N60087.AR.002172
NAS BRUNSWICK
5090.3a

FINAL HIPOX PILOT STUDY WORK PLAN, GROUNDWATER EXTRACTION AND TREATMENT SYSTEM WITH TRANSMITTAL LETTER NAS BRUNSWICK ME
10/9/2009
ECC

LETTER OF TRANSMITTAL

ECC
33 Boston Post Road West
Suite 340
Marlborough, MA 01752
Tel: (508) 229-2270
Fax: (508) 229-7737

TO: U.S. Department of Navy
BRAC PMO Northeast
4911 South Broad Street
Philiadephia, PA 19112-1303

DATE: 9 OCTOBER 2009	JOB NO.: 5564.001
ATTENTION: Todd Bober, RPM and Paul Burgio, BEC	
RE: Final HiPOx Pilot Study Work Plan	
Groundwater Extraction and Treatment System	
Naval Air Station Brunswick, Maine	

WE ARE SENDING YOU [X] Attached [ ] Under separate cover via _____ the following items:

[ ] Shop drawings [ ] Prints [ ] Plans [ ] Samples [ ] Specifications

[ ] Copy of letter [ ] Change order [ ] _____

COPIES	DATE	DESCRIPTION
1	October 2009	FINAL HiPOx PILOT STUDY WORK PLAN, GROUNDATER EXTRACTION AND TREATMENT SYSTEM, NAVAL AIR STATION BRUNSWICK, MAINE

THESE ARE TRANSMITTED as checked below:

[ ] For approval [ ] Approved as submitted [ ] Resubmit _____ copies for approval

[X] For your use [ ] Approved as noted [ ] Submit _____ copies for distribution

[ ] As requested [ ] Returned for corrections [ ] Return _____ corrected prints

[ ] For review and comment [ ] _____

[ ] FOR BIDS DUE _____ [ ] PRINTS RETURNED AFTER LOAN TO US

REMARKS: For your reference/use.

COPY TO:
C. Sait and C. Evans, MEDEP (2)
M. Daly, EPA (1)
C. Lepage, Lepage Environmental (1)
D. McTigue, Gannet Flemming (1)
L. Joy and M. Fagan, NASB (1)
J. Wright, B. Capito, NAVFAC (2)
L. Klink, J. Orient, TtNUS (2)
C. Race, TtNUS (1)
C. Guido, R. Phinney, ECC (2)
J. Parrett, E. King, H&S (2)
J. Fullerton, Curtis Memorial Library (1)

SIGNED Gina Calderone CPG, PG
Titles Project Manager/Hydrogeologist

Al Easterday, PG
Sr. Project Manager

 If enclosures are not as noted, kindly notify us at once.

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE, NORTHEAST
4911 SOUTH BROAD STREET
PHILADELPHIA, PA 19112-1303

BPMO NE/TB
Ser 10-009
October 9, 2009

Mr. Michael J. Daly
Remedial Project Manager
Federal Facilities Superfund Section
United States Environmental Protection Agency (EPA)
1 Congress Street, Suite 1100 (HBT)
Boston, MA 02114-2023

Ms. Claudia Sait
Remedial Project Manager
Maine Department of Environmental Protection (MEDEP)
Bureau of Remediation and Waste Management
17 State House Station
Augusta, ME 04333-0017

Dear Mr. Daly and Ms. Sait:

Enclosed you will find the Final HiPOx Pilot Study Work Plan, Groundwater Extraction and Treatment System, Naval Air Station (NAS) Brunswick, Maine. This report is provided for your use/reference.

If you have any questions or comments, please contact the Navy's Remedial Project Manager, Todd Bober at (215) 897-4911.

Sincerely,

Gregory C. Preston
Acting Director

Enclosure:
Final HiPOx Pilot Study Work Plan, Groundwater Extraction and Treatment System, NAS Brunswick, Maine

Copy to:
MEDEP (C. Evans)
NASB (L. Joy, M. Fagan)
Gannet-Fleming (D. McTigue)
Lepage Environmental (C. Lepage)
NAVFAC MIDLANT (T. Bober)
NAVFAC ATLANTIC (J. Wright, B. Capito)
TtNUS (L. Klink, C. Race, J. Orient)
ECC (A. Easterday, G. Calderone, C. Guido, R. Phinney)
H&S (J. Parrett, E. King)
Curtis Memorial Library (J. Fullerton)

Copy to: (w/o encl)
BRAC PMO NE (P. Burgio)
NAVFAC ATLANTIC (D. Barclift)
BACSE (E. Benedikt, C. Warren)
CO NASB (CAPT Fitzgerald)
RAB Brunswick Representative (S. Johnson)
RAB Harpswell Representative (D. Chipman)
RAB Topsham Representative (S. Libby)
MRRA (V. Boundy)

FINAL
HiPOx PILOT STUDY WORK PLAN
GROUNDWATER EXTRACTION AND TREATMENT SYSTEM

Naval Air Station
Brunswick, Maine

Prepared for:

Department of the Navy
Naval Facilities Engineering Command
BRAC Program Management Office - Northeast
4911 South Broad Street
Philadelphia, Pennsylvania 19112-1303

Contract No. N40085-09-D-7035
Contract Task Order No. 002

October 2009

Prepared for H&S Environmental by

ECC
33 Boston Post Road West, Suite 340
Marlborough, MA 01752

FINAL
HiPOx PILOT STUDY WORK PLAN
GROUNDWATER EXTRACTION AND TREATMENT SYSTEM

Naval Air Station
Brunswick, Maine

Prepared for:

Department of the Navy
Naval Facilities Engineering Command
BRAC Program Management Office - Northeast
4911 South Broad Street
Philadelphia, Pennsylvania 19112-1303

Prepared by:

ECC
33 Boston Post Road West, Suite 340
Marlborough, Massachusetts 01752

8 October 2009

Al Easterday, P.G. — Date
Senior Project Manager

8 October 2009

Curtis J. Varner, P.E. — Date
Project Manager/Project Engineer

CONTENTS

Page

LIST OF FIGURES
LIST OF TABLES

1. INTRODUCTION 1-1

1.1 Project Identification 1-1
1.2 Background Information 1-1

1.2.1 Summary of GWETS Operations 1-2
1.2.2 Overview of HiPOx System 1-2
1.2.3 Evaluation & Optimization of HiPOx System with Liquid-Phase GAC 1-4

1.3 Goals & Objectives 1-5
1.4 Schedule 1-6
1.5 Organization 1-6

2. HiPOx BENCH TEST 2-1

2.1 Purpose 2-1
2.2 HiPOx Bench Test Methodology 2-1
2.3 HiPOx Bench Results 2-2

3. HiPOx PILOT SYSTEM INSTALLATION 3-1

3.1 Overview 3-1
3.2 Equipment Delivery and Placement of Skids 3-1
3.3 Mechanical & Electrical Work 3-2

3.3.1 Mechanical Work 3-2
3.3.2 Electrical Work 3-3

3.4 Commissioning 3-3

4. HiPOx PILOT TESTING 4-1

4.1 Overview 4-1
4.2 HiPOx System Prove-Out 4-1
4.3 Pilot Test Procedures 4-2

5. HiPOx PILOT TEST REPORT 5-1

APPENDICES

APPENDIX A: APT CUT-SHEETS & HiPOx DESIGN DRAWINGS
APPENDIX B: SCHEDULE
APPENDIX C: APT HiPOx HCU BENCH TEST REPORT
APPENDIX D: HiPOx COMMISIONING CHECKLIST
APPENDIX E: BRUNSWICK SEWER DISTRICT CORRESPONDENCE
APPENDIX F: RESPONSE TO COMMENTS AND REGULATOR CONCURRENCE

LIST OF FIGURES

Number	Title
1-1	Site Location Map, Building 50, Naval Air Station, Brunswick, Maine
1-2	Existing Groundwater Extraction and Treatment System, Building 50, Naval Air Station Brunswick, Maine
1-3	Schematic View of GWETS with Air-Stripper and GAC
1-4	Eastern Plume Extraction Well Network and Groundwater Treatment System, Naval Air Station, Brunswick, Maine
1-5	HiPOx System Installation Plan, Building 50, Naval Air Station Brunswick, Maine
1-6	Schematic View of GWETS with HiPOx and Air-Stripper
1-7	Schematic View of GWETS with HiPOx and Liquid-Phase GAC

LIST OF TABLES

Number	Title
1	HiPOx Pilot Study Analytical Summary, 30 September 2009

ACRONYMS

APT	Applied Process Technologies
BRAC	Base Realignment and Closure
CVOC	chlorinated volatile organic compound
EW	extraction well
ft	feet
GAC	granular activated carbon
gal	gallon
gpm	gallons per minute
GWETS	Groundwater Extraction and Treatment System
H&S	H&S Environmental
in.	inch
L	liter
lb	pound
µg/L	micrograms per Liter
mL	milliliter
NAS	Naval Air Station
No.	number
O&M	Operation and Maintenance
PMO NE	Program Management Office North East
PVC	polyvinyl chloride
SCADA	Supervisory Control and Data Acquisition System
U.S.	United States
VOC	volatile organic compound

1. INTRODUCTION

1.1 PROJECT IDENTIFICATION

The Department of the Navy – Base Realignment and Closure Program (BRAC) Management Office Northeast (PMO NE), under Contract No. N40085-09-D-7035, Task Order 002, tasked H&S Environmental (H&S) with installation and pilot testing of a HiPOx™ HCU advanced oxidation system (HiPOx system) from Applied Process Technology, Inc. (APT) of Pleasant Hill, California. The HiPOx equipment will be incorporated into the existing groundwater extraction and treatment system (GWETS) at Naval Air Station (NAS) Brunswick, Maine. The purpose of the HiPOx system is to provide treatment of 1,4-dioxane in groundwater recovered from the Eastern Plume. ECC has prepared this HiPOx Pilot Study Work Plan under subcontract to H&S Environmental.

The GWETS is located in Building 50 at NAS Brunswick (Figure 1-1). The interior layout of Building 50 showing the GWETS treatment components is shown on Figure 1-2.

1.2 BACKGROUND INFORMATION

The Eastern Plume consists of contaminated groundwater located at the eastern edge of the NAS Brunswick installation. The principal contaminants of concern in the Eastern Plume include the chlorinated solvents trichloroethane (TCA), perchloroethene and trichloroethene (PCE and TCE, respectively) and associated daughter products. Other non-halogenated volatile organic compounds (VOCs) related to petroleum hydrocarbons are periodically reported at low concentrations within the Eastern Plume.

The GWETS was designed to contain and remove dissolved-phase VOCs from groundwater in the Eastern Plume. The pump and treat system utilizes a network of extraction wells to provide hydraulic control and remove contaminated water and a network of monitoring wells to measure system performance. The GWETS currently utilizes a shallow tray air-stripper for removal of VOCs from extracted groundwater with liquid-phase granular activated carbon (GAC) polishing prior to discharge to an on-site infiltration gallery. Air stripper emissions are treated with vapor-phase GAC prior to release to atmosphere. Figure 1-3 provides a schematic view of the GWETS process, including primary treatment by the air-stripper and secondary treatment by liquid-phase and vapor-phase GAC.

Subsequent to the design and installation of the current GWETS, 1,4-dioxane was identified as an emerging contaminant of concern. 1,4-dioxane is a solvent stabilizer historically added to TCA, although 1,4-dioxane has also been identified in PCE and TCE as a result of residual carry over during manufacture and transport of chlorinated solvents.

The current GWETS is not effective for removal of 1,4-dioxane because the compound is not readily vaporized during air-stripping or absorbed by GAC. Historically, the concentration of 1,4-dioxane in the GWETS influent has been less than the corresponding State of Maine Maximum Exposure Guideline (MEG) of 32 µg/L. However, the Navy is currently in the process of installing additional extraction wells in residual "hot-spot" areas of the Eastern Plume and will require active 1,4-dioxane treatment to allow operation of these new wells.

1.2.1 Summary of GWETS Operations

The GWETS was installed by OHM Corporation in 1994 and began operation in May 1995. During late 2000 and early 2001, Foster Wheeler Environmental Corporation replaced the original VOC treatment equipment (ultraviolet oxidation) with the current air stripping and GAC system. The GWETS continued to discharge to the Brunswick Sewer District with the new treatment equipment. During 2001, Foster Wheeler Environmental Corporation designed and installed an infiltration gallery for the GWETS. The infiltration gallery was installed during Fall 2001, and began operation (receiving treated effluent from GWETS) in January 2002. At this time discharge of the treated GWETS effluent to the Brunswick Sewer District ceased. The GWETS still maintains an option to discharge to the Brunswick Sewer District; however, this will only occur on an as-needed basis in consultation with the Brunswick Sewer District.

The original extraction well network, installed in 1995, included seven wells (EW-01 through EW-07). Two extraction wells have been added to the network: EW-02A was added in 1998, and EW-05A was added in January 2001. Currently, the network has four extraction wells that are operational: EW-01, EW-02A, EW-04, and EW-05A. Extraction wells EW-06 and EW-07 were installed at the Sites 1 and 3 Landfill, and were deactivated in 1997 due to continued decreasing yields and stabilized water levels within the confines of the slurry wall for Sites 1 and 3 Landfill.

Pumping at EW-02 ceased in September 2000 due to low detected concentrations of VOCs. Pumping from EW-05 was terminated in January 2001 when the replacement extraction well EW-05A was placed online. Extraction wells EW-02, EW-03, and EW-05 have been subsequently closed (decommissioned), and are no longer part of the extraction well network.

The GWETS currently treats the combined influent from Eastern Plume groundwater extraction wells EW-01, EW-02A, EW-04, and EW-05A. The combined influent flow rate is approximately 40 - 45 gallons per minute (gpm) with a total chlorinated volatile organic compound (CVOC) concentration of approximately 60 µg/L.

The combined influent from extraction wells EW-01, EW-02A, EW-04, and EW-05A contains dissolved-phase 1,4-dioxane at concentrations of approximately 6 to 9 µg/L, less than the corresponding MEG of 32 µg/L. However, to effectively contain the elevated 1,4-dioxane component of the Eastern Plume and capture dissolved-phase CVOCs at the southern extent of the plume, several additional extraction wells will need to be installed.

The first of the new extraction wells is EW-05B, located approximately 600 feet downgradient from existing extraction well EW-05A (Figure 1-4). Existing extraction well EW-05A will be

de-activated and replaced with EW-05B, since the groundwater recovery from this well has dropped below 1.0 gpm and since EW-05B is in a superior position for contaminant capture. The 1,4-dioxane concentration at EW-05B is expected to range from 100 to150 µg/L, significantly greater than the corresponding MEG.

Two other new extraction wells identified as EW-08 and EW-09 will be installed at the approximate locations shown on Figure 1-4. Extraction wells EW-08 and EW-09 are to be located in residual 'hot-spot' areas for both VOCs and 1,4-dioxane. It is anticipated that dissolved-phase 1,4-dioxane concentrations in groundwater recovered from EW-08 and EW-09 will be equal to or greater than 100 µg/L. Following installation of the new extraction wells (i.e., EW-05B; EW-08; and EW-09), existing extraction well EW-01 will be de-activated and extraction well EW-04 will either be deactivated or have the pumping rate significantly reduced. The composite influent based on operation of extraction wells EW-02A, EW-05B, EW-08, and EW-09 is expected to contain 1,4-dioxane at concentrations above the respective MEG for a year or longer.

1.2.2 Overview Of HiPOx System

The HiPOx system will be used to provide 1,4-dioxane treatment in order to insure that the concentration of 1,4-dioxane in the GWETS effluent remains below the MEG of 32 µg/L, with an initial pilot study treatment goal of 10 µg/L.

APT's HiPOx technology is a continuous flow advanced oxidation process for the destruction of dissolved-phase volatile and semi-volatile organic compounds. The process uses industry recognized ozone and hydrogen peroxide chemistry in a uniquely designed oxidation reactor. The reactants are injected directly into the water stream in precisely controlled ratios and locations, generating hydroxyl radicals, one of nature's most powerful oxidants. The hydroxyl radicals attack the bonds in the organic contaminant molecules, progressively oxidizing these compounds and any resulting intermediate by-products until the basic atoms ultimately recombine into benign end-products of CO_2, H_2O, and salts.

Although HiPOx systems provide excellent treatment of 1,4-dioxane and chlorinated ethenes, the process is not as effective for removal of chlorinated ethanes (i.e., TCA and related daughter products). Chlorinated ethanes and residual chlorinated ethenes will continue to be treated via the existing air-stripper and GAC units or by liquid-phase GAC without air-stripping dependent upon the results of the HiPOx pilot test.

The HiPOx system to be incorporated into the NAS Brunswick GWETS is a re-furbished unit with an operating capacity ranging from 3 to 160 gpm, as shown on the equipment specification sheets provided in Appendix A. Depending on the site-specific groundwater conditions and ozone dosing rate, HiPOx systems at other locations in the United States have maintained 1,4-dioxane effluent concentrations below 5 µg/L. It should be noted that although the treatment goal for the GWETS HiPOx effluent will be to maintain 1,4-dioxane at levels well below the MEG (32 µg/L), reduction of other chlorinated VOCs will also vary with hydrogen peroxide and ozone dosing rate, and overall performance will be evaluated to assess optimal treatment for all contaminants.

The HiPOx unit will be installed at the head of the existing GWETS, after the sand filters to allow particulate removal prior to the advanced oxidation system as shown on Figure 1-5. Figure 1-6 provides a schematic view of the GWETS process with the HiPOx components in-place. The HiPOx unit will remove 1,4-dioxane and chlorinated ethenes and provide limited treatment of chlorinated ethanes. Treated groundwater from the HiPOx unit will be sent to the existing air-stripper for removal of residual chlorinated ethanes and subsequently through the existing liquid-phase GAC units for polishing of residual CVOCs, if present.

Subsequent pilot testing will provide an evaluation of the efficacy of utilizing the HiPOx system and liquid-phase GAC without the air-stripper and vapor-phase treatment processes. The purpose of this evaluation is discussed below.

1.2.3 Evaluation & Optimization of HiPOx System with Liquid-Phase GAC

Although the primary goal of this pilot study is to successfully determine efficient operational requirements for the HiPOx system, it also provides an excellent opportunity to evaluate other potential changes to the GWETS and recommend significant improvements as well. As part of Navy policy, there is a requirement to regularly examine existing remedial cleanup systems in an effort to optimize their operation and ensure enhanced performance as needed to protect human health and the environment. In addition, there are numerous Federal mandates to minimize energy consumption and the "environmental footprint" at Federal Facilities as part of sustainability and "green" initiatives.

The existing GWETS provides final removal of VOCs by adsorption to GAC. The majority of the VOCs are stripped from groundwater and captured in the vapor-phase GAC vessels. Residual VOCs that are not removed by air-stripping (typically less than 1-2 percent of the influent VOC concentration) are captured by the liquid-phase GAC. The air-stripper and GAC treatment process was designed and installed during 2000-2001, at a time when the monthly VOC loading was more than ten times greater than current conditions. After the HiPOx system is operational, the VOC loading to the air-stripper and GAC vessels will be further reduced because the HiPOx process will remove nearly all of the chlorinated ethenes and more than 25% of the chlorinated ethanes before the air-stripper.

Under the currently asymptotic VOC loading rate, and particularly following installation of the HiPOx unit, it may be possible to simplify the existing treatment system by elimination of the air-stripping and vapor-phase GAC treatment processes in favor of VOC and 1,4-dioxane removal by the HiPOx system with final VOC polishing by liquid-phase GAC. Figure 1-7 provides a schematic view of the GWETS process utilizing the HiPOx system for primary treatment and the liquid-phase GAC units for secondary polishing of residual chlorinated ethanes. Process water would continue to pass through the inactive air-stripper without loss of VOCs. The vapor-phase treatment components would be inactive but would remain in-place to be utilized in the future if needed.

The potential advantages gained by this modification include:

1. Simplification of existing treatment process by consolidation of GAC absorption to a single media type (liquid-phase GAC). This would result in elimination of vapor-phase GAC replacements; elimination of vapor-phase air sampling; and significant reduction of electrical demand.

2. Reduction of GWETS electrical demand and associated off-site environmental impacts by deactivation of the 10 Hp air-stripper blower, 10-Hp air-stream heater booster blower, and 24 KW air-stream heater required prior to the vapor-phase GAC vessels. Together these electrical loads are a very large component (i.e., greater than 50 percent) of the GWETS electrical demand. Eliminating these loads would save energy and reduce the potential off-site environmental issues associated with increased production of air pollutants and greenhouse gases incurred during electrical power generation.

During HiPOx pilot testing, the Navy will confirm whether the modified GWETS VOC removal process (i.e., HiPOx with liquid-phase GAC) is effective and meets cleanup requirements. Follow-on technical discussions with project stakeholders shall occur before any permanent changes to the GWETS are implemented.

1.3 GOAL & OBJECTIVES

The Navy will conduct a HiPOx pilot test at Building 50 during the third and fourth quarters of 2009. The goals and objectives of the HiPOx Pilot Test include the following:

1. Demonstrate that the HiPOx advanced oxidation system provides effective 1,4-dioxane treatment to maintain GWETS effluent concentrations equal to or less than 10 µg/L;

2. Determine the optimal operating conditions to meet the 1,4-dioxane treatment objective with the most efficient use of hydrogen peroxide and electrical power necessary to run the HiPOx system;

3. Evaluate the most cost-effective and energy efficient GWETS configuration with the HiPOx system in place. Possible alternatives include utilizing the existing air-stripper and GAC units to treat residual CVOCs in the HiPOx effluent or discharging the HiPOx effluent directly through the liquid-phase GAC vessels prior to the infiltration gallery; and,

4. Provide HiPOx training to the GWETS operator and support personnel;

1.4 SCHEDULE

The schedule for the HiPOx system installation and pilot test is presented in Appendix B. The pilot test, including work plan, execution, and reporting is expected to last a total of 41 weeks.

1.5 ORGANIZATION

This Work Plan describes the scope of work and procedures to be used during installation and pilot testing of the HiPOx system. The Work Plan is organized into the following sections:

- **Chapter 1, Introduction**—Provides background information of the GWETS and outlines the goals and objectives of the HiPOx Pilot Test.
- **Chapter 2, Bench Test Results**—Details the results of site-specific HiPOx bench testing conducted at APT's laboratory using groundwater collected from the GWETS influent and extraction well EW-5B. The complete HiPOx bench test report from APT is provided in Appendix C.
- **Chapter 3, HiPOx HCU Installation**—Details the procedures for delivery and installation of the HiPOx equipment, including unloading and placement of the treatment skids; mechanical and electrical connections; and commissioning.
- **Chapter 4, HiPOx Pilot Study**—Explains specific procedures for conducting the 3-day test run and subsequent 12-week prove-out period of the HiPOx system at NAS Brunswick.
- **Chapter 5, Completion Report**—Describes the contents of the HiPOx Pilot Study Completion Report to be submitted following the HiPOx pilot test.

2. HiPOx BENCH TEST

2.1 PURPOSE

Although HiPOx advanced oxidation is a well-proven, established technology, the efficacy and design of the full-scale HiPOx system to be pilot-tested at the NAS Brunswick GWETS is dependent upon the site-specific chemistry of the groundwater at the Eastern Plume. Therefore, bench-scale testing was conducted to model the performance of the pilot-phase HiPOx system with respect to 1,4-dioxane and VOC removal and determine the corresponding ozone and hydrogen peroxide dosing requirements. Furthermore, the results of the bench-scale test are necessary for the vendor (APT) to offer a performance guarantee as part of their proposal.

This chapter presents the bench-scale testing results of the HiPOx advanced oxidation process for 1,4-dioxane and VOC treatment using groundwater collected from the Eastern Plume at NAS Brunswick. The HiPOx HCU bench test was conducted during February 2009. The complete bench test report (APT, March 2009) is provided as Appendix C.

2.2 HiPOx BENCH TEST METHODOLOGY

Two separate bench scale tests were performed to model the HiPOx performance at separate phases of the new extraction well activation process, as outlined below:

- **Bench Test 1 – GWETS Influent with EW-05B Activated:** This bench test was conducted using a flow-weighted composite sample of groundwater collected from extraction well EW-05B and the existing GWETS influent (EW-01; EW-02A; EW-04; and EW-05A). The composite sample contained 1,4-dioxane at 22.8 µg/L and total VOC at 216 µg/L, considered to be representative of GWETS operating conditions after extraction well EW-05A is replaced by EW-05B.
- **Bench Test 2 – GWETS Influent with New Extraction Wells:** This bench test was conducted using groundwater collected from EW-05B, containing 1,4-dioxane at 101 µg/L and total VOC at 1,116 µg/L. These 1,4-dioxane and VOC concentrations are the anticipated 'worst-case' composite influent to the GWETS after future groundwater extraction wells EW-X and EW-Y are installed in remaining "hot-spot" areas within the Eastern Plume and existing extraction wells EW-01 and EW-04 are deactivated.

ECC collected the groundwater samples for the bench tests on 17 February 2009 and shipped the samples by overnight courier to APT's facility in Pleasant Hill, California. On 19 February 2009, APT used a bench-scale HiPOx HCU system to evaluate the treatment effectiveness at varying ozone and hydrogen peroxide dosing rates. Treated 'effluent' samples were collected after each oxidant dosing test for comparison to the untreated groundwater analytical data to determine removal efficiencies for 1,4-dioxane and individual CVOCs.

On 19 February 2009, immediately after bench testing, APT shipped the untreated groundwater and bench test samples (treated samples) by overnight courier to ACCUTEST Laboratories, Inc. of Santa Clara, California for analysis of VOCs by EPA Method 8260B and 1,4-dioxane by the EPA Method 8260B SIM. Additional analyses were performed to test the raw water samples for chemical oxygen demand (COD) and target analyte list (TAL) metals. The complete analytical report is provided with the bench test report in Appendix C.

2.3 HiPOx BENCH TEST RESULTS

The bench-scale HiPOx tests confirmed that 1,4-dioxane concentrations in groundwater from the Eastern Plume can be effectively reduced to less than 10 µg/L at an ozone dose of 5 to 6 mg/L and hydrogen peroxide dose of 3 to 4 mg/L. This result applies for both the near-term conditions (i.e., after EW-05B replaces EW-05A) and future conditions after each of the new extraction wells are activated and EW-01 and EW-04 are deactivated (i.e., 1,4-dioxane influent concentration up to 200 µg/L).

Chlorinated ethenes (including PCE, TCE, 1,1-DCE, and cis-1,2-DCE) were almost entirely removed by the HiPOx advanced oxidation process concurrently with destruction of 1,4-dioxane. It is anticipated that the pilot-scale HiPOx HCU system will maintain effluent 1,4-dioxane concentrations equal to or less than 10 µg/L while removing greater than 95 to 99% of influent chlorinated ethenes.

As presented previously, the HiPOx process is not as effective for treating chlorinated ethanes. Groundwater from the Eastern Plume typically contains 1,1,1-TCA and both DCA isomers. Based on the results of the bench-scale tests, it is anticipated that the pilot-scale HiPOx HCU system will provide between 25-40% reduction of chlorinated ethane concentrations. The remaining chlorinated ethanes and any residual chlorinated ethenes could be treated by the existing air-stripper and both vapor-phase and liquid-phase GAC, or possibly by liquid-phase GAC alone. Because the air-stripper and vapor-phase GAC require a large amount of electrical power to operate, it may be beneficial both from environmental and energy consumption considerations to by-pass the air-stripper and utilize the liquid-phase GAC units for treatment of residual dissolved-phase contaminants in the HiPOx system effluent.

3. HiPOx PILOT SYSTEM INSTALLATION

3.1 OVERVIEW

Under subcontract to H&S Environmental, APT will provide a re-furbished HiPOx HCU unit and a separate oxygen generator skid. The HiPOx HCU design drawings are provided in Appendix A. This equipment will be delivered to Building 50 at NAS Brunswick and incorporated into the existing GWETS. ECC will provide construction oversight and installation assistance during the installation process of the HiPOx HCU unit. An APT HiPOx technician will mobilize to the site to commission the system after installation. H&S Environmental and ECC will secure all necessary permits before installation work is initiated.

The layout of the HiPOx system is shown on Figure 1-5. A three-way valve will be installed in the existing groundwater influent line between the sand filters and the shallow-tray air-stripper. A new 3-inch Schedule 80 PVC pipe will be run from the valve location overhead to the HiPOx HCU skid. The three-way valve will allow the GWETS operator to direct groundwater from the sand filter effluent to either the air-stripper or the HiPOx system. A separate 3-inch Schedule 80 PVC pipe will be run overhead from the HiPOx HCU skid to the air-stripper. With the influent three-way valve set to direct filtered groundwater to the HiPOx system, residual VOCs in the HiPOx effluent can either be treated by air-stripping and both vapor-phase and liquid-phase GAC (i.e., existing GWETS treatment process) or simply by liquid-phase GAC if the operator deactivates the air-stripper blower and air stream heater components.

3.2 EQUIPMENT DELIVERY AND PLACEMENT OF SKIDS

A licensed equipment rigger, under subcontract to and supervision by ECC, will receive, unload, and place the equipment skids on new concrete housekeeping pads within Building 50. The concrete pads will be constructed by a concrete mason under subcontract to ECC at the locations shown on Figure 1-5. The concrete pads are necessary to provide level, stable tie-down surfaces for the HiPOx HCU equipment skid (4,5 feet x 8 feet); the oxygen generator equipment skid (4 feet x 4 feet); and the 10% hydrogen peroxide supply tank (34-inch diameter single wall HDPE tank). The concrete pads will be sized to allow 6-inch lateral clearance along the base of the equipment skids and around the hydrogen peroxide tank. The skids will be located so that at least 36-inches of clearance is provided for maintenance at the critical areas shown on APT's design drawings (Appendix A). The housekeeping pads will be 3,500-psi, steel re-enforced concrete.

The HiPOx HCU and oxygen generator skids will be delivered on a flatbed trailer together with a separate equipment crate from APT. A licensed rigger under subcontract to ECC will unload the skids and equipment crate with a forklift rated for at least 7,500 lbs. The skids will be located on the concrete pads and secured with steel bolts. The equipment crate will be placed near the HiPOx HCU and oxygen generator skids as directed by ECC.

3.3 MECHANICAL & ELECTRICAL WORK

Mechanical and electrical connections will be completed by a plumber and licensed electrician, respectively under subcontract to ECC. ECC will provide construction oversight of all subcontractors. As shown on the project schedule (Appendix B), plumbing and electrical conduit will be installed and wiring connections will be made after the equipment skids are secured to the concrete pads. Pipe and conduit will be run overhead and along the plant walls at the approximate locations shown on Figure 1-5 to minimize interference with existing GWETS operations.

3.3.1 Mechanical Work

The three way influent control valve and new 3-inch, Schedule 80 PVC groundwater process piping will be installed as discussed in Section 3.1. Existing Oxidation Tank (GWETS Tank No. 1) will be cleaned and utilized as a stabilization tank for the HiPOx system. With the HiPOx system active, groundwater will be directed from the sand filters to Tank 1 which will allow controlled and stabilized flow through the HiPOx system. Transfer pumps on the HiPOx HCU skid will draw water from Tank 1, or return treated water to Tank 1 when the HiPOx system is in recycle mode (i.e., during start-up and calibration or during periods when the GWETS flow rate is not sufficient to maintain steady flow conditions at the HiPOx skid). The overhead 3-inch Schedule 80 PVC influent pipe will be connected to Tank 1. Separate Schedule 80 PVC pipe runs will connect Tank 1 to the HiPOx skid and the HiPOx skid to the air-stripper. Piping details will be provided under separate cover with the final APT design package and the plumbing bid package submitted to the plumbing contractors.

It will also be necessary to install a new 150-gal high-density polyethylene (HDPE) single-wall tank for monthly preparation of 10% hydrogen peroxide solution. This hydrogen peroxide tank will be located adjacent to the existing 2,000-gal high-strength hydrogen peroxide tank. The existing hydrogen peroxide metering pump will be used to transfer 45% hydrogen peroxide to the new 10% hydrogen peroxide mixing tank. Distilled water will be transferred to the mixing tank by manual drum pumping. A separate chemical transfer pump will be used to deliver 10% hydrogen peroxide from the mixing tank to the 20-gal day tank at the HiPOx HCU skid. A new 1-inch, Schedule 80 PVC pipe will be run overhead and along the plant wall from the 10% hydrogen peroxide mixing tank to the HiPOx skid, as shown on Figure 1-5.

Small diameter piping will also be necessary to deliver oxygen from the oxygen generator skid to the HiPOx HCU skid. Small diameter piping specifications will be provided with the final APT design package.

Following final plumbing connections, all new pipe and fittings will be tested to insure that there are no leaks. Specific testing requirements will be provided with the final APT design drawings and the plumbing bid package submitted to the plumbing contractors.

3.3.2 Electrical Work

Similar to the mechanical work, electrical work will include running new overhead power and control conduit from tie-in locations above the existing air-stripper. Three-phase, 208-230V power will be provided to the HiPOx HCU skid. Control and communication wiring will be run from the HiPOx HCU skid to the electrical control room in Building 50 for tie-in with the GWETS control system. APT will provide interconnect electrical fittings for single-phase power and control connections between the HiPOx and oxygen generator skids. Conduit and wire will be run between the skids during final electrical work. Electrical line drawings and load calculations are provided with the APT design drawings (Appendix A).

3.4 COMMISSIONING

After completion and inspection of final mechanical and electrical work, the HiPOx system will be commissioned by a representative from APT under H&S and ECC oversight. The commissioning process is necessary to confirm that the equipment has been properly installed and is ready for activation. APT's commissioning checklist is provided in Appendix D.

4. HiPOx PILOT TESTING

4.1 OVERVIEW

The NAS Brunswick HiPOx system will be pilot tested over a twelve week period during the third and fourth quarters of 2009. The primary purpose of the pilot test will be to confirm that the HiPOx system successfully reduces influent 1,4-dioxane concentrations to the treatment goal of less than 10 µg/L prior to discharge to the infiltration gallery. Secondary objectives of the pilot test include the following:

- Develop a set of HiPOx operating conditions that achieves the 1,4-dioxane treatment goal with the most efficient utilization of energy and consumables (i.e., minimize oxygen and hydrogen peroxide dosing rates);
- Evaluate the most efficient overall GWETS configuration for treatment of residual CVOCs in the HiPOx effluent. Possible system configurations to be pilot tested include utilizing the air-stripper with both liquid and vapor-phase GAC or utilizing liquid-phase GAC as a stand-alone polishing step after the HiPOx;
- Provide HiPOx training to the GWETS operator and support personnel.

The schedule for the HiPOx pilot test is provided on a gant chart in Appendix B.

Prior to and during the 3-day test of the HiPOx system, the plant effluent will be discharged to the Brunswick Sewer District. Once approval is received to start the 12 week study phase, the plant effluent will be discharged to the on-site infiltration gallery. Correspondence from the Brunswick Sewer District is provided in Appendix E.

4.2 HiPOx SYSTEM PROVE-OUT

Following installation and commissioning, the HiPOx system will undergo a one-week activation, calibration, and prove-out period. An APT HiPOx technician will mobilize to NAS Brunswick to support ECC during the HiPOx system activation and calibration process to insure that the HiPOx HCU and oxygen generator are operating at steady state. The anticipated schedule of events during the one-week prove-out period is outlined below:

- **Day 1** – activate oxygen generator and begin purging HiPOx HCU with oxygen.
- **Day 2** – partially fill Tank 1B with groundwater from extraction wells EW-01; EW-02A; EW-04; and EW-05B. Activate HiPOx HCU in recycle mode using groundwater from Tank 1B, returning HiPOx effluent to Tank 1B in a closed-loop. The existing air-stripper and GAC process will remain active for treatment of extracted groundwater prior to discharge to the Brunswick Sewer District. Calibrate the HiPOx HCU for steady-state operation at full GWETS flow rate, anticipated to range from 40-60 gpm.

- **Days 3 to 5** – direct GWETS influent to the HiPOx system for treatment of 1,4-dioxane and primary treatment of CVOCs. Residual CVOCs in the HiPOx effluent will be treated by the existing air-stripper and GAC process.

During the last three days of the HiPOx prove-out period, ECC will collect influent groundwater samples before the HiPOx system; between the HiPOx HCU and air-stripper; and at the GWETS effluent prior to the infiltration gallery. Two sets of groundwater samples will be collected on each day, one in the morning and a second set in the afternoon. The raw and treated groundwater samples will be collected from sampling ports into 40-mL VOA vials with minimal disturbance and zero headspace to prevent potential vaporization of target analytes. The groundwater samples will be submitted to a State of Maine certified laboratory and analyzed for VOCs by EPA Method 8260B and 1,4-dioxane by the SIM method. A summary of the analytical samples that will be collected during the pilot study is provided in Table 1. These data will be used to confirm that the HiPOx system is achieving the 1,4-dioxane treatment goals and evaluate the degree of residual CVOC reduction required to satisfy discharge criteria in the HiPOx effluent.

Water quality parameters (i.e., temperature and pH) will be measured on-site during calibration and prove-out of the HiPOx system. These measurements are necessary to calibrate the HiPOx system and insure steady-state operation.

4.3 PILOT TEST PROCEDURES

Following the one-week prove-out period, a twelve week pilot test will be conducted to assess the performance of the HiPOx system and evaluate alternative treatment processes for residual CVOCs in the HiPOx effluent. During each of the twelve weeks, ECC will concurrently collect one composite influent sample and one GWETS effluent sample. Both samples will be submitted to a State of Maine certified laboratory and analyzed for VOCs by EPA Method 8260B and 1,4-dioxane by the SIM method. These data will be used to verify the continued effectiveness of the HiPOx system.

During the second week of the pilot test, ECC will evaluate the efficacy of using the liquid-phase GAC units as a stand-alone polishing process for treating residual CVOCs in the HiPOx effluent. The air-stripper and air-stream heater system for the vapor-phase GAC will be deactivated, allowing the treated HiPOx effluent to continue flowing through the air-stripper without an induced cross-current air flow. Therefore, there will be no air-stripper emissions requiring treatment by the vapor-phase GAC. The bag filter transfer pumps will continue to direct water from the air-stripper to the liquid-phase GAC where final polishing of residual CVOCs will occur.

During the first day of the liquid-phase GAC evaluation period, ECC will collect daily groundwater samples before the first liquid-phase GAC unit, between the liquid-phase GAC units, and after the second liquid-phase GAC unit before discharge to the infiltration gallery. During the remainder of the week, ECC will collect daily groundwater samples at the GWETS effluent only. The samples will be submitted to a State of Maine certified laboratory and

analyzed for VOCs by EPA Method 8260B. These data will be used to evaluate the effectiveness of the HiPOx system with liquid-phase GAC polishing for meeting the GWETS treatment goals for VOCs. The weekly composite influent and GWETS effluent samples will continue to be analyzed for 1,4-dioxane as part of the overall HiPOx pilot test.

After receipt of analytical data from the eighth week of the pilot test period, ECC will prepare a draft pilot test report for submission to the Navy and project stakeholders. The draft pilot test report will include short-term recommendations for continued operation of the HiPOx system and treatment of residual CVOCs by either air-stripping or liquid-phase GAC. The final HiPOx pilot test report will be submitted after the twelve week period has been completed. The outline of the HiPOx Pilot Test Report is provided in Chapter 5.

5. HiPOx PILOT TEST REPORT

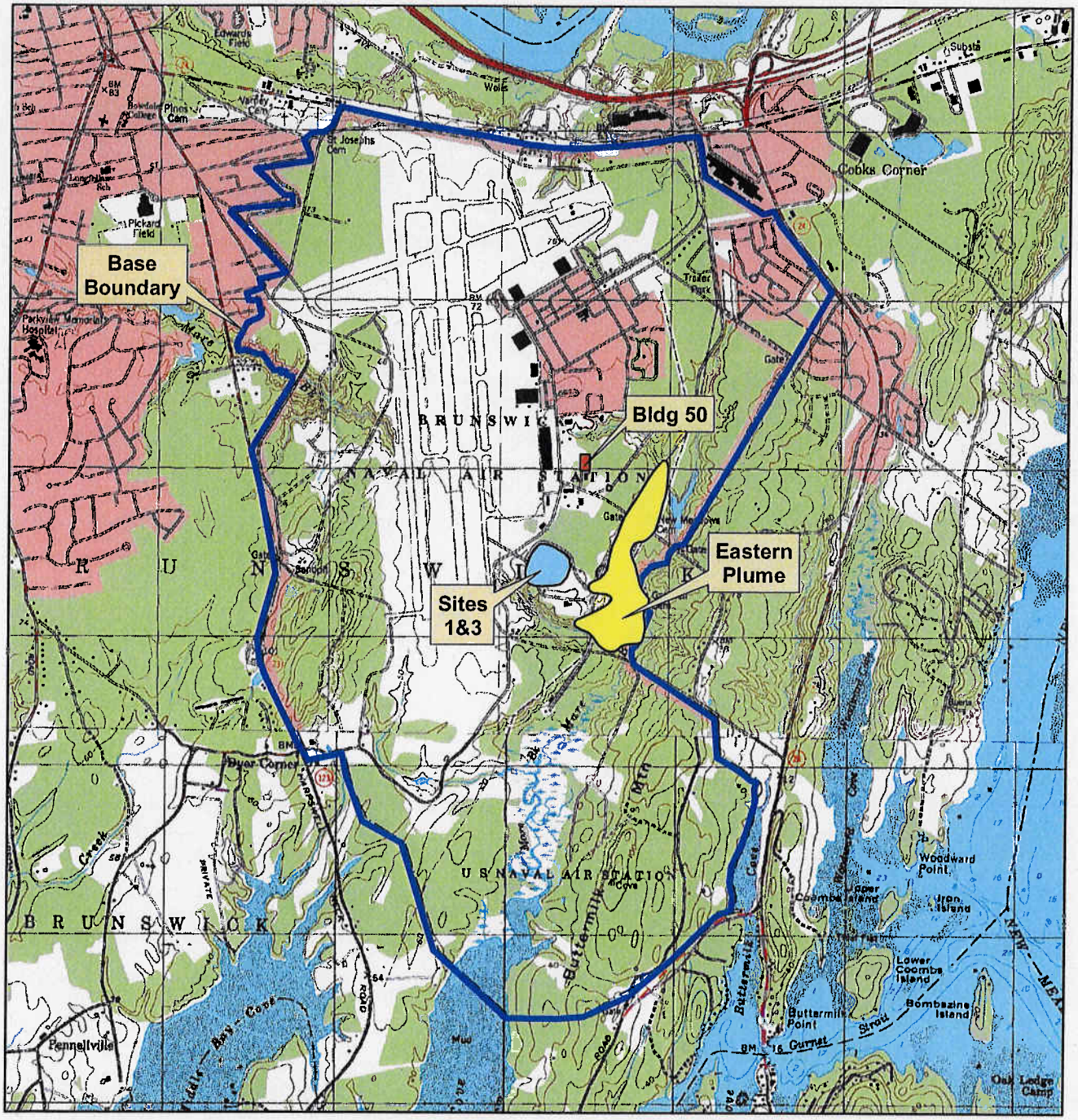
ECC will prepare a draft HiPOx Pilot Test Report following receipt of analytical data for the one-week HiPOx prove-out period and the two months (eight weeks) of pilot test operations. The draft HiPOx Pilot Test Report will be submitted to the Navy and Project Stakeholders. The following information will be provided in the draft report:

- Summary of the HiPOx system activation, calibration and commissioning process including any significant modifications to the design specifications necessary to achieve steady state operations when incorporated with the existing GWETS components;
- HiPOx system monitoring records and analytical data for composite influent groundwater, process water, and effluent samples collected during the one week HiPOx prove-out period;
- HiPOx system performance indicator measurements (i.e., daily hydrogen peroxide and oxygen consumption rates, water quality parameters, control and alarm records). Weekly analytical data for composite influent groundwater and GWETS effluent samples collected during the first month of pilot test operations; and,
- Analytical data reported for daily samples collected during the one week evaluation of the HiPOx system operated with liquid-phase GAC polishing as an alternative to air-stripping.

Analytical data and performance measurements will be summarized in table format. The draft HiPOx Pilot Test Report will also include a detailed assessment of the overall HiPOx system performance and recommendations for continued utilization of the HiPOx system for 1,4-dioxane treatment and either air-stripping or liquid-phase GAC for polishing of residual CVOCs in the HiPOx effluent.

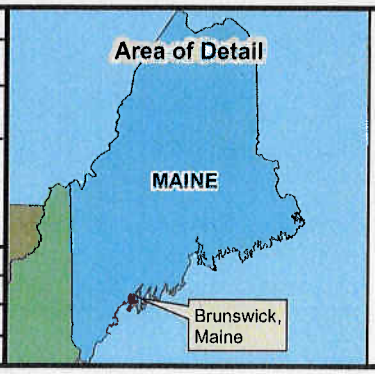
Regulator comments to the draft HiPOx Pilot Test Report will be addressed during the remaining two months of the pilot test period. Regulator comments will be incorporated into the final HiPOx Pilot Test Report together with analytical data and system performance records collected during the last two months of the pilot testing period. The final HiPOx Pilot Test Report will include updated recommendations for long-term 1,4-dioxane treatment and CVOC polishing if necessary based on data collected following the draft report.

FIGURES



Contract. No.	N62472-02-D-0810
Description	NAS Brunswick, ME
Coordinate system	NAD 1983, UTM, Zone 19 N in meters
Sources	Naval Base Boundary provided by Navy.

Date	7-OCT-2009	Rev.	Date	App. By
DB	C. Guido			
CB	C. Varner			
AB				



Legend

- Naval Air Station Brunswick Boundary
- Approximate Limit of Sites 1 and 3
- Inferred Extent of Eastern Plume
- Building 50

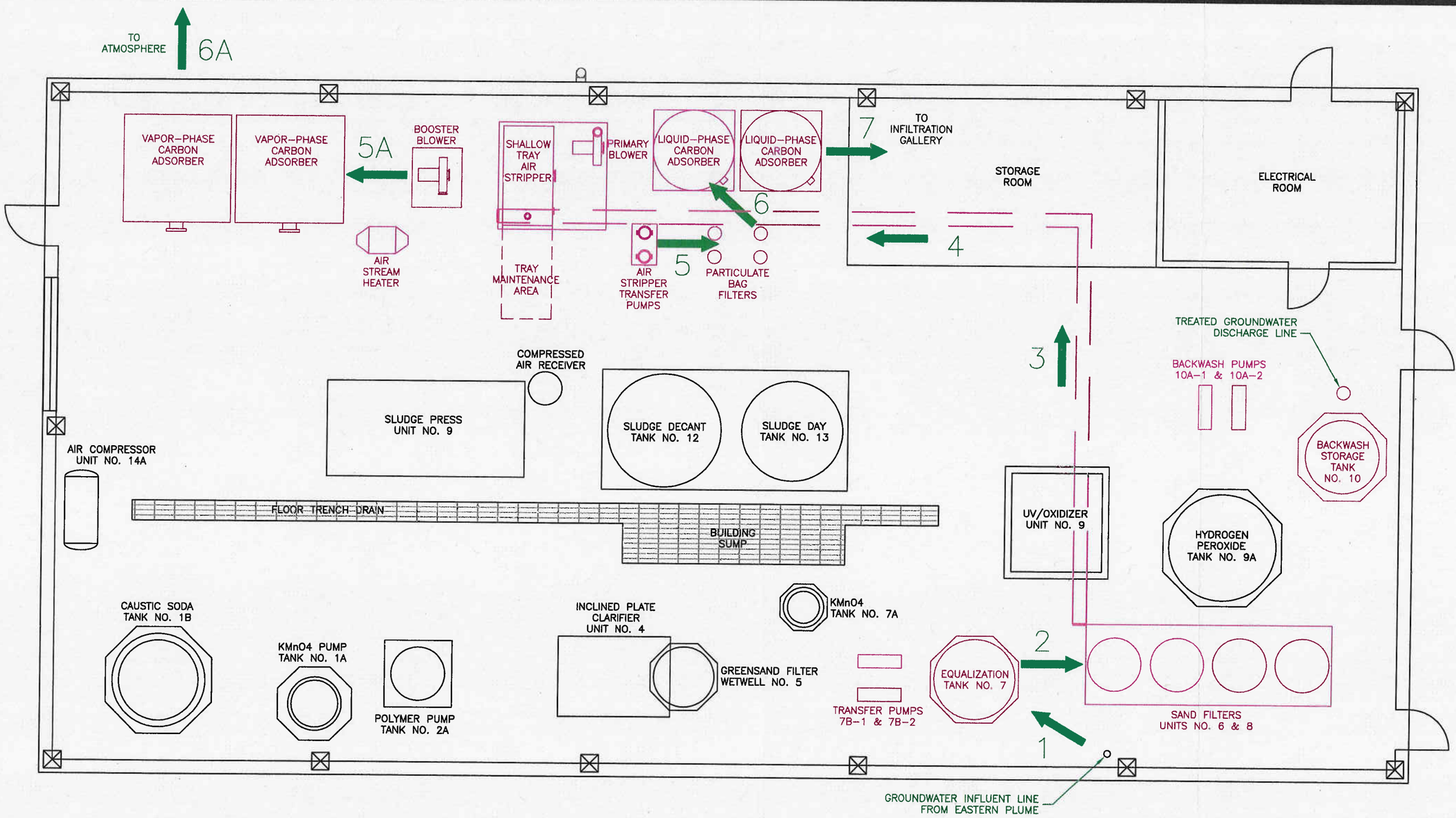
Figure 1-1

Site Location Map Building 50

Naval Air Station Brunswick, Maine

GIS Server
C:\NAVY_GIS\TO07_Brunswick\Site1and3\MapDocuments\PilotTest_WP\Fig1-1_SiteLocus.mxd

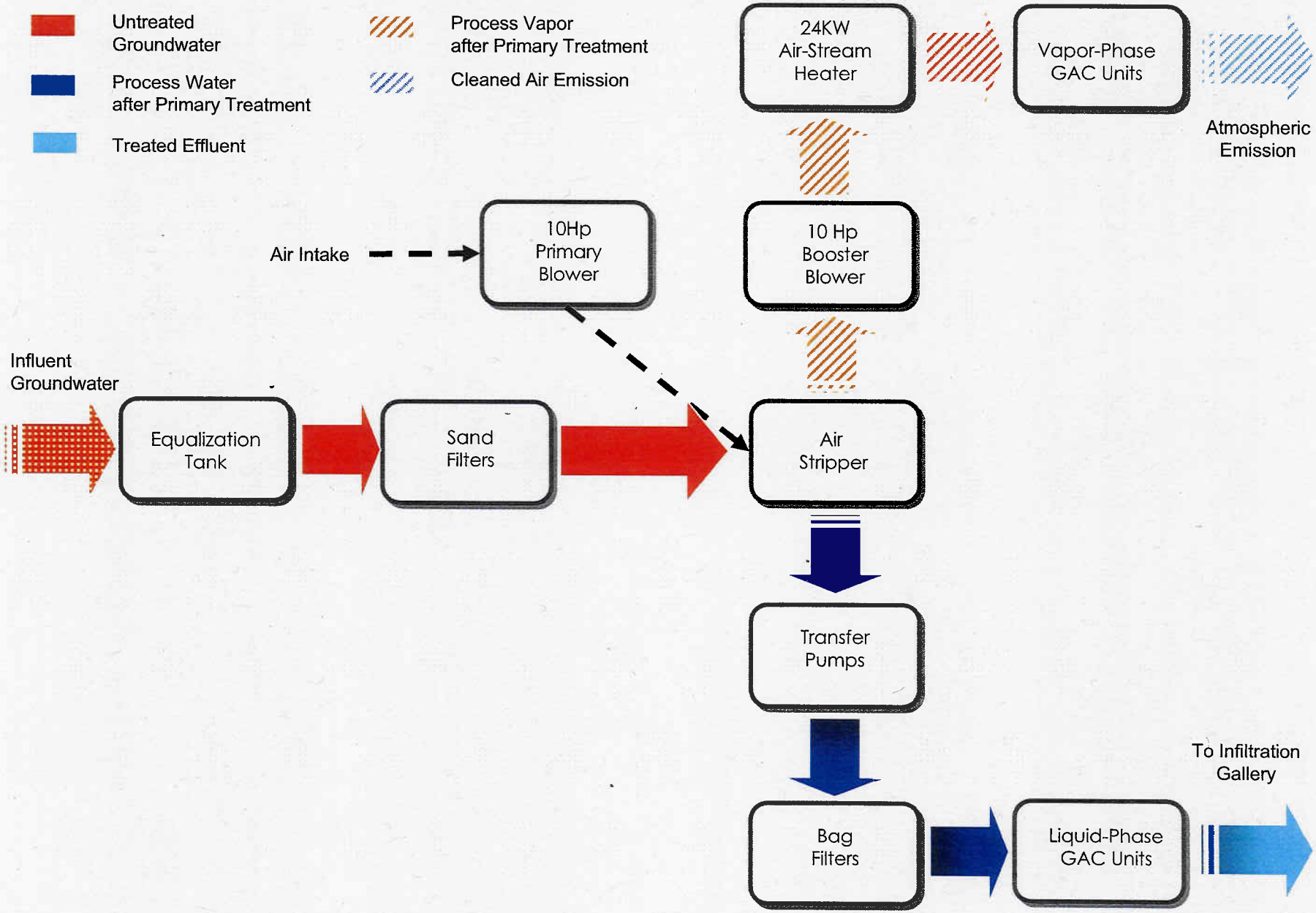
0 750 1,500 3,000 Feet

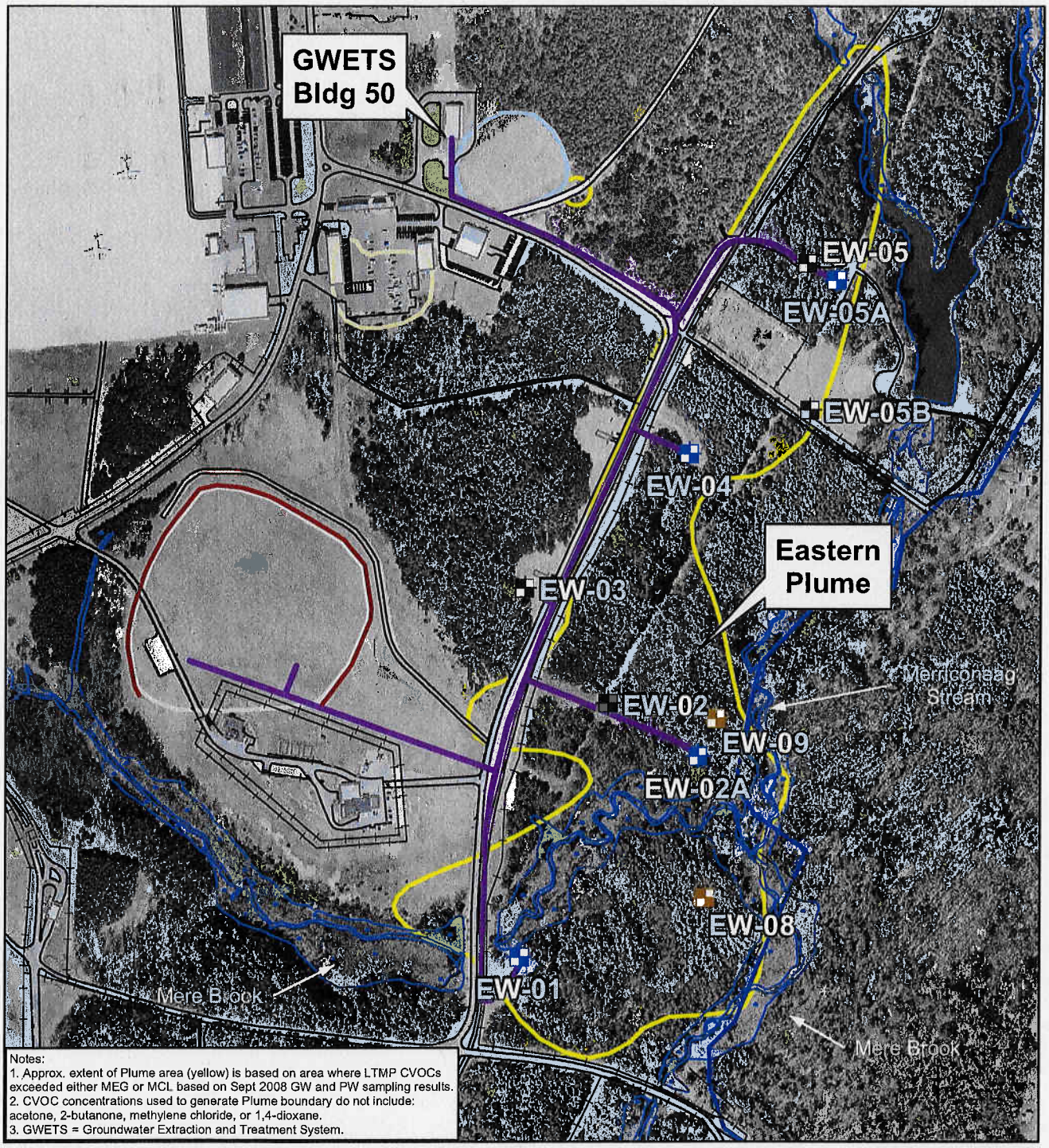


NOTE: ACTIVE GWETS COMPONENTS SHOWN IN MAGENTA.

ECC 33 BOSTON POST ROAD WEST, SUITE 340 MARLBOROUGH, MA 01752	FIGURE 1-2 EXISTING GROUNDWATER EXTRACTION AND TREATMENT SYSTEM BUILDING 50, NAVAL AIR STATION BRUNSWICK, MAINE	PROJECT MANAGER ACE	DESIGNED BY CJV	DRAWN BY CJV	CHECKED BY ACE
		SCALE NTS	DATE 23 JULY 2009	PROJECT NO. 5564.001	FILE NO GWETSLAY.DWG

FIGURE 1-3
Schematic View of GWETS with Air-Stripper and GAC

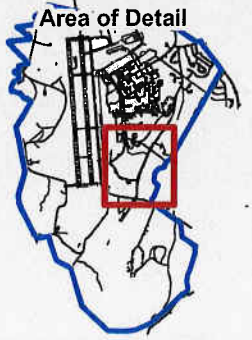




Notes:
1. Approx. extent of Plume area (yellow) is based on area where LTMP CVOCs exceeded either MEG or MCL based on Sept 2008 GW and PW sampling results.
2. CVOC concentrations used to generate Plume boundary do not include: acetone, 2-butanone, methylene chloride, or 1,4-dioxane.
3. GWETS = Groundwater Extraction and Treatment System.

Contract No.	N62472-02-D-0810
Description	NASB Brunswick, ME
Coordinate system	NAD 1983, UTM, Zone 19N
Sources	Naval Base Boundary provided by ME GIS.

Date	7-OCT-2009	Rev.	Date	App. By
DB	C. Guido			
CB	G. Calderone			
AB				



Legend

- Proposed Extraction Well
- Currently Operational Extraction Well
- Non-operational Extraction Well
- GWETS Piping Network
- Slurry Wall
- Buildings
- Roads
- Fenceline
- NAS Brunswick Boundary
- Approx. Extent of Eastern Plume (Sept 2008)

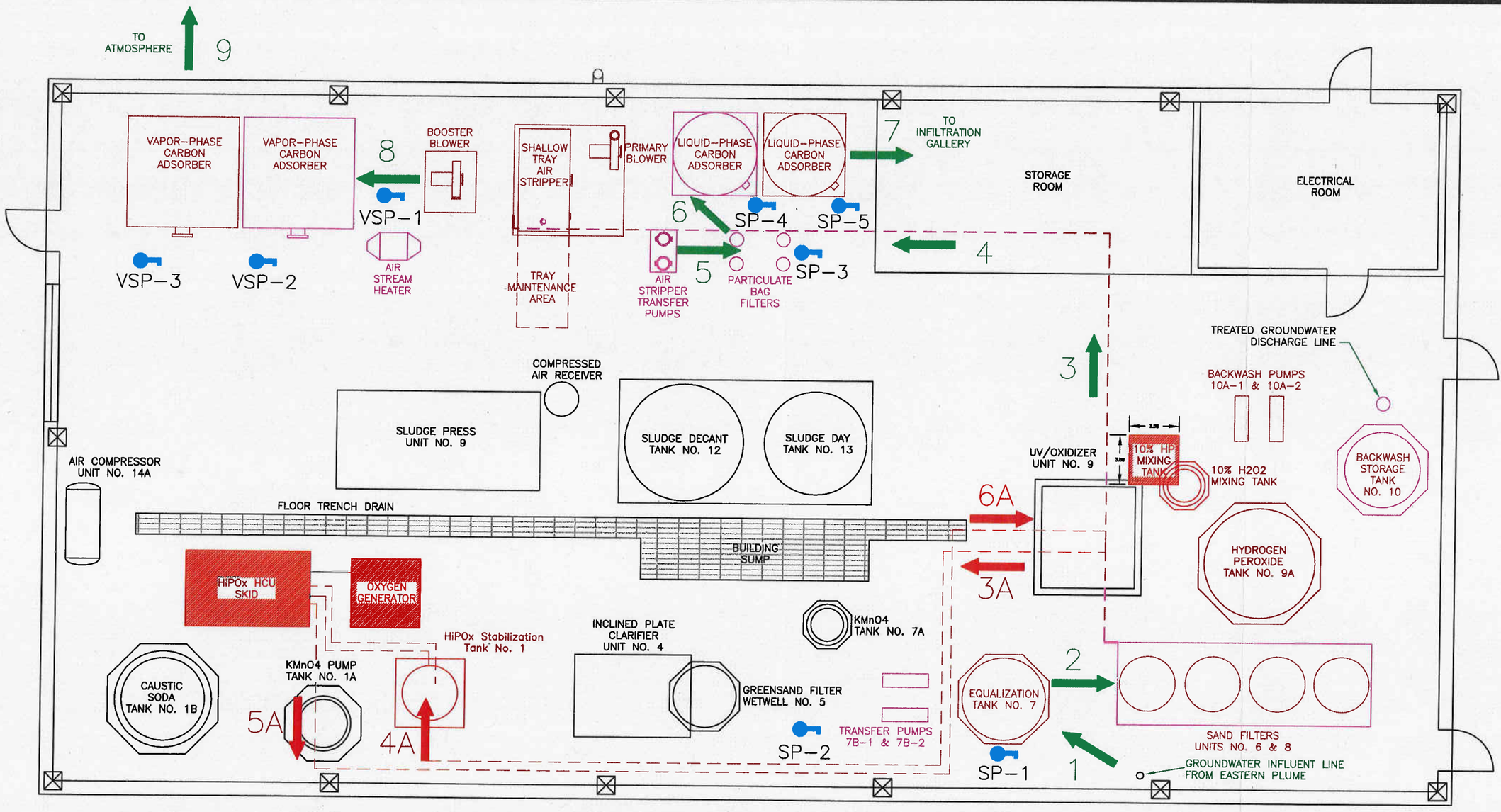
Figure 1-4

Eastern Plume Extraction Well Network and Groundwater Treatment System

Naval Air Station
Brunswick, Maine

ECC Marlborough, MA
C:\NAVY_GIS\TO07_Brunswick\Site1and3\MapDocuments\PilotTest_WP\Fig1-4_GWETS.mxd

0 150 300 600 Feet



SAMPLING PORT IDENTIFICATION KEY

SP — AQUEOUS SAMPLING PORT LOCATION

VSP — VAPOR SAMPLING PORT LOCATION

SP-1	RAW GROUNDWATER PRIOR TO HiPOx
SP-2	BETWEEN HiPOx AND AIR-STRIPPER
SP-3	PRIOR TO LIQUID-PHASE GAC
SP-4	BETWEEN LIQUID-PHASE GAC UNITS
SP-5	TREATED EFFLUENT
VSP-1	AIR-STRIPPER EMISSION
VSP-2	BETWEEN VAPOR-PHASE GAC UNITS
VSP-3	ATMOPSHERIC EMISSION

NOTE: ACTIVE GWETS COMPONENTS SHOWN IN MAGENTA.
HiPOx COMPONENTS SHOWN IN RED.

