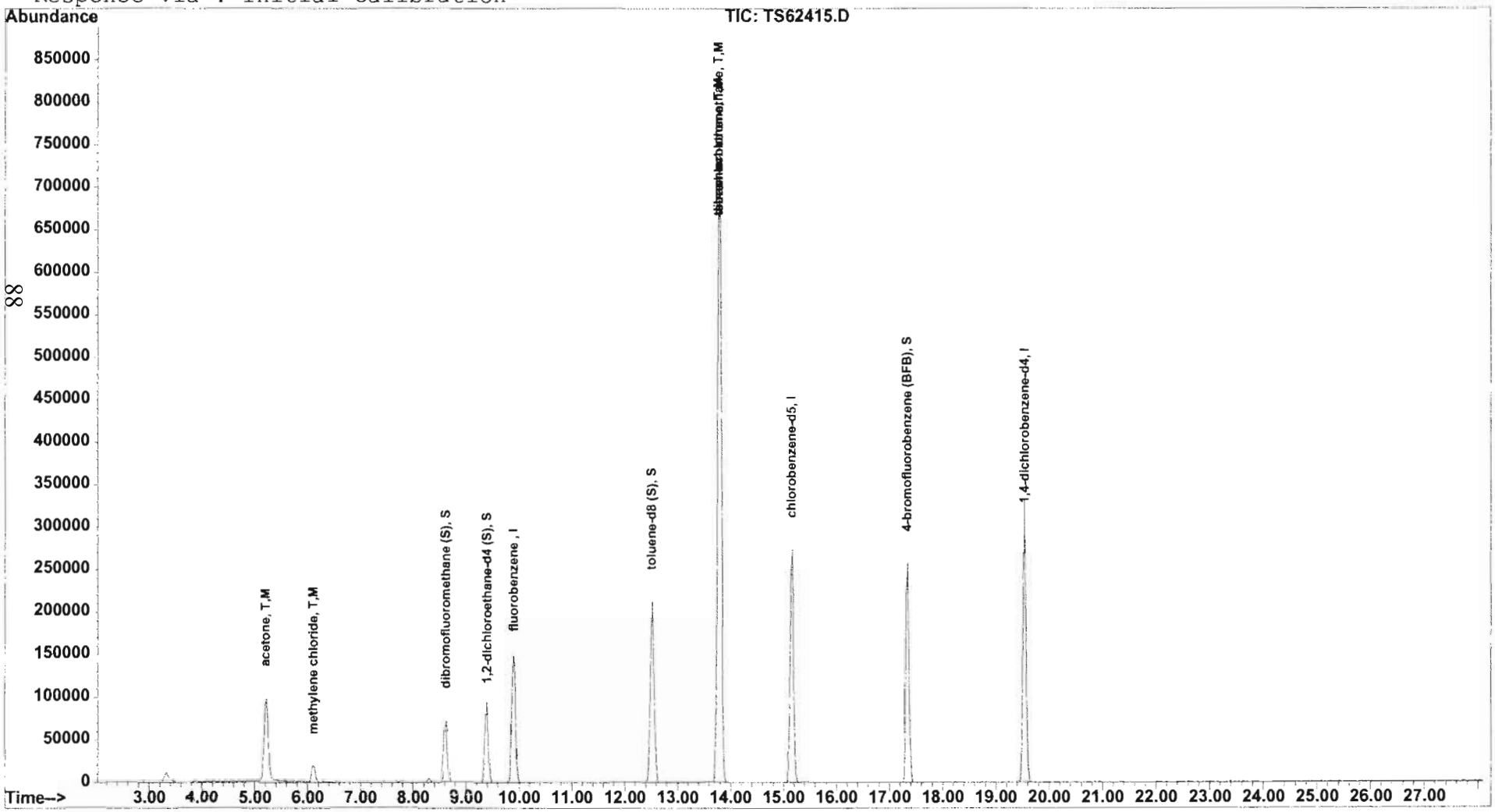
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	3000819	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.17	117	3382577	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.55	152	2019998	15.00	ug/L	-0.21
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1099124	31.11	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.70%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	239948	30.97	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.23%			
36) toluene-d8 (S)	12.53	98	3512613	30.42	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.40%			
53) 4-bromofluorobenzene (BFB)	17.35	95	2156549	28.12	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.73%			
Target Compounds						Qvalue
14) acetone	5.22	58	675830	53.21	ug/L	76
17) methylene chloride	6.12	84	183063	2.66	ug/L #	100
41) tetrachloroethene	13.80	166	6149920	104.01	ug/L #	99
42) dibromochloromethane	13.80	129	4162490	80.90	ug/L #	61

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62415.D Vial: 17
Acq On : 31 Jul 2011 2:22 am Operator: A. Thomas
Sample : T-48 PM C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62416.D Vial: 18
Acq On : 31 Jul 2011 2:55 am Operator: A. Thomas
Sample : T-48 PM 0.5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

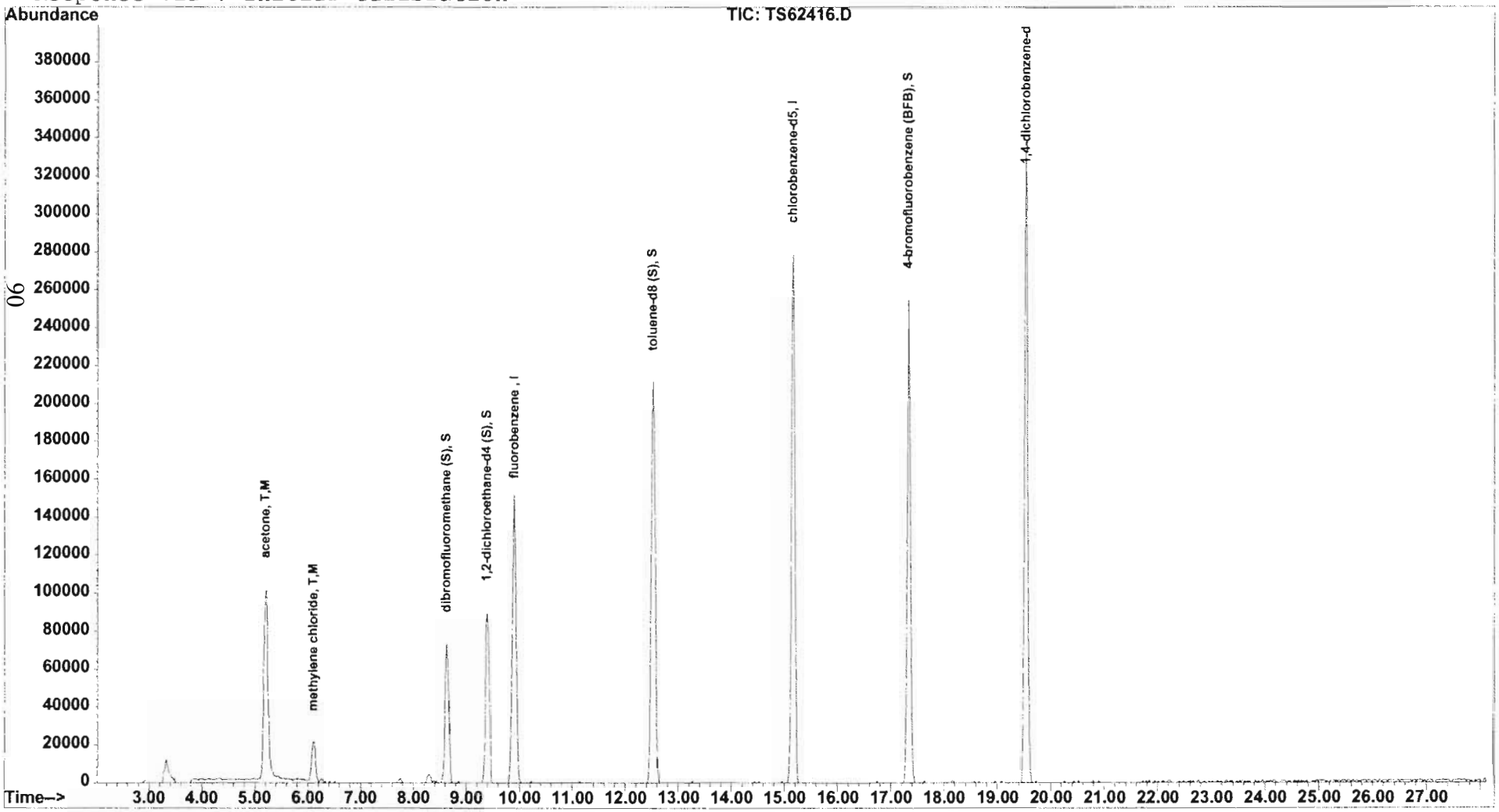
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	3044510	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.17	117	3375083	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.54	152	2095168	15.00	ug/L	-0.21
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1138659	31.77	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.90%			
26) 1,2-dichloroethane-d4 (S)	9.40	102	247391	31.47	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.90%			
36) toluene-d8 (S)	12.53	98	3577201	30.54	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.80%			
53) 4-bromofluorobenzene (BFB)	17.35	95	2161991	28.25	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 94.17%			
Target Compounds						Qvalue
14) acetone	5.22	58	710379	55.13	ug/L	72
17) methylene chloride	6.12	84	217744	3.11	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62416.D Vial: 18
Acq On : 31 Jul 2011 2:55 am Operator: A. Thomas
Sample : T-48 PM 0.5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62417.D Vial: 19
Acq On : 31 Jul 2011 3:28 am Operator: A. Thomas
Sample : T-48 PM 0.5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

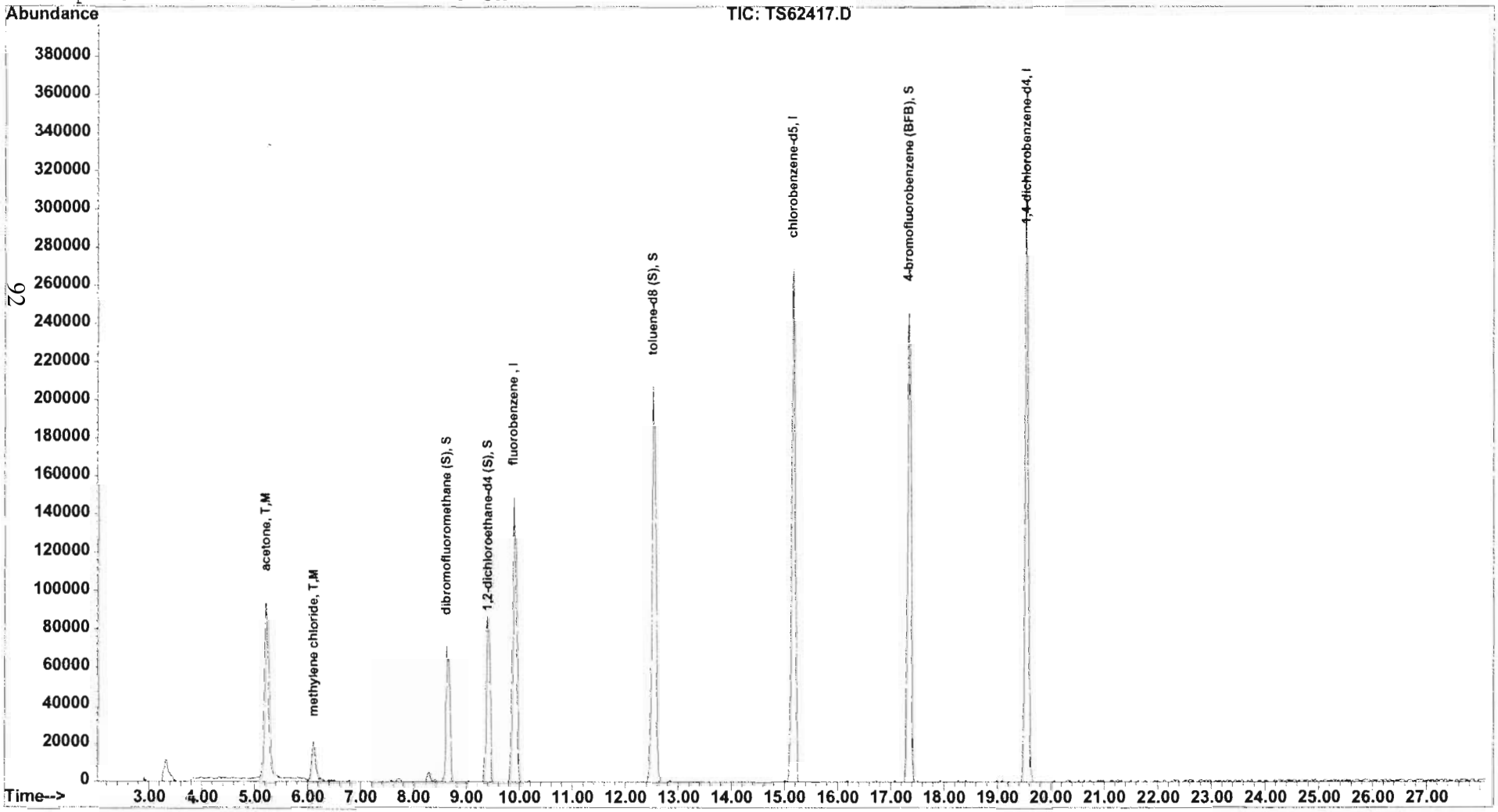
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	2958467	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.17	117	3362411	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.55	152	2064856	15.00	ug/L	-0.21
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1097515	31.51	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.03%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	227571	29.79	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.30%			
36) toluene-d8 (S)	12.53	98	3481180	30.58	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.93%			
53) 4-bromofluorobenzene (BFB)	17.34	95	2130955	27.95	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.17%			
Target Compounds						Qvalue
14) acetone	5.22	58	651440	52.02	ug/L	71
17) methylene chloride	6.12	84	222540	3.28	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62417.D Vial: 19
Acq On : 31 Jul 2011 3:28 am Operator: A. Thomas
Sample : T-48 PM 0.5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62418.D Vial: 20
Acq On : 31 Jul 2011 4:01 am Operator: A. Thomas
Sample : T-48 PM 0.5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

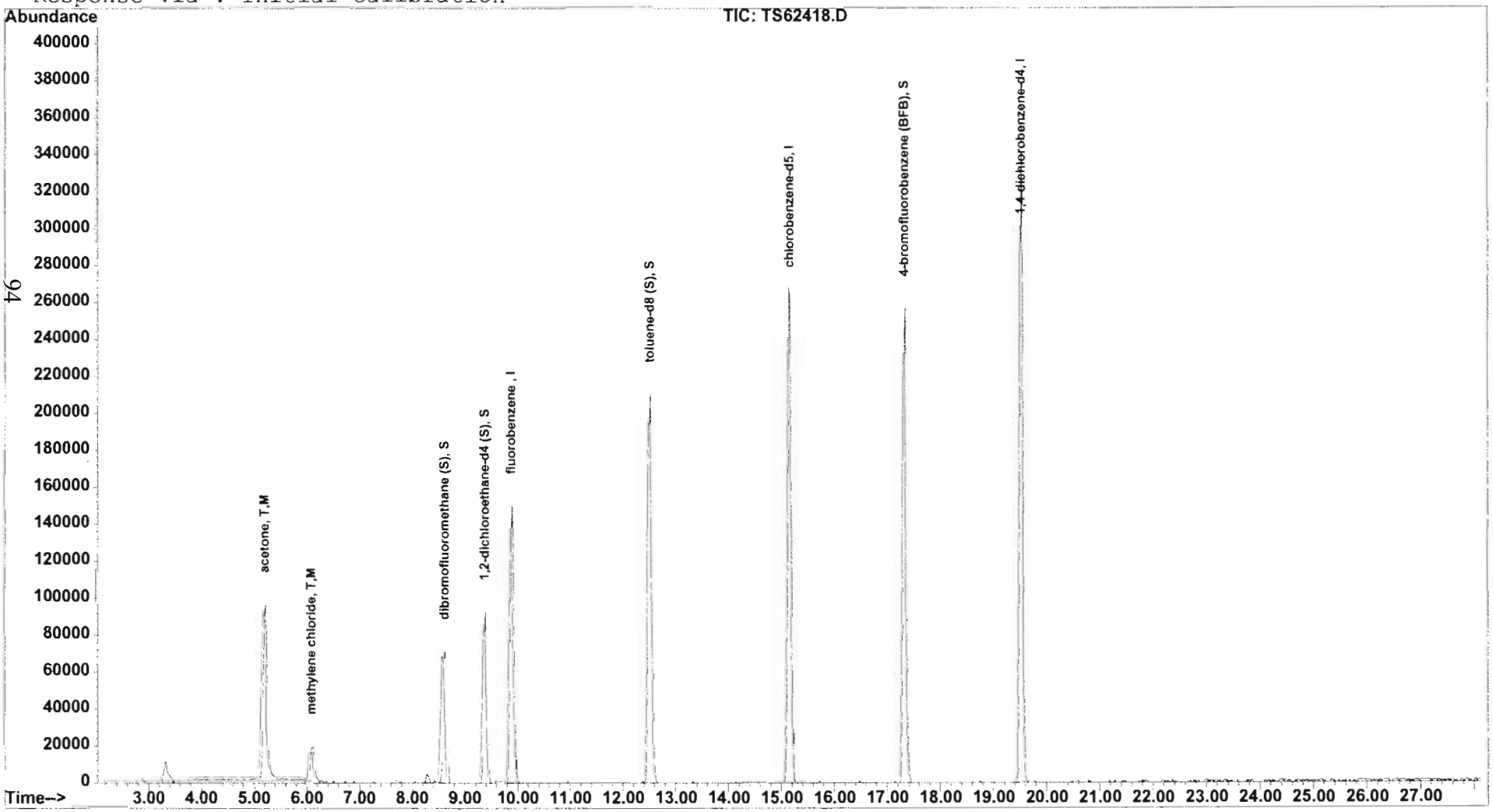
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	3005240	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.17	117	3377566	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.54	152	2116956	15.00	ug/L	-0.21
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1097786	31.03	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.43%			
26) 1,2-dichloroethane-d4 (S)	9.40	102	250819	32.33	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.77%			
36) toluene-d8 (S)	12.53	98	3541731	30.63	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.10%			
53) 4-bromofluorobenzene (BFB)	17.34	95	2216656	28.95	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.50%			
Target Compounds						Qvalue
14) acetone	5.22	58	638578	50.20	ug/L	71
17) methylene chloride	6.12	84	203188	2.94	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62418.D Vial: 20
Acq On : 31 Jul 2011 4:01 am Operator: A. Thomas
Sample : T-48 PM 0.5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62419.D Vial: 22
Acq On : 31 Jul 2011 5:39 am Operator: A. Thomas
Sample : T-48 PM 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

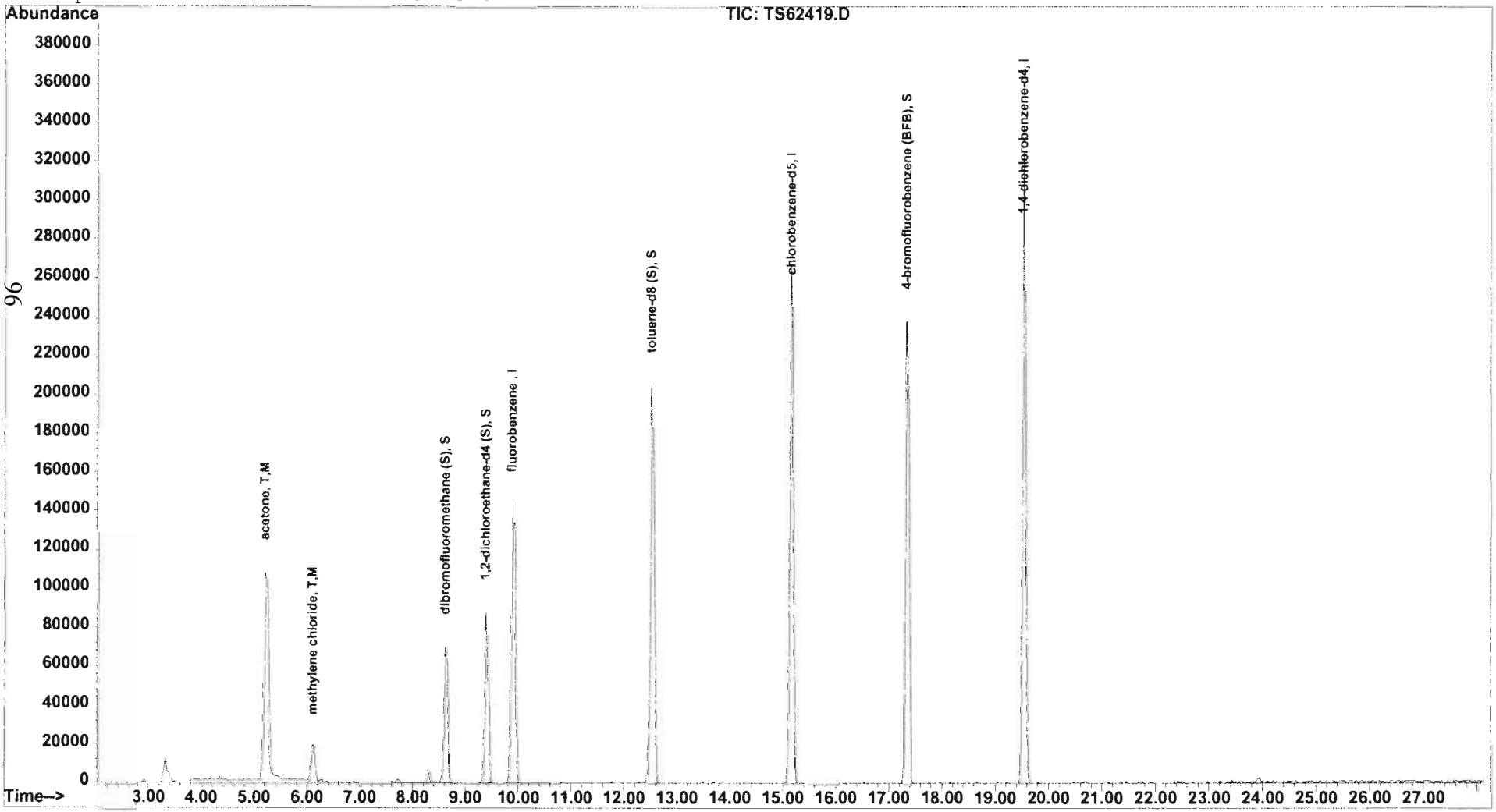
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	2912553	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.17	117	3322650	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.54	152	2038015	15.00	ug/L	-0.22
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1108588	32.33	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.77%			
26) 1,2-dichloroethane-d4 (S)	9.40	102	223262	29.69	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.97%			
36) toluene-d8 (S)	12.53	98	3507509	31.30	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.33%			
53) 4-bromofluorobenzene (BFB)	17.34	95	2068429	27.46	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.53%			
Target Compounds						Qvalue
14) acetone	5.22	58	718082	58.25	ug/L	71
17) methylene chloride	6.12	84	213724	3.19	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62419.D Vial: 22
Acq On : 31 Jul 2011 5:39 am Operator: A. Thomas
Sample : T-48 PM 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62420.D Vial: 23
Acq On : 31 Jul 2011 6:12 am Operator: A. Thomas
Sample : T-48 PM 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

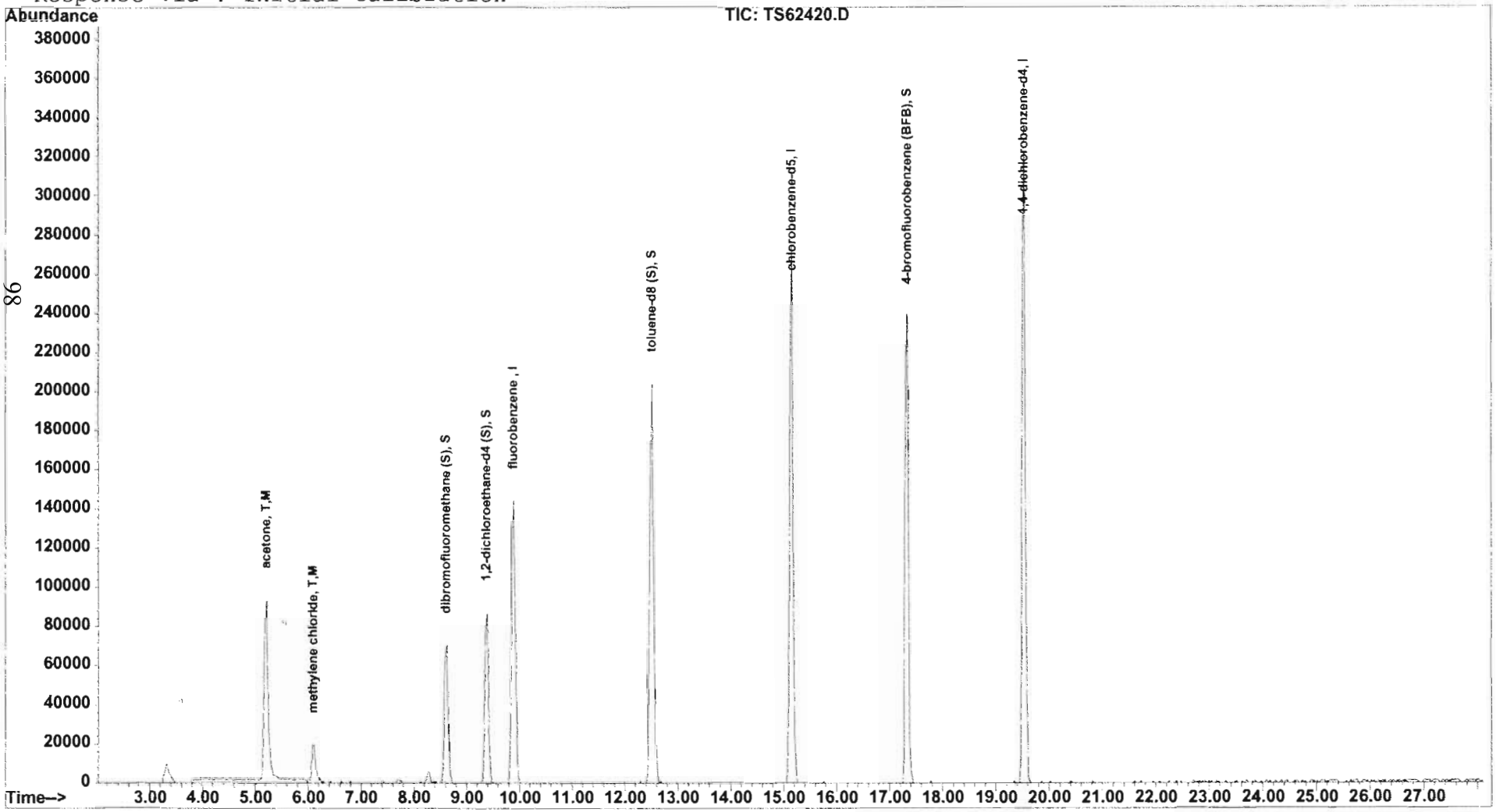
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	2977935	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.16	117	3436300	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.54	152	2049904	15.00	ug/L	-0.22
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1076879	30.72	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.40%			
26) 1,2-dichloroethane-d4 (S)	9.39	102	231761	30.14	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.47%			
36) toluene-d8 (S)	12.53	98	3565356	31.12	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.73%			
53) 4-bromofluorobenzene (BFB)	17.34	95	2106716	27.04	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 90.13%			
Target Compounds						Qvalue
14) acetone	5.22	58	623457	49.46	ug/L	69
17) methylene chloride	6.11	84	216710	3.17	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62420.D Vial: 23
Acq On : 31 Jul 2011 6:12 am Operator: A. Thomas
Sample : T-48 PM 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62421.D Vial: 24
Acq On : 31 Jul 2011 6:45 am Operator: A. Thomas
Sample : T-48 PM 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

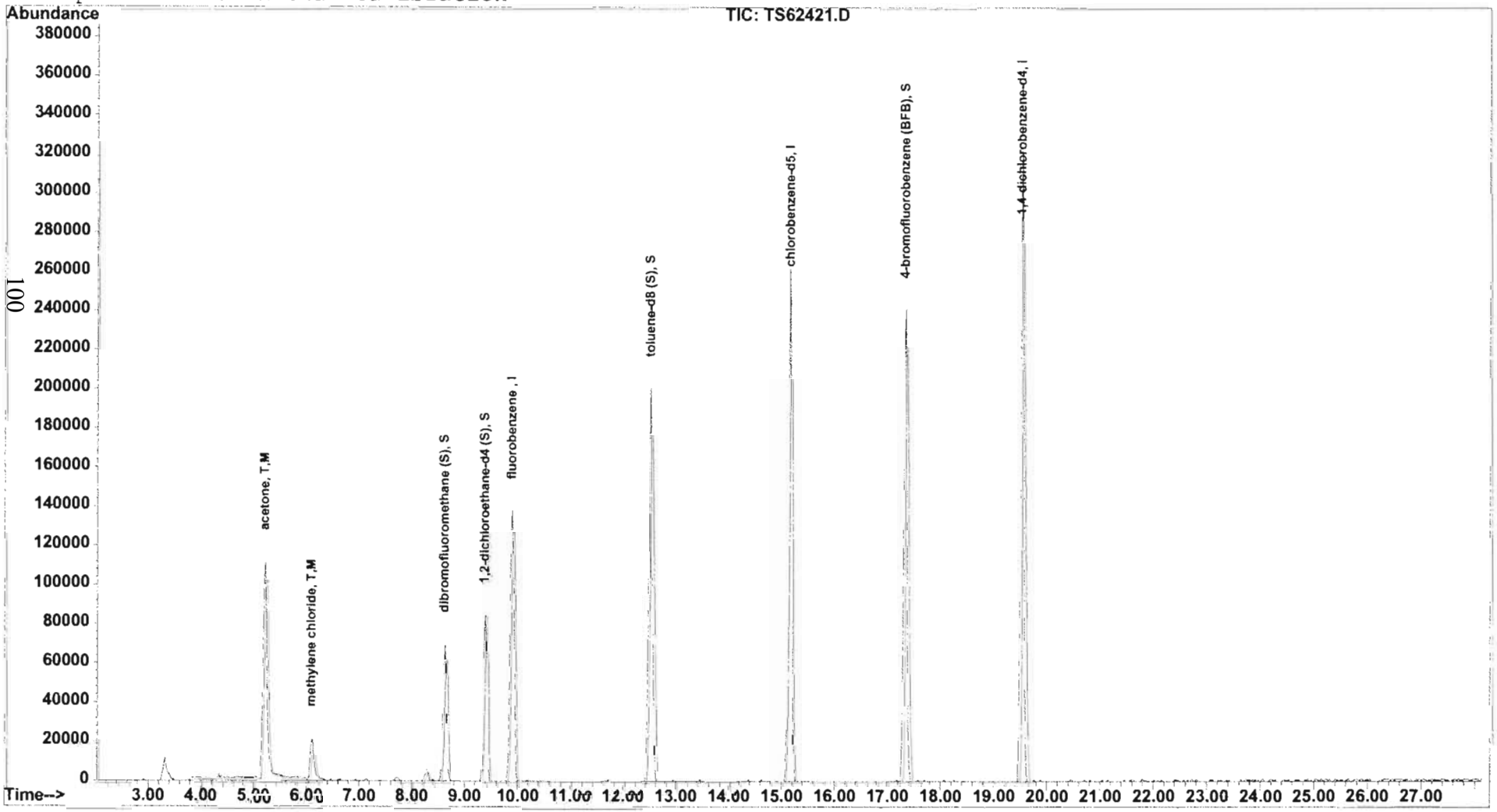
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	2889092	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.16	117	3263424	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.54	152	2011008	15.00	ug/L	-0.22
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1020265	30.00	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.00%			
26) 1,2-dichloroethane-d4 (S)	9.40	102	247549	33.19	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 110.63%			
36) toluene-d8 (S)	12.53	98	3409586	30.67	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.23%			
53) 4-bromofluorobenzene (BFB)	17.34	95	2025777	27.38	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.27%			
Target Compounds						Qvalue
14) acetone	5.22	58	725097	59.30	ug/L	68
17) methylene chloride	6.11	84	206727	3.12	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62421.D Vial: 24
Acq On : 31 Jul 2011 6:45 am Operator: A. Thomas
Sample : T-48 PM 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62422.D Vial: 25
Acq On : 31 Jul 2011 7:18 am Operator: A. Thomas
Sample : T-48 PM 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