ECC
33 BOSTON POST ROAD WEST, SUITE 340
MARLBOROUGH, MA 01752

FIGURE 1-5

HIPOX SYSTEM INSTALLATION PLAN
BUILDING 50, NAVAL AIR STATION BRUNSWICK, MAINE

PROJECT MANAGER	DESIGNED BY	DRAWN BY	CHECKED BY
ACE	CJV	CJV	ACE
SCALE	DATE	PROJECT NO.	FILE NO
NTS	9/25/09	5564.001	HIPOXPLAN.DWG

FIGURE 1-6
Schematic View of GWETS with HiPOx and Air-Stripper

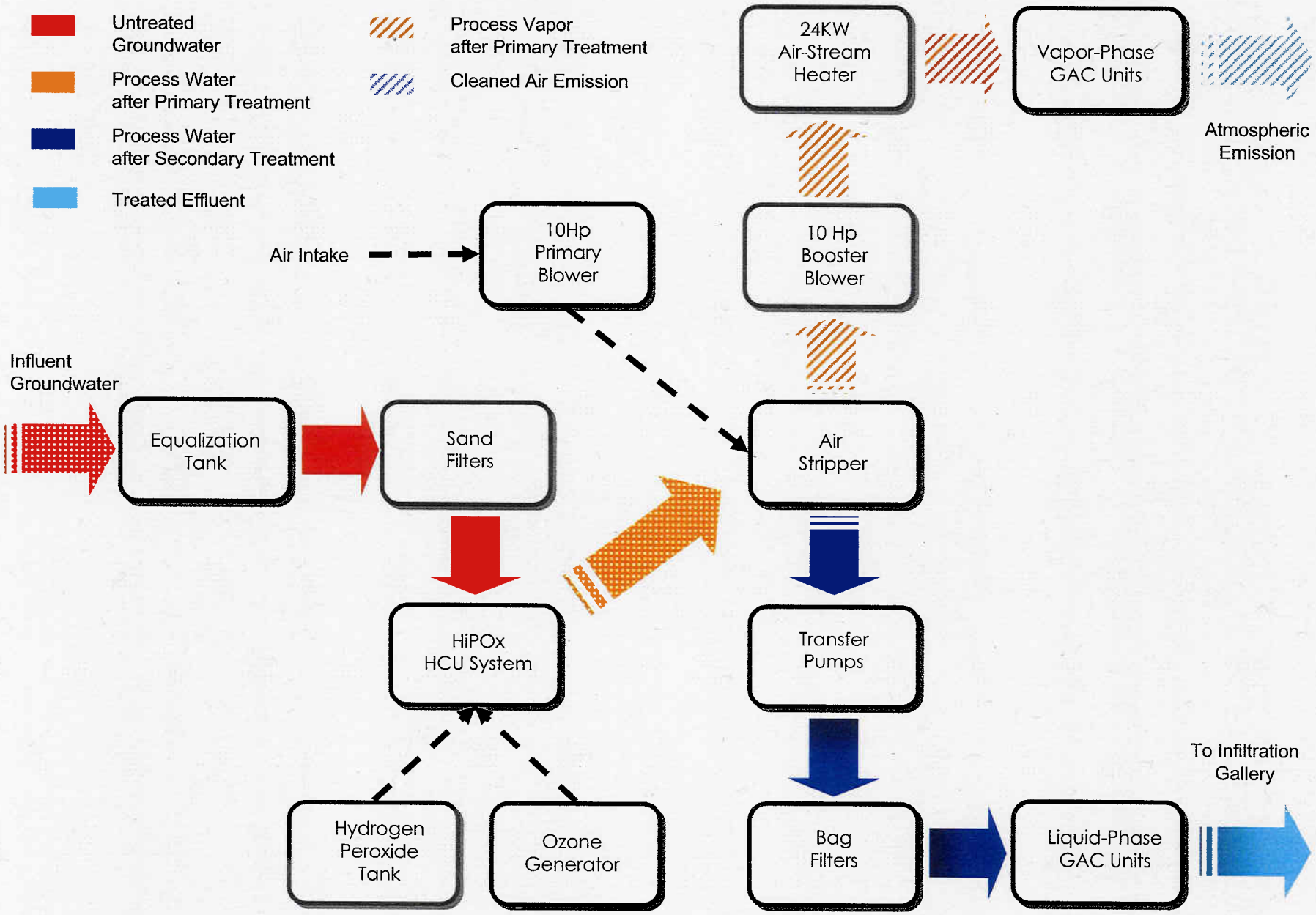
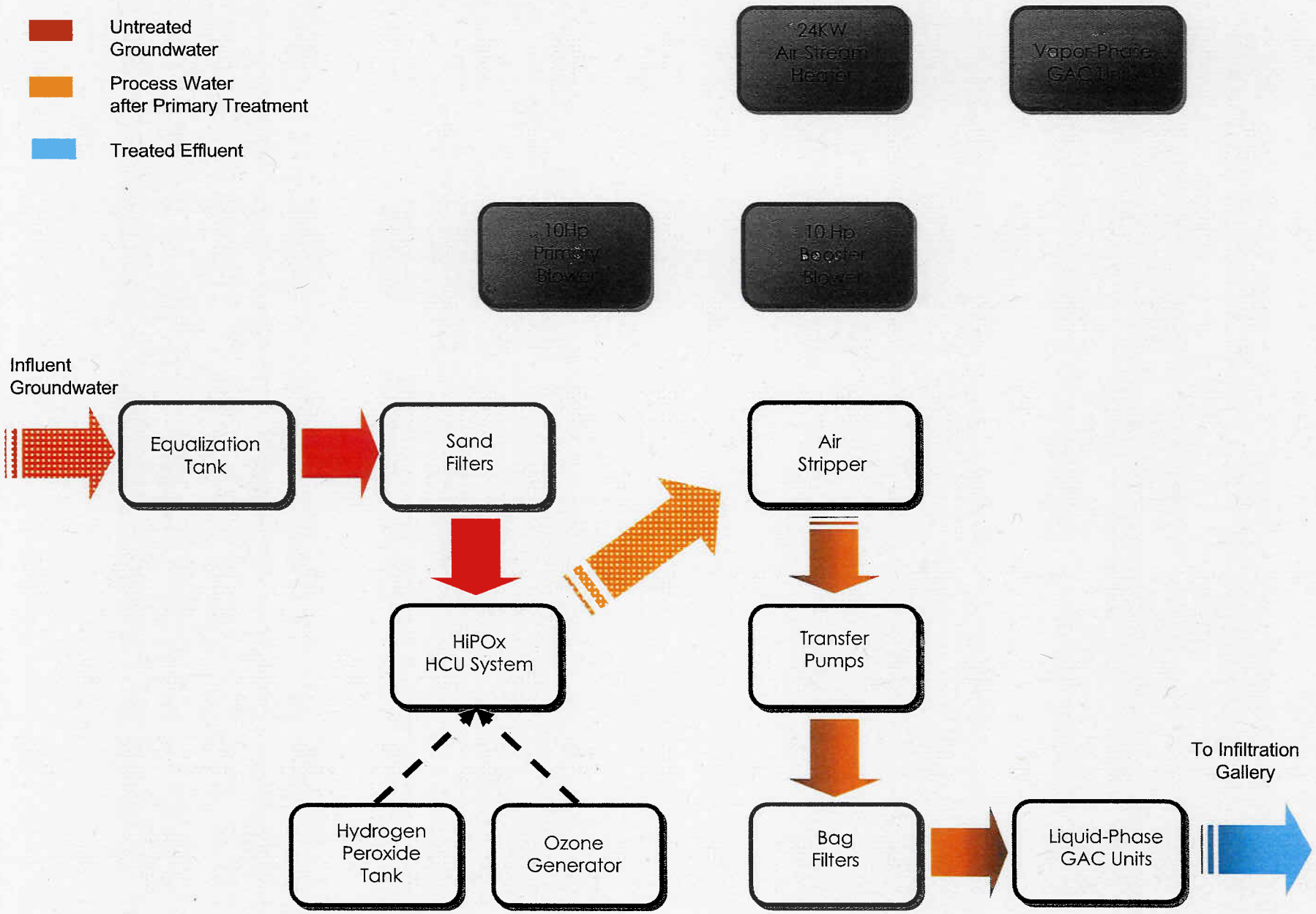


FIGURE 1-7
Schematic View of GWETS with HiPOx and Liquid-Phase GAC



TABLES

Table 1
HiPOx Pilot Study Analytical Summary
30 September 2009

Task	Sample Location	Sample Frequency	Laboratory Analysis		QA/QC Samples			Total Laboratory Analysis		
			VOCs (8260B)	1,4-dioxane (8260B SIMs)	Trip Blank	Duplicate	MS/MSD	VOC	1,4-Dioxane	Total
1 *3-Day Prove Out*	Influent	2 sample/day x 3 days	6	6	0	0	0	6	6	12
	After HiPOx	2 sample/day x 3 days	6	6	0	0	0	6	6	12
	Effluent	2 sample/day x 3 days	6	6	3	3	3	18	18	36
2 *12 Week Pilot Period*	Influent	1 sample/week x 12 wks	12	12	0	0	0	12	12	24
	After HiPOx	1 sample/week x 12 wks	12	12	0	0	0	12	12	24
	Effluent	1 sample/week x 12 wks	12	12	12	12	1	38	38	76
3 *Liquid-Phase GAC During Week 2 of Pilot Test*	Influent to GAC	1 sample on First Day	1	1	0	0	0	1	1	2
	Mid-Point GAC	1 sample on First Day	1	1	0	0	0	1	1	2
	Plant Effluent*	1 sample/day x 4 days	4	4	0	0	0	4	4	8
								98	98	196

Notes:
1) Trip and Duplicate samples require separate analyses for VOC and 1,4-dioxane.
2) MS/MSD includes two analyses.
* During the liquid-phase GAC testing, plant effluent samples will be collected every day for 5 days, only 4 samples are shown because 1 is included with weekly sampling.
3) The 3-Day Prove Out Samples will be submitted for 3 day turn around time with the analytical laboratory.

APPENDIX A

APT CUT-SHEETS AND HiPOx DESIGN DRAWINGS

Applied Process Technology, Inc.

Clean Water. No Waste.

HiPOx HCU

Advanced Oxidation System

HCU

The HiPOx HCU is an advanced oxidation system that combines ozone and hydrogen peroxide to destroy groundwater contaminants in a continuous flow reactor. The system utilizes multiple reagent injection points and mixers to maximize contaminant destruction in a waste-free process.

The HCU is a compact skid-mounted unit with a footprint ideal for very small spaces. Low-to-medium ozone capacities make the HCU appropriate for low-flow sites with low-to-moderate contaminant concentrations.

- ✓ PLC control system provides for unattended and automated operation
- ✓ Fail-safe operation
- ✓ Automatic paging in event of shutdown
- ✓ Operating set points adjusted via local Operator Interface Terminal (OIT) or remotely via modem with optional SCADA package

STANDARD SPECIFICATIONS

Flow Rate	3 – 160 GPM
Ozone Capacity	Up to 20 lbs/day
Dimensions	8'L x 4'6"Wx 7'6"H
Weight	Approx. 4,500 lbs
Electrical Requirements	208VAC, 3Ø or 240VAC, 1Ø, 60 Hz, 55A maximum
Power Consumption	7-13 kW

SYSTEM CONFIGURATION AND FEATURES

Enclosure/Skid	Galvanized-skid platform; weather-resistant enclosure; corrosion-resistant piping; NFPA signage; power and process connections conveniently located to facilitate quick installation
Safety	Shop tested; ozone detector and destruct unit; fail-safe shutdown features; all ozone-containing piping is joint-free or (double-)contained within monitored enclosures

✓ ***Waste-Free Contaminant Destruction***
✓ ***Scalable Process for Predictable Results***
✓ ***Highly-Effective, Low-Cost Solution***

OZONE GENERATION / DISTRIBUTION SYSTEM*

Generator Capacity	Up to 20 lbs/day**
Concentration	8% – 10% by weight
Injection Capacity	5 – 150 mg/L ozone dose
Injection Piping	PFA Teflon™

**includes rack-mounted, solid-state ozone generator(s), ozone manifold with metering and check valves, automatic pressure control and shutoff valve*
***uses oxygen from liquid oxygen dewars or produced by oxygen generation system*

HYDROGEN PEROXIDE SYSTEM*

Storage	25-gallon, non-metallic tank
Concentration	5% – 35% technical grade
Injection Piping	Polyethylene

**injection system included*

OXYGEN SYSTEM*

Standard Supply	Liquid-oxygen Dewar cylinders
Size	160 – 265 liters
Concentration	99.9+%vol (Grade 6)

Optional Supply	PSA**-enriched gas
Concentration	90+%vol (-70ºF dew point)

**oxygen flow controller included; optional gas manifold available*
***Pressure-Swing Adsorption*

REACTOR SYSTEM*

Flow Rate	3 – 160 GPM
Reactor Construction	PVC piping with internal static mixers
Reagent Control	Reagent addition precisely controlled and adjusted as needed at each injector

**includes gas/liquid separator and inlet flow meter; optional feed tank, pump and recycle valve also available*

COOLING SYSTEM

Method	Refrigerated package chiller with outdoor condenser

- ✓ Multiple ozone injection points maximize process efficiency and contaminant destruction
- ✓ Precision instrumentation for accurate reagent control
- ✓ One-button startup and shutdown; touchscreen control display for ease of operation

™Teflon is a registered trademark of the DuPont Co.

Applied Process Technology, Inc.
3333 Vincent Road, Suite 222, Pleasant Hill, CA 94523
tel: 925-977-1811 · fax: 925-977-1818 · toll free: 1-888-307-2749
www.aptwater.com · info@aptwater.com

J1136 - H&S ENVIRONMENTAL
BRUNSWICK NAS
HiPOx DRAWING PACKAGE

25 August, 2009

REV	DESCRIPTION	NAME	DATE
1	PER CUSTOMER COMMENTS, JULY 23, 2009	08/25/09	pjk
0	FOR COSTUMER APPROVAL	07/20/09	pjk

REVISION HISTORY

APPLIED PROCESS TECHNOLOGY

CLIENT: H&S ENVIRONMENTAL

PROJECT: J1136

LOCATION: BRUNSWICK, ME

TITLE: COVER SHEET

DRAWN		
DESIGN	pjk	07/16/09
CHECKED	cl	07/17/09
APPROVED		
APPROVED		
NEXT ASSEMBLY:		

SIZE D | DRAWING NO. COVER | REV 1

SCALE: 1X1 | FILE:J1136—COVER | SHEET 1 OF

PROPRIETARY

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF APPLIED PROCESS TECHNOLOGY INC., AND ITS RECIEPT OR POSSESION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT THE WRITTEN AUTHORIZATION OF APPLIED PROCESS TECHNOLOGY INC., IS EXPRESSLY FORBIDDEN.

BILL OF MATERIALS

ITEM	DESCRIPTION	PART #	SUPPLIER	QTY

ABBREVIATIONS

AB	ANCHOR BOLT
ASSY	ASSEMBLY
BF	BLIND FLANGE
BOM	BILL OF MATERIALS
BOS	BOTTOM OF STEEL
C	CONDUIT
CC	CUBIC CENTIMETERS
℄	CENTER LINE
CYL	CYLINDER
DIA	DIAMETER
DIM	DIMENTION
DWG	DRAWING
EA	EACH
EL	ELEVATION
ELEC	ELECTRIC
EXIST	EXISTING
FDN	FOUNDATION
FJB	FIELD JUNCTION BOX
FNPT	FEMALE NPT
FLR	FLOOR
FT	FOOT, FEET
GPM	GALLONS PER MINUTE
HP	HORSEPOWER
ID	INSIDE DIAMETER
I/O	INPUT/OUTPUT
IN	INCHES
LB	POUND
mA	MILLIAMPS
MATL	MATERIAL
MAX	MAXIMUM
MIN	MINIMUM, MINUTE
ML	MILLILITERS
MNPT	MALE NPT
N	NORTH
NPT	NATIONAL PIPE THREAD
OAL	OVERALL LENGTH
OAH	OVERALL HEIGHT
OIT	OPERATOR INTERFACE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PSIG	POUND PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
REF	REFERENCE
SHT	SHEET
SS	STAINLESS STEEL
TEFC	TOTALLY ENCLOSED FAN COOLED
TP	TIE POINT
TFE	TEFLON
TOC	TOP OF CONCRETE
TYP	TYPICAL
WT	WEIGHT
XMTR	TRANSMITTER
VAC	VOLTS AC
VDC	VOLTS DC

COLORS

BLK	BLACK
BLU	BLUE
BRN	BROWN
GRN	GREEN
GRY	GREY
ORG	ORANGE
VIO	VIOLET
WHT	WHITE
YEL	YELLOW

SYMBOY KEY

AE	ANALYZING ELEMENT
ASH	ALARM SWITCH HIGH
CT	CONTACTOR
FC	FLOW CONTROLLER
FCV	FLOW CONTROL VALVE
FE	FLOW ELEMENT
FIV	FLOW INDICATION W/VALVE
FQI	FLOW INDICATION
FT	FLOW TRANSMITTER
JIT	POWER INDICATOR
LS	LEVEL SWITCH
LSL	LEVEL SWITCH LOW
LSH	LEVEL SWITCH HIGH
OIT	OPERATOR INTERFACE
PCV	PRESSURE CONTROL VALVE
PI	PRESSURE INDICATION
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
SC	SPEED CONTROL
TI	TEMPERATURE INDICATION
XV	SOLENOID TAG
XS	EQUIPMENT POWER SWITCH
TP	TIE POINT

PIPING/VALVE SYMBOLS

TIE POINT
REDUCER
FLANGE JOINT
HOSE
MATL SPEC BREAK
EXP JOINT
SCREW JOINT
CAP/PLUG
STRAINER
REGULATOR
GATE
GLOBE
BALL
PLUG
CHECK
3-WAY
BUTTERFLY
RELIEF
NEEDLE
ELEC. ACTUATED VALVE
PNEU. ACTUATED VALVE

ELECTRICAL SYMBOLS

NC NO PUSH BUTTON
EARTH GROUND
CHASSIS GROUND
PILOT LIGHT
FUSE
HORN
TRANSFORMER
OVERLOAD RELAY
NO NC RELAY CONTACT
CIRCUIT BREAKER
MOTOR
RELAY
TERMINAL BLOCK
DI DO DISCRETE COMPUTER I/O
AI AO ANALOG I/O

PRESSURE SWITCHES

DIFFERENTIAL PRESSURE
OPEN ON INCR. PRESSURE
OPEN ON DECR. PRESSURE

LEVEL SWITCHES

OPEN ON INCR. LEVEL
OPEN ON DECR. LEVEL

TEMPERATURE SWITCHES

OPEN ON INCR. TEMPERATURE
OPEN ON DECR. TEMPERATURE

INSTRUMENT IDENTIFICATION

CODE	VARIABLE	FUNCTION
A	ANALYSIS	ALARM
B	BURNER FLAME	GRAPHIC DISPLAY
C	CONDUCTIVITY	CONTROLLER (CLOSED)
D	DENSITY	(DIFFERENTIAL)
E	VOLTAGE	ELEMENT
F	FLOW	(RATIO)
G	THICKNESS GAUGING	GLASS
H	HAND ACTUATED	(HIGH)
I	CURRENT/INDICATOR	INDICATOR
J	POWER	(SCAN)
K	TIME OR SCHEDULE	CONTROL STATION
L	LEVEL	LIGHT (LOW)
M	MOISTURE	(MIDDLE)
N	NEUTRALITY (PH)	
O	OXYGEN	ORIFICE (OPEN)
P	PRESSURE	TEST POINT
Q	HEAT ENERGY	(TOTALIZE)
R	RADIOACTIVITY	RECORDER
S	SPEED	(SAFETY) SWITCH
T	TEMPERATURE	TRANSMITTER
U	MULTIVARIABLE	MULTIFUNCTION
V	VISCOSITY	VALVE
W	WEIGHT	WELL
X	USER DEFINED	IGNITOR, USER DEFINED
Y		TRANSDUCER OR COMPUTER
Z	POSITION	FINAL CONTROL ELEMENT

INSTRUMENT SYMBOLS

THERMOWELL
ORIFICE METER
VENTURI METER
ROTAMETER
TURBINE METER
MAGNETIC METER
CENTRIFICAL PUMP
METERING PUMP
FILTER
SOLENOID
PNUEMATIC
HEAT EXCHANGER
LOCAL
PANEL
BACK PANEL

REV	DESCRIPTION	NAME	DATE
1	PER CUSTOMER COMMENTS, JULY 23, 2009	08/25/09	pjk
0	FOR CUSTOMER APPROVAL	07/20/09	pjk

REVISION HISTORY

APPLIED PROCESS TECHNOLOGY

CLIENT: H&S ENVORONMENTAL — DATE

PROJECT: J1136 — LOCATION: BRUNSWICK, ME

TITLE: DEFINITIONS

DRAWN	PJK	07/12/09
DESIGN	PJK	07/12/09
CHECKED	CL	07/17/09
APPROVED		
APPROVED		

SIZE A — DRAWING NO. J1136T010 — REV 1

SCALE: NONE — FILE: J1136T010 — SHEET 1 OF 1

PROPRIETARY

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF APPLIED PROCESS TECHNOLOGY INC., AND ITS RECEIPT OR POSSESION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT THE WRITTEN AUTHORIZATION OF APPLIED PROCESS TECHNOLOGY INC., IS EXPRESSLY FORBIDDEN.

BILL OF MATERIALS

ITEM	DESCRIPTION	PART #	SUPPLIER	QTY

OxPSA-0.6
OXYGEN GENERATOR
5 Hp, oil free compressor
PSA w/ receiver tank

P-91
FEED PUMP
3 HP, 75 GPM @ 45 psi

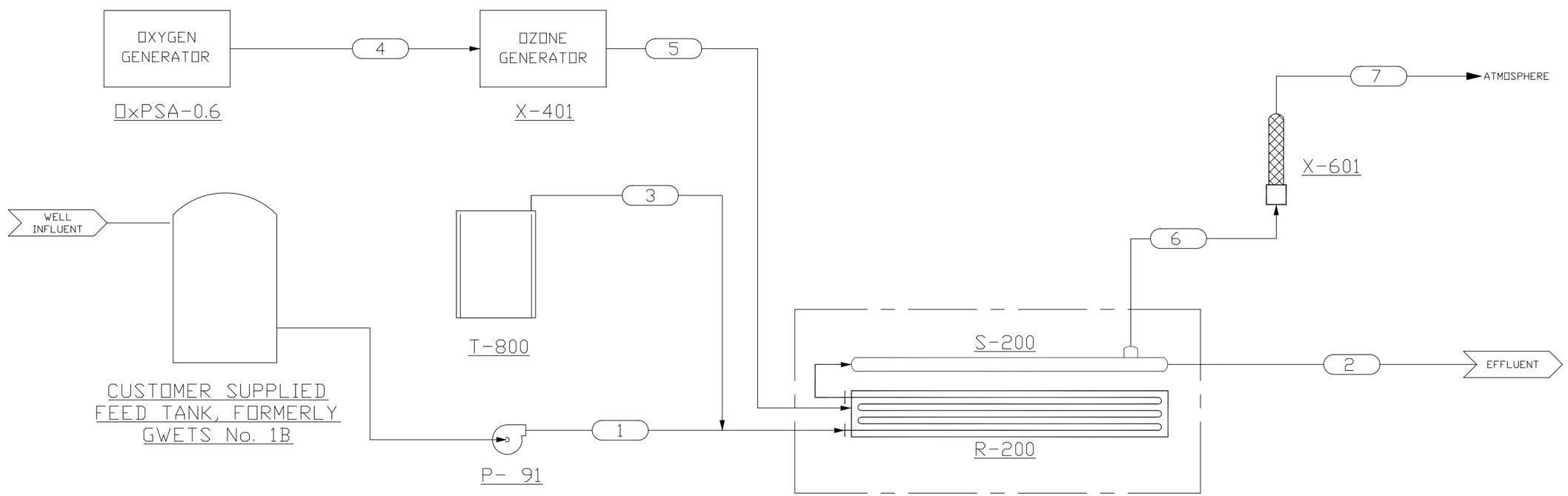
T-800
PEROXIDE TANK, 20 GAL

X-401
OZONE GENERATOR
1 EA, ASTEX 8403
8.5 LB @ 10%WT @ 35 PSIG & 93% O2

R-200
REACTOR,
10 EACH 3"ø
SCH80 PVC

S-200
SEPARATOR,
12"ø X 6' LONG,
SCH10 304LSS

X-601
OZONE DESTRUCT,
150W, 304SS,
MnO2 CATALYST



Stream No.		1	2	3	4	5	6	7
Component	Units	System Influent	System Effluent	Hydrogen Peroxide	Oxygen	Ozone	Vent	Exhaust
Flow Rate	gpm	75 (max)	75	-	-	-	-	-
	gpd	-	-	1.7	-	-	-	-
	ml/min	-	-	4.5	-	-	-	-
	scfm	-	-	-	0.4	0.4	0.4	0.4
	scfd	-	-	-	576	576	576	576
	slpm	-	-	-	12	12	12	12
1,4-Dioxane	ppb	200	<10.0	-	-	-	-	-
COD	ppm	<5	<5	-	-	-	-	-
Temperature	deg F	-	-	ambient	70	70	70	120
Pressure	psig	40	<10	70	60	30	atm	atm
Specific Gravity	unitless	1	1	1.13	-	-	-	-
Viscosity	cP	1	1	-	-	-	-	-
Hydrogen Peroxide	% wt in H20	-	-	10	-	-	-	-
Ozone	% wt in O2	-	-	-	-	10	-	-
Oxygen	% vol	-	-	-	99.9%	-	-	-
Nitrogen	% vol	-	-	-		-	-	-
Hydrogen Peroxide	mg/l	-	-	2.5	-	-	-	-
Ozone	mg/l	-	-	-	-	5	-	-
	lbs/day	-	-	-	-	5.4	-	<0.002

REV	DESCRIPTION	NAME	DATE
1	PER CUSTOMER COMMENTS, JULY 23, 2009	08/25/09	pjk
0	FOR COSTUMER APPROVAL	07/20/09	pjk

REVISION HISTORY

APPLIED PROCESS TECHNOLOGY

CLIENT: H&S ENVIRONMENTAL

PROJECT: J1136

LOCATION: BRUNSWICK, ME

TITLE: PROCESS FLOW DIAGRAM REACTION SYSTEM

DRAWN	SF	12/19/05
DESIGN	pjk	07/16/09
CHECKED	pjk	07/10/09
APPROVED	CL	
APPROVED		
NEXT ASSEMBLY:		

SIZE D | DRAWING NO. J1136P010 | REV 1

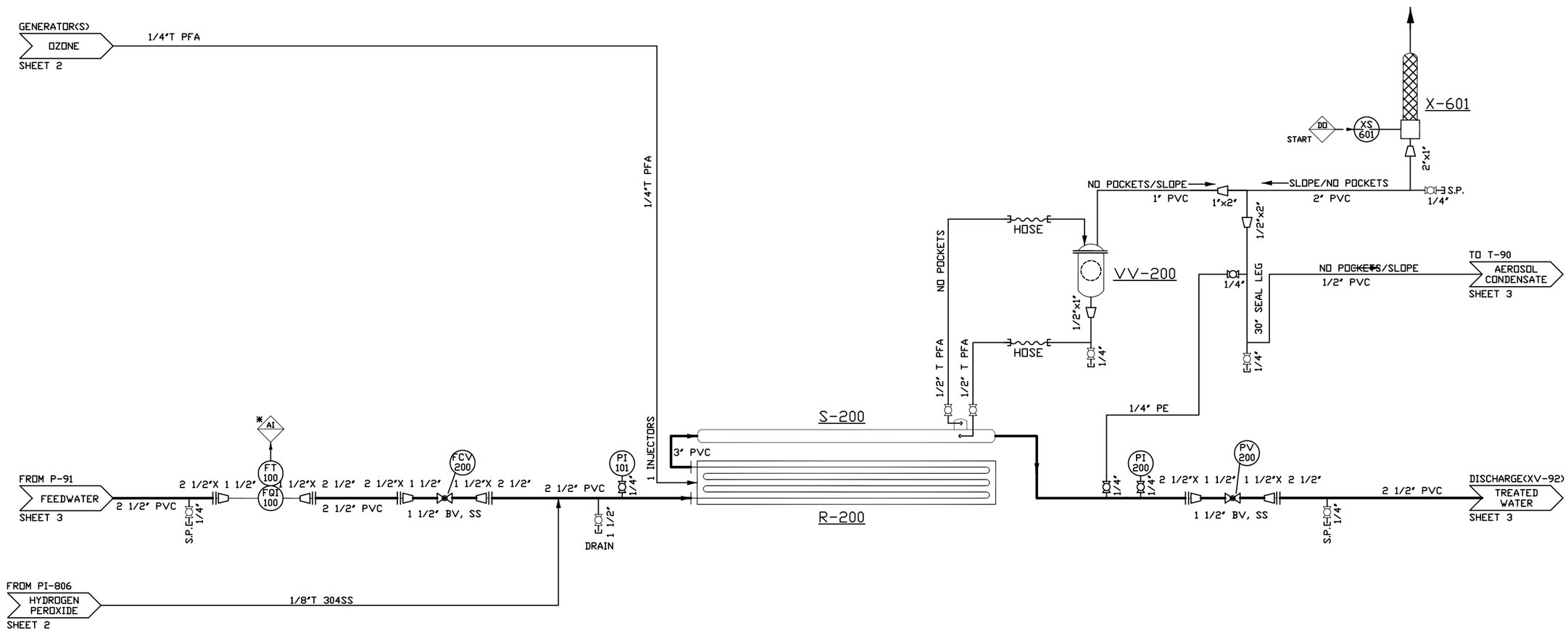
SCALE: NONE | FILE:J1136P010 | SHEET 1 OF 1

PROPRIETARY

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF APPLIED PROCESS TECHNOLOGY INC., AND ITS RECIEPT OR POSSESION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT THE WRITTEN AUTHORIZATION OF APPLIED PROCESS TECHNOLOGY INC., IS EXPRESSLY FORBIDDEN.

BILL OF MATERIALS

ITEM	DESCRIPTION	PART #	SUPPLIER	QTY



REV	DESCRIPTION	NAME	DATE
1	PER CUSTOMER COMMENTS, JULY 23, 2009	pjk	08/25/09
0	FOR COSTUMER APPROVAL	pjk	07/20/09

REVISION HISTORY

APPLIED PROCESS TECHNOLOGY

CLIENT: H&S ENVIRONMENTAL

PROJECT: J1136

LOCATION: BRUNSWICK, ME

TITLE: PIPING & INSTRUMENT DRAWING REACTION SYSTEM

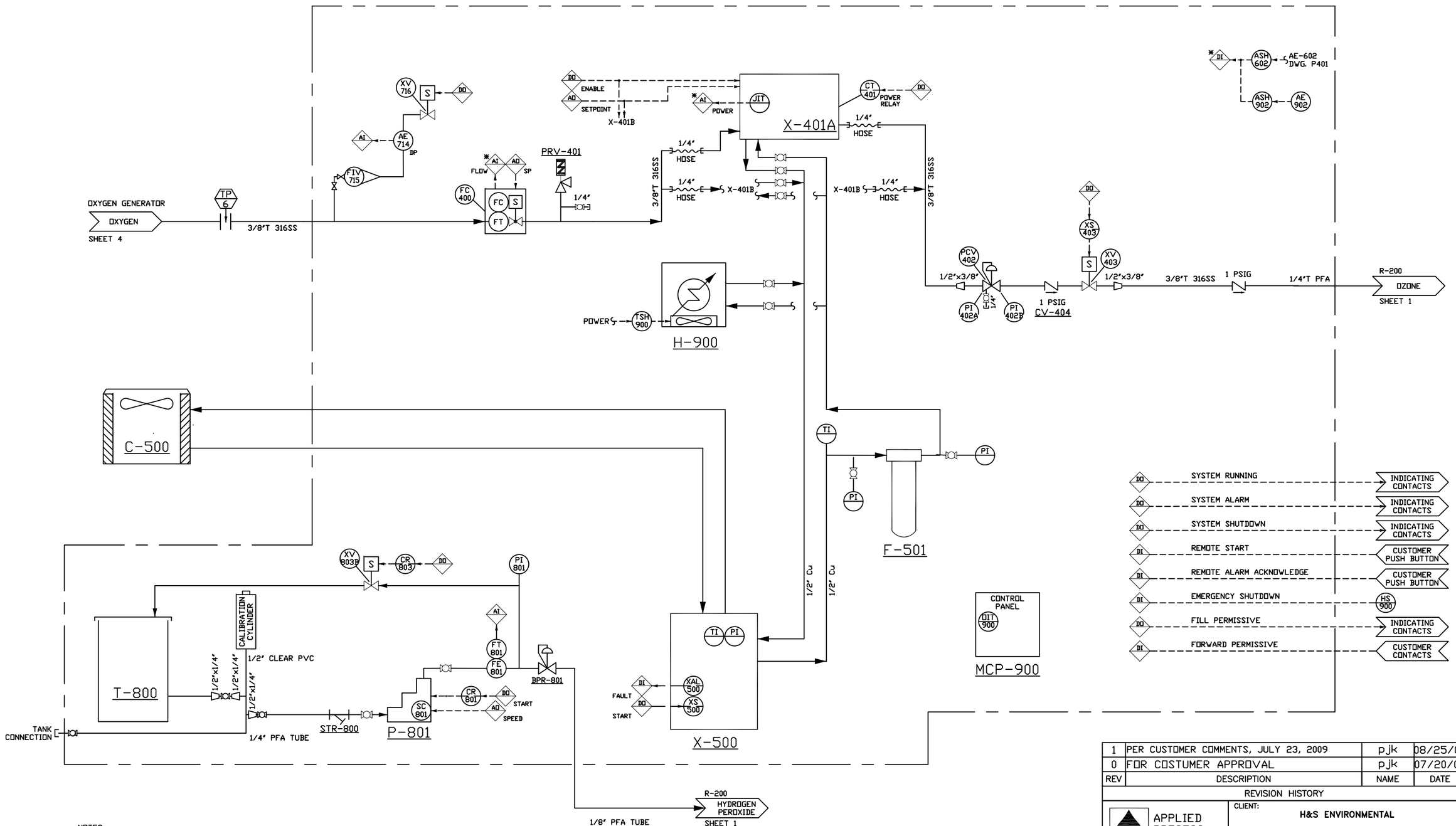
DRAWN	SF	02/10/05
DESIGN	PJK	07/16/09
CHECKED	CLM	07/17/09
APPROVED		
APPROVED		
NEXT ASSEMBLY:		

SIZE: D | DRAWING NO.: J1136P001 | REV: 1

SCALE: None | FILE: J1136P001 | SHEET 1 OF 4

PROPRIETARY

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF APPLIED PROCESS TECHNOLOGY INC., AND ITS RECIEPT OR POSSESION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT THE WRITTEN AUTHORIZATION OF APPLIED PROCESS TECHNOLOGY INC., IS EXPRESSLY FORBIDDEN.



NOTES:

For tie points, see sheet 3

BILL OF MATERIALS

ITEM	DESCRIPTION	PART #	SUPPLIER	QTY

REV	DESCRIPTION	NAME	DATE
1	PER CUSTOMER COMMENTS, JULY 23, 2009	pjk	08/25/09
0	FOR COSTUMER APPROVAL	pjk	07/20/09

REVISION HISTORY

APPLIED PROCESS TECHNOLOGY

CLIENT: H&S ENVIRONMENTAL

PROJECT: J1136

LOCATION: BRUNSWICK, ME

TITLE: PIPING & INSTRUMENT DRAWING REACTION SYSTEM

DRAWN	SF	02/10/05
DESIGN	PJK	07/16/09
CHECKED	CLM	07/17/09
APPROVED		
APPROVED		
NEXT ASSEMBLY:		

SIZE D | DRAWING NO. J1136P001 | REV 1

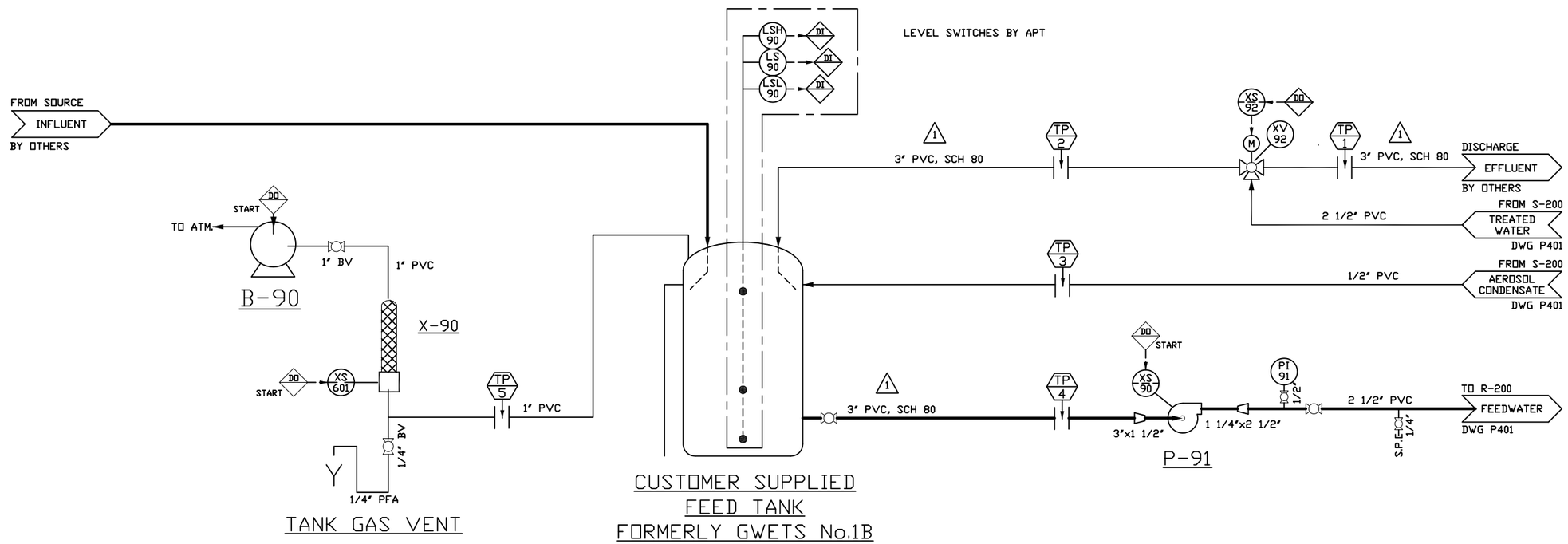
SCALE: None | FILE:J1136P001 | SHEET 2 OF 4

PROPRIETARY

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF APPLIED PROCESS TECHNOLOGY INC., AND ITS RECEIPT OR POSSESSION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT THE WRITTEN AUTHORIZATION OF APPLIED PROCESS TECHNOLOGY INC., IS EXPRESSLY FORBIDDEN.

BILL OF MATERIALS

ITEM	DESCRIPTION	PART #	SUPPLIER	QTY



TIE POINT SCHEDULE				
TP#	PROCESS	SIZE	CONNECTION TYPE	MATERIAL
TP-1	SYSTEM DISCHARGE	3"	MALE NPT	PVC SCH 80
TP-2	RECYCLE LINE	3"	MALE NPT	PVC SCH 80
TP-3	AEROSOIL CONDENSATE	1/2"	MALE NPT	PVC SCH 80
TP-4	FEED LINE	3"	MALE NPT	PVC SCH 80
TP-5	TANK VENT	1"	MALE NPT	PVC SCH 80
TP-6	OXYGEN FEED	3/8"	Swaglok	316SS
TP-7	OXYGEN FEED	3/8"	Swaglok	316SS

NOTES:

1. CUSTOMER TO SUPPLY FEED TANK, AND ALL PIPING TO AND FROM FEED TANK
2. APT TO SUPPLY AND INSTALL LEVEL FLOATS (LSH90, LS90, LSL90) IN FEED TANK
3. ALL PIPING TO BE SCHEDULE 80 PVC PIPING, EXCEPT AS NOTED

REV	DESCRIPTION	NAME	DATE
1	PER CUSTOMER COMMENTS, JULY 23, 2009	pjk	08/25/09
0	FOR COSTUMER APPROVAL	pjk	07/20/09

REVISION HISTORY

APPLIED PROCESS TECHNOLOGY

CLIENT: H&S ENVIRONMENTAL

PROJECT: J1136

LOCATION: BRUNSWICK, ME

TITLE: PIPING & INSTRUMENT DRAWING REACTION SYSTEM

DRAWN	SF	02/10/05
DESIGN	PJK	07/16/09
CHECKED	CLM	07/17/09
APPROVED		
APPROVED		
NEXT ASSEMBLY:		

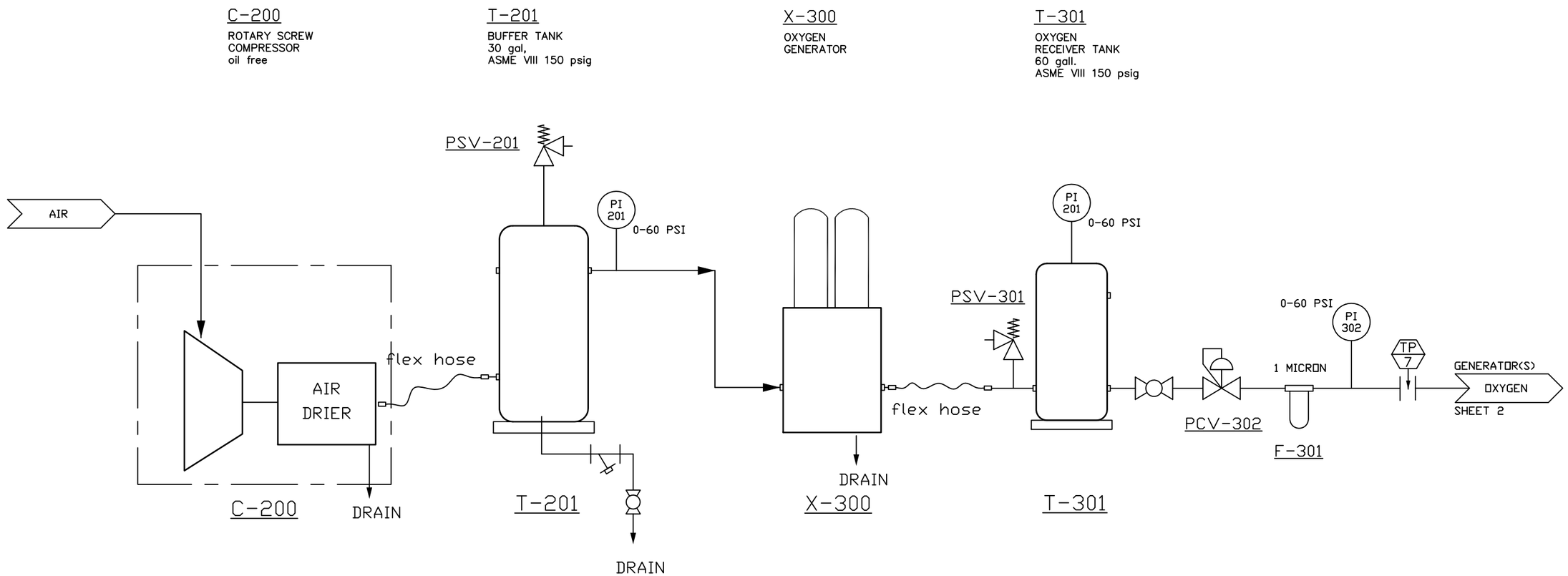
SIZE: D | DRAWING NO. J1136P001 | REV 1

SCALE: None | FILE: J1136P001 | SHEET 3 OF 4

PROPRIETARY

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF APPLIED PROCESS TECHNOLOGY INC., AND ITS RECIEPT OR POSSESION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT THE WRITTEN AUTHORIZATION OF APPLIED PROCESS TECHNOLOGY INC., IS EXPRESSLY FORBIDDEN.

BILL OF MATERIALS				
ITEM	DESCRIPTION	PART #	SUPPLIER	QTY



NOTES:

For tie points, see sheet 3

REV	DESCRIPTION	NAME	DATE
1	PER CUSTOMER COMMENTS, JULY 23, 2009	pjk	08/25/09
0	FOR COSTUMER APPROVAL	pjk	07/20/09

REVISION HISTORY

APPLIED PROCESS TECHNOLOGY

CLIENT: H&S ENVIRONMENTAL

PROJECT: J1136

LOCATION: BRUNSWICK, ME

TITLE: PIPING & INSTRUMENT DRAWING REACTION SYSTEM

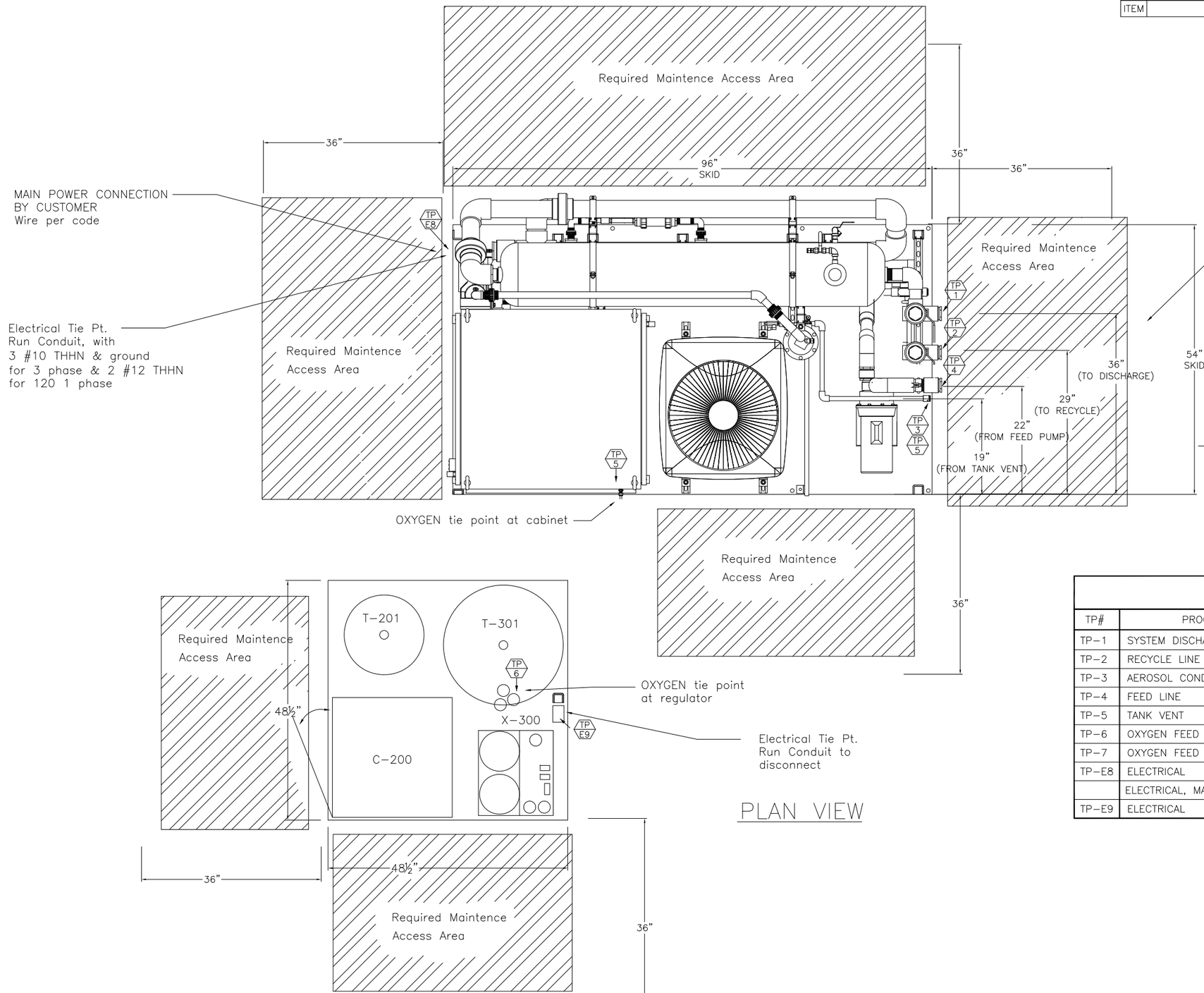
DRAWN	SF	02/10/05
DESIGN	PJK	07/16/09
CHECKED	CLM	07/17/09
APPROVED		
APPROVED		
NEXT ASSEMBLY:		

SIZE D | DRAWING NO. J1136P001 | REV 1

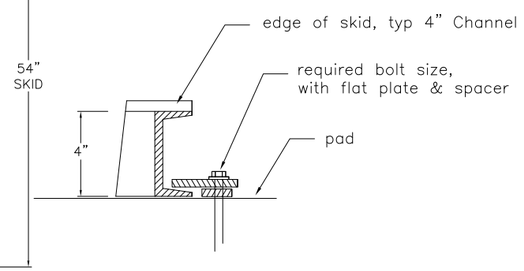
SCALE: None | FILE:J1136P001 | SHEET 4 OF 4

PROPRIETARY

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF APPLIED PROCESS TECHNOLOGY INC., AND ITS RECIEPT OR POSSESION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT THE WRITTEN AUTHORIZATION OF APPLIED PROCESS TECHNOLOGY INC., IS EXPRESSLY FORBIDDEN.



PLAN VIEW



HOLD-DOWN

BILL OF MATERIALS

ITEM	DESCRIPTION	PART #	SUPPLIER	QTY

TIE POINT SCHEDULE

TP#	PROCESS	SIZE	CONNECTION TYPE	MATERIAL
TP-1	SYSTEM DISCHARGE	3"	MALE NPT	PVC SCH 80
TP-2	RECYCLE LINE	3"	MALE NPT	PVC SCH 80
TP-3	AEROSOL CONDENSATE	1/2"	MALE NPT	PVC SCH 80
TP-4	FEED LINE	3"	MALE NPT	PVC SCH 80
TP-5	TANK VENT	1"	MALE NPT	PVC SCH 80
TP-6	OXYGEN FEED	3/8"	Swagelok	316SS
TP-7	OXYGEN FEED	3/8"	Swagelok	316SS
TP-E8	ELECTRICAL	1"	CONDUIT	PVC
	ELECTRICAL, MAIN POWER	per code	CONDUIT	PVC
TP-E9	ELECTRICAL	1"	CONDUIT	PVC

NOTES:
1.

REV	DESCRIPTION	NAME	DATE
1	PER CUSTOMER COMMENTS, JULY 23, 2009	pjk	08/25/09
0	FOR CUSTOMER APPROVAL	pjk	07/20/09

REVISION HISTORY

PROPRIETARY

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF APPLIED PROCESS TECHNOLOGY INC., AND ITS RECIEPT OR POSSESION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT THE WRITTEN AUTHORIZATION OF APPLIED PROCESS TECHNOLOGY INC., IS EXPRESSLY FORBIDDEN.

DRAWN	LT	02/10/05
DESIGN	PJK	07/16/09
CHECKED	CLM	07/17/09
APPROVED		
APPROVED		
NEXT ASSEMBLY:		

APPLIED PROCESS TECHNOLOGY

CLIENT: H&S ENVIRONMENTAL

PROJECT: J1136

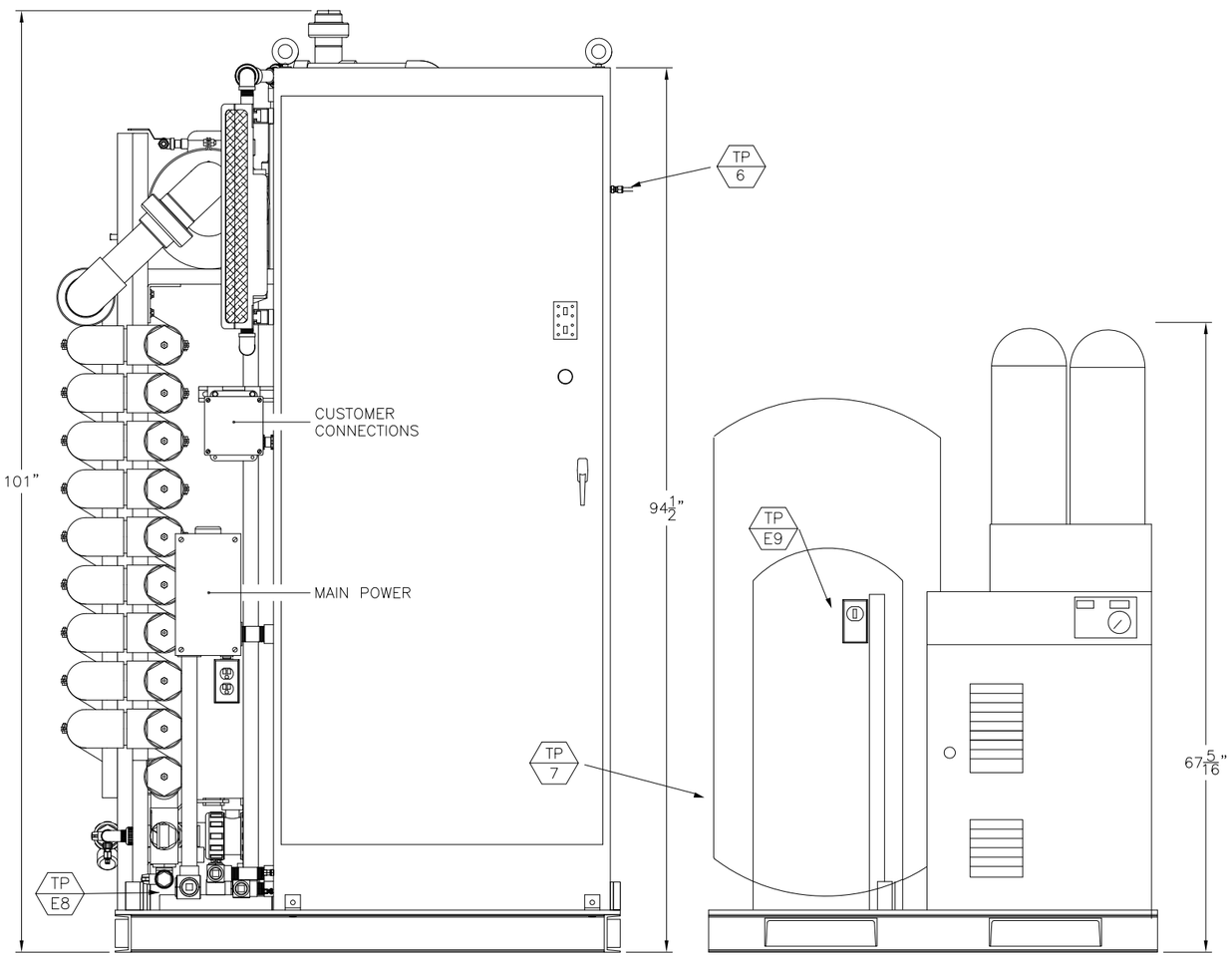
LOCATION: BRUNSWICK, ME

TITLE: FACILITY DRAWING HIPOX CABINET UNIT

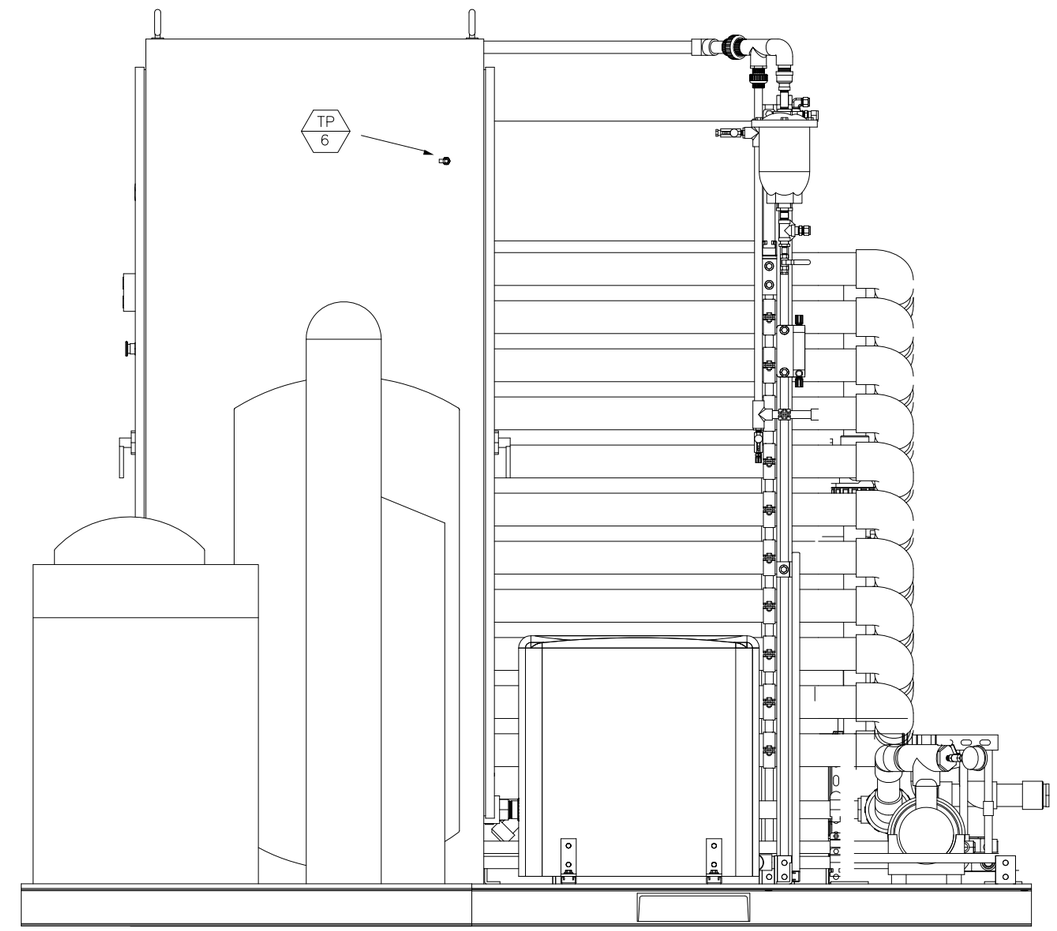
SIZE: D | DRAWING NO. 600-001-00 | REV 1

SCALE: None | FILE: J1136-F600 | SHEET 1 OF 3

BILL OF MATERIALS				
ITEM	DESCRIPTION	PART #	SUPPLIER	QTY



RIGHTSIDE VIEW



FRONT VIEW

REV	DESCRIPTION	NAME	DATE
1	PER CUSTOMER COMMENTS, JULY 23, 2009	pjk	08/25/09
0	FOR CUSTOMER APPROVAL	pjk	07/20/09

REVISION HISTORY

APPLIED PROCESS TECHNOLOGY

CLIENT: H&S ENVIRONMENTAL

PROJECT: J1136

LOCATION: BRUNSWICK, ME

TITLE: FACILITY DRAWING HIPOX CABINET UNIT

DRAWN	LT	02/10/05
DESIGN	PJK	07/16/09
CHECKED	CLM	07/17/09
APPROVED		
APPROVED		
NEXT ASSEMBLY:		

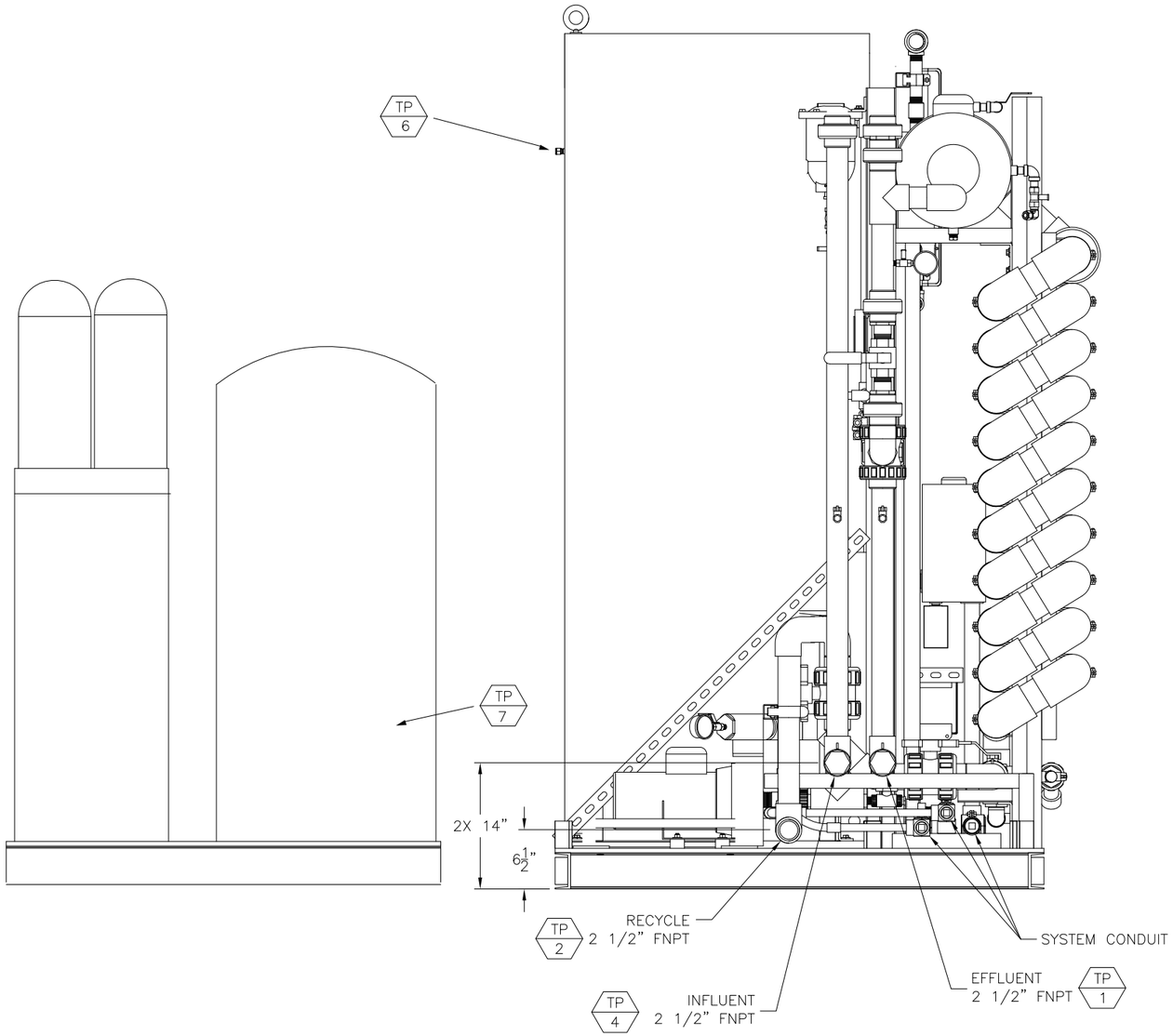
SIZE D | DRAWING NO. 600-001-00 | REV 1

SCALE: None | FILE:J1136-F600 | SHEET 2 OF 3

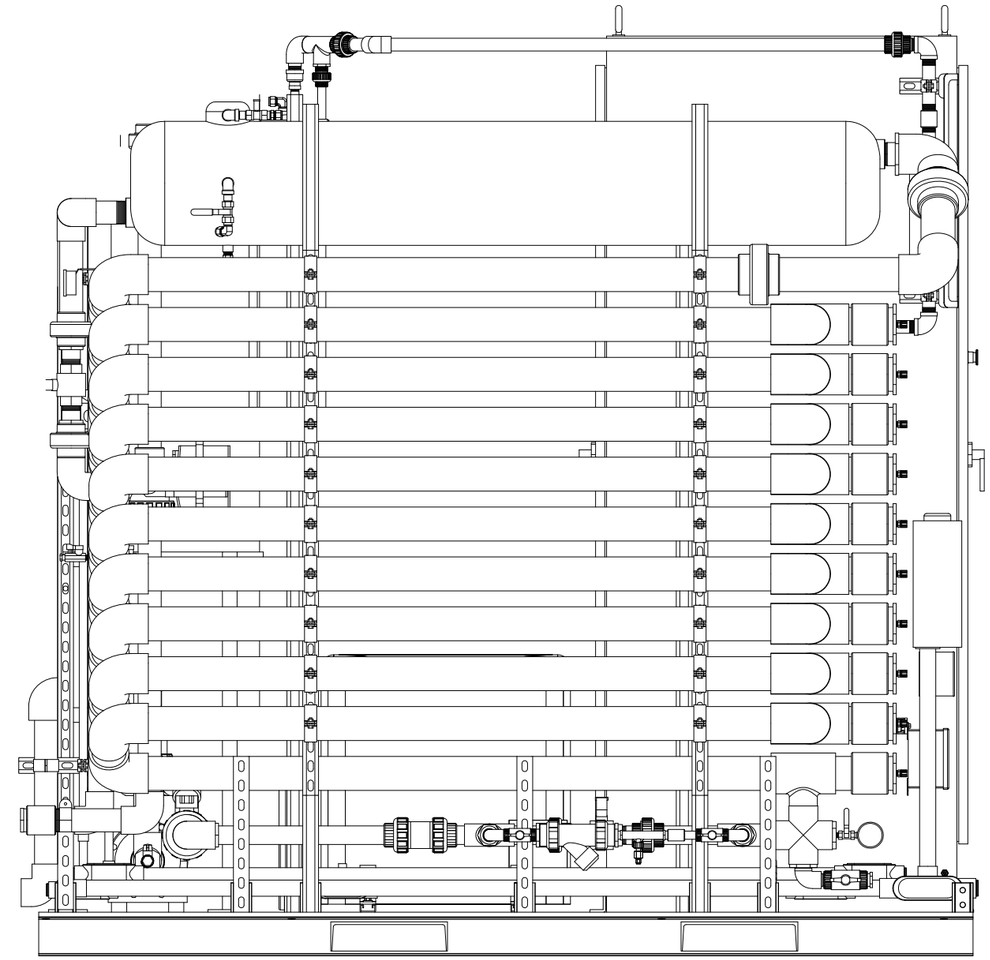
PROPRIETARY

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF APPLIED PROCESS TECHNOLOGY INC., AND ITS RECIEPT OR POSSESION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT THE WRITTEN AUTHORIZATION OF APPLIED PROCESS TECHNOLOGY INC., IS EXPRESSLY FORBIDDEN.

BILL OF MATERIALS				
ITEM	DESCRIPTION	PART #	SUPPLIER	QTY



LEFTSIDE VIEW



REAR VIEW

REV	DESCRIPTION	NAME	DATE
1	PER CUSTOMER COMMENTS, JULY 23, 2009	pjk	08/25/09
0	FOR CUSTOMER APPROVAL	pjk	07/20/09

REVISION HISTORY

APPLIED PROCESS TECHNOLOGY

CLIENT: H&S ENVIRONMENTAL

PROJECT: J1136

LOCATION: BRUNSWICK, ME

TITLE: FACILITY DRAWING HIPOX CABINET UNIT

DRAWN	LT	02/10/05
DESIGN	PJK	07/16/09
CHECKED	CLM	07/17/09
APPROVED		
APPROVED		
NEXT ASSEMBLY:		

SIZE: D

DRAWING NO. 600-001-00

REV 1

SCALE: None

FILE:J1136-F600

SHEET 3 OF 3

PROPRIETARY

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF APPLIED PROCESS TECHNOLOGY INC., AND ITS RECIEPT OR POSSESION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT THE WRITTEN AUTHORIZATION OF APPLIED PROCESS TECHNOLOGY INC., IS EXPRESSLY FORBIDDEN.

J1136 ELECTRICAL LOAD
LOAD FOR 208VAC/3ph/60Hz SERVICE

RACK OZONE DEMAND: 18 (Pounds/day)

No.	Item		Tag	Platform	Switched	Volts	Phase	Amp Load Balance RMS	L1	L2	L3	Load HP	kWatts	PF	kVA
STANDARD FEATURES															
○	AX-8407 Generator, (18.5 ppd)		X-401	Skid	Y	208	3	0.0	0.0	0.0	0.0	0.0	0.0	0.98	0.00
○	AX-8406 Generator, (11.64 ppd)		X-401	Skid	Y	208	3	0.0	0.0	0.0	0.0	0.0	0.0	0.98	0.00
◉	AX-8403 Generator, (8.5 ppd)		X-401	Skid	Y	208	3	20.8	20.8	20.8	20.8	9.8	7.3	0.98	7.48
○	AX-8402 Generator, (6.6 ppd)		X-401	Skid	Y	208	1	0.0	0.0	0.0	0.0	0.0	0.0	0.98	0.00
2	Control Power		MCP-900	Skid	N	120	1	5.8	5.8		0.0	0.88	0.66	0.95	0.69
3	Metering Pump(s)	1	P-801	Skid	Y	120	1	1.0		1.0	0.0	0.15	0.11	0.95	0.12
4	Peroxide Flowmeter(s)	1	FT-801	Skid	N	120	1	0.5	0.5		0.0	0.08	0.06	0.95	0.06
5	Ozone Destruct Heater		X-601	Skid	Y	120	1	1.3		1.3	0.0	0.20	0.15	0.95	0.16
6	Receptacles (12A max)		na	Skid	N	120	1	12.0			12.0	1.83	1.37	0.95	1.44
7	Cooling Fan		F-950	Skid	N	120	1	0.0		0.0	0.0	0.00	0.00	0.70	0.00
OPTIONAL FEATURES						STANDARD 120/208-VAC LOAD:			27.0	23.1	32.8	13.0	9.7		9.9
☑	Feed Pump		P-90	Skid	Y	208	3	8.9	8.9	8.9	8.9	3.0	2.2	0.70	3.20
☐	Sump Pump		P-100	Skid	Y	208	1	0.0	0.0	0.0	0.0	0.5	0.0	0.70	0.00
☐	Forwarding/Booster Pump		P-201	Skid	Y	208	3	0.0	0.0	0.0	0.0	0.0	0.0	0.70	0.00
☐	Cooling Pump		P-500	Skid	Y	208	1	0.0	0.0	0.0	0.0	0.0	0.0	0.70	0.00
☑	Chiller (rated tons capacity)	2	X-500	Skid	Y	208	3	14.7	9.8	9.8	9.8	5.0	3.7	0.70	5.31
☑	PSA Oxygen Generator		X-700	Skid	N	120	1	1.0	0.0	1.0	0.0	0.0	0.00	0.95	0.00
TRUE	PSA Refrig. Air Dryer		D-700	Skid	N	208	3	0.1	0.0	0.0	0.0	0.0	0.0	0.70	0.04
TRUE	PSA Air Compressor		C-700	Skid	N	208	3	22.0	22.0	22.0	22.0	5.0	5.5	0.70	7.91
☐	HVAC	0	H-900	Container	N	208	1	0.0		0.0	0.0	0.0	0.0	0.95	0.00
☐	Lighting (12A max)	1	na	Container	N	120	1	0.0	0.0			0.50	0.0	0.95	0.00
☐	Receptacles (12A max)		na	Container	N	120	1	0.0	0.0			1.83	0.0	0.95	0.00
						OPTIONAL 120/208-VAC LOAD:			40.7	41.7	40.7	15.8	11.5		16.5
OPTIONAL INDUSTRIAL GENERATOR						TOTAL 120/208-VAC LOAD:			67.7	64.7	73.4	28.8	21.2		26.4
☐	Ozone Generator (lbs/day)	0	X-450	Skid	N	208	3	0.0	0.0	0.0	0.0	0.00	0.0	0.92	0.00
#####	Nitrogen Generator		X-452	Skid	N	208	3	0.0	0.0	0.0	0.0	0	0.0	0.70	0.00
☐	Chiller (tons)	0.0	X-500	Skid	N	208	3	0.0	0.0	0.0	0.0	0.0	0.0	0.54	0.00
						OPTIONAL 208-VAC LOAD:			0.0	0.0	0.0	0.0	0.0		0.0

Rack Generators Required = 2.1 (3 operating at 71%) Rack Cooling Required = 4.7 kW (1.3 tons nom./1.9 tons max.)

Service Entrance

Primary Voltage =	208	VAC, 3-phase
Primary Load =	26.4	kVA (208 VAC)
Primary Load =	21.2	kW
Primary Current =	73.3	Amps @ 208 VAC

Stepdown Transformer

Secondary Voltage =	208	VAC	3	Phase
Secondary Load =	26.4	Kva (208 VAC/208 VAC)		
Secondary Load =	21.2	kW		
Secondary Current =	73	Amps @ 208 VAC		

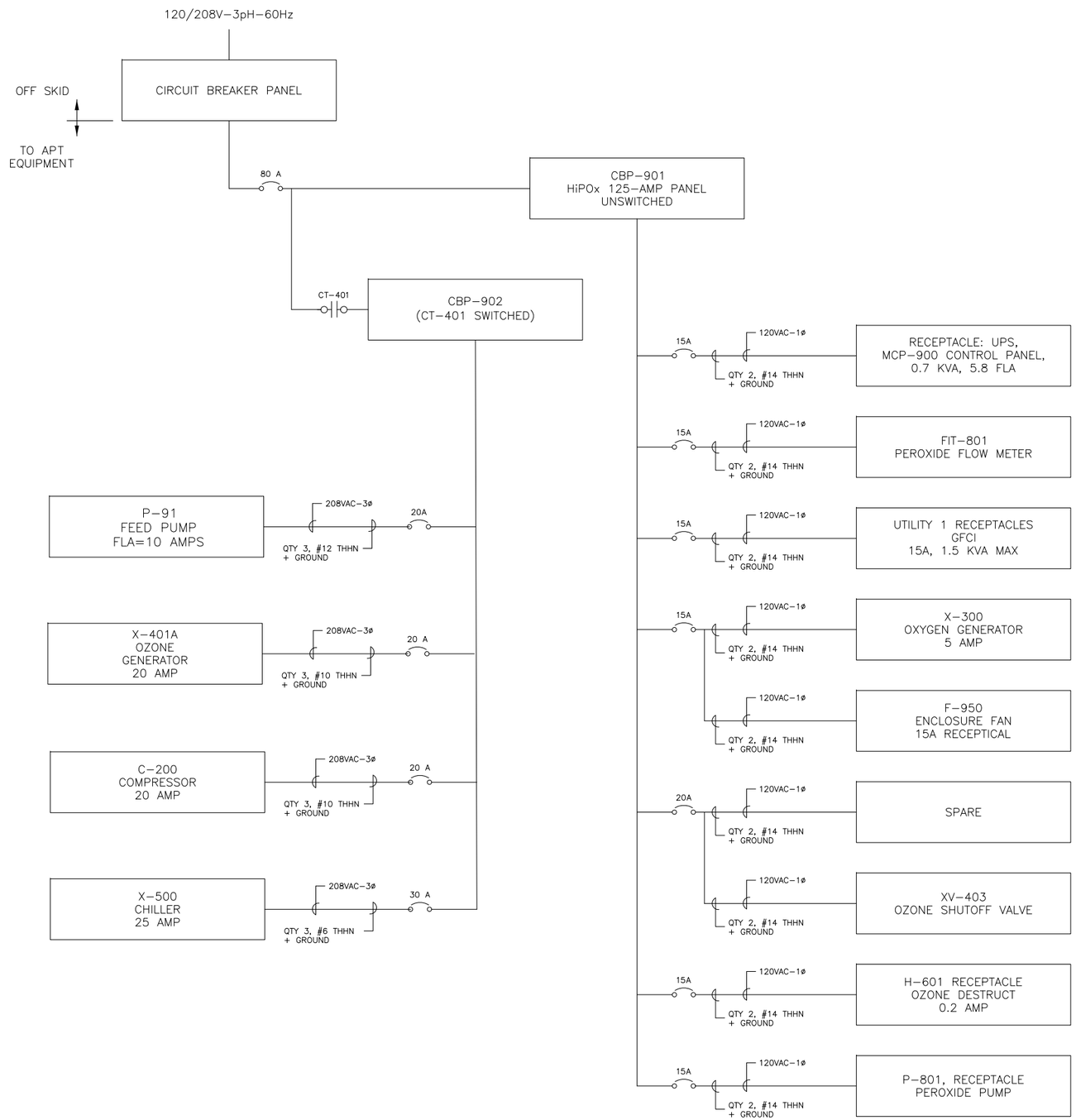
NEC Design factor = 125%

Minimum Transformer Size = 33.0 kVA

NOTES:

1 Max Current @ 208 V - 68 Amps

2



BILL OF MATERIALS

ITEM	DESCRIPTION	PART #	SUPPLIER	QTY

REV	DESCRIPTION	NAME	DATE
1	PER CUSTOMER COMMENTS, JULY 23, 2009	08/25/09	pjk
0	FOR CUSTOMER APPROVAL	07/20/09	pjk

REVISION HISTORY

APPLIED PROCESS TECHNOLOGY

CLIENT: H&S ENVIRONMENTAL

PROJECT: J1136

LOCATION: BRUNSWICK, ME

TITLE: ELECTRICAL ONE LINE

DRAWN	SF	06/09/08
DESIGN	pjk	07/16/09
CHECKED	CL	07/15/09
APPROVED		
APPROVED		
NEXT ASSEMBLY:		

SIZE D | DRAWING NO. J1136E200 | REV 1

SCALE: 1X1 | FILE:J1136E200-RA | SHEET 1 OF 1

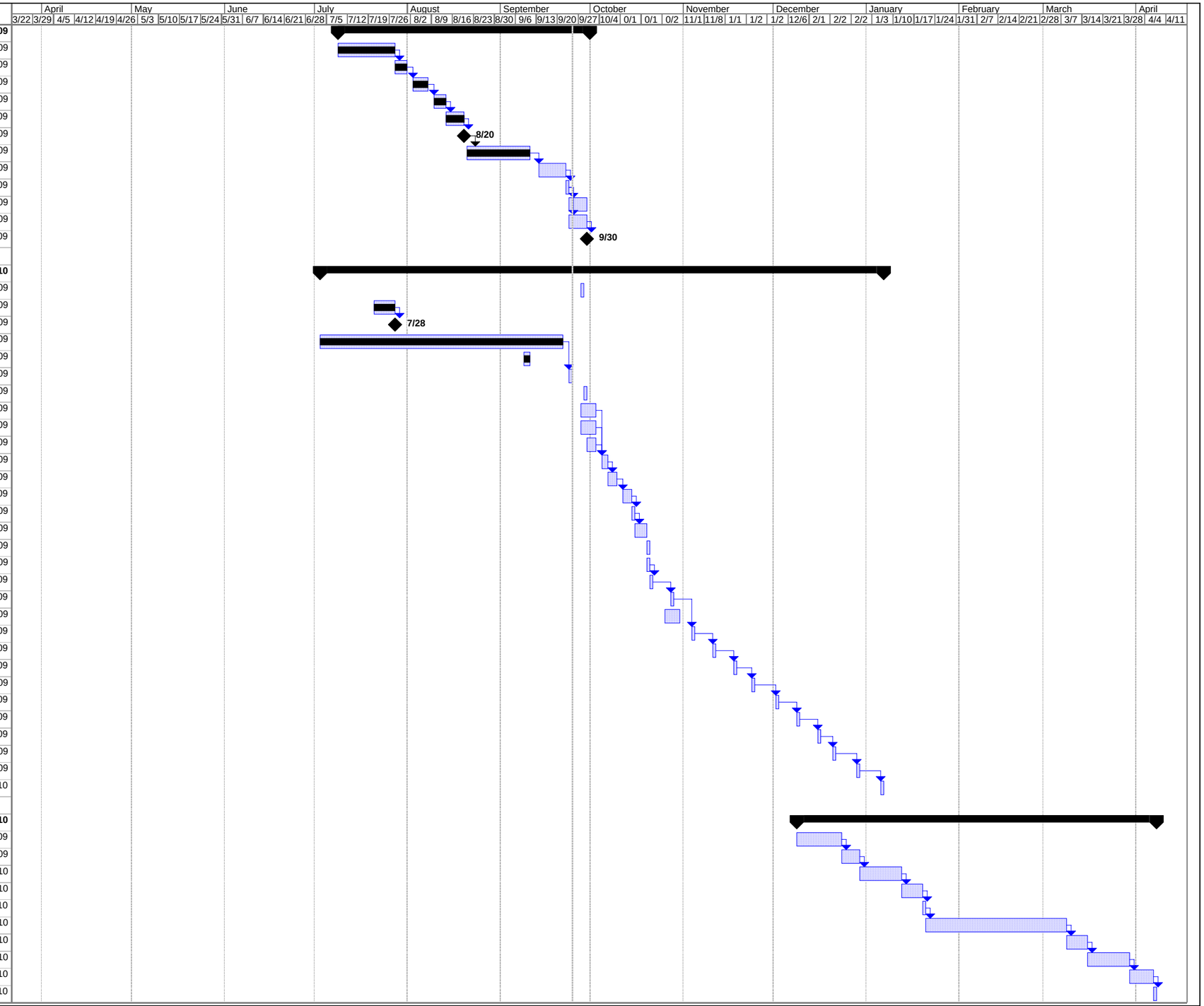
PROPRIETARY

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF APPLIED PROCESS TECHNOLOGY INC., AND ITS RECIEPT OR POSSESION DOES NOT CONVEY ANY RIGHTS TO REPRODUCE, DISCLOSE ITS CONTENTS OR TO MANUFACTURE, USE OR SELL ANYTHING IT MAY DESCRIBE. REPRODUCTION, DISCLOSURE OR USE WITHOUT THE WRITTEN AUTHORIZATION OF APPLIED PROCESS TECHNOLOGY INC., IS EXPRESSLY FORBIDDEN.

APPENDIX B

SCHEDULE

ID	Task Name	Duration	Start	Finish
1	**Pilot Study Work Plan**	**60 days**	**Thu 7/9/09**	**Wed 9/30/09**
2	Generate Work Plan	13 days	Thu 7/9/09	Mon 7/27/09
3	H&S review of draft work plan	4 days	Tue 7/28/09	Fri 7/31/09
4	Internal Draft for Navy Review	5 days	Mon 8/3/09	Fri 8/7/09
5	Navy review and comment revised WP	4 days	Mon 8/10/09	Thu 8/13/09
6	Address Navy Comments and Revise Work Plan	4 days	Fri 8/14/09	Wed 8/19/09
7	Issue Draft Work Plan to Regulators	1 day	Thu 8/20/09	Thu 8/20/09
8	Regulatory Review and Comments	15 days	Fri 8/21/09	Thu 9/10/09
9	Prepare Response to Comments	7 days	Mon 9/14/09	Tue 9/22/09
10	Issue RTCs for regulatory review	1 day	Wed 9/23/09	Wed 9/23/09
11	Regulator Review RTCs & Concurrence	4 days	Thu 9/24/09	Tue 9/29/09
12	Prepare Final Work Plan	4 days	Thu 9/24/09	Tue 9/29/09
13	Issue Final Work Plan	1 day	Wed 9/30/09	Wed 9/30/09
14				
15	**Execute Pilot Study**	**134 days?**	**Fri 7/3/09**	**Wed 1/6/10**
16	Kick-off Meeting for Pilot Study	1 day	Mon 9/28/09	Mon 9/28/09
17	HiPOx Design Drawings Review	5 days	Tue 7/21/09	Mon 7/27/09
18	Navy Approval of HiPOx Unit Drawings	1 day?	Tue 7/28/09	Tue 7/28/09
19	Order and Build HiPOX Unit	57 days	Fri 7/3/09	Mon 9/21/09
20	Install Concrete Pad for HiPOX Unit	2 days	Wed 9/9/09	Thu 9/10/09
21	Receive and Sercure HiPOX Unit	1 day	Thu 9/24/09	Thu 9/24/09
22	Extraction Well EW-5B Start Up	1 day?	Tue 9/29/09	Tue 9/29/09
23	Mechanical	5 days	Mon 9/28/09	Fri 10/2/09
24	Electrical	5 days	Mon 9/28/09	Fri 10/2/09
25	SCADA	3 days	Wed 9/30/09	Fri 10/2/09
26	APT calibration of HiPOX Unit	2 days	Mon 10/5/09	Tue 10/6/09
27	Test Run of HiPOX Unit - 3 Days	3 days	Wed 10/7/09	Fri 10/9/09
28	Laboratory analysis of Test Run samples	3 days	Mon 10/12/09	Wed 10/14/09
29	Transmit Test Run Data to Stakeholders	1 day	Thu 10/15/09	Thu 10/15/09
30	Stakeholder Review of Test Run Data	2 days	Fri 10/16/09	Mon 10/19/09
31	Navy Approval to Operate HiPOX	1 day	Tue 10/20/09	Tue 10/20/09
32	Cease discharge to BSD	1 day?	Tue 10/20/09	Tue 10/20/09
33	Week 1 Sample and Analysis Influent & Effluent	1 day	Wed 10/21/09	Wed 10/21/09
34	Week 2 Sample and Analysis Influent & Effluent	1 day	Wed 10/28/09	Wed 10/28/09
35	Air Stripper Shut Down Test	5 days	Mon 10/26/09	Fri 10/30/09
36	Week 3 Sample and Analysis Influent & Effluent	1 day	Wed 11/4/09	Wed 11/4/09
37	Week 4 Sample and Analysis Influent & Effluent	1 day	Wed 11/11/09	Wed 11/11/09
38	Week 5 Sample and Analysis Influent & Effluent	1 day	Wed 11/18/09	Wed 11/18/09
39	Week 6 Sample and Analysis Influent & Effluent	1 day	Tue 11/24/09	Tue 11/24/09
40	Week 7 Sample and Analysis Influent & Effluent	1 day	Wed 12/2/09	Wed 12/2/09
41	Week 8 Sample and Analysis Influent & Effluent	1 day	Wed 12/9/09	Wed 12/9/09
42	Week 9 Sample and Analysis Influent & Effluent	1 day	Wed 12/16/09	Wed 12/16/09
43	Week 10 Sample and Analysis Influent & Effluent	1 day	Mon 12/21/09	Mon 12/21/09
44	Week 11 Sample and Analysis Influent & Effluent	1 day	Tue 12/29/09	Tue 12/29/09
45	Week 12 Sample and Analysis Influent & Effluent	1 day	Wed 1/6/10	Wed 1/6/10
46				
47	**Pilot Study Completion Report**	**86 days**	**Wed 12/9/09**	**Wed 4/7/10**
48	Generate Completion Report	11 days	Wed 12/9/09	Wed 12/23/09
49	H&S review of Completion Report	4 days	Thu 12/24/09	Tue 12/29/09
50	Internal Draft for Navy Review	10 days	Wed 12/30/09	Tue 1/12/10
51	Address Navy Comments and Revise Report	5 days	Wed 1/13/10	Tue 1/19/10
52	Issue Draft Report to Regulators	1 day	Wed 1/20/10	Wed 1/20/10
53	Regulatory Review and Comments	33 days	Thu 1/21/10	Mon 3/8/10
54	Prepare Response to Comments	5 days	Tue 3/9/10	Mon 3/15/10
55	Regulator Review RTCs & Concurrence	10 days	Tue 3/16/10	Mon 3/29/10
56	Prepare Final Report	6 days	Tue 3/30/10	Tue 4/6/10
57	Issue Final Report	1 day	Wed 4/7/10	Wed 4/7/10



Project: dioxane pilot study schedule R
Date: Fri 9/25/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

APPENDIX C

APT HCU BENCH TEST REPORT

HiPOx® Technology Laboratory Test Report

Report: P2180

Rev: Final

PROJECT:

Removal of 1,4-Dioxane and VOCs

at the Brunswick Naval Air Station in Brunswick, ME

Prepared for:

Al Easterday
Environmental Chemical Corporation
33 Boston Post Road West
Suite 340

Marlborough, MA 01752

Report Author(s): O. Kurtulan, P. Herlihy

Report Date: March 20, 2009

APPLIED PROCESS TECHNOLOGY, INC.
3329 Vincent Road
Pleasant Hill, CA 94523
Phone: (925) 977-1811; Fax: (925) 977-1818
www.aptwater.com

TABLE OF CONTENTS

1.0 BACKGROUND INFORMATION **1**

1.1 PROJECT BACKGROUND 1
1.2 HIPOX TECHNOLOGY 1
1.3 PROJECT SPECIFIC INFORMATION 1
1.4 OBJECTIVE OF EVALUATION 1

2.0 TEST EQUIPMENT AND PROCEDURES **2**

2.1 TEST EQUIPMENT DESCRIPTION 2
2.2 TEST PROCEDURES 3

3.0 RESULTS **4**

4.0 DISCUSSION **4**

4.1 DESTRUCTION OF 1,4-DIOXANE 4
4.2 DESTRUCTION OF VOCS 4
4.4 DOSING PROJECTIONS FOR FULL-SCALE SYSTEM 5

5.0 CONCLUSION **5**

6.0 ATTACHMENTS **5**

1.0 BACKGROUND INFORMATION

1.1 Project Background

Applied Process Technology, Inc. (Applied) was contracted by Environmental Chemical Corporation (ECC) to perform HiPOx laboratory testing for the removal of 1,4-dioxane and chlorinated solvents in groundwater at the Ground-Water Extraction and Treatment System (GWETS) at the Brunswick Naval Air Station in Brunswick, ME. Two samples of untreated groundwater, collected from the site, was shipped by ECC to Applied's Pleasant Hill facility on February 17, 2009 and received on February 18, 2009. Bench testing was conducted on February 19, 2009 with analytical samples shipped out the same day.

1.2 HiPOx Technology

The HiPOx process developed by Applied is an Advanced Oxidation Process (AOP) that uses ozone (O_3) and hydrogen peroxide (H_2O_2) to destroy organic compounds. Ozone dissociates, as well as reacts with hydrogen peroxide to produce an intermediate hydroxyl radical (•OH). Hydroxyl radicals are the second most powerful oxidizing agent found in nature, and the strongest oxidizing agent available for water treatment. These radicals react very rapidly to oxidize organic contaminants to non-hazardous compounds, carbon dioxide, and water.[1] The oxidation of the organic contaminants does not significantly increase the temperature or pressure of the treated water because of the low mg/L or sub-mg/L concentration of contaminants and the high heat capacity of the water.

Advanced oxidation chemistry using ozone and hydrogen peroxide to create hydroxyl radicals is a well known base-catalyzed reaction. The overall balanced reaction for ozone and hydrogen peroxide to yield hydroxyl radical is:

$$2O_3 + H_2O_2 \rightarrow 2\bullet OH + 3O_2$$

1.3 Project Specific Information

The following is site specific information regarding this project:

- Estimated Total Flow Rate = 55-75 gpm;
- Estimated Maximum Influent 1,4-dioxane Concentration = 200 ug/l;
- 1,4-dioxane Treatment Objective < 10 ug/l.

1.4 Objective of Evaluation

The objective of this laboratory trial was to evaluate HiPOx in the AOP mode for the destruction of 1,4-dioxane and VOCs.

The primary goals of this evaluation were to determine the following information:

- Dosing levels of ozone and hydrogen peroxide in a HiPOx reactor to reduce the

[1] W. Glaze and J. Kang, *J.Amer. Water Works Assoc*., **80**, 51, (1988).

concentration of 1,4-Dioxane to below the discharge concentration limit;

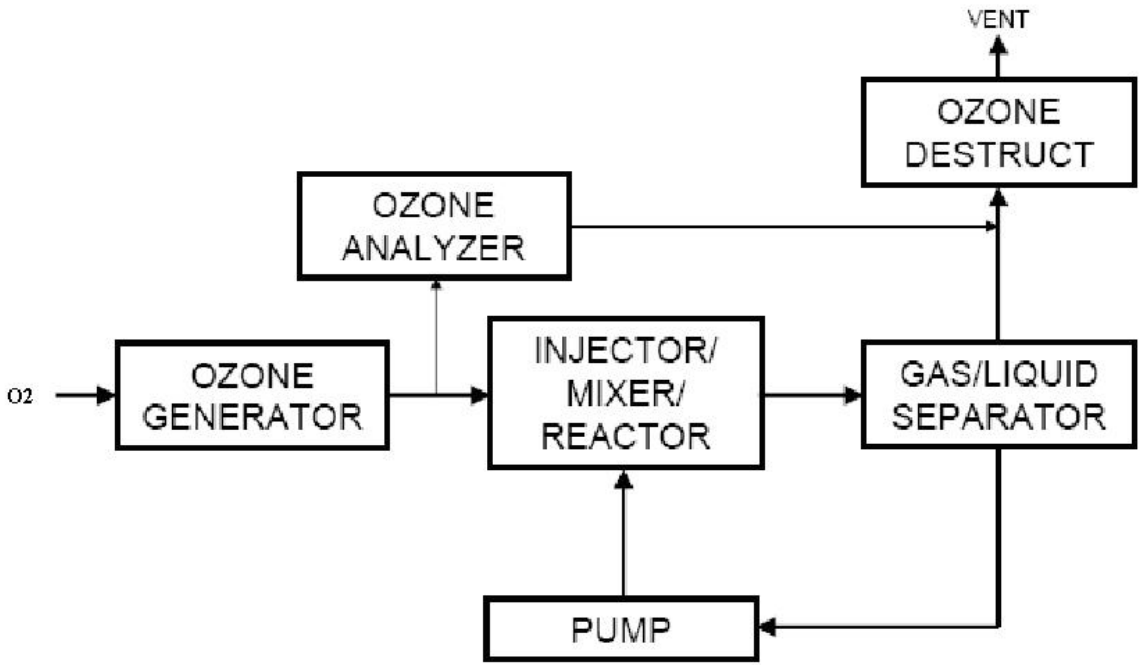
- Effectiveness of HiPOx to destroy VOCs (Chlorinated ethanes and ethenes) in groundwater

2.0 TEST EQUIPMENT AND PROCEDURES

2.1 Test Equipment Description

A schematic of the HiPOx lab-test reactor arrangement is shown in Figure 1.

Figure 1: HiPOx Lab-Test Reactor Schematic



Applied's semi-continuous bench-scale test unit includes an ozone generator, ozone analyzer, ozone injector, static mixer, tubular reactor, recirculation pump, gas-liquid separator, and thermo-catalytic ozone destruct unit. The reactor and piping materials are constructed of Schedule-40 clear PVC. Oxygen and ozone tubing are constructed of 316L stainless steel or PFA (Teflon™[2]). The ozone generator is an ASTeX Model 8200. The ozone analyzer is an INUSA Model H1-X. The ozone destruct unit is an INUSA part number 810-0062-01. The mixer is a ½", four-element, Kenics KMA static mixer insert.

[2] Trademark of the Dupont Company.

2.2 Test Procedures

Experimental and equipment settings for the bench test are listed in **Attachment 1** of Lab-Test Conditions.

Pre-Test Preparation: Prior to conducting the test, the ozone destruct unit was turned on and preheated for ten (10) minutes. The flow of oxygen through the ozone generator was adjusted using the oxygen rotameter and the generator pressure was adjusted using the backpressure regulator. The ozone analyzer was zeroed using pure oxygen prior to turning on the ozone generator. The lab-test unit (hereinafter referred to as "reactor") was charged with 2.0 liters of distilled water prior to the first run. The ozone generator and the reactor were then operated at maximum dosing conditions for 15-20 minutes to both clean the reactor and to set/adjust equipment parameters. Following completion of the pre-test operation, the reactor was drained and rinsed with an additional 2.0 liters of distilled water.

Applied received two sets of 2.5 gallons of untreated water. First 2.5 gallon water collected from Well5B and second 2.5 gal was mixture of GWETS influent and Well5B water.

The selected test ozone doses were 4, 8, 12 and 20 mg/l for Well5B water as shown in **Attachment 1**. Applied ozone doses of 3, 6, 9 and 15 mg/L were selected for blended water. All runs were performed at a fixed hydrogen peroxide: ozone mole ratio (MR) of 0.7.

Sample Preparation: For each run, a graduated cylinder was filled to 2 liters with untreated sample water. The entire content of the graduated cylinder was charged to the reactor. During AOP testing hydrogen peroxide was added to the sample prior to charging the reactor.

Test Operation: For each run, the pump was started, to purge air from the reactor during a brief period of re-circulation and mixing.. The water rotameter was set to 3 gallons/minute. With the ozone generator venting to the ozone destruct unit, the generator power dial was set to achieve the ozone concentration listed in the Attachment 1 as measured by the ozone analyzer. When the ozone concentration was stabilized, the generator output was directed to the reactor. After the appropriate amount of ozone (dose) had been added to the reactor, the generator output was re-directed to the ozone destruct and samples were collected for dissolved ozone residual, hydrogen peroxide residual, temperature, pH, alkalinity and turbidity measurements.

Sample Collection: Sample pH, alkalinity and turbidity were measured and recorded for the untreated water. Samples of the raw water were collected for 1,4-dioxane and general minerals. After each test run, samples were immediately measured and reported for dissolved ozone residual, dissolved hydrogen peroxide residual, pH, alkalinity, temperature, and turbidity. After each test run, samples were collected for 1,4-dioxane. In addition, one sample from Well5B water and two samples from blended water were collected for Chemical Oxygen Demand analysis. At the completion of testing, the samples were properly preserved, packed with blue ice, and sealed in sample coolers with completed chain-of-custody forms. Samples collected for 1,4-dioxane, chemical oxygen demand and general mineral analyses were shipped to Accutest Laboratories as designated by ECC.

Analyses: All analyses were performed by Accutest Laboratories located at 3334 Victor Court, Santa Clara, CA 95054. Analytical results for both treated and untreated samples were provided to ECC which were subsequently forwarded to Applied.

Applied's laboratory measurements were performed with the following equipment: The turbidity meter used was an Orbeco-Hellige Model 965-10 Serial # 2222. The pH was measured with an Oakton Model pH Tester 3^+. Alkalinity was measured using a Hach 5-EP test kit. Ozone residual was measured using a Hach Ozone AccuVac test kit. Hydrogen peroxide residual was measured using a Hach HYP-1 test kit.

3.0 RESULTS

Analytical results of the test are summarized in A**ttachment 2**. Dose-response figures for 1,4-dioxane destruction at a fixed MR of 0.7 are presented in **Attachment 3A** and **3B.** Dose-response figures for DCE and TCE at a fixed MR of 0.7 are presented in **Attachment 4A** and **4B.** DCA and TCA dose-response figures are presented in **Attachment 5A** and **5B.** All supporting third party analytical data reporting is provided in **Attachment 6**.

4.0 DISCUSSION

4.1 Destruction of 1,4-dioxane

The concentration of 1,4-dioxane in the untreated Well5B water was reported to be 101 ug/L using EPA method 8260SIM. An applied ozone dose of 4 mg/L was able to destroy 1,4-dioxane to non-detect levels. A 1,4-dioxane destruction curve was generated from the lab-testing results. The destruction curve can be used to approximate the dosing levels required to achieve the treatment objectives across a range of 1,4-dioxane concentrations within the limitations of the model. The destruction curve presented in **Attachment 3A** is used to develop an empirical model that can be used to estimate the amount of ozone and hydrogen peroxide required to treat varying influent concentrations.

The concentration of 1,4-dioxane in the untreated blended water was reported as 22.8 ug/L using EPA 8260SIM. An applied ozone dose of 3 mg/L lowered the 1,4-dioxane concentration to 1.3 ug/L and the applied ozone dose of 6 mg/L destroyed 1,4-dioxane to non-detect level. 1,4-dioxane destruction curve was also generated for blended water using laboratory analysis data. The destruction curve is presented in **Attachment 3B**.

Based on the model generated, for blended water, it is estimated that an ozone dose of approximately 5-6 mg/l would be needed to reduce 1, 4-dioxane levels from 200 ug/L to <10 ug/L at a fixed MR of 0.7.

4.2 Destruction of VOCs

Volatile Organic Compounds were mostly destroyed during the benchtest with 3 mg/L and 4 mg/L of applied ozone dose for well and blended water respectively. The destruction curves for 1,1 DCE and TCE are presented in **Attachments 4A** and **4B**. HiPOx is not very effective in destroying 1,1,1-TCA. 1,1,1-TCA in untreated well water was reported to be 567 ug/L. An applied ozone dose of 20 mg/L was able to lower the 1,1,1-TCA concentration to 317 ug/L. Blended water 1,1,1-TCA concentration was reported by lab as 100 ug/L and an applied ozone

dose of 15 mg/L lowered the 1,1,1-TCA concentration to 61.6 ug/L. 1,1,1 TCA and 1,1 DCA destruction curves are presented in **Attachment 5A** and **5B**.

4.4 Dosing Projections for Full-Scale System

The lab-test data was used to develop a mathematical model for the destruction of aggregate concentrations of 1,4-dioxane in AOP mode. The model is accurate within the limitations of the data generated from this lab test.

DESIGN CONDITIONS & MODEL

Influent 1,4-dioxane Concentration = 200 ug/l
1,4-dioxane Treatment Objective = < 10 ug/l
Based on the above design conditions, the model projects the following:
Ozone Dose = 5-6 mg/L
MR = 0.7
Hydrogen Peroxide Dose = 3-4 mg/L

5.0 CONCLUSION

The lab testing results demonstrate that HiPOx operated in the AOP mode is capable of destroying 1,4-Dioxane to <10 ug/l while successfully destroying chlorinated ethenes present in the water.

Chlorinated ethanes will be partially treated by HiPOx at the ozone doses suitable to treat 1,4-dioxane and chlorinated ethenes. 5 mg/L ozone dose reduced DCA concentration approximately 44 % in Well 5B water. DCA reduction was approximately 28 % in blended water at 5mg/L of applied ozone dose. TCA was reduced approximately 24 % in Well 5B water with an applied ozone dose of 5 mg/L. At 5 mg/L ozone dose, TCA reduction was not significant in blended water.

The lab testing results indicate that HiPOx operating in the AOP mode at an ozone dose of approximately 5 mg/L and a MR of 0.7 will provide the most cost-effective treatment at the design condition specified by ECC.

End of Report

6.0 ATTACHMENTS

ATTACHMENT 1	Bench Test Conditions
ATTACHMENT 2	Bench Test Analytical Results
ATTACHMENT 3A-3B	1, 4-Dioxane Destruction Curves
ATTACHMENT 4A-4B	DCE and TCE Destruction Curves
ATTACHMENT 5A-5B	DCA and TCA Destruction Curves
ATTACHMENT 6	Third Party Analytical Data

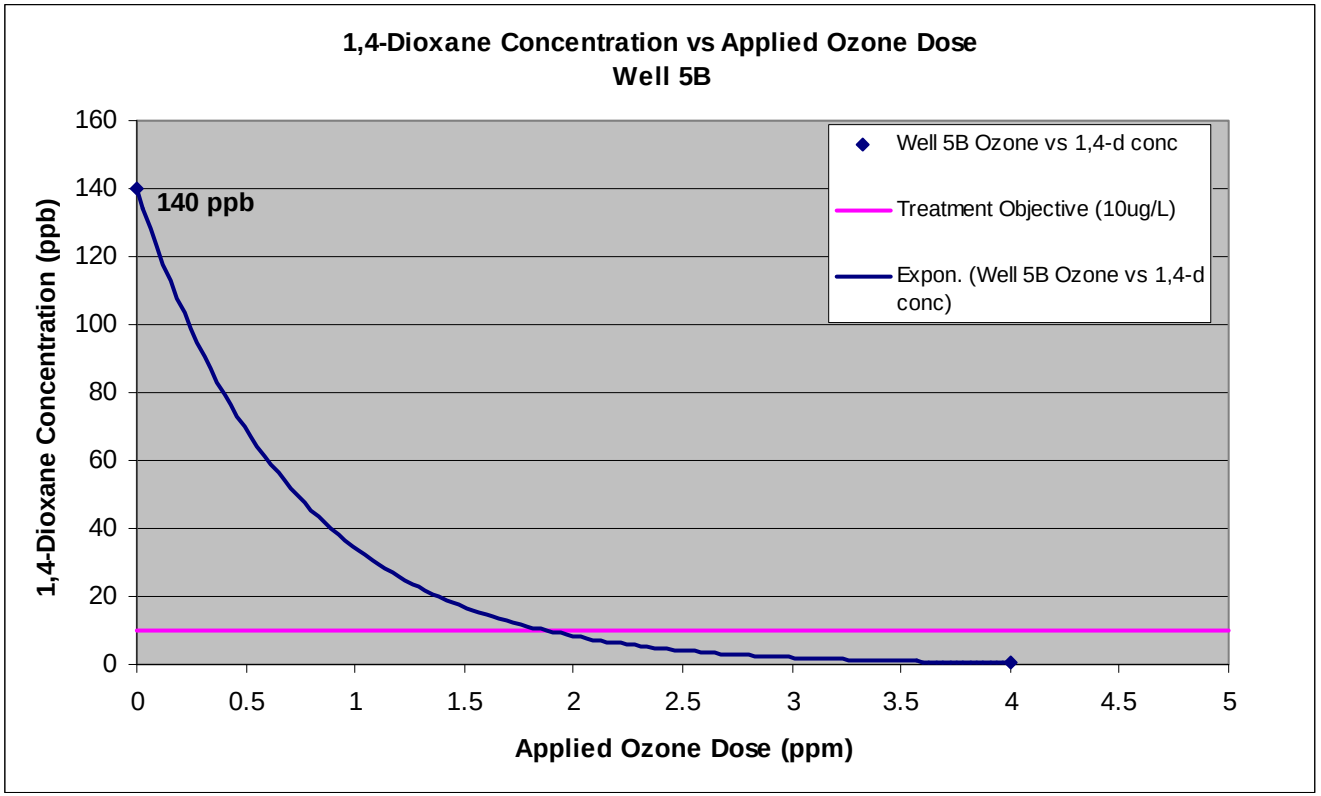
ATTACHMENT 1

	Conditions							Calculated Value						
Sample ID #	Run #	Ozone Dose (mg/L)	Mole Ratio	H2O2 Conc (wt%)	Reactor Volume (L)	Ozone Conc. (wt%)	Oxygen Flowrate (mls/min)	Oxygen Density (g/L)	mg Ozone	mMoles Ozone	mg H2O2	mMoles H2O2	H2O2 (mg/L)	Volume H2O2 (mls)
P2180W-SP-4	1	4	0.70	0.50	2.00	2.00	180.7	1.328	8	0.167	3.967	0.117	1.983	0.79
P2180W-SP-8	2	8	0.70	0.50	2.00	4.00	180.7	1.328	16	0.333	7.933	0.233	3.967	1.59
P2180W-SP-12	3	12	0.70	0.50	2.00	6.00	180.7	1.328	24	0.500	11.900	0.350	5.950	2.38
P2180W-SP-20	4	20	0.70	0.50	2.00	10.00	180.7	1.328	40	0.833	19.833	0.583	9.917	3.97
P2180B-SP-3	5	3	0.70	0.50	2.00	2.00	135.5	1.328	6	0.125	2.975	0.088	1.488	0.60
P2180B-SP-6	6	6	0.70	0.50	2.00	4.00	135.5	1.328	12	0.250	5.950	0.175	2.975	1.19
P2180B-SP-9	7	9	0.70	0.50	2.00	6.00	135.5	1.328	18	0.375	8.925	0.263	4.463	1.79
P2180B-SP-15	8	15	0.70	0.50	2.00	10.00	135.5	1.328	30	0.625	14.875	0.438	7.438	2.98

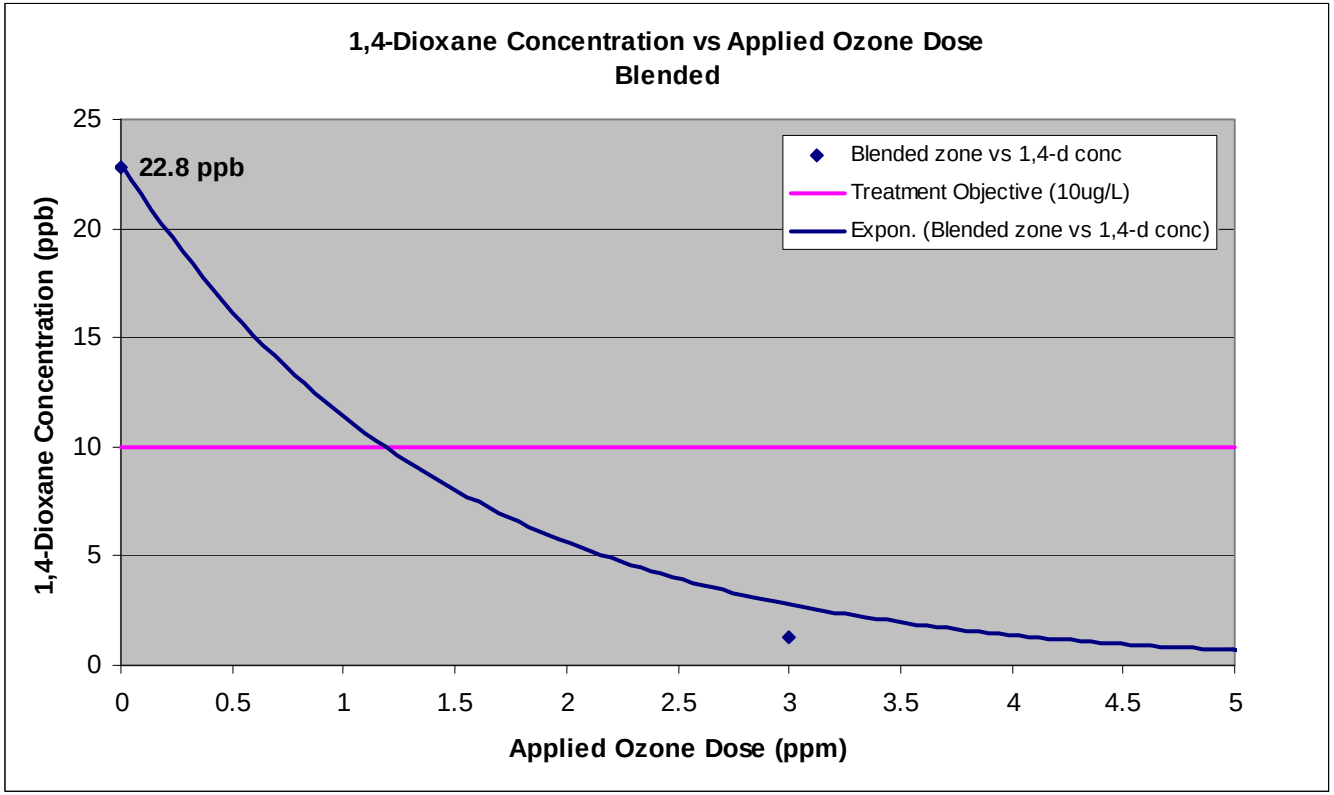
ATTACHMENT 2

Lab Analytical Run Sheet														
Sample ID #	**Run #**	**Ozone Dose (mg/L)**	**Mole Ratio**	**pH**	**Alkalinity (mg/L)**	**Turbidity (NTU)**	**Temp**	**Ozone Residual (mg/L)**	**H2O2 Residual (mg/L)**	**EPA 8260SIM 1,4-d (ug/L)**	**1,1 DCE (ug/L)**	**TCE (ug/L)**	**1,1 DCA (ug/L)**	**1,1,1 TCA (ug/L)**
P2180W-SP-0				**6.70**	**80**	**2.14**	**15.0**	**0.00**	**0.0**	**101.0**	**140.0**	**336.0**	**49.8**	**567**
P2180W-SP-4	1	4	0.70	**6.50**	**80**	**2.03**	**15.2**	**0.00**	**2.0**	**ND**	**ND**	**ND**	**27.9**	**431**
P2180W-SP-8	2	8	0.70	**6.30**	**80**	**2.25**	**14.8**	**0.70**	**2.0**	**ND**	**ND**	**ND**	**18**	**429**
P2180W-SP-12	3	12	0.70	**6.40**	**80**	**2.60**	**13.1**	**0.20**	**2.0**	**ND**	**ND**	**ND**	**11**	**400**
P2180W-SP-20	4	20	0.70	**6.40**	**80**	**2.50**	**14.6**	**0.35**	**2.0**	**ND**	**ND**	**ND**	**3.9**	**317**
P2180B-SP-0				**6.80**	**60**	**0.62**	**10.2**	**0.00**	**0.0**	**22.8**	**24.6**	**70.6**	**7.1**	**79.4**
P2180B-SP-3	5	3	0.70	**6.80**	**60**	**0.65**	**14.1**	**0.10**	**0.5**	**1.3**	**ND**	**ND**	**7.1**	**79.4**
P2180B-SP-6	6	6	0.70	**6.50**	**60**	**0.58**	**13.9**	**1.40**	**2.0**	**ND**	**ND**	**ND**	**5.1**	**72.3**
P2180B-SP-9	7	9	0.70	**6.40**	**60**	**0.60**	**13.9**	**1.30**	**2.0**	**ND**	**ND**	**ND**	**3.8**	**71.2**
P2180B-SP-15	8	15	0.70	**6.50**	**60**	**0.73**	**14.6**	**1.00**	**2.0**	**ND**	**ND**	**ND**	**1.8**	**61.6**

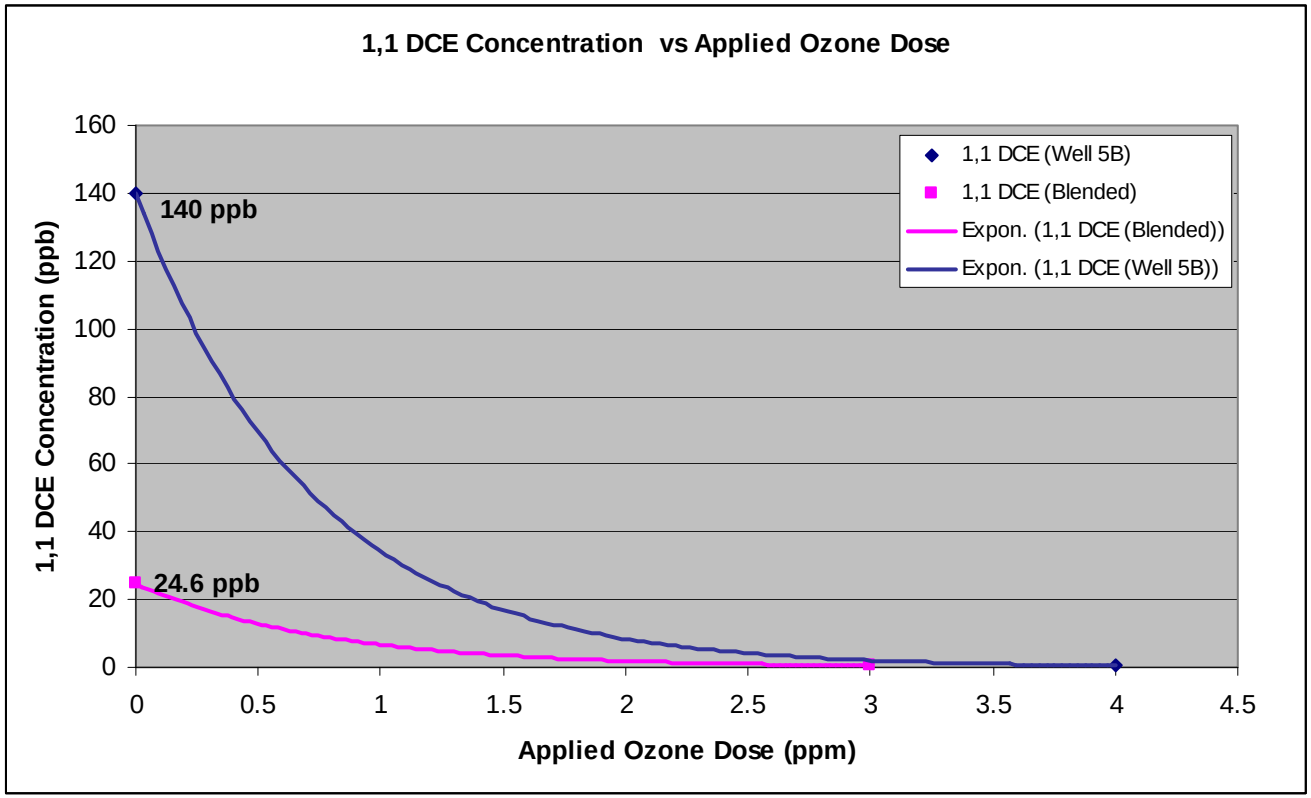
ATTACHMENT 3A



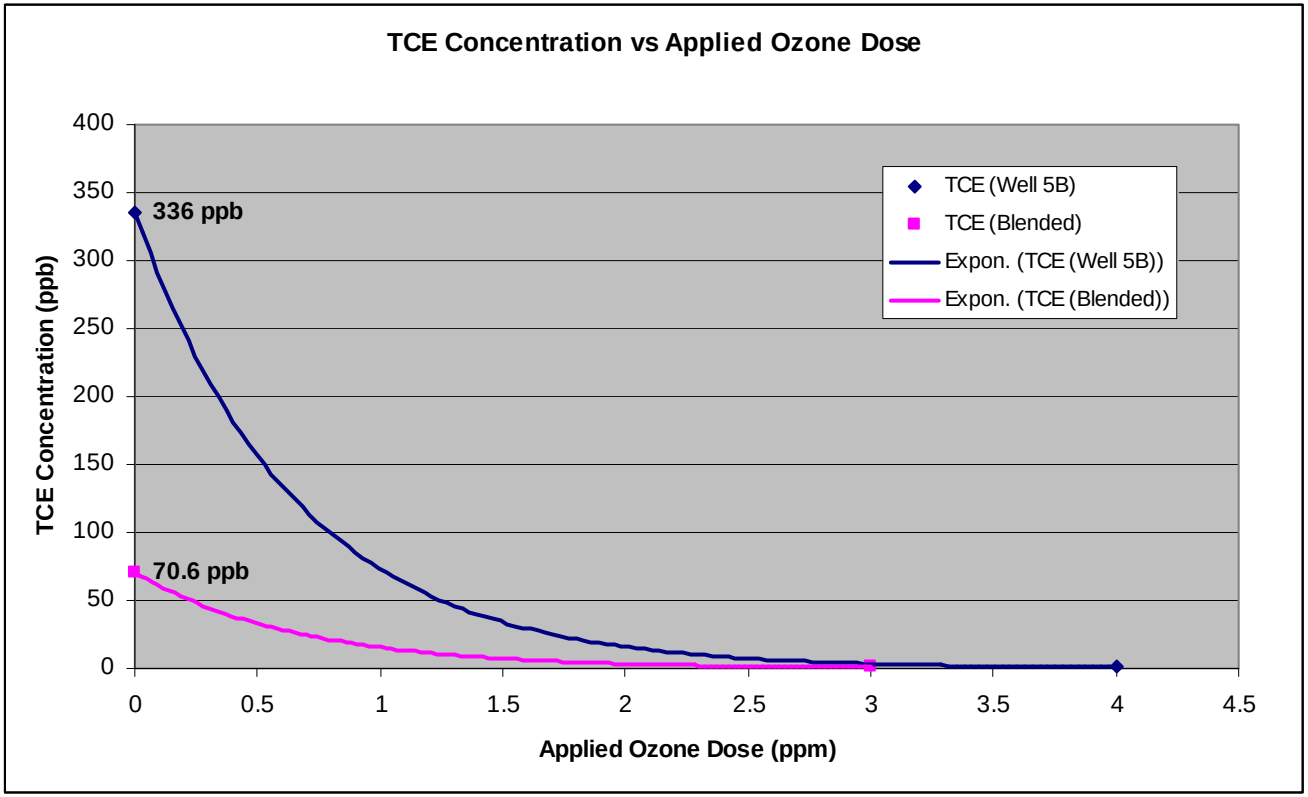
ATTACHMENT 3B



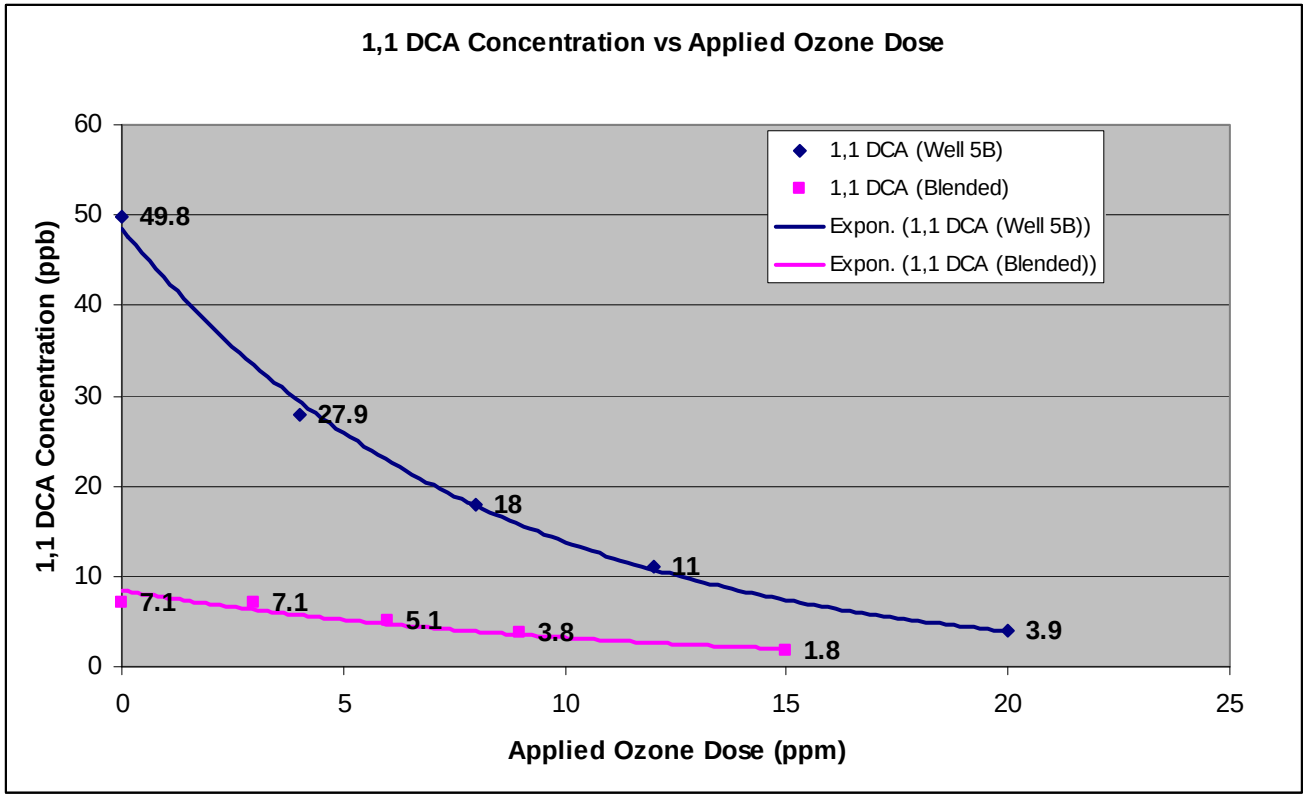
ATTACHMENT 4A



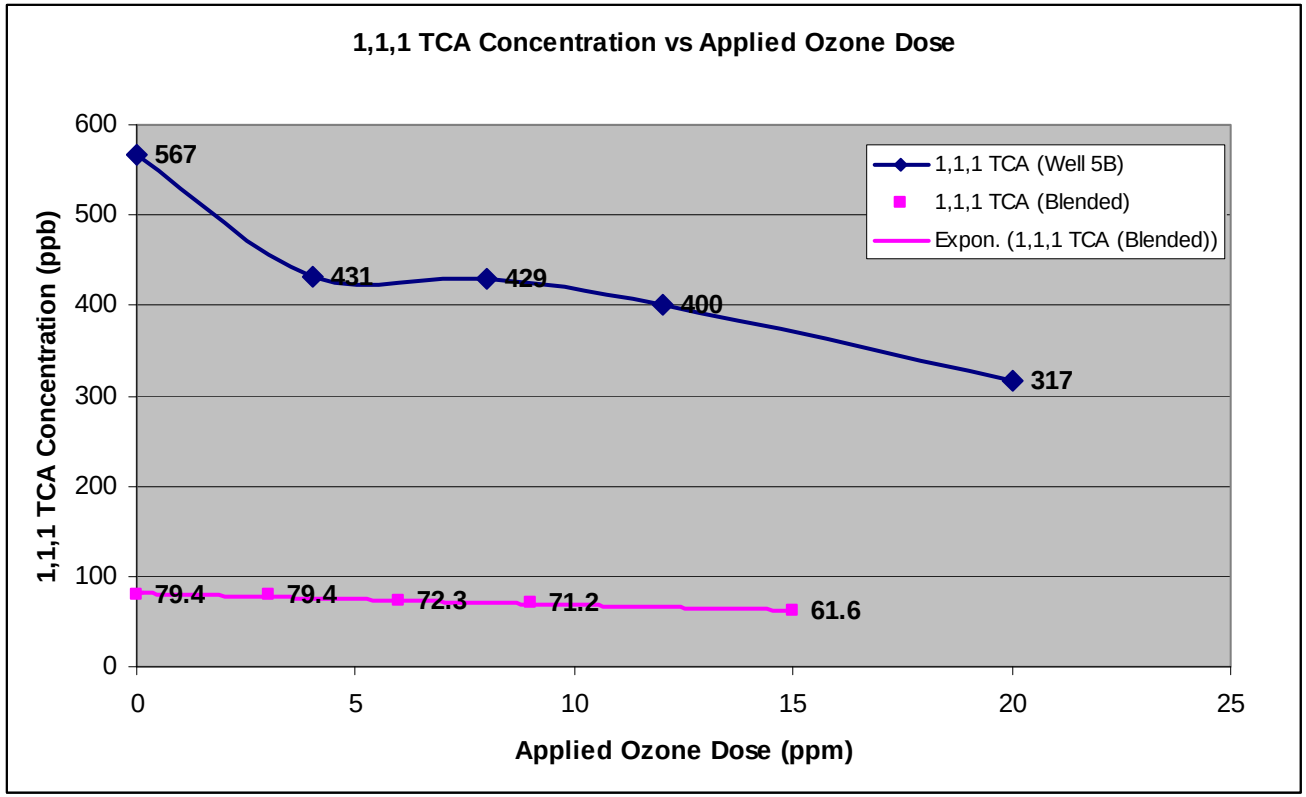
ATTACHMENT 4B



ATTACHMENT 5A



ATTACHMENT 5B



ATTACHMENT 6

Northern California ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

03/04/09

Technical Report for

ECC Boston

P2180/B1017 - Pleasant Hill, CA

Accutest Job Number: C4507

Sampling Date: 02/19/09

Report to:

Applied Process Technology
Suite A
Pleasant Hill, CA 94523
okurtulan@aptwater.com; cvarner@ecc.net

ATTN: Oguz Kurtulan

Total number of pages in report: **502**

ACCREDITED IN ACCORDANCE WITH nelac

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

Laurie Glantz-Murphy
Laboratory Director

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Client Service contact: Diane Theesen 408-588-0200

Certifications: CA (08258CA)

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

Note: This report is password protected to disallow document modification or assembly.
To obtain a version that can be unlocked, contact your client service representative.