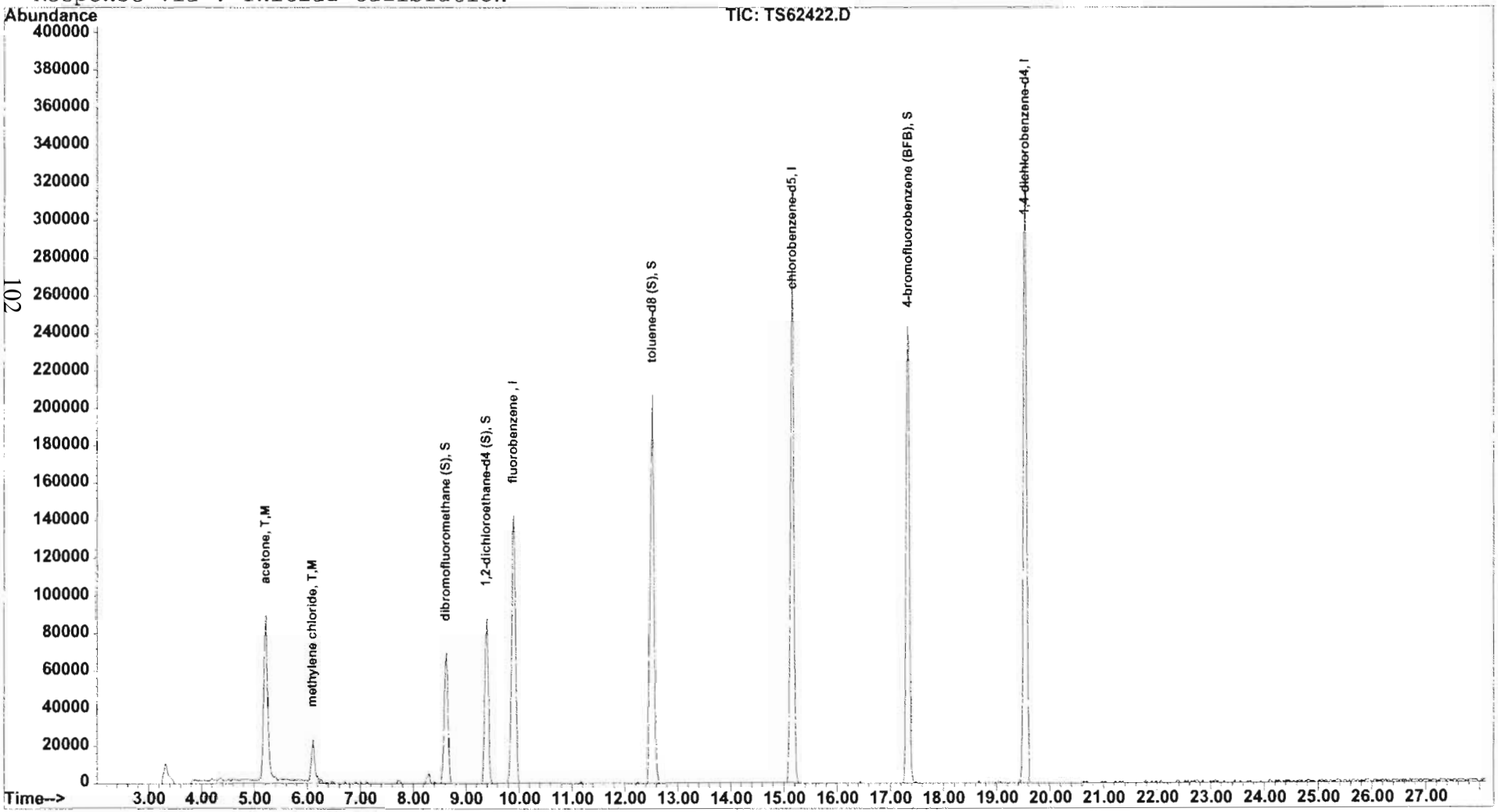
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	2899262	15.00	ug/l	-0.21
44) chlorobenzene-d5	15.17	117	3342261	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.54	152	2059298	15.00	ug/L	-0.22
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1066180	31.24	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.13%			
26) 1,2-dichloroethane-d4 (S)	9.40	102	225776	30.16	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.53%			
36) toluene-d8 (S)	12.53	98	3465528	31.07	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.57%			
53) 4-bromofluorobenzene (BFB)	17.34	95	2106805	27.80	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.67%			
Target Compounds						Qvalue
14) acetone	5.22	58	592040	48.25	ug/L	73
17) methylene chloride	6.11	84	242544	3.64	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62422.D Vial: 25
Acq On : 31 Jul 2011 7:18 am Operator: A. Thomas
Sample : T-48 PM 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62423.D Vial: 26
Acq On : 31 Jul 2011 7:51 am Operator: A. Thomas
Sample : T-48 PM 2.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

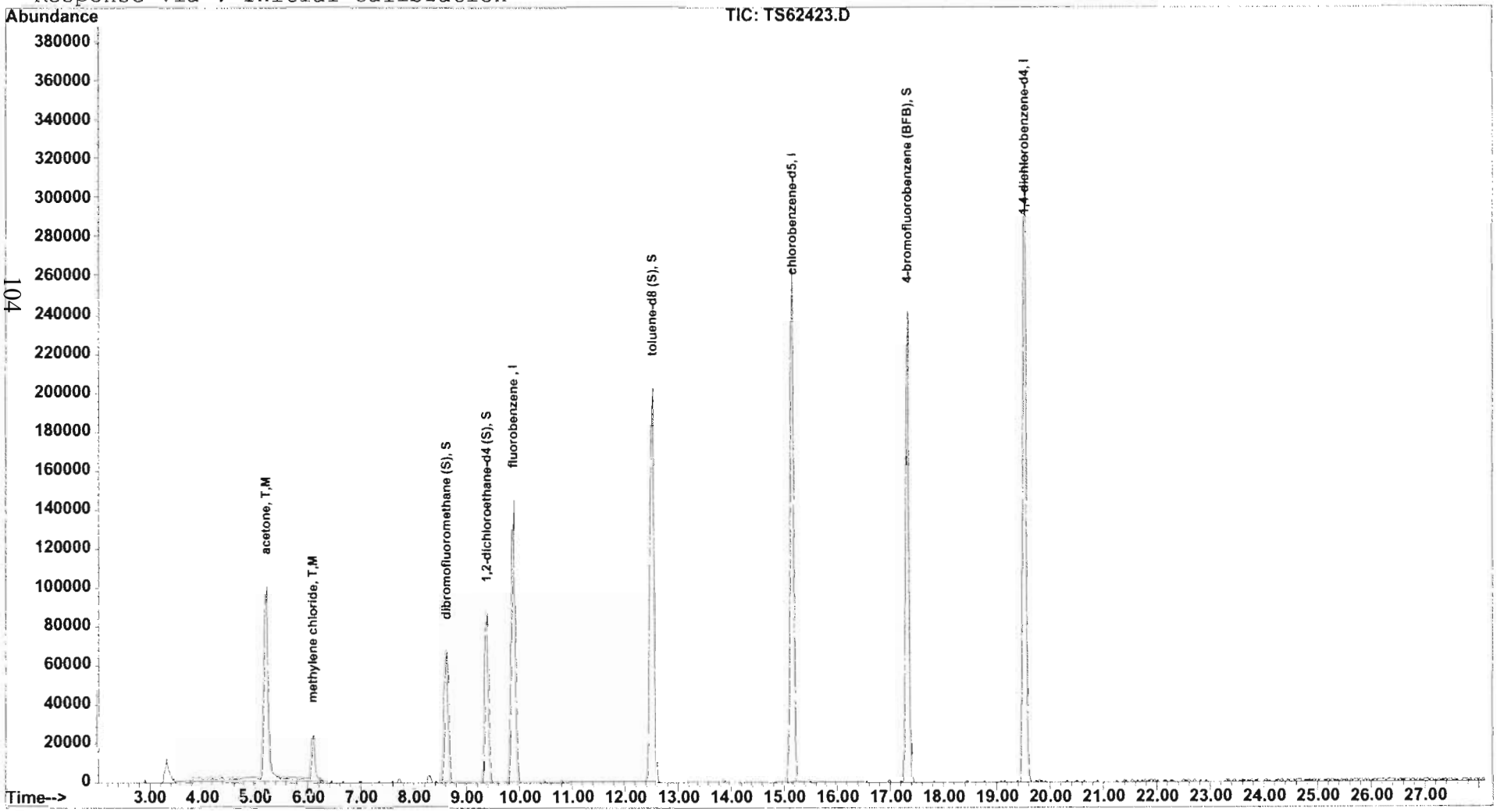
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	2838049	15.00	ug/l	-0.21
44) chlorobenzene-d5	15.17	117	3289467	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.54	152	2078593	15.00	ug/L	-0.22
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1072080	32.09	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 106.97%			
26) 1,2-dichloroethane-d4 (S)	9.40	102	201818	27.54	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.80%			
36) toluene-d8 (S)	12.53	98	3443302	31.53	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.10%			
53) 4-bromofluorobenzene (BFB)	17.34	95	2071545	27.78	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.60%			
Target Compounds						Qvalue
14) acetone	5.22	58	663775	55.26	ug/L	69
17) methylene chloride	6.11	84	256453	3.93	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62423.D Vial: 26
Acq On : 31 Jul 2011 7:51 am Operator: A. Thomas
Sample : T-48 PM 2.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62424.D Vial: 27
Acq On : 31 Jul 2011 8:24 am Operator: A. Thomas
Sample : T-48 PM 2.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

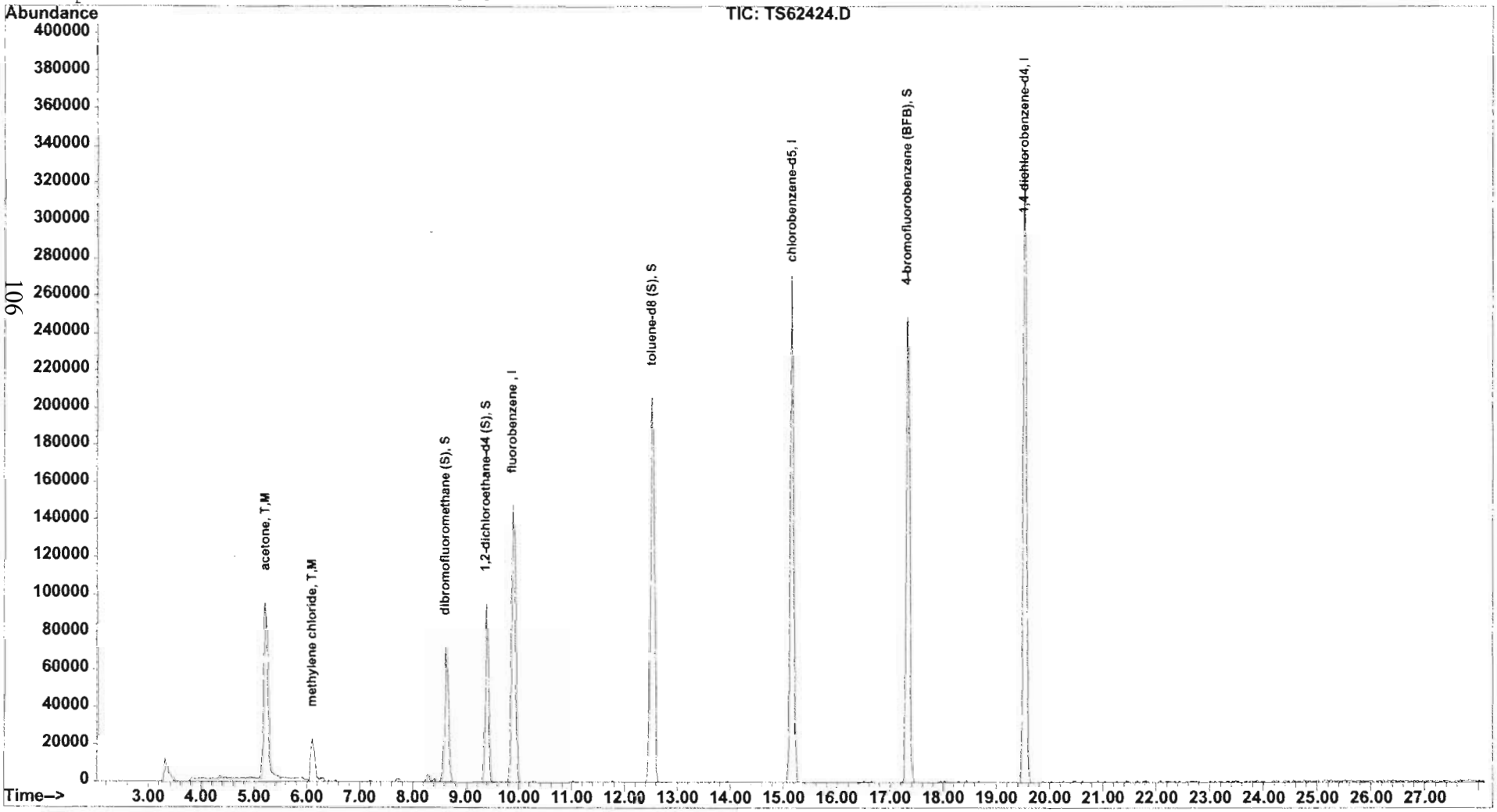
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.91	96	2989794	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.17	117	3321659	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.54	152	2081172	15.00	ug/L	-0.22
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1123932	31.93	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 106.43%			
26) 1,2-dichloroethane-d4 (S)	9.40	102	230585	29.87	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.57%			
36) toluene-d8 (S)	12.53	98	3498859	30.42	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.40%			
53) 4-bromofluorobenzene (BFB)	17.34	95	2109969	28.02	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.40%			
Target Compounds						Qvalue
14) acetone	5.22	58	652699	51.58	ug/L	69
17) methylene chloride	6.11	84	245702	3.58	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TS62424.D Vial: 27
Acq On : 31 Jul 2011 8:24 am Operator: A. Thomas
Sample : T-48 PM 2.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:22 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



IV-1 Method Tunes

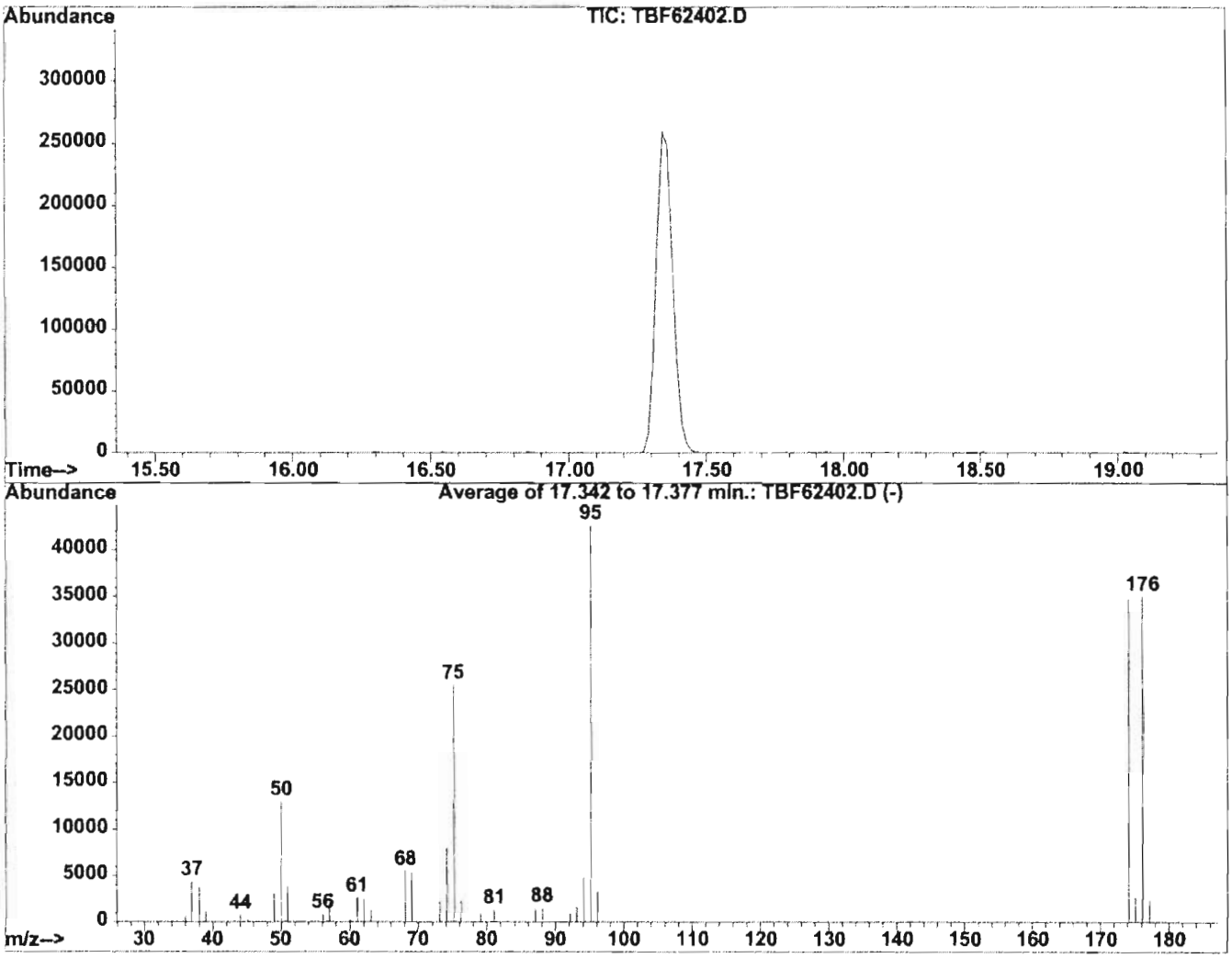
IV-2 Method Blanks

IV-3 Daily Calibration

IV-4 Laboratory Control Samples

BFB

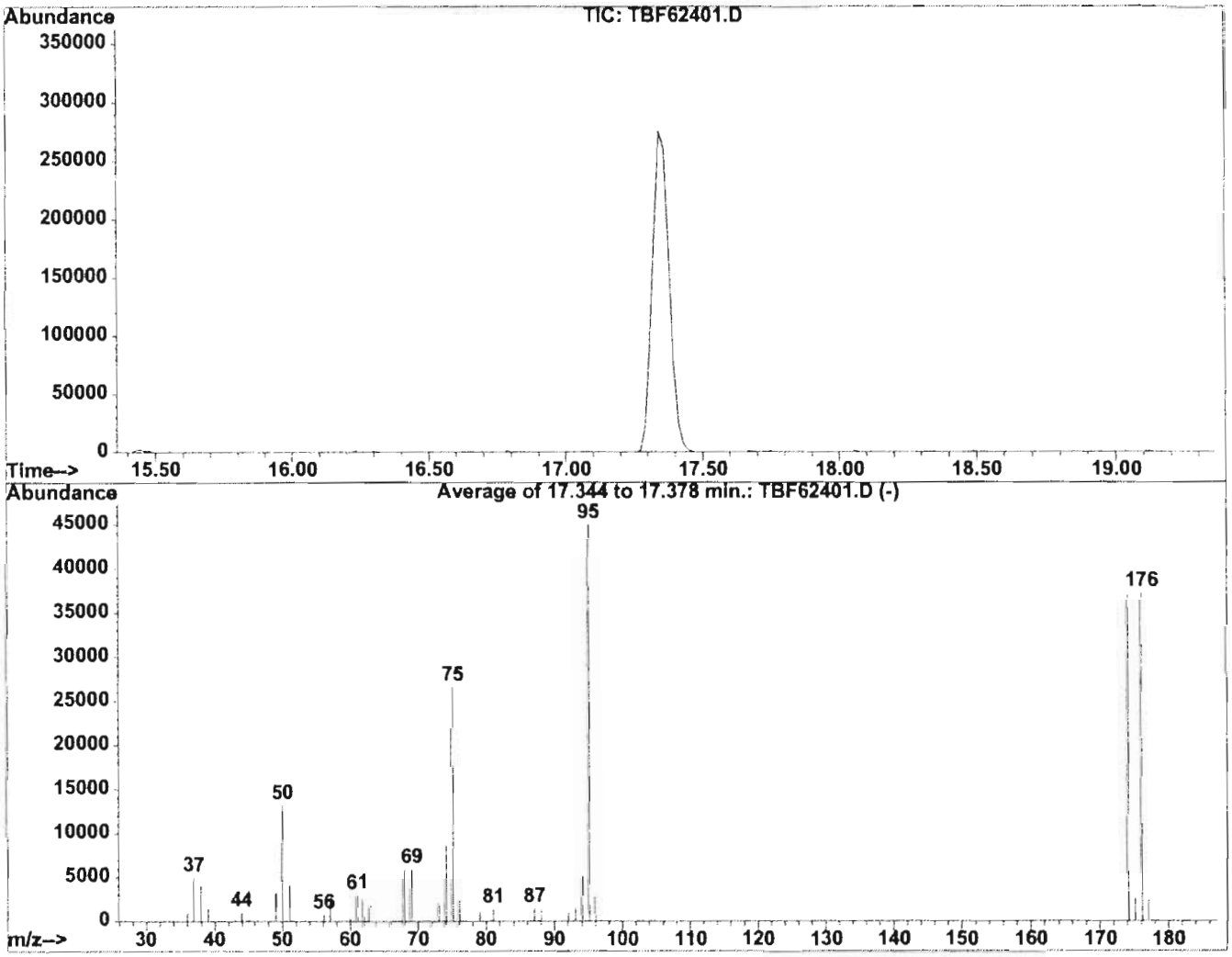
Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TBF62402.D Vial: 24
Acq On : 30 Jul 2011 6:59 am Operator: A. Thomas
Sample : 50ng bfb 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA



AutoFind: Scans 884, 885, 886; Background Corrected with Scan 877

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	30.5	13030	PASS
75	95	30	70	59.8	25555	PASS
95	95	100	100	100.0	42712	PASS
96	95	5	9	7.7	3275	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	81.4	34747	PASS
175	174	5	9	7.9	2760	PASS
176	174	95	101	100.9	35043	PASS
177	176	5	9	6.9	2412	PASS

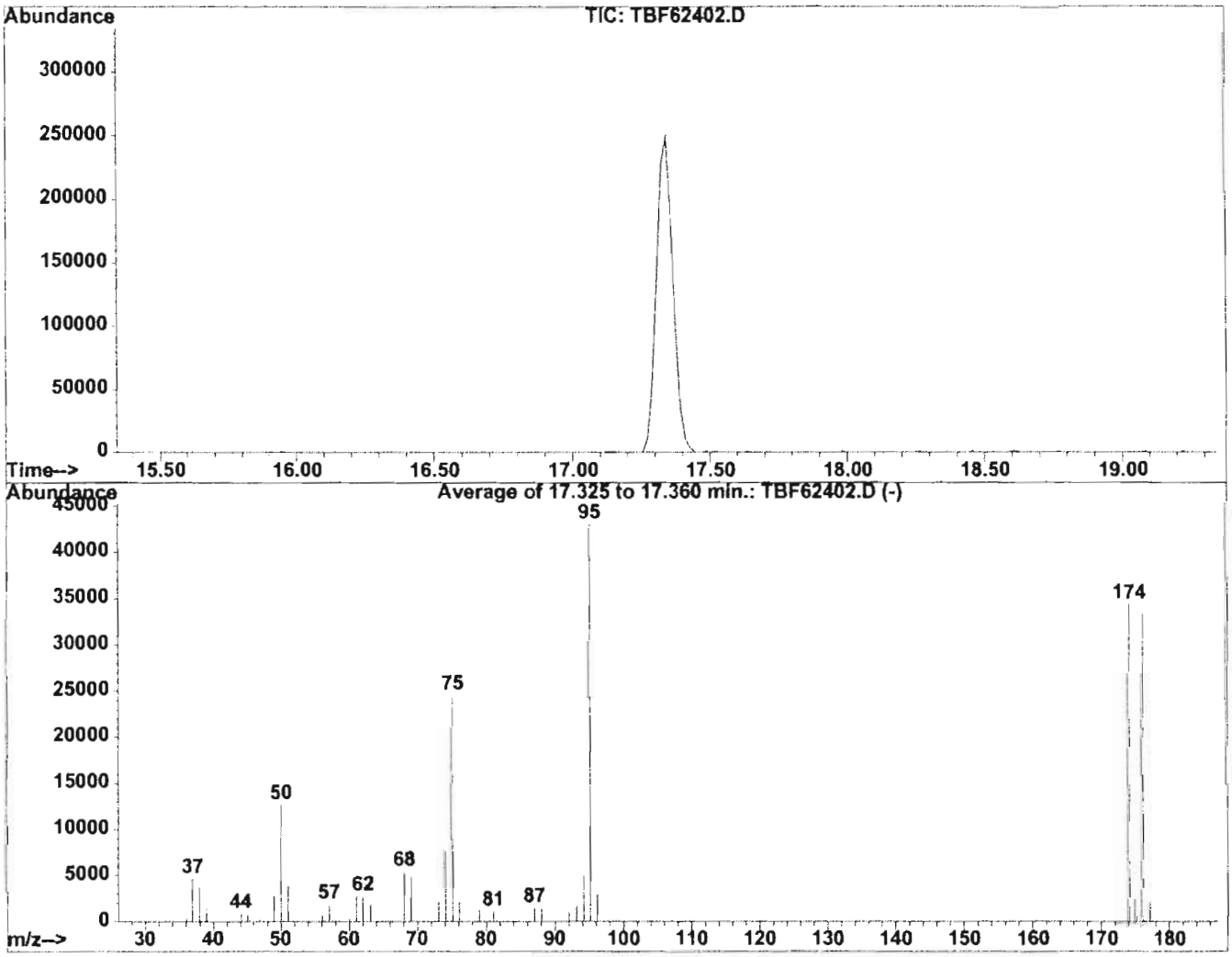
Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TBF62401.D Vial: 1
Acq On : 30 Jul 2011 4:26 pm Operator: A. Thomas
Sample : 50ng bfb 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA



AutoFind: Scans 885, 886, 887; Background Corrected with Scan 878

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	29.5	13265	PASS
75	95	30	70	59.2	26672	PASS
95	95	100	100	100.0	45040	PASS
96	95	5	9	6.5	2923	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	82.0	36949	PASS
175	174	5	9	7.3	2696	PASS
176	174	95	101	100.7	37211	PASS
177	176	5	9	6.7	2491	PASS

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TBF62402.D Vial: 21
Acq On : 31 Jul 2011 4:34 am Operator: A. Thomas
Sample : 50ng bfb 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA



AutoFind: Scans 883, 884, 885; Background Corrected with Scan 877

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	29.4	12630	PASS
75	95	30	70	56.9	24501	PASS
95	95	100	100	100.0	43032	PASS
96	95	5	9	7.0	3024	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	79.7	34315	PASS
175	174	5	9	7.6	2597	PASS
176	174	95	101	97.2	33339	PASS
177	176	5	9	6.7	2234	PASS

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TBL62401.D Vial: 1
Acq On : 29 Jul 2011 5:44 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.96	96	3988284	15.00	ug/l	-0.15
44) chlorobenzene-d5	15.23	117	4269113	15.00	ug/L	-0.15
56) 1,4-dichlorobenzene-d4	19.61	152	2437464	15.00	ug/L	-0.15
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.68	113	1410201	30.04	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.13%			
26) 1,2-dichloroethane-d4 (S)	9.45	102	330295	32.08	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 106.93%			
36) toluene-d8 (S)	12.58	98	4747271	30.94	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.13%			
53) 4-bromofluorobenzene (BFB)	17.40	95	2786663	28.79	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.97%			

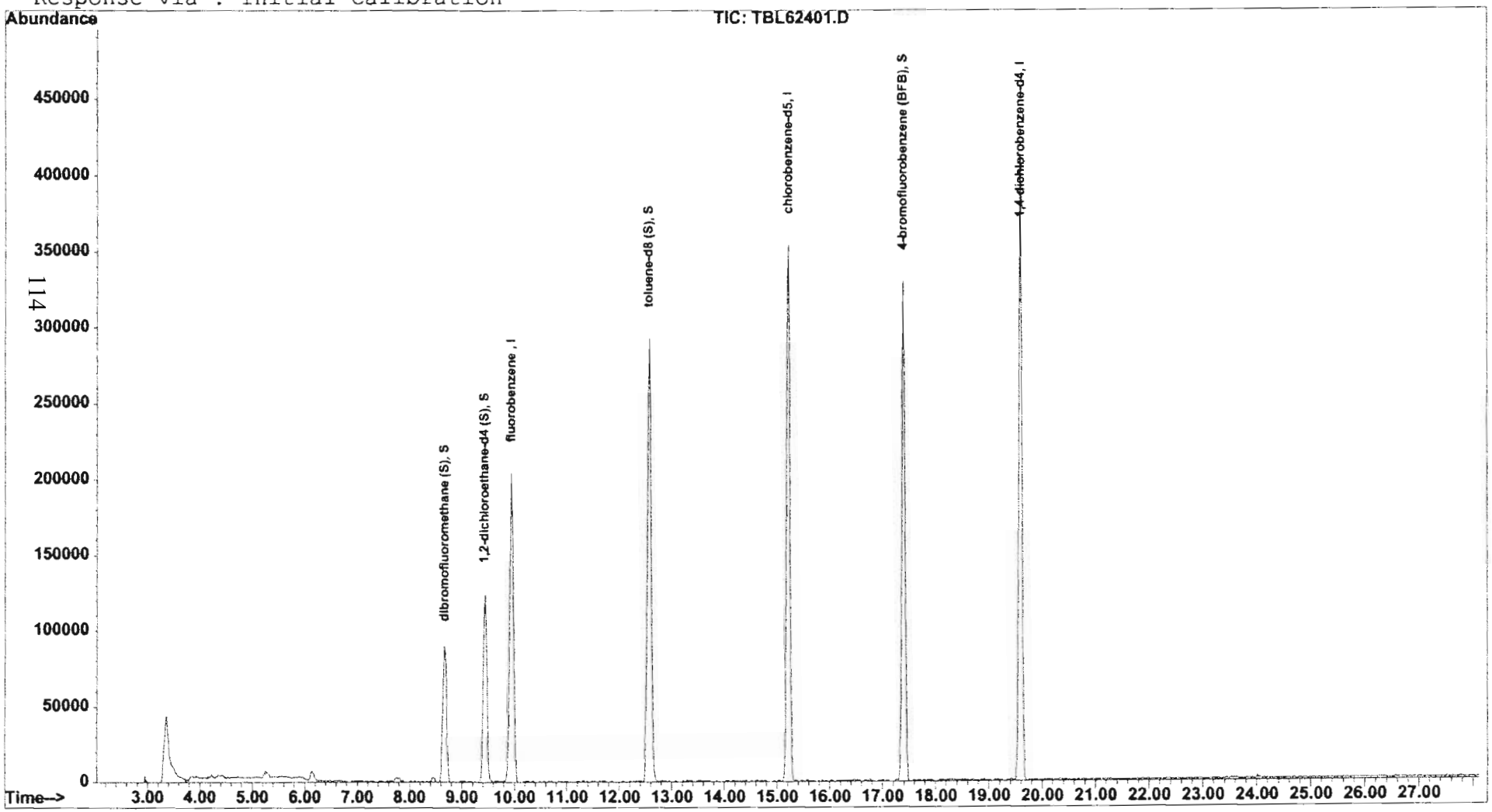
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TBL62401.D Vial: 1
Acq On : 29 Jul 2011 5:44 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TBL62401.D Vial: 1
Acq On : 30 Jul 2011 4:59 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	3276907	15.00	ug/l	-0.19
44) chlorobenzene-d5	15.18	117	3652707	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.56	152	2239079	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1213316	31.45	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.83%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	261256	30.88	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.93%			
36) toluene-d8 (S)	12.54	98	3892011	30.87	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.90%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2307132	27.86	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.87%			

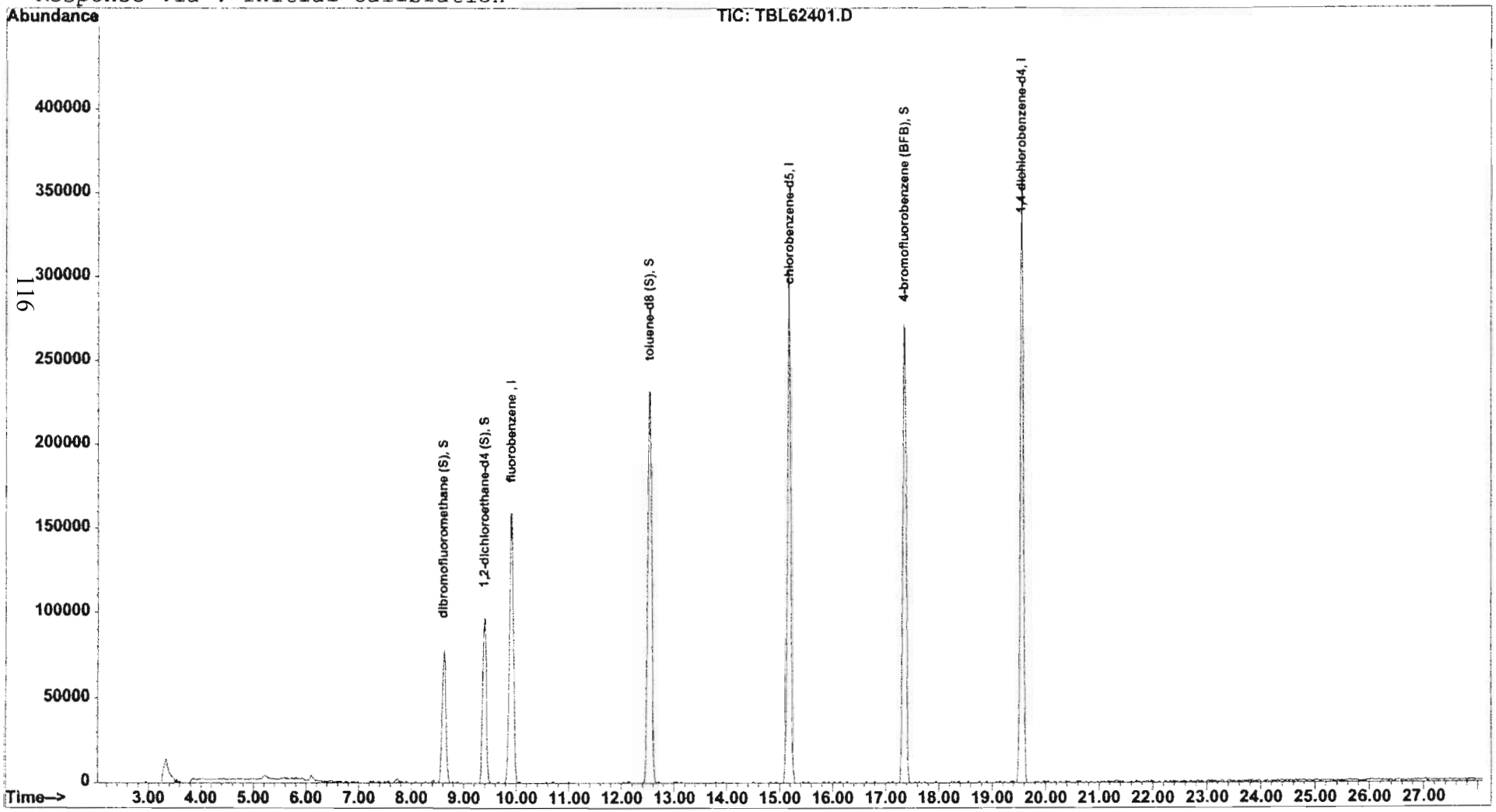
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TBL62401.D Vial: 1
Acq On : 30 Jul 2011 4:59 pm Operator: A. Thomas
Sample : Blank 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62401.D Vial: 1
Acq On : 29 Jul 2011 6:17 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1 I	fluorobenzene	1.000	1.000	0.0	78	-0.16
3 T,M	chloromethane	0.312	0.190	39.1#	47#	-0.08
4 C,T,M	vinyl chloride	0.184	0.195	-6.0	88	-0.10
5 T,M	bromomethane	0.144	0.057	60.4#	33#	-0.11
6 T,M	chloroethane	0.225	0.209	7.1	68	-0.10
7 t	112-Trichloro-122-Trifluoro	0.289	0.214	26.0	53	-0.15
8 t	Methyl Acetate	0.047	0.049	-4.3	74	-0.14
9 T,M	carbon disulfide	0.586	0.394	32.8#	46#	-0.16
10 T,M	MTBE	0.785	0.744	5.2	78	-0.13
11 t	1,4 Dioxane	0.028	0.024	14.3	57	-0.13
12 T,M	tert-butyl alcohol	0.054	0.050	7.4	66	-0.13
13 T,M	MEK	0.044	0.043	2.3	70	-0.12
14 T,M	acetone	0.049	0.187	-281.6#	325#	-0.12
15 T,M	trichlorofluoromethane	0.385	0.288	25.2	50	-0.15
16 C,T,M	1,1-dichloroethene	0.514	0.368	28.4	51	-0.14
17 T,M	methylene chloride	0.345	0.294	14.8	65	-0.14
18 T,M	trans-1,2-dichloroethene	0.525	0.414	21.1	58	-0.15
19 T,M	1,1-dichloroethane	0.651	0.526	19.2	58	-0.15
20 C,T,M	chloroform	0.380	0.326	14.2	63	-0.15
21 S	dibromofluoromethane (S)	0.177	0.202	-14.1	89	-0.16
22 T,M	bromochloromethane	0.149	0.113	24.2	51	-0.15
23 t	Cyclohexane	0.417	0.317	24.0	52	-0.16
24 T,M	1,1,1-trichloroethane	0.440	0.400	9.1	64	-0.15
25 T,M	carbon tetrachloride	0.326	0.298	8.6	62	-0.15
26 S	1,2-dichloroethane-d4 (S)	0.039	0.044	-12.8	86	-0.15
27 T,M	1,2-dichloroethane	0.545	0.513	5.9	70	-0.15
28 T,M	benzene	1.096	0.835	23.8	54	-0.15
29 T,M	trichloroethene	0.285	0.232	18.6	55	-0.15
30 t	Methyl Cyclohexane	0.479	0.386	19.4	56	-0.15
31 C,T,M	1,2-dichloropropane	0.325	0.271	16.6	61	-0.15
32 T,M	MIBK	0.036	0.030	16.7	63	-0.16
33 T,M	cis-1,2-dichloroethene	0.532	0.440	17.3	61	-0.15
34 T,M	bromodichloromethane	0.353	0.310	12.2	61	-0.15
35 T,M	cis-1,3-dichloropropene	0.426	0.358	16.0	58	-0.15
36 S	toluene-d8 (S)	0.577	0.618	-7.1	81	-0.15
37 C,T,M	toluene	1.119	0.894	20.1	52	-0.16
38 T,M	trans-1,3-dichloropropene	0.447	0.323	27.7	52	-0.03
39 T,M	2-hexanone	0.130	0.108	16.9	72	-0.15
40 T,M	1,1,2-trichloroethane	0.210	0.180	14.3	61	-0.15
41 T,M	tetrachloroethene	0.296	0.258	12.8	57	-0.15
42 T,M	dibromochloromethane	0.218	0.188	13.8	56	-0.15
43 T,M	1,2-dibromoethane	0.253	0.222	12.3	61	-0.15
44 I	chlorobenzene-d5	1.000	1.000	0.0	71	-0.15
45 M,T	chlorobenzene	0.554	0.476	14.1	58	-0.15