Sections: 1 2 3 4 5 6 7 8 9 10

Table of Contents

-1-

Section 1: Sample Summary **4**
Section 2: Case Narrative/Conformance Summary **5**
Section 3: Sample Results **7**
3.1: C4507-1: P2180W-SP-0 8
3.2: C4507-1F: P2180W-SP-0 13
3.3: C4507-2: P2180W-SP-4 14
3.4: C4507-3: P2180W-SP-8 19
3.5: C4507-4: P2180W-SP-12 23
3.6: C4507-5: P2180W-SP-20 27
3.7: C4507-6: P2180B-SP-0 32
3.8: C4507-6F: P2180B-SP-0 37
3.9: C4507-7: P2180B-SP-3 38
3.10: C4507-8: P2180B-SP-6 43
3.11: C4507-9: P2180B-SP-9 47
3.12: C4507-10: P2180W-SP-15 51
Section 4: Misc. Forms **56**
4.1: Chain of Custody 57
Section 5: GC/MS Volatiles - QC Data Summaries **60**
5.1: Method Blank Summary 61
5.2: Blank Spike Summary 65
5.3: Matrix Spike/Matrix Spike Duplicate Summary 69
5.4: Instrument Performance Checks (BFB) 73
5.5: Internal Standard Area Summaries 77
5.6: Surrogate Recovery Summaries 79
5.7: Initial and Continuing Calibration Summaries 80
Section 6: GC/MS Volatiles - Raw Data **95**
6.1: Samples 96
6.2: Method Blanks 180
6.3: Blank Spikes 187
6.4: Matrix Spike/Matrix Spike Duplicates 193
6.5: Instrument Performance Checks (BFB) 205
6.6: Initial and Continuing Calibarations 213
6.7: Instrument Run Logs 299
Section 7: Metals Analysis - QC Data Summaries **304**
7.1: Inst QC MA536: Ca,Fe,Mg,K,Na 305
7.2: Prep QC MP928: Ca,Fe,Mg,K,Na 322
7.3: IDL and Linear Range Summaries 329
Section 8: Metals Analysis - Raw Data **331**
8.1: Raw Data MA536 332
8.2: Prep Logs 451
Section 9: General Chemistry - QC Data Summaries **452**
9.1: Method Blank and Spike Results Summary 453

Table of Contents

9.2: Blank Spike Duplicate Results Summary 454
9.3: Duplicate Results Summary 455
9.4: Matrix Spike Results Summary 456
9.5: Matrix Spike Duplicate Results Summary 457
9.6: Inst QC GN1276: Chloride 458
Section 10: General Chemistry - Raw Data 460
10.1: Raw Data GN1276: Chloride 461
10.2: Misc. General Chemistry Raw Data 498

Accutest Laboratories

Sample Summary

ECC Boston

P2180/B1017 - Pleasant Hill, CA

Job No: C4507

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
C4507-1	02/19/09	08:30	OK	02/20/09	AQ	Ground Water	P2180W-SP-0
C4507-1F	02/19/09	08:30	OK	02/20/09	AQ	Groundwater Filtered	P2180W-SP-0
C4507-2	02/19/09	12:15	OK	02/20/09	AQ	Ground Water	P2180W-SP-4
C4507-3	02/19/09	12:30	OK	02/20/09	AQ	Ground Water	P2180W-SP-8
C4507-4	02/19/09	12:50	OK	02/20/09	AQ	Ground Water	P2180W-SP-12
C4507-5	02/19/09	13:15	OK	02/20/09	AQ	Ground Water	P2180W-SP-20
C4507-6	02/19/09	08:30	OK	02/20/09	AQ	Ground Water	P2180B-SP-0
C4507-6F	02/19/09	08:30	OK	02/20/09	AQ	Groundwater Filtered	P2180B-SP-0
C4507-7	02/19/09	09:00	OK	02/20/09	AQ	Ground Water	P2180B-SP-3
C4507-8	02/19/09	10:00	OK	02/20/09	AQ	Ground Water	P2180B-SP-6
C4507-9	02/19/09	10:10	OK	02/20/09	AQ	Ground Water	P2180B-SP-9
C4507-10	02/19/09	11:00	OK	02/20/09	AQ	Ground Water	P2180W-SP-15

ACCUTEST Laboratories

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: ECC Boston **Job No** C4507

Site: P2180/B1017 - Pleasant Hill, CA **Report Date** 3/3/2009 11:57:28 AM

10 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 02/19/2009 and were received at Accutest on 02/20/2009 properly preserved, at 3.7 Deg. C and intact. These Samples received an Accutest job number of C4507. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** VN168

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C4507-10MS, C4507-10MSD were used as the QC samples indicated.
- **Sample(s) C4507-1, 2, -3, -4, -5 have compounds reported with "D" qualifiers indicating results from the diluted analysis.**
- Blank Spike Recovery(s) for 2-Hexanone, Acetone, Methyl chloride are outside control limits. Not detected in associated samples.
- Matrix Spike/Matrix Spike Duplicate Recovery(s) for Methyl chloride, Naphthalene, Styrene are outside control limits. Outside control limits due to matrix interference. Refer to Blank Spike.
- RPD(s) for MSD for 1,2-Dibromo-3-chloropropane, 1,4-Dioxane, 2-Hexanone, 4-Methyl-2-pentanone, Naphthalene, Styrene, Tert-Butyl Alcohol are outside control limits for sample C4507-10MSD. Probable cause due to matrix interference and/or sample nonhomogeneity.

Volatiles by GCMS By Method SW846 8260B BY SIM

Matrix AQ **Batch ID:** VN169

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C4507-10MS, C4507-10MSD were used as the QC samples indicated.
- **Sample C4507-1 has compounds reported with "D" qualifiers indicating results from the diluted analysis.**

Metals By Method SW846 6010B

Matrix AQ **Batch ID:** MP928

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C4383-3FMS, C4383-3FMSD, C4383-3FSDL were used as the QC samples for metals.
- Matrix Spike Recovery(s) for Calcium, Magnesium, Sodium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix AQ	Batch ID: GP543

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C4522-1MS, C4522-1MSD were used as the QC samples for Chloride.
- **Sample(s) C4507-1, -6 have compounds reported with "D" qualifiers indicating results from the diluted analysis.**

Wet Chemistry By Method HACH 8000

Matrix AQ	Batch ID: GP559

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C4533-3MS, C4533-3MSD were used as the QC samples for Chemical Oxygen Demand.

Wet Chemistry By Method SM18 2320B

Matrix AQ	Batch ID: GN1285

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C4507-6DUP were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method SM18 2540C

Matrix AQ	Batch ID: GN1307

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C4507-1DUP were used as the QC samples for Solids, Total Dissolved.

Wet Chemistry By Method SM18 4500 NH3F/G

Matrix AQ	Batch ID: GP561

- All samples were distilled within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C4507-1MS, C4507-1MSD were used as the QC samples for Nitrogen, Ammonia.

Wet Chemistry By Method SM18 4500H+B

Matrix AQ	Batch ID: GN1278

- Sample(s) C4507-1DUP were used as the QC samples for pH.
- The following samples were received and analyzed outside of holding time for method SM18 4500H+B: C4507-1, C4507-6

Accutest Laboratories Northern California (ALNCA) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALNCA and as stated on the COC. ALNCA certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the ALNCA Quality Manual except as noted above. This report is to be used in its entirety. ALNCA is not responsible for any assumptions of data quality if partial data packages are used

Sample Results

Report of Analysis

Raw Data: N05058.D

Accutest Laboratories

Report of Analysis

3.1 3

Client Sample ID:	P2180W-SP-0		
Lab Sample ID:	C4507-1	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05058.D	10	02/24/09	TF	n/a	n/a	VN169
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	101	20	10	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST Laboratories C4507

Raw Data: N05041.D

Accutest Laboratories

Report of Analysis

Client Sample ID: P2180W-SP-0
Lab Sample ID: C4507-1
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: P2180/B1017 - Pleasant Hill, CA

Date Sampled: 02/19/09
Date Received: 02/20/09
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05041.D	10	02/23/09	TF	n/a	n/a	VN168
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	200	100	ug/l	
71-43-2	Benzene	ND	10	3.0	ug/l	
108-86-1	Bromobenzene	ND	10	3.0	ug/l	
74-97-5	Bromochloromethane	ND	10	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	10	3.0	ug/l	
75-25-2	Bromoform	ND	10	5.0	ug/l	
104-51-8	n-Butylbenzene	ND	50	5.0	ug/l	
135-98-8	sec-Butylbenzene	ND	50	5.0	ug/l	
98-06-6	tert-Butylbenzene	ND	50	5.0	ug/l	
108-90-7	Chlorobenzene	ND	10	3.0	ug/l	
75-00-3	Chloroethane	ND	10	3.0	ug/l	
67-66-3	Chloroform	ND	10	3.0	ug/l	
95-49-8	o-Chlorotoluene	ND	50	5.0	ug/l	
106-43-4	p-Chlorotoluene	ND	50	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	10	2.0	ug/l	
75-34-3	1,1-Dichloroethane	49.8	10	3.0	ug/l	
75-35-4	1,1-Dichloroethylene	140	10	2.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	10	3.0	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	100	50	ug/l	
106-93-4	1,2-Dibromoethane	ND	10	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	3.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	10	3.0	ug/l	
142-28-9	1,3-Dichloropropane	ND	10	3.0	ug/l	
108-20-3	Di-Isopropyl ether	ND	50	5.0	ug/l	
123-91-1	1,4-Dioxane	ND	500	200	ug/l	
594-20-7	2,2-Dichloropropane	ND	10	3.0	ug/l	
124-48-1	Dibromochloromethane	ND	10	2.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	3.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	19.8	10	3.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	5.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	10	3.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	10	3.0	ug/l	

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

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

Report of Analysis

Client Sample ID:	P2180W-SP-0		
Lab Sample ID:	C4507-1	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	p-Dichlorobenzene	ND	10	3.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	10	3.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	2.0	ug/l	
100-41-4	Ethylbenzene	ND	10	3.0	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	50	5.0	ug/l	
591-78-6	2-Hexanone	ND	200	100	ug/l	
87-68-3	Hexachlorobutadiene	ND	50	5.0	ug/l	
98-82-8	Isopropylbenzene	ND	10	2.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	50	5.0	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	200	50	ug/l	
74-83-9	Methyl bromide	ND	50	15	ug/l	
74-87-3	Methyl chloride	ND	10	3.0	ug/l	
74-95-3	Methylene bromide	ND	10	2.0	ug/l	
75-09-2	Methylene chloride	ND	200	50	ug/l	
78-93-3	Methyl ethyl ketone	ND	200	50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	10	5.0	ug/l	
91-20-3	Naphthalene	ND	50	5.0	ug/l	
103-65-1	n-Propylbenzene	ND	50	5.0	ug/l	
100-42-5	Styrene	ND	10	2.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	50	5.0	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	100	50	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	10	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	567	10	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	2.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	50	5.0	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	50	5.0	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	50	5.0	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	50	5.0	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	50	5.0	ug/l	
127-18-4	Tetrachloroethylene	3.6	10	2.0	ug/l	J
108-88-3	Toluene	ND	10	5.0	ug/l	
79-01-6	Trichloroethylene	336	10	3.0	ug/l	
75-69-4	Trichlorofluoromethane	ND	10	3.0	ug/l	
75-01-4	Vinyl chloride	ND	10	3.0	ug/l	
1330-20-7	Xylene (total)	ND	20	7.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		60-130%

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

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

Report of Analysis

Client Sample ID:	P2180W-SP-0		
Lab Sample ID:	C4507-1	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

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

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

Accutest Laboratories

Report of Analysis

3.1

3

Client Sample ID: P2180W-SP-0
Lab Sample ID: C4507-1
Matrix: AQ - Ground Water
Project: P2180/B1017 - Pleasant Hill, CA

Date Sampled: 02/19/09
Date Received: 02/20/09
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	610	5.0	mg/l	1	02/23/09	RL	SM18 2320B
Chloride	1248	2.5	mg/l	5	02/20/09 22:18	HD	EPA 300/SW846 9056A
Nitrogen, Ammonia	< 1.0	1.0	mg/l	1	02/27/09	EB	SM18 4500 NH3F/G
Solids, Total Dissolved	910	10	mg/l	1	02/25/09	RL	SM18 2540C
pH	7.00		su	1	02/20/09 12:01	EB	SM18 4500H+ B

RL = Reporting Limit

ACCUTEST Laboratories

C4507

Report of Analysis

Client Sample ID: P2180W-SP-0
Lab Sample ID: C4507-1F
Matrix: AQ - Groundwater Filtered
Project: P2180/B1017 - Pleasant Hill, CA

Date Sampled: 02/19/09
Date Received: 02/20/09
Percent Solids: n/a

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	10,100	50	ug/l	1	02/23/09	02/25/09	MF	SW846 6010B [1]	SW3010A [2]
Iron	30	50	ug/l	1	02/23/09	02/25/09	MF	SW846 6010B [1]	SW3010A [2]
Magnesium	5150	50	ug/l	1	02/23/09	02/25/09	MF	SW846 6010B [1]	SW3010A [2]
Potassium	1860	500	ug/l	1	02/23/09	02/25/09	MF	SW846 6010B [1]	SW3010A [2]
Sodium	14300	100	ug/l	1	02/23/09	02/25/09	MF	SW846 6010B [1]	SW3010A [2]

(1) Instrument QC Batch: MA536
(2) Prep QC Batch: MP928

RL = Reporting Limit

Raw Data: N05059.D

Accutest Laboratories

Report of Analysis

3.3

3

Client Sample ID:	P2180W-SP-4		
Lab Sample ID:	C4507-2	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05059.D	1	02/24/09	TF	n/a	n/a	VN169
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

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

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

ACCUTEST Laboratories C4507

Raw Data: N05042.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180W-SP-4		
Lab Sample ID:	C4507-2	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05042.D	5	02/23/09	TF	n/a	n/a	VN168
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	100	50	ug/l	
71-43-2	Benzene	ND	5.0	1.5	ug/l	
108-86-1	Bromobenzene	ND	5.0	1.5	ug/l	
74-97-5	Bromochloromethane	ND	5.0	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.5	ug/l	
75-25-2	Bromoform	ND	5.0	2.5	ug/l	
104-51-8	n-Butylbenzene	ND	25	2.5	ug/l	
135-98-8	sec-Butylbenzene	ND	25	2.5	ug/l	
98-06-6	tert-Butylbenzene	ND	25	2.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	1.5	ug/l	
75-00-3	Chloroethane	ND	5.0	1.5	ug/l	
67-66-3	Chloroform	ND	5.0	1.5	ug/l	
95-49-8	o-Chlorotoluene	ND	25	2.5	ug/l	
106-43-4	p-Chlorotoluene	ND	25	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	27.9	5.0	1.5	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	1.5	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	50	25	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.5	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	1.5	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	1.5	ug/l	
108-20-3	Di-Isopropyl ether	ND	25	2.5	ug/l	
123-91-1	1,4-Dioxane	ND	250	100	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.5	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.5	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	2.5	ug/l	
541-73-1	m-Dichlorobenzene	ND	5.0	1.5	ug/l	
95-50-1	o-Dichlorobenzene	ND	5.0	1.5	ug/l	

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

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

Report of Analysis

Client Sample ID:	P2180W-SP-4		
Lab Sample ID:	C4507-2	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	p-Dichlorobenzene	ND	5.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	25	2.5	ug/l	
591-78-6	2-Hexanone	ND	100	50	ug/l	
87-68-3	Hexachlorobutadiene	ND	25	2.5	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	25	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	100	25	ug/l	
74-83-9	Methyl bromide	ND	25	7.5	ug/l	
74-87-3	Methyl chloride	ND	5.0	1.5	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	100	25	ug/l	
78-93-3	Methyl ethyl ketone	ND	100	25	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.5	ug/l	
91-20-3	Naphthalene	ND	25	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	25	2.5	ug/l	
100-42-5	Styrene	ND	5.0	1.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	25	2.5	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	50	25	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	431	5.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	25	2.5	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	25	2.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	25	2.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	25	2.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	25	2.5	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethylene	ND	5.0	1.5	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	1.5	ug/l	
75-01-4	Vinyl chloride	ND	5.0	1.5	ug/l	
1330-20-7	Xylene (total)	ND	10	3.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		60-130%

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

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

Report of Analysis

Client Sample ID:	P2180W-SP-4		
Lab Sample ID:	C4507-2	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	93%		60-130%

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

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

Accutest Laboratories

Report of Analysis

3.3

3

Client Sample ID: P2180W-SP-4
Lab Sample ID: C4507-2
Matrix: AQ - Ground Water
Project: P2180/B1017 - Pleasant Hill, CA

Date Sampled: 02/19/09
Date Received: 02/20/09
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chemical Oxygen Demand	1600	10	mg/l	1	02/27/09	RL	HACH 8000

RL = Reporting Limit

ACCUTEST Laboratories

C4507

Raw Data: N05061.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180W-SP-8		
Lab Sample ID:	C4507-3	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05061.D	1	02/24/09	TF	n/a	n/a	VN169
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

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

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

Raw Data: N05043.D

Accutest Laboratories

Report of Analysis

3.4 3

Client Sample ID:	P2180W-SP-8		
Lab Sample ID:	C4507-3	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05043.D	5	02/23/09	TF	n/a	n/a	VN168
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	100	50	ug/l	
71-43-2	Benzene	ND	5.0	1.5	ug/l	
108-86-1	Bromobenzene	ND	5.0	1.5	ug/l	
74-97-5	Bromochloromethane	ND	5.0	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.5	ug/l	
75-25-2	Bromoform	ND	5.0	2.5	ug/l	
104-51-8	n-Butylbenzene	ND	25	2.5	ug/l	
135-98-8	sec-Butylbenzene	ND	25	2.5	ug/l	
98-06-6	tert-Butylbenzene	ND	25	2.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	1.5	ug/l	
75-00-3	Chloroethane	ND	5.0	1.5	ug/l	
67-66-3	Chloroform	ND	5.0	1.5	ug/l	
95-49-8	o-Chlorotoluene	ND	25	2.5	ug/l	
106-43-4	p-Chlorotoluene	ND	25	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	18.0	5.0	1.5	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	1.5	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	50	25	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.5	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	1.5	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	1.5	ug/l	
108-20-3	Di-Isopropyl ether	ND	25	2.5	ug/l	
123-91-1	1,4-Dioxane	ND	250	100	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.5	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.5	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	2.5	ug/l	
541-73-1	m-Dichlorobenzene	ND	5.0	1.5	ug/l	
95-50-1	o-Dichlorobenzene	ND	5.0	1.5	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST Laboratories C4507

Report of Analysis

Client Sample ID:	P2180W-SP-8		
Lab Sample ID:	C4507-3	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	p-Dichlorobenzene	ND	5.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	25	2.5	ug/l	
591-78-6	2-Hexanone	ND	100	50	ug/l	
87-68-3	Hexachlorobutadiene	ND	25	2.5	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	25	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	100	25	ug/l	
74-83-9	Methyl bromide	ND	25	7.5	ug/l	
74-87-3	Methyl chloride	ND	5.0	1.5	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	100	25	ug/l	
78-93-3	Methyl ethyl ketone	ND	100	25	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.5	ug/l	
91-20-3	Naphthalene	ND	25	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	25	2.5	ug/l	
100-42-5	Styrene	ND	5.0	1.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	25	2.5	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	50	25	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	429	5.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	25	2.5	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	25	2.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	25	2.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	25	2.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	25	2.5	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethylene	ND	5.0	1.5	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	1.5	ug/l	
75-01-4	Vinyl chloride	ND	5.0	1.5	ug/l	
1330-20-7	Xylene (total)	ND	10	3.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		60-130%

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

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

Report of Analysis

Client Sample ID:	P2180W-SP-8		
Lab Sample ID:	C4507-3	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180W-SP-12		
Lab Sample ID:	C4507-4	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05062.D	1	02/24/09	TF	n/a	n/a	VN169
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

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

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

Raw Data: N05044.D

Accutest Laboratories

Report of Analysis

3.5

3

Client Sample ID:	P2180W-SP-12		
Lab Sample ID:	C4507-4	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05044.D	5	02/23/09	TF	n/a	n/a	VN168
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	100	50	ug/l	
71-43-2	Benzene	ND	5.0	1.5	ug/l	
108-86-1	Bromobenzene	ND	5.0	1.5	ug/l	
74-97-5	Bromochloromethane	ND	5.0	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.5	ug/l	
75-25-2	Bromoform	ND	5.0	2.5	ug/l	
104-51-8	n-Butylbenzene	ND	25	2.5	ug/l	
135-98-8	sec-Butylbenzene	ND	25	2.5	ug/l	
98-06-6	tert-Butylbenzene	ND	25	2.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	1.5	ug/l	
75-00-3	Chloroethane	ND	5.0	1.5	ug/l	
67-66-3	Chloroform	ND	5.0	1.5	ug/l	
95-49-8	o-Chlorotoluene	ND	25	2.5	ug/l	
106-43-4	p-Chlorotoluene	ND	25	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	11.0	5.0	1.5	ug/l	
75-35-4	1,1-Dichloroethylene	ND	5.0	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	1.5	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	50	25	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.5	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	1.5	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	1.5	ug/l	
108-20-3	Di-Isopropyl ether	ND	25	2.5	ug/l	
123-91-1	1,4-Dioxane	ND	250	100	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.5	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.5	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	2.5	ug/l	
541-73-1	m-Dichlorobenzene	ND	5.0	1.5	ug/l	
95-50-1	o-Dichlorobenzene	ND	5.0	1.5	ug/l	

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

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

ACCUTEST Laboratories C4507

Report of Analysis

Client Sample ID:	P2180W-SP-12		
Lab Sample ID:	C4507-4	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	p-Dichlorobenzene	ND	5.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	25	2.5	ug/l	
591-78-6	2-Hexanone	ND	100	50	ug/l	
87-68-3	Hexachlorobutadiene	ND	25	2.5	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	25	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	100	25	ug/l	
74-83-9	Methyl bromide	ND	25	7.5	ug/l	
74-87-3	Methyl chloride	ND	5.0	1.5	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	100	25	ug/l	
78-93-3	Methyl ethyl ketone	ND	100	25	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.5	ug/l	
91-20-3	Naphthalene	ND	25	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	25	2.5	ug/l	
100-42-5	Styrene	ND	5.0	1.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	25	2.5	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	50	25	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	400	5.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	25	2.5	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	25	2.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	25	2.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	25	2.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	25	2.5	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethylene	ND	5.0	1.5	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	1.5	ug/l	
75-01-4	Vinyl chloride	ND	5.0	1.5	ug/l	
1330-20-7	Xylene (total)	ND	10	3.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		60-130%

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

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

Report of Analysis

Client Sample ID:	P2180W-SP-12		
Lab Sample ID:	C4507-4	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180W-SP-20		
Lab Sample ID:	C4507-5	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05063.D	1	02/24/09	TF	n/a	n/a	VN169
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180W-SP-20		
Lab Sample ID:	C4507-5	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05045.D	5	02/23/09	TF	n/a	n/a	VN168
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	100	50	ug/l	
71-43-2	Benzene	ND	5.0	1.5	ug/l	
108-86-1	Bromobenzene	ND	5.0	1.5	ug/l	
74-97-5	Bromochloromethane	ND	5.0	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	1.5	ug/l	
75-25-2	Bromoform	ND	5.0	2.5	ug/l	
104-51-8	n-Butylbenzene	ND	25	2.5	ug/l	
135-98-8	sec-Butylbenzene	ND	25	2.5	ug/l	
98-06-6	tert-Butylbenzene	ND	25	2.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	1.5	ug/l	
75-00-3	Chloroethane	ND	5.0	1.5	ug/l	
67-66-3	Chloroform	ND	5.0	1.5	ug/l	
95-49-8	o-Chlorotoluene	ND	25	2.5	ug/l	
106-43-4	p-Chlorotoluene	ND	25	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	3.9	5.0	1.5	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	5.0	1.0	ug/l	
563-58-6	1,1-Dichloropropene	ND	5.0	1.5	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	50	25	ug/l	
106-93-4	1,2-Dibromoethane	ND	5.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	5.0	1.5	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	1.5	ug/l	
142-28-9	1,3-Dichloropropane	ND	5.0	1.5	ug/l	
108-20-3	Di-Isopropyl ether	ND	25	2.5	ug/l	
123-91-1	1,4-Dioxane	ND	250	100	ug/l	
594-20-7	2,2-Dichloropropane	ND	5.0	1.5	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	1.5	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	5.0	1.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	2.5	ug/l	
541-73-1	m-Dichlorobenzene	ND	5.0	1.5	ug/l	
95-50-1	o-Dichlorobenzene	ND	5.0	1.5	ug/l	

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

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

Report of Analysis

Client Sample ID:	P2180W-SP-20		
Lab Sample ID:	C4507-5	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	p-Dichlorobenzene	ND	5.0	1.5	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	5.0	1.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	5.0	1.5	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	25	2.5	ug/l	
591-78-6	2-Hexanone	ND	100	50	ug/l	
87-68-3	Hexachlorobutadiene	ND	25	2.5	ug/l	
98-82-8	Isopropylbenzene	ND	5.0	1.0	ug/l	
99-87-6	p-Isopropyltoluene	ND	25	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	100	25	ug/l	
74-83-9	Methyl bromide	ND	25	7.5	ug/l	
74-87-3	Methyl chloride	ND	5.0	1.5	ug/l	
74-95-3	Methylene bromide	ND	5.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	100	25	ug/l	
78-93-3	Methyl ethyl ketone	ND	100	25	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.5	ug/l	
91-20-3	Naphthalene	ND	25	2.5	ug/l	
103-65-1	n-Propylbenzene	ND	25	2.5	ug/l	
100-42-5	Styrene	ND	5.0	1.0	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	25	2.5	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	50	25	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	317	5.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	1.0	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	25	2.5	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	25	2.5	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	25	2.5	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	25	2.5	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	25	2.5	ug/l	
127-18-4	Tetrachloroethylene	ND	5.0	1.0	ug/l	
108-88-3	Toluene	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethylene	ND	5.0	1.5	ug/l	
75-69-4	Trichlorofluoromethane	ND	5.0	1.5	ug/l	
75-01-4	Vinyl chloride	ND	5.0	1.5	ug/l	
1330-20-7	Xylene (total)	ND	10	3.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%

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

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

Report of Analysis

Client Sample ID:	P2180W-SP-20		
Lab Sample ID:	C4507-5	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180W-SP-20		
Lab Sample ID:	C4507-5	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
		Percent Solids:	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chemical Oxygen Demand	12.0	10	mg/l	1	02/27/09	RL	HACH 8000

RL = Reporting Limit

Raw Data: N05060.D

Accutest Laboratories

Report of Analysis

3.7

3

Client Sample ID:	P2180B-SP-0		
Lab Sample ID:	C4507-6	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05060.D	1	02/24/09	TF	n/a	n/a	VN169
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	22.8	2.0	1.0	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST Laboratories

C4507

Raw Data: N05046.D

Accutest Laboratories

Report of Analysis

3.7 3

Client Sample ID:	P2180B-SP-0		
Lab Sample ID:	C4507-6	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05046.D	1	02/23/09	TF	n/a	n/a	VN168
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	0.40	1.0	0.30	ug/l	J
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	10.9	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	24.6	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	0.42	1.0	0.30	ug/l	J
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	7.5	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	

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

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

ACCUTEST Laboratories C4507

Report of Analysis

Client Sample ID:	P2180B-SP-0		
Lab Sample ID:	C4507-6	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	100	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	1.3	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	70.6	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	P2180B-SP-0		
Lab Sample ID:	C4507-6	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	102%		60-130%
460-00-4	4-Bromofluorobenzene	93%		60-130%

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

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

Report of Analysis

Client Sample ID: P2180B-SP-0
Lab Sample ID: C4507-6
Matrix: AQ - Ground Water
Project: P2180/B1017 - Pleasant Hill, CA

Date Sampled: 02/19/09
Date Received: 02/20/09
Percent Solids: n/a

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	30.0	5.0	mg/l	1	02/23/09	RL	SM18 2320B
Chloride	22.2	2.5	mg/l	5	02/20/09 22:53	HD	EPA 300/SW846 9056A
Nitrogen, Ammonia	< 1.0	1.0	mg/l	1	02/27/09	EB	SM18 4500 NH3F/G
Solids, Total Dissolved	94.0	10	mg/l	1	02/25/09	RL	SM18 2540C
pH	6.12		su	1	02/20/09 12:07	EB	SM18 4500H+ B

RL = Reporting Limit

Report of Analysis

Client Sample ID: P2180B-SP-0
Lab Sample ID: C4507-6F
Matrix: AQ - Groundwater Filtered
Project: P2180/B1017 - Pleasant Hill, CA

Date Sampled: 02/19/09
Date Received: 02/20/09
Percent Solids: n/a

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	10700	50	ug/l	1	02/23/09	02/25/09	MF	SW846 6010B [1]	SW3010A [2]
Iron	< 50	50	ug/l	1	02/23/09	02/25/09	MF	SW846 6010B [1]	SW3010A [2]
Magnesium	4260	50	ug/l	1	02/23/09	02/25/09	MF	SW846 6010B [1]	SW3010A [2]
Potassium	1630	500	ug/l	1	02/23/09	02/25/09	MF	SW846 6010B [1]	SW3010A [2]
Sodium	14300	100	ug/l	1	02/23/09	02/25/09	MF	SW846 6010B [1]	SW3010A [2]

(1) Instrument QC Batch: MA536
(2) Prep QC Batch: MP928

RL = Reporting Limit

Raw Data: N05064.D

Accutest Laboratories

Report of Analysis

3.9

3

Client Sample ID:	P2180B-SP-3		
Lab Sample ID:	C4507-7	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05064.D	1	02/24/09	TF	n/a	n/a	VN169
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	1.3	2.0	1.0	ug/l	J

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

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

ACCUTEST Laboratories C4507

Raw Data: N05037.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180B-SP-3		
Lab Sample ID:	C4507-7	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05037.D	1	02/23/09	TF	n/a	n/a	VN168
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	0.33	1.0	0.30	ug/l	J
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	7.1	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	

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

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

Report of Analysis

Client Sample ID:	P2180B-SP-3		
Lab Sample ID:	C4507-7	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	79.4	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		60-130%

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

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

Report of Analysis

Client Sample ID:	P2180B-SP-3		
Lab Sample ID:	C4507-7	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%		60-130%
460-00-4	4-Bromofluorobenzene	95%		60-130%

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

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

Accutest Laboratories

Report of Analysis

3.9

3

Client Sample ID:	P2180B-SP-3		
Lab Sample ID:	C4507-7	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
		Percent Solids:	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chemical Oxygen Demand	<10	10	mg/l	1	02/27/09	RL	HACH 8000

RL = Reporting Limit

ACCUTEST Laboratories

C4507

Raw Data: N05065.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180B-SP-6		
Lab Sample ID:	C4507-8	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05065.D	1	02/24/09	TF	n/a	n/a	VN169
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

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

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180B-SP-6		
Lab Sample ID:	C4507-8	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05038.D	1	02/23/09	TF	n/a	n/a	VN168
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	0.32	1.0	0.30	ug/l	J
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	5.1	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	

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

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

Report of Analysis

Client Sample ID:	P2180B-SP-6		
Lab Sample ID:	C4507-8	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	72.3	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		60-130%

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

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

Report of Analysis

Client Sample ID:	P2180B-SP-6		
Lab Sample ID:	C4507-8	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

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

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

Raw Data: N05066.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180B-SP-9		
Lab Sample ID:	C4507-9	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05066.D	1	02/24/09	TF	n/a	n/a	VN169
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

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

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

Raw Data: N05039.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180B-SP-9		
Lab Sample ID:	C4507-9	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05039.D	1	02/23/09	TF	n/a	n/a	VN168
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	3.8	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	

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

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

Report of Analysis

Client Sample ID:	P2180B-SP-9		
Lab Sample ID:	C4507-9	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	71.2	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		60-130%

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

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

Report of Analysis

Client Sample ID:	P2180B-SP-9		
Lab Sample ID:	C4507-9	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	100%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

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

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

Raw Data: N05067.D

Accutest Laboratories

Report of Analysis

Client Sample ID:	P2180W-SP-15		
Lab Sample ID:	C4507-10	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B BY SIM	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05067.D	1	02/24/09	TF	n/a	n/a	VN169
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	2.0	1.0	ug/l	

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

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

Raw Data: N05040.D

Accutest Laboratories

Report of Analysis

3.12

3

Client Sample ID:	P2180W-SP-15		
Lab Sample ID:	C4507-10	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N05040.D	1	02/23/09	TF	n/a	n/a	VN168
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	1.8	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	

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

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

ACCUTEST Laboratories

C4507

Report of Analysis

Client Sample ID:	P2180W-SP-15		
Lab Sample ID:	C4507-10	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Compound	Result	RL	MDL	Units	Q
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	61.6	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		60-130%

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

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

Report of Analysis

Client Sample ID:	P2180W-SP-15		
Lab Sample ID:	C4507-10	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

VOA 8260 List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	101%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

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

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

Report of Analysis

Client Sample ID:	P2180W-SP-15		
Lab Sample ID:	C4507-10	**Date Sampled:**	02/19/09
Matrix:	AQ - Ground Water	**Date Received:**	02/20/09
		Percent Solids:	n/a
Project:	P2180/B1017 - Pleasant Hill, CA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chemical Oxygen Demand	< 10	10	mg/l	1	02/27/09	RL	HACH 8000

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Northern California
ACCUTEST Laboratories

CHAIN OF CUSTODY

3334 Victor Court, Santa Clara, CA 95054
(408) 588-0200 FAX: (408) 588-0201

C4507

Company Name: ECC Boston (ECCMAM)
Address: 33 Boston Post Road West
City: Marlborough State: MA Zip: 01752
Contact:
Phone #:
Sampler's Name: Dave Kurtulan

Project Name: P2180 / B1017
Street: 3330 Vincent Rd Suite A
City: Pleasant Hill State: CA
Project #:
Email: dkurtulan@optimatter.com
Client Purchase Order #:

Acoutest Sample ID	Sample ID / Field Point / Point of Collection	Collection Date	Time	Sampled by	Matrix	# of Containers	Number of Preserved Bottles									Standard VOA Vol.	Semi-Vol. Liters	Volatile Vol. Vials	Metals Vol.	Chemical Oxygen Demand	Ammonia as N	Chloride pH Alkalinity TSS	Standard VOA Vol.	
-1	P2180W-SP-0	2/19/09	8:30	D. Kurtulan		9	6			2						X			X		X	X	X	-6
-2	P2180W-SP-4	2/19/09	9:00			6	6			3						X				X			X	-7
-3	P2180W-SP-8	2/19/09	10:00			6	6									X							X	-8
-4	P2180W-SP-12	2/19/09	10:40			6	6									X							X	-9
-5	P2180W-SP-20	2/19/09	11:00			9	6			3						X				X			X	-10

Turnaround Time (Business Days): Std. 15 Business Days; 10 Day (Workload dependent); 5 Day (Workload dependent); 3 Day (125% markup); 2 Day (150% markup); 1 Day (200% markup); Same Day (300% markup)
Approved By/ Date:
Emergency T/A data available VIA Lab link
Commercial "A"; Commercial "B"; EDF for Geotracker; EDF Format; Provide EDF Client ID; Provide EDF Login
Comments / Remarks: Dissolved Metals: Field Filtered or Laboratory Filtered? Lab filtered
Time Sampling:

Relinquished by	Date/Time	Received by	Relinquished by	Date/Time	Received by
1 Dave Kurtulan	15:00 2/19/09	1 [signature]	2		2
3	2/20/09 10:48	3	4		4
5		6	Custody Seal #	Applicable Blank? Y/N	Headspace Y/N Chlor Y/N COOL Y/N
				Labels match Cust Y / N	Separate Receipt Log Y/N ____ °C

C4507: Chain of Custody
Page 1 of 3

Northern California
ACCUTEST. Laboratories

CHAIN OF CUSTODY

3334 Victor Court, Santa Clara, CA 95054
(408) 588-0200 FAX: (408) 588-0201

ECCMAM 1774
C4507

4.1 4

Client / Reporting Information

Company Name: ECC Boston (ECCMAM)
Address: 32 Boston Post Road West
City: Marlborough State: MA Zip: 01752
Contact:
Phone #:
Sampler's Name: Dave Kurtman

Project Information

Project Name: P2180 / B1017
Site: 3320 Vincent Rd Suite A
City: Pleasant Hill State: CA
Project #:
Email: dkurtman@accutest.com
Client Purchase Order #:

Analysis / Matrix

Accutest Sample ID	Sample ID / Field Point / Point of Collection	Collection Date	Time	Sampled by	Matrix	# of Containers	Number of preserved Bottles									8260B-SIM-1,4-DIOXANE	Metals: Cam Rcra 8 Ca Cr Pb Ag As Ba Cd Se Hg Na Zn Cu Ni Sb Tl Mo Be Mn Fe K Sr	Dissolved Metals: Check boxes requested Ag As Ba Be Ca Cd Cr Co Cu Fe Pb Mg Mn Mo Ni K Na Se Sr Sn Sb Tl Zn V	COD Chemical Oxygen Demand	Ammonia-as N	Chloride pH Alkalinity TDS	8260B-Full List		
												33/Vial VOA HCL	Glass, HCL NPDES	Glass, HCL NPDES 8 has to filter	33/Vial H2SO4	Glass H2SO4	Glass H2SO4 NIP	33/Vial VOA HCL		
-6	P2180B-SP-2	2/19/09	1:30	DKurtman		9	6			1	2													-1
-7	P2180B-SP-3	2/19/09	12:15			9	6			3														-2
-8	P2180B-SP-6	2/19/09	12:45			6	6																	-3
-9	P2180B-SP-9	2/19/09	1:50			6	6																	-4
-10	P2180B-SP-15	2/19/09	12:15			9	6			3														-5

Turnaround Time (Business days)

- [X] Std. 15 Business Days
- [ ] 10 Day (Workload dependent)
- [ ] 5 Day (Workload dependent)
- [ ] 3 Day (125% markup)
- [ ] 2 Day (150% markup)
- [ ] 1 Day (200% markup)
- [ ] Same Day (300% markup)

Approved By/ Date:

Emergency T/A data available VIA Lablink

Data Deliverables / Comments

- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] EDF for Geotracker
- [ ] EDD Format
- Provide EDF Global ID:
- Provide EDF Logcode:

Pacific Water & Hel (125) 1 HCL
(2) Lit Amber H2SO4
(2) Lit Poly NIP
(2) 250 ml Poly NIP
(1) Vial H2SO4

Comments / Remarks

Lab
Dissolved Metals: Field Filtered or Laboratory Filtered ? filtered

Time Sampling:

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by: Sampler	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Dave Kurtman	15:00 / 2/19/09	1	2		2
Relinquished By:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3	2/20/09 0:15	3 Huadach	4		4
Relinquished By:	Date Time:	Received By:	Custody Seal #	Approriate Bottles Rec. Y/N	Headspace Y/N OK Ice Y/N
5		5		Labels match Coc? Y / N	Separate Receipt Log Y/N

Cooler Temp: 3.7 °C

C4507: Chain of Custody
Page 2 of 3

Accutest Laboratories Northern California
STANDARD OPERATING PROCEDURE

Sample Receiving Checklist

Job # C4507
Sample Control Initial JH

Review Chain of Custody The Chain of Custody is to be completely and legibly filled out by Client.

- Are these regulatory (NPDES) samples? Yes / No circle one
- Is pH requested? Yes / No circle one ☐ Was Client informed that hold time is 15 min? Yes / No circle one
  If yes, did Client consent to continue? ____
- Are sample within hold time? Yes / No circle one Are sample in danger of exceeding its hold-time within 6-48 hours?
- Report to info is complete and legible, including:
  - Type of deliverable needed ☐ Name ☐ Address ☐ phone ☐ e-mail
- Bill to info is complete and legible, including: ☐ PO# ☐ Credit card ☐ Contact ☐ address ☐ phone ☐ e-mail
- Contact and/or Project Manager identified, including: ☐ phone ☐ e-mail
- Project name / number ☐ Special requirements? Yes / No circle one
- Sample IDs / date & time of collection provided? Yes / No circle one
- Is Matrix listed and correct? Yes / No circle one JH
- Analyses listed are those we do or client has authorized a subcontract? Yes / No circle one
- Chain is signed and dated by both client and sample custodian? Yes / No circle one
- TAT requested available? Approved by: _____

Review Coolers:

- Were Coolers temperatures measured at ≤6°C? Cooler # ____ Temp 3.7 °C
  - If cooler is outside the ≤6°C, note down below the affected bottles in that cooler
  - Note that ANC does NOT accept evidentiary samples. (We do not lock refrigerators)
- Shipment Method Fedex
- Custody Seals: Present : Yes / No circle one Unbroken: Yes / No circle one

Review of Sample Bottles: If you answer no, explain below

- Sample ID / bottle number / Date / Time of bottle labels match the COC? Yes / No circle one
- Sample bottle intact? Yes / No circle one
- Is there enough samples for requested analyses? If so, were samples placed in proper containers? Yes / No circle one
- Proper Preservatives? Check pH on preserved samples except 1664, 625, 8270 and VOAs and list below
- Are VOAs received without headspace? Size of bubble (not greater than 6mm in diameter) Yes / No circle one
  List sample ID and affected container

Lab #	Client Sample ID	pH Check	Other Comments/Issues
3/4/2009	Client pointed out that the samples may have been crossed.		
JosephM confirmed and the report was re-issued. -lgm			

Non-Compliance Issues and discrepancies on the COC are forwarded to Project Management

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN169-MB	N05057.D	10	02/24/09	TF	n/a	n/a	VN169

5.1 5

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Compound	Result	RL	MDL	Units	Q
123-91-1	1,4-Dioxane	ND	20	10	ug/l	

Method Blank Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN168-MB	N05029.D	1	02/23/09	TF	n/a	n/a	VN168

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

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	

Method Blank Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN168-MB	N05029.D	1	02/23/09	TF	n/a	n/a	VN168

5.1 5

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

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Compound	Result	RL	MDL	Units	Q
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

Method Blank Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN168-MB	N05029.D	1	02/23/09	TF	n/a	n/a	VN168

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

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	60-130%
2037-26-5	Toluene-D8	101%	60-130%
460-00-4	4-Bromofluorobenzene	95%	60-130%

Blank Spike Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN169-BS	N05056.D	1	02/24/09	TF	n/a	n/a	VN169

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
123-91-1	1,4-Dioxane	10	10.1	101	60-130

Raw Data: N05030.D

Blank Spike Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN168-BS	N05030.D	1	02/23/09	TF	n/a	n/a	VN168

5.2

5

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

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	80	158	198* a	60-130
71-43-2	Benzene	20	20.4	102	60-130
108-86-1	Bromobenzene	20	20.8	104	60-130
74-97-5	Bromochloromethane	20	24.1	121	60-130
75-27-4	Bromodichloromethane	20	21.8	109	60-130
75-25-2	Bromoform	20	22.2	111	60-130
104-51-8	n-Butylbenzene	20	15.8	79	60-130
135-98-8	sec-Butylbenzene	20	18.7	94	60-130
98-06-6	tert-Butylbenzene	20	19.2	96	60-130
108-90-7	Chlorobenzene	20	20.9	105	60-130
75-00-3	Chloroethane	20	19.9	100	60-130
67-66-3	Chloroform	20	21.8	109	60-130
95-49-8	o-Chlorotoluene	20	17.9	90	60-130
106-43-4	p-Chlorotoluene	20	19.9	100	60-130
56-23-5	Carbon tetrachloride	20	22.5	113	60-130
75-34-3	1,1-Dichloroethane	20	22.8	114	60-130
75-35-4	1,1-Dichloroethylene	20	24.4	122	60-130
563-58-6	1,1-Dichloropropene	20	22.3	112	60-130
96-12-8	1,2-Dibromo-3-chloropropane	20	17.9	90	60-130
106-93-4	1,2-Dibromoethane	20	20.8	104	60-130
107-06-2	1,2-Dichloroethane	20	23.7	119	60-130
78-87-5	1,2-Dichloropropane	20	22.7	114	60-130
142-28-9	1,3-Dichloropropane	20	22.0	110	60-130
108-20-3	Di-Isopropyl ether	20	23.8	119	60-130
123-91-1	1,4-Dioxane	400	368	92	60-130
594-20-7	2,2-Dichloropropane	20	21.9	110	60-130
124-48-1	Dibromochloromethane	20	20.1	101	60-130
75-71-8	Dichlorodifluoromethane	20	17.1	86	60-130
156-59-2	cis-1,2-Dichloroethylene	20	22.3	112	60-130
10061-01-5	cis-1,3-Dichloropropene	20	21.1	106	60-130
541-73-1	m-Dichlorobenzene	20	20.9	105	60-130
95-50-1	o-Dichlorobenzene	20	19.3	97	60-130
106-46-7	p-Dichlorobenzene	20	18.9	95	60-130
156-60-5	trans-1,2-Dichloroethylene	20	21.0	105	60-130
10061-02-6	trans-1,3-Dichloropropene	20	20.6	103	60-130
100-41-4	Ethylbenzene	20	20.4	102	60-130

Blank Spike Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN168-BS	N05030.D	1	02/23/09	TF	n/a	n/a	VN168

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

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
637-92-3	Ethyl Tert Butyl Ether	20	20.6	103	60-130
591-78-6	2-Hexanone	80	108	135	60-130
87-68-3	Hexachlorobutadiene	20	20.5	103	60-130
98-82-8	Isopropylbenzene	20	19.6	98	60-130
99-87-6	p-Isopropyltoluene	20	18.1	91	60-130
108-10-1	4-Methyl-2-pentanone	80	84.3	105	60-130
74-83-9	Methyl bromide	20	17.5	88	60-130
74-87-3	Methyl chloride	20	27.2	136	60-130
74-95-3	Methylene bromide	20	22.8	114	60-130
75-09-2	Methylene chloride	20	20.1	101	60-130
78-93-3	Methyl ethyl ketone	80	100	125	60-130
1634-04-4	Methyl Tert Butyl Ether	20	20.9	105	60-130
91-20-3	Naphthalene	20	14.1	71	60-130
103-65-1	n-Propylbenzene	20	19.5	98	60-130
100-42-5	Styrene	20	19.8	99	60-130
994-05-8	Tert-Amyl Methyl Ether	20	20.6	103	60-130
75-65-0	Tert-Butyl Alcohol	100	89.2	89	60-130
630-20-6	1,1,1,2-Tetrachloroethane	20	20.5	103	60-130
71-55-6	1,1,1-Trichloroethane	20	22.2	111	60-130
79-34-5	1,1,2,2-Tetrachloroethane	20	19.1	96	60-130
79-00-5	1,1,2-Trichloroethane	20	22.6	113	60-130
87-61-6	1,2,3-Trichlorobenzene	20	18.3	92	60-130
96-18-4	1,2,3-Trichloropropane	20	19.0	95	60-130
120-82-1	1,2,4-Trichlorobenzene	20	18.3	92	60-130
95-63-6	1,2,4-Trimethylbenzene	20	19.2	96	60-130
108-67-8	1,3,5-Trimethylbenzene	20	19.7	99	60-130
127-18-4	Tetrachloroethylene	20	21.2	106	60-130
108-88-3	Toluene	20	18.9	95	60-130
79-01-6	Trichloroethylene	20	22.0	110	60-130
75-69-4	Trichlorofluoromethane	20	17.1	86	60-130
75-01-4	Vinyl chloride	20	23.2	116	60-130
1330-20-7	Xylene (total)	60	61.9	103	60-130

Blank Spike Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN168-BS	N05030.D	1	02/23/09	TF	n/a	n/a	VN168

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

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	60-130%
2037-26-5	Toluene-D8	99%	60-130%
460-00-4	4-Bromofluorobenzene	99%	60-130%

(a) Outside control limits. Not detected in associated samples.

Raw Data: N05068.D N05069.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C4507-10MS	N05068.D	1	02/24/09	TF	n/a	n/a	VN169
C4507-10MSD	N05069.D	1	02/24/09	TF	n/a	n/a	VN169
C4507-10	N05067.D	1	02/24/09	TF	n/a	n/a	VN169

5.3 5

The QC reported here applies to the following samples: **Method:** SW846 8260B BY SIM

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Compound	C4507-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
123-91-1	1,4-Dioxane	ND		10	9.8	98	10.2	102	4	60-130/25

Raw Data: N05047.D N05048.D

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C4507-10MS	N05047.D	1	02/23/09	TF	n/a	n/a	VN168
C4507-10MSD	N05048.D	1	02/23/09	TF	n/a	n/a	VN168
C4507-10	N05040.D	1	02/23/09	TF	n/a	n/a	VN168

5.3 5

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

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Compound	C4507-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		80	73.4	92	90.9	114	21	60-130/25
71-43-2	Benzene	ND		20	18.1	91	21.1	106	15	60-130/25
108-86-1	Bromobenzene	ND		20	17.8	89	21.1	106	17	60-130/25
74-97-5	Bromochloromethane	ND		20	21.4	107	25.4	127	17	60-130/25
75-27-4	Bromodichloromethane	ND		20	19.2	96	22.9	115	18	60-130/25
75-25-2	Bromoform	ND		20	19.0	95	23.6	118	22	60-130/25
104-51-8	n-Butylbenzene	ND		20	12.7	64	14.9	75	16	60-130/25
135-98-8	sec-Butylbenzene	ND		20	15.7	79	18.1	91	14	60-130/25
98-06-6	tert-Butylbenzene	ND		20	16.2	81	18.8	94	15	60-130/25
108-90-7	Chlorobenzene	ND		20	17.9	90	21.1	106	16	60-130/25
75-00-3	Chloroethane	ND		20	20.6	103	20.3	102	1	60-130/25
67-66-3	Chloroform	ND		20	19.8	99	23.0	115	15	60-130/25
95-49-8	o-Chlorotoluene	ND		20	15.6	78	18.0	90	14	60-130/25
106-43-4	p-Chlorotoluene	ND		20	16.6	83	19.4	97	16	60-130/25
56-23-5	Carbon tetrachloride	ND		20	19.6	98	23.0	115	16	60-130/25
75-34-3	1,1-Dichloroethane	1.8		20	22.4	103	25.4	118	13	60-130/25
75-35-4	1,1-Dichloroethylene	ND		20	21.1	106	24.6	123	15	60-130/25
563-58-6	1,1-Dichloropropene	ND		20	19.4	97	22.6	113	15	60-130/25
96-12-8	1,2-Dibromo-3-chloropropane	ND		20	14.9	75	19.4	97	26*a	60-130/25
106-93-4	1,2-Dibromoethane	ND		20	17.7	89	22.0	110	22	60-130/25
107-06-2	1,2-Dichloroethane	ND		20	20.8	104	25.1	126	19	60-130/25
78-87-5	1,2-Dichloropropane	ND		20	20.6	103	24.0	120	15	60-130/25
142-28-9	1,3-Dichloropropane	ND		20	19.1	96	23.2	116	19	60-130/25
108-20-3	Di-Isopropyl ether	ND		20	21.7	109	25.3	127	15	60-130/25
123-91-1	1,4-Dioxane	ND		400	311	78	403	101	26*a	60-130/25
594-20-7	2,2-Dichloropropane	ND		20	18.1	91	20.9	105	14	60-130/25
124-48-1	Dibromochloromethane	ND		20	17.3	87	21.3	107	21	60-130/25
75-71-8	Dichlorodifluoromethane	ND		20	17.1	86	17.6	88	3	60-130/25
156-59-2	cis-1,2-Dichloroethylene	ND		20	19.8	99	22.9	115	15	60-130/25
10061-01-5	cis-1,3-Dichloropropene	ND		20	18.3	92	21.7	109	17	60-130/25
541-73-1	m-Dichlorobenzene	ND		20	17.6	88	20.7	104	16	60-130/25
95-50-1	o-Dichlorobenzene	ND		20	16.4	82	19.6	98	18	60-130/25
106-46-7	p-Dichlorobenzene	ND		20	15.9	80	18.8	94	17	60-130/25
156-60-5	trans-1,2-Dichloroethylene	ND		20	18.6	93	21.6	108	15	60-130/25
10061-02-6	trans-1,3-Dichloropropene	ND		20	17.6	88	21.2	106	19	60-130/25
100-41-4	Ethylbenzene	ND		20	17.4	87	20.5	103	16	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C4507-10MS	N05047.D	1	02/23/09	TF	n/a	n/a	VN168
C4507-10MSD	N05048.D	1	02/23/09	TF	n/a	n/a	VN168
C4507-10	N05040.D	1	02/23/09	TF	n/a	n/a	VN168

5.3 5

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

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Compound	C4507-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
637-92-3	Ethyl Tert Butyl Ether	ND		20	18.6	93	21.9	110	16	60-130/25
591-78-6	2-Hexanone	ND		80	78.2	98	103	129	27* a	60-130/25
87-68-3	Hexachlorobutadiene	ND		20	16.5	83	19.7	99	18	60-130/25
98-82-8	Isopropylbenzene	ND		20	16.6	83	19.5	98	16	60-130/25
99-87-6	p-Isopropyltoluene	ND		20	14.6	73	17.3	87	17	60-130/25
108-10-1	4-Methyl-2-pentanone	ND		80	72.3	90	95.4	119	28* a	60-130/25
74-83-9	Methyl bromide	ND		20	17.6	88	17.9	90	2	60-130/25
74-87-3	Methyl chloride	ND		20	29.2	146* a	27.5	138* a	6	60-130/25
74-95-3	Methylene bromide	ND		20	20.1	101	24.2	121	19	60-130/25
75-09-2	Methylene chloride	ND		20	18.0	90	20.9	105	15	60-130/25
78-93-3	Methyl ethyl ketone	ND		80	66.9	84	85.5	107	24	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND		20	18.6	93	22.7	114	20	60-130/25
91-20-3	Naphthalene	ND		20	9.9	50* a	14.1	71	35* a	60-130/25
103-65-1	n-Propylbenzene	ND		20	16.3	82	19.0	95	15	60-130/25
100-42-5	Styrene	ND		20	11.1	56* a	14.6	73	27* a	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND		20	18.6	93	22.3	112	18	60-130/25
75-65-0	Tert-Butyl Alcohol	ND		100	74.8	75	102	102	31* a	60-130/25
630-20-6	1,1,1,2-Tetrachloroethane	ND		20	17.6	88	21.1	106	18	60-130/25
71-55-6	1,1,1-Trichloroethane	61.6		20	80.7	96	80.5	95	0	60-130/25
79-34-5	1,1,2,2-Tetrachloroethane	ND		20	16.6	83	20.6	103	22	60-130/25
79-00-5	1,1,2-Trichloroethane	ND		20	19.6	98	23.9	120	20	60-130/25
87-61-6	1,2,3-Trichlorobenzene	ND		20	14.4	72	18.2	91	23	60-130/25
96-18-4	1,2,3-Trichloropropane	ND		20	16.1	81	20.4	102	24	60-130/25
120-82-1	1,2,4-Trichlorobenzene	ND		20	14.2	71	17.6	88	21	60-130/25
95-63-6	1,2,4-Trimethylbenzene	ND		20	14.4	72	17.6	88	20	60-130/25
108-67-8	1,3,5-Trimethylbenzene	ND		20	14.3	72	17.7	89	21	60-130/25
127-18-4	Tetrachloroethylene	ND		20	17.3	87	20.4	102	16	60-130/25
108-88-3	Toluene	ND		20	16.1	81	18.9	95	16	60-130/25
79-01-6	Trichloroethylene	ND		20	19.2	96	22.5	113	16	60-130/25
75-69-4	Trichlorofluoromethane	ND		20	17.1	86	17.2	86	1	60-130/25
75-01-4	Vinyl chloride	ND		20	25.1	126	23.6	118	6	60-130/25
1330-20-7	Xylene (total)	ND		60	50.3	84	60.6	101	19	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C4507-10MS	N05047.D	1	02/23/09	TF	n/a	n/a	VN168
C4507-10MSD	N05048.D	1	02/23/09	TF	n/a	n/a	VN168
C4507-10	N05040.D	1	02/23/09	TF	n/a	n/a	VN168

5.3

5

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

C4507-1, C4507-2, C4507-3, C4507-4, C4507-5, C4507-6, C4507-7, C4507-8, C4507-9, C4507-10

CAS No.	Surrogate Recoveries	MS	MSD	C4507-10	Limits
1868-53-7	Dibromofluoromethane	103%	102%	102%	60-130%
2037-26-5	Toluene-D8	99%	98%	101%	60-130%
460-00-4	4-Bromofluorobenzene	97%	99%	94%	60-130%

(a) Outside control limits due to matrix interference. Refer to Blank Spike.

Raw Data: N01664.D

Instrument Performance Check (BFB)

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN43-BFB
Lab File ID: N01664.D
Instrument ID: GCMSN
Injection Date: 08/22/08
Injection Time: 18:11

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	35531	17.3	Pass
75	30.0 - 60.0% of mass 95	90632	44.0	Pass
95	Base peak, 100% relative abundance	205824	100.0	Pass
96	5.0 - 9.0% of mass 95	13714	6.7	Pass
173	Less than 2.0% of mass 174	545	0.26 (0.4) a	Pass
174	50.0 - 100.0% of mass 95	136635	66.4	Pass
175	5.0 - 9.0% of mass 174	9741	4.7 (7.1)	Pass
176	95.0 - 101.0% of mass 174	130576	63.4 (95.6)	Pass
177	5.0 - 9.0% of mass 176	8626	4.2 (6.6) b	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VN43-IC43	N01672.D	08/22/08	21:42	03:31	Initial cal 2
VN43-IC43	N01673.D	08/22/08	22:09	03:58	Initial cal 4
VN43-IC43	N01674.D	08/22/08	22:36	04:25	Initial cal 6
VN43-IC43	N01675.D	08/22/08	23:02	04:51	Initial cal 8
VN43-ICC43	N01676.D	08/22/08	23:29	05:18	Initial cal 10
VN43-IC43	N01677.D	08/22/08	23:55	05:44	Initial cal 20
VN43-IC43	N01678.D	08/23/08	00:22	06:11	Initial cal 40
VN43-ICV43	N01680.D	08/23/08	01:15	07:04	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN131-BFB
Lab File ID: N04180.D
Instrument ID: GCMSN
Injection Date: 01/12/09
Injection Time: 09:29

5.4 5

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	15237	17.4	Pass
75	30.0 - 60.0% of mass 95	40608	46.4	Pass
95	Base peak, 100% relative abundance	87539	100.0	Pass
96	5.0 - 9.0% of mass 95	5879	6.7	Pass
173	Less than 2.0% of mass 174	179	0.2 (0.32) [a]	Pass
174	50.0 - 100.0% of mass 95	56741	64.8	Pass
175	5.0 - 9.0% of mass 174	4128	4.7 (7.3) [a]	Pass
176	95.0 - 101.0% of mass 174	55075	62.9 (97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	3578	4.1 (6.5) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VN131-IC131	N04182.D	01/12/09	10:17	00:48	Initial cal 1
VN131-IC131	N04183.D	01/12/09	10:57	01:28	Initial cal 2.5
VN131-IC131	N04184.D	01/12/09	11:27	01:58	Initial cal 5
VN131-ICC131	N04185.D	01/12/09	11:57	02:28	Initial cal 20
VN131-IC131	N04186.D	01/12/09	12:27	02:58	Initial cal 50
VN131-IC131	N04187.D	01/12/09	12:56	03:27	Initial cal 75
VN131-IC131	N04188.D	01/12/09	13:26	03:57	Initial cal 100
VN131-IC131	N04190.D	01/12/09	14:26	04:57	Initial cal 25
VN131-IC131	N04191.D	01/12/09	14:56	05:27	Initial cal 50
VN131-IC131	N04192.D	01/12/09	15:25	05:56	Initial cal 100
VN131-IC131	N04193.D	01/12/09	15:55	06:26	Initial cal 125
VN131-IC131	N04194.D	01/12/09	16:25	06:56	Initial cal 250
VN131-IC131	N04195.D	01/12/09	16:55	07:26	Initial cal 500
VN131-IC131	N04196.D	01/12/09	17:24	07:55	Initial cal 1000
VN131-ICV131	N04199.D	01/12/09	18:54	09:25	Initial cal verification 125

Raw Data: N05026.D

Instrument Performance Check (BFB)

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN168-BFB
Lab File ID: N05026.D
Instrument ID: GCMSN
Injection Date: 02/23/09
Injection Time: 08:43

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	15443	20.1	Pass
75	30.0 - 60.0% of mass 95	37573	49.0	Pass
95	Base peak, 100% relative abundance	76696	100.0	Pass
96	5.0 - 9.0% of mass 95	5082	6.6	Pass
173	Less than 2.0% of mass 174	0	0.0 (0.0)	Pass
174	50.0 - 100.0% of mass 95	50763	66.2	Pass
175	5.0 - 9.0% of mass 174	3675	4.8 (7.2)	Pass
176	95.0 - 101.0% of mass 174	48800	63.6 (96.1)	Pass
177	5.0 - 9.0% of mass 176	3357	4.4 (6.9)	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VN168-CC131	N05027.D	02/23/09	09:03	00:20	Continuing cal 20
VN168-MB	N05029.D	02/23/09	10:02	01:19	Method Blank
VN168-BS	N05030.D	02/23/09	10:32	01:49	Blank Spike
C4507-7	N05037.D	02/23/09	14:41	05:58	P2180B-SP-3
C4507-8	N05038.D	02/23/09	15:11	06:28	P2180B-SP-6
C4507-9	N05039.D	02/23/09	15:40	06:57	P2180B-SP-9
C4507-10	N05040.D	02/23/09	16:10	07:27	P2180W-SP-15
C4507-1	N05041.D	02/23/09	16:40	07:57	P2180W-SP-0
C4507-2	N05042.D	02/23/09	17:10	08:27	P2180W-SP-4
C4507-3	N05043.D	02/23/09	17:39	08:56	P2180W-SP-8
C4507-4	N05044.D	02/23/09	18:10	09:27	P2180W-SP-12
C4507-5	N05045.D	02/23/09	18:40	09:57	P2180W-SP-20
C4507-6	N05046.D	02/23/09	19:09	10:26	P2180B-SP-0
C4507-10MS	N05047.D	02/23/09	19:39	10:56	Matrix Spike
C4507-10MSD	N05048.D	02/23/09	20:09	11:26	Matrix Spike Duplicate

Instrument Performance Check (BFB)

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN169-BFB
Lab File ID: N05051.D
Instrument ID: GCMSN
Injection Date: 02/24/09
Injection Time: 11:07

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	43424	18.3	Pass
75	30.0 - 60.0% of mass 95	111232	46.8	Pass
95	Base peak, 100% relative abundance	237760	100.0	Pass
96	5.0 - 9.0% of mass 95	16171	6.8	Pass
173	Less than 2.0% of mass 174	606	0.25 (0.39) [a]	Pass
174	50.0 - 100.0% of mass 95	157312	66.2	Pass
175	5.0 - 9.0% of mass 174	11260	4.7 (7.2) [a]	Pass
176	95.0 - 101.0% of mass 174	153173	64.4 (97.4) [a]	Pass
177	5.0 - 9.0% of mass 176	10228	4.3 (6.7) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VN169-CC43	N05054.D	02/24/09	12:25	01:18	Continuing cal 10
VN169-BS	N05056.D	02/24/09	13:29	02:22	Blank Spike
VN169-MB	N05057.D	02/24/09	13:55	02:48	Method Blank
C4507-1	N05058.D	02/24/09	14:22	03:15	P2180W-SP-0
C4507-2	N05059.D	02/24/09	14:49	03:42	P2180W-SP-4
C4507-6	N05060.D	02/24/09	15:16	04:09	P2180B-SP-0
C4507-3	N05061.D	02/24/09	15:43	04:36	P2180W-SP-8
C4507-4	N05062.D	02/24/09	16:10	05:03	P2180W-SP-12
C4507-5	N05063.D	02/24/09	16:36	05:29	P2180W-SP-20
C4507-7	N05064.D	02/24/09	17:03	05:56	P2180B-SP-3
C4507-8	N05065.D	02/24/09	17:29	06:22	P2180B-SP-6
C4507-9	N05066.D	02/24/09	17:56	06:49	P2180B-SP-9
C4507-10	N05067.D	02/24/09	18:23	07:16	P2180W-SP-15
C4507-10MS	N05068.D	02/24/09	18:49	07:42	Matrix Spike
C4507-10MSD	N05069.D	02/24/09	19:16	08:09	Matrix Spike Duplicate

Volatile Internal Standard Area Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Check Std:	VN168-CC131	**Injection Date:**	02/23/09
Lab File ID:	N05027.D	**Injection Time:**	09:03
Instrument ID:	GCMSN	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	1229100	11.41	2239116	12.72	2041945	16.39	999963	19.36
Upper Limit [a]	2458200	11.91	4478232	13.22	4083890	16.89	1999926	19.86
Lower Limit [b]	614550	10.91	1119558	12.22	1020973	15.89	499982	18.86

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VN168-MB	1284527	11.41	2341414	12.72	2084012	16.39	897651	19.36
VN168-BS	1307150	11.40	2350060	12.72	2115685	16.39	1011885	19.36
C4507-7	1183358	11.41	2173203	12.72	1916158	16.39	806451	19.36
C4507-8	1144061	11.40	2119660	12.72	1878676	16.39	796248	19.36
C4507-9	1148398	11.41	2112994	12.72	1873111	16.39	788018	19.36
C4507-10	1142260	11.41	2095569	12.72	1844813	16.39	764789	19.36
C4507-1	1135827	11.40	2105629	12.72	1873444	16.39	781404	19.36
C4507-2	1131353	11.41	2087792	12.72	1857189	16.39	763489	19.36
C4507-3	1130004	11.41	2091021	12.72	1856754	16.39	788100	19.36
C4507-4	1123267	11.40	2065390	12.72	1838301	16.39	771410	19.36
C4507-5	1122724	11.40	2056627	12.72	1831821	16.39	754904	19.36
C4507-6	1107769	11.41	2053870	12.72	1836769	16.39	772948	19.36
C4507-10MS	1169100	11.40	2135491	12.72	1955091	16.39	938079	19.36
C4507-10MSD	1267432	11.40	2282762	12.72	2091082	16.39	1004265	19.36

IS 1 = Pentafluorobenzene
IS 2 = 1,4-Difluorobenzene
IS 3 = Chlorobenzene-D5
IS 4 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Internal Standard Area Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Check Std:	VN169-CC43	**Injection Date:**	02/24/09
Lab File ID:	N05054.D	**Injection Time:**	12:25
Instrument ID:	GCMSN	**Method:**	SW846 8260B BY SIM

	IS 1 AREA	RT
Check Std	38240	10.74
Upper Limit [a]	76480	11.24
Lower Limit [b]	19120	10.24

Lab Sample ID	IS 1 AREA	RT
VN169-BS	36067	10.74
VN169-MB	38037	10.74
C4507-1	34541	10.74
C4507-2	35026	10.74
C4507-6	36405	10.74
C4507-3	30659	10.74
C4507-4	33045	10.74
C4507-5	32265	10.74
C4507-7	30805	10.74
C4507-8	32605	10.74
C4507-9	30871	10.74
C4507-10	30951	10.74
C4507-10MS	29826	10.74
C4507-10MSD	29484	10.73

IS 1 = 1,4-Dioxane-d8

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

5.5 5

Volatile Surrogate Recovery Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Method: SW846 8260B **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
C4507-1	N05041.D	104.0	102.0	94.0
C4507-2	N05042.D	103.0	102.0	93.0
C4507-3	N05043.D	104.0	102.0	94.0
C4507-4	N05044.D	103.0	102.0	94.0
C4507-5	N05045.D	101.0	102.0	94.0
C4507-6	N05046.D	106.0	102.0	93.0
C4507-7	N05037.D	102.0	101.0	95.0
C4507-8	N05038.D	104.0	100.0	94.0
C4507-9	N05039.D	103.0	100.0	94.0
C4507-10	N05040.D	102.0	101.0	94.0
C4507-10MS	N05047.D	103.0	99.0	97.0
C4507-10MSD	N05048.D	102.0	98.0	99.0
VN168-BS	N05030.D	101.0	99.0	99.0
VN168-MB	N05029.D	102.0	101.0	96.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	60-130%
S2 = Toluene-D8	60-130%
S3 = 4-Bromofluorobenzene	60-130%

Initial Calibration Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN43-ICC43
Lab FileID: N01676.D

Response Factor Report VMS-02

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration

Calibration Files
1 =N01672.D 2 =N01673.D 3 =N01674.D 4 =N01675.D
5 =N01676.D 6 =N01677.D 7 =N01678.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I 1,4-Dioxane-d8	ISTD								
2) 1,4-Dioxane	1.790	1.496	1.360	1.387	1.322	1.275	1.245	1.411	13.20

(#) = Out of Range

VN43DSIM.M Tue Aug 26 15:58:51 2008 RPTLGM

5.7 5

Initial Calibration Verification

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN43-ICV43
Lab FileID: N01680.D

Evaluate Continuing Calibration Report

Data File : C:\hpchem\1\DATA\n01680.d Vial: 35
Acq On : 23 Aug 2008 1:15 am Operator: TitiaF
Sample : ICV43-10 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1,4-Dioxane-d8	1.000	1.000	0.0	122	0.00	10.74
2	1,4-Dioxane	1.411	1.080	23.5	100	0.00	10.84

(#) = Out of Range SPCC's out = 0 CCC's out = 0
N01676.D VN43DSIM.M Mon Aug 25 09:35:21 2008 RPTLGM

Initial Calibration Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA
Sample: VN131-ICC131
Lab FileID: N04185.D

Response Factor Report VMS-02

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration

Calibration Files
1 =N04182.D 2 =N04183.D 3 =N04184.D 4 =N04185.D
5 =N04186.D 6 =N04187.D 7 =N04188.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1) I Pentafluorobenzene	----------ISTD----------								
2)T Dichlorodifluorom	0.868	0.876	0.861	0.769	0.766	0.750	0.702	0.799	8.60
3)P Chloromethane	1.102	1.038	1.050	1.029	0.915	0.823	0.737	0.956	14.11
4)C Vinyl Chloride	0.957	1.062	0.770	0.956	0.964	0.771		0.913	12.91
5)T Bromomethane	0.260	0.432	0.436	0.408	0.459	0.473	0.474	0.420	17.72
---- Linear regr., Force(0,0) ---- Coefficient = 0.9994									
Response Ratio = 0.00000 + 0.47015 *A									
6)T Chloroethane	0.466	0.491	0.501	0.495	0.524	0.534	0.528	0.506	4.82
7)T Ethanol		0.004	0.004	0.005	0.006	0.006	0.006	0.005	18.75
---- Linear regr., Force(0,0) ---- Coefficient = 0.9977									
Response Ratio = 0.00000 + 0.00560 *A									
8)T Trichlorofluorome	0.929	0.975	0.975	0.983	1.009	1.000	0.959	0.976	2.71
9) Diethyl Ether	0.244	0.300	0.289	0.296	0.331	0.334	0.327	0.303	10.47
10)T Acetone	0.042	0.044	0.035	0.035	0.039	0.039	0.035	0.039	9.13
11)T Freon 113	0.306	0.339	0.347	0.356	0.358	0.354	0.345	0.344	5.26
12)M,Cl,1-Dichloroethen	0.457	0.474	0.480	0.501	0.519	0.522	0.518	0.496	5.19
13)T tert-Butanol (TBA	0.028	0.045	0.041	0.043	0.053	0.049	0.047	0.044	18.13
---- Linear regr., Force(0,0) ---- Coefficient = 0.9960									
Response Ratio = 0.00000 + 0.04828 *A									
14)T Acetonitrile			0.033	0.043	0.049	0.050	0.049	0.045	15.79
---- Linear regr., Force(0,0) ---- Coefficient = 0.9993									
Response Ratio = 0.00000 + 0.04929 *A									
15)T Iodomethane		0.137	0.327	0.374	0.481	0.492	0.428	0.373	35.28
---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9905									
Response Ratio = 0.00000 + 0.51786 *A + -0.00774 *A^2									
16)T Methylene Chlorid			0.730	0.578	0.590	0.586	0.576	0.612	10.82
17) Carbon Disulfide	1.642	1.651	1.648	1.736	1.833	1.853	1.839	1.743	5.61
18)T,MMethyl-t-butyl Et	1.282	1.344	1.281	1.330	1.499	1.497	1.442	1.382	6.91
19)T trans-1,2-Dichlor	0.554	0.577	0.574	0.602	0.629	0.630	0.622	0.598	5.04
20)T Diisopropyl Ether	1.719	1.819	1.830	1.913	2.166	2.233	2.210	1.984	10.74
21) Vinyl Acetate	1.612	1.718	1.672	1.778	2.034	2.029	1.974	1.831	9.71
22)P 1,1-Dichloroethan	0.985	1.051	1.051	1.103	1.196	1.211	1.198	1.114	8.03
23)T tert-Butyl Ethyl	1.527	1.633	1.624	1.685	1.915	1.935	1.884	1.743	9.44
24)T Tetrahydrofuran	0.139	0.156	0.121	0.125	0.140	0.137	0.130	0.135	8.65
25)T 2-Butanone (MEK)		0.053	0.058	0.048	0.057	0.055	0.050	0.053	7.83
26)T 2,2-Dichloropropa	0.860	0.878	0.866	0.948	1.005	0.982	0.933	0.925	6.25
27)T cis-1,2-Dichloroe	0.568	0.576	0.600	0.621	0.666	0.663	0.644	0.620	6.49
28)C Chloroform	0.873	0.930	0.939	0.978	1.053	1.046	1.029	0.978	6.95
29)T Bromochloromethan	0.162	0.210	0.216	0.219	0.226	0.219	0.207	0.208	10.24
30)S,MDibromofluorometh	0.477	0.484	0.478	0.479	0.497	0.490	0.477	0.483	1.64
31)T 1,1,1-Trichloroet	0.807	0.844	0.859	0.920	0.970	0.960	0.931	0.899	6.96

Initial Calibration Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN131-ICC131
Lab FileID: N04185.D

32)T tert-Amyl Methyl	1.364	1.440	1.405	1.463	1.679	1.683	1.602	1.519	8.74
33) I 1,4-Difluorobenzene	----------ISTD----------								
34)T 1,1-Dichloroprope	0.436	0.457	0.464	0.487	0.518	0.527	0.524	0.488	7.44
35)T Carbon Tetrachlor	0.384	0.408	0.410	0.440	0.456	0.445	0.430	0.425	5.95
36)T 1,2-Dichloroethan	0.304	0.319	0.317	0.325	0.353	0.348	0.334	0.329	5.40
37)M Benzene	1.413	1.374	1.387	1.408	1.493	1.519	1.524	1.446	4.45
38)M Trichloroethene	0.304	0.313	0.323	0.337	0.354	0.358	0.355	0.335	6.54
39)C 1,2-Dichloropropa	0.285	0.315	0.312	0.324	0.358	0.367	0.369	0.333	9.66
40)T 1,4-Dioxane		0.003	0.003	0.003	0.003	0.003	0.003	0.003	8.46
41)T Bromodichlorometh	0.340	0.360	0.378	0.393	0.431	0.433	0.426	0.394	9.45
42)T Dibromomethane	0.114	0.137	0.141	0.147	0.161	0.160	0.154	0.145	11.34
43) 2-Chloroethyl Vin	0.111	0.132	0.125	0.110	0.149	0.160	0.132	0.131	14.06
44)T 4-Methyl-2-Pentan	0.023	0.034	0.031	0.033	0.038	0.037	0.034	0.033	15.11
45)T cis-1,3-Dichlorop	0.443	0.457	0.465	0.487	0.533	0.540	0.536	0.494	8.34
46) I Chlorobenzene-d5	----------ISTD----------								
47)S,MToluene-d8	1.363	1.361	1.369	1.368	1.343	1.378	1.406	1.370	1.40
48)M,CToluene	1.106	1.048	1.000	1.059	1.054	1.078	1.083	1.061	3.17
49)T trans-1,3-Dichlor	0.416	0.457	0.446	0.483	0.518	0.523	0.514	0.479	8.62
50)T 1,1,2-Trichloroet	0.170	0.203	0.200	0.207	0.221	0.224	0.219	0.206	8.98
51)T 2-Hexanone	0.155	0.194	0.168	0.185	0.215	0.215	0.200	0.190	11.90
52)T 1,3-Dichloropropa	0.427	0.459	0.443	0.458	0.488	0.497	0.492	0.466	5.70
53)T Tetrachloroethene	0.252	0.293	0.287	0.294	0.288	0.331	0.288	0.290	7.91
54)T Dibromochlorometh	0.230	0.252	0.249	0.269	0.284	0.282	0.279	0.264	7.75
55)T 1,2-Dibromoethane	0.181	0.222	0.212	0.226	0.237	0.237	0.231	0.221	8.88
56)M,PChlorobenzene	0.932	0.971	0.964	1.014	1.033	1.047	1.041	1.000	4.47
57)T 1,1,1,2-Tetrachlo	0.282	0.299	0.296	0.317	0.326	0.327	0.324	0.310	5.79
58)C, TEthyl Benzene	1.798	1.839	1.845	1.977	2.033	2.079	2.050	1.946	5.96
59)T Xylene, m+p	0.683	0.711	0.717	0.776	0.790	0.799	0.778	0.751	6.07
60)T Xylene, o	0.639	0.667	0.673	0.728	0.746	0.758	0.745	0.708	6.68
61)T Styrene	0.935	1.017	1.037	1.160	1.218	1.239	1.216	1.118	10.74
62)P Bromoform	0.098	0.135	0.129	0.147	0.156	0.156	0.153	0.139	14.88
63)T Isopropylbenzene	1.698	1.769	1.806	1.965	1.977	2.004	1.987	1.887	6.63
64)S,M4-Bromofluorobenz	0.499	0.500	0.498	0.520	0.524	0.537	0.542	0.517	3.60
65)T 1,2,3-Trichloropr	0.117	0.130	0.115	0.121	0.129	0.129	0.123	0.123	4.81
66)T trans-1,4-Dichlor		0.082	0.080	0.092	0.100	0.099	0.094	0.091	9.30
67) I 1,4-Dichlorobenzene-d	----------ISTD----------								
68)P 1,1,2,2-Tetrachlo	0.573	0.656	0.612	0.646	0.722	0.699	0.680	0.656	7.79
69)T n-Propylbenzene	4.616	4.636	4.742	5.133	5.358	5.393	5.299	5.025	6.95
70)T Bromobenzene	0.708	0.699	0.715	0.730	0.759	0.760	0.760	0.733	3.65
71)T 1,3,5-Trimethylbe	2.984	3.081	3.134	3.386	3.542	3.554	3.493	3.310	7.22
72)T 2-Chlorotoluene	2.960	2.865	2.844	3.044	3.210	3.193	3.263	3.054	5.61
73)T 4-Chlorotoluene	2.470	2.634	2.718	2.904	3.008	3.073	2.883	2.813	7.65
74)T tert-Butylbenzene	3.011	3.088	3.150	3.330	3.437	3.471	3.401	3.270	5.64
75)T Pentachloroethane	0.326	0.347	0.361	0.422	0.453	0.383	0.484	0.397	14.64
76)T 1,2,4-Trimethylbe	3.035	3.117	3.143	3.370	3.540	3.536	3.452	3.313	6.38
77)T sec-Butylbenzene	4.210	4.266	4.363	4.673	4.790	4.802	4.715	4.546	5.64
78)T p-Isopropyltoluen	3.441	3.464	3.500	3.749	3.846	3.871	3.809	3.668	5.23
79)T 1,3-Dichlorobenze	1.463	1.515	1.507	1.567	1.609	1.620	1.619	1.557	4.03
80)T 1,4-Dichlorobenze	1.563	1.556	1.505	1.581	1.620	1.631	1.625	1.583	2.90
81)T n-Butylbenzene	3.620	3.564	3.606	3.798	3.915	3.948	3.871	3.761	4.28
82)T 1,2-Dichlorobenze	1.326	1.358	1.323	1.371	1.420	1.414	1.403	1.374	2.92
83)T 1,2-Dibromo-3-Chl	0.119	0.127	0.106	0.113	0.126	0.123	0.117	0.119	6.40
84)T 1,2,4-Trichlorobe	1.000	0.951	0.905	0.917	0.943	0.962	0.965	0.949	3.33
85)T Hexachlorobutadie	0.515	0.504	0.507	0.526	0.526	0.540	0.558	0.525	3.65
86)T Naphthalene	2.078	2.102	1.902	1.902	2.046	2.022	1.923	1.997	4.30
87)T 1,2,3-Trichlorobe	0.883	0.842	0.804	0.792	0.815	0.820	0.817	0.825	3.62
88)H TPH-GRO (C6-C10)		7.712	7.812	7.175	6.152	5.778	5.771	6.733	14.08

Initial Calibration Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN131-ICC131
Lab FileID: N04185.D

(#) = Out of Range

VN131WA.M Tue Jan 13 10:44:46 2009 RPT1

5.7 5

Raw Data: N04199.D

Initial Calibration Verification

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA
Sample: VN131-ICV131
Lab FileID: N04199.D

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\N090112\N04199.D Vial: 20
Acq On : 12 Jan 2009 6:54 pm Operator: TitiaF
Sample : ICV131-125 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Pentafluorobenzene	1.000	1.000	0.0	125	-0.02	11.40
2	T	Dichlorodifluoromethane		----------NA----------				
3	P	Chloromethane		----------NA----------				
4	C	Vinyl Chloride		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
5	T	Bromomethane		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
6	T	Chloroethane		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
7	T	Ethanol		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
8	T	Trichlorofluoromethane		----------NA----------				
9		Diethyl Ether		----------NA----------				
10	T	Acetone		----------NA----------				
11	T	Freon 113		----------NA----------				
12	M,C	1,1-Dichloroethene		----------NA----------				
		----------	Amount	Calc.	%Drift	----------		
13	T	tert-Butanol (TBA)		----------NA----------				
14	T	Acetonitrile		----------NA----------				
15	T	Iodomethane		----------NA----------				
		----------	AvgRF	CCRF	%Dev	----------		
16	T	Methylene Chloride		----------NA----------				
17		Carbon Disulfide		----------NA----------				
18	T,M	Methyl-t-butyl Ether		----------NA----------				
19	T	trans-1,2-Dichloroethene		----------NA----------				
20	T	Diisopropyl Ether		----------NA----------				
21		Vinyl Acetate		----------NA----------				
22	P	1,1-Dichloroethane		----------NA----------				
23	T	tert-Butyl Ethyl Ether		----------NA----------				
24	T	Tetrahydrofuran		----------NA----------				
25	T	2-Butanone (MEK)		----------NA----------				
26	T	2,2-Dichloropropane		----------NA----------				
27	T	cis-1,2-Dichloroethene		----------NA----------				
28	C	Chloroform		----------NA----------				
29	T	Bromochloromethane		----------NA----------				
30	S,M	Dibromofluoromethane	0.483	0.473	2.1	124	0.00	11.53

Initial Calibration Verification

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN131-ICV131
Lab FileID: N04199.D

31	T	1,1,1-Trichloroethane		----------NA----------				
32	T	tert-Amyl Methyl Ether		----------NA----------				
33	I	1,4-Difluorobenzene	1.000	1.000	0.0	124	0.00	12.72
34	T	1,1-Dichloropropene		----------NA----------				
35	T	Carbon Tetrachloride		----------NA----------				
36	T	1,2-Dichloroethane		----------NA----------				
37	M	Benzene		----------NA----------				
38	M	Trichloroethene		----------NA----------				
39	C	1,2-Dichloropropane		----------NA----------				
40	T	1,4-Dioxane		----------NA----------				
41	T	Bromodichloromethane		----------NA----------				
42	T	Dibromomethane		----------NA----------				
43		2-Chloroethyl Vinyl Ether		----------NA----------				
44	T	4-Methyl-2-Pentanone(MIBK		----------NA----------				
45	T	cis-1,3-Dichloropropene		----------NA----------				
46	I	Chlorobenzene-d5	1.000	1.000	0.0	124	0.00	16.39
47	S,M	Toluene-d8	1.370	1.427	-4.2	129	0.00	14.64
48	M,C	Toluene		----------NA----------				
49	T	trans-1,3-Dichloropropene		----------NA----------				
50	T	1,1,2-Trichloroethane		----------NA----------				
51	T	2-Hexanone		----------NA----------				
52	T	1,3-Dichloropropane		----------NA----------				
53	T	Tetrachloroethene		----------NA----------				
54	T	Dibromochloromethane		----------NA----------				
55	T	1,2-Dibromoethane (EDB)		----------NA----------				
56	M,P	Chlorobenzene		----------NA----------				
57	T	1,1,1,2-Tetrachloroethane		----------NA----------				
58	C, T	Ethyl Benzene		----------NA----------				
59	T	Xylene, m+p		----------NA----------				
60	T	Xylene, o		----------NA----------				
61	T	Styrene		----------NA----------				
62	P	Bromoform		----------NA----------				
63	T	Isopropylbenzene		----------NA----------				
64	S,M	4-Bromofluorobenzene	0.517	0.525	-1.5	125	0.00	17.87
65	T	1,2,3-Trichloropropane		----------NA----------				
66	T	trans-1,4-Dichloro-2-bute		----------NA----------				
67	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	118	0.00	19.36
68	P	1,1,2,2-Tetrachloroethane		----------NA----------				
69	T	n-Propylbenzene		----------NA----------				
70	T	Bromobenzene		----------NA----------				
71	T	1,3,5-Trimethylbenzene		----------NA----------				
72	T	2-Chlorotoluene		----------NA----------				
73	T	4-Chlorotoluene		----------NA----------				
74	T	tert-Butylbenzene		----------NA----------				
75	T	Pentachloroethane		----------NA----------				
76	T	1,2,4-Trimethylbenzene		----------NA----------				
77	T	sec-Butylbenzene		----------NA----------				
78	T	p-Isopropyltoluene		----------NA----------				
79	T	1,3-Dichlorobenzene		----------NA----------				
80	T	1,4-Dichlorobenzene		----------NA----------				
81	T	n-Butylbenzene		----------NA----------				
82	T	1,2-Dichlorobenzene		----------NA----------				
83	T	1,2-Dibromo-3-Chloropropa		----------NA----------				
84	T	1,2,4-Trichlorobenzene		----------NA----------				
85	T	Hexachlorobutadiene		----------NA----------				
86	T	Naphthalene		----------NA----------				
87	T	1,2,3-Trichlorobenzene		----------NA----------				

5.7 5

Initial Calibration Verification

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN131-ICV131
Lab FileID: N04199.D

88 H	TPH-GRO (C6-C10)	6.733	6.166	8.4	101	0.00	13.96

(#) = Out of Range SPCC's out = 5 CCC's out = 6
N04185.D VN131WA.M Tue Jan 13 10:58:11 2009 RPT1

5.7 5

Raw Data: N04206.D

Initial Calibration Verification

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA
Sample: VN131-ICV131
Lab FileID: N04206.D

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\N090112\N04206.D Vial: 27
Acq On : 13 Jan 2009 10:26 am Operator: TitiaF
Sample : ICV131-20 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Pentafluorobenzene	1.000	1.000	0.0	106	-0.01	11.41
2	T	Dichlorodifluoromethane	0.799	0.891	-11.5	123	0.00	4.45
3	P	Chloromethane	0.956	1.009	-5.5	104	-0.02	4.93
4	C	Vinyl Chloride	0.913	0.869	4.8	96	-0.02	5.17
			Amount	Calc.	%Drift			
5	T	Bromomethane	20.000	17.095	14.5	105	0.00	6.12
			AvgRF	CCRF	%Dev			
6	T	Chloroethane	0.506	0.547	-8.1	117	-0.01	6.31
			Amount	Calc.	%Drift			
7	T	Ethanol	400.000	382.258	4.4	126	0.00	6.42
			AvgRF	CCRF	%Dev			
8	T	Trichlorofluoromethane	0.976	0.978	-0.2	106	-0.02	6.95
9		Diethyl Ether	0.303	0.277	8.6	100	0.00	7.52
10	T	Acetone	0.039	0.036	7.7	109	0.00	7.73
11	T	Freon 113	0.344	0.254	26.2#	75	0.00	7.91
12	M,C	1,1-Dichloroethene	0.496	0.406	18.1	86	0.00	8.14
			Amount	Calc.	%Drift			
13	T	tert-Butanol (TBA)	100.000	93.119	6.9	110	0.00	8.20
14	T	Acetonitrile	20.000	18.397	8.0	111	0.00	8.12
15	T	Iodomethane	20.000	12.390	38.0#	89	-0.01	8.63
			AvgRF	CCRF	%Dev			
16	T	Methylene Chloride	0.612	0.536	12.4	99	0.00	8.91
17		Carbon Disulfide	1.743	1.187	31.9#	73	-0.01	9.02
18	T,M	Methyl-t-butyl Ether	1.382	1.339	3.1	107	0.00	9.30
19	T	trans-1,2-Dichloroethene	0.598	0.528	11.7	93	0.00	9.50
20	T	Diisopropyl Ether	1.984	2.053	-3.5	114	0.00	10.07
21		Vinyl Acetate	1.831	1.914	-4.5	114	-0.01	10.08
22	P	1,1-Dichloroethane	1.114	1.058	5.0	102	0.00	10.12
23	T	tert-Butyl Ethyl Ether	1.743	1.738	0.3	109	0.00	10.68
24	T	Tetrahydrofuran	0.135	0.123	8.9	105	0.00	11.52
25	T	2-Butanone (MEK)	0.053	0.048	9.4	107	0.00	10.67
26	T	2,2-Dichloropropane	0.925	0.899	2.8	101	0.00	11.01
27	T	cis-1,2-Dichloroethene	0.620	0.585	5.6	100	0.00	11.02
28	C	Chloroform	0.978	0.963	1.5	104	0.00	11.26
29	T	Bromochloromethane	0.208	0.199	4.3	96	0.00	11.45
30	S,M	Dibromofluoromethane	0.483	0.487	-0.8	108	0.00	11.53

Initial Calibration Verification

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN131-ICV131
Lab FileID: N04206.D

31	T	1,1,1-Trichloroethane	0.899	0.864	3.9	100	0.00	11.87
32	T	tert-Amyl Methyl Ether	1.519	1.559	-2.6	113	0.00	12.26
33	I	1,4-Difluorobenzene	1.000	1.000	0.0	107	0.00	12.72
34	T	1,1-Dichloropropene	0.488	0.453	7.2	100	0.00	12.09
35	T	Carbon Tetrachloride	0.425	0.396	6.8	97	0.00	12.25
36	T	1,2-Dichloroethane	0.329	0.318	3.3	105	0.00	12.31
37	M	Benzene	1.446	1.330	8.0	101	0.00	12.41
38	M	Trichloroethene	0.335	0.315	6.0	101	0.00	13.20
39	C	1,2-Dichloropropane	0.333	0.326	2.1	108	0.00	13.37
40	T	1,4-Dioxane	0.003	0.003	0.0	106	0.00	13.61
41	T	Bromodichloromethane	0.394	0.377	4.3	103	0.00	13.64
42	T	Dibromomethane	0.145	0.139	4.1	102	0.00	13.69
43		2-Chloroethyl Vinyl Ether	0.131	0.091	30.5#	89	0.00	13.95
44	T	4-Methyl-2-Pentanone(MIBK	0.033	0.031	6.1	101	0.00	14.02
45	T	cis-1,3-Dichloropropene	0.494	0.484	2.0	107	0.00	14.28
46	I	Chlorobenzene-d5	1.000	1.000	0.0	109	0.00	16.39
47	S,M	Toluene-d8	1.370	1.379	-0.7	110	0.00	14.64
48	M,C	Toluene	1.061	0.957	9.8	99	-0.01	14.73
49	T	trans-1,3-Dichloropropene	0.479	0.480	-0.2	108	0.00	14.84
50	T	1,1,2-Trichloroethane	0.206	0.203	1.5	107	0.00	15.04
51	T	2-Hexanone	0.190	0.187	1.6	110	0.00	15.02
52	T	1,3-Dichloropropane	0.466	0.451	3.2	107	0.00	15.32
53	T	Tetrachloroethene	0.290	0.271	6.6	101	0.00	15.54
54	T	Dibromochloromethane	0.264	0.253	4.2	103	0.00	15.68
55	T	1,2-Dibromoethane (EDB)	0.221	0.212	4.1	102	0.00	15.92
56	M,P	Chlorobenzene	1.000	0.943	5.7	102	0.00	16.44
57	T	1,1,1,2-Tetrachloroethane	0.310	0.291	6.1	100	0.00	16.46
58	C, T	Ethyl Benzene	1.946	1.857	4.6	102	0.00	16.49
59	T	Xylene, m+p	0.751	0.710	5.5	100	0.00	16.58
60	T	Xylene, o	0.708	0.671	5.2	100	0.00	17.12
61	T	Styrene	1.118	1.086	2.9	102	0.00	17.13
62	P	Bromoform	0.139	0.134	3.6	100	0.00	17.56
63	T	Isopropylbenzene	1.887	1.829	3.1	102	0.00	17.57
64	S,M	4-Bromofluorobenzene	0.517	0.533	-3.1	112	0.00	17.87
65	T	1,2,3-Trichloropropane	0.123	0.119	3.3	107	0.00	17.90
66	T	trans-1,4-Dichloro-2-bute	0.091	0.091	0.0	109	0.00	17.92
67	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	107	0.00	19.36
68	P	1,1,2,2-Tetrachloroethane	0.656	0.643	2.0	107	0.00	17.69
69	T	n-Propylbenzene	5.025	4.881	2.9	102	0.00	18.11
70	T	Bromobenzene	0.733	0.676	7.8	99	0.00	18.19
71	T	1,3,5-Trimethylbenzene	3.310	3.187	3.7	101	0.00	18.30
72	T	2-Chlorotoluene	3.054	2.804	8.2	99	0.00	18.36
73	T	4-Chlorotoluene	2.813	2.880	-2.4	106	0.00	18.41
74	T	tert-Butylbenzene	3.270	3.127	4.4	101	0.00	18.76
75	T	Pentachloroethane	0.397	0.376	5.3	95	0.00	18.85
76	T	1,2,4-Trimethylbenzene	3.313	3.167	4.4	101	0.00	18.81
77	T	sec-Butylbenzene	4.546	4.410	3.0	101	0.00	19.02
78	T	p-Isopropyltoluene	3.668	3.502	4.5	100	0.00	19.15
79	T	1,3-Dichlorobenzene	1.557	1.482	4.8	101	0.00	19.29
80	T	1,4-Dichlorobenzene	1.583	1.490	5.9	101	0.00	19.39
81	T	n-Butylbenzene	3.761	3.633	3.4	102	0.00	19.61
82	T	1,2-Dichlorobenzene	1.374	1.303	5.2	102	0.00	19.81
83	T	1,2-Dibromo-3-Chloropropa	0.119	0.114	4.2	108	0.00	20.56
84	T	1,2,4-Trichlorobenzene	0.949	0.859	9.5	100	0.00	21.54
85	T	Hexachlorobutadiene	0.525	0.492	6.3	100	0.00	21.71
86	T	Naphthalene	1.997	1.824	8.7	103	0.00	21.82
87	T	1,2,3-Trichlorobenzene	0.825	0.736	10.8	99	0.00	22.09

Initial Calibration Verification

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN131-ICV131
Lab FileID: N04206.D

```
88 H   TPH-GRO (C6-C10)                    ----------NA----------
-----------------------------------------------------------------------
-----------------------------------------------------------------------

   (#) = Out of Range                 SPCC's out = 0  CCC's out = 0
    N04185.D   VN131WA.M          Tue Jan 13 10:56:06 2009   RPT1
```

5.7

5

ACCUTEST Laboratories
C4507

Raw Data: N05027.D

Continuing Calibration Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA
Sample: VN168-CC131
Lab FileID: N05027.D

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\N090223\N05027.D Vial: 2
Acq On : 23 Feb 2009 9:03 am Operator: TitiaF
Sample : CC131-20 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Pentafluorobenzene	1.000	1.000	0.0	82	-0.01	11.41
2	T	Dichlorodifluoromethane	0.799	0.653	18.3	69	-0.01	4.44
3	P	Chloromethane	0.956	1.227	-28.3#	97	-0.03	4.92
4	C	Vinyl Chloride	0.913	1.078	-18.1	92	-0.01	5.17
			Amount	Calc.	%Drift			
5	T	Bromomethane	20.000	15.120	24.4#	71	-0.01	6.12
			AvgRF	CCRF	%Dev			
6	T	Chloroethane	0.506	0.502	0.8	83	-0.01	6.31
			Amount	Calc.	%Drift			
7	T	Ethanol	400.000	546.838	-36.7#	139	0.00	6.43
			AvgRF	CCRF	%Dev			
8	T	Trichlorofluoromethane	0.976	0.944	3.3	78	-0.01	6.96
9		Diethyl Ether	0.303	0.327	-7.9	90	0.00	7.52
10	T	Acetone	0.039	0.044	-12.8	102	0.00	7.73
11	T	Freon 113	0.344	0.355	-3.2	81	0.00	7.91
12	M,C	1,1-Dichloroethene	0.496	0.499	-0.6	81	0.00	8.14
			Amount	Calc.	%Drift			
13	T	tert-Butanol (TBA)	100.000	128.650	-28.7#	117	0.00	8.21
14	T	Acetonitrile	20.000	24.215	-21.1#	113	0.00	8.12
15	T	Iodomethane	20.000	6.734	66.3#	38	-0.01	8.63
			AvgRF	CCRF	%Dev			
16	T	Methylene Chloride	0.612	0.592	3.3	84	0.00	8.91
17		Carbon Disulfide	1.743	1.630	6.5	77	-0.01	9.02
18	T,M	Methyl-t-butyl Ether	1.382	1.522	-10.1	93	0.00	9.30
19	T	trans-1,2-Dichloroethene	0.598	0.588	1.7	80	0.00	9.50
20	T	Diisopropyl Ether	1.984	2.374	-19.7	101	0.00	10.07
21		Vinyl Acetate	1.831	1.955	-6.8	90	-0.01	10.08
22	P	1,1-Dichloroethane	1.114	1.201	-7.8	89	0.00	10.13
23	T	tert-Butyl Ethyl Ether	1.743	1.859	-6.7	90	0.00	10.68
24	T	Tetrahydrofuran	0.135	0.187	-38.5#	123	0.00	11.53
25	T	2-Butanone (MEK)	0.053	0.060	-13.2	104	0.00	10.67
26	T	2,2-Dichloropropane	0.925	1.019	-10.2	88	0.00	11.01
27	T	cis-1,2-Dichloroethene	0.620	0.653	-5.3	86	0.00	11.02
28	C	Chloroform	0.978	1.030	-5.3	86	0.00	11.25
29	T	Bromochloromethane	0.208	0.233	-12.0	87	0.00	11.45
30	S,M	Dibromofluoromethane	0.483	0.509	-5.4	87	0.00	11.53

Continuing Calibration Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN168-CC131
Lab FileID: N05027.D

31	T	1,1,1-Trichloroethane	0.899	0.933	-3.8	83	0.00	11.88
32	T	tert-Amyl Methyl Ether	1.519	1.601	-5.4	89	0.00	12.26
33	I	1,4-Difluorobenzene	1.000	1.000	0.0	81	0.00	12.72
34	T	1,1-Dichloropropene	0.488	0.511	-4.7	85	0.00	12.09
35	T	Carbon Tetrachloride	0.425	0.441	-3.8	82	0.00	12.25
36	T	1,2-Dichloroethane	0.329	0.382	-16.1	96	0.00	12.31
37	M	Benzene	1.446	1.466	-1.4	85	0.00	12.41
38	M	Trichloroethene	0.335	0.343	-2.4	83	0.00	13.20
39	C	1,2-Dichloropropane	0.333	0.363	-9.0	91	0.00	13.38
40	T	1,4-Dioxane	0.003	0.003	0.0	96	0.01	13.62
41	T	Bromodichloromethane	0.394	0.422	-7.1	87	0.00	13.64
42	T	Dibromomethane	0.145	0.170	-17.2	94	0.00	13.69
43		2-Chloroethyl Vinyl Ether	0.131	0.102	22.1#	76	0.00	13.95
44	T	4-Methyl-2-Pentanone(MIBK	0.033	0.039	-18.2	99	0.00	14.02
45	T	cis-1,3-Dichloropropene	0.494	0.522	-5.7	87	0.00	14.28
46	I	Chlorobenzene-d5	1.000	1.000	0.0	85	0.00	16.39
47	S,M	Toluene-d8	1.370	1.352	1.3	84	0.00	14.64
48	M,C	Toluene	1.061	0.994	6.3	80	0.00	14.74
49	T	trans-1,3-Dichloropropene	0.479	0.507	-5.8	90	0.00	14.84
50	T	1,1,2-Trichloroethane	0.206	0.224	-8.7	93	0.00	15.04
51	T	2-Hexanone	0.190	0.247	-30.0#	114	0.00	15.03
52	T	1,3-Dichloropropane	0.466	0.500	-7.3	93	0.00	15.33
53	T	Tetrachloroethene	0.290	0.274	5.5	80	0.00	15.54
54	T	Dibromochloromethane	0.264	0.281	-6.4	89	0.00	15.68
55	T	1,2-Dibromoethane (EDB)	0.221	0.237	-7.2	90	0.00	15.92
56	M,P	Chlorobenzene	1.000	0.986	1.4	83	0.00	16.44
57	T	1,1,1,2-Tetrachloroethane	0.310	0.314	-1.3	84	0.00	16.46
58	C, T	Ethyl Benzene	1.946	1.929	0.9	83	0.00	16.49
59	T	Xylene, m+p	0.751	0.742	1.2	82	0.00	16.59
60	T	Xylene, o	0.708	0.697	1.6	82	0.00	17.12
61	T	Styrene	1.118	1.103	1.3	81	0.00	17.13
62	P	Bromoform	0.139	0.160	-15.1	93	0.00	17.56
63	T	Isopropylbenzene	1.887	1.856	1.6	81	0.00	17.57
64	S,M	4-Bromofluorobenzene	0.517	0.520	-0.6	85	0.00	17.88
65	T	1,2,3-Trichloropropane	0.123	0.127	-3.3	90	0.00	17.90
66	T	trans-1,4-Dichloro-2-bute	0.091	0.093	-2.2	86	0.00	17.92
67	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	87	0.00	19.36
68	P	1,1,2,2-Tetrachloroethane	0.656	0.691	-5.3	93	0.00	17.69
69	T	n-Propylbenzene	5.025	4.535	9.8	77	0.00	18.11
70	T	Bromobenzene	0.733	0.723	1.4	87	0.00	18.19
71	T	1,3,5-Trimethylbenzene	3.310	3.052	7.8	79	0.00	18.30
72	T	2-Chlorotoluene	3.054	2.860	6.4	82	0.00	18.36
73	T	4-Chlorotoluene	2.813	2.596	7.7	78	0.00	18.41
74	T	tert-Butylbenzene	3.270	2.913	10.9	76	0.00	18.77
75	T	Pentachloroethane	0.397	0.434	-9.3	90	0.00	18.85
76	T	1,2,4-Trimethylbenzene	3.313	2.907	12.3	75	0.00	18.80
77	T	sec-Butylbenzene	4.546	3.949	13.1	74	0.00	19.02
78	T	p-Isopropyltoluene	3.668	3.114	15.1	72	0.00	19.16
79	T	1,3-Dichlorobenzene	1.557	1.483	4.8	83	0.00	19.29
80	T	1,4-Dichlorobenzene	1.583	1.493	5.7	82	0.00	19.40
81	T	n-Butylbenzene	3.761	2.922	22.3#	67	0.00	19.62
82	T	1,2-Dichlorobenzene	1.374	1.315	4.3	84	0.00	19.81
83	T	1,2-Dibromo-3-Chloropropa	0.119	0.115	3.4	89	0.01	20.57
84	T	1,2,4-Trichlorobenzene	0.949	0.842	11.3	80	0.00	21.54
85	T	Hexachlorobutadiene	0.525	0.510	2.9	85	0.00	21.71
86	T	Naphthalene	1.997	1.434	28.2#	66	0.01	21.83
87	T	1,2,3-Trichlorobenzene	0.825	0.715	13.3	79	0.01	22.09

Continuing Calibration Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Sample: VN168-CC131
Lab FileID: N05027.D

```
88 H   TPH-GRO (C6-C10)                    ----------NA----------
-------------------------------------------------------------------------
-------------------------------------------------------------------------

   (#) = Out of Range                 SPCC's out = 0  CCC's out = 0
    N04185.D   VN131WA.M          Tue Feb 24 10:31:15 2009   RPT1
```

5.7 5

Raw Data: N05054.D

Continuing Calibration Summary

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA
Sample: VN169-CC43
Lab FileID: N05054.D

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\N090224\N05054.D Vial: 4
Acq On : 24 Feb 2009 12:25 pm Operator: TitiaF
Sample : CC43-10 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I	1,4-Dioxane-d8	1.000	1.000	0.0	136	0.00	10.74
2	1,4-Dioxane	1.411	1.460	-3.5	150	0.00	10.84

(#) = Out of Range SPCC's out = 0 CCC's out = 0
N01676.D VN43DSIM.M Wed Feb 25 14:16:42 2009 RPT1

5.7 5

GC/MS Volatiles

Raw Data

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05058.D Vial: 8
Acq On : 24 Feb 2009 2:22 pm Operator: TitiaF
Sample : C4507-1 Inst : VMS-02
Misc : MS712,VN169,1,,,,10 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	34541	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.85	88	24724	10.15 ug/L #	87

(#) = qualifier out of range (m) = manual integration
N05058.D VN43DSIM.M Wed Feb 25 09:52:40 2009 RPT1

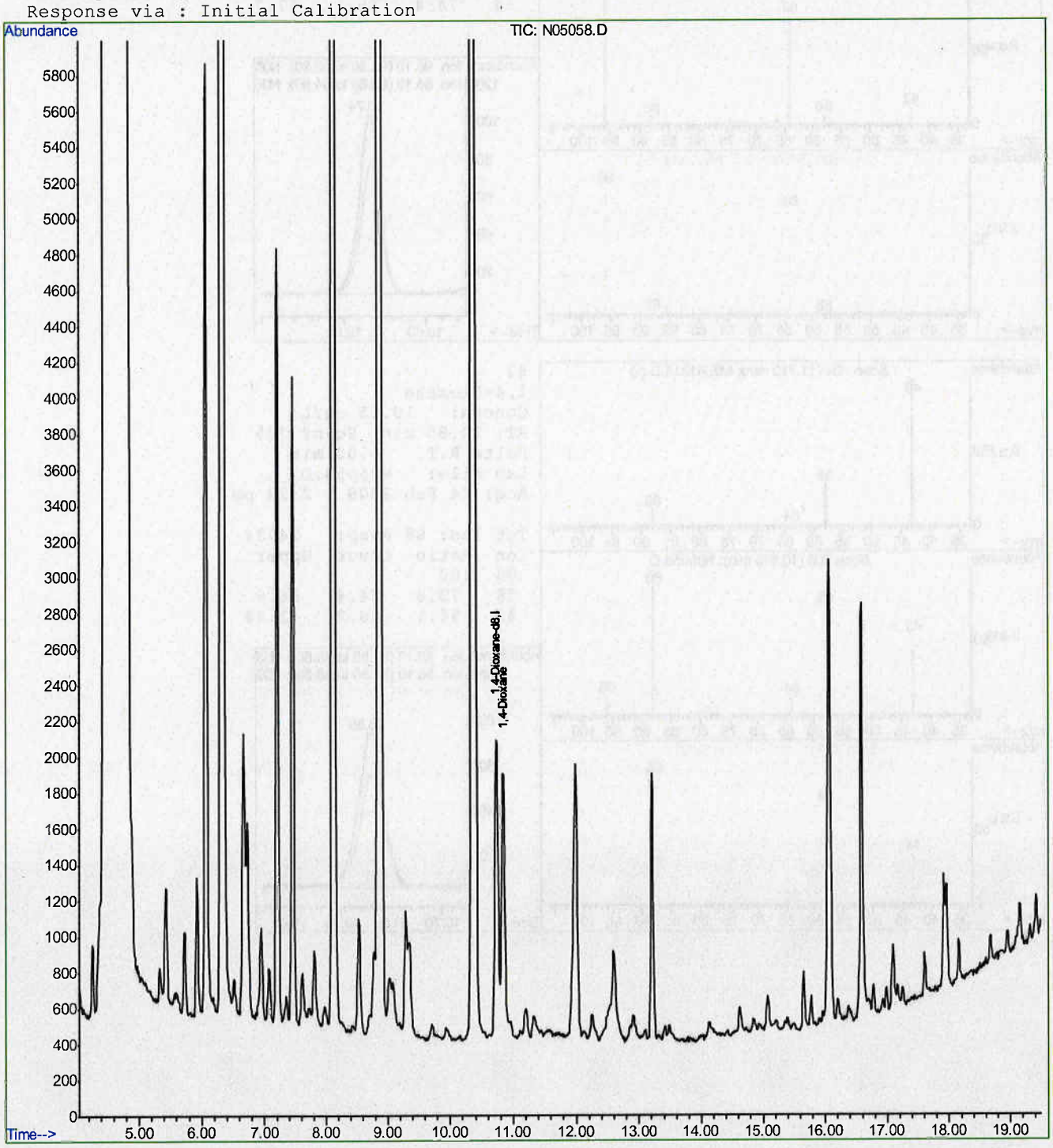
Quantitation Report

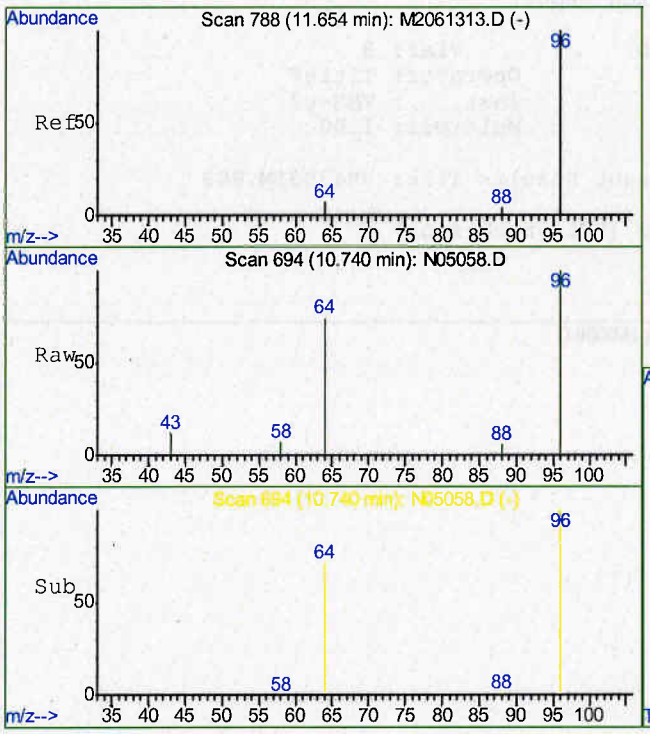
Data File : C:\HPCHEM\1\DATA\N090224\N05058.D
Acq On : 24 Feb 2009 2:22 pm
Sample : C4507-1
Misc : MS712,VN169,1,,,,10
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009

Vial: 8
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration

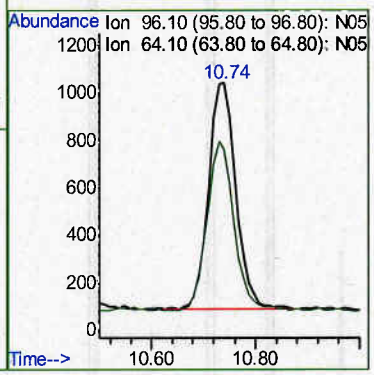


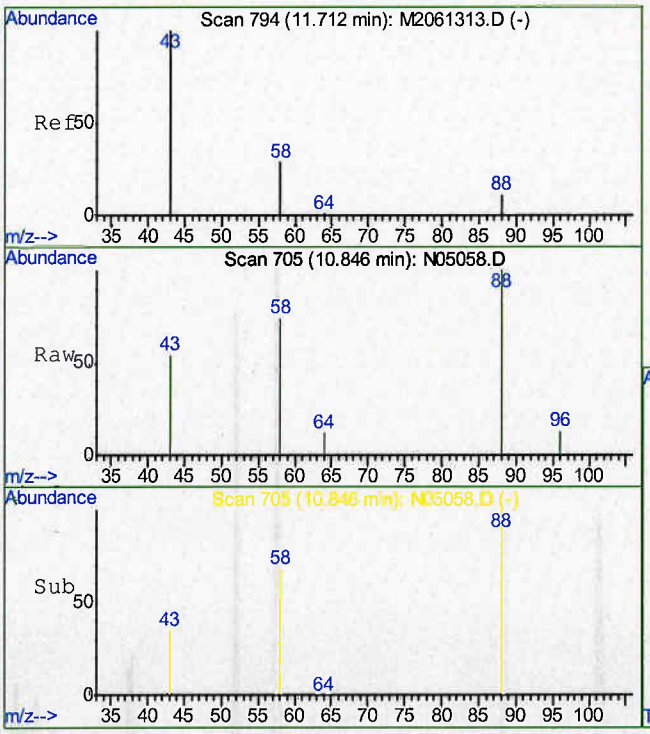


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. 0.00 min
Lab File: N05058.D
Acq: 24 Feb 2009 2:22 pm

Tgt Ion: 96 Resp: 34541

Ion	Ratio	Lower	Upper
96	100		
64	74.4	65.1	97.7

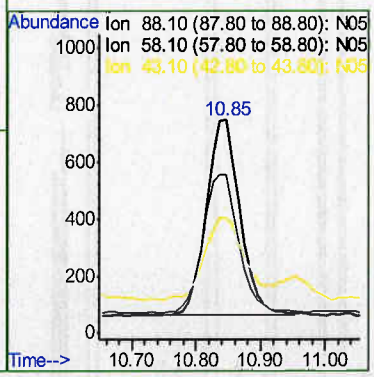




#2
1,4-Dioxane
Concen: 10.15 ug/L
RT: 10.85 min Scan# 705
Delta R.T. 0.00 min
Lab File: N05058.D
Acq: 24 Feb 2009 2:22 pm

Tgt Ion: 88 Resp: 24724

Ion	Ratio	Lower	Upper
88	100		
58	73.8	64.4	96.6
43	50.1	28.2	42.4#



6.1.1

6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05059.D Vial: 9
Acq On : 24 Feb 2009 2:49 pm Operator: TitiaF
Sample : C4507-2 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

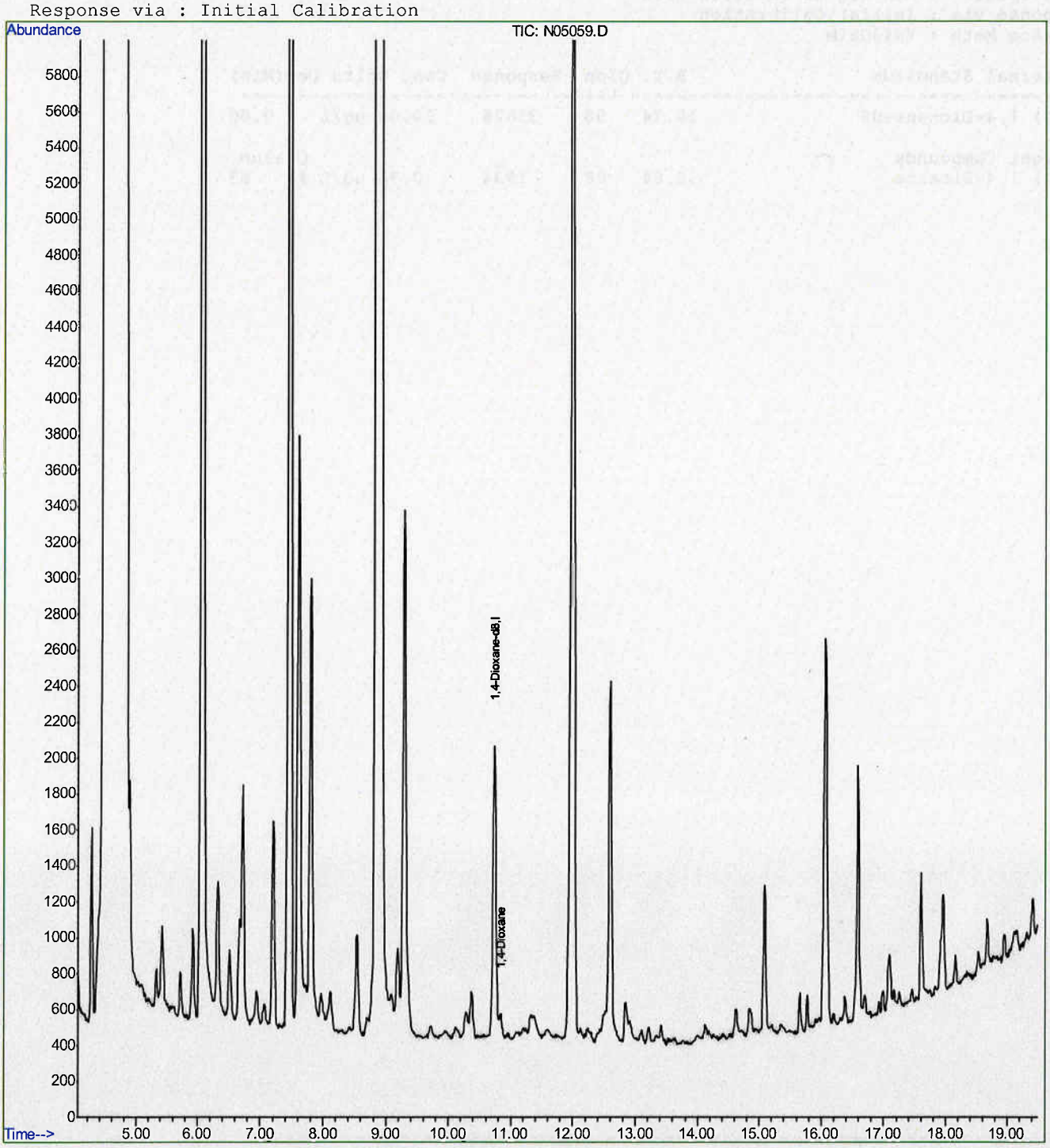
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	35026	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	1934	0.78 ug/L #	63

(#) = qualifier out of range (m) = manual integration
N05059.D VN43DSIM.M Wed Feb 25 09:52:57 2009 RPT1

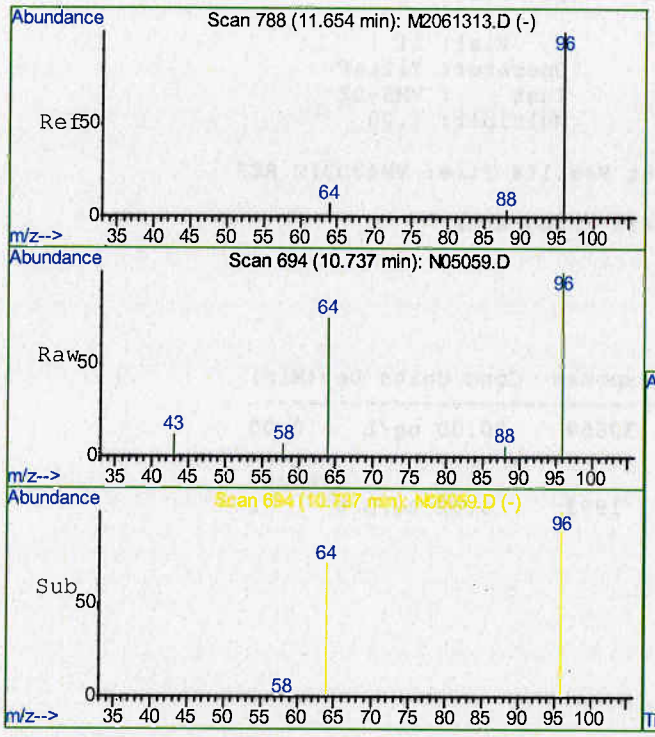
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090224\N05059.D Vial: 9
Acq On : 24 Feb 2009 2:49 pm Operator: TitiaF
Sample : C4507-2 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration



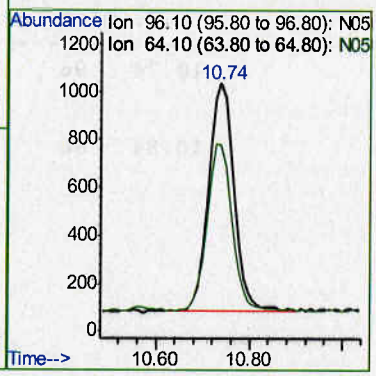
ACCUTEST Laboratories C4507

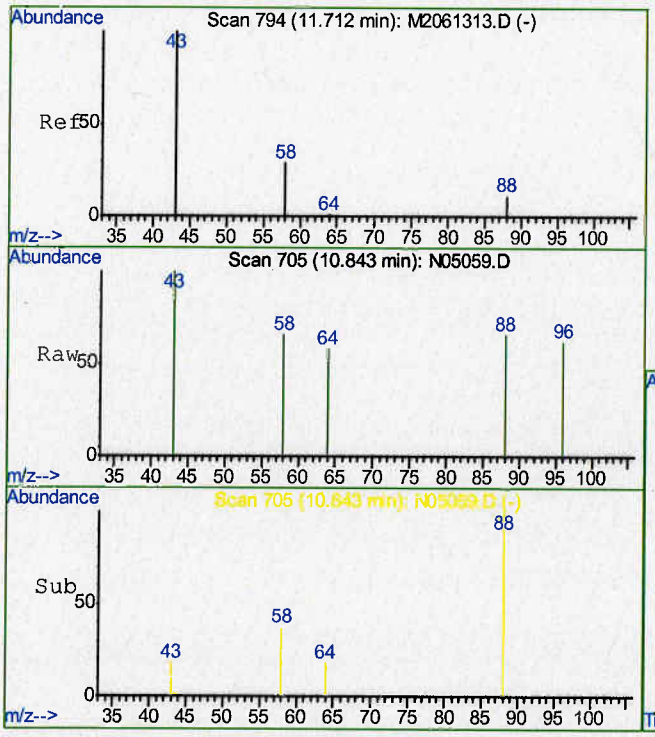


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. 0.00 min
Lab File: N05059.D
Acq: 24 Feb 2009 2:49 pm

Tgt Ion: 96 Resp: 35026

Ion	Ratio	Lower	Upper
96	100		
64	72.4	65.1	97.7

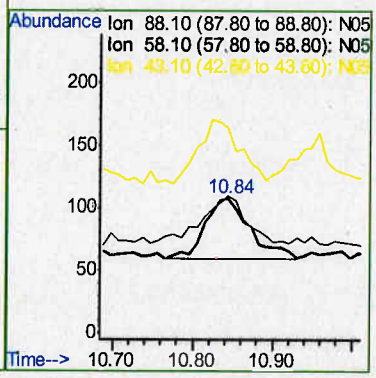




#2
1,4-Dioxane
Concen: 0.78 ug/L
RT: 10.84 min Scan# 705
Delta R.T. 0.00 min
Lab File: N05059.D
Acq: 24 Feb 2009 2:49 pm

Tgt Ion: 88 Resp: 1934

Ion	Ratio	Lower	Upper
88	100		
58	73.1	64.4	96.6
43	95.6	28.2	42.4#



6.1.2 6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05061.D
Acq On : 24 Feb 2009 3:43 pm
Sample : C4507-3
Misc : MS712,VN169,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009

Vial: 11
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	30659	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	1992	0.92 ug/L #	72

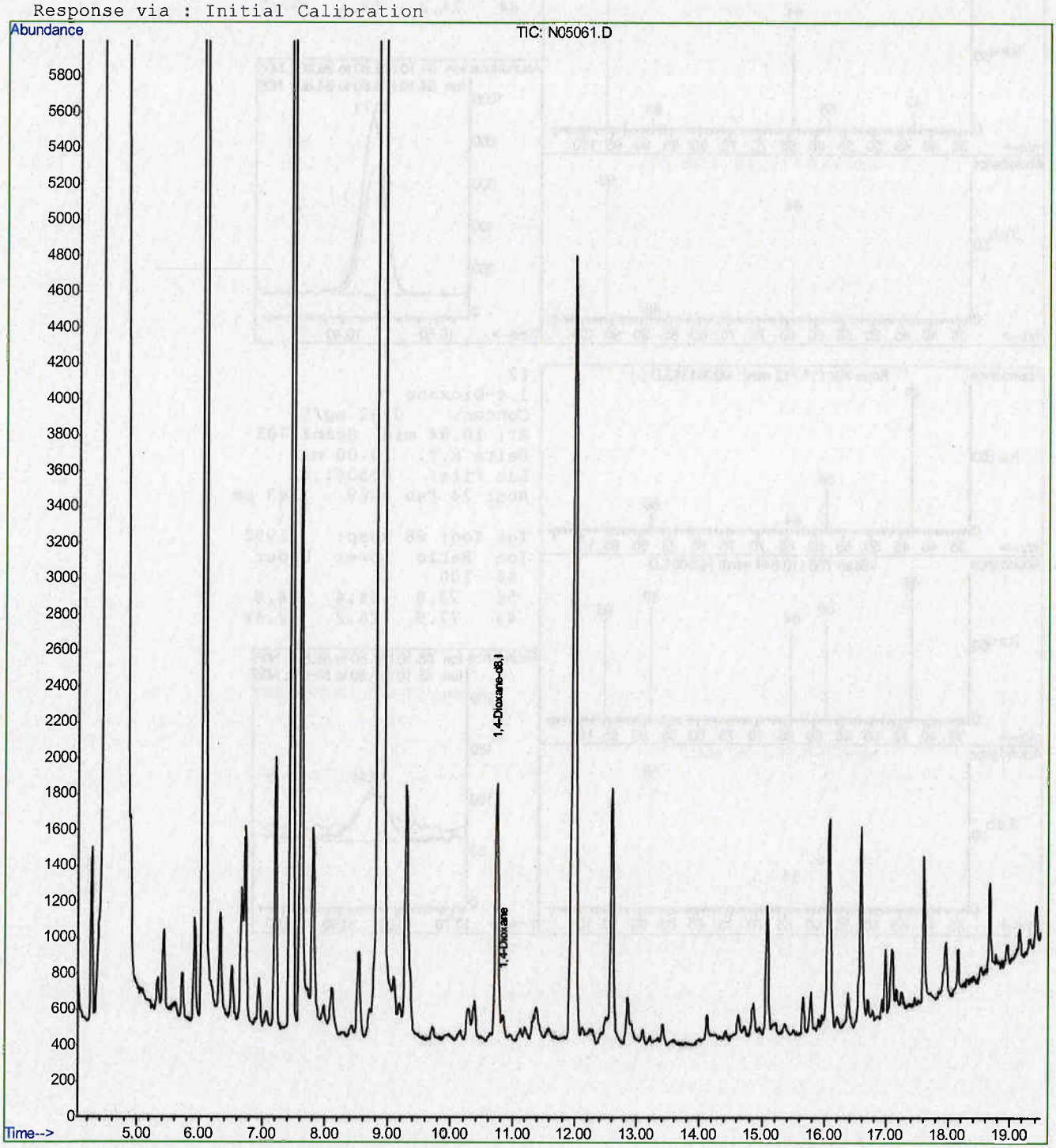
(#) = qualifier out of range (m) = manual integration
N05061.D VN43DSIM.M Wed Feb 25 09:53:33 2009 RPT1