46	C,T,M	ethyl benzene	1.066	0.931	12.7	58	-0.15
47	T,M	m/p-xylene	0.929	0.813	12.5	52	-0.15
48	T,M	o-xylene	0.874	0.783	10.4	59	-0.15
49	T,M	styrene	0.528	0.447	15.3	56	-0.15
50	T,M	isopropyl benzene	0.953	0.835	12.4	58	-0.15
51	T,M	bromoform	0.123	0.093	24.4	53	-0.15
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.247	9.9	64	-0.15
53	S	4-bromofluorobenzene (BFB)	0.340	0.330	2.9	69	-0.15
54	T,M	1,3-dichlorobenzene	0.404	0.333	17.6	54	-0.15
55	T,M	1,2-dichlorobenzene	0.383	0.315	17.8	55	-0.16
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	64	-0.15
57	T,M	1,4-dichlorobenzene	0.639	0.611	4.4	61	-0.16
58	T,M	1,2-dibromo-3-chloropropane	0.069	0.060	13.0	74	-0.15
59	T,M	1,2,4-trichlorobenzene	0.387	0.352	9.0	56	-0.16
60	T,M	Napthalene	0.822	0.729	11.3	62	-0.16
61	T,M	1,2,3-trichlorobenzene	0.343	0.326	5.0	61	-0.16

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 11:48:34 2012 GCMS2

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62402.D Vial: 25
Acq On : 30 Jul 2011 7:32 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1	I	fluorobenzene	1.000	1.000	0.0	61	-0.20
3	T,M	chloromethane	0.312	0.169	45.8#	32#	-0.11
4	C,T,M	vinyl chloride	0.184	0.180	2.2	64	-0.11
5	T,M	bromomethane	0.144	0.074	48.6#	33#	-0.16
6	T,M	chloroethane	0.225	0.211	6.2	54	-0.14
7	t	112-Trichloro-122-Trifluoro	0.289	0.253	12.5	49#	-0.15
8	t	Methyl Acetate	0.047	0.050	-6.4	59	-0.17
9	T,M	carbon disulfide	0.586	0.431	26.5	40#	-0.18
10	T,M	MTBE	0.785	0.807	-2.8	66	-0.16
11	t	1,4 Dioxane	0.028	0.037	-32.1#	67	-0.17
12	T,M	tert-butyl alcohol	0.054	0.039	27.8	40#	-0.19
13	T,M	MEK	0.044	0.031	29.5	39#	-0.16
14	T,M	acetone	0.049	0.164	-234.7#	223#	-0.17
15	T,M	trichlorofluoromethane	0.385	0.371	3.6	51	-0.15
16	C,T,M	1,1-dichloroethene	0.514	0.458	10.9	49#	-0.17
17	T,M	methylene chloride	0.345	0.365	-5.8	63	-0.17
18	T,M	trans-1,2-dichloroethene	0.525	0.504	4.0	55	-0.18
19	T,M	1,1-dichloroethane	0.651	0.629	3.4	55	-0.18
20	C,T,M	chloroform	0.380	0.434	-14.2	65	-0.19
21	S	dibromofluoromethane (S)	0.177	0.206	-16.4	71	-0.19
22	T,M	bromochloromethane	0.149	0.162	-8.7	57	-0.19
23	t	Cyclohexane	0.417	0.390	6.5	50	-0.19
24	T,M	1,1,1-trichloroethane	0.440	0.517	-17.5	65	-0.19
25	T,M	carbon tetrachloride	0.326	0.379	-16.3	62	-0.19
26	S	1,2-dichloroethane-d4 (S)	0.039	0.044	-12.8	66	-0.18
27	T,M	1,2-dichloroethane	0.545	0.635	-16.5	68	-0.19
28	T,M	benzene	1.096	1.062	3.1	54	-0.19
29	T,M	trichloroethene	0.285	0.305	-7.0	56	-0.19
30	t	Methyl Cyclohexane	0.479	0.445	7.1	50	-0.19
31	C,T,M	1,2-dichloropropane	0.325	0.336	-3.4	59	-0.19
32	T,M	MIBK	0.036	0.024	33.3#	38#	-0.20
33	T,M	cis-1,2-dichloroethene	0.532	0.541	-1.7	58	-0.19
34	T,M	bromodichloromethane	0.353	0.392	-11.0	60	-0.19
35	T,M	cis-1,3-dichloropropene	0.426	0.395	7.3	50	-0.19
36	S	toluene-d8 (S)	0.577	0.629	-9.0	64	-0.19
37	C,T,M	toluene	1.119	1.102	1.5	50	-0.19
38	T,M	trans-1,3-dichloropropene	0.447	0.340	23.9	43#	-0.07
39	T,M	2-hexanone	0.130	0.087	33.1#	45#	-0.18
40	T,M	1,1,2-trichloroethane	0.210	0.219	-4.3	59	-0.19
41	T,M	tetrachloroethene	0.296	0.355	-19.9	61	-0.19
42	T,M	dibromochloromethane	0.218	0.247	-13.3	57	-0.20
43	T,M	1,2-dibromoethane	0.253	0.278	-9.9	60	-0.20
44	I	chlorobenzene-d5	1.000	1.000	0.0	59	-0.20
45	M,T	chlorobenzene	0.554	0.571	-3.1	58	-0.20

46	C,T,M	ethyl benzene	1.066	1.097	-2.9	57	-0.19
47	T,M	m/p-xylene	0.929	0.948	-2.0	51	-0.19
48	T,M	o-xylene	0.874	0.940	-7.6	60	-0.20
49	T,M	styrene	0.528	0.545	-3.2	57	-0.19
50	T,M	isopropyl benzene	0.953	1.030	-8.1	60	-0.20
51	T,M	bromoform	0.123	0.101	17.9	48#	-0.20
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.254	7.3	56	-0.19
53	S	4-bromofluorobenzene (BFB)	0.340	0.327	3.8	58	-0.20
54	T,M	1,3-dichlorobenzene	0.404	0.383	5.2	52	-0.20
55	T,M	1,2-dichlorobenzene	0.383	0.338	11.7	50#	-0.20
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	56	-0.20
57	T,M	1,4-dichlorobenzene	0.639	0.715	-11.9	63	-0.22
59	T,M	1,2,4-trichlorobenzene	0.387	0.402	-3.9	56	-0.21
60	T,M	Napthalene	0.822	0.650	20.9	49#	-0.21
61	T,M	1,2,3-trichlorobenzene	0.343	0.357	-4.1	59	-0.21

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 11:50:53 2012 GCMS2

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62401.D Vial: 1
Acq On : 30 Jul 2011 5:32 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1 I	fluorobenzene	1.000	1.000	0.0	69	-0.19
3 T,M	chloromethane	0.312	0.195	37.5#	42#	-0.11
4 C,T,M	vinyl chloride	0.184	0.167	9.2	66	-0.13
5 T,M	bromomethane	0.144	0.070	51.4#	35#	-0.14
6 T,M	chloroethane	0.225	0.225	0.0	64	-0.14
7 t	112-Trichloro-122-Trifluoro	0.289	0.246	14.9	53	-0.17
8 t	Methyl Acetate	0.047	0.055	-17.0	73	-0.19
9 T,M	carbon disulfide	0.586	0.587	-0.2	61	-0.19
10 T,M	MTBE	0.785	0.862	-9.8	80	-0.16
11 t	1,4 Dioxane	0.028	0.030	-7.1	62	-0.17
12 T,M	tert-butyl alcohol	0.054	0.051	5.6	59	-0.17
13 T,M	MEK	0.044	0.031	29.5	45#	-0.17
14 T,M	acetone	0.049	0.234	-377.6#	359#	-0.16
15 T,M	trichlorofluoromethane	0.385	0.357	7.3	55	-0.16
16 C,T,M	1,1-dichloroethene	0.514	0.441	14.2	53	-0.17
17 T,M	methylene chloride	0.345	0.341	1.2	66	-0.17
18 T,M	trans-1,2-dichloroethene	0.525	0.508	3.2	63	-0.18
19 T,M	1,1-dichloroethane	0.651	0.638	2.0	62	-0.19
20 C,T,M	chloroform	0.380	0.424	-11.6	72	-0.19
21 S	dibromofluoromethane (S)	0.177	0.201	-13.6	78	-0.19
22 T,M	bromochloromethane	0.149	0.145	2.7	58	-0.19
23 t	Cyclohexane	0.417	0.369	11.5	53	-0.19
24 T,M	1,1,1-trichloroethane	0.440	0.500	-13.6	70	-0.20
25 T,M	carbon tetrachloride	0.326	0.375	-15.0	69	-0.19
26 S	1,2-dichloroethane-d4 (S)	0.039	0.039	0.0	65	-0.19
27 T,M	1,2-dichloroethane	0.545	0.647	-18.7	78	-0.19
28 T,M	benzene	1.096	1.030	6.0	59	-0.19
29 T,M	trichloroethene	0.285	0.296	-3.9	61	-0.19
30 t	Methyl Cyclohexane	0.479	0.469	2.1	60	-0.18
31 C,T,M	1,2-dichloropropane	0.325	0.325	0.0	64	-0.19
32 T,M	MIBK	0.036	0.033	8.3	61	-0.18
33 T,M	cis-1,2-dichloroethene	0.532	0.530	0.4	64	-0.19
34 T,M	bromodichloromethane	0.353	0.392	-11.0	68	-0.19
35 T,M	cis-1,3-dichloropropene	0.426	0.425	0.2	61	-0.19
36 S	toluene-d8 (S)	0.577	0.592	-2.6	68	-0.19
37 C,T,M	toluene	1.119	1.073	4.1	55	-0.19
38 T,M	trans-1,3-dichloropropene	0.447	0.382	14.5	55	-0.06
39 T,M	2-hexanone	0.130	0.116	10.8	68	-0.18
40 T,M	1,1,2-trichloroethane	0.210	0.232	-10.5	70	-0.19
41 T,M	tetrachloroethene	0.296	0.349	-17.9	68	-0.19
42 T,M	dibromochloromethane	0.218	0.240	-10.1	63	-0.19
43 T,M	1,2-dibromoethane	0.253	0.283	-11.9	69	-0.19
44 I	chlorobenzene-d5	1.000	1.000	0.0	64	-0.19
45 M,T	chlorobenzene	0.554	0.596	-7.6	65	-0.19

46	C,T,M	ethyl benzene	1.066	1.143	-7.2	64	-0.19
47	T,M	m/p-xylene	0.929	0.977	-5.2	56	-0.19
48	T,M	o-xylene	0.874	0.956	-9.4	65	-0.19
49	T,M	styrene	0.528	0.563	-6.6	64	-0.19
50	T,M	isopropyl benzene	0.953	1.055	-10.7	66	-0.18
51	T,M	bromoform	0.123	0.105	14.6	54	-0.19
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.278	-1.5	65	-0.19
53	S	4-bromofluorobenzene (BFB)	0.340	0.324	4.7	61	-0.19
54	T,M	1,3-dichlorobenzene	0.404	0.433	-7.2	63	-0.19
55	T,M	1,2-dichlorobenzene	0.383	0.450	-17.5	71	-0.20
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	58	-0.19
57	T,M	1,4-dichlorobenzene	0.639	0.782	-22.4	71	-0.20
58	T,M	1,2-dibromo-3-chloropropane	0.069	0.059	14.5	65	-0.19
59	T,M	1,2,4-trichlorobenzene	0.387	0.445	-15.0	64	-0.20
60	T,M	Napthalene	0.822	0.845	-2.8	65	-0.20
61	T,M	1,2,3-trichlorobenzene	0.343	0.408	-19.0	69	-0.20

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 11:58:33 2012 GCMS2

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62402.D Vial: 21
Acq On : 31 Jul 2011 5:07 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
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)
1	I	fluorobenzene	1.000	1.000	0.0	62	-0.21
3	T,M	chloromethane	0.312	0.172	44.9#	33#	-0.12
4	C,T,M	vinyl chloride	0.184	0.162	12.0	58	-0.13
5	T,M	bromomethane	0.144	0.064	55.6#	29#	-0.15
6	T,M	chloroethane	0.225	0.185	17.8	47#	-0.16
7	t	112-Trichloro-122-Trifluoro	0.289	0.244	15.6	48#	-0.16
8	t	Methyl Acetate	0.047	0.043	8.5	52	-0.19
9	T,M	carbon disulfide	0.586	0.281	52.0#	26#	-0.18
10	T,M	MTBE	0.785	0.758	3.4	63	-0.17
11	t	1,4 Dioxane	0.028	0.029	-3.6	54	-0.18
12	T,M	tert-butyl alcohol	0.054	0.037	31.5#	38#	-0.19
13	T,M	MEK	0.044	0.026	40.9#	33#	-0.21
14	T,M	acetone	0.049	0.248	-406.1#	341#	-0.17
15	T,M	trichlorofluoromethane	0.385	0.353	8.3	49#	-0.16
16	C,T,M	1,1-dichloroethene	0.514	0.452	12.1	49#	-0.17
17	T,M	methylene chloride	0.345	0.343	0.6	60	-0.18
18	T,M	trans-1,2-dichloroethene	0.525	0.493	6.1	55	-0.19
19	T,M	1,1-dichloroethane	0.651	0.622	4.5	55	-0.19
20	C,T,M	chloroform	0.380	0.424	-11.6	65	-0.20
21	S	dibromofluoromethane (S)	0.177	0.197	-11.3	69	-0.20
22	T,M	bromochloromethane	0.149	0.147	1.3	53	-0.20
23	t	Cyclohexane	0.417	0.368	11.8	48#	-0.20
24	T,M	1,1,1-trichloroethane	0.440	0.491	-11.6	62	-0.21
25	T,M	carbon tetrachloride	0.326	0.365	-12.0	60	-0.21
26	S	1,2-dichloroethane-d4 (S)	0.039	0.039	0.0	60	-0.20
27	T,M	1,2-dichloroethane	0.545	0.624	-14.5	68	-0.20
28	T,M	benzene	1.096	1.022	6.8	52	-0.20
29	T,M	trichloroethene	0.285	0.298	-4.6	55	-0.20
30	t	Methyl Cyclohexane	0.479	0.439	8.4	50	-0.20
31	C,T,M	1,2-dichloropropane	0.325	0.323	0.6	58	-0.20
32	T,M	MIBK	0.036	0.026	27.8	42#	-0.21
33	T,M	cis-1,2-dichloroethene	0.532	0.525	1.3	57	-0.20
34	T,M	bromodichloromethane	0.353	0.375	-6.2	58	-0.20
35	T,M	cis-1,3-dichloropropene	0.426	0.389	8.7	50	-0.20
36	S	toluene-d8 (S)	0.577	0.585	-1.4	61	-0.21
37	C,T,M	toluene	1.119	1.060	5.3	49#	-0.21
38	T,M	trans-1,3-dichloropropene	0.447	0.341	23.7	44#	-0.08
39	T,M	2-hexanone	0.130	0.115	11.5	60	-0.20
40	T,M	1,1,2-trichloroethane	0.210	0.221	-5.2	60	-0.21
41	T,M	tetrachloroethene	0.296	0.357	-20.6	62	-0.21
42	T,M	dibromochloromethane	0.218	0.229	-5.0	54	-0.21
43	T,M	1,2-dibromoethane	0.253	0.258	-2.0	56	-0.21
44	I	chlorobenzene-d5	1.000	1.000	0.0	57	-0.21
45	M,T	chlorobenzene	0.554	0.587	-6.0	58	-0.21

46	C,T,M	ethyl benzene	1.066	1.147	-7.6	58 -0.21
47	T,M	m/p-xylene	0.929	0.970	-4.4	50 -0.21
48	T,M	o-xylene	0.874	0.965	-10.4	59 -0.21
49	T,M	styrene	0.528	0.565	-7.0	57 -0.21
50	T,M	isopropyl benzene	0.953	1.062	-11.4	60 -0.21
51	T,M	bromoform	0.123	0.098	20.3	45# -0.22
52	T,M	1,1,2,2-tetrachloroethane	0.274	0.249	9.1	52 -0.21
53	S	4-bromofluorobenzene (BFB)	0.340	0.328	3.5	56 -0.21
54	T,M	1,3-dichlorobenzene	0.404	0.387	4.2	51 -0.22
55	T,M	1,2-dichlorobenzene	0.383	0.445	-16.2	63 -0.22
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	55 -0.21
57	T,M	1,4-dichlorobenzene	0.639	0.746	-16.7	64 -0.22
59	T,M	1,2,4-trichlorobenzene	0.387	0.426	-10.1	58 -0.22
60	T,M	Napthalene	0.822	0.644	21.7	47# -0.22
61	T,M	1,2,3-trichlorobenzene	0.343	0.369	-7.6	60 -0.22

(#) = Out of Range SPCC's out = 0 CCC's out = 0

BF62401.D T6072011.M Fri Feb 24 12:00:32 2012 GCMS2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62401.D Vial: 1
Acq On : 29 Jul 2011 6:17 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:48 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.95	96	3811807m	15.00	ug/l	-0.16
44) chlorobenzene-d5	15.23	117	4208965	15.00	ug/L	-0.15
56) 1,4-dichlorobenzene-d4	19.60	152	2545613	15.00	ug/L	-0.15
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.67	113	1536609	34.24	ug/L	-0.16
Spiked Amount 30.000	Range 80 - 120		Recovery = 114.13%			
26) 1,2-dichloroethane-d4 (S)	9.45	102	338713	34.42	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 114.73%			
36) toluene-d8 (S)	12.59	98	4711292	32.12	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.07%			
53) 4-bromofluorobenzene (BFB)	17.40	95	2782074	29.15	ug/L	-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.17%			
Target Compounds						Qvalue
3) chloromethane	3.50	50	965444	12.16	ug/L	
4) vinyl chloride	3.63	62	989327	21.13	ug/L	
5) bromomethane	4.24	96	289340	7.92	ug/L	
6) chloroethane	4.32	64	1062971	18.62	ug/L	
7) 112-Trichloro-122-Trifluor	5.19	101	1089774	14.81	ug/l	
8) Methyl Acetate	5.88	74	247745	17.28	ug/l	
9) carbon disulfide	6.26	76	2004979	13.47	ug/L	
10) MTBE	6.33	73	3783110	18.98	ug/L	
11) 1,4 Dioxane	6.17	88	124373	15.55	ug/l	#
12) tert-butyl alcohol	5.53	59	1269677	93.27	ug/l	
13) MEK	7.78	72	216638	19.44	ug/L	
14) acetone	5.27	58	949683	58.86	ug/L	
15) trichlorofluoromethane	4.63	101	1463824m	14.97	ug/L	
16) 1,1-dichloroethene	5.48	61	1870590	14.31	ug/L	#
17) methylene chloride	6.16	84	1492996	17.05	ug/L	#
18) trans-1,2-dichloroethene	6.58	61	2106600	15.78	ug/L	#
19) 1,1-dichloroethane	7.19	63	2671879	16.14	ug/L	#
20) chloroform	8.34	85	1655172	17.15	ug/L	#
22) bromochloromethane	8.62	128	575693	15.23	ug/L	
23) Cyclohexane	9.02	84	1609542	15.20	ug/l	#
24) 1,1,1-trichloroethane	8.97	97	2032574	18.19	ug/L	#
25) carbon tetrachloride	9.39	117	1513819	17.02	ug/L	
27) 1,2-dichloroethane	9.60	62	2608742	18.83	ug/L	#
28) benzene	9.65	78	4245038	15.24	ug/L	
29) trichloroethene	10.61	130	1180682	16.31	ug/L	#
30) Methyl Cyclohexane	10.72	83	1961802	16.10	ug/l	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62401.D Vial: 1
Acq On : 29 Jul 2011 6:17 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:48 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

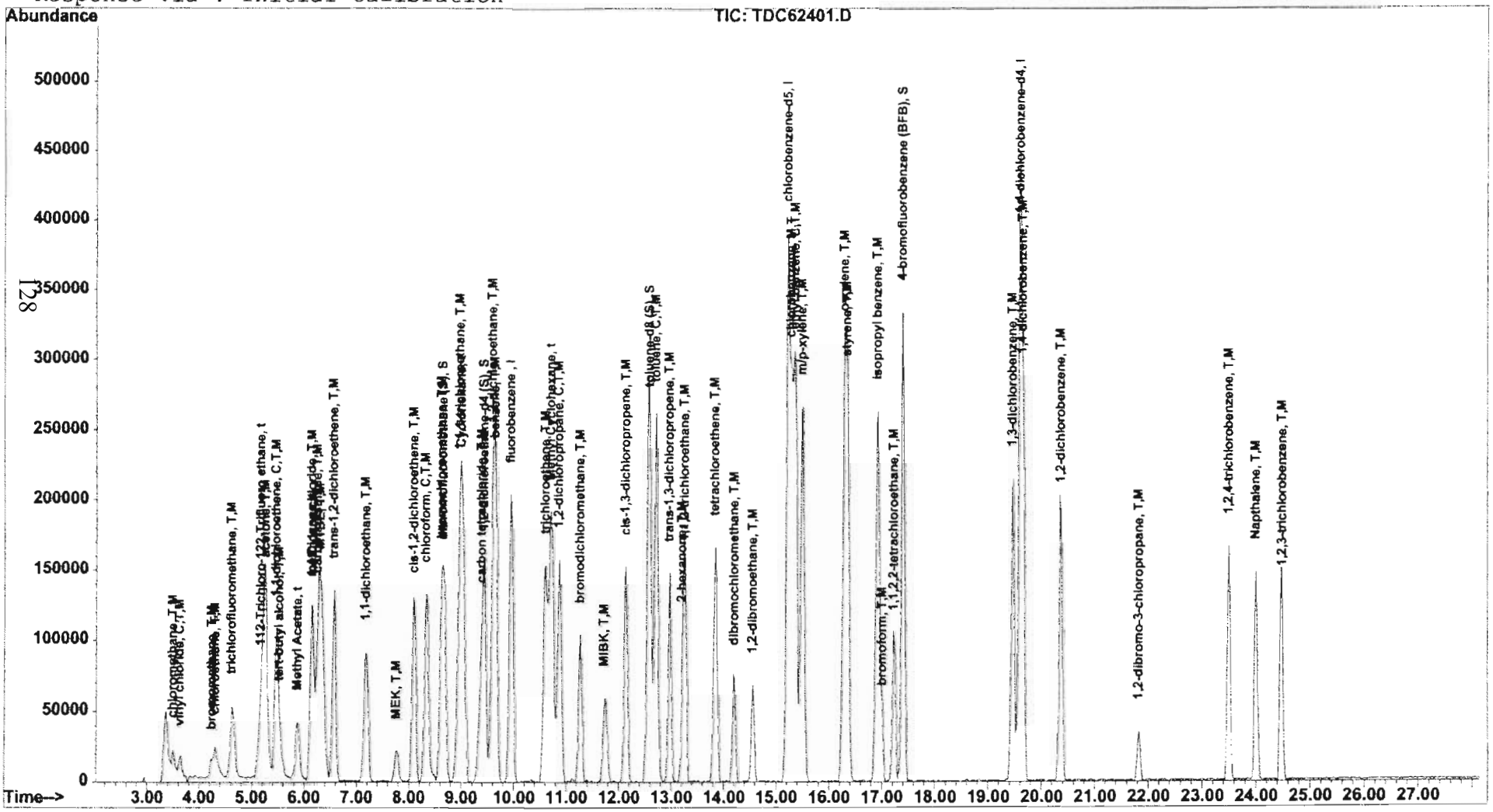
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
31)	1,2-dichloropropane	10.88	63	1378452	16.69 ug/L	#	
32)	MIBK	11.74	100	153558	15.16 ug/L		
33)	cis-1,2-dichloroethene	8.10	61	2234714	16.52 ug/L	#	
34)	bromodichloromethane	11.28	83	1575694	15.75 ug/L	#	
35)	cis-1,3-dichloropropene	12.15	75	1819112	15.53 ug/L		
37)	toluene	12.72	91	4544097m	15.98 ug/L		
38)	trans-1,3-dichloropropene	12.98	75	1641762	14.45 ug/L	#	
39)	2-hexanone	13.22	58	548314m	16.55 ug/L		
40)	1,1,2-trichloroethane	13.27	83	913832	17.09 ug/L	#	
41)	tetrachloroethene	13.86	166	1309311	17.43 ug/L	#	
42)	dibromochloromethane	14.21	129	956887	14.64 ug/L	#	
43)	1,2-dibromoethane	14.56	107	1126099	17.55 ug/L	#	
45)	chlorobenzene	15.30	112	2669017	17.17 ug/L	#	85
46)	ethyl benzene	15.36	91	5226542	17.47 ug/L	#	100
47)	m/p-xylene	15.50	91	4563656	17.51 ug/L	#	100
48)	o-xylene	16.29	91	4395974	17.93 ug/L	#	81
49)	styrene	16.36	104	2507399	16.93 ug/L		84
50)	isopropyl benzene	16.93	105	4685092	17.52 ug/L		100
51)	bromoform	17.01	173	523162	11.51 ug/L		99
52)	1,1,2,2-tetrachloroethane	17.24	83	1385904	15.32 ug/L	#	100
54)	1,3-dichlorobenzene	19.47	146	1866455	16.45 ug/L	#	98
55)	1,2-dichlorobenzene	20.37	146	1769649	16.48 ug/L	#	59
57)	1,4-dichlorobenzene	19.66	146	2073301m	19.11 ug/L		
58)	1,2-dibromo-3-chloropropan	21.84	75	204713	11.76 ug/L		76
59)	1,2,4-trichlorobenzene	23.51	180	1193131	18.16 ug/L		97
60)	Napthalene	24.01	128	2473814	17.74 ug/L		100
61)	1,2,3-trichlorobenzene	24.49	180	1107567	19.03 ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62401.D Vial: 1
Acq On : 29 Jul 2011 6:17 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:48 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62402.D Vial: 25
Acq On : 30 Jul 2011 7:32 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:50 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.92	96	2981355m	15.00	ug/l	-0.20
44) chlorobenzene-d5	15.18	117	3525764	15.00	ug/L	-0.20
56) 1,4-dichlorobenzene-d4	19.56	152	2235020	15.00	ug/L	-0.20
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.64	113	1227592	34.98	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 116.60%			
26) 1,2-dichloroethane-d4 (S)	9.41	102	259518	33.71	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 112.37%			
36) toluene-d8 (S)	12.54	98	3750218	32.69	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 108.97%			
53) 4-bromofluorobenzene (BFB)	17.36	95	2307610	28.87	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.23%			
Target Compounds						Qvalue
3) chloromethane	3.47	50	671972m	10.82	ug/L	
4) vinyl chloride	3.62	62	714536m	19.51	ug/L	
5) bromomethane	4.19	96	292606m	10.24	ug/L	
6) chloroethane	4.28	64	838868m	18.78	ug/L	
7) 112-Trichloro-122-Trifluor	5.18	101	1006138	17.49	ug/l	
8) Methyl Acetate	5.85	74	197123m	17.58	ug/l	
9) carbon disulfide	6.25	76	1711609m	14.70	ug/L	
10) MTBE	6.29	73	3206740	20.56	ug/L	
11) 1,4 Dioxane	6.13	88	145259	23.22	ug/l	#
12) tert-butyl alcohol	5.48	59	776489m	72.93	ug/l	
13) MEK	7.74	72	122033m	14.00	ug/L	
14) acetone	5.22	58	650886m	51.58	ug/L	
15) trichlorofluoromethane	4.62	101	1474879	19.29	ug/L	
16) 1,1-dichloroethene	5.45	61	1821697	17.82	ug/L	#
17) methylene chloride	6.12	84	1450656	21.19	ug/L	#
18) trans-1,2-dichloroethene	6.55	61	2003415	19.18	ug/L	#
19) 1,1-dichloroethane	7.16	63	2501451	19.32	ug/L	#
20) chloroform	8.31	85	1723773	22.84	ug/L	
22) bromochloromethane	8.58	128	643264	21.75	ug/L	
23) Cyclohexane	8.99	84	1549636	18.71	ug/l	
24) 1,1,1-trichloroethane	8.94	97	2055433	23.52	ug/L	#
25) carbon tetrachloride	9.35	117	1508267	21.68	ug/L	#
27) 1,2-dichloroethane	9.56	62	2524503	23.30	ug/L	#
28) benzene	9.62	78	4222483	19.39	ug/L	
29) trichloroethene	10.57	130	1210741	21.38	ug/L	#
30) Methyl Cyclohexane	10.68	83	1769405	18.57	ug/l	

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62402.D Vial: 25
Acq On : 30 Jul 2011 7:32 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:50 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

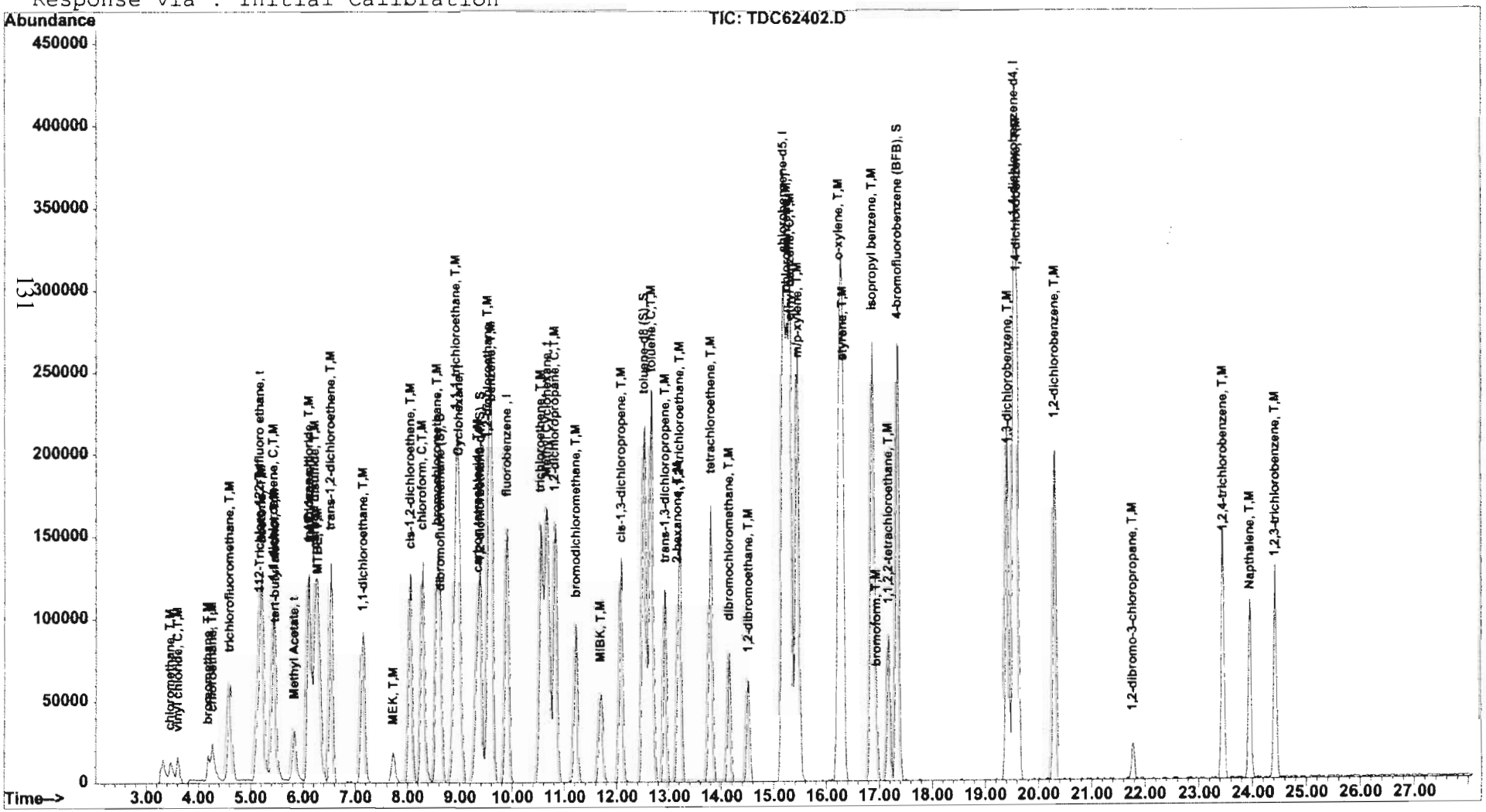
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
31)	1,2-dichloropropane	10.84	63	1336985	20.70	ug/L	#	
32)	MIBK	11.70	100	94546	11.94	ug/L		
33)	cis-1,2-dichloroethene	8.07	61	2150919	20.33	ug/L		
34)	bromodichloromethane	11.24	83	1558430	19.92	ug/L	#	
35)	cis-1,3-dichloropropene	12.10	75	1571918	17.16	ug/L	#	
37)	toluene	12.68	91	4379658	19.69	ug/L	#	
38)	trans-1,3-dichloropropene	12.94	75	1352672	15.22	ug/L	#	
39)	2-hexanone	13.19	58	346160	13.36	ug/L	#	
40)	1,1,2-trichloroethane	13.22	83	871754	20.85	ug/L	#	
41)	tetrachloroethene	13.81	166	1411989	24.04	ug/L	#	
42)	dibromochloromethane	14.16	129	980136	19.17	ug/L	#	
43)	1,2-dibromoethane	14.52	107	1106597	22.04	ug/L	#	
45)	chlorobenzene	15.25	112	2683576	20.61	ug/L	#	100
46)	ethyl benzene	15.32	91	5154827	20.57	ug/L	#	100
47)	m/p-xylene	15.46	91	4455293	20.41	ug/L	#	100
48)	o-xylene	16.25	91	4417648	21.51	ug/L	#	81
49)	styrene	16.31	104	2561208	20.64	ug/L		89
50)	isopropyl benzene	16.88	105	4840583	21.61	ug/L		99
51)	bromoform	16.96	173	473560	12.44	ug/L	#	78
52)	1,1,2,2-tetrachloroethane	17.19	83	1192729	15.74	ug/L	#	100
54)	1,3-dichlorobenzene	19.42	146	1800477	18.94	ug/L	#	99
55)	1,2-dichlorobenzene	20.32	146	1586977	17.64	ug/L	#	75
57)	1,4-dichlorobenzene	19.60	146	2130230m	22.36	ug/L		
58)	1,2-dibromo-3-chloropropan	21.79	75	129631	8.48	ug/L		85
59)	1,2,4-trichlorobenzene	23.46	180	1197141	20.76	ug/L		98
60)	Napthalene	23.96	128	1936767	15.82	ug/L		100
61)	1,2,3-trichlorobenzene	24.43	180	1062705	20.80	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TDC62402.D Vial: 25
Acq On : 30 Jul 2011 7:32 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:50 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62401.D Vial: 1
Acq On : 30 Jul 2011 5:32 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:58 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	9.92	96	3354883	15.00	ug/l		-0.19
44) chlorobenzene-d5	15.19	117	3784841	15.00	ug/L		-0.19
56) 1,4-dichlorobenzene-d4	19.57	152	2298522	15.00	ug/L		-0.19
System Monitoring Compounds							
21) dibromofluoromethane (S)	8.64	113	1348598	34.15	ug/L		-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 113.83%				
26) 1,2-dichloroethane-d4 (S)	9.41	102	259394	29.95	ug/L		-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.83%				
36) toluene-d8 (S)	12.55	98	3972052	30.77	ug/L		-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.57%				
53) 4-bromofluorobenzene (BFB)	17.36	95	2453872	28.60	ug/L		-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.33%				
Target Compounds							Qvalue
3) chloromethane	3.47	50	870465m	12.46	ug/L		
4) vinyl chloride	3.61	62	746445m	18.12	ug/L		
5) bromomethane	4.21	96	312995m	9.74	ug/L		
6) chloroethane	4.28	64	1007084m	20.04	ug/L		
7) 112-Trichloro-122-Trifluor	5.17	101	1098628	16.97	ug/l		96
8) Methyl Acetate	5.83	74	244756m	19.40	ug/l		
9) carbon disulfide	6.23	76	2625778m	20.04	ug/L		
10) MTBE	6.29	73	3857778	21.99	ug/L		96
11) 1,4 Dioxane	6.13	88	133489	18.96	ug/l	#	100
12) tert-butyl alcohol	5.50	59	1142123m	95.33	ug/l		
13) MEK	7.72	72	140181m	14.29	ug/L		
14) acetone	5.23	58	1048746	73.86	ug/L		70
15) trichlorofluoromethane	4.61	101	1595180	18.54	ug/L		95
16) 1,1-dichloroethene	5.45	61	1971459	17.14	ug/L	#	100
17) methylene chloride	6.13	84	1523288	19.77	ug/L	#	100
18) trans-1,2-dichloroethene	6.54	61	2271919	19.33	ug/L	#	100
19) 1,1-dichloroethane	7.15	63	2855516	19.60	ug/L	#	100
20) chloroform	8.30	85	1896743	22.33	ug/L		99
22) bromochloromethane	8.58	128	650257	19.54	ug/L		85
23) Cyclohexane	8.98	84	1649663	17.70	ug/l		86
24) 1,1,1-trichloroethane	8.93	97	2238343	22.76	ug/L	#	100
25) carbon tetrachloride	9.35	117	1675253	21.40	ug/L	#	50
27) 1,2-dichloroethane	9.56	62	2894473	23.74	ug/L	#	81
28) benzene	9.61	78	4608828	18.80	ug/L	#	89
29) trichloroethene	10.57	130	1324076	20.78	ug/L	#	100
30) Methyl Cyclohexane	10.69	83	2099606	19.58	ug/l		93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62401.D Vial: 1
Acq On : 30 Jul 2011 5:32 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:58 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

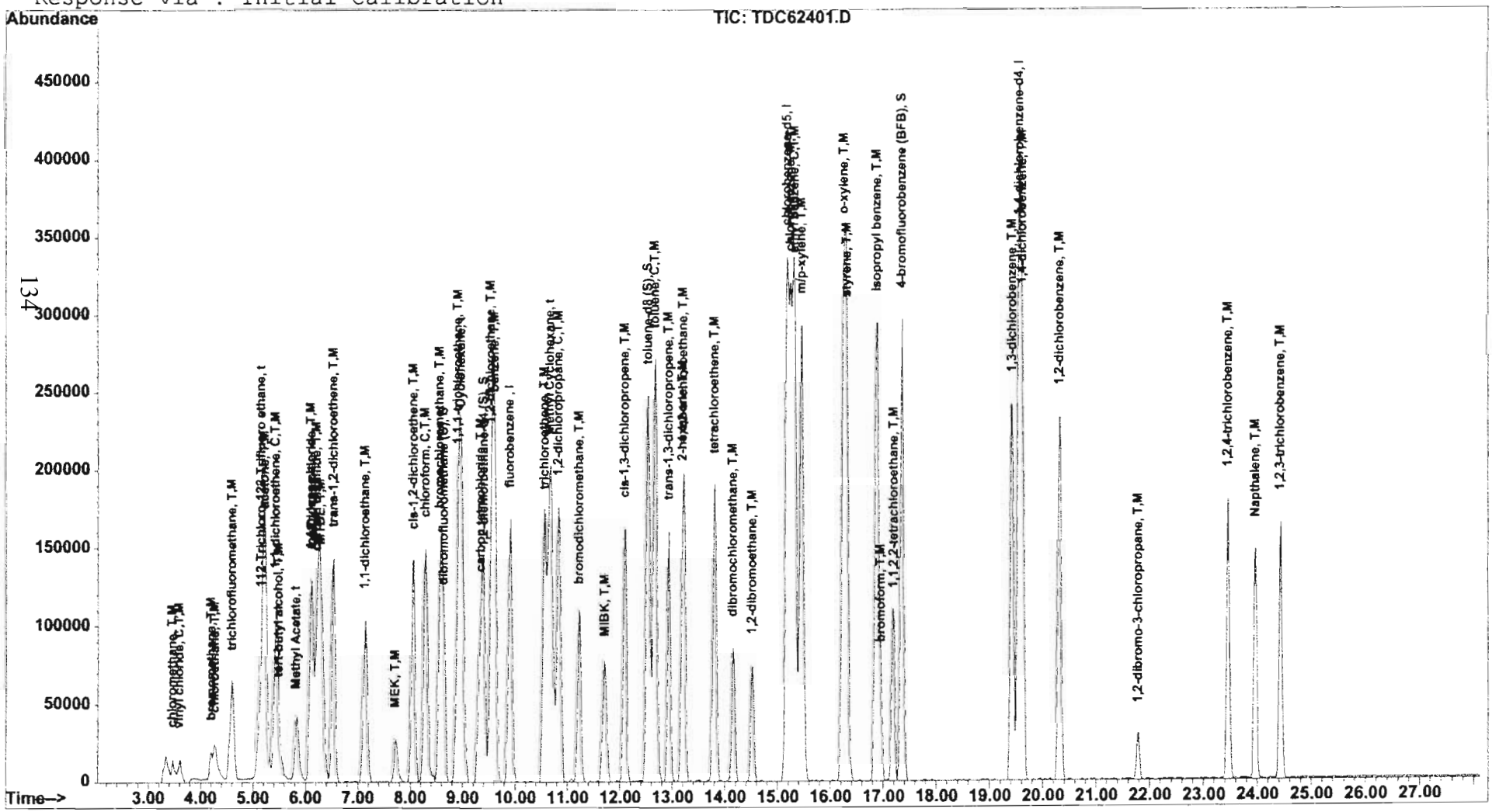
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
31)	1,2-dichloropropane	10.84	63	1453479	19.99 ug/L	#	86
32)	MIBK	11.72	100	149454	16.77 ug/L		52
33)	cis-1,2-dichloroethene	8.07	61	2370654	19.92 ug/L		96
34)	bromodichloromethane	11.24	83	1751288	19.89 ug/L	#	99
35)	cis-1,3-dichloropropene	12.11	75	1901199	18.44 ug/L	#	93
37)	toluene	12.68	91	4800407	19.18 ug/L	#	75
38)	trans-1,3-dichloropropene	12.95	75	1708350	17.09 ug/L		100
39)	2-hexanone	13.20	58	519036	17.80 ug/L	#	96
40)	1,1,2-trichloroethane	13.23	83	1039924	22.10 ug/L	#	45
41)	tetrachloroethene	13.82	166	1561251	23.62 ug/L	#	99
42)	dibromochloromethane	14.17	129	1072197	18.64 ug/L	#	61
43)	1,2-dibromoethane	14.53	107	1266922	22.43 ug/L	#	98
45)	chlorobenzene	15.26	112	3006571	21.51 ug/L	#	100
46)	ethyl benzene	15.33	91	5767513	21.44 ug/L	#	100
47)	m/p-xylene	15.46	91	4930128	21.04 ug/L	#	100
48)	o-xylene	16.25	91	4823743	21.88 ug/L	#	81
49)	styrene	16.32	104	2843106	21.34 ug/L		86
50)	isopropyl benzene	16.89	105	5324816	22.15 ug/L		99
51)	bromoform	16.97	173	527744	12.91 ug/L		98
52)	1,1,2,2-tetrachloroethane	17.20	83	1404019	17.26 ug/L	#	100
54)	1,3-dichlorobenzene	19.43	146	2187249	21.43 ug/L	#	100
55)	1,2-dichlorobenzene	20.32	146	2268983m	23.50 ug/L		
57)	1,4-dichlorobenzene	19.62	146	2396600m	24.46 ug/L		
58)	1,2-dibromo-3-chloropropan	21.79	75	181080	11.52 ug/L		82
59)	1,2,4-trichlorobenzene	23.47	180	1363082	22.98 ug/L		98
60)	Napthalene	23.97	128	2590154	20.57 ug/L		100
61)	1,2,3-trichlorobenzene	24.44	180	1250664	23.80 ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62401.D Vial: 1
Acq On : 30 Jul 2011 5:32 pm Operator: A. Thomas
Sample : 20 ppb cl 1624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 11:58 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62402.D Vial: 21
Acq On : 31 Jul 2011 5:07 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:00 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.90	96	3014786	15.00	ug/l	-0.21
44) chlorobenzene-d5	15.17	117	3399919	15.00	ug/L	-0.21
56) 1,4-dichlorobenzene-d4	19.54	152	2186121	15.00	ug/L	-0.21
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.63	113	1187466	33.46	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 111.53%			
26) 1,2-dichloroethane-d4 (S)	9.40	102	236574	30.39	ug/L	-0.20
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.30%			
36) toluene-d8 (S)	12.53	98	3529535	30.43	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.43%			
53) 4-bromofluorobenzene (BFB)	17.34	95	2228560	28.91	ug/L	-0.21
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.37%			
Target Compounds						Qvalue
3) chloromethane	3.47	50	693253m	11.04	ug/L	
4) vinyl chloride	3.60	62	650865m	17.58	ug/L	
5) bromomethane	4.20	96	258591	8.95	ug/L	99
6) chloroethane	4.26	64	743045m	16.45	ug/L	
7) 112-Trichloro-122-Trifluor	5.17	101	981172	16.86	ug/l	97
8) Methyl Acetate	5.83	74	172876m	15.25	ug/l	
9) carbon disulfide	6.24	76	1131032	9.61	ug/L #	100
10) MTBE	6.28	73	3047008	19.32	ug/L	97
11) 1,4 Dioxane	6.11	88	117803	18.62	ug/l #	100
12) tert-butyl alcohol	5.48	59	736515m	68.41	ug/l	
13) MEK	7.69	72	102536m	11.63	ug/L	
14) acetone	5.23	58	997242	78.15	ug/L	69
15) trichlorofluoromethane	4.62	101	1418673	18.35	ug/L	97
16) 1,1-dichloroethene	5.45	61	1817486	17.58	ug/L #	85
17) methylene chloride	6.11	84	1376785	19.88	ug/L #	100
18) trans-1,2-dichloroethene	6.54	61	1982898	18.78	ug/L #	100
19) 1,1-dichloroethane	7.15	63	2501118	19.10	ug/L #	100
20) chloroform	8.30	85	1705429	22.34	ug/L #	26
22) bromochloromethane	8.57	128	590857	19.76	ug/L	89
23) Cyclohexane	8.98	84	1479137	17.66	ug/l	87
24) 1,1,1-trichloroethane	8.92	97	1973047	22.33	ug/L #	100
25) carbon tetrachloride	9.34	117	1465287	20.83	ug/L	98
27) 1,2-dichloroethane	9.55	62	2508221	22.89	ug/L #	98
28) benzene	9.60	78	4106707	18.64	ug/L #	89
29) trichloroethene	10.56	130	1199861	20.95	ug/L #	100
30) Methyl Cyclohexane	10.67	83	1765093	18.32	ug/l	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62402.D Vial: 21
Acq On : 31 Jul 2011 5:07 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:00 19112 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

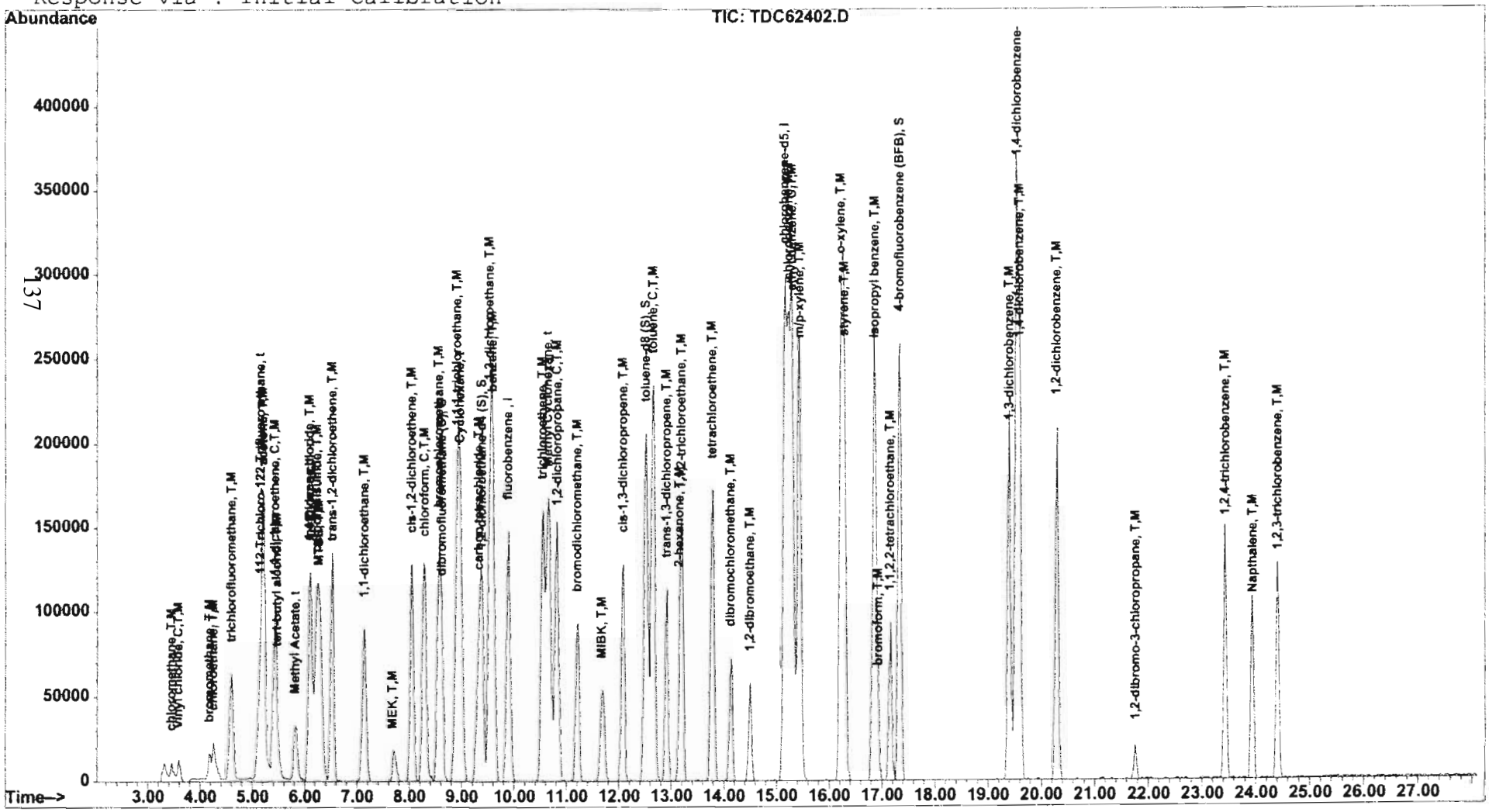
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
31)	1,2-dichloropropane	10.83	63	1300002	19.90	ug/L	#	86
32)	MIBK	11.69	100	104042m	12.99	ug/L		
33)	cis-1,2-dichloroethene	8.06	61	2109307	19.72	ug/L	#	85
34)	bromodichloromethane	11.22	83	1507510	19.06	ug/L	#	100
35)	cis-1,3-dichloropropene	12.09	75	1564759	16.89	ug/L	#	93
37)	toluene	12.67	91	4261281	18.94	ug/L	#	75
38)	trans-1,3-dichloropropene	12.93	75	1370424m	15.25	ug/L		
39)	2-hexanone	13.17	58	462581m	17.65	ug/L		
40)	1,1,2-trichloroethane	13.21	83	887629	20.99	ug/L	#	45
41)	tetrachloroethene	13.80	166	1434015	24.14	ug/L	#	76
42)	dibromochloromethane	14.15	129	920630	17.81	ug/L	#	61
43)	1,2-dibromoethane	14.51	107	1038895	20.47	ug/L	#	99
45)	chlorobenzene	15.24	112	2661837	21.20	ug/L	#	85
46)	ethyl benzene	15.30	91	5199034	21.51	ug/L	#	100
47)	m/p-xylene	15.44	91	4397469	20.89	ug/L	#	100
48)	o-xylene	16.24	91	4374518	22.09	ug/L		98
49)	styrene	16.30	104	2560302	21.40	ug/L		88
50)	isopropyl benzene	16.87	105	4813492	22.29	ug/L		99
51)	bromoform	16.94	173	443119	12.07	ug/L		98
52)	1,1,2,2-tetrachloroethane	17.17	83	1127098m	15.42	ug/L		
54)	1,3-dichlorobenzene	19.41	146	1753376	19.13	ug/L	#	79
55)	1,2-dichlorobenzene	20.30	146	2017942m	23.27	ug/L		
57)	1,4-dichlorobenzene	19.60	146	2173471m	23.33	ug/L		
58)	1,2-dibromo-3-chloropropan	21.78	75	121079	8.10	ug/L		83
59)	1,2,4-trichlorobenzene	23.44	180	1242871	22.03	ug/L		96
60)	Napthalene	23.95	128	1878486	15.68	ug/L		100
61)	1,2,3-trichlorobenzene	24.42	180	1075710	21.52	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TDC62402.D Vial: 21
Acq On : 31 Jul 2011 5:07 am Operator: A. Thomas
Sample : 20ppb cal2 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:00 19112 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TLC62401.D Vial: 2
Acq On : 29 Jul 2011 6:50 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	9.96	96	4012340	15.00	ug/l		-0.15
44) chlorobenzene-d5	15.23	117	4280728	15.00	ug/L		-0.15
56) 1,4-dichlorobenzene-d4	19.60	152	2492132	15.00	ug/L		-0.16
System Monitoring Compounds							
21) dibromofluoromethane (S)	8.68	113	1539918	32.60	ug/L		-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 108.67%				
26) 1,2-dichloroethane-d4 (S)	9.45	102	323104	31.19	ug/L		-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.97%				
36) toluene-d8 (S)	12.58	98	4645235	30.09	ug/L		-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.30%				
53) 4-bromofluorobenzene (BFB)	17.40	95	2816875	29.02	ug/L		-0.15
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.73%				
Target Compounds							Qvalue
3) chloromethane	3.51	50	600360	7.18	ug/L		96
4) vinyl chloride	3.64	62	443000	8.99	ug/L	#	77
5) bromomethane	4.24	96	344955	8.97	ug/L		95
6) chloroethane	4.32	64	720243	11.98	ug/L	#	90
7) 112-Trichloro-122-Trifluor	5.20	101	1260978	16.29	ug/l		99
8) Methyl Acetate	5.88	74	277242	18.37	ug/l		95
9) carbon disulfide	6.28	76	1984626	12.66	ug/L	#	100
10) MTBE	6.32	73	4667522	22.24	ug/L		95
11) 1,4 Dioxane	6.15	88	172460	20.48	ug/l	#	100
12) tert-butyl alcohol	5.53	59	1269495	88.60	ug/l		90
13) MEK	7.78	72	199510	17.01	ug/L		31
14) acetone	5.27	58	1048824	61.76	ug/L		91
15) trichlorofluoromethane	4.64	101	1692433	16.45	ug/L		98
16) 1,1-dichloroethene	5.48	61	2339588	17.01	ug/L	#	85
17) methylene chloride	6.16	84	1858590	20.17	ug/L	#	100
18) trans-1,2-dichloroethene	6.58	61	2599388	18.49	ug/L	#	100
19) 1,1-dichloroethane	7.19	63	3335945	19.14	ug/L	#	100
20) chloroform	8.34	85	2123642	20.90	ug/L		98
22) bromochloromethane	8.62	128	746958	18.77	ug/L		89
23) Cyclohexane	9.02	84	1953572	17.53	ug/l		84
24) 1,1,1-trichloroethane	8.97	97	2460891	20.92	ug/L	#	100
25) carbon tetrachloride	9.39	117	1880098	20.08	ug/L	#	50
27) 1,2-dichloroethane	9.60	62	3262206	22.37	ug/L	#	98
28) benzene	9.65	78	5307594	18.11	ug/L		99
29) trichloroethene	10.61	130	1491573	19.57	ug/L	#	100
30) Methyl Cyclohexane	10.72	83	2409719	18.79	ug/l		92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TLC62401.D Vial: 2
Acq On : 29 Jul 2011 6:50 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

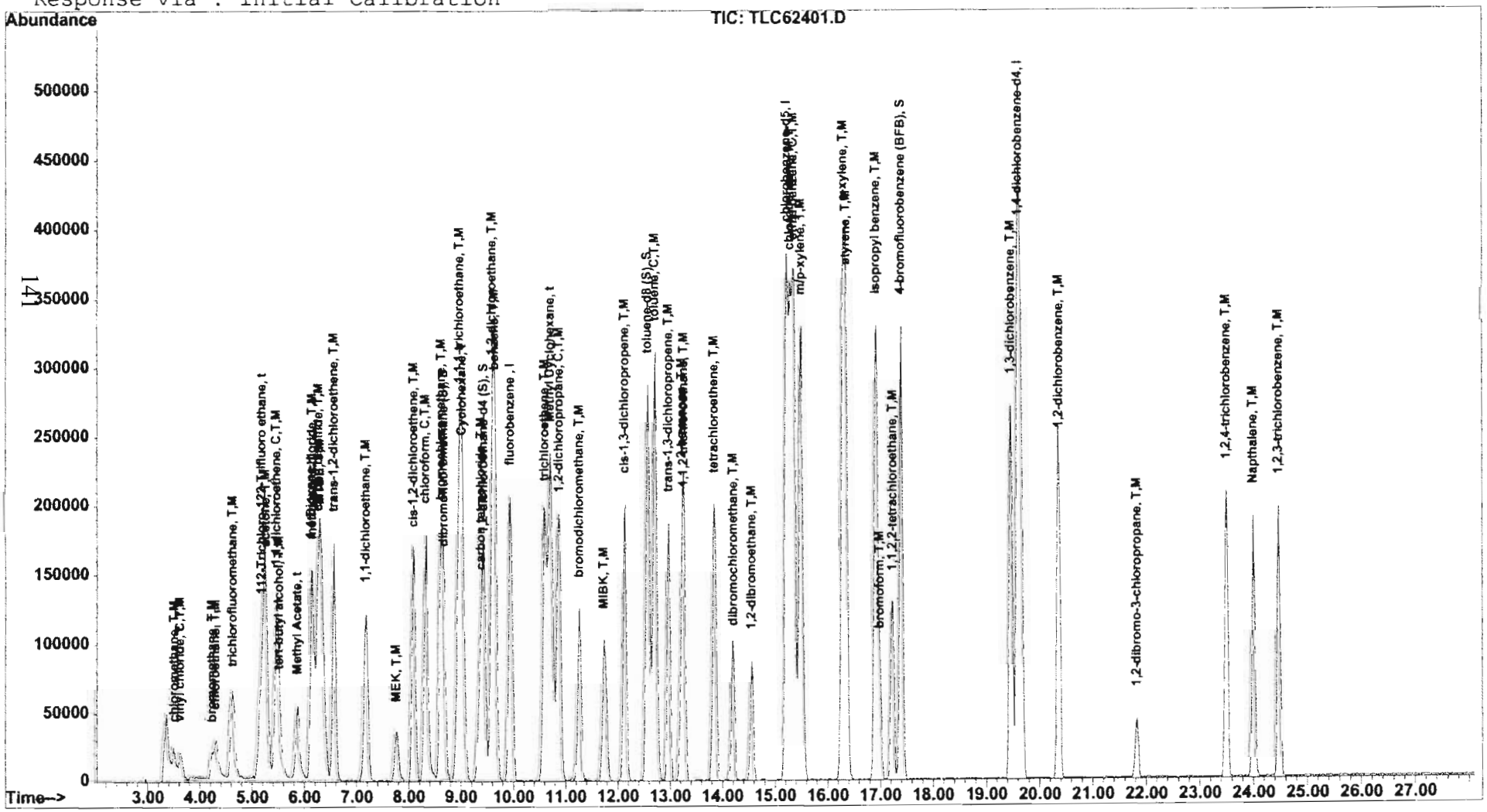
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
31)	1,2-dichloropropane	10.89	63	1718409	19.77	ug/L	#	86
32)	MIBK	11.75	100	200825	18.84	ug/L		73
33)	cis-1,2-dichloroethene	8.10	61	2749633	19.31	ug/L	#	63
34)	bromodichloromethane	11.28	83	2003608	19.03	ug/L	#	100
35)	cis-1,3-dichloropropene	12.14	75	2360887	19.15	ug/L	#	93
37)	toluene	12.72	91	5384863	17.99	ug/L	#	75
38)	trans-1,3-dichloropropene	12.98	75	2118985	17.72	ug/L	#	93
39)	2-hexanone	13.23	58	690705	19.80	ug/L	#	97
40)	1,1,2-trichloroethane	13.27	83	1151517	20.46	ug/L	#	45
41)	tetrachloroethene	13.86	166	1677813	21.22	ug/L	#	99
42)	dibromochloromethane	14.21	129	1243240	18.07	ug/L	#	61
43)	1,2-dibromoethane	14.57	107	1427393	21.13	ug/L	#	99
45)	chlorobenzene	15.30	112	3336065	21.11	ug/L	#	85
46)	ethyl benzene	15.37	91	6480111	21.30	ug/L	#	100
47)	m/p-xylene	15.50	91	5547381	20.93	ug/L	#	100
48)	o-xylene	16.29	91	5409034	21.70	ug/L		98
49)	styrene	16.35	104	3306157	21.94	ug/L		90
50)	isopropyl benzene	16.93	105	5955887	21.90	ug/L		98
51)	bromoform	17.00	173	709458	15.35	ug/L	#	78
52)	1,1,2,2-tetrachloroethane	17.24	83	1734171	18.84	ug/L	#	100
54)	1,3-dichlorobenzene	19.47	146	2357941	20.43	ug/L	#	99
55)	1,2-dichlorobenzene	20.37	146	2071120	18.97	ug/L	#	75
58)	1,2-dibromo-3-chloropropan	21.84	75	255585	15.00	ug/L		80
59)	1,2,4-trichlorobenzene	23.51	180	1554839	24.18	ug/L		99
60)	Napthalene	24.01	128	3229173	23.65	ug/L		100
61)	1,2,3-trichlorobenzene	24.48	180	1405338	24.66	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL29\TLC62401.D Vial: 2
Acq On : 29 Jul 2011 6:50 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/29/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:19 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TLC62401.D Vial: 2
Acq On : 30 Jul 2011 6:05 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	9.93	96	3399680	15.00	ug/l	-0.18
44) chlorobenzene-d5	15.19	117	3806953	15.00	ug/L	-0.18
56) 1,4-dichlorobenzene-d4	19.57	152	2382219	15.00	ug/L	-0.19
System Monitoring Compounds						
21) dibromofluoromethane (S)	8.65	113	1385427	34.62	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 115.40%			
26) 1,2-dichloroethane-d4 (S)	9.42	102	273105	31.11	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.70%			
36) toluene-d8 (S)	12.55	98	4009291	30.65	ug/L	-0.18
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.17%			
53) 4-bromofluorobenzene (BFB)	17.37	95	2540577	29.43	ug/L	-0.19
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.10%			
Target Compounds						Qvalue
3) chloromethane	3.49	50	398067	5.62	ug/L #	85
4) vinyl chloride	3.62	62	361525	8.66	ug/L #	90
5) bromomethane	4.21	96	325161	9.98	ug/L	95
6) chloroethane	4.29	64	565830	11.11	ug/L #	90
7) 112-Trichloro-122-Trifluor	5.16	101	1132170	17.26	ug/l	99
8) Methyl Acetate	5.86	74	214362	16.77	ug/l	98
9) carbon disulfide	6.24	76	1488602	11.21	ug/L #	100
10) MTBE	6.29	73	3998868	22.49	ug/L	95
11) 1,4 Dioxane	6.13	88	135876	19.05	ug/l #	100
12) tert-butyl alcohol	5.50	59	884750	72.87	ug/l	91
13) MEK	7.75	72	153122	15.40	ug/L	22
14) acetone	5.24	58	1360365	94.54	ug/L	82
15) trichlorofluoromethane	4.61	101	1562381	17.92	ug/L	100
16) 1,1-dichloroethene	5.45	61	2019666	17.33	ug/L #	85
17) methylene chloride	6.13	84	1544002	19.77	ug/L #	100
18) trans-1,2-dichloroethene	6.54	61	2216134	18.61	ug/L #	100
19) 1,1-dichloroethane	7.16	63	2925881	19.82	ug/L #	100
20) chloroform	8.31	85	1910298	22.19	ug/L #	26
22) bromochloromethane	8.58	128	668608	19.83	ug/L	87
23) Cyclohexane	8.99	84	1689912	17.90	ug/l #	83
24) 1,1,1-trichloroethane	8.93	97	2270628	22.78	ug/L #	100
25) carbon tetrachloride	9.35	117	1705540	21.50	ug/L	98
27) 1,2-dichloroethane	9.56	62	2998232	24.27	ug/L #	97
28) benzene	9.62	78	4654697	18.74	ug/L	100
29) trichloroethene	10.57	130	1364439	21.13	ug/L #	100
30) Methyl Cyclohexane	10.69	83	2138881	19.68	ug/l	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TLC62401.D Vial: 2
Acq On : 30 Jul 2011 6:05 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Quant Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

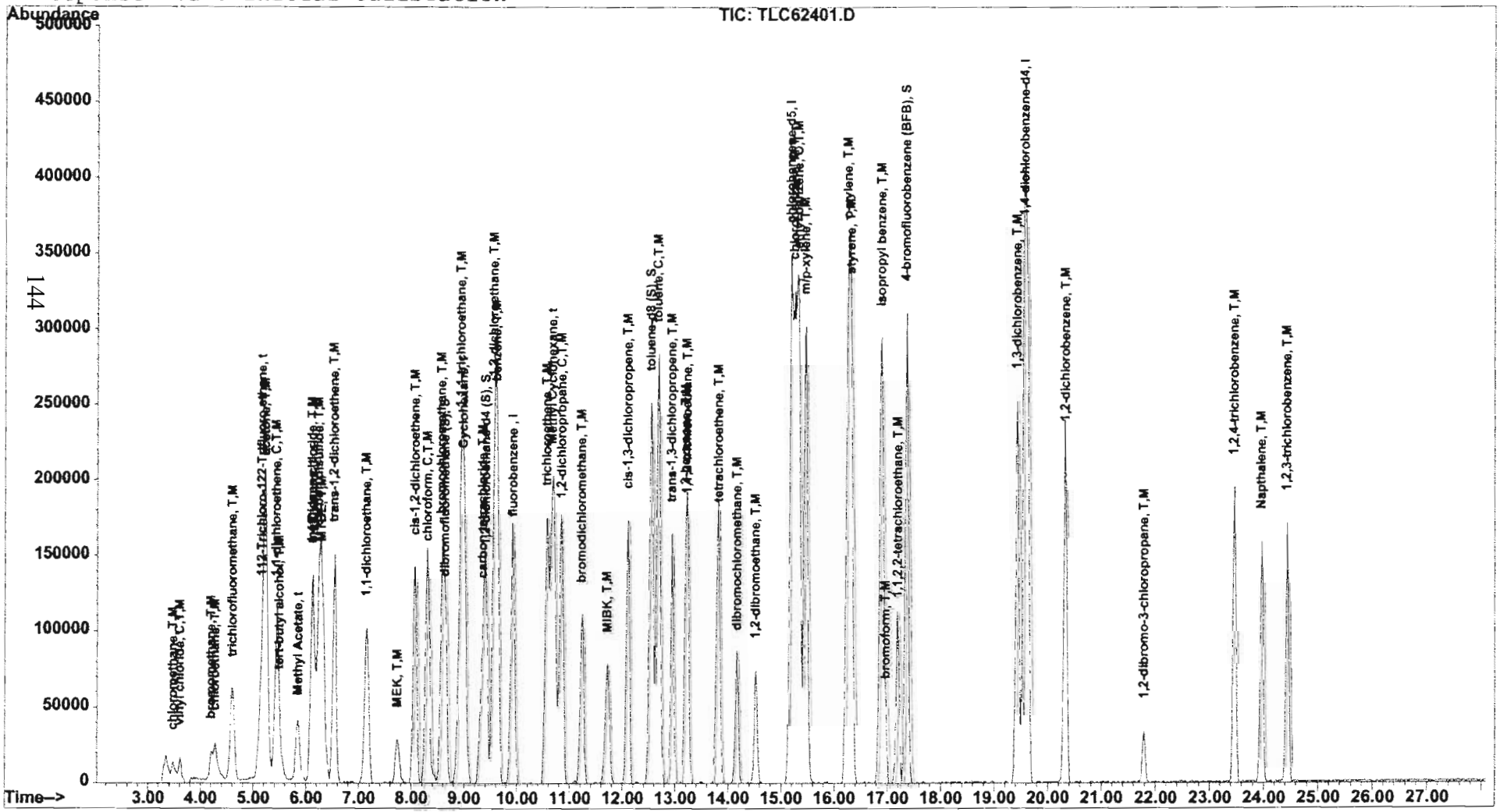
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
31)	1,2-dichloropropane	10.85	63	1474399	20.02	ug/L	#	86
32)	MIBK	11.73	100	155480	17.22	ug/L		60
33)	cis-1,2-dichloroethene	8.07	61	2514919	20.85	ug/L		96
34)	bromodichloromethane	11.24	83	1795565	20.13	ug/L	#	100
35)	cis-1,3-dichloropropene	12.11	75	1982096	18.97	ug/L		99
37)	toluene	12.69	91	4882952	19.25	ug/L	#	75
38)	trans-1,3-dichloropropene	12.95	75	1789263	17.66	ug/L	#	93
39)	2-hexanone	13.20	58	500700	16.94	ug/L	#	99
40)	1,1,2-trichloroethane	13.23	83	1044772	21.91	ug/L	#	45
41)	tetrachloroethene	13.82	166	1522597	22.73	ug/L	#	76
42)	dibromochloromethane	14.17	129	1088914	18.68	ug/L		99
43)	1,2-dibromoethane	14.53	107	1275739	22.29	ug/L	#	99
45)	chlorobenzene	15.26	112	2971048	21.14	ug/L	#	85
46)	ethyl benzene	15.33	91	5897854	21.80	ug/L	#	100
47)	m/p-xylene	15.47	91	5035274	21.37	ug/L	#	100
48)	o-xylene	16.26	91	4929263	22.23	ug/L	#	81
49)	styrene	16.32	104	2912964	21.74	ug/L		86
50)	isopropyl benzene	16.89	105	5406357	22.36	ug/L		97
51)	bromoform	16.97	173	557494	13.56	ug/L	#	78
52)	1,1,2,2-tetrachloroethane	17.20	83	1458921	17.83	ug/L	#	100
54)	1,3-dichlorobenzene	19.43	146	2071932	20.19	ug/L	#	98
55)	1,2-dichlorobenzene	20.33	146	1912119	19.69	ug/L	#	59
58)	1,2-dibromo-3-chloropropan	21.80	75	207521	12.74	ug/L		73
59)	1,2,4-trichlorobenzene	23.47	180	1446109	23.53	ug/L		99
60)	Napthalene	23.98	128	2755587	21.11	ug/L		100
61)	1,2,3-trichlorobenzene	24.45	180	1313933	24.12	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\JUL11\LUL30\TLC62401.D Vial: 2
Acq On : 30 Jul 2011 6:05 pm Operator: A. Thomas
Sample : 20 ppb lcs1 624/5ml 7/30/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 1 10:21 19111 Quant Results File: T6072011.RES

Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA
Last Update : Wed Jul 27 16:32:48 2011
Response via : Initial Calibration



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www.njal.com

Laboratory Deliverables

Prepared For

PARS Environmental

Drum Bench Study

Lab ID

Chemical Oxidation

Samples Received

27-Jul-11

Reported

7/27/11 to 8/12/11

NJDEP Certified Lab 11005

Precision testing for a cleaner environment.