Quantitation Report

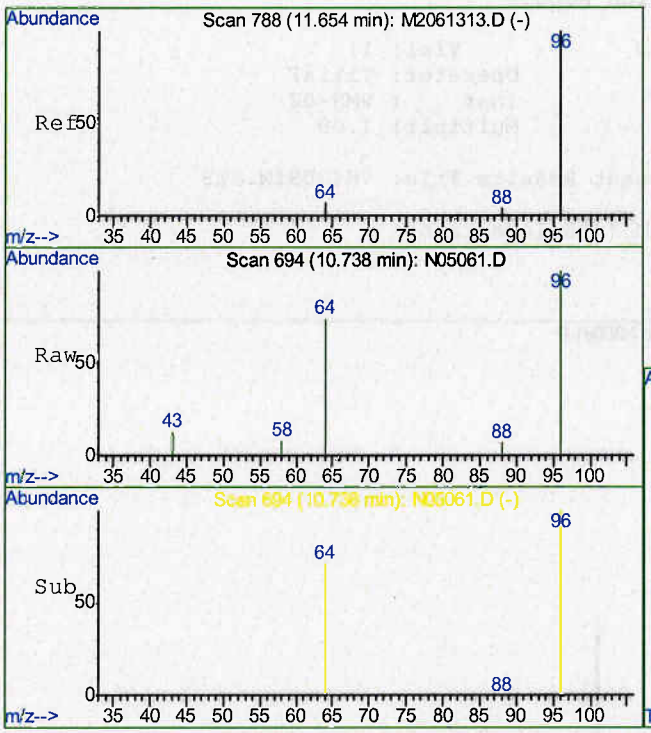
Data File : C:\HPCHEM\1\DATA\N090224\N05061.D
Acq On : 24 Feb 2009 3:43 pm
Sample : C4507-3
Misc : MS712,VN169,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009

Vial: 11
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00
Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration



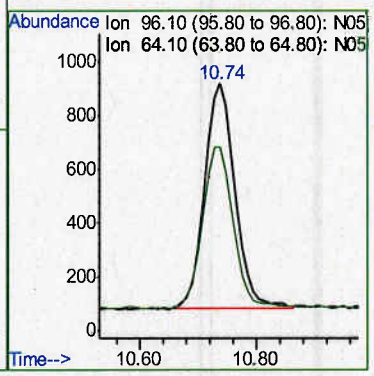
ACCUTEST. Laboratories C4507

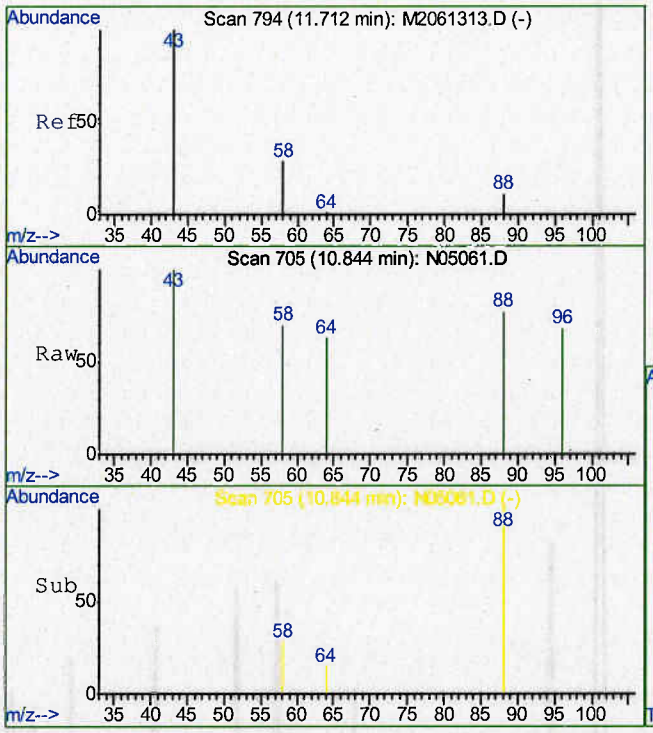


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. 0.00 min
Lab File: N05061.D
Acq: 24 Feb 2009 3:43 pm

Tgt Ion: 96 Resp: 30659

Ion	Ratio	Lower	Upper
96	100		
64	74.4	65.1	97.7

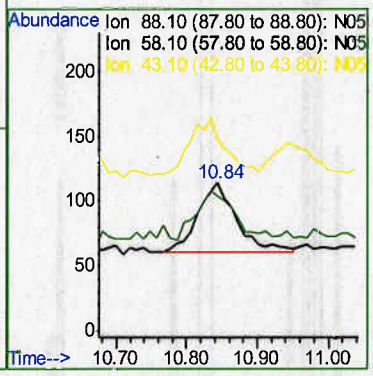




#2
1,4-Dioxane
Concen: 0.92 ug/L
RT: 10.84 min Scan# 705
Delta R.T. 0.00 min
Lab File: N05061.D
Acq: 24 Feb 2009 3:43 pm

Tgt Ion: 88 Resp: 1992

Ion	Ratio	Lower	Upper
88	100		
58	73.8	64.4	96.6
43	77.9	28.2	42.4#



6.1.3

6

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05062.D Vial: 12
Acq On : 24 Feb 2009 4:10 pm Operator: TitiaF
Sample : C4507-4 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

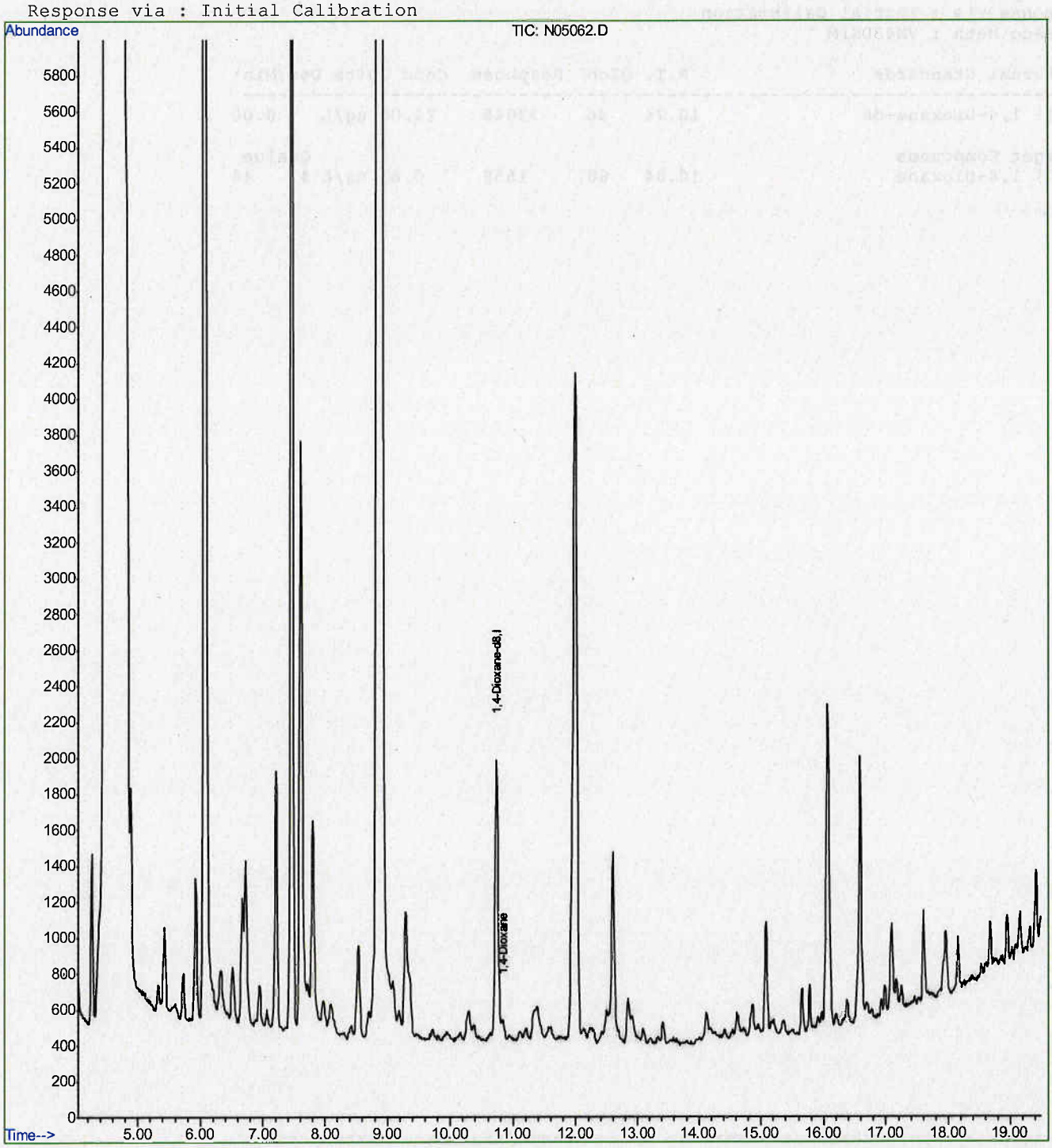
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	33045	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	1558	0.67 ug/L #	48

(#) = qualifier out of range (m) = manual integration
N05062.D VN43DSIM.M Wed Feb 25 09:53:48 2009 RPT1

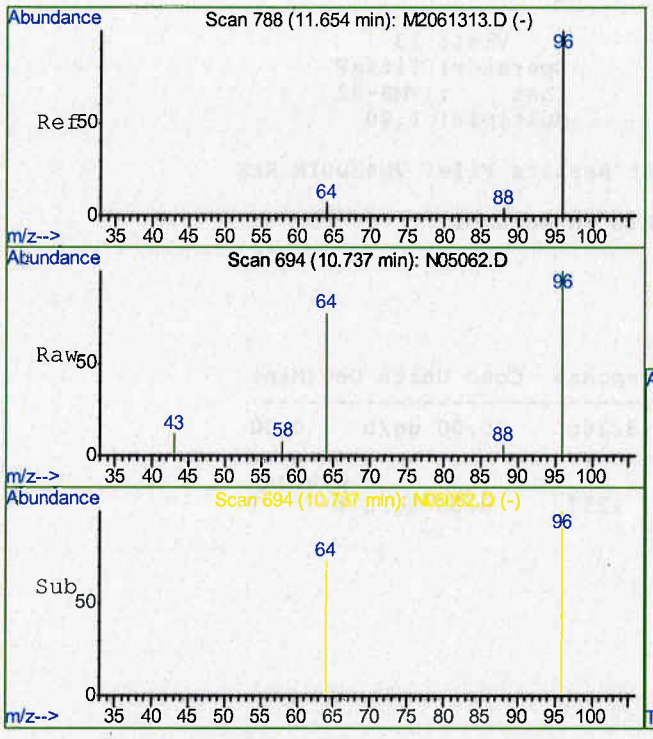
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090224\N05062.D Vial: 12
Acq On : 24 Feb 2009 4:10 pm Operator: TitiaF
Sample : C4507-4 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration



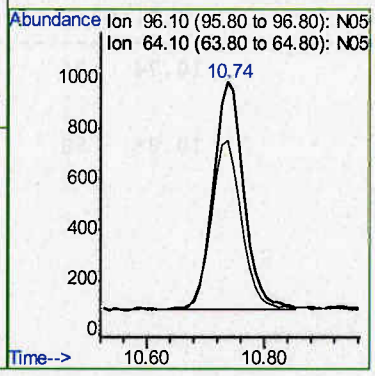
N05062.D VN43DSIM.M Wed Feb 25 09:53:48 2009 RPT1 Page 2

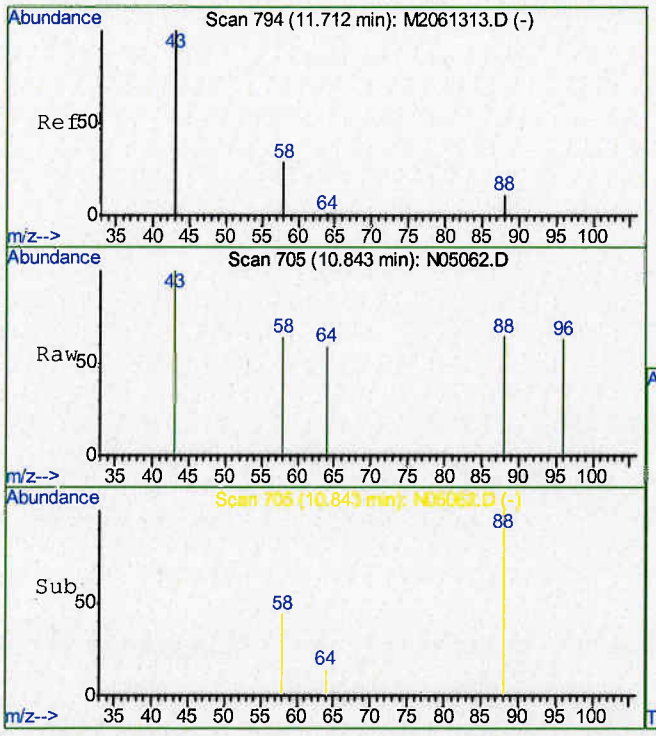


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. 0.00 min
Lab File: N05062.D
Acq: 24 Feb 2009 4:10 pm

Tgt Ion: 96 Resp: 33045

Ion	Ratio	Lower	Upper
96	100		
64	74.9	65.1	97.7

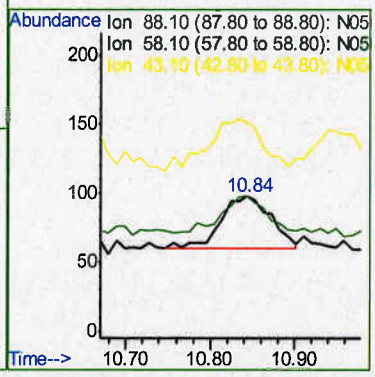




#2
1,4-Dioxane
Concen: 0.67 ug/L
RT: 10.84 min Scan# 705
Delta R.T. 0.00 min
Lab File: N05062.D
Acq: 24 Feb 2009 4:10 pm

Tgt Ion: 88 Resp: 1558

Ion	Ratio	Lower	Upper
88	100		
58	63.9	64.4	96.6#
43	110.8	28.2	42.4#



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05063.D Vial: 13
Acq On : 24 Feb 2009 4:36 pm Operator: TitiaF
Sample : C4507-5 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	32265	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.85	88	1257	0.55 ug/L #	1

(#) = qualifier out of range (m) = manual integration
N05063.D VN43DSIM.M Wed Feb 25 09:54:01 2009 RPT1 Page 1

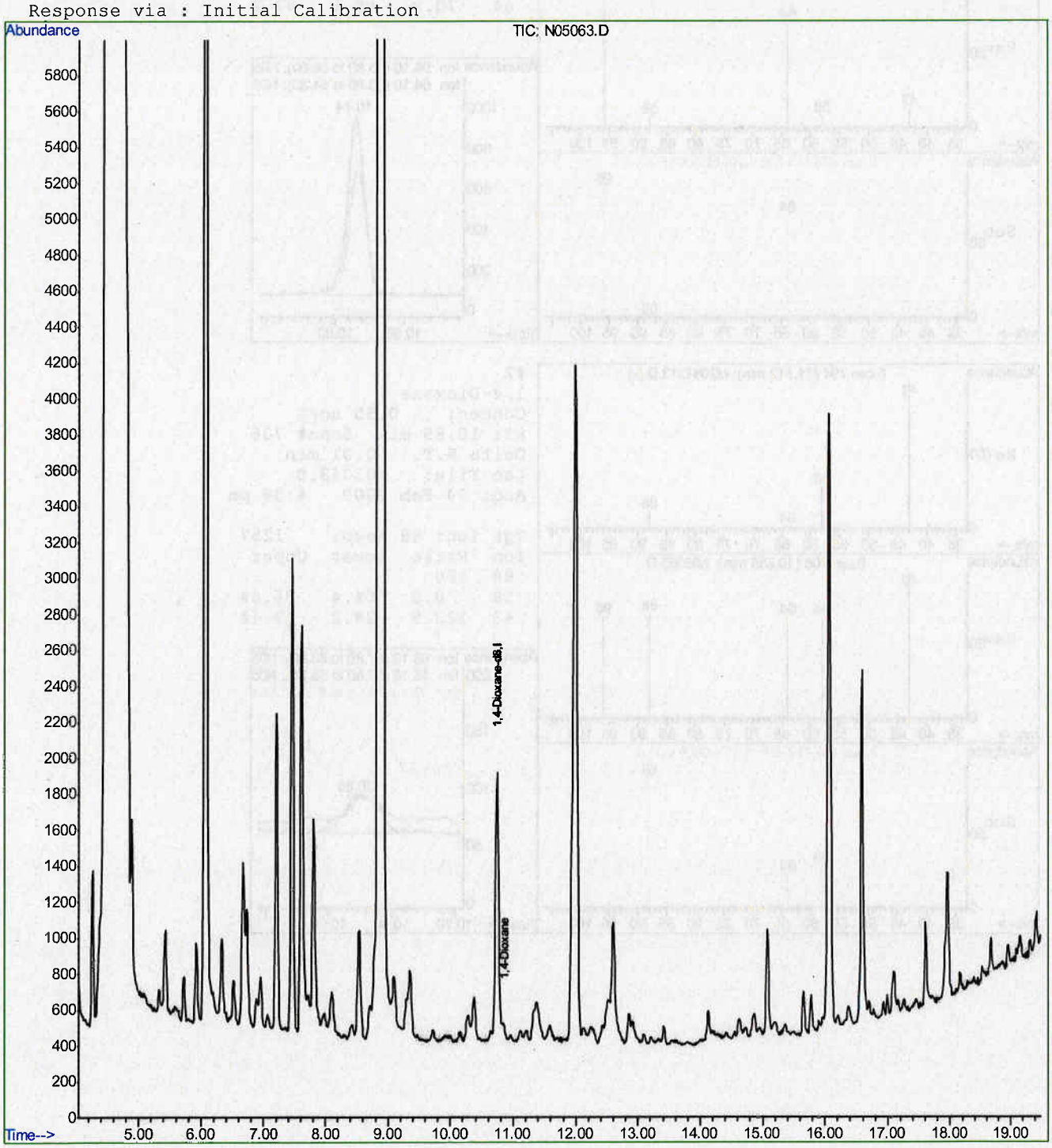
Quantitation Report

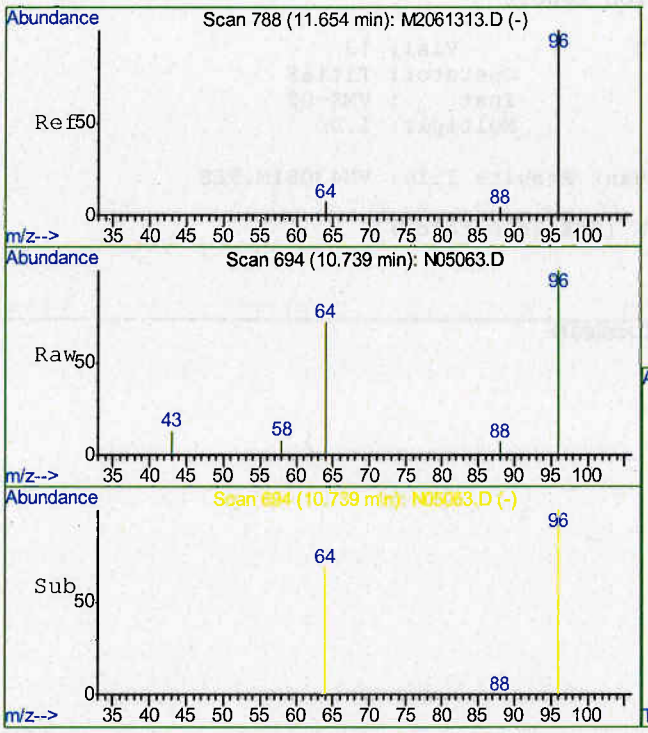
Data File : C:\HPCHEM\1\DATA\N090224\N05063.D
Acq On : 24 Feb 2009 4:36 pm
Sample : C4507-5
Misc : MS712,VN169,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009

Vial: 13
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration

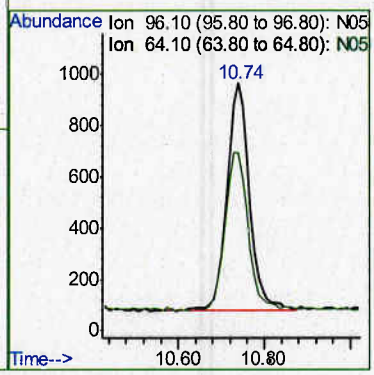


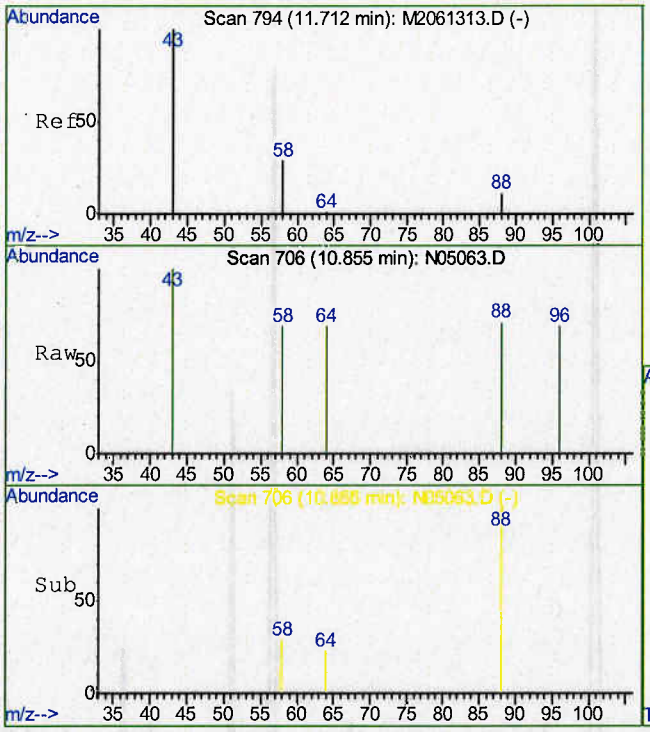


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. 0.00 min
Lab File: N05063.D
Acq: 24 Feb 2009 4:36 pm

Tgt Ion: 96 Resp: 32265

Ion	Ratio	Lower	Upper
96	100		
64	70.9	65.1	97.7

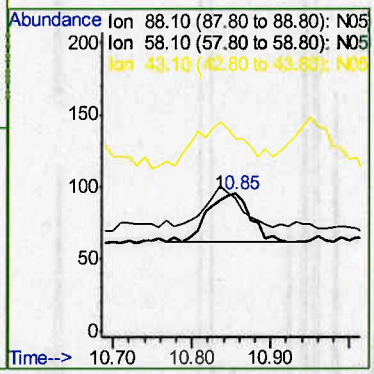




#2
1,4-Dioxane
Concen: 0.55 ug/L
RT: 10.85 min Scan# 706
Delta R.T. 0.01 min
Lab File: N05063.D
Acq: 24 Feb 2009 4:36 pm

Tgt Ion: 88 Resp: 1257

Ion	Ratio	Lower	Upper
88	100		
58	0.0	64.4	96.6#
43	123.9	28.2	42.4#



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05060.D Vial: 10
Acq On : 24 Feb 2009 3:16 pm Operator: TitiaF
Sample : C4507-6 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

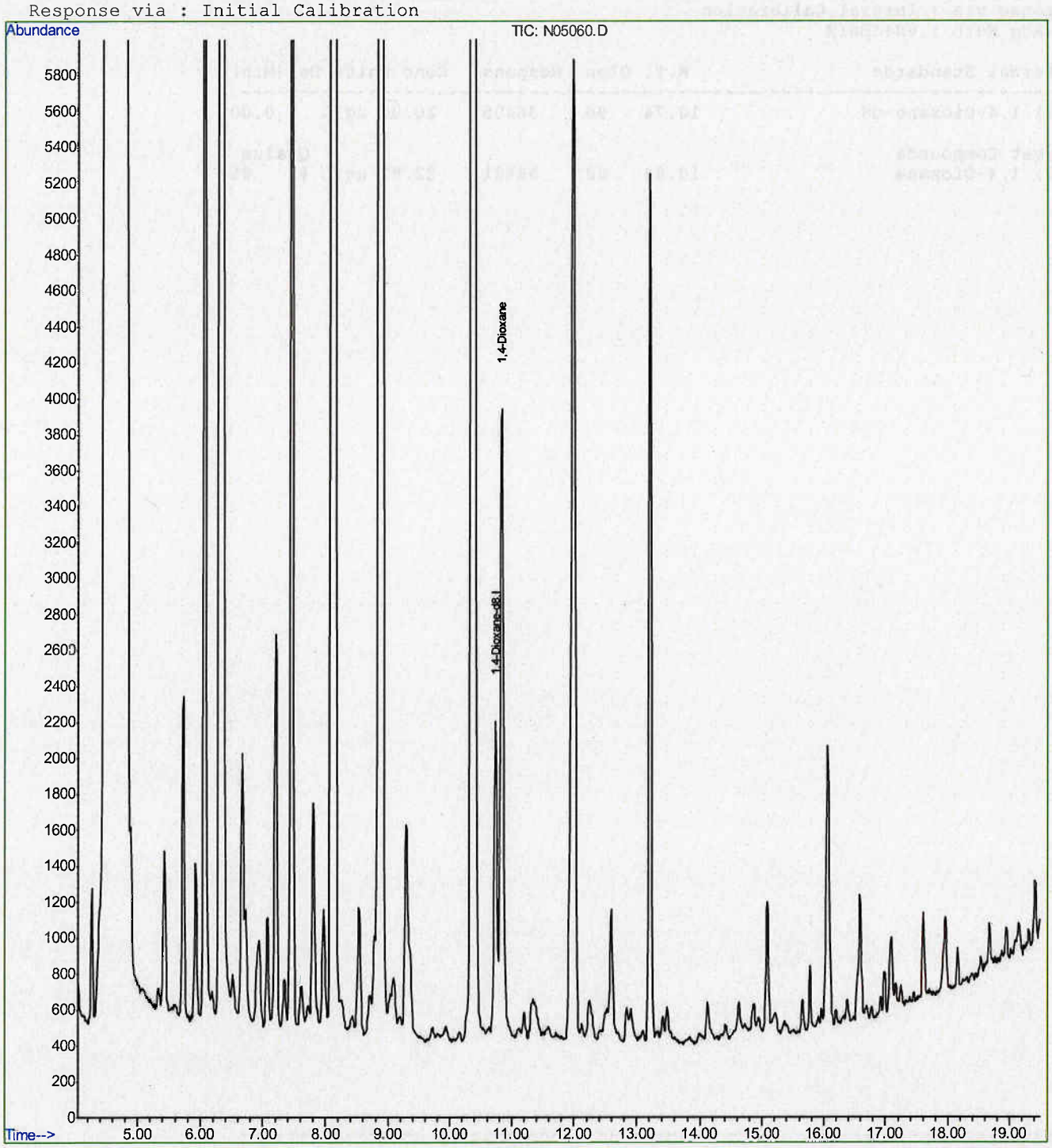
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	36405	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	58621	22.83 ug/L #	85

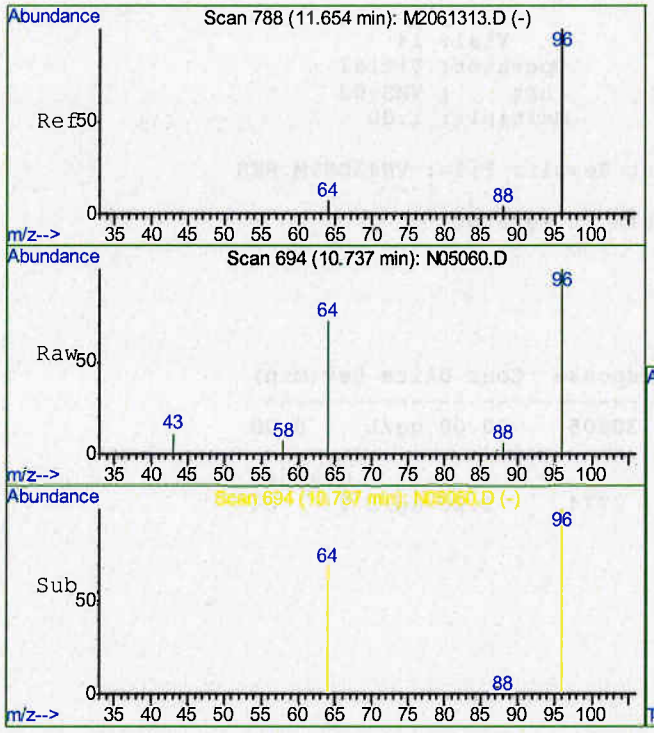
(#) = qualifier out of range (m) = manual integration
N05060.D VN43DSIM.M Wed Feb 25 09:53:17 2009 RPT1 Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090224\N05060.D Vial: 10
Acq On : 24 Feb 2009 3:16 pm Operator: TitiaF
Sample : C4507-6 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration

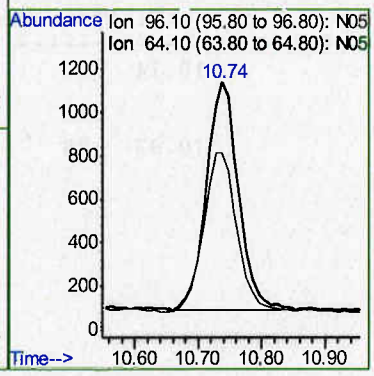


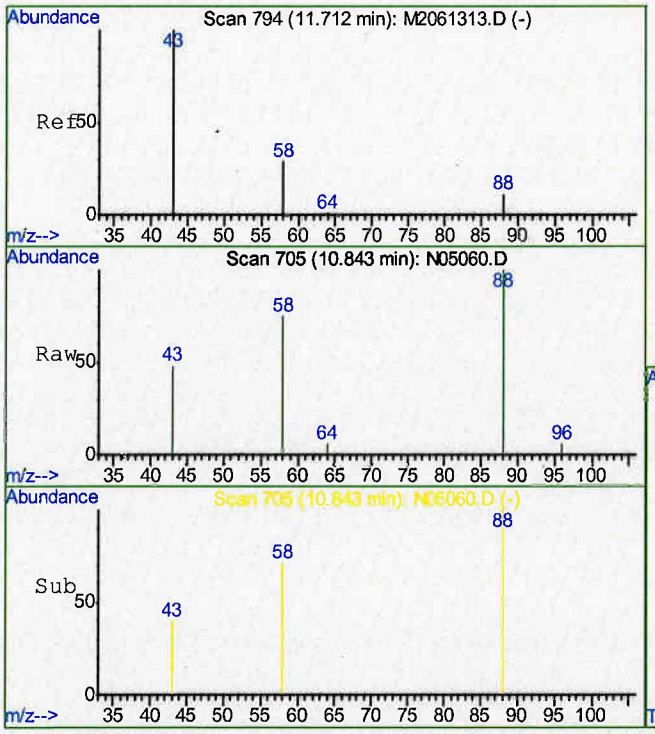


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. 0.00 min
Lab File: N05060.D
Acq: 24 Feb 2009 3:16 pm

Tgt Ion: 96 Resp: 36405

Ion	Ratio	Lower	Upper
96	100		
64	74.4	65.1	97.7

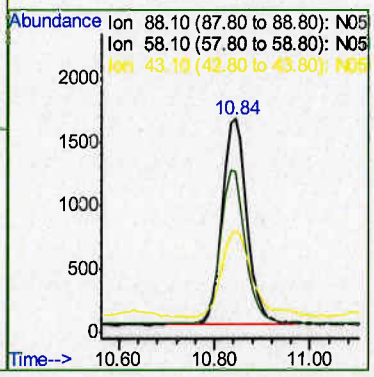




#2
1,4-Dioxane
Concen: 22.83 ug/L
RT: 10.84 min Scan# 705
Delta R.T. 0.00 min
Lab File: N05060.D
Acq: 24 Feb 2009 3:16 pm

Tgt Ion: 88 Resp: 58621

Ion	Ratio	Lower	Upper
88	100		
58	74.0	64.4	96.6
43	53.7	28.2	42.4#



6.1.6

6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05064.D Vial: 14
Acq On : 24 Feb 2009 5:03 pm Operator: TitiaF
Sample : C4507-7 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	30805	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.83	88	2774	1.28 ug/L #	84

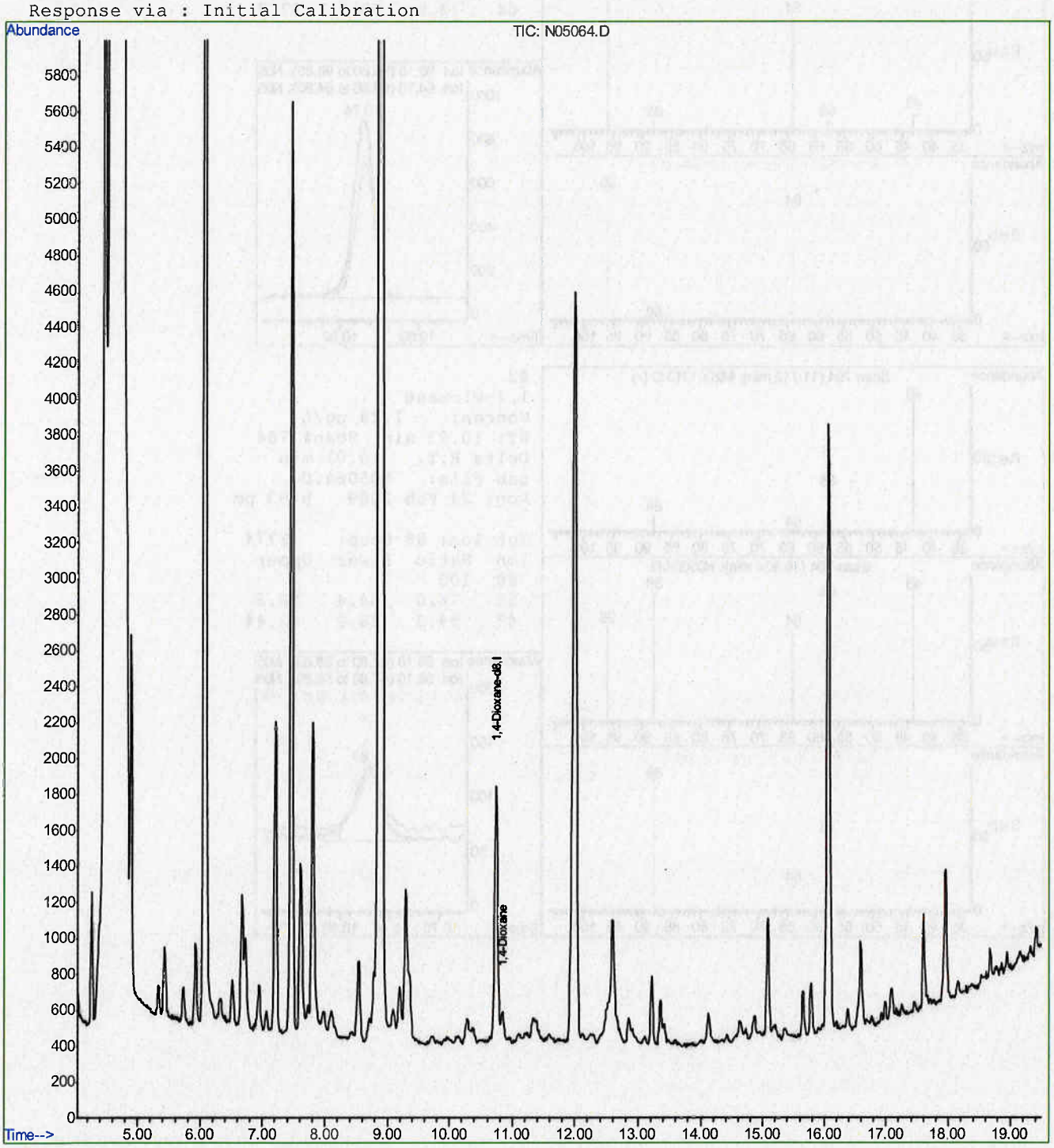
(#) = qualifier out of range (m) = manual integration
N05064.D VN43DSIM.M Wed Feb 25 09:54:21 2009 RPT1 Page 1

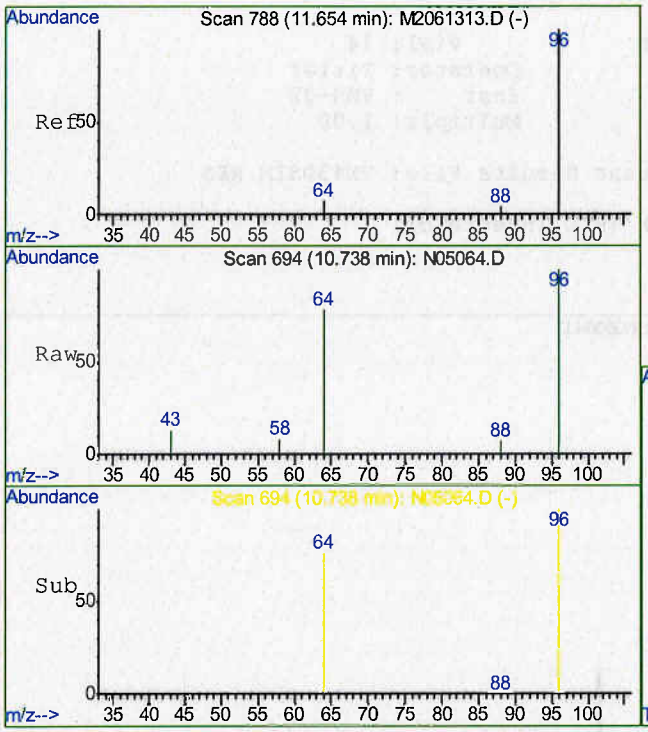
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090224\N05064.D
Acq On : 24 Feb 2009 5:03 pm
Sample : C4507-7
Misc : MS712,VN169,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009

Vial: 14
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00
Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration

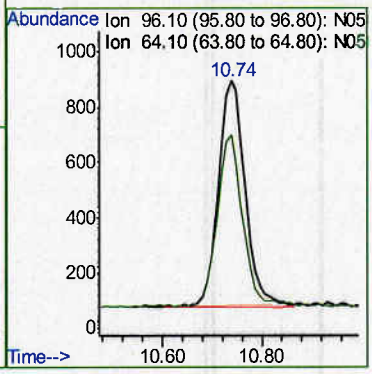


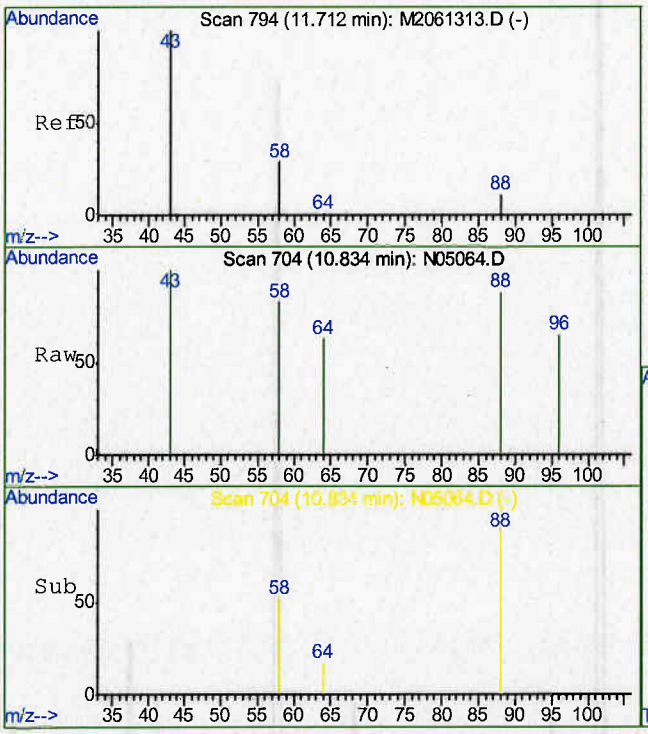


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. 0.00 min
Lab File: N05064.D
Acq: 24 Feb 2009 5:03 pm

Tgt Ion: 96 Resp: 30805

Ion	Ratio	Lower	Upper
96	100		
64	73.5	65.1	97.7

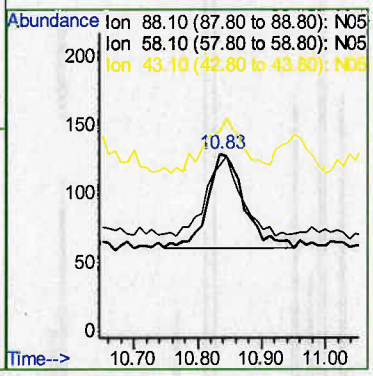




#2
1,4-Dioxane
Concen: 1.28 ug/L
RT: 10.83 min Scan# 704
Delta R.T. -0.01 min
Lab File: N05064.D
Acq: 24 Feb 2009 5:03 pm

Tgt Ion: 88 Resp: 2774

Ion	Ratio	Lower	Upper
88	100		
58	76.0	64.4	96.6
43	59.3	28.2	42.4#



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05065.D Vial: 15
Acq On : 24 Feb 2009 5:29 pm Operator: TitiaF
Sample : C4507-8 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

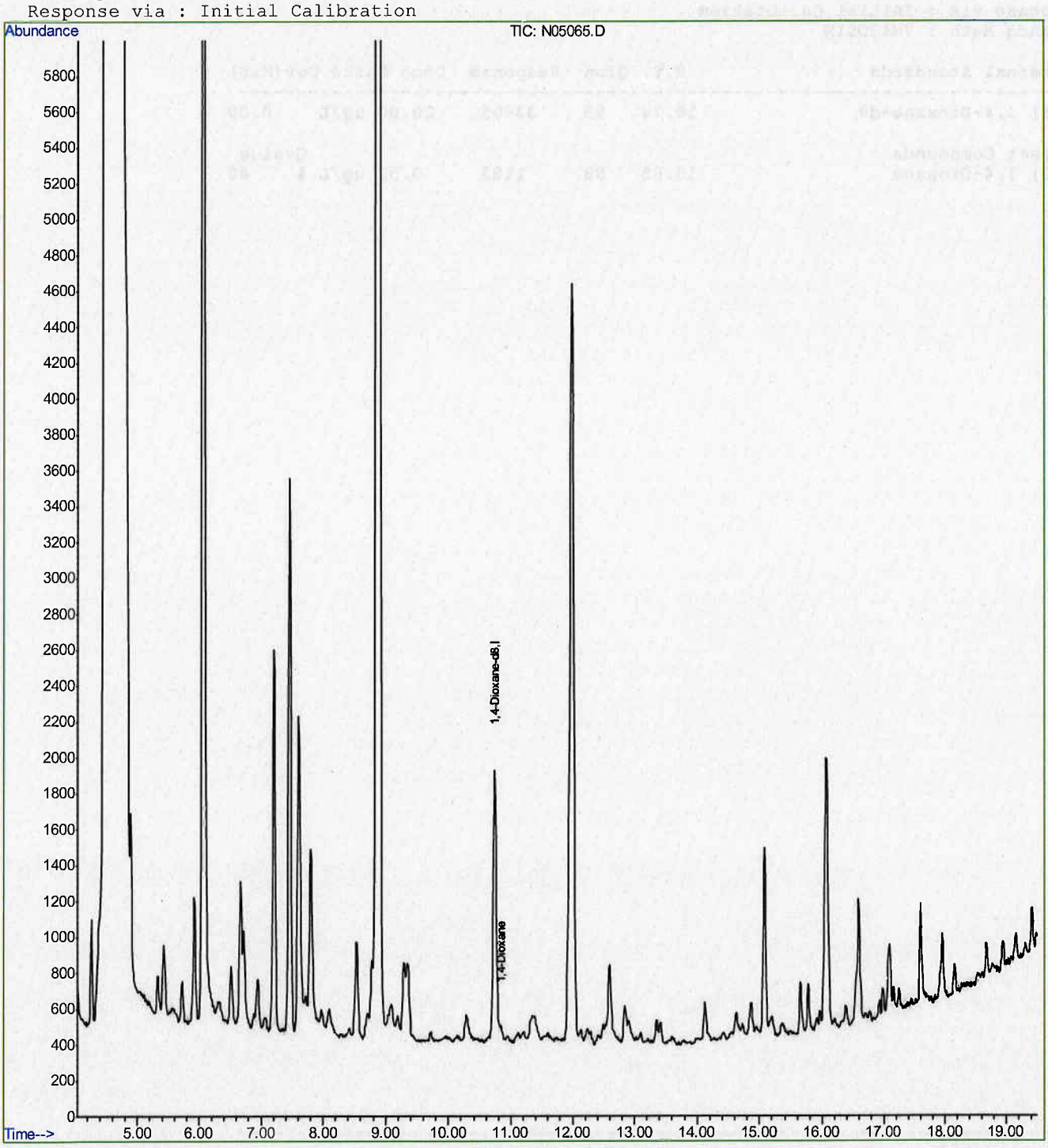
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	32605	20.00	ug/L	0.00
Target Compounds						Qvalue
2) 1,4-Dioxane	10.85	88	1193	0.52	ug/L #	80

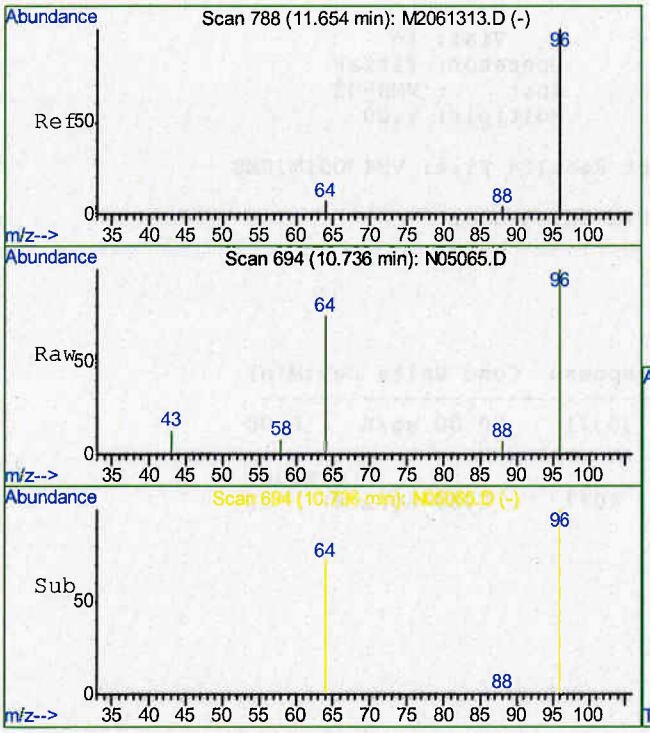
(#) = qualifier out of range (m) = manual integration
N05065.D VN43DSIM.M Wed Feb 25 09:54:35 2009 RPT1 Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090224\N05065.D Vial: 15
Acq On : 24 Feb 2009 5:29 pm Operator: TitiaF
Sample : C4507-8 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration

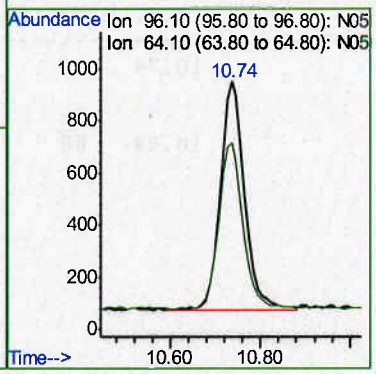


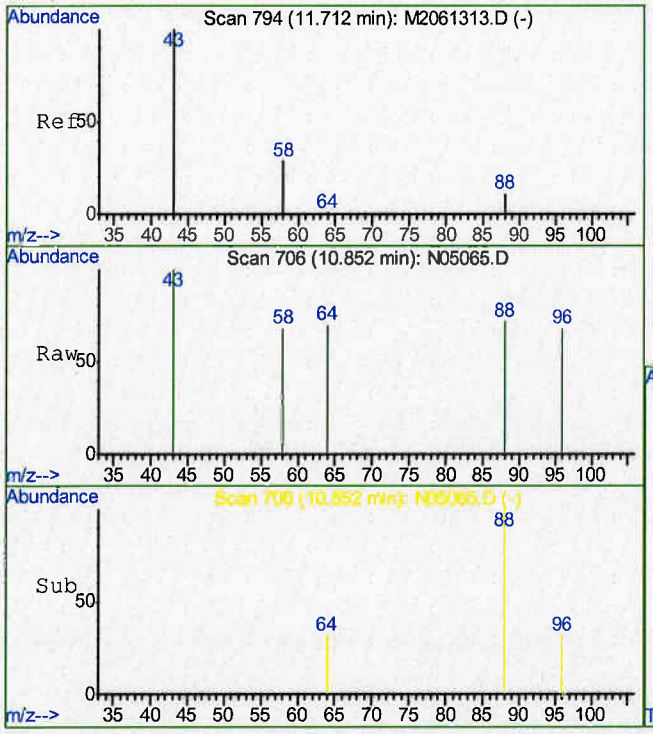


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. -0.00 min
Lab File: N05065.D
Acq: 24 Feb 2009 5:29 pm

Tgt Ion: 96 Resp: 32605

Ion	Ratio	Lower	Upper
96	100		
64	73.3	65.1	97.7

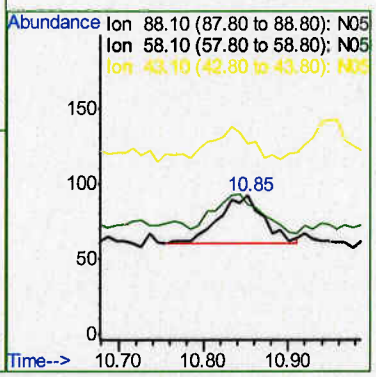




#2
1,4-Dioxane
Concen: 0.52 ug/L
RT: 10.85 min Scan# 706
Delta R.T. 0.01 min
Lab File: N05065.D
Acq: 24 Feb 2009 5:29 pm

Tgt Ion: 88 Resp: 1193

Ion	Ratio	Lower	Upper
88	100		
58	82.6	64.4	96.6
43	0.0	28.2	42.4#



6.1.8

6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05066.D
Acq On : 24 Feb 2009 5:56 pm
Sample : C4507-9
Misc : MS712,VN169,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009

Vial: 16
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

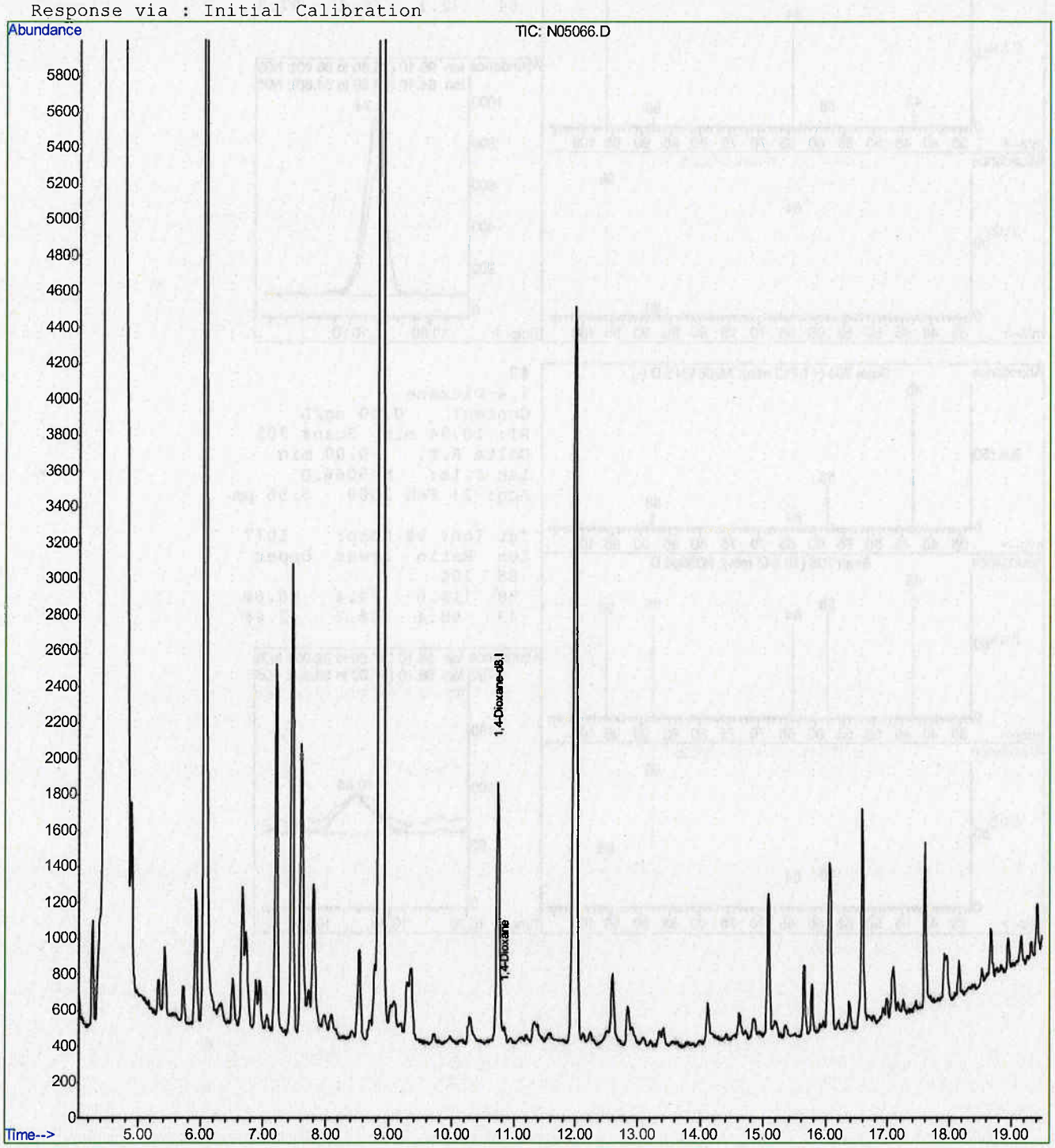
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	30371	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	1077	0.50 ug/L #	39

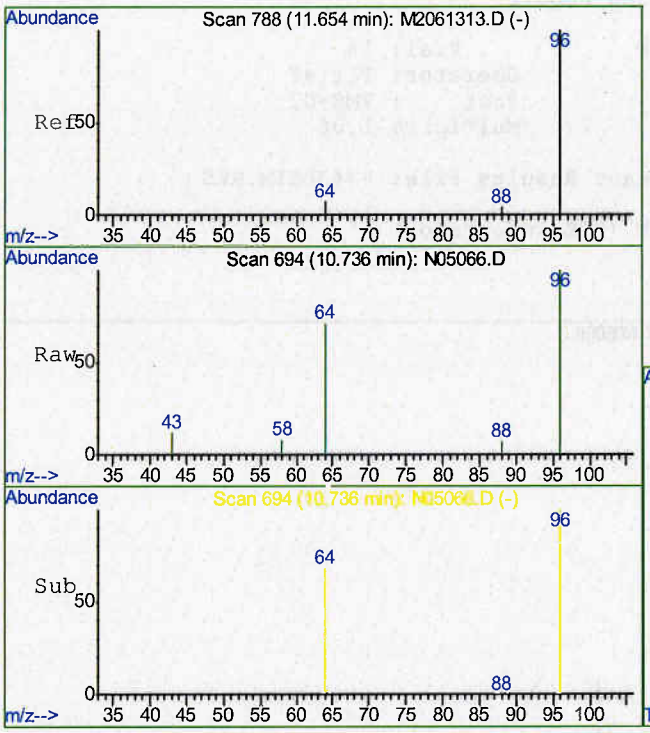
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090224\N05066.D Vial: 16
Acq On : 24 Feb 2009 5:56 pm Operator: TitiaF
Sample : C4507-9 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration

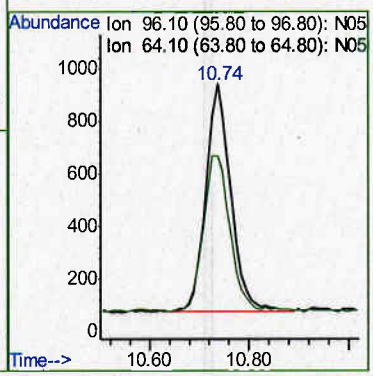


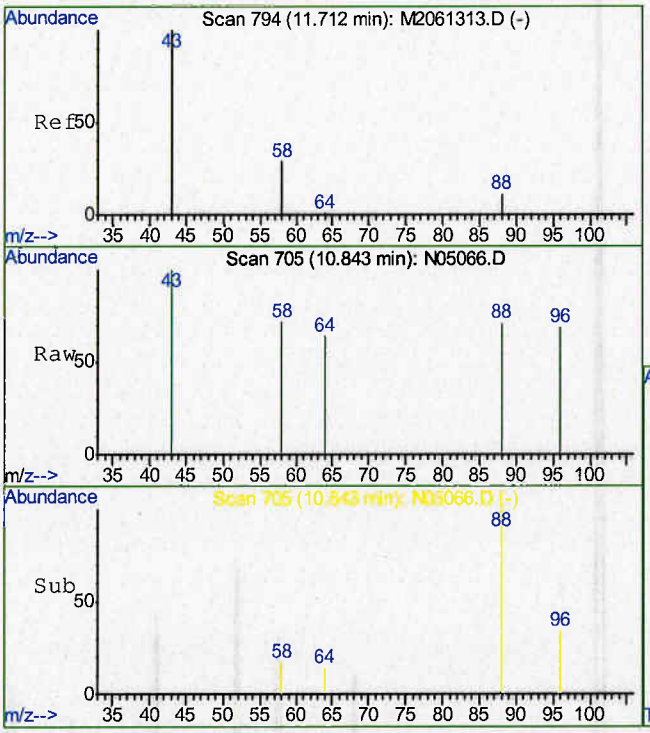


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. -0.00 min
Lab File: N05066.D
Acq: 24 Feb 2009 5:56 pm

Tgt Ion: 96 Resp: 30371

Ion	Ratio	Lower	Upper
96	100		
64	72.1	65.1	97.7

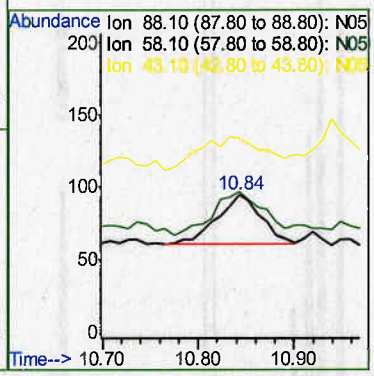




#2
1,4-Dioxane
Concen: 0.50 ug/L
RT: 10.84 min Scan# 705
Delta R.T. -0.00 min
Lab File: N05066.D
Acq: 24 Feb 2009 5:56 pm

Tgt Ion: 88 Resp: 1077

Ion	Ratio	Lower	Upper
88	100		
58	115.6	64.4	96.6#
43	98.4	28.2	42.4#



6.1.9

6

ACCUTEST. Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05067.D Vial: 17
Acq On : 24 Feb 2009 6:23 pm Operator: TitiaF
Sample : C4507-10 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

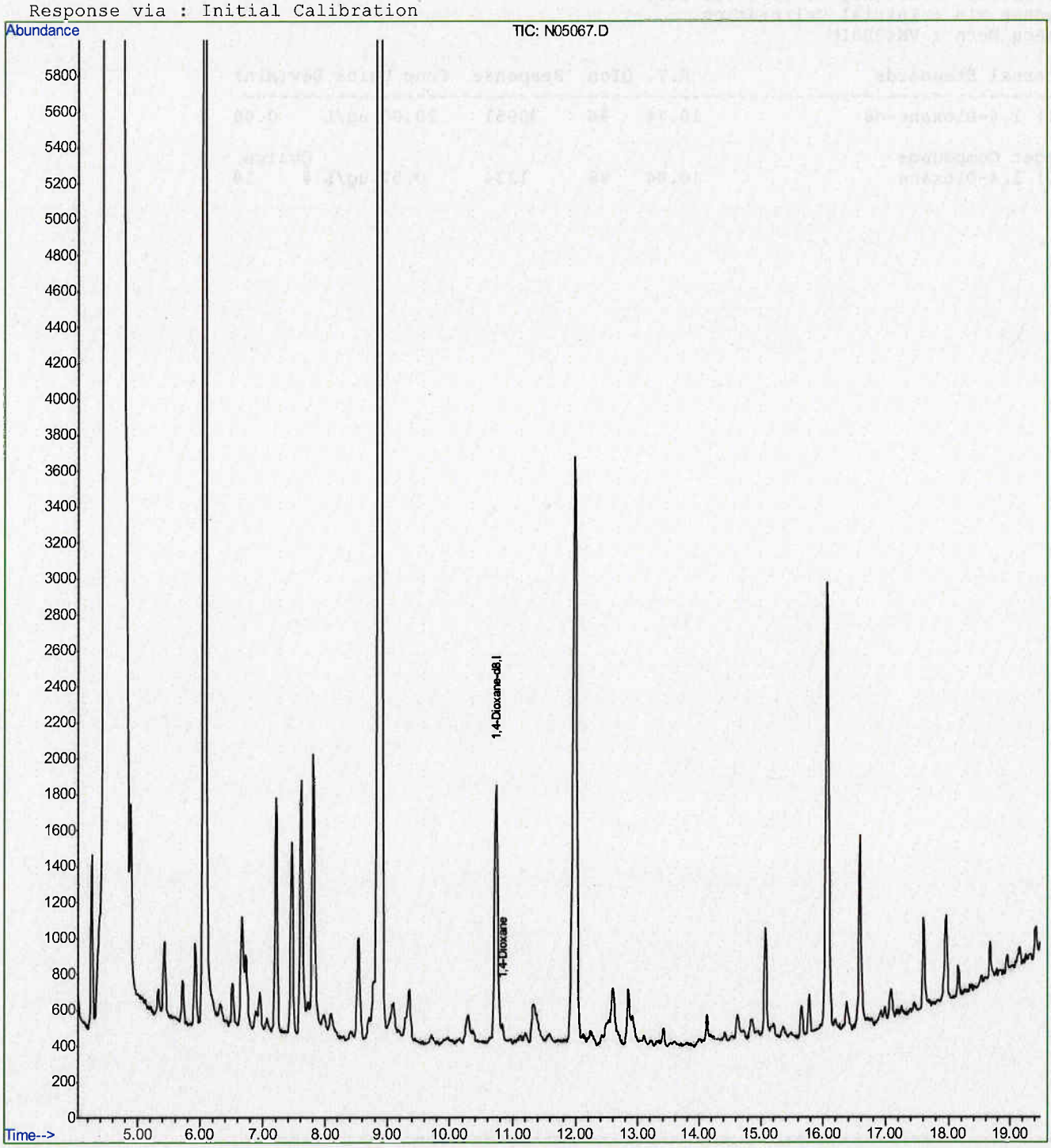
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	30951	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	1234	0.57 ug/L #	18

(#) = qualifier out of range (m) = manual integration
N05067.D VN43DSIM.M Wed Feb 25 09:55:06 2009 RPT1

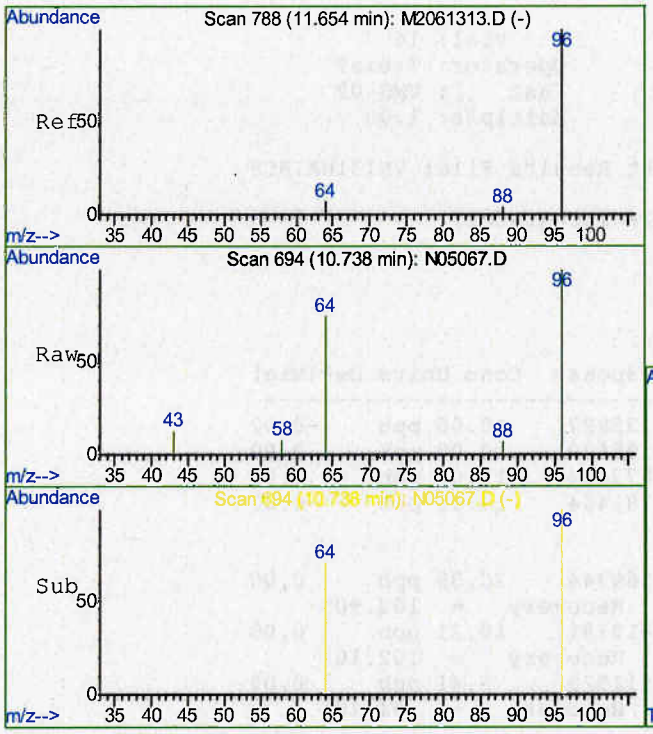
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090224\N05067.D Vial: 17
Acq On : 24 Feb 2009 6:23 pm Operator: TitiaF
Sample : C4507-10 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration



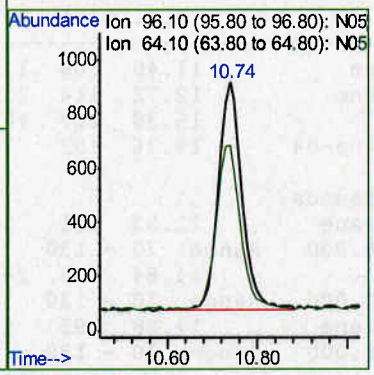
N05067.D VN43DSIM.M Wed Feb 25 09:55:07 2009 RPT1 Page 2

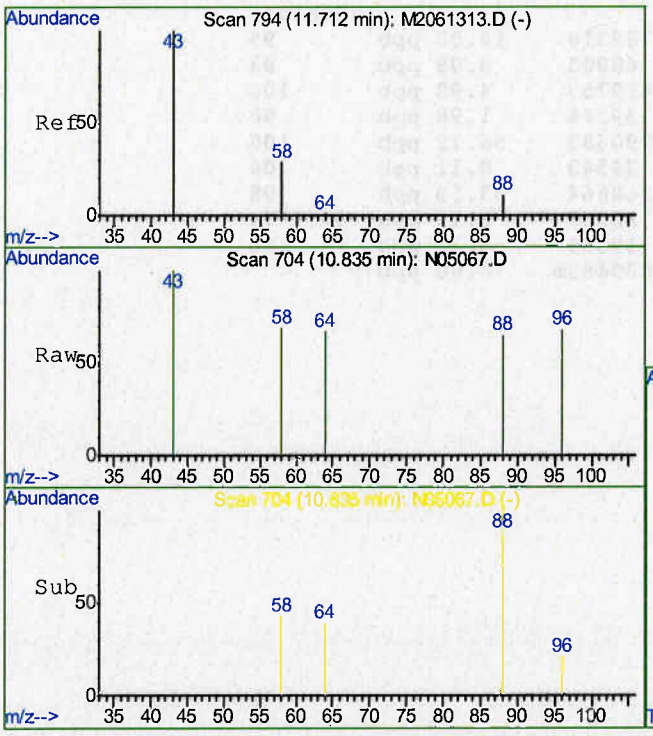


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. 0.00 min
Lab File: N05067.D
Acq: 24 Feb 2009 6:23 pm

Tgt Ion: 96 Resp: 30951

Ion	Ratio	Lower	Upper
96	100		
64	72.2	65.1	97.7

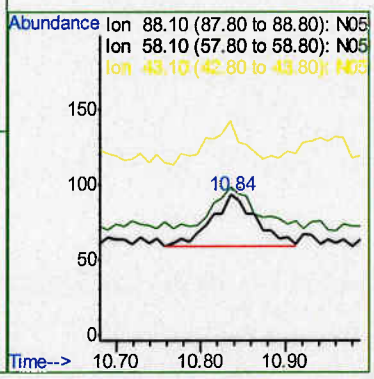




#2
1,4-Dioxane
Concen: 0.57 ug/L
RT: 10.84 min Scan# 704
Delta R.T. -0.01 min
Lab File: N05067.D
Acq: 24 Feb 2009 6:23 pm

Tgt Ion: 88 Resp: 1234

Ion	Ratio	Lower	Upper
88	100		
58	0.0	64.4	96.6#
43	0.0	28.2	42.4#



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05041.D
Acq On : 23 Feb 2009 4:40 pm
Sample : C4507-1
Misc : MS713,VN168,1,,,,10
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:48 2009

Vial: 16
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

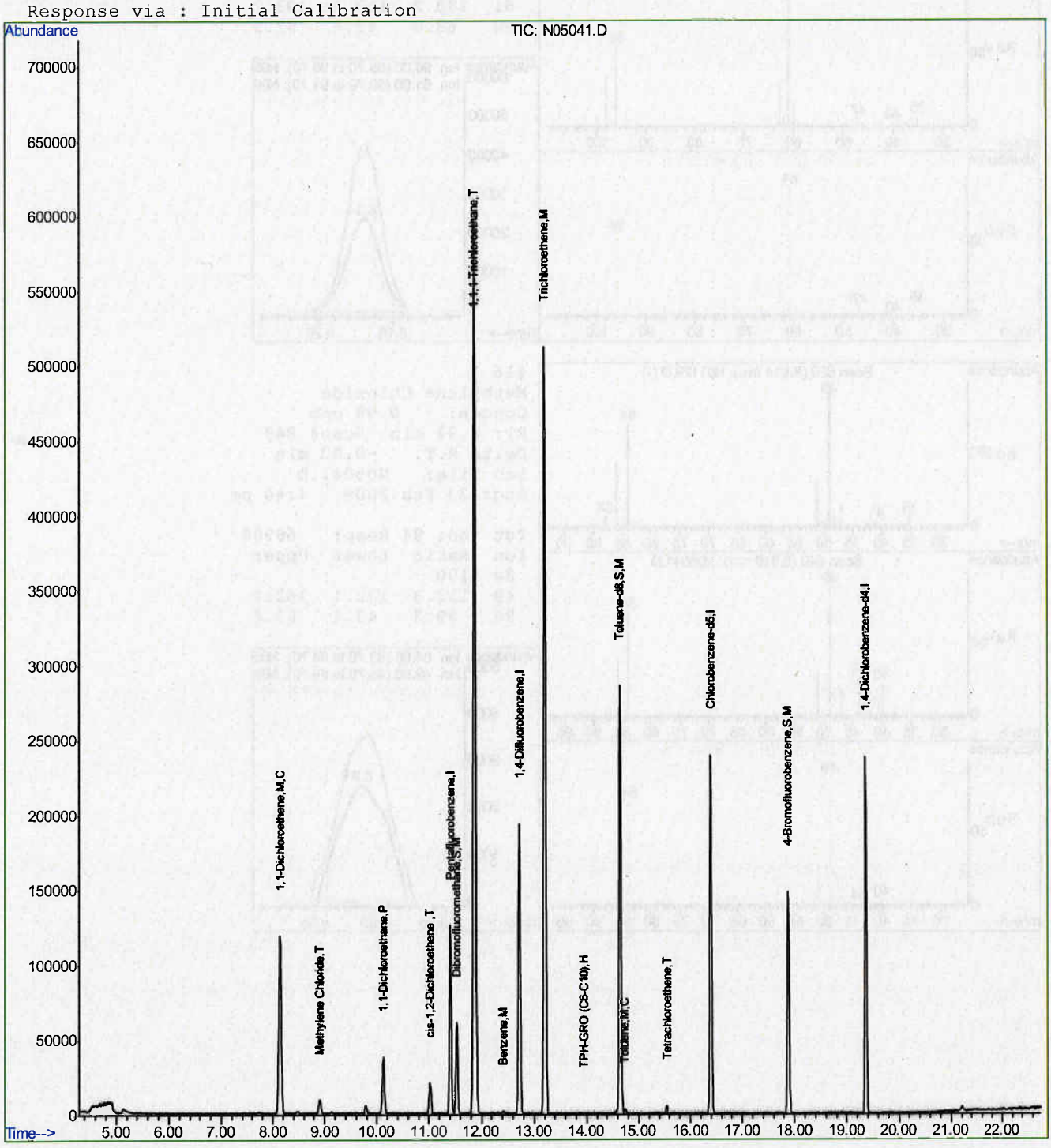
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1135827	10.00 ppb	-0.02
33) 1,4-Difluorobenzene	12.72	114	2105629	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	1873444	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	781404	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	569744	10.39 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 103.90%		
47) Toluene-d8	14.64	98	2619791	10.21 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.10%		
64) 4-Bromofluorobenzene	17.88	95	911529	9.41 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 94.10%		
Target Compounds					Qvalue
12) 1,1-Dichloroethene	8.14	96	789318	14.02 ppb	95
16) Methylene Chloride	8.91	84	68905	0.99 ppb	93
22) 1,1-Dichloroethane	10.12	63	629753	4.98 ppb	100
27) cis-1,2-Dichloroethene	11.02	96	139246	1.98 ppb	90
31) 1,1,1-Trichloroethane	11.87	97	5790683	56.72 ppb	100
37) Benzene	12.40	78	34343	0.11 ppb	100
38) Trichloroethene	13.20	95	2368864	33.59 ppb	98
48) Toluene	14.73	92	20367	0.10 ppb #	74
53) Tetrachloroethene	15.55	164	19399	0.36 ppb #	68
88) TPH-GRO (C6-C10)	13.96	TIC	36829483m	70.00 ppb	

(#) = qualifier out of range (m) = manual integration
N05041.D VN131WA.M Tue Feb 24 09:48:59 2009 RPT1

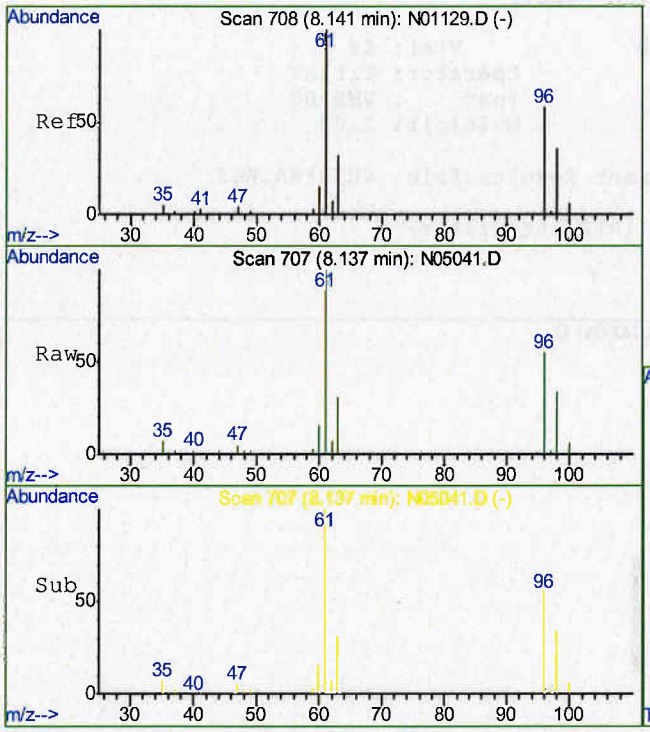
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05041.D Vial: 16
Acq On : 23 Feb 2009 4:40 pm Operator: TitiaF
Sample : C4507-1 Inst : VMS-02
Misc : MS713,VN168,1,,,,10 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:48 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



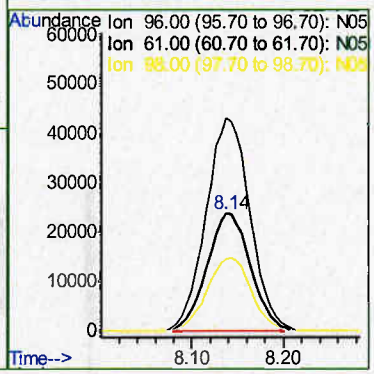
N05041.D VN131WA.M Tue Feb 24 09:49:00 2009 RPT1 Page 2

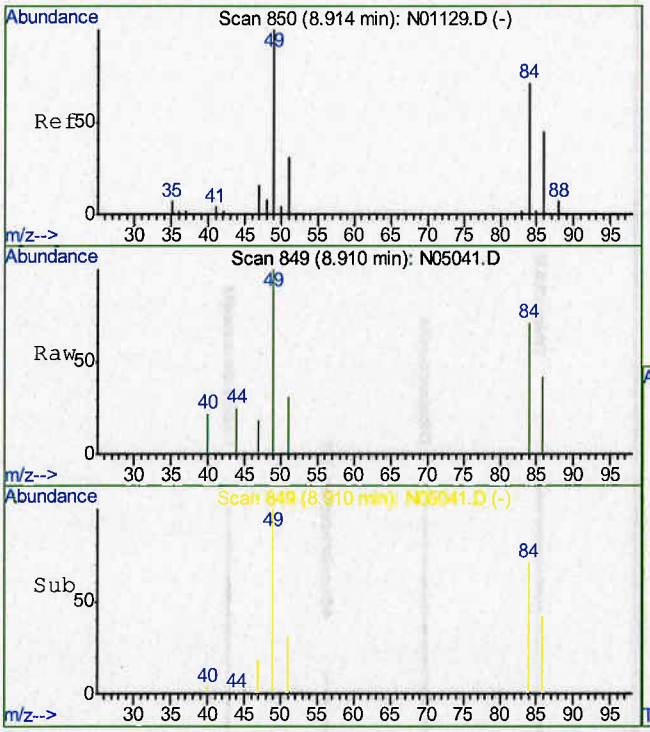


#12
1,1-Dichloroethene
Concen: 14.02 ppb
RT: 8.14 min Scan# 707
Delta R.T. -0.01 min
Lab File: N05041.D
Acq: 23 Feb 2009 4:40 pm

Tgt Ion: 96 Resp: 789318

Ion	Ratio	Lower	Upper
96	100		
61	183.2	153.2	193.2
98	63.0	42.5	82.5

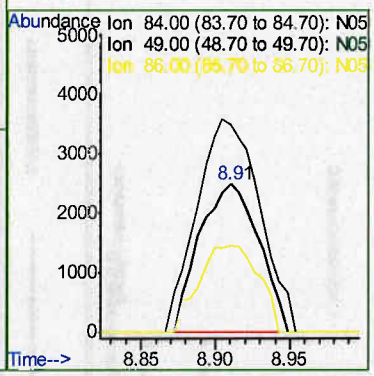




#16
Methylene Chloride
Concen: 0.99 ppb
RT: 8.91 min Scan# 849
Delta R.T. -0.00 min
Lab File: N05041.D
Acq: 23 Feb 2009 4:40 pm

Tgt Ion: 84 Resp: 68905

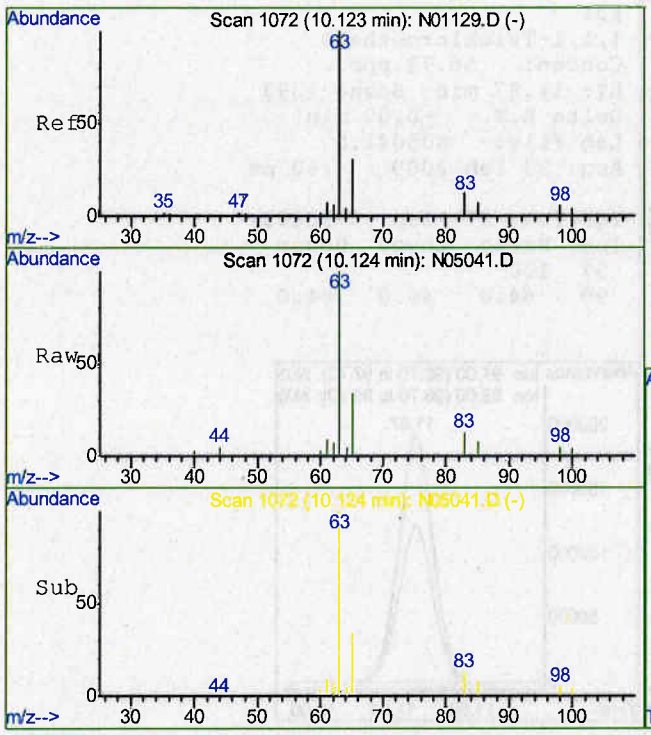
Ion	Ratio	Lower	Upper
84	100		
49	152.3	122.1	162.1
86	59.3	43.4	83.4



6.1.11

6

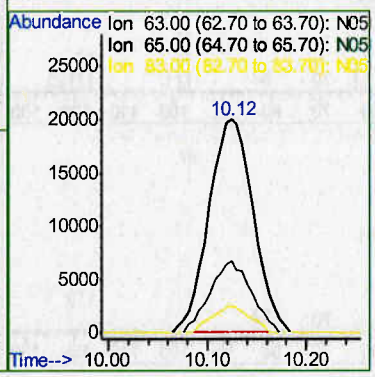
ACCUTEST Laboratories C4507

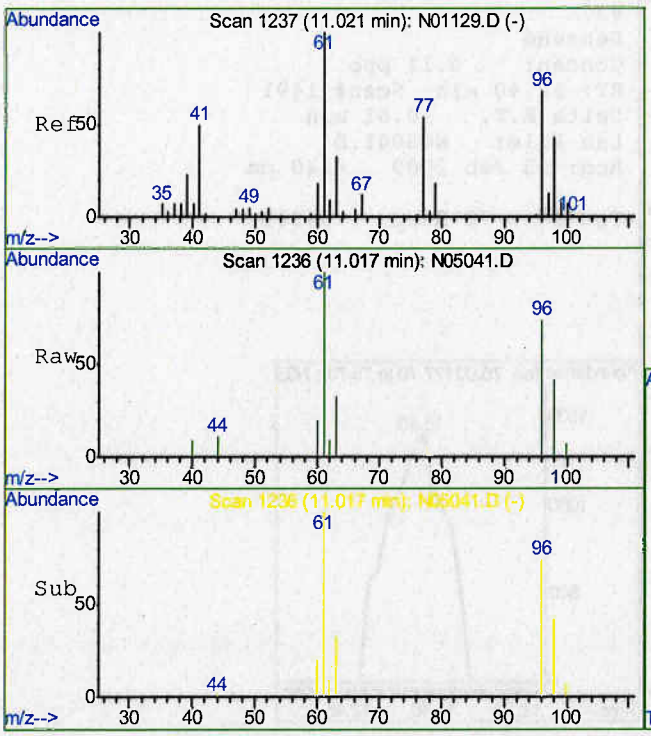


#22
1,1-Dichloroethane
Concen: 4.98 ppb
RT: 10.12 min Scan# 1072
Delta R.T. -0.00 min
Lab File: N05041.D
Acq: 23 Feb 2009 4:40 pm

Tgt Ion: 63 Resp: 629753

Ion	Ratio	Lower	Upper
63	100		
65	31.6	11.5	51.5
83	10.9	0.0	41.5

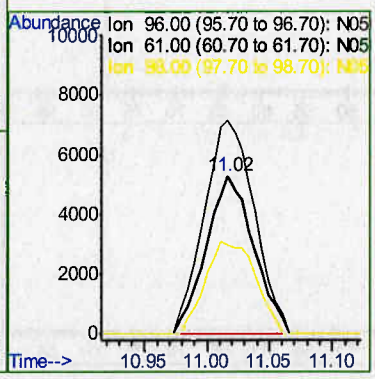




#27
cis-1,2-Dichloroethene
Concen: 1.98 ppb
RT: 11.02 min Scan# 1236
Delta R.T. -0.00 min
Lab File: N05041.D
Acq: 23 Feb 2009 4:40 pm

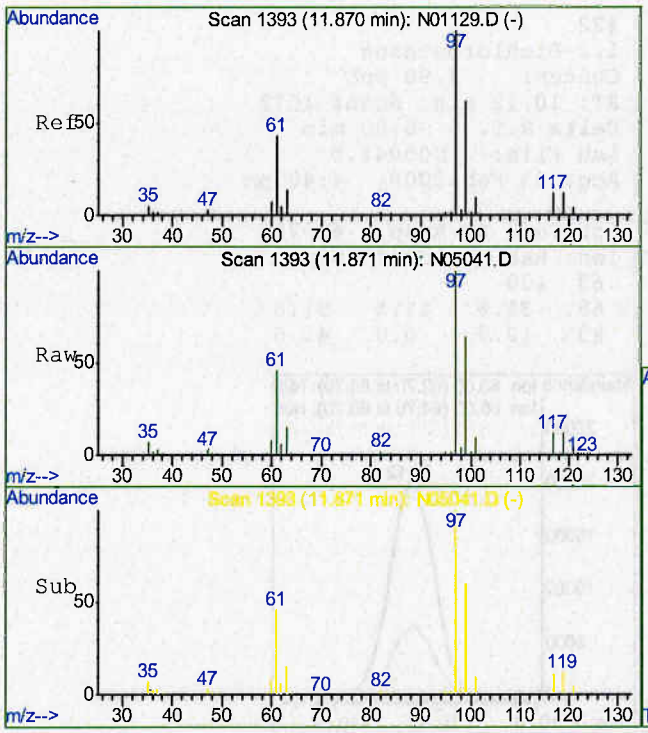
Tgt Ion: 96 Resp: 139246

Ion	Ratio	Lower	Upper
96	100		
61	143.0	140.0	180.0
98	62.0	43.7	83.7



6.1.11

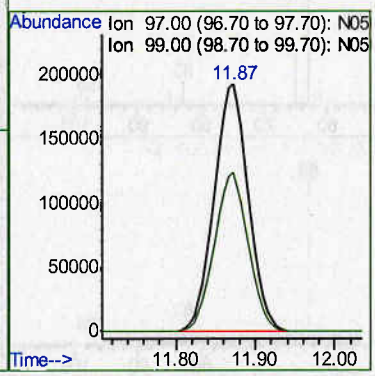
6

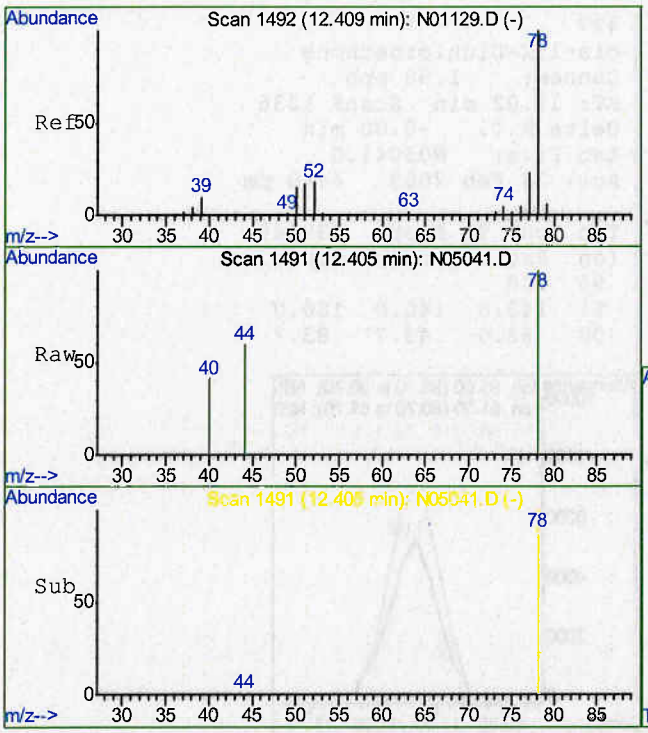


#31
1,1,1-Trichloroethane
Concen: 56.72 ppb
RT: 11.87 min Scan# 1393
Delta R.T. -0.00 min
Lab File: N05041.D
Acq: 23 Feb 2009 4:40 pm

Tgt Ion: 97 Resp: 5790683

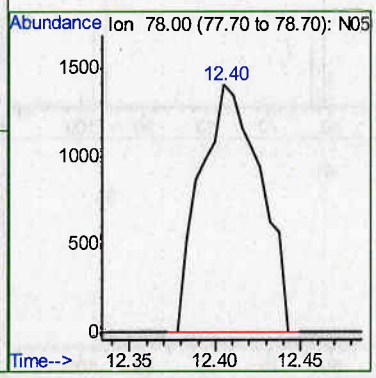
Ion	Ratio	Lower	Upper
97	100		
99	64.0	44.0	84.0





#37
Benzene
Concen: 0.11 ppb
RT: 12.40 min Scan# 1491
Delta R.T. -0.01 min
Lab File: N05041.D
Acq: 23 Feb 2009 4:40 pm

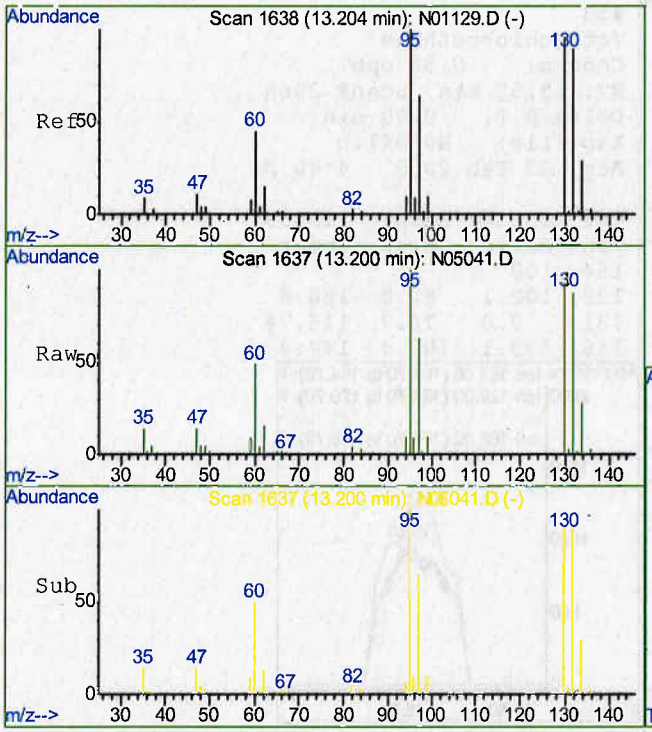
Tgt Ion: 78 Resp: 34343



6.1.11

6

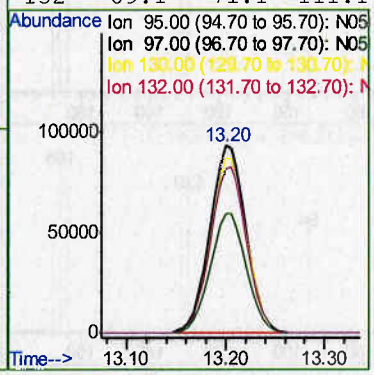
ACCUTEST Laboratories C4507

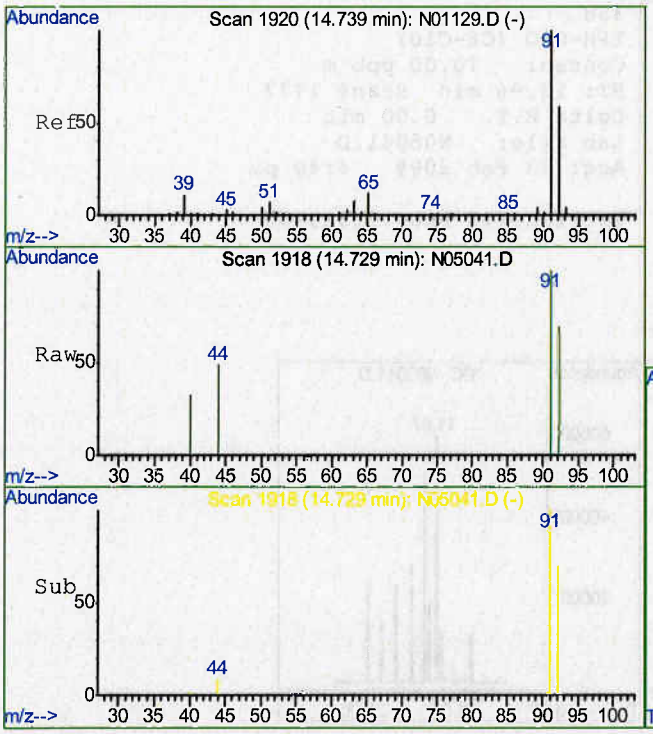


#38
Trichloroethene
Concen: 33.59 ppb
RT: 13.20 min Scan# 1637
Delta R.T. -0.01 min
Lab File: N05041.D
Acq: 23 Feb 2009 4:40 pm

Tgt Ion: 95 Resp: 2368864

Ion	Ratio	Lower	Upper
95	100		
97	63.9	43.9	83.9
130	92.8	75.0	115.0
132	89.1	71.1	111.1

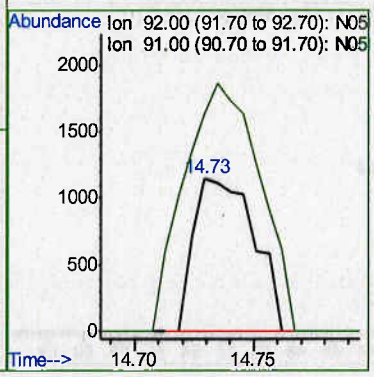




#48
Toluene
Concen: 0.10 ppb
RT: 14.73 min Scan# 1918
Delta R.T. -0.01 min
Lab File: N05041.D
Acq: 23 Feb 2009 4:40 pm

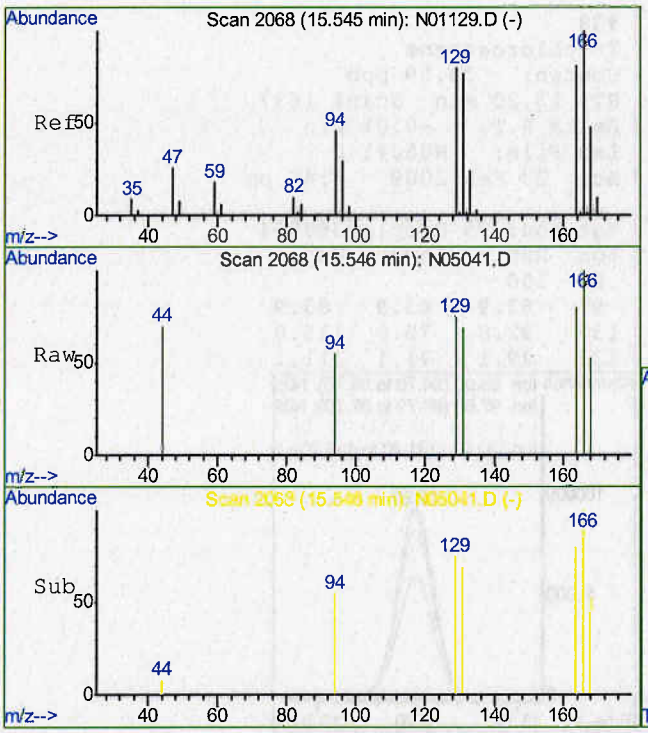
Tgt Ion: 92 Resp: 20367

Ion	Ratio	Lower	Upper
92	100		
91	202.7	147.3	187.3#



6.1.11

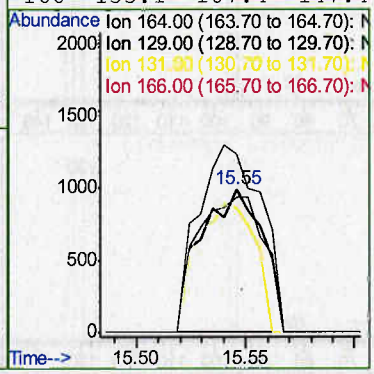
6

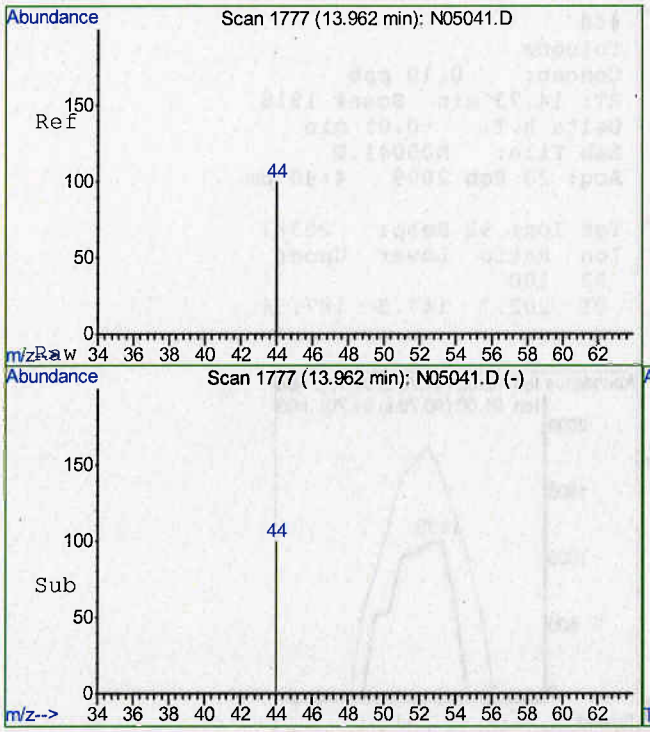


#53
Tetrachloroethene
Concen: 0.36 ppb
RT: 15.55 min Scan# 2068
Delta R.T. 0.00 min
Lab File: N05041.D
Acq: 23 Feb 2009 4:40 pm

Tgt Ion:164 Resp: 19399

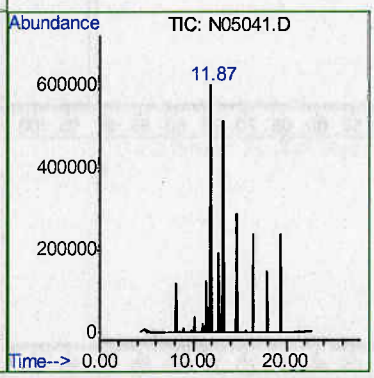
Ion	Ratio	Lower	Upper
164	100		
129	102.1	80.8	120.8
131	0.0	76.7	116.7#
166	133.1	107.4	147.4





#88
TPH-GRO (C6-C10)
Concen: 70.00 ppb m
RT: 13.96 min Scan# 1777
Delta R.T. 0.00 min
Lab File: N05041.D
Acq: 23 Feb 2009 4:40 pm

Tgt Ion:TIC Resp:36829483



6.1.11

6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05042.D Vial: 17
Acq On : 23 Feb 2009 5:10 pm Operator: TitiaF
Sample : C4507-2 Inst : VMS-02
Misc : MS713,VN168,2,,,,5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

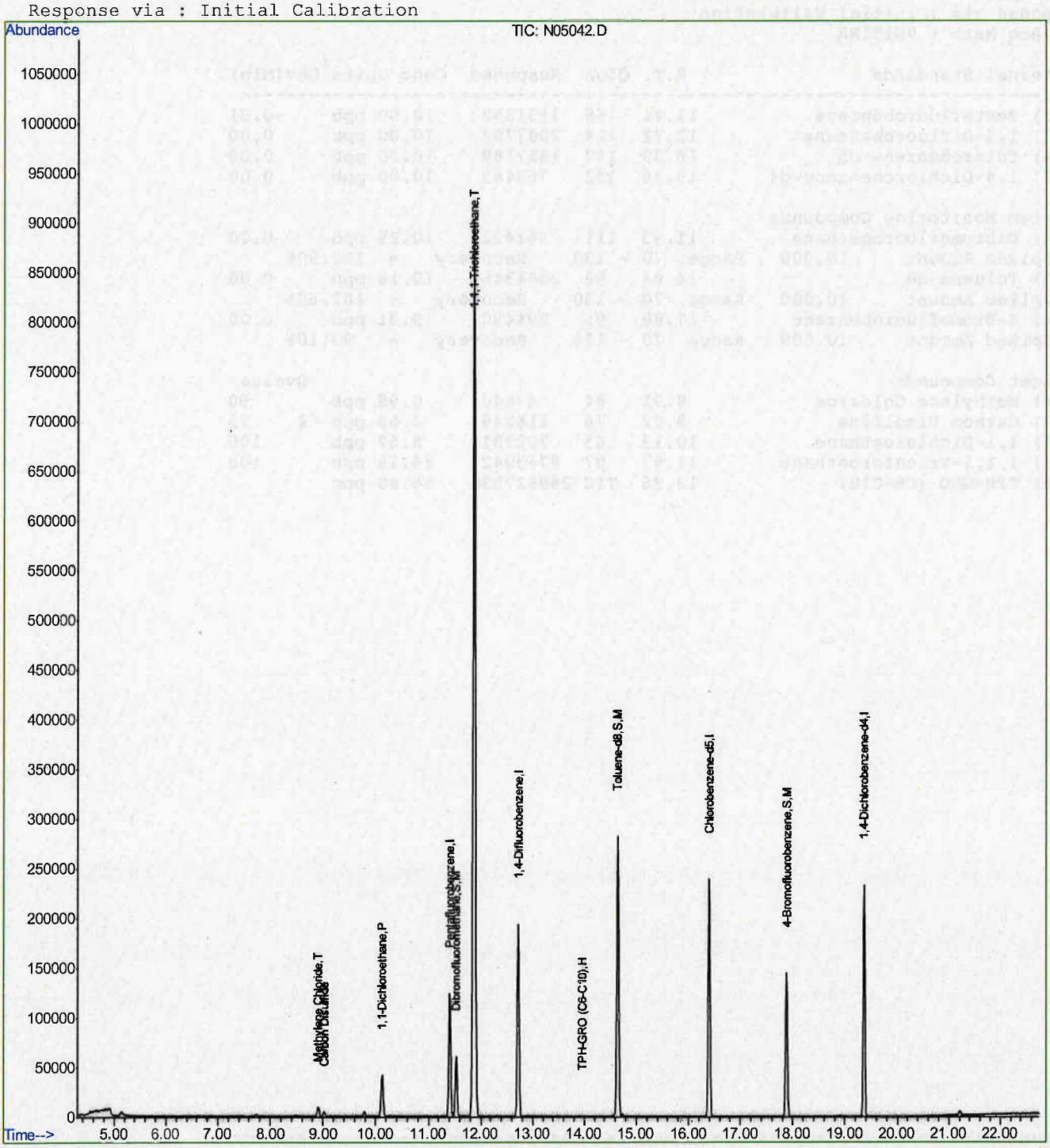
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1131353	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2087792	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	1857189	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	763489	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	562422	10.29 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 102.90%	
47) Toluene-d8	14.64	98	2584348	10.16 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 101.60%	
64) 4-Bromofluorobenzene	17.88	95	894490	9.31 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 93.10%	
Target Compounds					Qvalue
16) Methylene Chloride	8.91	84	67840	0.98 ppb	90
17) Carbon Disulfide	9.02	76	116249	0.59 ppb #	75
22) 1,1-Dichloroethane	10.13	63	702201	5.57 ppb	100
31) 1,1,1-Trichloroethane	11.87	97	8763042	86.18 ppb	100
88) TPH-GRO (C6-C10)	13.96	TIC	28992753m	56.40 ppb	

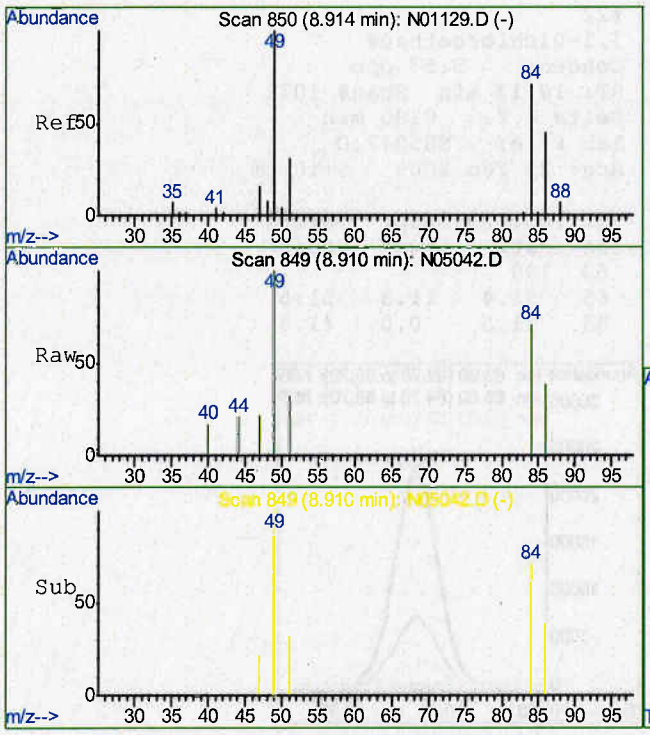
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05042.D Vial: 17
Acq On : 23 Feb 2009 5:10 pm Operator: TitiaF
Sample : C4507-2 Inst : VMS-02
Misc : MS713,VN168,2,,,,5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration

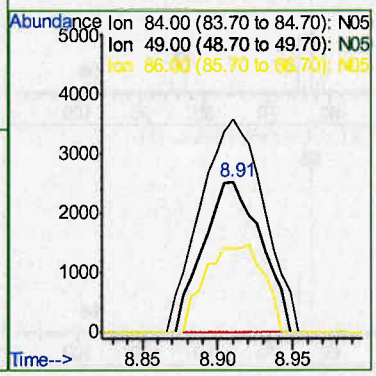


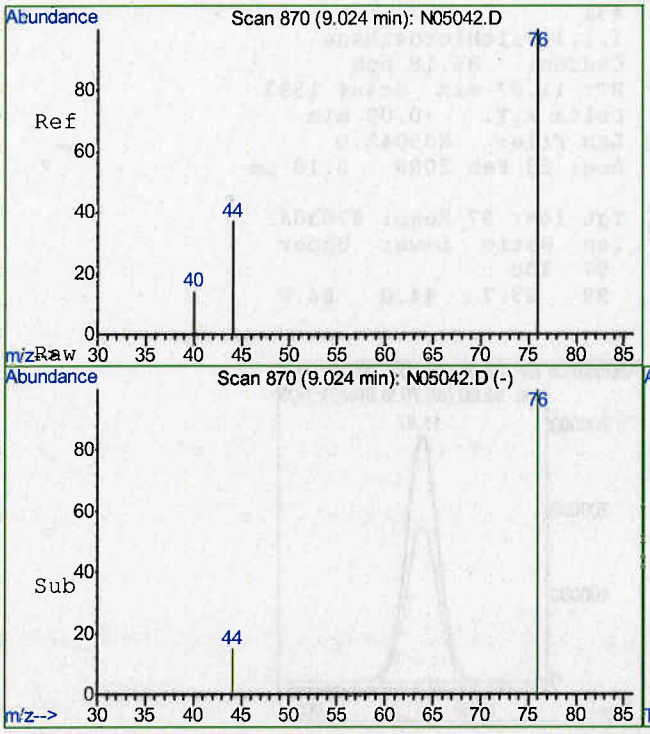


#16
Methylene Chloride
Concen: 0.98 ppb
RT: 8.91 min Scan# 849
Delta R.T. -0.00 min
Lab File: N05042.D
Acq: 23 Feb 2009 5:10 pm

Tgt Ion: 84 Resp: 67840

Ion	Ratio	Lower	Upper
84	100		
49	155.2	122.1	162.1
86	58.0	43.4	83.4

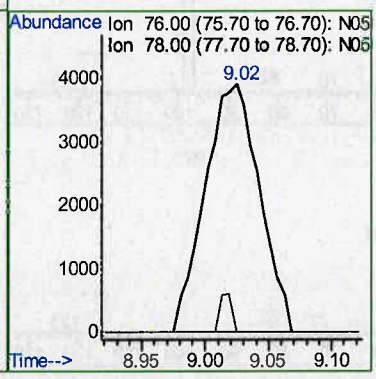




#17
Carbon Disulfide
Concen: 0.59 ppb
RT: 9.02 min Scan# 870
Delta R.T. -0.01 min
Lab File: N05042.D
Acq: 23 Feb 2009 5:10 pm

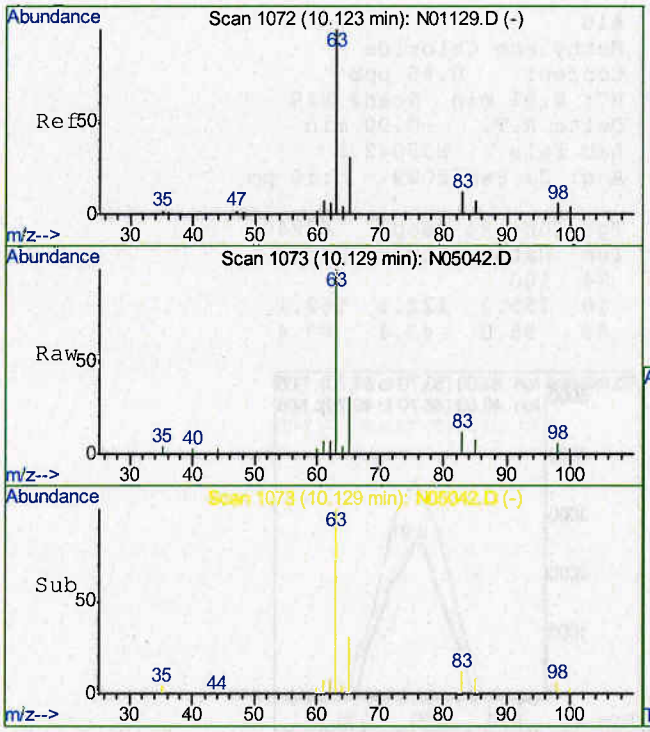
Tgt Ion: 76 Resp: 116249

Ion	Ratio	Lower	Upper
76	100		
78	0.0	7.4	11.0#



6.1.12

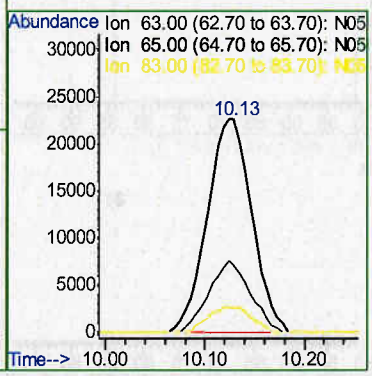
6

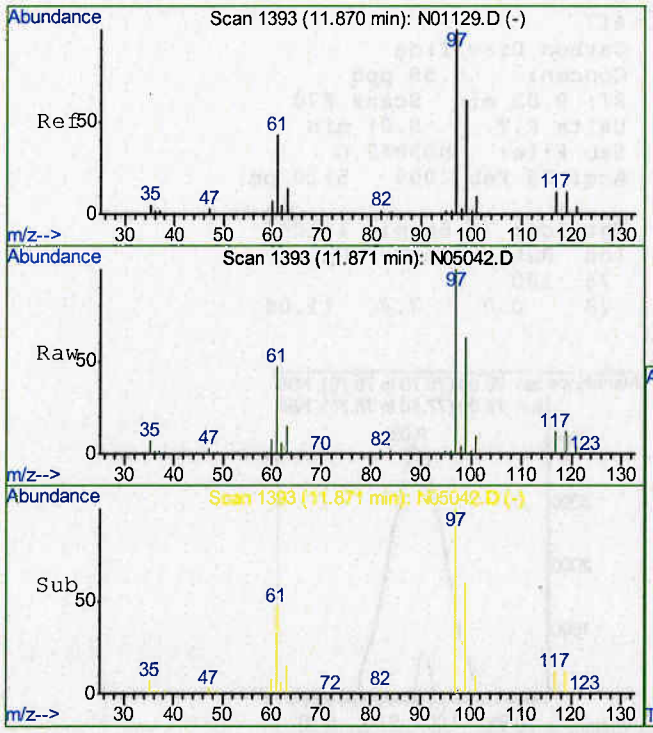


#22
1,1-Dichloroethane
Concen: 5.57 ppb
RT: 10.13 min Scan# 1073
Delta R.T. 0.00 min
Lab File: N05042.D
Acq: 23 Feb 2009 5:10 pm

Tgt Ion: 63 Resp: 702201

Ion	Ratio	Lower	Upper
63	100		
65	31.4	11.5	51.5
83	11.5	0.0	41.5

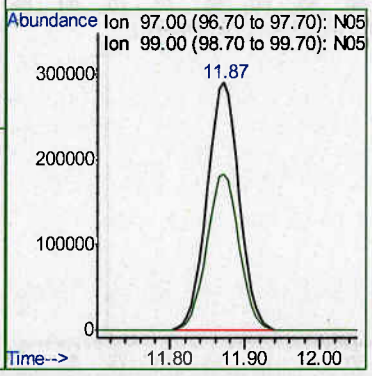




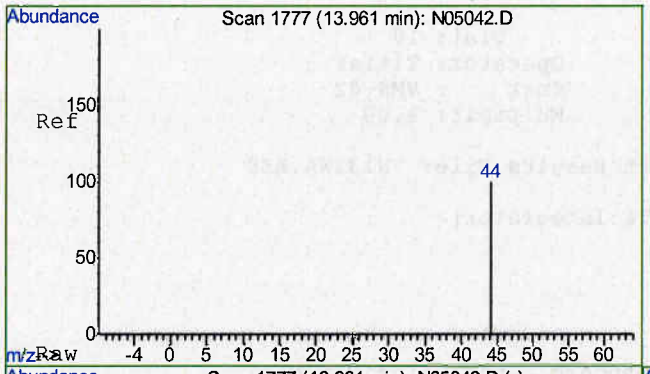
#31
1,1,1-Trichloroethane
Concen: 86.18 ppb
RT: 11.87 min Scan# 1393
Delta R.T. -0.00 min
Lab File: N05042.D
Acq: 23 Feb 2009 5:10 pm

Tgt Ion: 97 Resp: 8763042

Ion	Ratio	Lower	Upper
97	100		
99	63.7	44.0	84.0

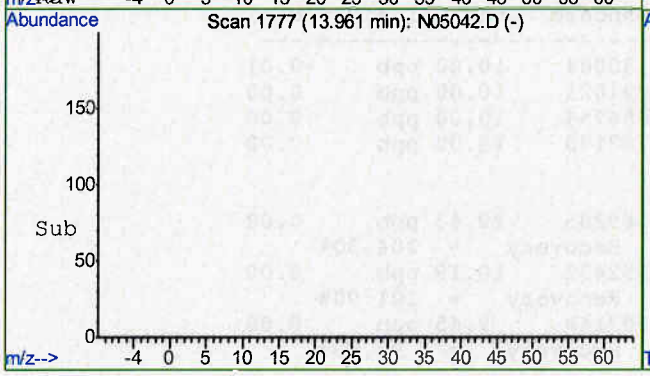


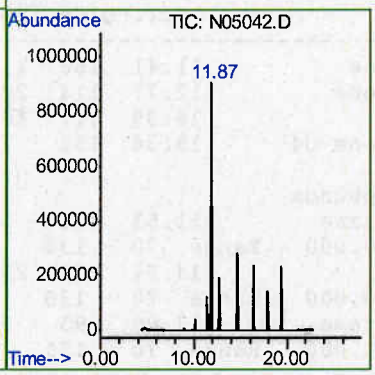
6.1.12 6



#88
TPH-GRO (C6-C10)
Concen: 56.40 ppb m
RT: 13.96 min Scan# 1777
Delta R.T. 0.00 min
Lab File: N05042.D
Acq: 23 Feb 2009 5:10 pm

Tgt Ion:TIC Resp:28992753





6.1.12

6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05043.D Vial: 18
Acq On : 23 Feb 2009 5:39 pm Operator: TitiaF
Sample : C4507-3 Inst : VMS-02
Misc : MS713,VN168,2,,,,5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

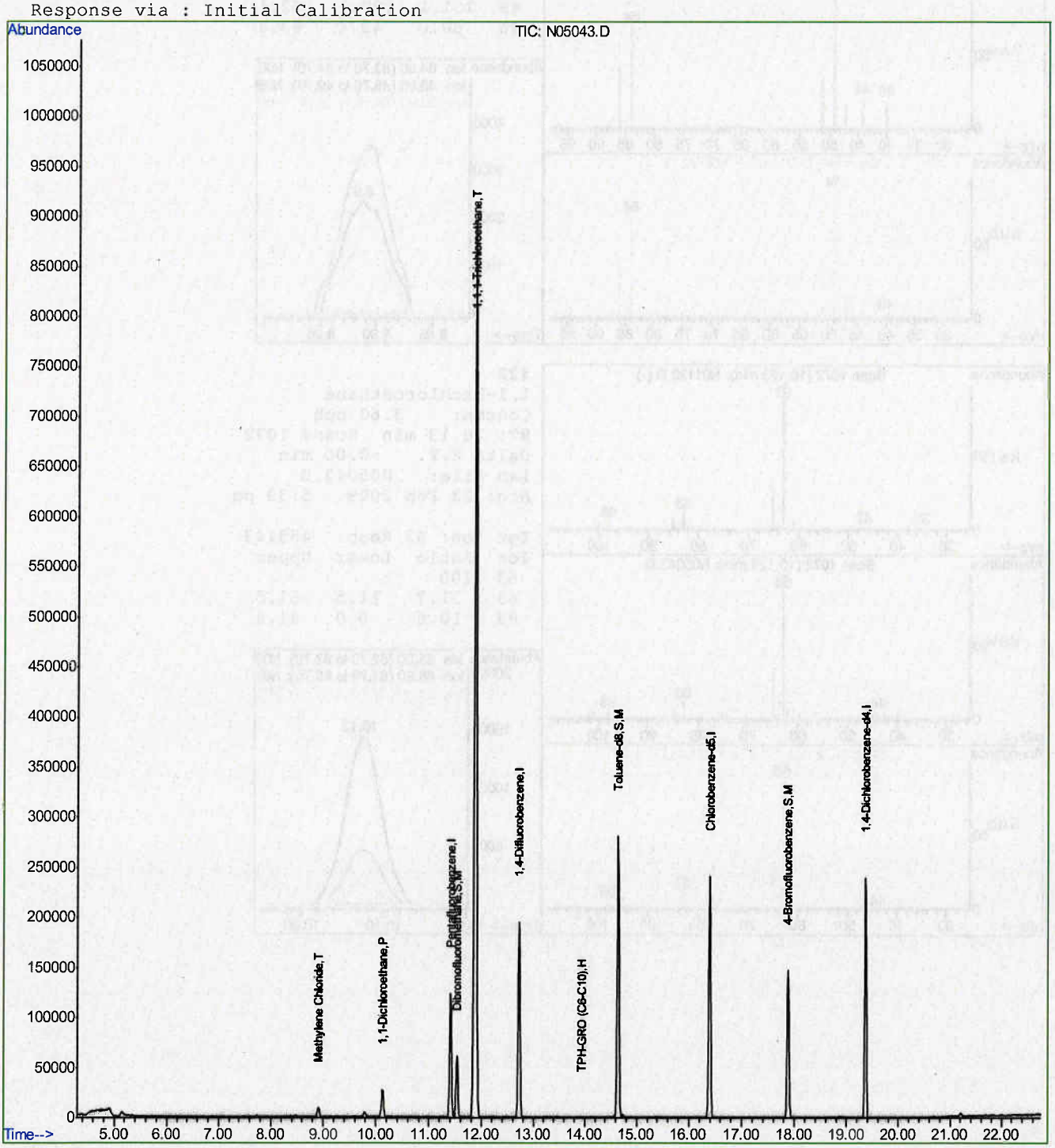
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1130004	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2091021	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	1856754	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	783100	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	569205	10.43 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 104.30%		
47) Toluene-d8	14.64	98	2592432	10.19 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.90%		
64) 4-Bromofluorobenzene	17.88	95	907149	9.45 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 94.50%		
Target Compounds					Qvalue
16) Methylene Chloride	8.91	84	67894	0.98 ppb	94
22) 1,1-Dichloroethane	10.13	63	453143	3.60 ppb	99
31) 1,1,1-Trichloroethane	11.87	97	8708010	85.74 ppb	100
88) TPH-GRO (C6-C10)	13.96	TIC	27832018m	52.78 ppb	

(#) = qualifier out of range (m) = manual integration
N05043.D VN131WA.M Tue Feb 24 09:51:43 2009 RPT1

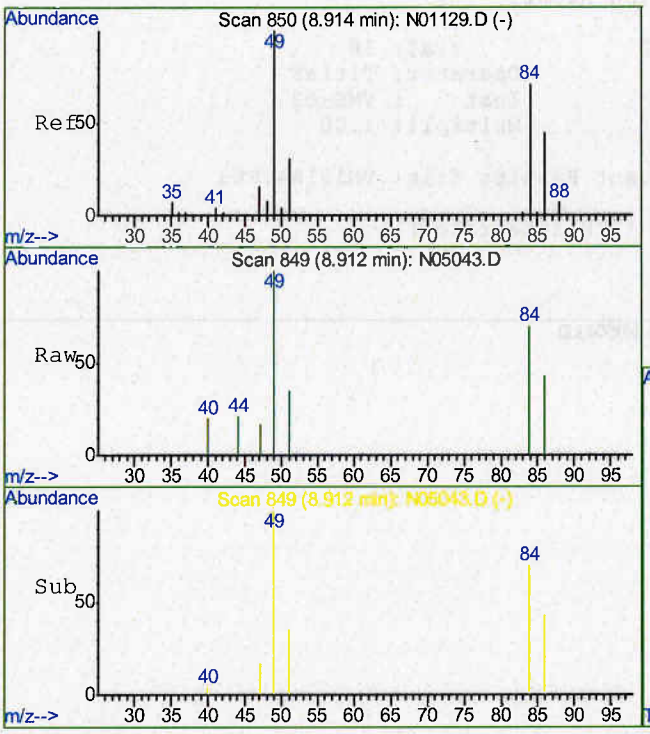
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05043.D Vial: 18
Acq On : 23 Feb 2009 5:39 pm Operator: TitiaF
Sample : C4507-3 Inst : VMS-02
Misc : MS713,VN168,2,,,,5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



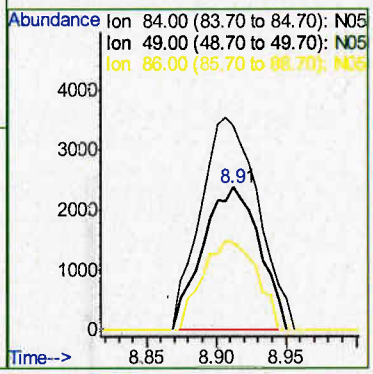
N05043.D VN131WA.M Tue Feb 24 09:51:44 2009 RPT1 Page 2

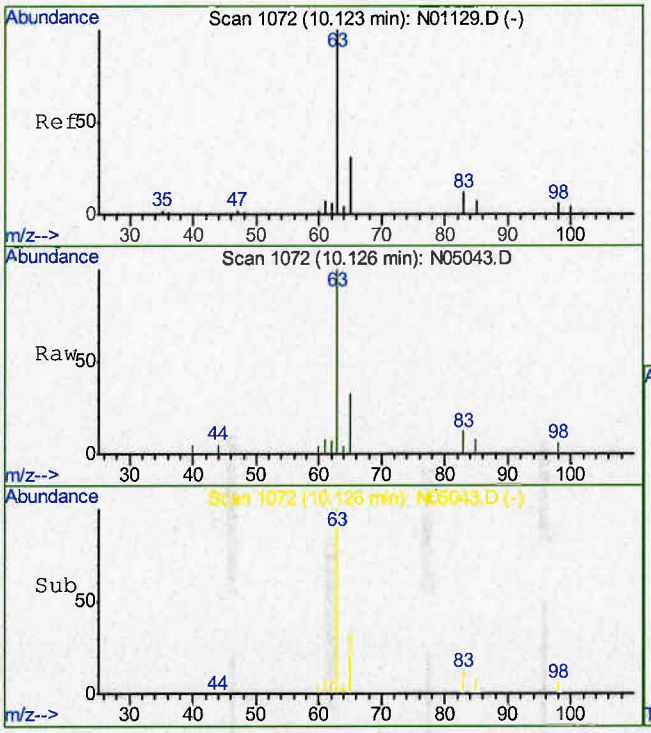


#16
Methylene Chloride
Concen: 0.98 ppb
RT: 8.91 min Scan# 849
Delta R.T. -0.00 min
Lab File: N05043.D
Acq: 23 Feb 2009 5:39 pm

Tgt Ion: 84 Resp: 67894

Ion	Ratio	Lower	Upper
84	100		
49	151.1	122.1	162.1
86	60.0	43.4	83.4

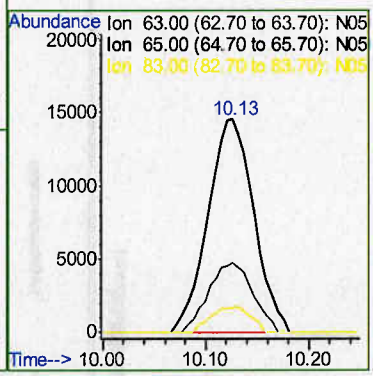




#22
1,1-Dichloroethane
Concen: 3.60 ppb
RT: 10.13 min Scan# 1072
Delta R.T. -0.00 min
Lab File: N05043.D
Acq: 23 Feb 2009 5:39 pm

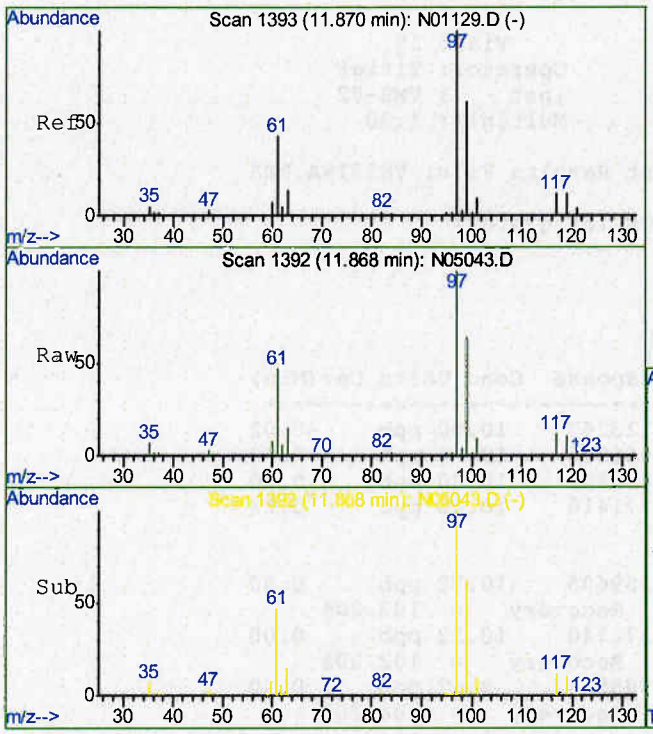
Tgt Ion: 63 Resp: 453143

Ion	Ratio	Lower	Upper
63	100		
65	31.7	11.5	51.5
83	10.6	0.0	41.5



6.1.13

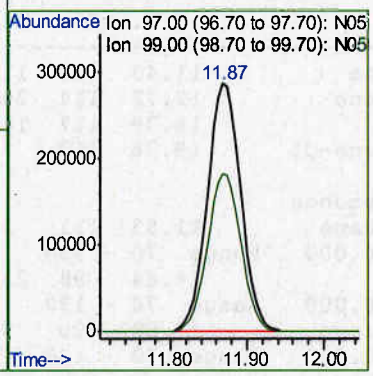
6

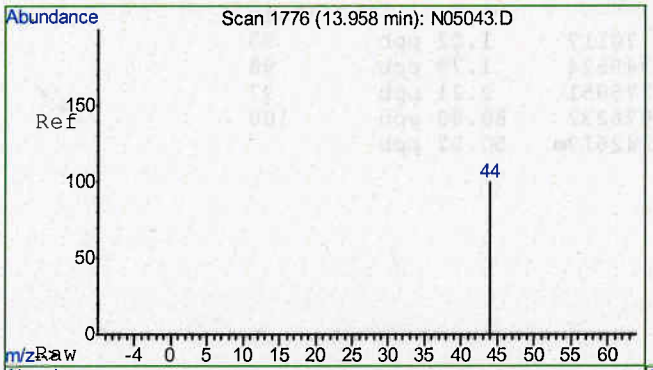


#31
1,1,1-Trichloroethane
Concen: 85.74 ppb
RT: 11.87 min Scan# 1392
Delta R.T. -0.01 min
Lab File: N05043.D
Acq: 23 Feb 2009 5:39 pm