I Study Information

Study: Chemical Oxidation
Permanganate

Time point: T=7 days/ 168Hours

Data Summaries

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM T168- C1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62413.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	12	JD
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	390	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM T168- C1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62413.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PM T168- C1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 C-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62413.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM T168-C2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 C-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62414.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	380	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PM T168-C2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 C-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62414.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PM T168-C2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 C-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62414.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PM T168 C3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 C-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62415.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	370	D
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM T168 C3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 C-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62415.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PM T168 C3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 C-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62415.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM T168 .5-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 0.5-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62416.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	D
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	20	U
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM T168 .5-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 0.5-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62416.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PM T168 .5-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 0.5-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62416.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PM t168 .5-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 0.5-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62417.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	20	U
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PM t168 .5-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 0.5-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62417.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PM t168 .5-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 0.5-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62417.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM t168 .5-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 0.5-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62418.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	20	U
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM t168 .5-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 0.5-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62418.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PM t168 .5-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 0.5-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62418.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PM t168 1.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 1.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62419.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	20	U
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM t168 1.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 1.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62419.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PM t168 1.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 1.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62419.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/05/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM T168 1.0-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 1.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62420.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/06/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	20	U
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM T168 1.0-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 1.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62420.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/06/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PM T168 1.0-2

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 1.0-2

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62420.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/06/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PM T168 1.0-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 1.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62421.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/06/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	20	U
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PM T168 1.0-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 1.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62421.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/06/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PM T168 1.0-3

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 1.0-3

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62421.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/06/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PM T168 2.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62422.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/06/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
75-71-8	Dichlorodifuloromethane	20	U
74-87-3	chloromethane	20	U
75-01-4	vinyl chloride	20	U
74-83-9	bromomethane	20	U
75-00-3	chloroethane	20	U
75-15-0	carbon disulfide	20	U
75-65-0	tert-butyl alcohol	20	U
1634-04-4	MTBE	20	U
78-93-3	MEK	50	U
67-64-1	acetone	50	U
75-69-4	trichlorofluoromethane	20	U
75-35-4	1,1-dichloroethene	20	U
75-09-2	methylene chloride	20	U
156-60-5	trans-1,2-dichloroethene	20	U
75-34-3	1,1-dichloroethane	20	U
67-66-3	chloroform	20	U
108-10-1	MIBK	20	U
74-97-5	bromochloromethane	20	U
71-55-6	1,1,1-trichloroethane	20	U
56-23-5	carbon tetrachloride	20	U
107-06-2	1,2-dichloroethane	20	U
71-43-2	benzene	20	U
79-01-6	trichloroethene	20	U
78-87-5	1,2-dichloropropane	20	U
156-59-4	cis-1,2-dichloroethene	20	U
75-27-4	bromodichloromethane	20	U
10061-01-5	cis-1,3-dichloropropene	20	U
108-88-3	toluene	20	U
10061-02-6	trans-1,3-dichloropropene	20	U
591-78-6	2-hexanone	50	U
79-00-5	1,1,2-trichloroethane	20	U
127-18-4	tetrachloroethene	20	U
124-48-1	dibromochloromethane	20	U
108-90-7	chlorobenzene	20	U
108-38-3	m/p-xylene	20	U
95-47-6	o-xylene	20	U
100-42-5	styrene	20	U
98-82-8	isopropyl benzene	20	U
75-25-2	bromoform	20	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PM T168 2.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62422.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/06/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
79-34-5	1,1,2,2-tetrachloroethane	20	U
541-73-1	1,3-dichlorobenzene	20	U
95-50-1	1,2-dichlorobenzene	20	U
106-46-7	1,4-dichlorobenzene	20	U
120-82-1	1,2,4-trichlorobenzene	20	U
87-61-6	1,2,3-trichlorobenzene	20	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PM T168 2.0-1

Lab Name: NJAL Contract: PARS

Lab Code: DEP 11005 Case No.: Drum SAS No.: SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: PM T168 2.0-1

Sample wt/vol: 0.5 (g/ml) ML Lab File ID: S62422.D

Level: (low/med) LOW Date Received: 08/05/11

% Moisture: not dec. Date Analyzed: 08/06/11

GC Column: rt502.2-1 ID: 0.53 (mm) Dilution Factor: 10.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

III-1 Raw Chromatograms

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62413.D Vial: 15
Acq On : 5 Aug 2011 6:59 pm Operator: A. Thomas
Sample : PM T168 C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

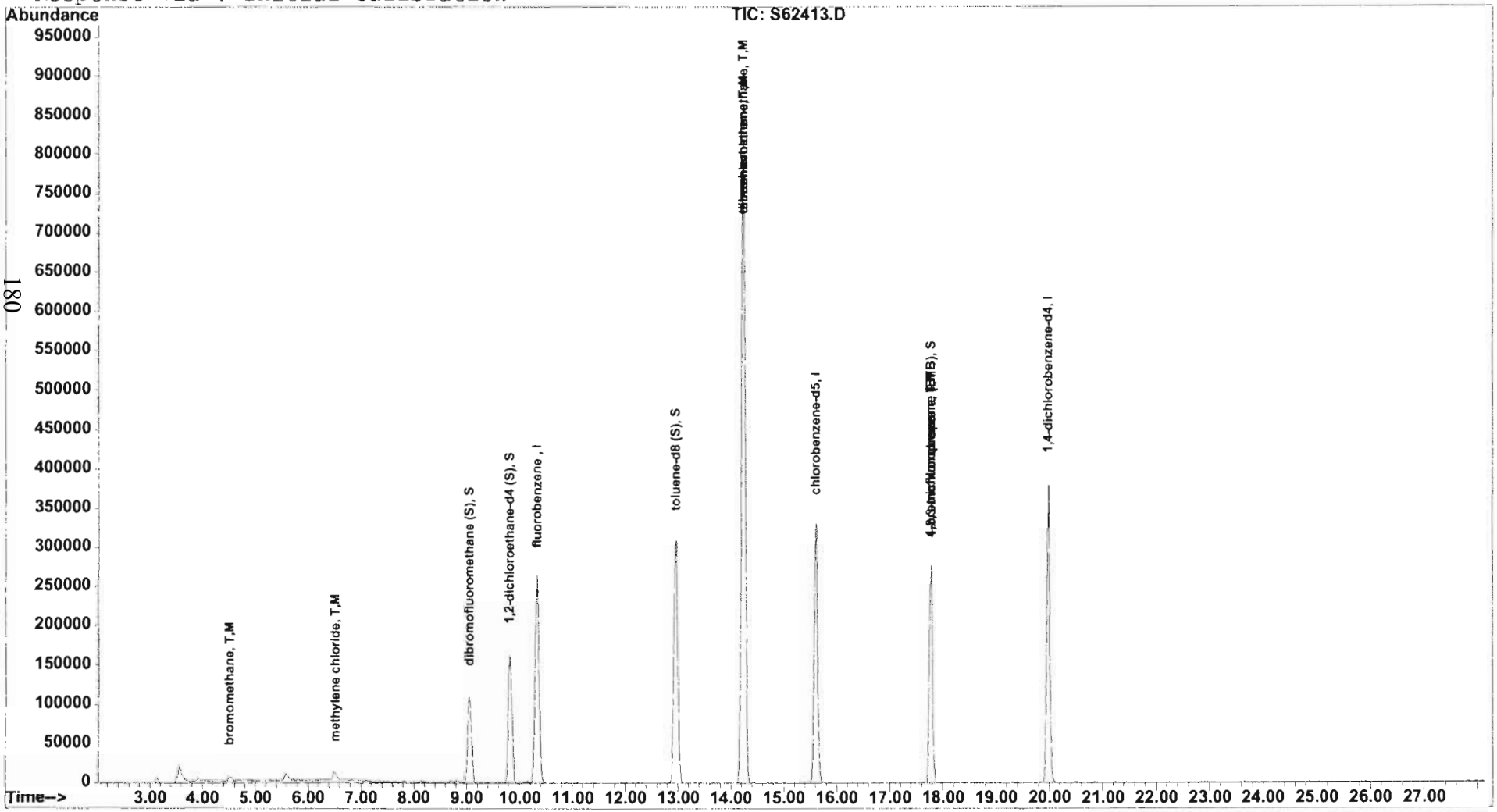
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4369095	15.00	ug/l	0.34
58) chlorobenzene-d5	15.62	117	3908017	15.00	ug/L	0.35
84) 1,4-dichlorobenzene-d4	20.00	152	2154633	15.00	ug/L	0.35
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1694003	30.19	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.63%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	412632	34.12	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 113.73%			
48) toluene-d8 (S)	12.98	98	5002856	29.25	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.50%			
68) 4-bromofluorobenzene (BFB)	17.79	95	2301164	27.11	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 90.37%			
Target Compounds						Qvalue
5) bromomethane	4.53	96	117823	1.83	ug/L	100
20) methylene chloride	6.53	84	124518	1.39	ug/L #	100
55) tetrachloroethene	14.25	166	6355591	45.63	ug/L #	66
56) dibromochloromethane	14.25	129	4464130	59.73	ug/L #	100
69) 1,2,3-trichloropropane	17.79	75	1371296	21.31	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62413.D Vial: 15
Acq On : 5 Aug 2011 6:59 pm Operator: A. Thomas
Sample : PM T168 C-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



180

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62414.D Vial: 16
Acq On : 5 Aug 2011 7:34 pm Operator: A. Thomas
Sample : PM T168 C-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

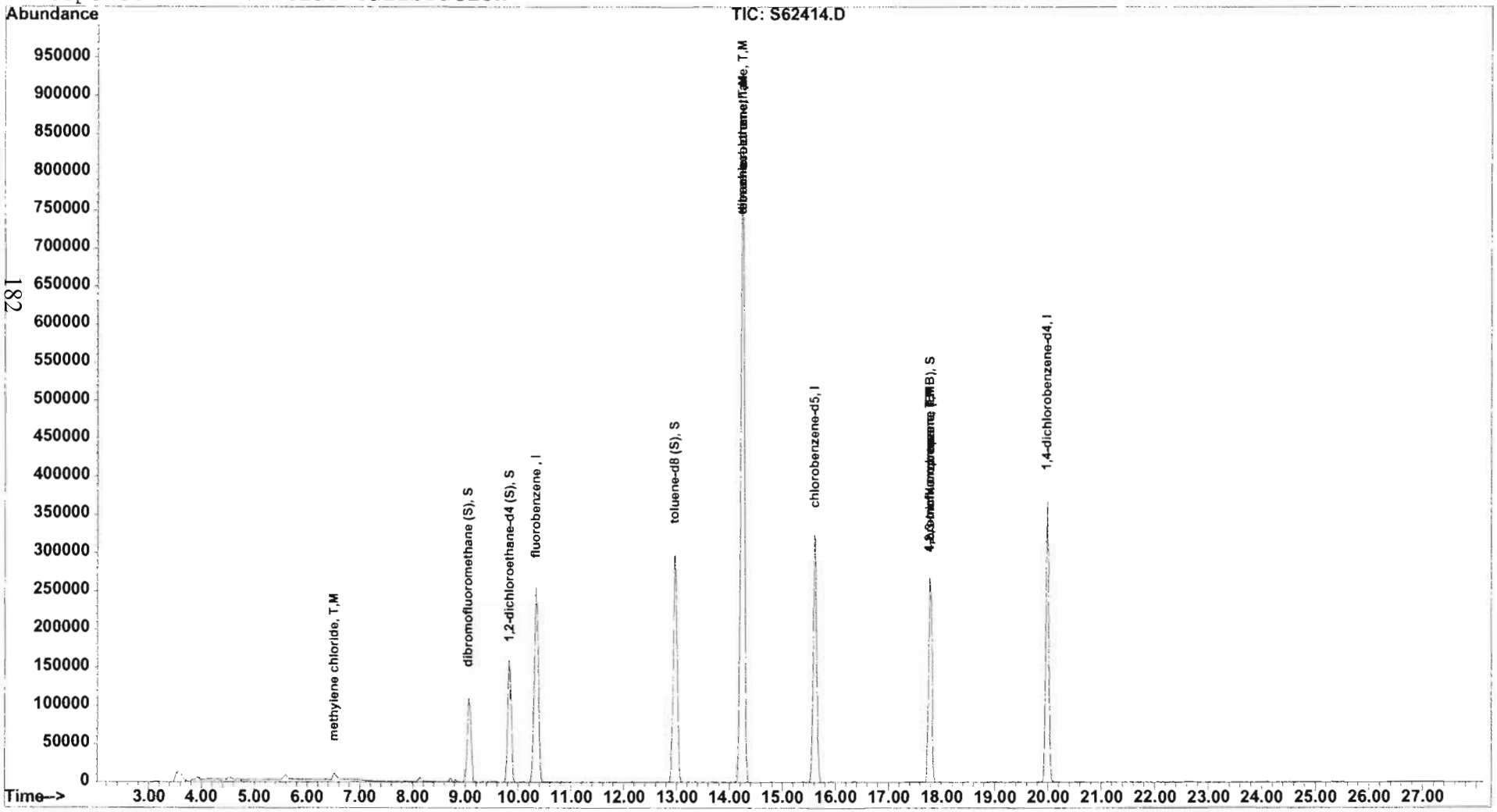
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4225126	15.00	ug/l	0.34
58) chlorobenzene-d5	15.62	117	3892832	15.00	ug/L	0.35
84) 1,4-dichlorobenzene-d4	19.99	152	2101282	15.00	ug/L	0.35
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1677469	30.91	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.03%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	386466	33.05	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 110.17%			
48) toluene-d8 (S)	12.98	98	4890720	29.57	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.57%			
68) 4-bromofluorobenzene (BFB)	17.79	95	2239472	26.49	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 88.30%			
Target Compounds						Qvalue
20) methylene chloride	6.53	84	92708	1.07	ug/L #	100
55) tetrachloroethene	14.25	166	6337683	47.06	ug/L #	66
56) dibromochloromethane	14.25	129	4394820	60.80	ug/L #	100
69) 1,2,3-trichloropropane	17.79	75	1395655	21.77	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62414.D Vial: 16
Acq On : 5 Aug 2011 7:34 pm Operator: A. Thomas
Sample : PM T168 C-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62415.D Vial: 17
Acq On : 5 Aug 2011 8:09 pm Operator: A. Thomas
Sample : PM T168 C-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

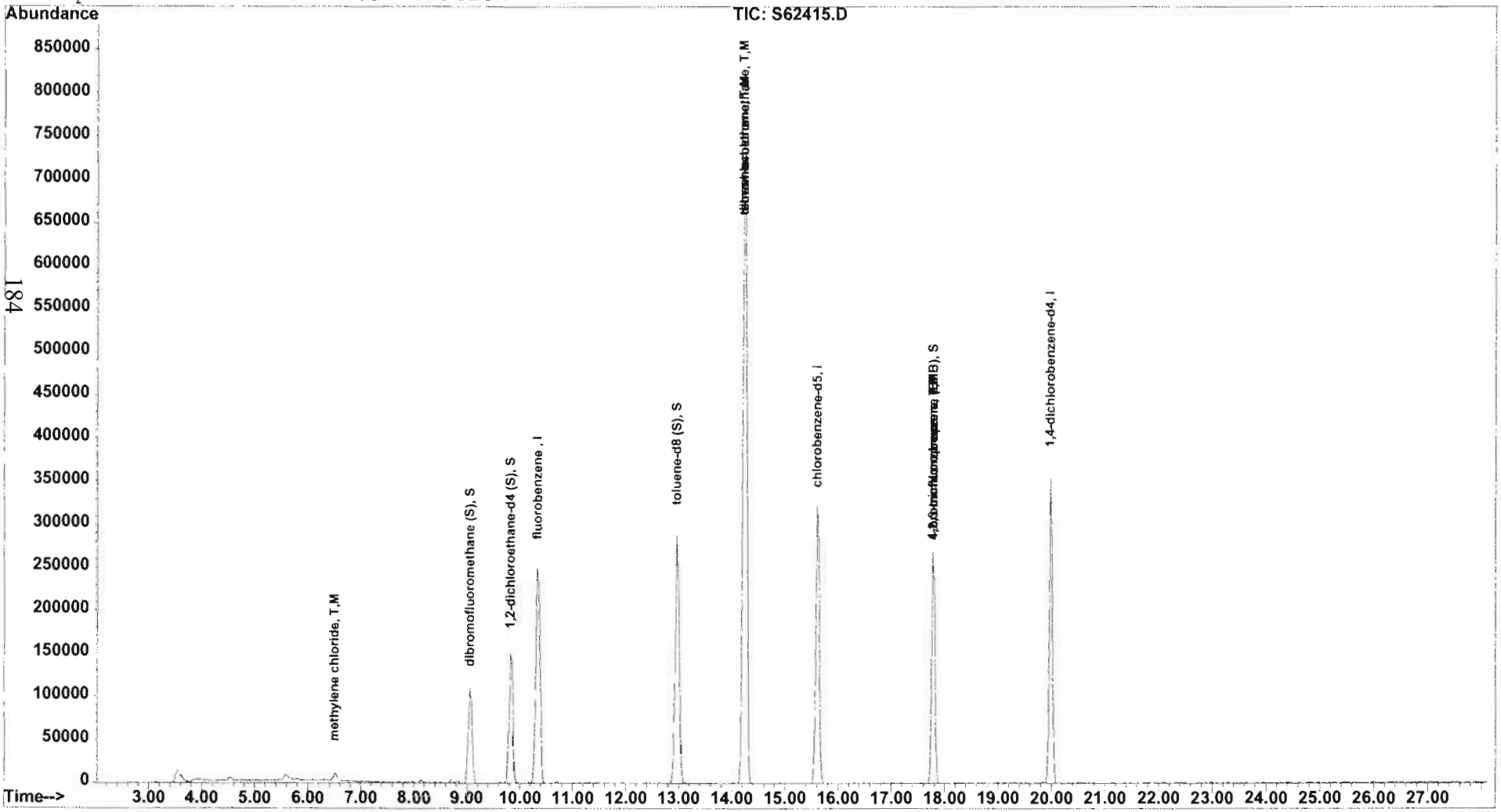
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4182632	15.00	ug/l	0.34
58) chlorobenzene-d5	15.62	117	3850574	15.00	ug/L	0.35
84) 1,4-dichlorobenzene-d4	19.99	152	2059303	15.00	ug/L	0.35
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1643483	30.59	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.97%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	384083	33.18	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 110.60%			
48) toluene-d8 (S)	12.98	98	4852645	29.64	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.80%			
68) 4-bromofluorobenzene (BFB)	17.79	95	2157745	25.80	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 86.00%			
Target Compounds						Qvalue
20) methylene chloride	6.53	84	103763	1.21	ug/L #	100
55) tetrachloroethene	14.25	166	5979071	44.84	ug/L #	66
56) dibromochloromethane	14.25	129	4197088	58.66	ug/L #	100
69) 1,2,3-trichloropropane	17.79	75	1345518	21.22	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62415.D Vial: 17
Acq On : 5 Aug 2011 8:09 pm Operator: A. Thomas
Sample : PM T168 C-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62416.D Vial: 18
Acq On : 5 Aug 2011 8:44 pm Operator: A. Thomas
Sample : PM T168 0.5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

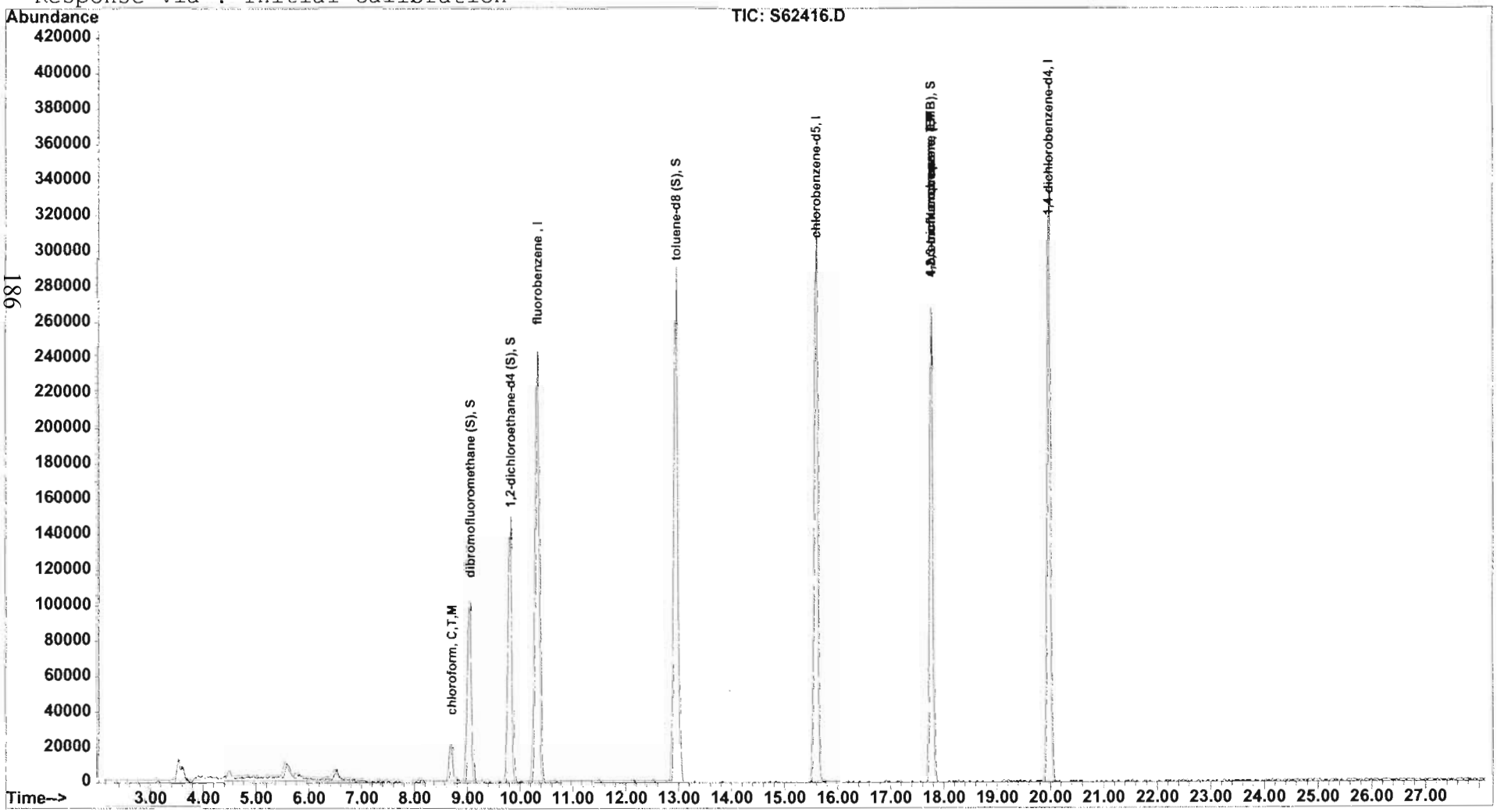
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4131855	15.00	ug/l	0.34
58) chlorobenzene-d5	15.62	117	3712585	15.00	ug/L	0.35
84) 1,4-dichlorobenzene-d4	19.99	152	2090878	15.00	ug/L	0.35
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1586983	29.90	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.67%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	373616	32.67	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 108.90%			
48) toluene-d8 (S)	12.98	98	4801521	29.69	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.97%			
68) 4-bromofluorobenzene (BFB)	17.79	95	2174124	26.96	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 89.87%			
Target Compounds						Qvalue
28) chloroform	8.74	85	259505	2.49	ug/L #	100
69) 1,2,3-trichloropropane	17.79	75	1338190	21.89	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62416.D Vial: 18
Acq On : 5 Aug 2011 8:44 pm Operator: A. Thomas
Sample : PM T168 0.5-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62417.D Vial: 19
Acq On : 5 Aug 2011 9:19 pm Operator: A. Thomas
Sample : PM T168 0.5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

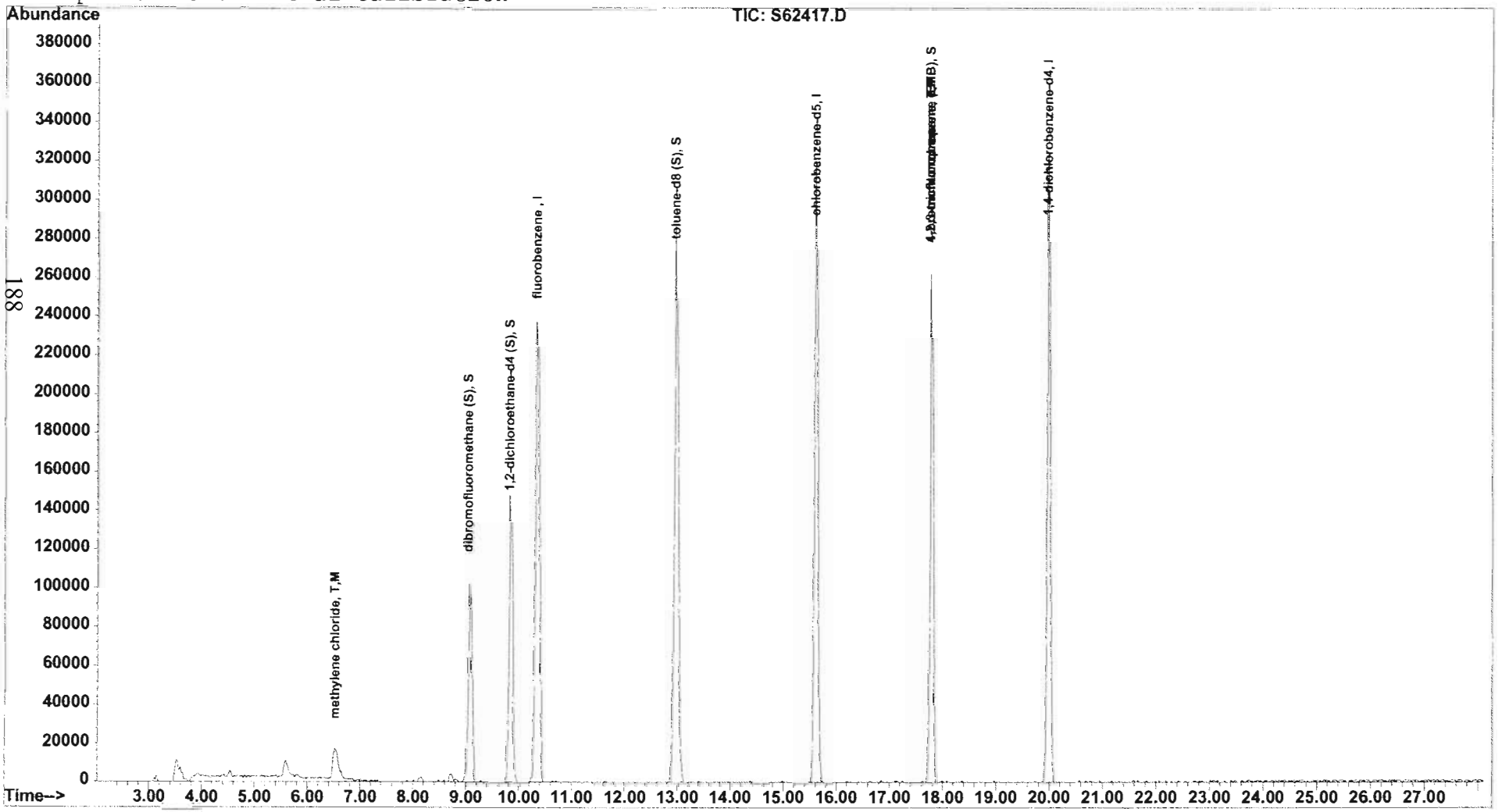
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	4017751	15.00	ug/l	0.34
58) chlorobenzene-d5	15.61	117	3790814	15.00	ug/L	0.34
84) 1,4-dichlorobenzene-d4	19.99	152	2069899	15.00	ug/L	0.34
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1561683	30.26	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.87%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	379188	34.10	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 113.67%			
48) toluene-d8 (S)	12.97	98	4790970	30.46	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.53%			
68) 4-bromofluorobenzene (BFB)	17.78	95	2136336	25.95	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 86.50%			
Target Compounds						Qvalue
20) methylene chloride	6.54	84	241127	2.93	ug/L #	100
69) 1,2,3-trichloropropane	17.78	75	1290071	20.67	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62417.D Vial: 19
Acq On : 5 Aug 2011 9:19 pm Operator: A. Thomas
Sample : PM T168 0.5-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62418.D Vial: 20
Acq On : 5 Aug 2011 9:54 pm Operator: A. Thomas
Sample : PM T168 0.5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

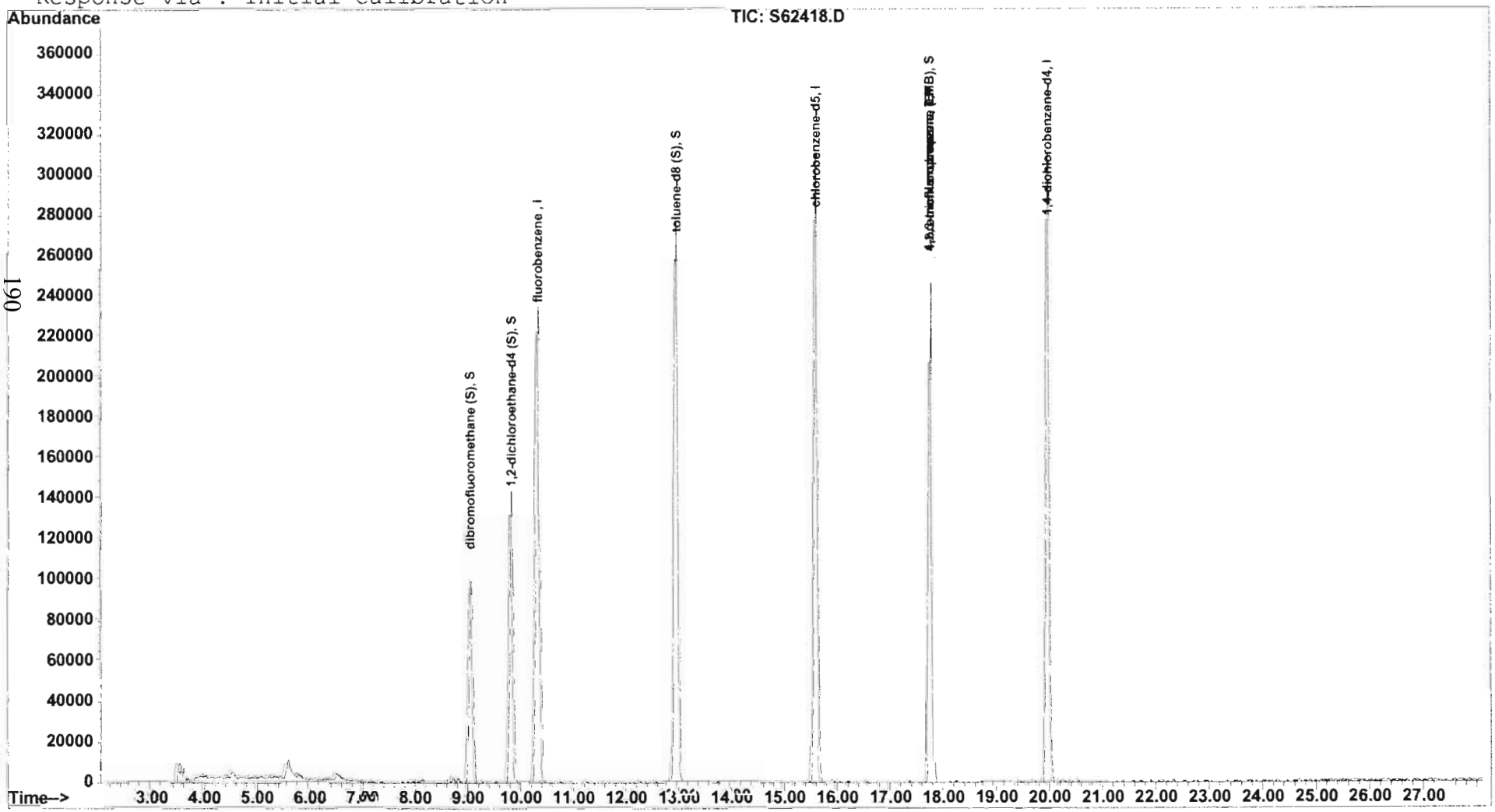
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.35	96	3977953	15.00	ug/l	0.34
58) chlorobenzene-d5	15.61	117	3722597	15.00	ug/L	0.34
84) 1,4-dichlorobenzene-d4	19.99	152	2016704	15.00	ug/L	0.34
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.07	113	1502173	29.40	ug/L	0.35
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.00%			
35) 1,2-dichloroethane-d4 (S)	9.84	102	362436	32.92	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 109.73%			
48) toluene-d8 (S)	12.97	98	4674133	30.02	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.07%			
68) 4-bromofluorobenzene (BFB)	17.78	95	2047454	25.32	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 84.40%			
Target Compounds						Qvalue
69) 1,2,3-trichloropropane	17.78	75	1206371	19.68	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62418.D Vial: 20
Acq On : 5 Aug 2011 9:54 pm Operator: A. Thomas
Sample : PM T168 0.5-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62419.D Vial: 22
Acq On : 5 Aug 2011 11:37 pm Operator: A. Thomas
Sample : PM T168 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

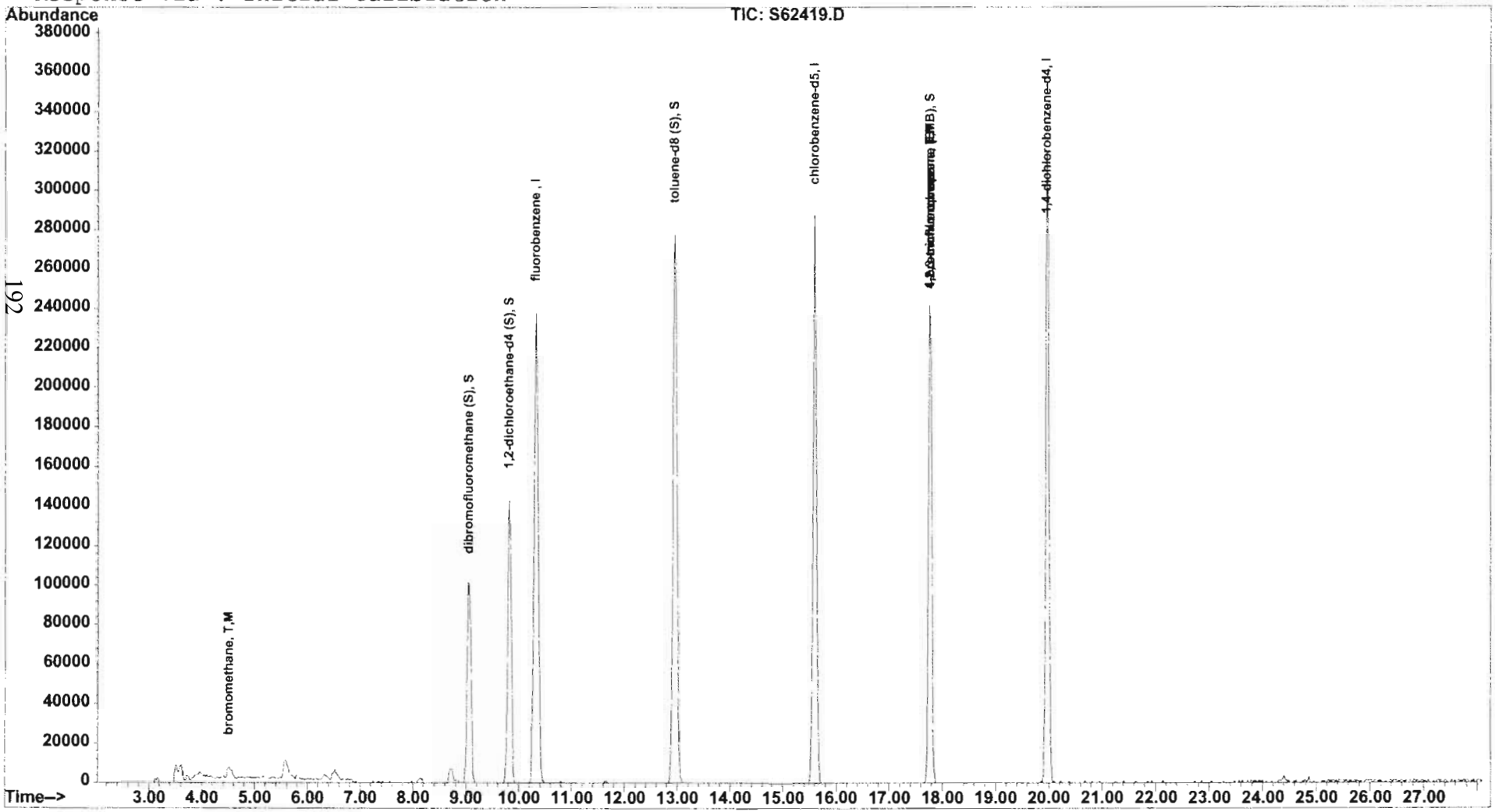
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.34	96	4293870	15.00	ug/l	0.33
58) chlorobenzene-d5	15.60	117	3602705	15.00	ug/L	0.33
84) 1,4-dichlorobenzene-d4	19.98	152	2035611	15.00	ug/L	0.33
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.06	113	1580440	28.66	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 95.53%			
35) 1,2-dichloroethane-d4 (S)	9.83	102	378261	31.83	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 106.10%			
48) toluene-d8 (S)	12.96	98	4681454	27.85	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 92.83%			
68) 4-bromofluorobenzene (BFB)	17.78	95	2016708	25.77	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 85.90%			
Target Compounds						Qvalue
5) bromomethane	4.52	96	150219	2.38	ug/L	98
69) 1,2,3-trichloropropane	17.77	75	1224178	20.63	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62419.D Vial: 22
Acq On : 5 Aug 2011 11:37 pm Operator: A. Thomas
Sample : PM T168 1.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:06 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62420.D Vial: 23
Acq On : 6 Aug 2011 12:11 am Operator: A. Thomas
Sample : PM T168 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:07 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

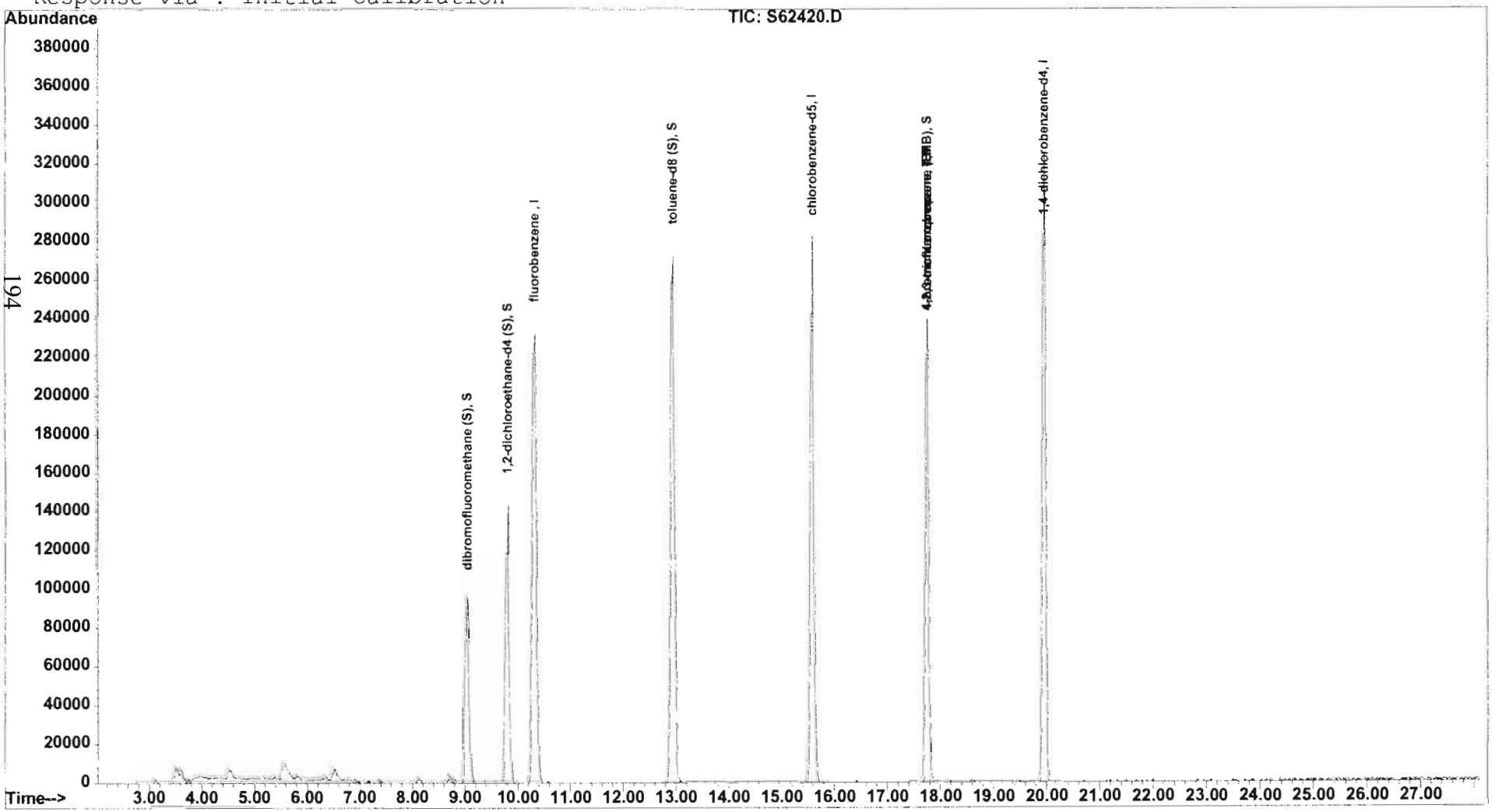
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.34	96	4307447	15.00	ug/l	0.33
58) chlorobenzene-d5	15.61	117	3572156	15.00	ug/L	0.34
84) 1,4-dichlorobenzene-d4	19.97	152	1985027	15.00	ug/L	0.33
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.06	113	1544818	27.92	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 93.07%			
35) 1,2-dichloroethane-d4 (S)	9.83	102	371393	31.15	ug/L	0.34
Spiked Amount 30.000	Range 80 - 120		Recovery = 103.83%			
48) toluene-d8 (S)	12.96	98	4648738	27.57	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.90%			
68) 4-bromofluorobenzene (BFB)	17.77	95	2010473	25.91	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 86.37%			
Target Compounds						Qvalue
69) 1,2,3-trichloropropane	17.77	75	1198967	20.38	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62420.D Vial: 23
Acq On : 6 Aug 2011 12:11 am Operator: A. Thomas
Sample : PM T168 1.0-2 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:07 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62421.D Vial: 24
Acq On : 6 Aug 2011 12:46 am Operator: A. Thomas
Sample : PM T168 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:07 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

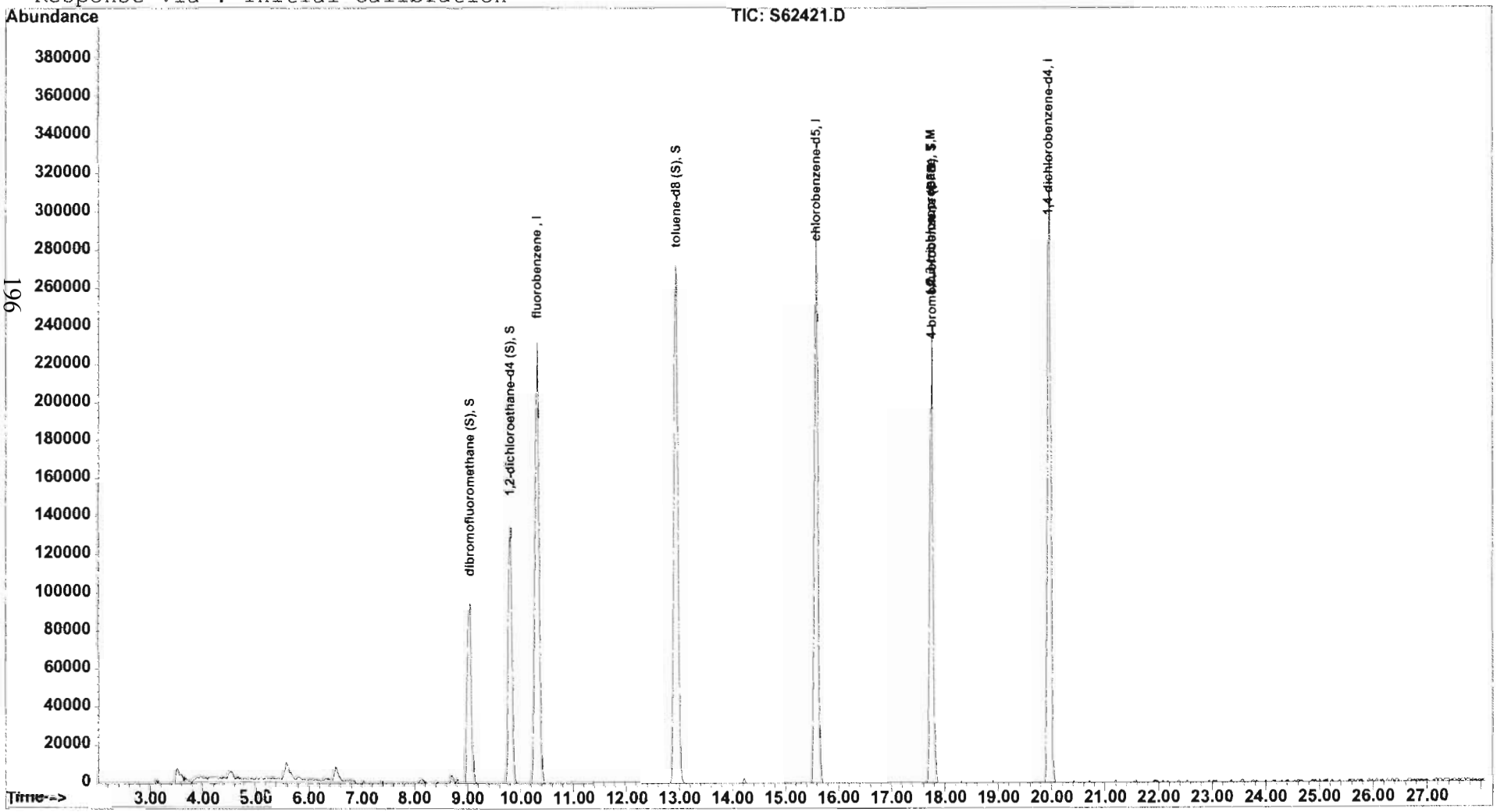
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.33	96	4336545	15.00	ug/l	0.33
58) chlorobenzene-d5	15.60	117	3524887	15.00	ug/L	0.33
84) 1,4-dichlorobenzene-d4	19.98	152	2021922	15.00	ug/L	0.33
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.06	113	1533028	27.52	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.73%			
35) 1,2-dichloroethane-d4 (S)	9.82	102	359384	29.94	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.80%			
48) toluene-d8 (S)	12.96	98	4655251	27.42	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 91.40%			
68) 4-bromofluorobenzene (BFB)	17.77	95	1941829	25.36	ug/L	0.32
Spiked Amount 30.000	Range 80 - 120		Recovery = 84.53%			
Target Compounds						Qvalue
69) 1,2,3-trichloropropane	17.77	75	1177617	20.29	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62421.D Vial: 24
Acq On : 6 Aug 2011 12:46 am Operator: A. Thomas
Sample : PM T168 1.0-3 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:07 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62422.D Vial: 25
Acq On : 6 Aug 2011 1:20 am Operator: A. Thomas
Sample : PM T168 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:07 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

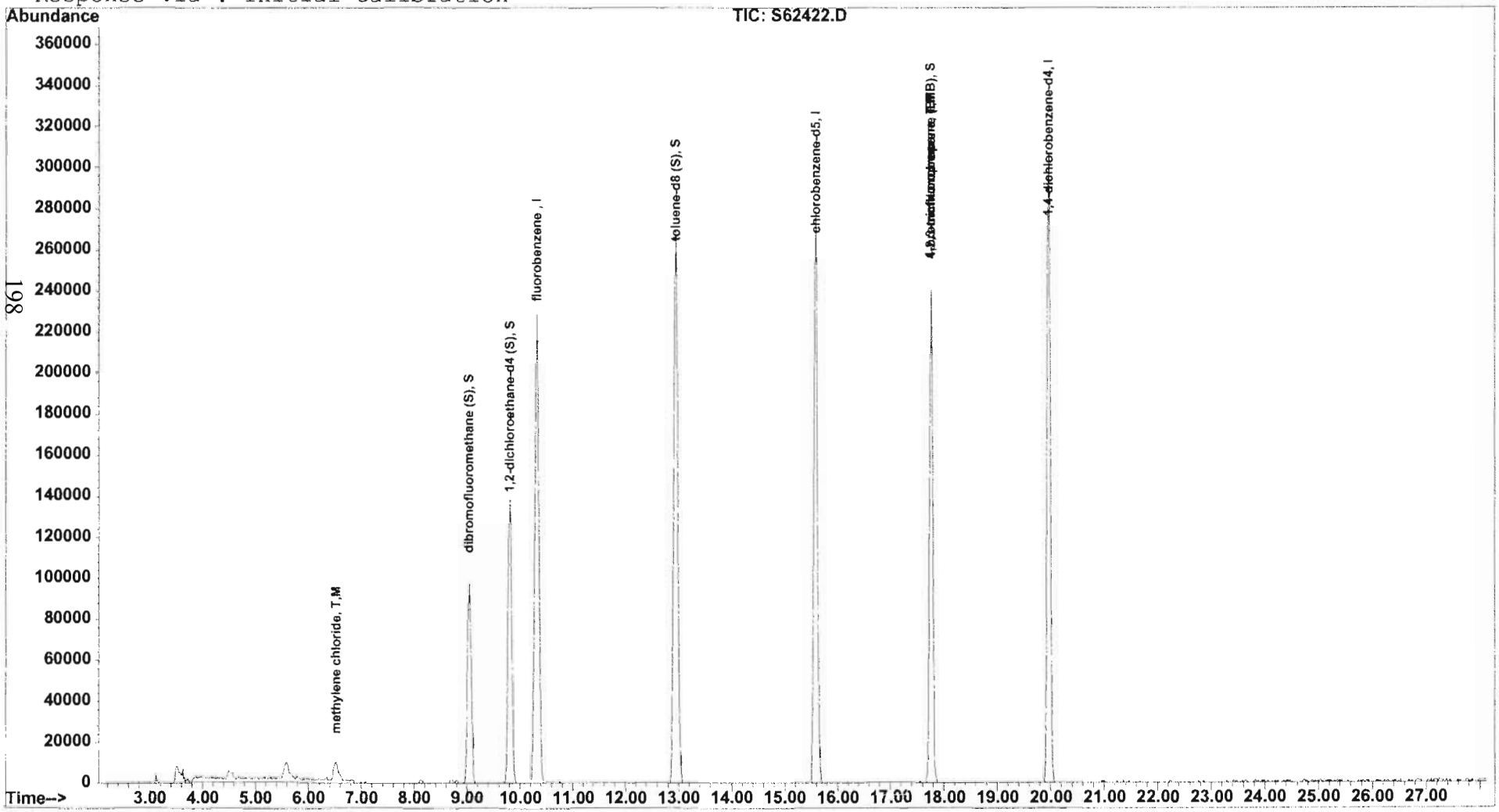
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.33	96	4413563	15.00	ug/l	0.32
58) chlorobenzene-d5	15.60	117	3461138	15.00	ug/L	0.33
84) 1,4-dichlorobenzene-d4	19.97	152	1916571	15.00	ug/L	0.33
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.06	113	1493047	26.34	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 87.80%			
35) 1,2-dichloroethane-d4 (S)	9.83	102	372353	30.48	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.60%			
48) toluene-d8 (S)	12.95	98	4642337	26.87	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 89.57%			
68) 4-bromofluorobenzene (BFB)	17.77	95	1993881	26.52	ug/L	0.32
Spiked Amount 30.000	Range 80 - 120		Recovery = 88.40%			
Target Compounds						Qvalue
20) methylene chloride	6.54	84	128840	1.42	ug/L #	100
69) 1,2,3-trichloropropane	17.77	75	1171658	20.56	ug/L #	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\S62422.D Vial: 25
Acq On : 6 Aug 2011 1:20 am Operator: A. Thomas
Sample : PM T168 2.0-1 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 12:07 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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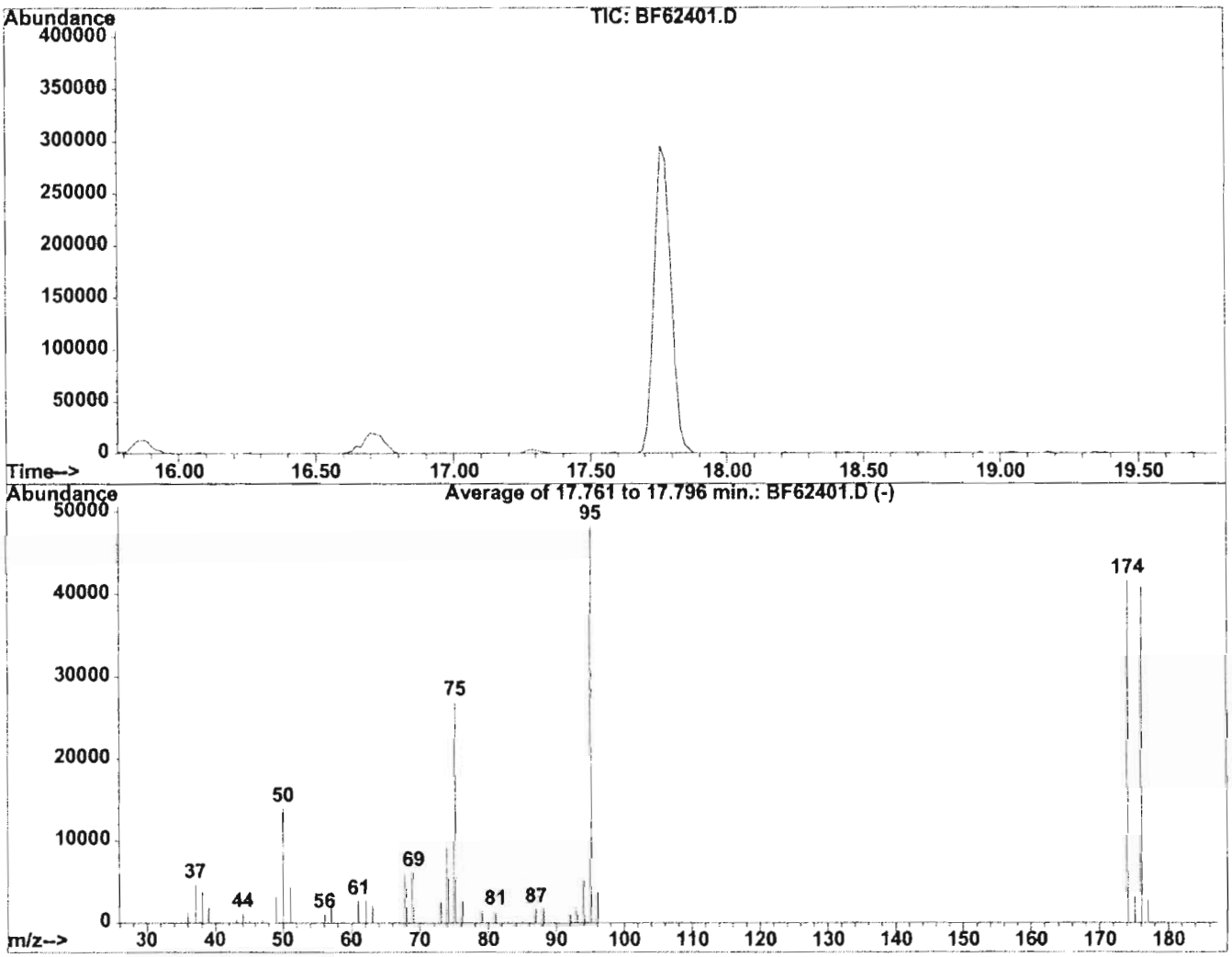
IV-1 Method Tunes

IV-2 Method Blanks

IV-3 Daily Calibration

IV-4 Laboratory Control Samples

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BF62401.D Vial: 1
Acq On : 5 Aug 2011 9:33 am Operator: A. Thomas
Sample : 50 ng bfb 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA

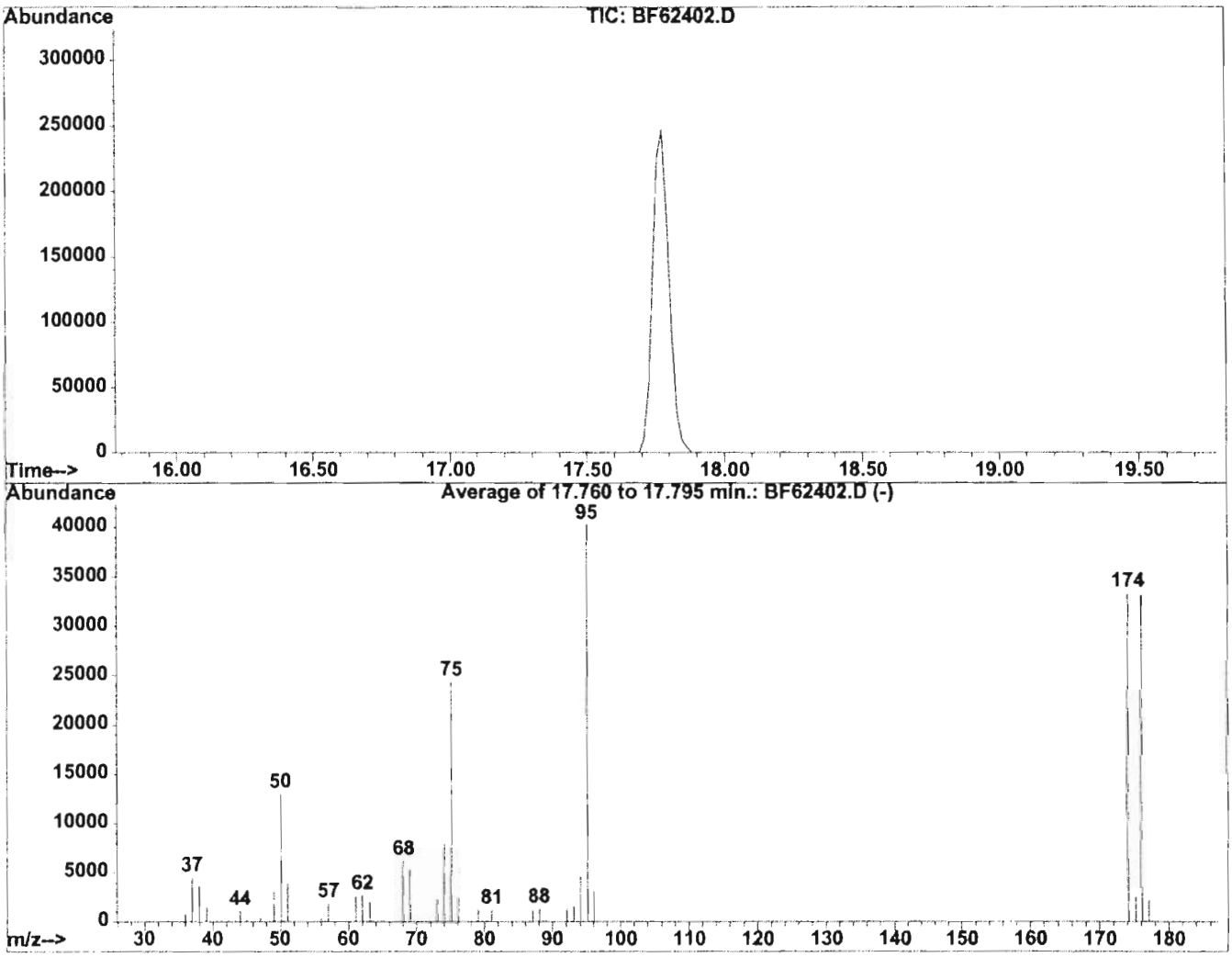


Spectrum Information: Average of 17.761 to 17.796 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	29.0	14024	PASS
75	95	30	70	55.9	27013	PASS
95	95	100	100	100.0	48357	PASS
96	95	5	9	7.7	3718	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	86.4	41760	PASS
175	174	5	9	7.7	3207	PASS
176	174	95	101	97.8	40851	PASS
177	176	5	9	6.7	2732	PASS

BFB

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BF62402.D Vial: 21
Acq On : 5 Aug 2011 10:27 pm Operator: A. Thomas
Sample : 50ng bfb2 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA

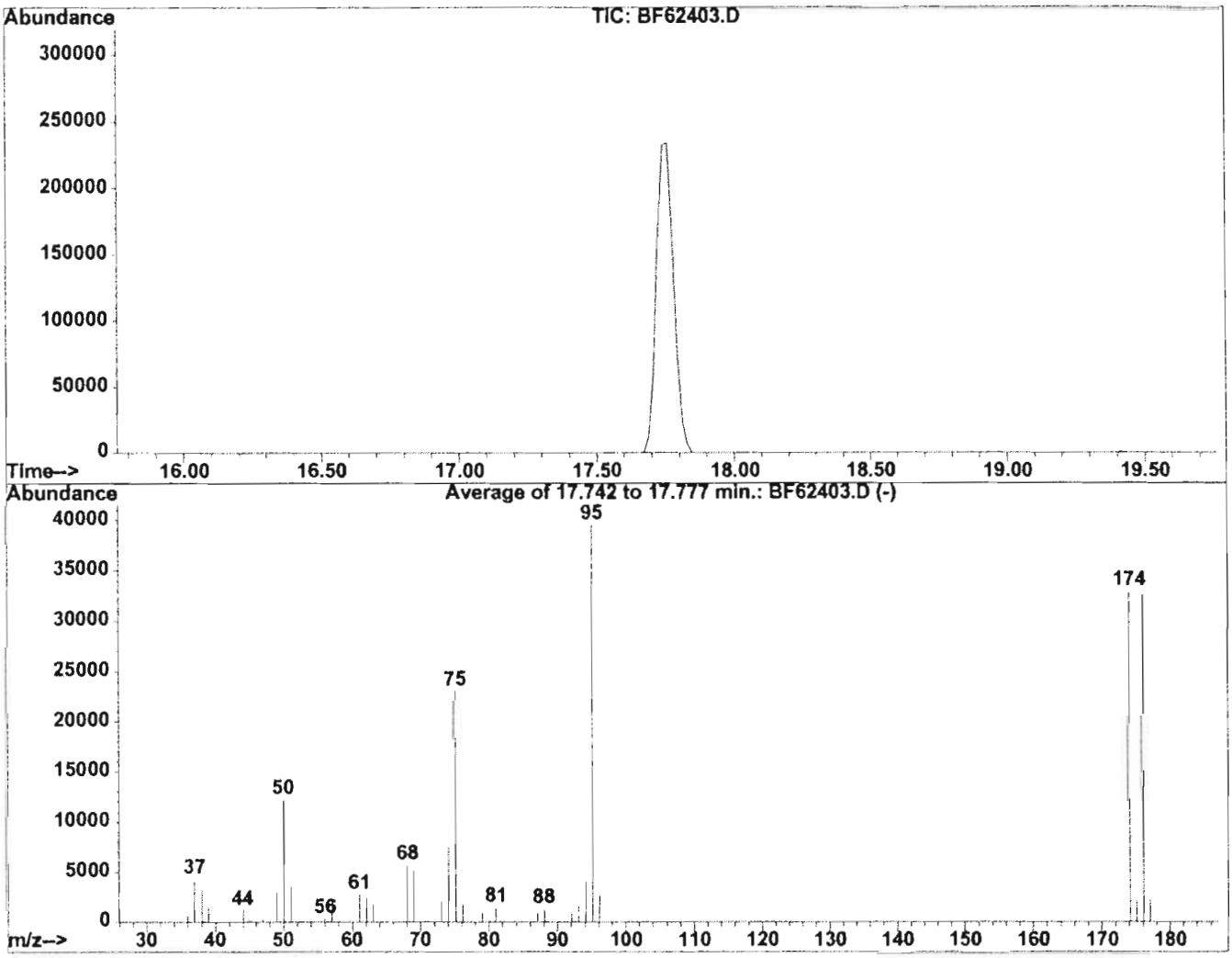


Spectrum Information: Average of 17.760 to 17.795 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	32.4	13047	PASS
75	95	30	70	60.5	24389	PASS
95	95	100	100	100.0	40299	PASS
96	95	5	9	7.7	3105	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	82.8	33371	PASS
175	174	5	9	7.7	2554	PASS
176	174	95	101	99.3	33149	PASS
177	176	5	9	6.8	2239	PASS

BFB

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BF62403.D Vial: 35
Acq On : 6 Aug 2011 7:05 am Operator: A. Thomas
Sample : 50ng bfb 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Method : C:\HPCHEM\1\METHODS\T6072011.M (Chemstation Integrator)
Title : VOA



Spectrum Information: Average of 17.742 to 17.777 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	30.9	12229	PASS
75	95	30	70	58.2	23026	PASS
95	95	100	100	100.0	39552	PASS
96	95	5	9	6.9	2726	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	83.0	32843	PASS
175	174	5	9	7.2	2350	PASS
176	174	95	101	99.3	32627	PASS
177	176	5	9	6.9	2238	PASS

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BL62401.D Vial: 1
Acq On : 5 Aug 2011 10:07 am Operator: A. Thomas
Sample : blank 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:05 19112 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.33	96	5370421	15.00	ug/l	0.33
58) chlorobenzene-d5	15.61	117	4379327	15.00	ug/L	0.34
84) 1,4-dichlorobenzene-d4	19.99	152	2467677	15.00	ug/L	0.34
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.05	113	2016675	29.24	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.47%			
35) 1,2-dichloroethane-d4 (S)	9.82	102	478851	32.22	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 107.40%			
48) toluene-d8 (S)	12.96	98	5523163	26.27	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 87.57%			
68) 4-bromofluorobenzene (BFB)	17.78	95	2529381	26.59	ug/L	0.33
Spiked Amount 30.000	Range 80 - 120		Recovery = 88.63%			

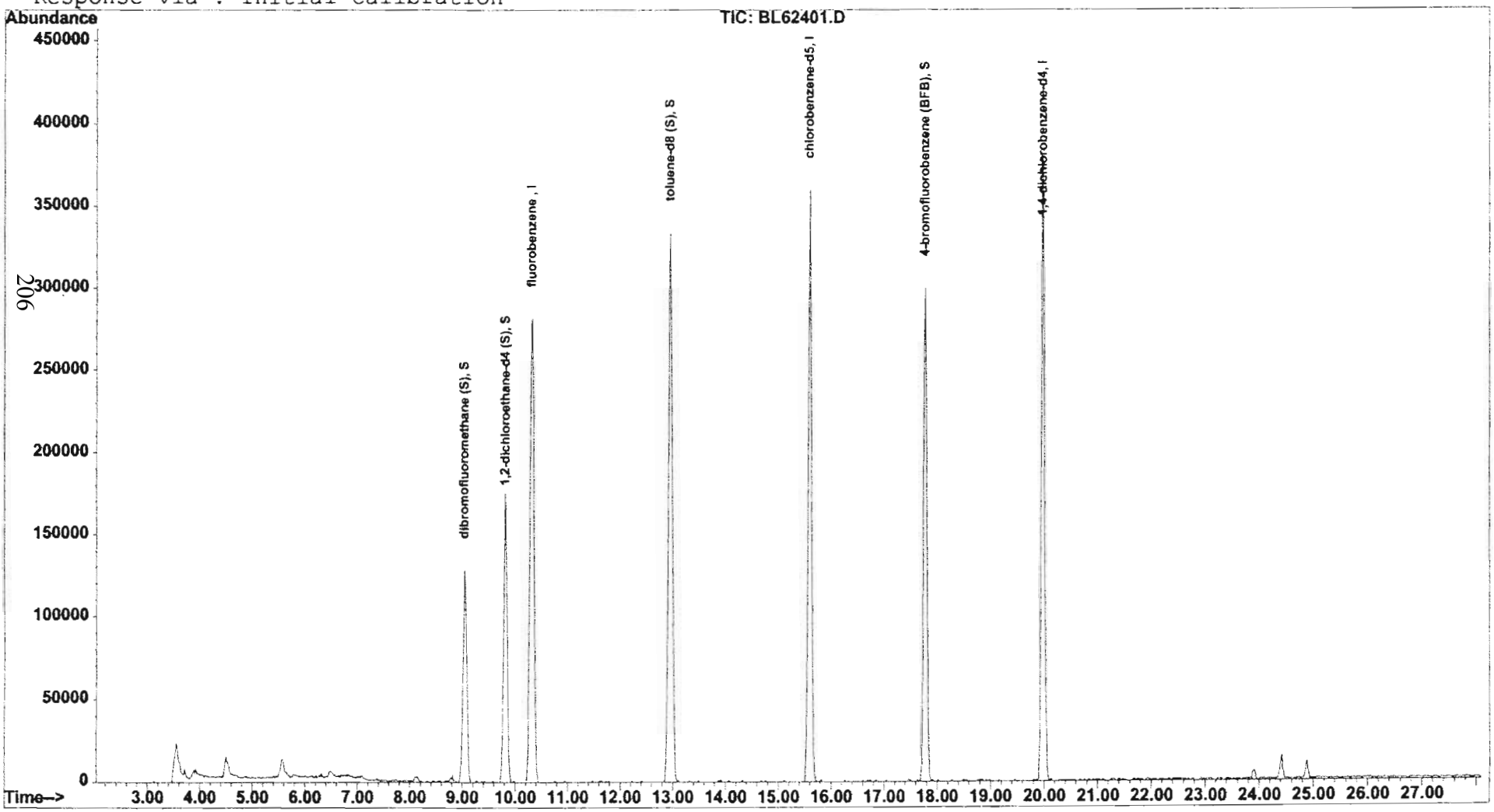
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BL62401.D Vial: 1
Acq On : 5 Aug 2011 10:07 am Operator: A. Thomas
Sample : blank 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:05 19112 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BL62403.D Vial: 35
Acq On : 6 Aug 2011 7:38 am Operator: A. Thomas
Sample : Blank 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 15:04 19111 Quant Results File: 62072711.RES

Quant Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 02 17:28:18 2011
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) fluorobenzene	10.32	96	4487500m	15.00	ug/l	0.31
58) chlorobenzene-d5	15.59	117	3411275	15.00	ug/L	0.32
84) 1,4-dichlorobenzene-d4	19.96	152	1938925	15.00	ug/L	0.32
System Monitoring Compounds						
29) dibromofluoromethane (S)	9.04	113	1435740	24.91	ug/L	0.32
Spiked Amount 30.000	Range 80 - 120		Recovery = 83.03%			
35) 1,2-dichloroethane-d4 (S)	9.81	102	336066	27.06	ug/L	0.32
Spiked Amount 30.000	Range 80 - 120		Recovery = 90.20%			
48) toluene-d8 (S)	12.95	98	4312851	24.55	ug/L	0.32
Spiked Amount 30.000	Range 80 - 120		Recovery = 81.83%			
68) 4-bromofluorobenzene (BFB)	17.76	95	1900973	25.66	ug/L	0.31
Spiked Amount 30.000	Range 80 - 120		Recovery = 85.53%			

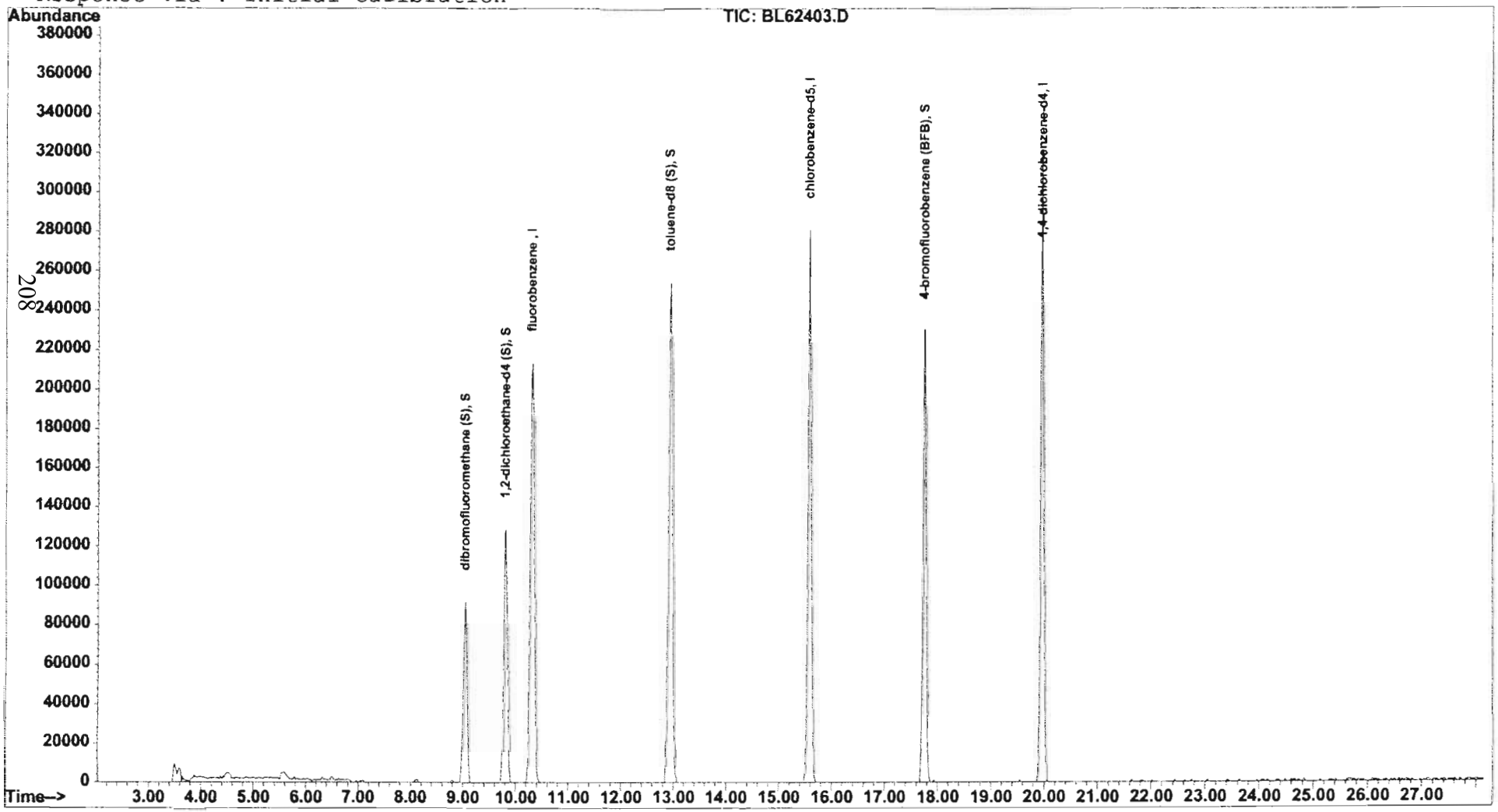
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\BL62403.D Vial: 35
Acq On : 6 Aug 2011 7:38 am Operator: A. Thomas
Sample : Blank 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multip1r: 1.00
MS Integration Params: events.e
Quant Time: Aug 8 15:04 19111 Quant Results File: 62072711.RES

Method : C:\HPCHEM\1\METHODS\62072711.M (Chemstation Integrator)
Title : VOA
Last Update : Tue Aug 09 17:18:57 2011
Response via : Initial Calibration



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Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62402.D Vial: 21
Acq On : 5 Aug 2011 11:02 pm Operator: A. Thomas
Sample : 20ppb cal2 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
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)
1	I	fluorobenzene	1.000	1.000	0.0	94	-0.02
2	T,M	Dichlorodifuloromethane	0.241	0.199	17.4	75	-0.03
3	T,M	chloromethane	0.265	0.317	-19.6	107	0.00
4	C,T,M	vinyl chloride	0.219	0.209	4.6	84	-0.03
5	T,M	bromomethane	0.079	0.113	-43.0#	130	-0.03
6	T,M	chloroethane	0.161	0.156	3.1	85	-0.02
9	T,M	carbon disulfide	0.402	0.394	2.0	83	0.00
10	T,M	MTBE	0.627	0.325	48.2#	52	-0.02
11	t	1,4 Dioxane	0.022	0.018	18.2	70	0.00
12	T,M	tert-butyl alcohol	0.024	0.028	-16.7	101	-0.02
13	T,M	MEK	0.021	0.017	19.0	70	-0.02
14	T,M	acetone	0.072	0.023	68.1#	49#	0.00
15	T,M	trichlorofluoromethane	0.389	0.289	25.7	67	0.03
16	C,T,M	1,1-dichloroethene	0.421	0.453	-7.6	101	0.00
17	T,M	methylene chloride	0.305	0.220	27.9	83	0.00
18	T,M	trans-1,2-dichloroethene	0.397	0.361	9.1	85	0.00
19	T,M	1,1-dichloroethane	0.462	0.427	7.6	87	0.00
20	C,T,M	chloroform	0.283	0.289	-2.1	94	-0.01
21	S	dibromofluoromethane (S)	0.168	0.173	-3.0	96	-0.01
22	T,M	bromochloromethane	0.101	0.078	22.8	69	0.01
24	T,M	1,1,1-trichloroethane	0.341	0.256	24.9	68	-0.02
25	T,M	carbon tetrachloride	0.244	0.210	13.9	76	-0.01
26	S	1,2-dichloroethane-d4 (S)	0.038	0.039	-2.6	100	-0.02
27	T,M	1,2-dichloroethane	0.435	0.429	1.4	93	-0.02
28	T,M	benzene	0.735	0.723	1.6	91	-0.02
29	T,M	trichloroethene	0.200	0.207	-3.5	93	-0.02
31	C,T,M	1,2-dichloropropane	0.221	0.223	-0.9	94	-0.02
33	T,M	cis-1,2-dichloroethene	0.378	0.361	4.5	90	-0.01
34	T,M	bromodichloromethane	0.237	0.242	-2.1	91	-0.02
35	T,M	cis-1,3-dichloropropene	0.259	0.147	43.2#	51	-0.02
36	S	toluene-d8 (S)	0.484	0.490	-1.2	94	-0.02
37	C,T,M	toluene	0.729	0.716	1.8	92	-0.03
38	T,M	trans-1,3-dichloropropene	0.228	0.093	59.2#	38#	-0.02
40	T,M	1,1,2-trichloroethane	0.146	0.144	1.4	87	-0.03
41	T,M	tetrachloroethene	0.234	0.331	-41.5#	132	-0.03
42	T,M	dibromochloromethane	0.153	0.141	7.8	84	-0.02
43	T,M	1,2-dibromoethane	0.179	0.175	2.2	89	-0.02
44	I	chlorobenzene-d5	1.000	1.000	0.0	98	-0.02
45	M,T	chlorobenzene	0.580	0.533	8.1	89	-0.02
46	C,T,M	ethyl benzene	1.110	1.043	6.0	90	-0.02
47	T,M	m/p-xylene	0.947	1.812	1.3	181	-0.02
48	T,M	o-xylene	0.934	0.856	8.4	88	-0.02
49	T,M	styrene	0.539	0.486	9.8	84	-0.02
50	T,M	isopropyl benzene	1.024	0.953	6.9	89	-0.02

51	T,M	bromoform	0.110	0.082	25.5	76	-0.02
52	T,M	1,1,2,2-tetrachloroethane	0.269	0.238	11.5	82	-0.02
53	S	4-bromofluorobenzene (BFB)	0.289	0.278	3.8	94	-0.02
54	T,M	1,3-dichlorobenzene	0.450	0.423	6.0	89	-0.02
55	T,M	1,2-dichlorobenzene	0.433	0.403	6.9	89	-0.02
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	97	-0.02
57	T,M	1,4-dichlorobenzene	0.821	0.771	6.1	89	-0.01
58	T,M	1,2-dibromo-3-chloropropane	0.072	0.055	23.6	89	-0.03
59	T,M	1,2,4-trichlorobenzene	0.490	0.456	6.9	87	-0.03
60	T,M	Napthalene	0.947	0.751	20.7	75	-0.03
61	T,M	1,2,3-trichlorobenzene	0.458	0.427	6.8	88	-0.03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CT62418.D T6080311.M Fri Feb 24 13:00:31 2012 GCMS2

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62401.D Vial: 1
Acq On : 5 Aug 2011 10:42 am Operator: A. Thomas
Sample : 20ppb cal 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
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)
1 I	fluorobenzene	1.000	1.000	0.0	113	-0.01
3 T,M	chloromethane	0.265	0.196	26.0	80	-0.01
4 C,T,M	vinyl chloride	0.219	0.168	23.3	81	-0.03
5 T,M	bromomethane	0.079	0.146	-84.8#	203#	-0.03
6 T,M	chloroethane	0.161	0.137	14.9	91	-0.02
8 t	Methyl Acetate	0.031	0.022	29.0	81	-0.02
9 T,M	carbon disulfide	0.402	0.360	10.4	91	-0.01
10 T,M	MTBE	0.627	0.273	56.5#	53	-0.01
11 t	1,4 Dioxane	0.022	0.018	18.2	83	0.00
12 T,M	tert-butyl alcohol	0.024	0.025	-4.2	109	0.00
13 T,M	MEK	0.021	0.017	19.0	82	0.00
15 T,M	trichlorofluoromethane	0.389	0.272	30.1#	76	0.00
16 C,T,M	1,1-dichloroethene	0.421	0.352	16.4	95	-0.01
17 T,M	methylene chloride	0.305	0.200	34.4#	91	-0.02
18 T,M	trans-1,2-dichloroethene	0.397	0.289	27.2	82	-0.01
19 T,M	1,1-dichloroethane	0.462	0.354	23.4	87	-0.01
20 C,T,M	chloroform	0.283	0.230	18.7	90	0.00
21 S	dibromofluoromethane (S)	0.168	0.168	0.0	113	-0.01
22 T,M	bromochloromethane	0.101	0.074	26.7	79	0.00
24 T,M	1,1,1-trichloroethane	0.341	0.224	34.3#	72	-0.02
25 T,M	carbon tetrachloride	0.244	0.179	26.6	78	0.00
26 S	1,2-dichloroethane-d4 (S)	0.038	0.040	-5.3	123	-0.01
27 T,M	1,2-dichloroethane	0.435	0.323	25.7	84	-0.02
28 T,M	benzene	0.735	0.559	23.9	85	-0.02
29 T,M	trichloroethene	0.200	0.162	19.0	88	-0.01
31 C,T,M	1,2-dichloropropane	0.221	0.172	22.2#	88	-0.02
33 T,M	cis-1,2-dichloroethene	0.378	0.324	14.3	98	-0.01
34 T,M	bromodichloromethane	0.237	0.183	22.8	83	-0.01
35 T,M	cis-1,3-dichloropropene	0.259	0.138	46.7#	57	-0.01
36 S	toluene-d8 (S)	0.484	0.469	3.1	108	-0.01
37 C,T,M	toluene	0.729	0.550	24.6#	85	-0.02
38 T,M	trans-1,3-dichloropropene	0.228	0.090	60.5#	44#	-0.01
40 T,M	1,1,2-trichloroethane	0.146	0.110	24.7	80	-0.02
41 T,M	tetrachloroethene	0.234	0.271	-15.8	131	-0.01
42 T,M	dibromochloromethane	0.153	0.107	30.1#	77	-0.01
43 T,M	1,2-dibromoethane	0.179	0.138	22.9	85	-0.01
44 I	chlorobenzene-d5	1.000	1.000	0.0	111	-0.01
45 M,T	chlorobenzene	0.580	0.444	23.4	84	-0.01
46 C,T,M	ethyl benzene	1.110	0.836	2.7	82	-0.01
47 T,M	m/p-xylene	0.947	1.441	2.2	163	0.00
48 T,M	o-xylene	0.934	0.717	23.2	84	0.00
49 T,M	styrene	0.539	0.399	26.0	78	0.00
50 T,M	isopropyl benzene	1.024	0.774	24.4	82	0.00
51 T,M	bromoform	0.110	0.076	30.9#	80	0.00

52	T,M	1,1,2,2-tetrachloroethane	0.269	0.202	24.9	78	0.00
53	S	4-bromofluorobenzene (BFB)	0.289	0.289	0.0	111	0.00
54	T,M	1,3-dichlorobenzene	0.450	0.356	20.9	85	0.00
55	T,M	1,2-dichlorobenzene	0.433	0.334	22.9	83	0.00
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	112	0.00
57	T,M	1,4-dichlorobenzene	0.821	0.617	24.8	82	0.00
58	T,M	1,2-dibromo-3-chloropropane	0.072	0.051	29.2	95	-0.01
59	T,M	1,2,4-trichlorobenzene	0.490	0.398	18.8	88	0.00
60	T,M	Napthalene	0.947	0.765	19.2	88	-0.01
61	T,M	1,2,3-trichlorobenzene	0.458	0.374	18.3	89	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 3

CT62418.D T6080311.M Fri Feb 24 13:02:00 2012 GCMS2

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DC62403.D Vial: 34
Acq On : 6 Aug 2011 6:31 am Operator: A. Thomas
Sample : 20ppb cal3 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
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)
1	I	fluorobenzene	1.000	1.000	0.0	85	-0.05
2	T,M	Dichlorodifuloromethane	0.241	0.213	11.6	73	-0.04
3	T,M	chloromethane	0.265	0.350	-32.1#	108	-0.03
4	C,T,M	vinyl chloride	0.219	0.228	-4.1	83	-0.04
5	T,M	bromomethane	0.079	0.117	-48.1#	122	-0.04
6	T,M	chloroethane	0.161	0.168	-4.3	83	-0.03
9	T,M	carbon disulfide	0.402	0.388	3.5	74	0.00
10	T,M	MTBE	0.627	0.321	48.8#	47#	-0.04
11	t	1,4 Dioxane	0.022	0.020	9.1	70	-0.03
12	T,M	tert-butyl alcohol	0.024	0.029	-20.8	92	-0.04
13	T,M	MEK	0.021	0.017	19.0	62	-0.03
15	T,M	trichlorofluoromethane	0.389	0.300	22.9	63	0.02
16	C,T,M	1,1-dichloroethene	0.421	0.473	-12.4	96	-0.02
17	T,M	methylene chloride	0.305	0.240	21.3	82	-0.02
18	T,M	trans-1,2-dichloroethene	0.397	0.354	10.8	76	-0.03
19	T,M	1,1-dichloroethane	0.462	0.422	8.7	78	-0.03
20	C,T,M	chloroform	0.283	0.275	2.8	81	-0.03
21	S	dibromofluoromethane (S)	0.168	0.170	-1.2	86	-0.03
22	T,M	bromochloromethane	0.101	0.082	18.8	66	-0.02
24	T,M	1,1,1-trichloroethane	0.341	0.257	24.6	62	-0.03
25	T,M	carbon tetrachloride	0.244	0.212	13.1	70	-0.03
26	S	1,2-dichloroethane-d4 (S)	0.038	0.039	-2.6	90	-0.04
27	T,M	1,2-dichloroethane	0.435	0.417	4.1	82	-0.04
28	T,M	benzene	0.735	0.699	4.9	80	-0.04
29	T,M	trichloroethene	0.200	0.212	-6.0	86	-0.05
31	C,T,M	1,2-dichloropropane	0.221	0.217	1.8	83	-0.04
32	T,M	MIBK	0.023	0.017	26.1	63	-0.04
33	T,M	cis-1,2-dichloroethene	0.378	0.367	2.9	83	-0.03
34	T,M	bromodichloromethane	0.237	0.236	0.4	80	-0.04
35	T,M	cis-1,3-dichloropropene	0.259	0.146	43.6#	45#	-0.05
36	S	toluene-d8 (S)	0.484	0.493	-1.9	86	-0.04
37	C,T,M	toluene	0.729	0.711	2.5	83	-0.05
38	T,M	trans-1,3-dichloropropene	0.228	0.088	61.4#	32#	-0.04
39	T,M	2-hexanone	0.072	0.058	19.4	63	-0.05
40	T,M	1,1,2-trichloroethane	0.146	0.133	8.9	73	-0.05
41	T,M	tetrachloroethene	0.234	0.302	-29.1	110	-0.05
42	T,M	dibromochloromethane	0.153	0.131	14.4	71	-0.05
43	T,M	1,2-dibromoethane	0.179	0.163	8.9	76	-0.04
44	I	chlorobenzene-d5	1.000	1.000	0.0	87	-0.04
45	M,T	chlorobenzene	0.580	0.547	5.7	81	-0.05
46	C,T,M	ethyl benzene	1.110	1.063	4.2	82	-0.04
47	T,M	m/p-xylene	0.947	1.812	1.3	161	-0.04
48	T,M	o-xylene	0.934	0.908	2.8	83	-0.04
49	T,M	styrene	0.539	0.509	5.6	78	-0.04

50	T,M	isopropyl benzene	1.024	0.996	2.7	83	-0.04
51	T,M	bromoform	0.110	0.086	21.8	71	-0.05
52	T,M	1,1,2,2-tetrachloroethane	0.269	0.243	9.7	74	-0.04
53	S	4-bromofluorobenzene (BFB)	0.289	0.293	-1.4	88	-0.04
54	T,M	1,3-dichlorobenzene	0.450	0.458	-1.8	86	-0.04
55	T,M	1,2-dichlorobenzene	0.433	0.425	1.8	83	-0.05
56	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	94	-0.05
57	T,M	1,4-dichlorobenzene	0.821	0.757	7.8	84	-0.03
59	T,M	1,2,4-trichlorobenzene	0.490	0.458	6.5	84	-0.06
60	T,M	Napthalene	0.947	0.732	22.7	71	-0.06
61	T,M	1,2,3-trichlorobenzene	0.458	0.419	8.5	84	-0.06

(#) = Out of Range SPCC's out = 0 CCC's out = 0

CT62418.D T6080311.M Fri Feb 24 13:03:34 2012 GCMS2

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DC62403.D Vial: 34
Acq On : 6 Aug 2011 6:31 am Operator: A. Thomas
Sample : 20ppb cal3 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:57 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	10.31	96	4473168	15.00	ug/l		-0.05
44) chlorobenzene-d5	15.59	117	3506251	15.00	ug/L		-0.04
56) 1,4-dichlorobenzene-d4	19.96	152	2115892	15.00	ug/L		-0.05
System Monitoring Compounds							
21) dibromofluoromethane (S)	9.04	113	1517180	30.21	ug/L		-0.03
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.70%				
26) 1,2-dichloroethane-d4 (S)	9.81	102	349986	30.75	ug/L		-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.50%				
36) toluene-d8 (S)	12.94	98	4406473	30.51	ug/L		-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.70%				
53) 4-bromofluorobenzene (BFB)	17.76	95	2056429	30.41	ug/L		-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.37%				
Target Compounds							Qvalue
2) Dichlorodifuloromethane	3.39	85	1270823	17.67	ug/L		98
3) chloromethane	3.80	50	2086597	26.44	ug/L		100
4) vinyl chloride	3.87	62	1359639	20.77	ug/L		100
5) bromomethane	4.50	96	698762	21.58	ug/L		97
6) chloroethane	4.60	64	999888	20.77	ug/L	#	100
9) carbon disulfide	6.65	76	2313940	14.78	ug/L	#	100
10) MTBE	6.65	73	1914204	10.23	ug/L		95
11) 1,4 Dioxane	6.49	88	118317	18.14	ug/l	#	100
12) tert-butyl alcohol	5.83	59	851837	23.44	ug/l	#	43
13) MEK	8.12	72	99625	14.16	ug/L		71
14) acetone	5.59	58	164868	18.98	ug/L		88
15) trichlorofluoromethane	4.99	101	1788399	15.43	ug/L		99
16) 1,1-dichloroethene	5.82	61	2818875	22.43	ug/L	#	100
17) methylene chloride	6.50	84	1430291	21.31	ug/L	#	100
18) trans-1,2-dichloroethene	6.93	61	2111320	17.83	ug/L	#	100
19) 1,1-dichloroethane	7.55	63	2519655	18.29	ug/L	#	99
20) chloroform	8.70	85	1638014	19.43	ug/L	#	100
22) bromochloromethane	9.00	128	491758	16.31	ug/L		98
24) 1,1,1-trichloroethane	9.34	97	1531472	15.04	ug/L	#	100
25) carbon tetrachloride	9.76	117	1264410	14.94	ug/L	#	100
27) 1,2-dichloroethane	9.96	62	2487603	19.16	ug/L	#	83
28) benzene	10.02	78	4170225	19.03	ug/L	#	100
29) trichloroethene	10.97	130	1261591	21.16	ug/L	#	68
31) 1,2-dichloropropane	11.25	63	1293611	19.66	ug/L	#	100
32) MIBK	12.10	100	101980	13.54	ug/L		77
33) cis-1,2-dichloroethene	8.46	61	2190835	19.44	ug/L	#	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DC62403.D Vial: 34
Acq On : 6 Aug 2011 6:31 am Operator: A. Thomas
Sample : 20ppb cal3 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:57 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

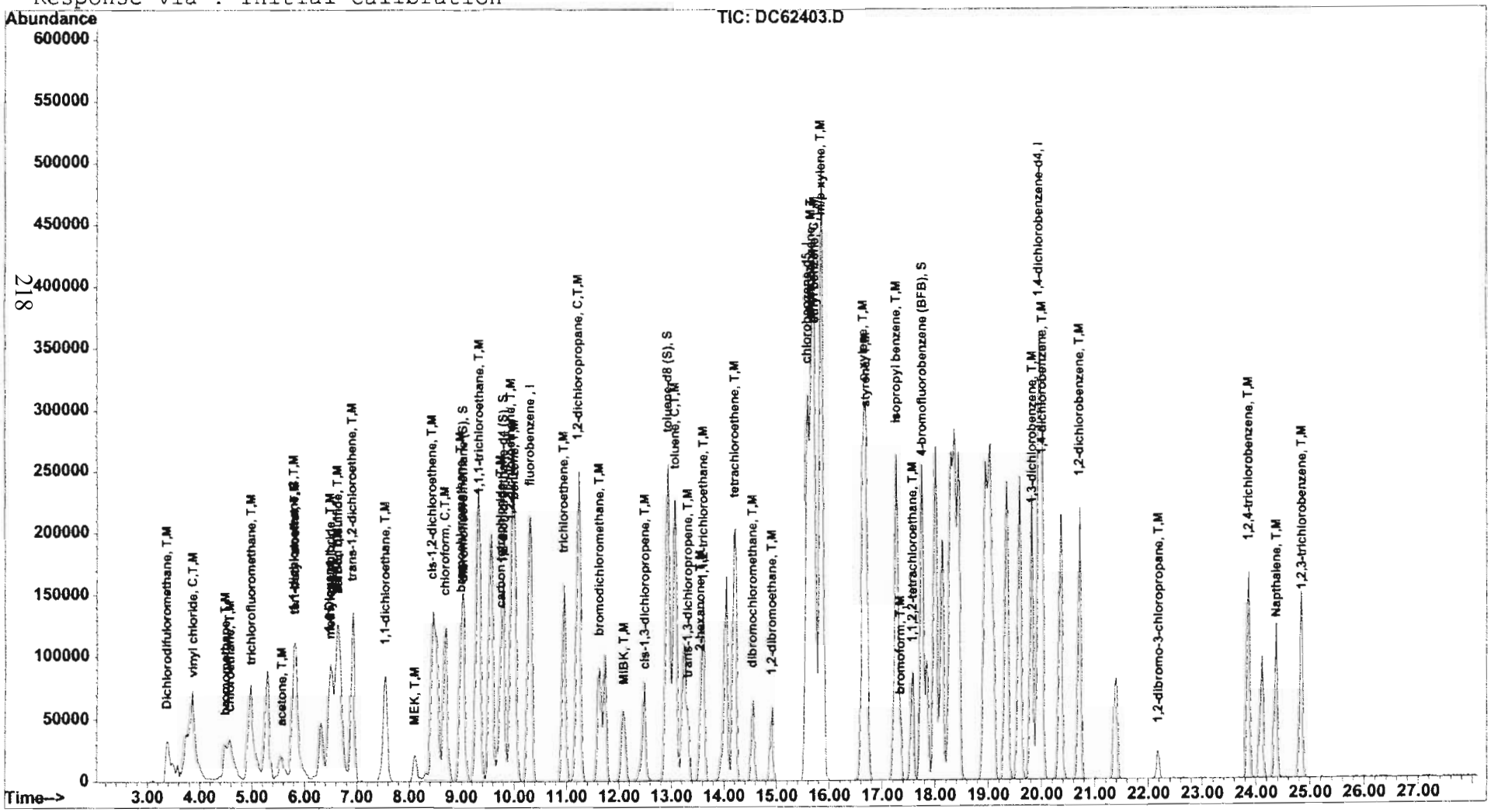
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
34)	bromodichloromethane	11.64	83	1410378	16.17	ug/L	#	66
35)	cis-1,3-dichloropropene	12.50	75	868133	9.66	ug/L	#	93
37)	toluene	13.08	91	4242040	19.50	ug/L	#	100
38)	trans-1,3-dichloropropene	13.34	75	527492	6.32	ug/L	#	100
39)	2-hexanone	13.57	58	344240	14.22	ug/L	#	74
40)	1,1,2-trichloroethane	13.62	83	792140	18.20	ug/L	#	100
41)	tetrachloroethene	14.22	166	1800583	25.84	ug/L	#	76
42)	dibromochloromethane	14.57	129	779704	13.57	ug/L	#	100
43)	1,2-dibromoethane	14.93	107	974198	18.27	ug/L	#	98
45)	chlorobenzene	15.66	112	2555638	18.85	ug/L	#	100
46)	ethyl benzene	15.72	91	4969757	19.15	ug/L		100
47)	m/p-xylene	15.86	91	8470791	38.25	ug/L		100
48)	o-xylene	16.65	91	4245054	19.44	ug/L	#	83
49)	styrene	16.71	104	2381097	18.90	ug/L		95
50)	isopropyl benzene	17.28	105	4654684	19.44	ug/L		99
51)	bromoform	17.37	173	401490	11.32	ug/L	#	100
52)	1,1,2,2-tetrachloroethane	17.58	83	1135906	16.92	ug/L	#	98
54)	1,3-dichlorobenzene	19.83	146	2143075	20.37	ug/L	#	100
55)	1,2-dichlorobenzene	20.72	146	1987443	19.61	ug/L	#	74
57)	1,4-dichlorobenzene	20.02	146	2134444	18.42	ug/L	#	72
58)	1,2-dibromo-3-chloropropan	22.19	75	133382	11.13	ug/L		97
59)	1,2,4-trichlorobenzene	23.87	180	1291090	18.66	ug/L		98
60)	Napthalene	24.38	128	2064964	15.46	ug/L		100
61)	1,2,3-trichlorobenzene	24.85	180	1181715	18.29	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DC62403.D Vial: 34
Acq On : 6 Aug 2011 6:31 am Operator: A. Thomas
Sample : 20ppb cal3 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:57 19112 Quant Results File: T6080311.RES

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62401.D Vial: 1
Acq On : 5 Aug 2011 10:42 am Operator: A. Thomas
Sample : 20ppb cal 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	10.35	96	5953754	15.00	ug/l		-0.01
44) chlorobenzene-d5	15.62	117	4453756	15.00	ug/L		-0.01
56) 1,4-dichlorobenzene-d4	20.00	152	2524334	15.00	ug/L		0.00
System Monitoring Compounds							
21) dibromofluoromethane (S)	9.06	113	1996729	29.87	ug/L		-0.01
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.57%				
26) 1,2-dichloroethane-d4 (S)	9.84	102	475876	31.41	ug/L		-0.01
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.70%				
36) toluene-d8 (S)	12.97	98	5578935	29.03	ug/L		-0.01
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.77%				
53) 4-bromofluorobenzene (BFB)	17.79	95	2571044	29.93	ug/L		0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.77%				
Target Compounds							Qvalue
2) Dichlorodifuloromethane	3.41	85	1256635	13.13	ug/L		97
3) chloromethane	3.82	50	1554437	14.80	ug/L		96
4) vinyl chloride	3.89	62	1329964	15.27	ug/L		97
5) bromomethane	4.51	96	1160509	26.93	ug/L		97
6) chloroethane	4.61	64	1085380	16.94	ug/L	#	100
8) Methyl Acetate	6.23	74	173052	12.35	ug/l		69
9) carbon disulfide	6.65	76	2856038	13.70	ug/L	#	100
10) MTBE	6.69	73	2167297	8.70	ug/L		94
11) 1,4 Dioxane	6.52	88	139076	16.02	ug/l	#	100
12) tert-butyl alcohol	5.86	59	1005459	103.93	ug/l		88
13) MEK	8.15	72	131486	14.04	ug/L		78
14) acetone	5.59	58	201891	17.46	ug/L		92
15) trichlorofluoromethane	4.97	101	2157909	13.99	ug/L		99
16) 1,1-dichloroethene	5.83	61	2795658	16.71	ug/L	#	100
17) methylene chloride	6.51	84	1583832	17.73	ug/L	#	100
18) trans-1,2-dichloroethene	6.94	61	2291184	14.53	ug/L	#	100
19) 1,1-dichloroethane	7.56	63	2810932	15.33	ug/L	#	100
20) chloroform	8.73	85	1826754	16.28	ug/L	#	100
22) bromochloromethane	9.01	128	589411	14.68	ug/L		94
24) 1,1,1-trichloroethane	9.36	97	1782124	13.15	ug/L	#	100
25) carbon tetrachloride	9.78	117	1417073	12.58	ug/L	#	100
27) 1,2-dichloroethane	9.98	62	2560229	14.81	ug/L	#	100
28) benzene	10.04	78	4438229	15.22	ug/L	#	100
29) trichloroethene	11.00	130	1287250	16.22	ug/L	#	33
31) 1,2-dichloropropane	11.27	63	1365294	15.59	ug/L	#	100
32) MIBK	12.13	100	98906	9.86	ug/L		87

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62401.D Vial: 1
Acq On : 5 Aug 2011 10:42 am Operator: A. Thomas
Sample : 20ppb cal 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

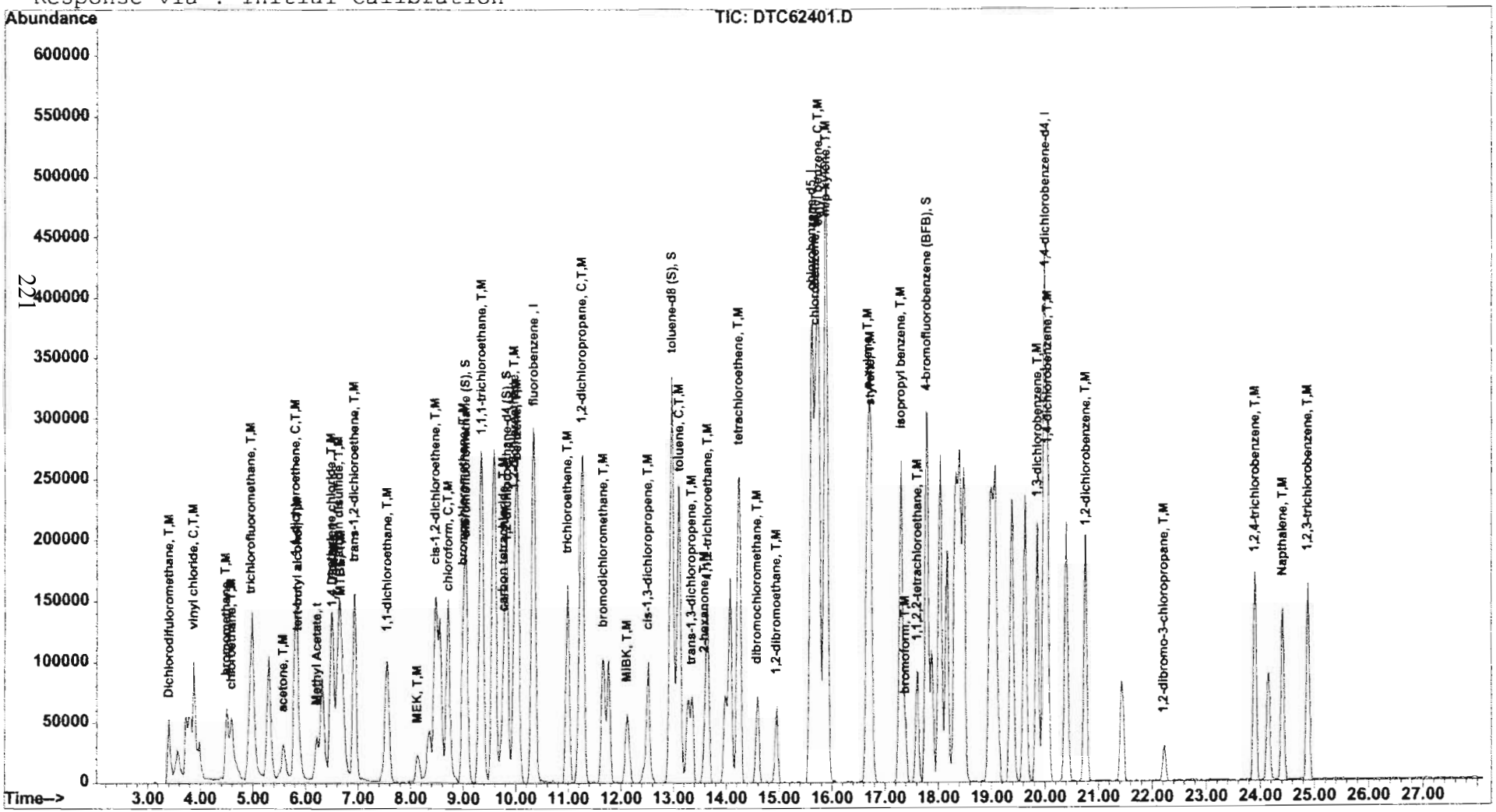
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
33)	cis-1,2-dichloroethene	8.49	61	2574191	17.16	ug/L	#	100
34)	bromodichloromethane	11.67	83	1454710	12.53	ug/L	#	66
35)	cis-1,3-dichloropropene	12.53	75	1097602	9.18	ug/L		99
37)	toluene	13.11	91	4367159	15.08	ug/L	#	100
38)	trans-1,3-dichloropropene	13.37	75	716994	6.46	ug/L	#	100
39)	2-hexanone	13.61	58	333358	10.34	ug/L	#	75
40)	1,1,2-trichloroethane	13.65	83	872314	15.06	ug/L	#	100
41)	tetrachloroethene	14.25	166	2150740	23.19	ug/L	#	76
42)	dibromochloromethane	14.60	129	848237	11.09	ug/L	#	100
43)	1,2-dibromoethane	14.96	107	1098436	15.48	ug/L	#	92
45)	chlorobenzene	15.69	112	2634734	15.30	ug/L	#	100
46)	ethyl benzene	15.75	91	4966852	15.07	ug/L		100
47)	m/p-xylene	15.89	91	8554552	30.41	ug/L	#	82
48)	o-xylene	16.69	91	4256096	15.34	ug/L		100
49)	styrene	16.74	104	2366768	14.79	ug/L		94
50)	isopropyl benzene	17.31	105	4594257	15.11	ug/L		100
51)	bromoform	17.40	173	453134	10.06	ug/L	#	100
52)	1,1,2,2-tetrachloroethane	17.62	83	1196752	14.04	ug/L	#	98
54)	1,3-dichlorobenzene	19.86	146	2111897	15.81	ug/L	#	100
55)	1,2-dichlorobenzene	20.77	146	1982623	15.40	ug/L		98
57)	1,4-dichlorobenzene	20.06	146	2076769	15.02	ug/L	#	91
58)	1,2-dibromo-3-chloropropan	22.23	75	171517	11.99	ug/L		97
59)	1,2,4-trichlorobenzene	23.92	180	1340944	16.25	ug/L		95
60)	Napthalene	24.43	128	2575739	16.16	ug/L		100
61)	1,2,3-trichlorobenzene	24.90	180	1260120	16.35	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62401.D Vial: 1
Acq On : 5 Aug 2011 10:42 am Operator: A. Thomas
Sample : 20ppb cal 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62402.D Vial: 21
Acq On : 5 Aug 2011 11:02 pm Operator: A. Thomas
Sample : 20ppb cal2 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	10.34	96	4921902	15.00	ug/l		-0.02
44) chlorobenzene-d5	15.61	117	3930679	15.00	ug/L		-0.02
56) 1,4-dichlorobenzene-d4	19.98	152	2189955	15.00	ug/L		-0.02
System Monitoring Compounds							
21) dibromofluoromethane (S)	9.06	113	1698244	30.73	ug/L		-0.01
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.43%				
26) 1,2-dichloroethane-d4 (S)	9.83	102	386781	30.88	ug/L		-0.02
Spiked Amount 30.000	Range 80 - 120		Recovery = 102.93%				
36) toluene-d8 (S)	12.96	98	4819323	30.33	ug/L		-0.02
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.10%				
53) 4-bromofluorobenzene (BFB)	17.78	95	2183478	28.81	ug/L		-0.02
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.03%				
Target Compounds							Qvalue
2) Dichlorodifuloromethane	3.40	85	1302791	16.47	ug/L		100
3) chloromethane	3.83	50	2080988	23.96	ug/L		92
4) vinyl chloride	3.88	62	1373739	19.07	ug/L		98
5) bromomethane	4.51	96	743213	20.86	ug/L		99
6) chloroethane	4.61	64	1024636	19.35	ug/L	#	100
8) Methyl Acetate	6.23	74	687617	59.35	ug/l		82
9) carbon disulfide	6.66	76	2584418	15.00	ug/L	#	100
10) MTBE	6.68	73	2132263	10.36	ug/L		95
11) 1,4 Dioxane	6.52	88	118247	16.48	ug/l	#	100
12) tert-butyl alcohol	5.85	59	929312	116.20	ug/l		91
13) MEK	8.14	72	112082	14.48	ug/L		99
14) acetone	5.60	58	148392	15.53	ug/L		82
15) trichlorofluoromethane	5.00	101	1896980	14.88	ug/L		99
16) 1,1-dichloroethene	5.84	61	2970490	21.48	ug/L	#	100
17) methylene chloride	6.52	84	1442334	19.53	ug/L	#	100
18) trans-1,2-dichloroethene	6.95	61	2367102	18.16	ug/L	#	100
19) 1,1-dichloroethane	7.57	63	2805358	18.51	ug/L	#	99
20) chloroform	8.73	85	1893501	20.41	ug/L	#	100
22) bromochloromethane	9.03	128	514893	15.52	ug/L		90
24) 1,1,1-trichloroethane	9.36	97	1677404	14.97	ug/L	#	100
25) carbon tetrachloride	9.78	117	1381240	14.83	ug/L	#	100
27) 1,2-dichloroethane	9.98	62	2814010	19.69	ug/L	#	100
28) benzene	10.04	78	4742569	19.67	ug/L	#	100
29) trichloroethene	10.99	130	1361173	20.75	ug/L	#	33
31) 1,2-dichloropropane	11.27	63	1463223	20.22	ug/L	#	100
33) cis-1,2-dichloroethene	8.49	61	2370599	19.12	ug/L	#	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62402.D Vial: 21
Acq On : 5 Aug 2011 11:02 pm Operator: A. Thomas
Sample : 20ppb cal2 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

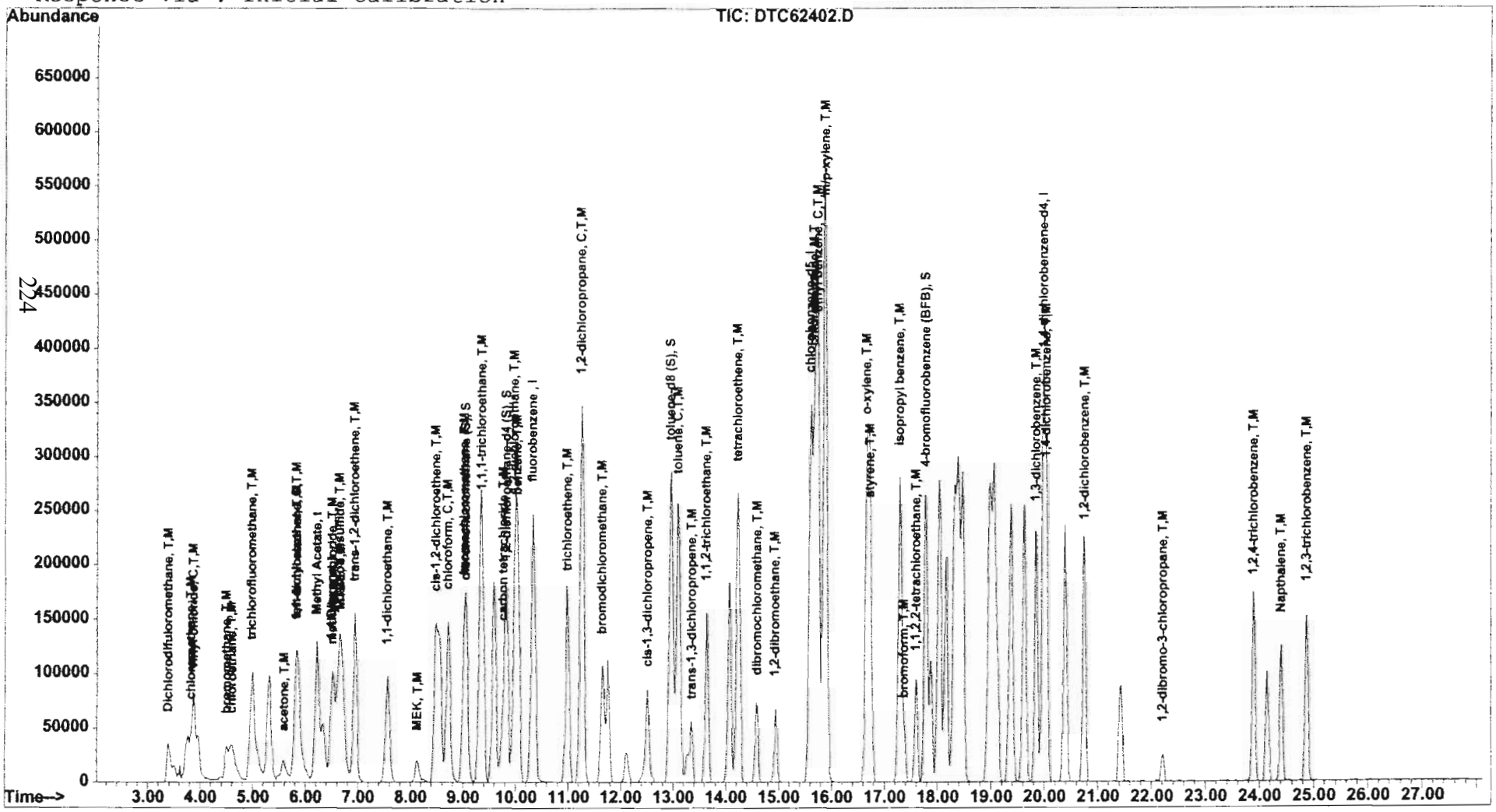
	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
34)	bromodichloromethane	11.66	83	1589312	16.56	ug/L	#	98
35)	cis-1,3-dichloropropene	12.52	75	966766	9.78	ug/L	#	93
37)	toluene	13.10	91	4700867	19.64	ug/L	#	100
38)	trans-1,3-dichloropropene	13.36	75	612223	6.67	ug/L	#	100
40)	1,1,2-trichloroethane	13.65	83	942184	19.68	ug/L	#	100
41)	tetrachloroethene	14.24	166	2173991	28.35	ug/L	#	99
42)	dibromochloromethane	14.59	129	927029	14.66	ug/L	#	100
43)	1,2-dibromoethane	14.95	107	1147077	19.55	ug/L	#	100
45)	chlorobenzene	15.68	112	2794480	18.39	ug/L	#	100
46)	ethyl benzene	15.74	91	5464715	18.78	ug/L	#	89
47)	m/p-xylene	15.88	91	9496706	38.25	ug/L	#	82
48)	o-xylene	16.67	91	4484975	18.32	ug/L	#	83
49)	styrene	16.73	104	2547573	18.04	ug/L		96
50)	isopropyl benzene	17.30	105	4993589	18.60	ug/L		99
51)	bromoform	17.39	173	431296	10.84	ug/L	#	100
52)	1,1,2,2-tetrachloroethane	17.60	83	1249865	16.61	ug/L	#	100
54)	1,3-dichlorobenzene	19.85	146	2216133	18.79	ug/L	#	68
55)	1,2-dichlorobenzene	20.75	146	2111934	18.59	ug/L	#	84
57)	1,4-dichlorobenzene	20.04	146	2252380	18.78	ug/L	#	72
58)	1,2-dibromo-3-chloropropan	22.22	75	160655	12.95	ug/L		95
59)	1,2,4-trichlorobenzene	23.90	180	1331658	18.60	ug/L		97
60)	Napthalene	24.41	128	2192434	15.86	ug/L		100
61)	1,2,3-trichlorobenzene	24.88	180	1247697	18.66	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\DTC62402.D Vial: 21
Acq On : 5 Aug 2011 11:02 pm Operator: A. Thomas
Sample : 20ppb cal2 624/5ml Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 13:00 19112 Quant Results File: T6080311.RES

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration



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Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62401.D Vial: 2
Acq On : 5 Aug 2011 11:18 am Operator: A. Thomas
Sample : 20ppb lcs 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	10.35	96	5842514	15.00	ug/l		-0.01
44) chlorobenzene-d5	15.63	117	4509443	15.00	ug/L		0.00
56) 1,4-dichlorobenzene-d4	20.00	152	2531485	15.00	ug/L		0.00
System Monitoring Compounds							
21) dibromofluoromethane (S)	9.07	113	2067655	31.52	ug/L		0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 105.07%				
26) 1,2-dichloroethane-d4 (S)	9.84	102	464017	31.21	ug/L		-0.01
Spiked Amount 30.000	Range 80 - 120		Recovery = 104.03%				
36) toluene-d8 (S)	12.98	98	5520124	29.27	ug/L		0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 97.57%				
53) 4-bromofluorobenzene (BFB)	17.79	95	2574354	29.60	ug/L		0.00
Spiked Amount 30.000	Range 80 - 120		Recovery = 98.67%				
Target Compounds							Qvalue
2) Dichlorodifuloromethane	3.41	85	1396084	14.87	ug/L		99
3) chloromethane	3.81	50	1710494	16.59	ug/L		98
4) vinyl chloride	3.89	62	1361779	15.93	ug/L		98
5) bromomethane	4.52	96	1204904	28.49	ug/L		96
6) chloroethane	4.60	64	1105408	17.58	ug/L	#	100
8) Methyl Acetate	6.23	74	205965	14.98	ug/l		82
9) carbon disulfide	6.65	76	3049488	14.91	ug/L	#	100
10) MTBE	6.68	73	2882444	11.80	ug/L		97
11) 1,4 Dioxane	6.51	88	135838	15.95	ug/l	#	100
12) tert-butyl alcohol	5.86	59	1109166	23.37	ug/l		90
13) MEK	8.15	72	101536	11.05	ug/L		82
14) acetone	5.60	58	202041	17.81	ug/L		95
15) trichlorofluoromethane	4.98	101	2336980	15.44	ug/L		98
16) 1,1-dichloroethene	5.83	61	2829761	17.24	ug/L	#	100
17) methylene chloride	6.51	84	1684046	19.21	ug/L	#	100
18) trans-1,2-dichloroethene	6.94	61	2418532	15.63	ug/L	#	100
19) 1,1-dichloroethane	7.56	63	3087275	17.16	ug/L	#	100
20) chloroform	8.73	85	1909086	17.34	ug/L	#	100
22) bromochloromethane	9.01	128	644986	16.37	ug/L		97
24) 1,1,1-trichloroethane	9.36	97	2003917	15.07	ug/L	#	100
25) carbon tetrachloride	9.78	117	1593220	14.42	ug/L	#	100
27) 1,2-dichloroethane	9.99	62	2808064	16.56	ug/L	#	83
28) benzene	10.04	78	4969063	17.36	ug/L	#	100
29) trichloroethene	11.00	130	1350964	17.35	ug/L	#	64
31) 1,2-dichloropropane	11.28	63	1444591	16.81	ug/L	#	100
32) MIBK	12.13	100	81738	8.31	ug/L		64

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62401.D Vial: 2
Acq On : 5 Aug 2011 11:18 am Operator: A. Thomas
Sample : 20ppb lcs 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

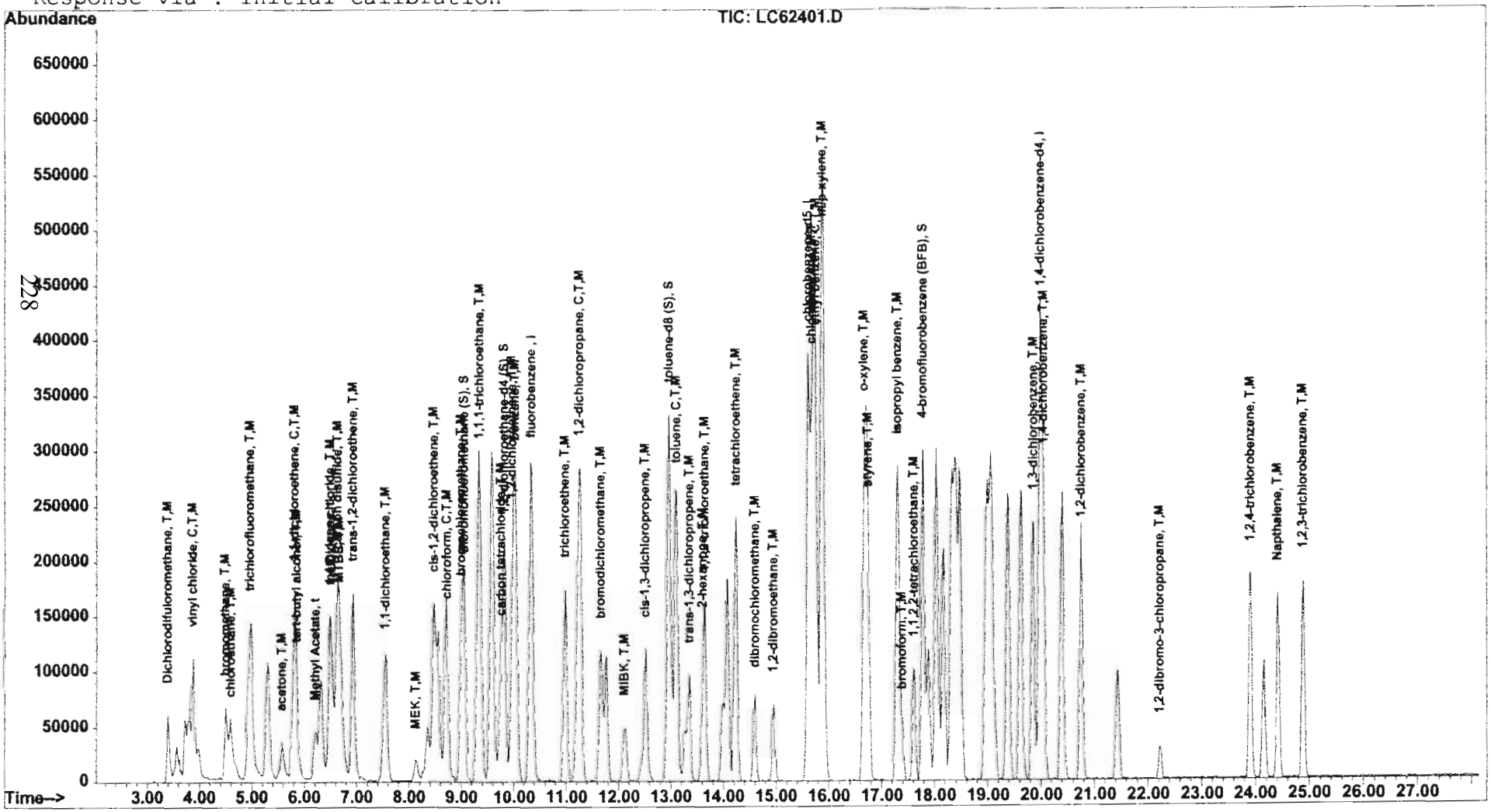
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	cis-1,2-dichloroethene	8.48	61	2740912	18.62 ug/L #	100
34)	bromodichloromethane	11.67	83	1677890	14.73 ug/L #	66
35)	cis-1,3-dichloropropene	12.53	75	1334005	11.36 ug/L #	93
37)	toluene	13.12	91	4713072	16.59 ug/L #	100
38)	trans-1,3-dichloropropene	13.37	75	984370	9.03 ug/L #	100
39)	2-hexanone	13.61	58	291134	9.20 ug/L #	76
40)	1,1,2-trichloroethane	13.65	83	950277	16.72 ug/L #	100
41)	tetrachloroethene	14.25	166	1985105	21.81 ug/L #	100
42)	dibromochloromethane	14.61	129	968933	12.91 ug/L #	100
43)	1,2-dibromoethane	14.97	107	1158217	16.63 ug/L #	99
45)	chlorobenzene	15.69	112	2835170	16.26 ug/L #	100
46)	ethyl benzene	15.75	91	5389155	16.14 ug/L	100
47)	m/p-xylene	15.89	91	9215524	32.35 ug/L #	82
48)	o-xylene	16.69	91	4624631	16.46 ug/L #	83
49)	styrene	16.74	104	2713744	16.75 ug/L	100
50)	isopropyl benzene	17.31	105	5092158	16.54 ug/L	99
51)	bromoform	17.40	173	526372	11.54 ug/L #	100
52)	1,1,2,2-tetrachloroethane	17.62	83	1342282	15.55 ug/L #	98
54)	1,3-dichlorobenzene	19.86	146	2282201	16.87 ug/L #	68
55)	1,2-dichlorobenzene	20.77	146	2181660	16.74 ug/L #	59
57)	1,4-dichlorobenzene	20.06	146	2277635	16.43 ug/L #	90
58)	1,2-dibromo-3-chloropropan	22.23	75	194983	13.60 ug/L	97
59)	1,2,4-trichlorobenzene	23.92	180	1484913	17.94 ug/L	97
60)	Napthalene	24.43	128	2854589	17.86 ug/L	100
61)	1,2,3-trichlorobenzene	24.90	180	1403765	18.16 ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62401.D Vial: 2
Acq On : 5 Aug 2011 11:18 am Operator: A. Thomas
Sample : 20ppb lcs 624full/5ml 8/4/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62402.D Vial: 35
Acq On : 6 Aug 2011 8:13 am Operator: A. Thomas
Sample : 20ppb lcs2 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) fluorobenzene	10.32	96	4634331	15.00	ug/l		-0.04
44) chlorobenzene-d5	15.59	117	3642916	15.00	ug/L		-0.04
56) 1,4-dichlorobenzene-d4	19.96	152	2081078	15.00	ug/L		-0.04
System Monitoring Compounds							
21) dibromofluoromethane (S)	9.05	113	1546952	29.73	ug/L		-0.03
Spiked Amount 30.000	Range 80 - 120		Recovery = 99.10%				
26) 1,2-dichloroethane-d4 (S)	9.81	102	343129	29.09	ug/L		-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 96.97%				
36) toluene-d8 (S)	12.95	98	4500523	30.08	ug/L		-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 100.27%				
53) 4-bromofluorobenzene (BFB)	17.76	95	2129262	30.31	ug/L		-0.04
Spiked Amount 30.000	Range 80 - 120		Recovery = 101.03%				
Target Compounds							Qvalue
2) Dichlorodifuloromethane	3.39	85	1396868	18.75	ug/L		99
3) chloromethane	3.80	50	2271199	27.77	ug/L		98
4) vinyl chloride	3.88	62	1456826	21.48	ug/L		97
5) bromomethane	4.50	96	815285	24.30	ug/L		97
6) chloroethane	4.60	64	1094002	21.94	ug/L	#	100
8) Methyl Acetate	6.22	74	67689	6.20	ug/l	#	15
9) carbon disulfide	6.65	76	2761211	17.02	ug/L	#	100
10) MTBE	6.66	73	2224312	11.48	ug/L		95
11) 1,4 Dioxane	6.51	88	196675	29.11	ug/l	#	100
12) tert-butyl alcohol	5.84	59	942167	25.02	ug/l		86
13) MEK	8.11	72	109944	15.09	ug/L		96
14) acetone	5.58	58	633350	70.37	ug/L		82
15) trichlorofluoromethane	5.00	101	2002372	16.68	ug/L		99
16) 1,1-dichloroethene	5.82	61	3017337	23.18	ug/L	#	100
17) methylene chloride	6.51	84	2061606	29.65	ug/L	#	100
18) trans-1,2-dichloroethene	6.93	61	2301317	18.75	ug/L	#	100
19) 1,1-dichloroethane	7.55	63	2778199	19.47	ug/L	#	99
20) chloroform	8.71	85	1824155	20.88	ug/L	#	100
22) bromochloromethane	8.99	128	490890	15.71	ug/L		93
24) 1,1,1-trichloroethane	9.34	97	1673215	15.86	ug/L	#	100
25) carbon tetrachloride	9.76	117	1396591	15.93	ug/L	#	100
27) 1,2-dichloroethane	9.96	62	2650615	19.70	ug/L	#	83
28) benzene	10.02	78	4479130	19.73	ug/L	#	100
29) trichloroethene	10.97	130	1358078	21.98	ug/L	#	33
31) 1,2-dichloropropane	11.25	63	1381342	20.27	ug/L	#	100
32) MIBK	12.10	100	94230	12.07	ug/L		40

(#) = qualifier out of range (m) = manual integration

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62402.D Vial: 35
Acq On : 6 Aug 2011 8:13 am Operator: A. Thomas
Sample : 20ppb lcs2 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Quant Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:57:02 2012
Response via : Initial Calibration
DataAcq Meth : VOC2

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
33)	cis-1,2-dichloroethene	8.47	61	2354938	20.17	ug/L	#	100
34)	bromodichloromethane	11.64	83	1530976	16.94	ug/L	#	66
35)	cis-1,3-dichloropropene	12.50	75	1101817	11.83	ug/L	#	93
37)	toluene	13.08	91	4523164	20.07	ug/L	#	100
38)	trans-1,3-dichloropropene	13.34	75	702633	8.13	ug/L	#	100
39)	2-hexanone	13.58	58	339198	13.52	ug/L	#	74
40)	1,1,2-trichloroethane	13.63	83	888743	19.71	ug/L	#	100
41)	tetrachloroethene	14.22	166	1957548	27.11	ug/L	#	99
42)	dibromochloromethane	14.57	129	893043	15.00	ug/L	#	100
43)	1,2-dibromoethane	14.93	107	1079985	19.55	ug/L	#	100
45)	chlorobenzene	15.66	112	2743979	19.48	ug/L	#	100
46)	ethyl benzene	15.72	91	5366142	19.90	ug/L	#	89
47)	m/p-xylene	15.86	91	9148288	39.76	ug/L	#	82
48)	o-xylene	16.65	91	4567290	20.13	ug/L	#	83
49)	styrene	16.71	104	2598448	19.85	ug/L		96
50)	isopropyl benzene	17.28	105	5097895	20.49	ug/L		99
51)	bromoform	17.37	173	440440	11.95	ug/L	#	100
52)	1,1,2,2-tetrachloroethane	17.59	83	1211796	17.38	ug/L	#	98
54)	1,3-dichlorobenzene	19.83	146	2302722	21.07	ug/L	#	100
55)	1,2-dichlorobenzene	20.73	146	2144199	20.37	ug/L	#	59
57)	1,4-dichlorobenzene	20.02	146	2271123	19.93	ug/L	#	72
58)	1,2-dibromo-3-chloropropan	22.20	75	141272	11.98	ug/L		92
59)	1,2,4-trichlorobenzene	23.88	180	1428502	21.00	ug/L		96
60)	Napthalene	24.39	128	2291915	17.44	ug/L		100
61)	1,2,3-trichlorobenzene	24.86	180	1274018	20.05	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA2011\AUG11\AUG04\LC62402.D Vial: 35
Acq On : 6 Aug 2011 8:13 am Operator: A. Thomas
Sample : 20ppb lcs2 624/5ml 8/5/11 Inst : GC/MS Ins
Misc : Multiplr: 1.00
MS Integration Params: events.e
Quant Time: Feb 24 12:58 19112 Quant Results File: T6080311.RES

Method : C:\HPCHEM\1\METHODS\T6080311.M (Chemstation Integrator)
Title : VOA
Last Update : Fri Feb 24 12:59:41 2012
Response via : Initial Calibration