Tgt Ion: 97 Resp: 8708010

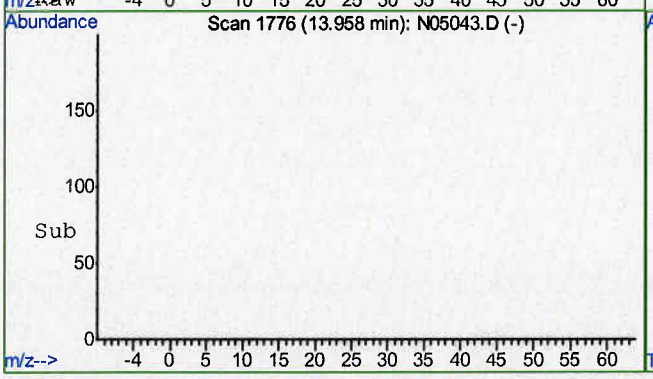
Ion	Ratio	Lower	Upper
97	100		
99	64.1	44.0	84.0

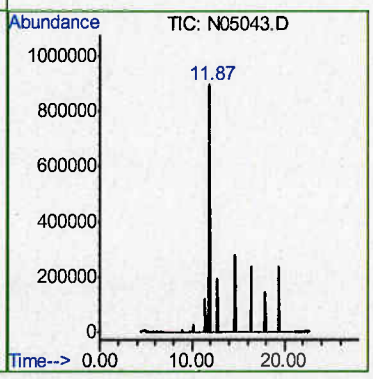




#88
TPH-GRO (C6-C10)
Concen: 52.78 ppb m
RT: 13.96 min Scan# 1776
Delta R.T. 0.00 min
Lab File: N05043.D
Acq: 23 Feb 2009 5:39 pm

Tgt Ion:TIC Resp:27832018





Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05044.D Vial: 19
Acq On : 23 Feb 2009 6:10 pm Operator: TitiaF
Sample : C4507-4 Inst : VMS-02
Misc : MS713,VN168,2,,,,5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

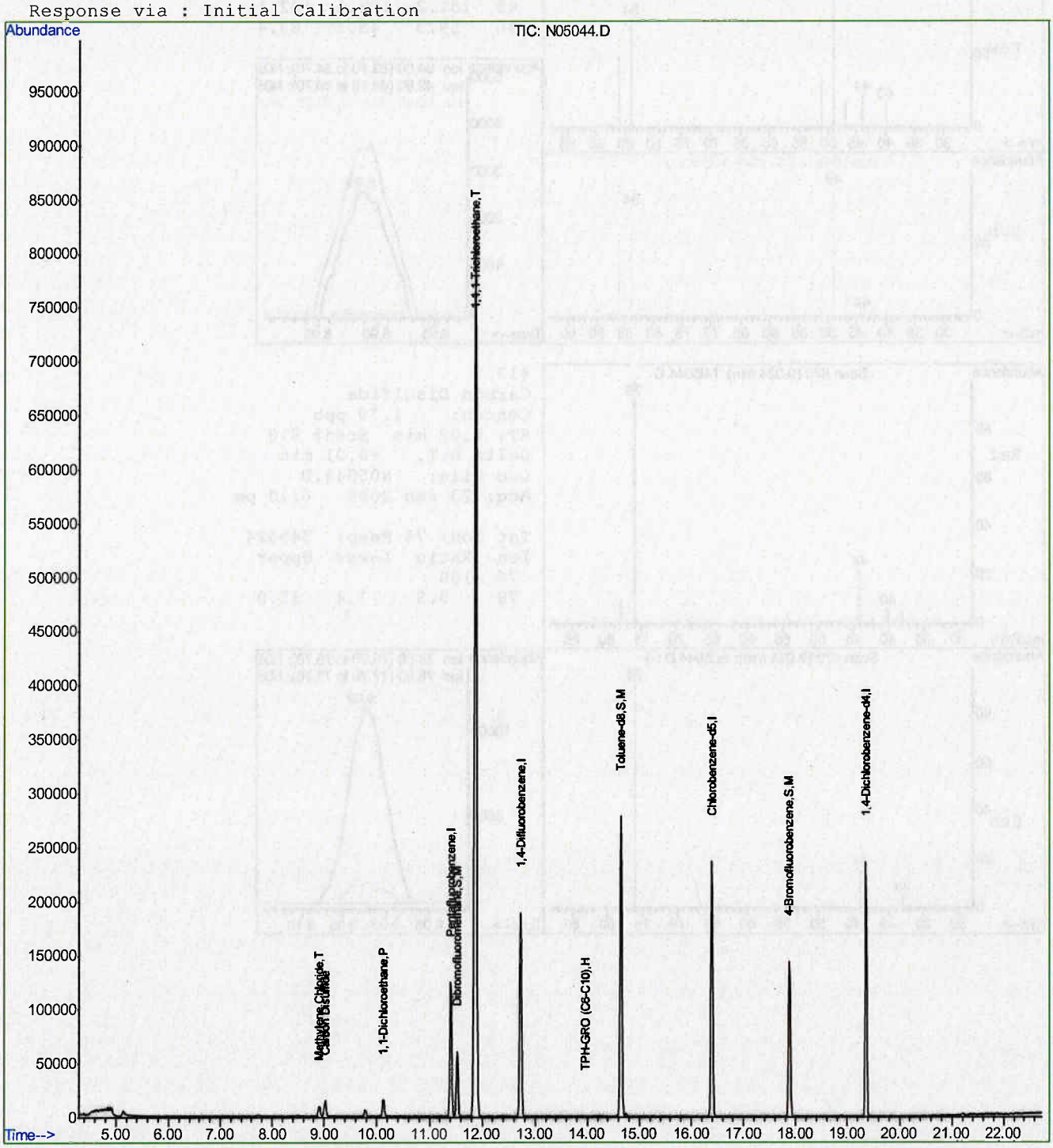
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1123267	10.00 ppb	-0.02
33) 1,4-Difluorobenzene	12.72	114	2065390	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	1838301	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	771410	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	559695	10.32 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 103.20%	
47) Toluene-d8	14.64	98	2572740	10.22 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 102.20%	
64) 4-Bromofluorobenzene	17.88	95	895568	9.42 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 94.20%	
Target Compounds					Qvalue
16) Methylene Chloride	8.91	84	70117	1.02 ppb	93
17) Carbon Disulfide	9.02	76	349524	1.79 ppb	98
22) 1,1-Dichloroethane	10.13	63	275951	2.21 ppb	97
31) 1,1,1-Trichloroethane	11.87	97	8076232	80.00 ppb	100
88) TPH-GRO (C6-C10)	13.96	TIC	26242619m	50.52 ppb	

(#) = qualifier out of range (m) = manual integration

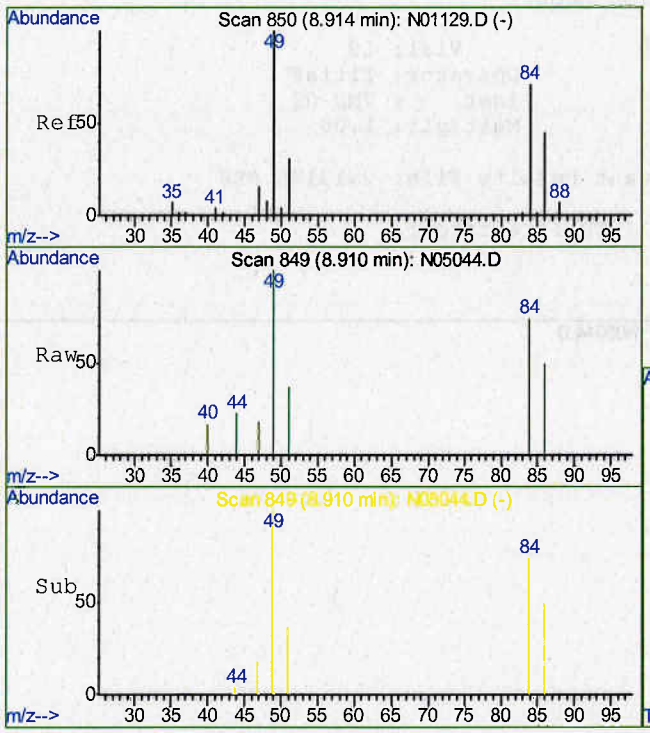
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05044.D Vial: 19
Acq On : 23 Feb 2009 6:10 pm Operator: TitiaF
Sample : C4507-4 Inst : VMS-02
Misc : MS713,VN168,2,,,,5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



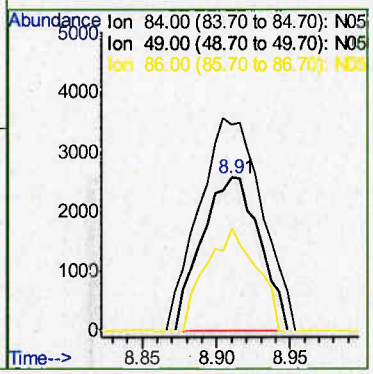
ACCUTEST Laboratories C4507

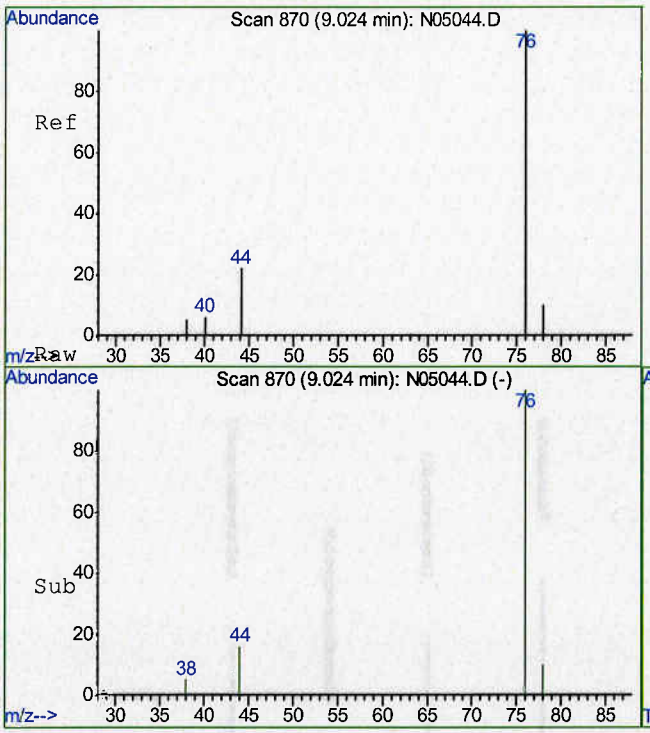


#16
Methylene Chloride
Concen: 1.02 ppb
RT: 8.91 min Scan# 849
Delta R.T. -0.00 min
Lab File: N05044.D
Acq: 23 Feb 2009 6:10 pm

Tgt Ion: 84 Resp: 70117

Ion	Ratio	Lower	Upper
84	100		
49	151.3	122.1	162.1
86	59.3	43.4	83.4

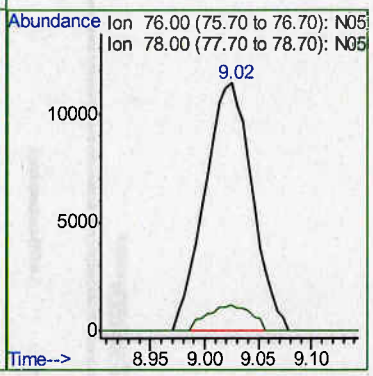




#17
Carbon Disulfide
Concen: 1.79 ppb
RT: 9.02 min Scan# 870
Delta R.T. -0.01 min
Lab File: N05044.D
Acq: 23 Feb 2009 6:10 pm

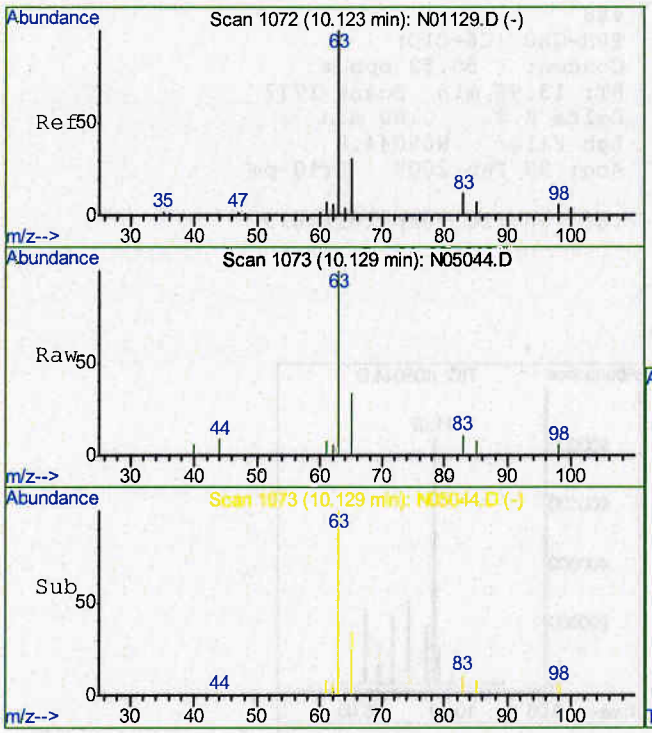
Tgt Ion: 76 Resp: 349524

Ion	Ratio	Lower	Upper
76	100		
78	9.8	7.4	11.0



6.1.14

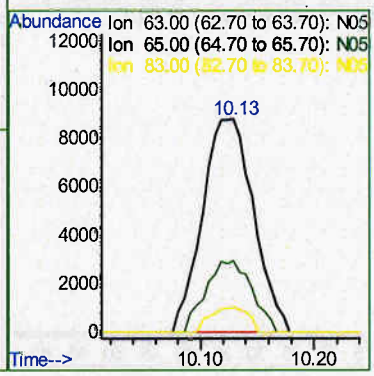
6

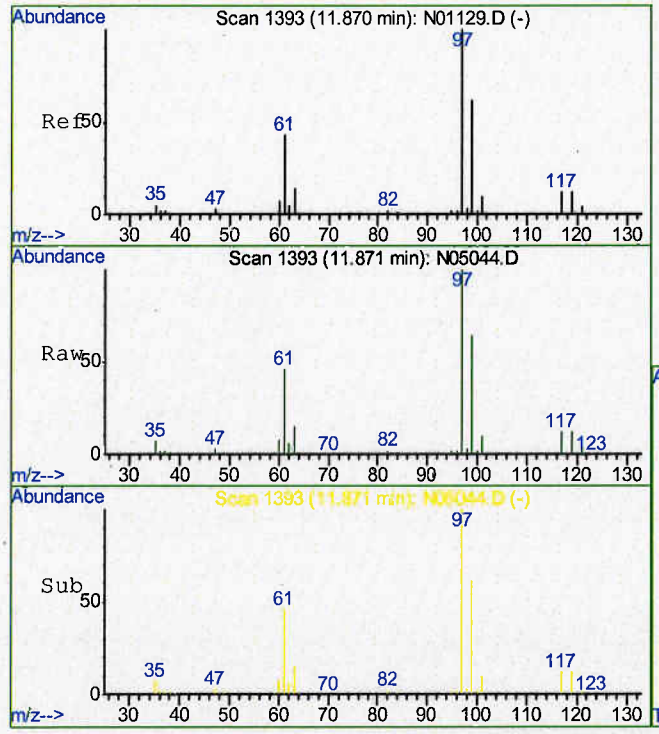


#22
1,1-Dichloroethane
Concen: 2.21 ppb
RT: 10.13 min Scan# 1073
Delta R.T. 0.00 min
Lab File: N05044.D
Acq: 23 Feb 2009 6:10 pm

Tgt Ion: 63 Resp: 275951

Ion	Ratio	Lower	Upper
63	100		
65	30.5	11.5	51.5
83	8.7	0.0	41.5

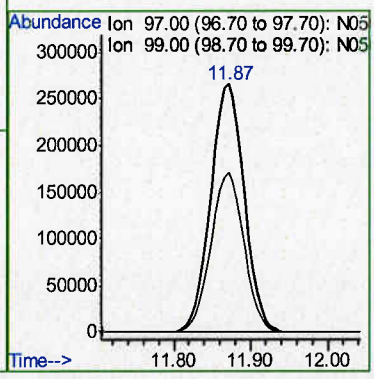




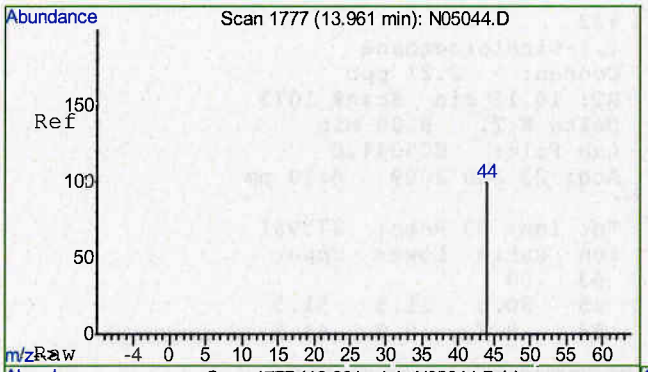
#31
1,1,1-Trichloroethane
Concen: 80.00 ppb
RT: 11.87 min Scan# 1393
Delta R.T. -0.00 min
Lab File: N05044.D
Acq: 23 Feb 2009 6:10 pm

Tgt Ion: 97 Resp: 8076232

Ion	Ratio	Lower	Upper
97	100		
99	63.9	44.0	84.0

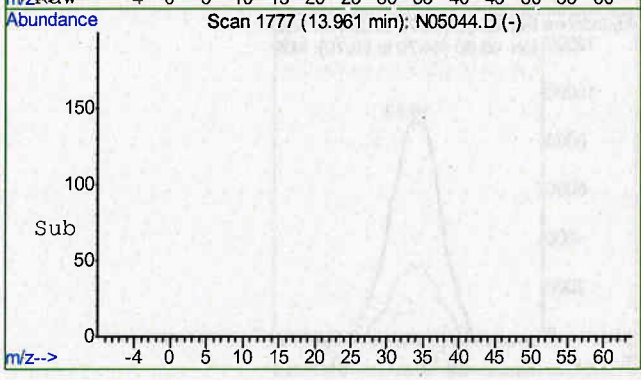


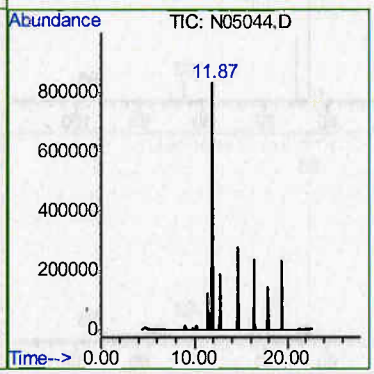
6.1.14 6



#88
TPH-GRO (C6-C10)
Concen: 50.52 ppb m
RT: 13.96 min Scan# 1777
Delta R.T. 0.00 min
Lab File: N05044.D
Acq: 23 Feb 2009 6:10 pm

Tgt Ion:TIC Resp:26242619





6.1.14

6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05045.D Vial: 20
Acq On : 23 Feb 2009 6:40 pm Operator: TitiaF
Sample : C4507-5 Inst : VMS-02
Misc : MS713,VN168,2,,,,5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

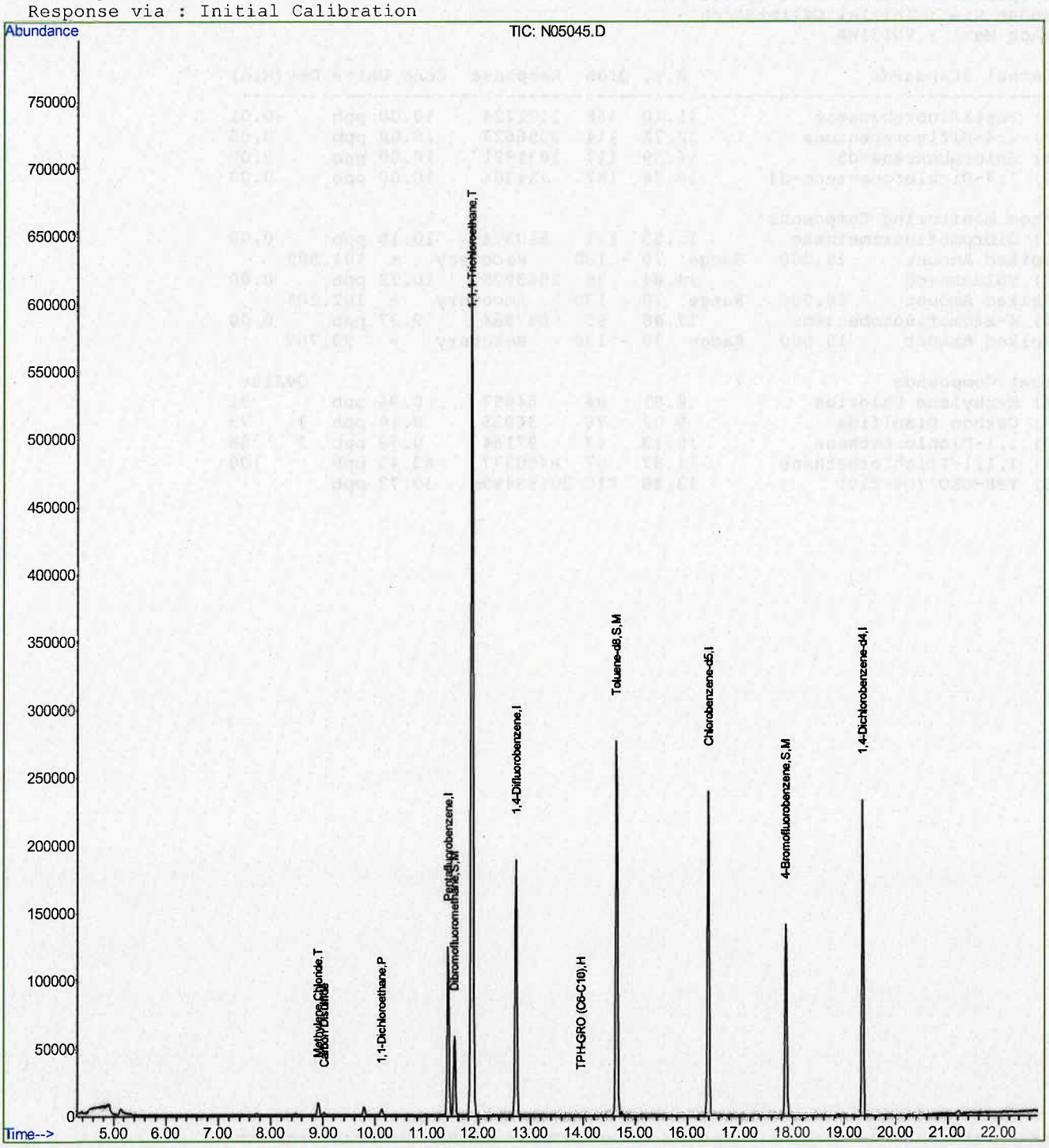
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1122724	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2056627	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	1831821	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	754904	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	550374	10.15 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 101.50%	
47) Toluene-d8	14.64	98	2563908	10.22 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 102.20%	
64) 4-Bromofluorobenzene	17.88	95	887984	9.37 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 93.70%	
Target Compounds					Qvalue
16) Methylene Chloride	8.91	84	64887	0.94 ppb	91
17) Carbon Disulfide	9.02	76	36035	0.18 ppb #	75
22) 1,1-Dichloroethane	10.13	63	97164	0.78 ppb #	88
31) 1,1,1-Trichloroethane	11.87	97	6400377	63.43 ppb	100
88) TPH-GRO (C6-C10)	13.96	TIC	20195499m	39.73 ppb	

(#) = qualifier out of range (m) = manual integration
N05045.D VN131WA.M Tue Feb 24 10:00:34 2009 RPT1

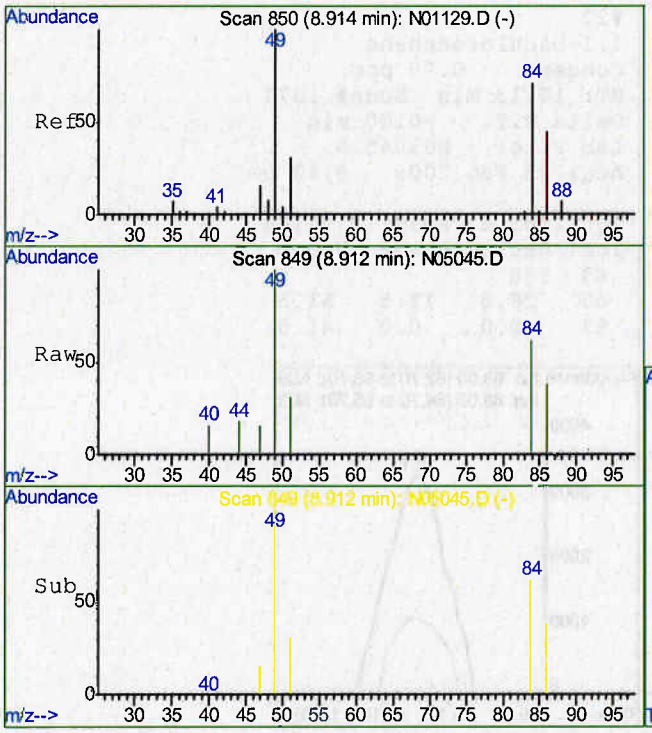
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05045.D Vial: 20
Acq On : 23 Feb 2009 6:40 pm Operator: TitiaF
Sample : C4507-5 Inst : VMS-02
Misc : MS713,VN168,2,,,,5 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



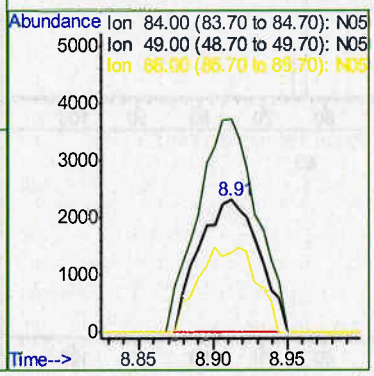
N05045.D VN131WA.M Tue Feb 24 10:00:35 2009 RPT1 Page 2

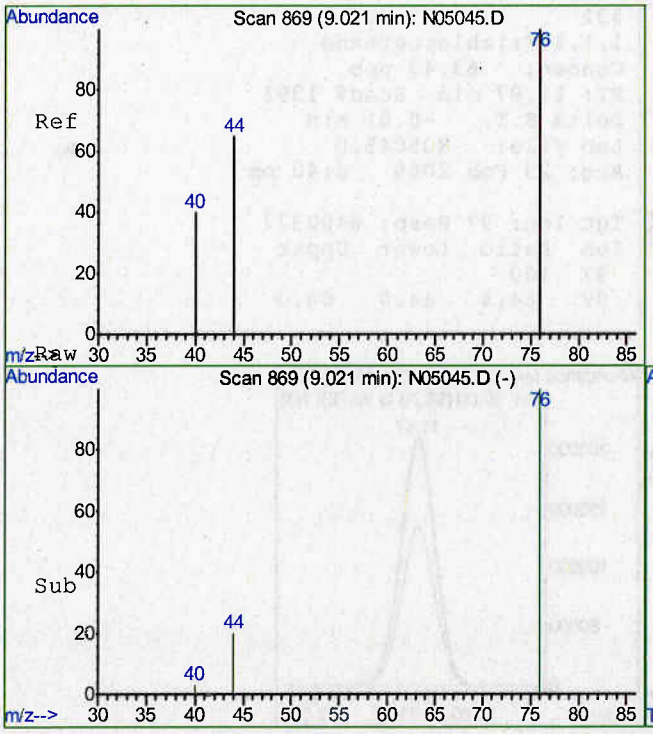


#16
Methylene Chloride
Concen: 0.94 ppb
RT: 8.91 min Scan# 849
Delta R.T. -0.00 min
Lab File: N05045.D
Acq: 23 Feb 2009 6:40 pm

Tgt Ion: 84 Resp: 64887

Ion	Ratio	Lower	Upper
84	100		
49	158.7	122.1	162.1
86	63.6	43.4	83.4

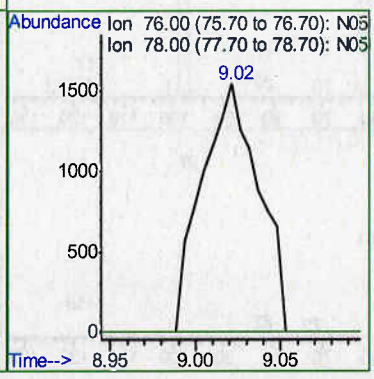


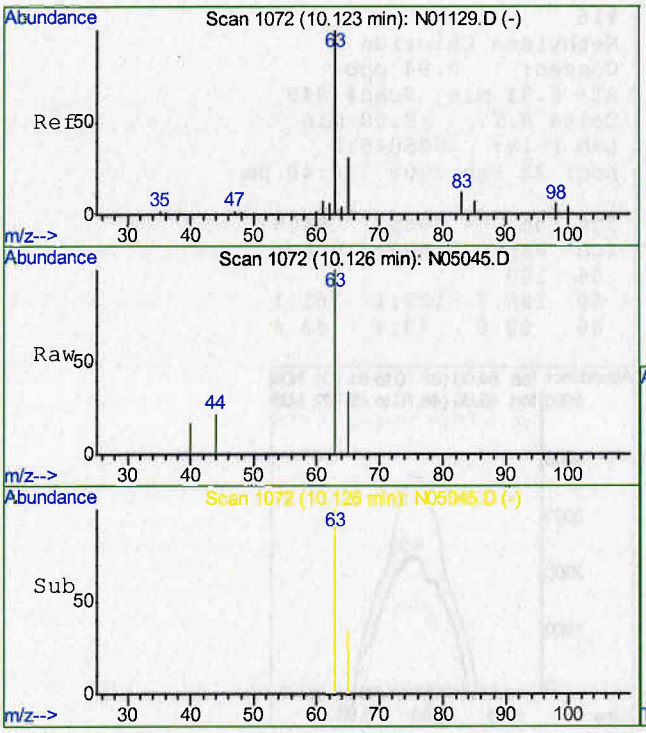


#17
Carbon Disulfide
Concen: 0.18 ppb
RT: 9.02 min Scan# 869
Delta R.T. -0.01 min
Lab File: N05045.D
Acq: 23 Feb 2009 6:40 pm

Tgt Ion: 76 Resp: 36035

Ion	Ratio	Lower	Upper
76	100		
78	0.0	7.4	11.0#

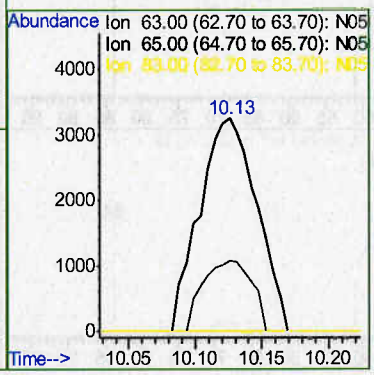


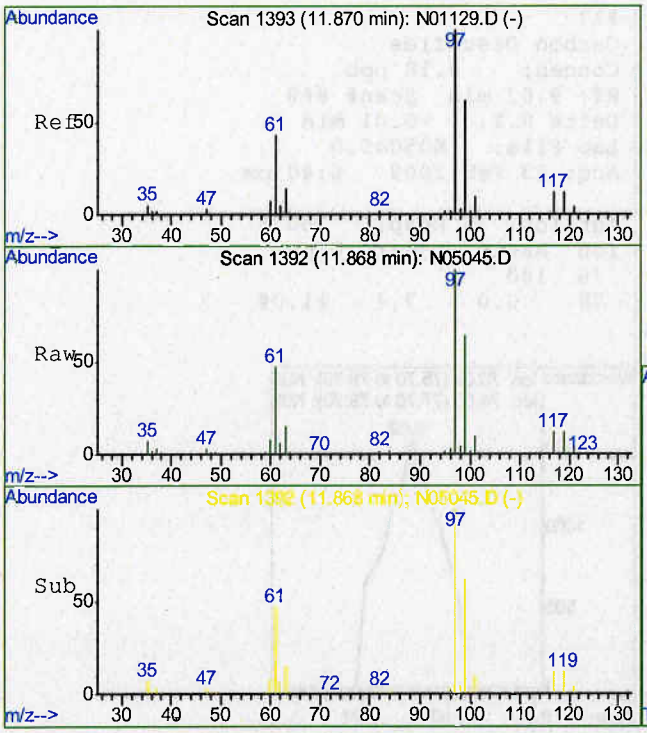


#22
1,1-Dichloroethane
Concen: 0.78 ppb
RT: 10.13 min Scan# 1072
Delta R.T. -0.00 min
Lab File: N05045.D
Acq: 23 Feb 2009 6:40 pm

Tgt Ion: 63 Resp: 97164

Ion	Ratio	Lower	Upper
63	100		
65	28.6	11.5	51.5
83	0.0	0.0	41.5

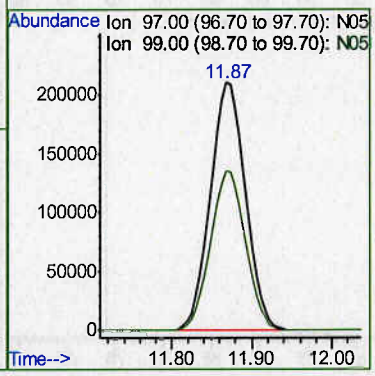




#31
1,1,1-Trichloroethane
Concen: 63.43 ppb
RT: 11.87 min Scan# 1392
Delta R.T. -0.01 min
Lab File: N05045.D
Acq: 23 Feb 2009 6:40 pm

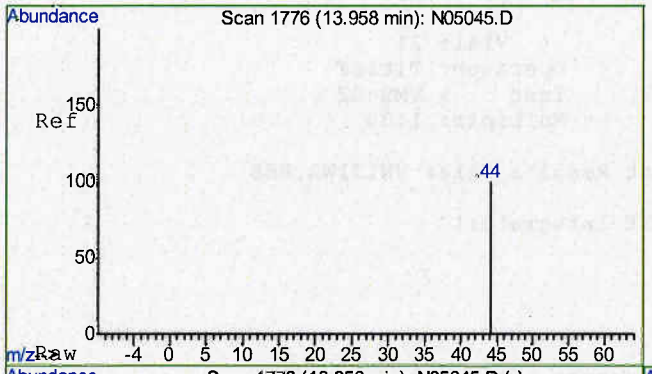
Tgt Ion: 97 Resp: 6400377

Ion	Ratio	Lower	Upper
97	100		
99	64.4	44.0	84.0



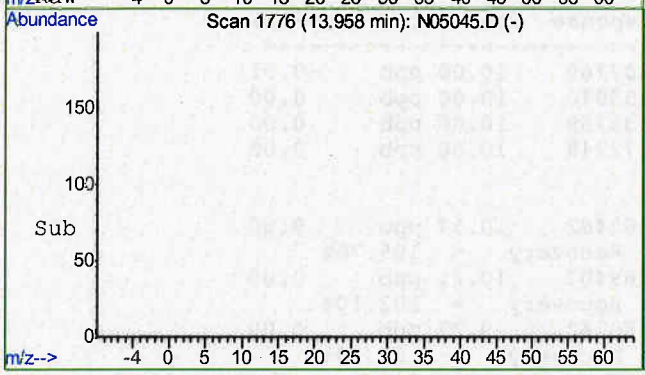
6.1.15

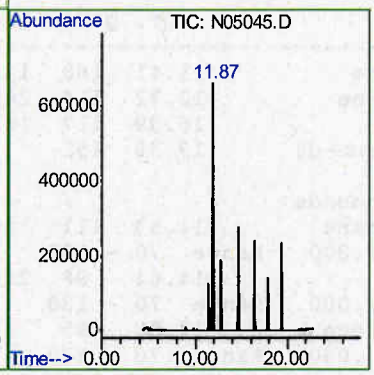
6



#88
TPH-GRO (C6-C10)
Concen: 39.73 ppb m
RT: 13.96 min Scan# 1776
Delta R.T. 0.00 min
Lab File: N05045.D
Acq: 23 Feb 2009 6:40 pm

Tgt Ion:TIC Resp:20195499





6.1.15 6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05046.D Vial: 21
Acq On : 23 Feb 2009 7:09 pm Operator: TitiaF
Sample : C4507-6 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 10:02 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1107769	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2053870	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	1836769	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	772948	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	565482	10.57 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 105.70%	
47) Toluene-d8	14.64	98	2569407	10.21 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 102.10%	
64) 4-Bromofluorobenzene	17.88	95	880762	9.27 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 92.70%	

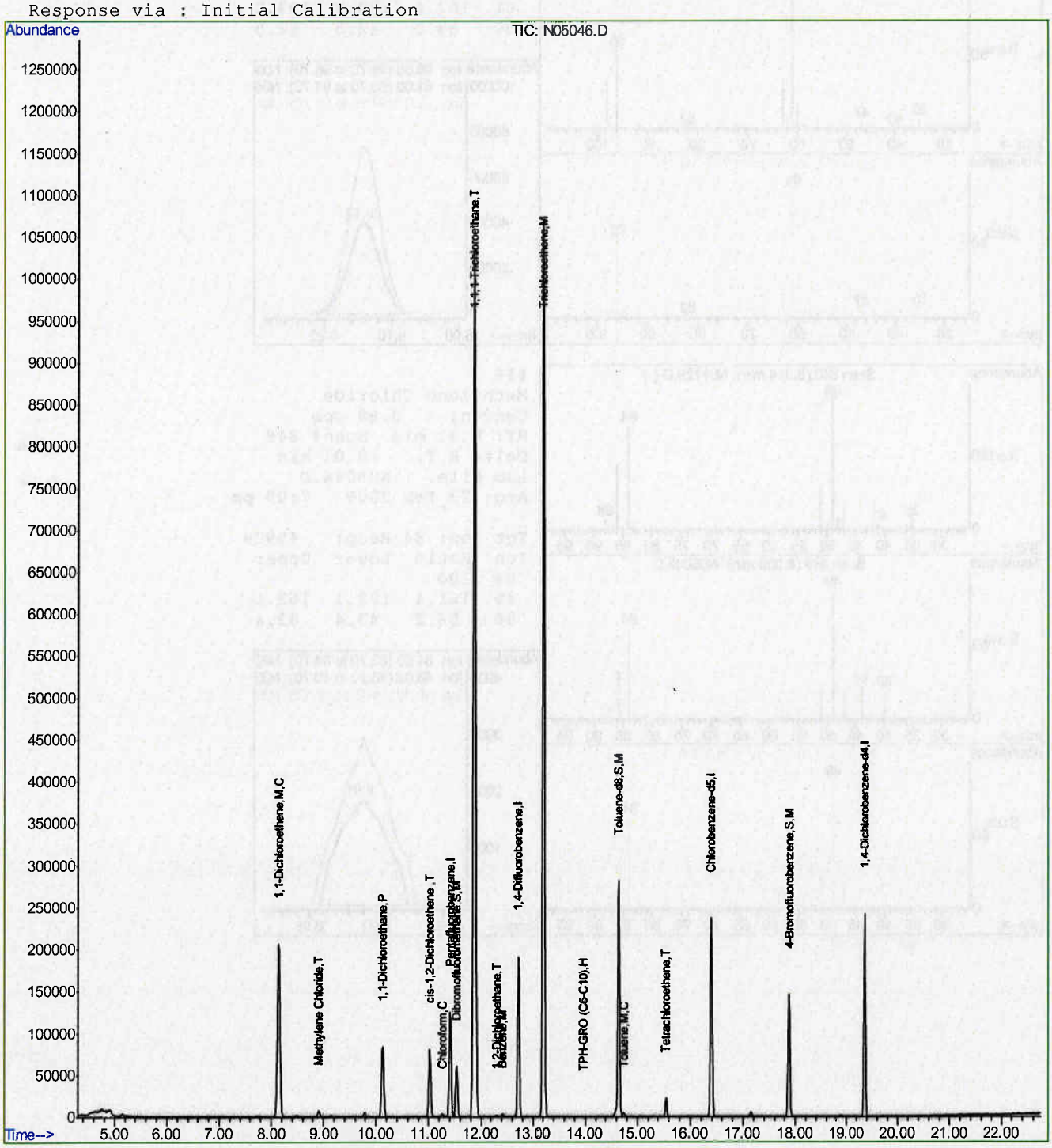
Target Compounds						Qvalue
12) 1,1-Dichloroethene	8.14	96	1351660	24.61 ppb		95
16) Methylene Chloride	8.91	84	45929	0.68 ppb		86
22) 1,1-Dichloroethane	10.12	63	1343132	10.89 ppb		100
27) cis-1,2-Dichloroethene	11.02	96	516525	7.53 ppb		93
28) Chloroform	11.26	83	43225	0.40 ppb		92
31) 1,1,1-Trichloroethane	11.87	97	9974709	100.18 ppb		100
36) 1,2-Dichloroethane	12.30	62	28165	0.42 ppb	#	42
37) Benzene	12.41	78	62421	0.21 ppb		100
38) Trichloroethene	13.20	95	4858868	70.63 ppb		99
48) Toluene	14.73	92	31587	0.16 ppb		86
53) Tetrachloroethene	15.54	164	71522	1.34 ppb		98
88) TPH-GRO (C6-C10)	13.96	TIC	70409058m	135.29 ppb		

(#) = qualifier out of range (m) = manual integration

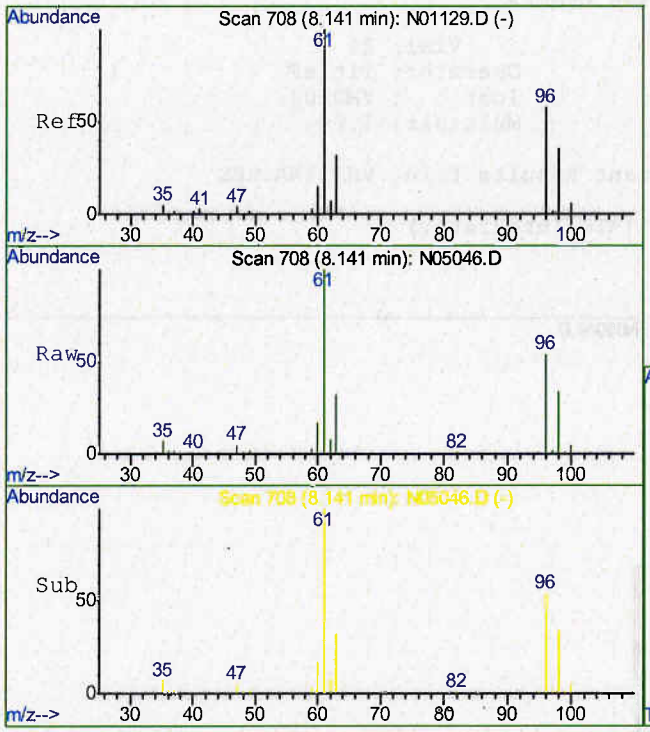
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05046.D Vial: 21
Acq On : 23 Feb 2009 7:09 pm Operator: TitiaF
Sample : C4507-6 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 10:02 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



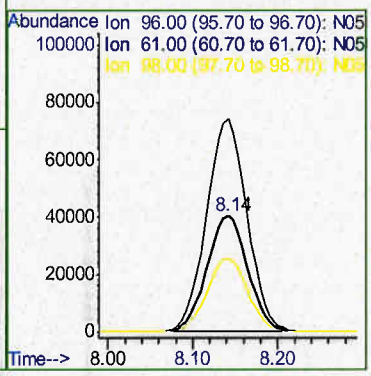
ACCUTEST Laboratories C4507

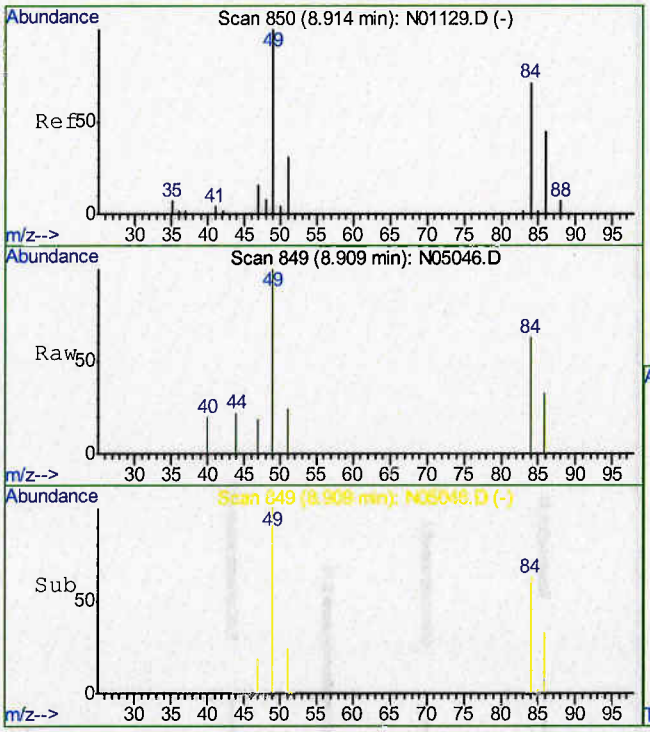


#12
1,1-Dichloroethene
Concen: 24.61 ppb
RT: 8.14 min Scan# 708
Delta R.T. -0.01 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

Tgt Ion: 96 Resp: 1351660

Ion	Ratio	Lower	Upper
96	100		
61	182.6	153.2	193.2
98	63.0	42.5	82.5

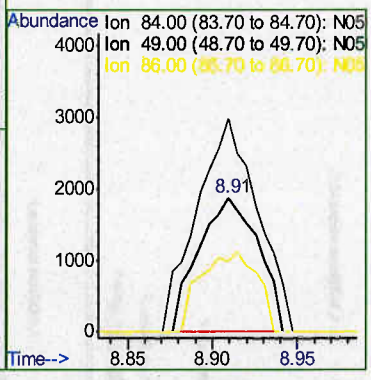




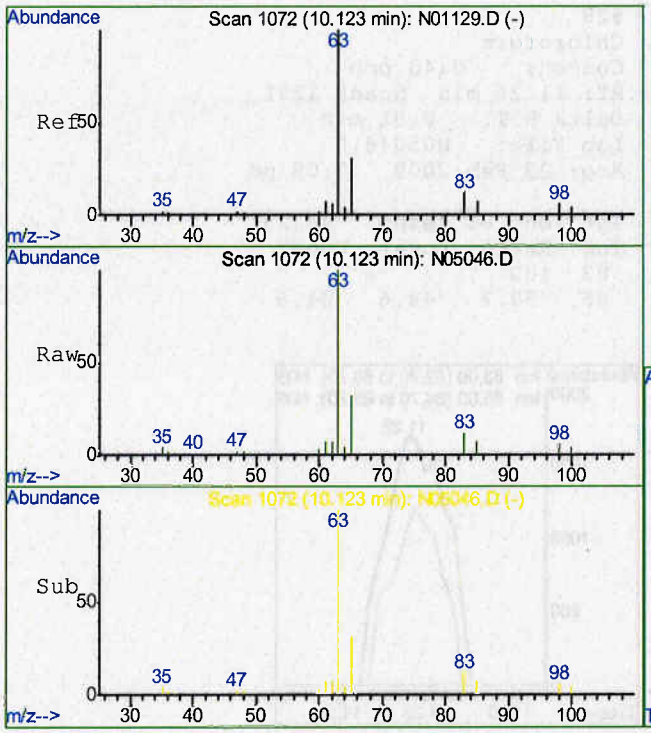
#16
Methylene Chloride
Concen: 0.68 ppb
RT: 8.91 min Scan# 849
Delta R.T. -0.01 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

Tgt Ion: 84 Resp: 45929

Ion	Ratio	Lower	Upper
84	100		
49	161.4	122.1	162.1
86	56.2	43.4	83.4



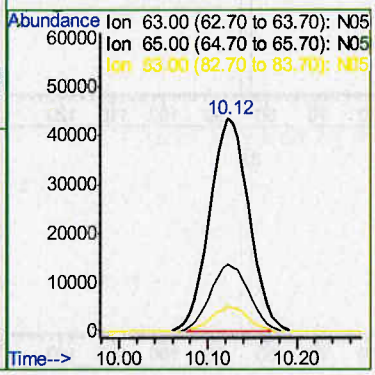
6.1.16 6

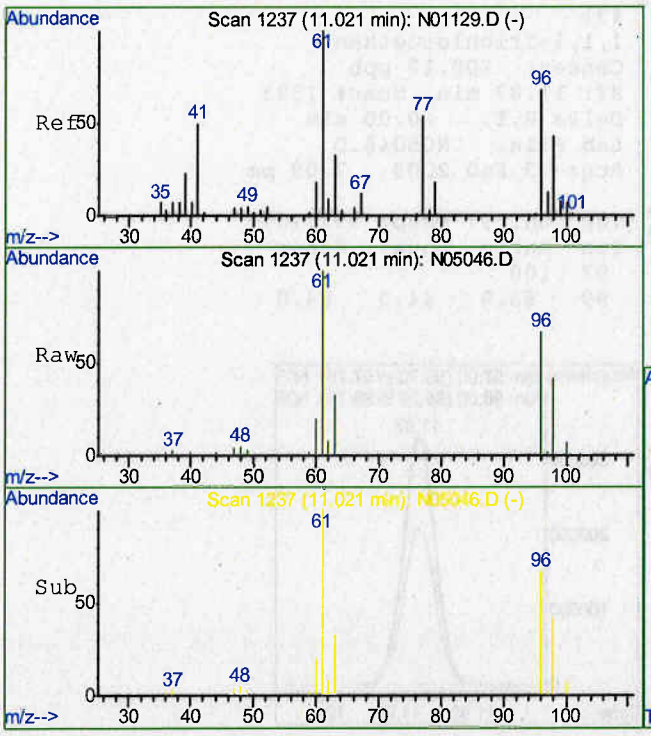


#22
1,1-Dichloroethane
Concen: 10.89 ppb
RT: 10.12 min Scan# 1072
Delta R.T. -0.01 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

Tgt Ion: 63 Resp: 1343132

Ion	Ratio	Lower	Upper
63	100		
65	31.6	11.5	51.5
83	11.2	0.0	41.5

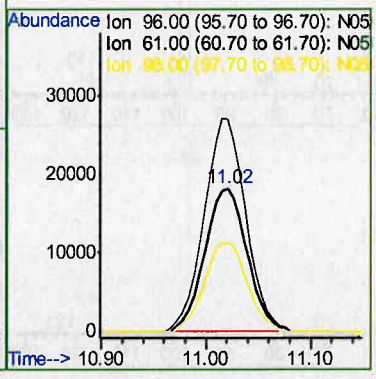




#27
cis-1,2-Dichloroethene
Concen: 7.53 ppb
RT: 11.02 min Scan# 1237
Delta R.T. -0.00 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

Tgt Ion: 96 Resp: 516525

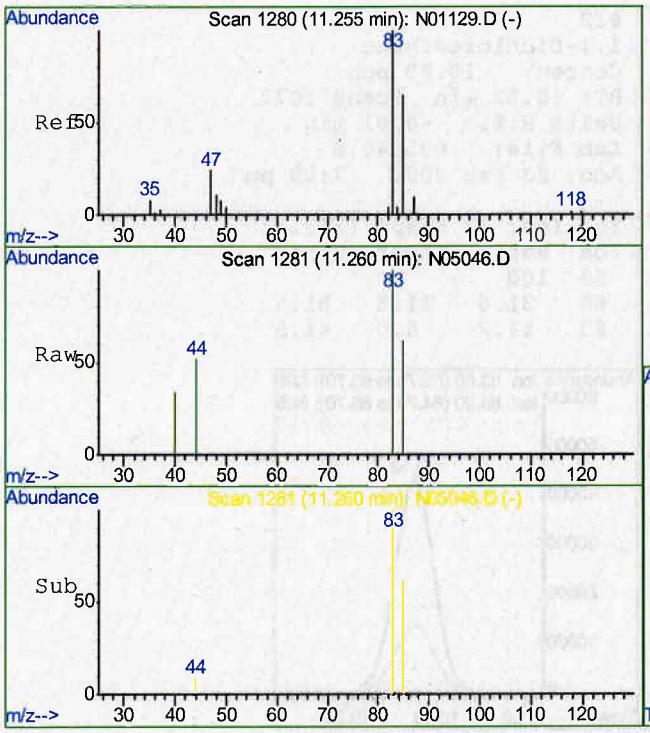
Ion	Ratio	Lower	Upper
96	100		
61	146.7	140.0	180.0
98	63.1	43.7	83.7



6.1.16

6

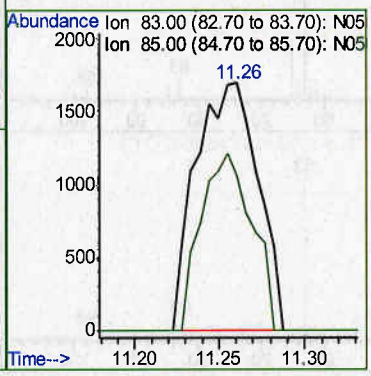
ACCUTEST Laboratories C4507

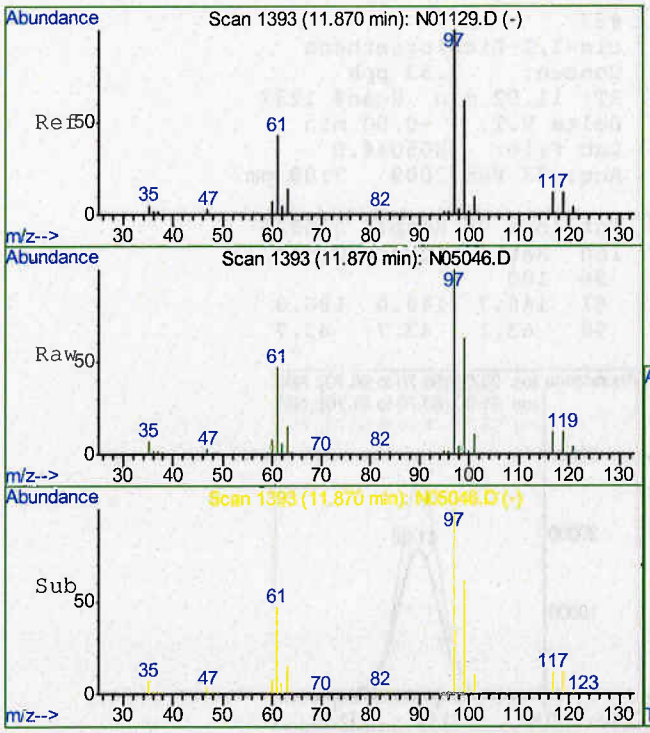


#28
Chloroform
Concen: 0.40 ppb
RT: 11.26 min Scan# 1281
Delta R.T. 0.01 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

Tgt Ion: 83 Resp: 43225

Ion	Ratio	Lower	Upper
83	100		
85	58.7	44.6	84.6

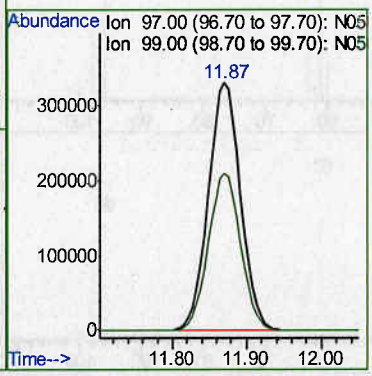




#31
1,1,1-Trichloroethane
Concen: 100.18 ppb
RT: 11.87 min Scan# 1393
Delta R.T. -0.00 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

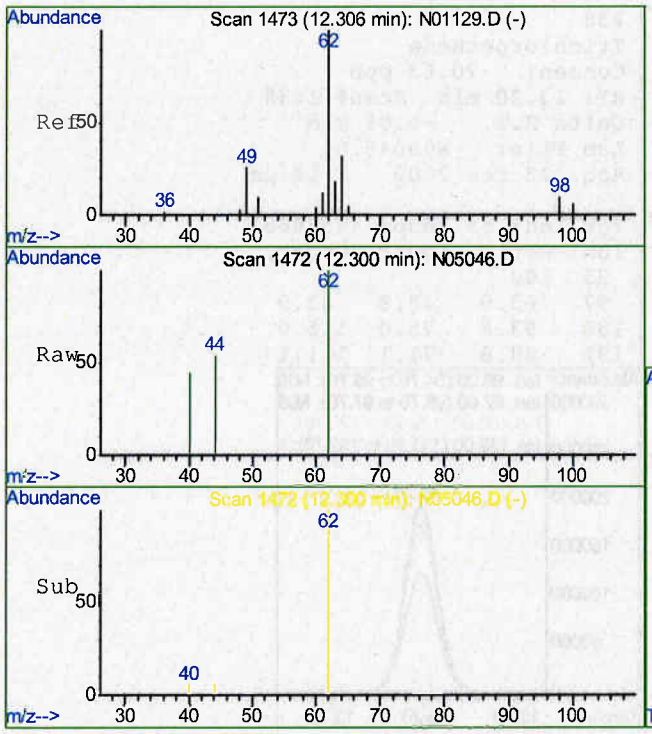
Tgt Ion: 97 Resp: 9974709

Ion	Ratio	Lower	Upper
97	100		
99	63.9	44.0	84.0



6.1.16

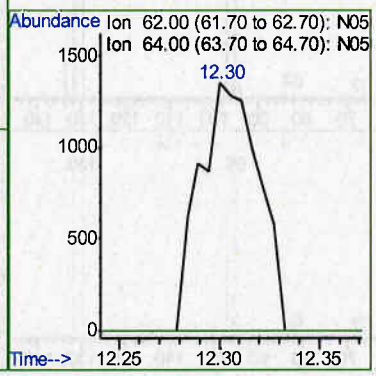
6

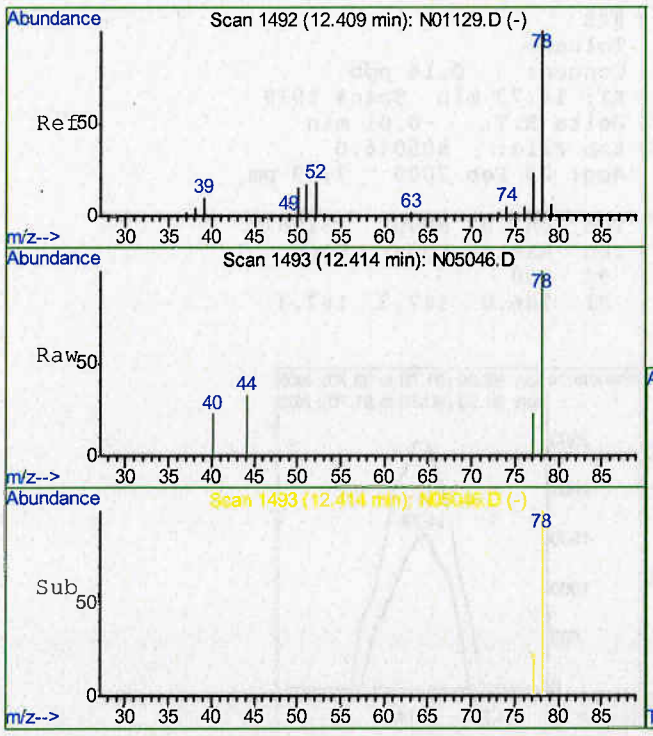


#36
1,2-Dichloroethane
Concen: 0.42 ppb
RT: 12.30 min Scan# 1472
Delta R.T. -0.00 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

Tgt Ion: 62 Resp: 28165

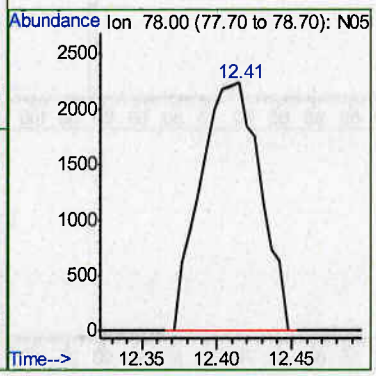
Ion	Ratio	Lower	Upper
62	100		
64	0.0	12.2	52.2#



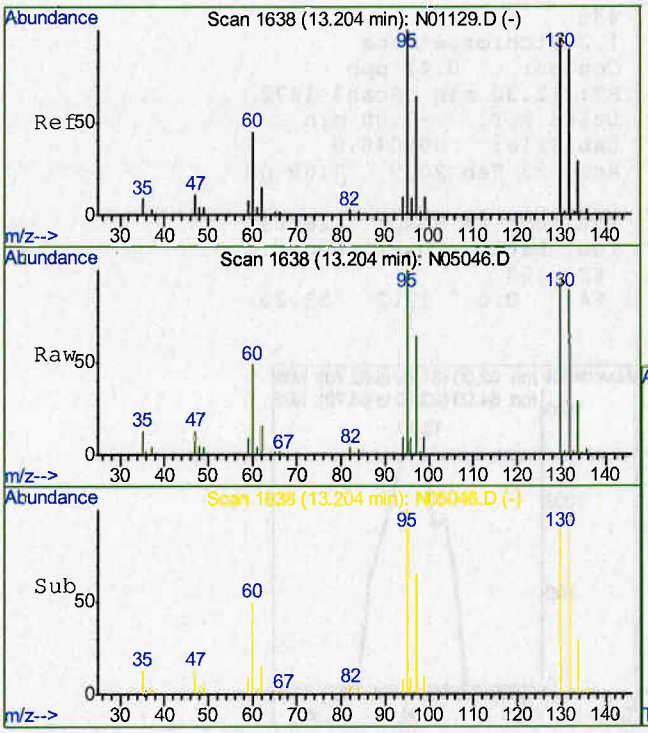


#37
Benzene
Concen: 0.21 ppb
RT: 12.41 min Scan# 1493
Delta R.T. 0.00 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

Tgt Ion: 78 Resp: 62421



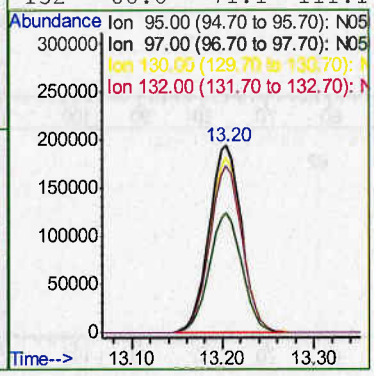
6.1.16 6

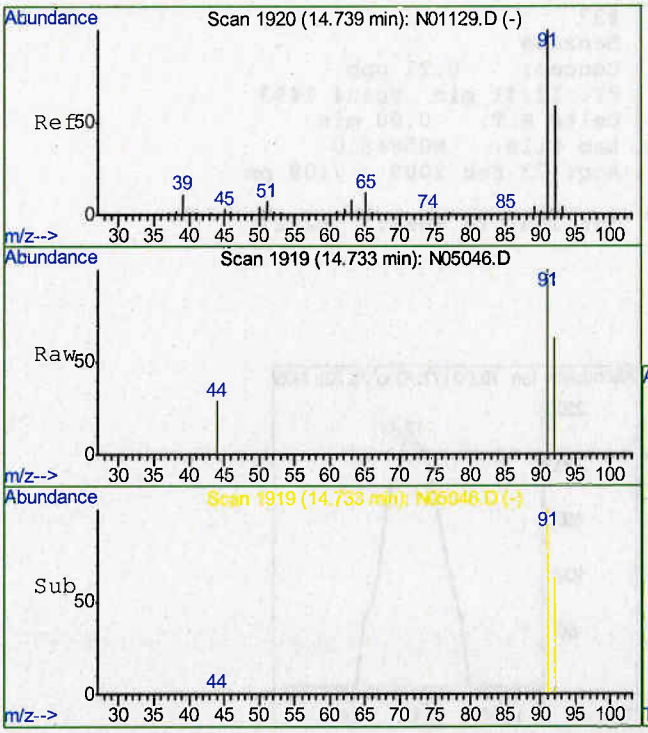


#38
Trichloroethene
Concen: 70.63 ppb
RT: 13.20 min Scan# 1638
Delta R.T. -0.01 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

Tgt Ion: 95 Resp: 4858868

Ion	Ratio	Lower	Upper
95	100		
97	63.9	43.9	83.9
130	93.6	75.0	115.0
132	88.8	71.1	111.1

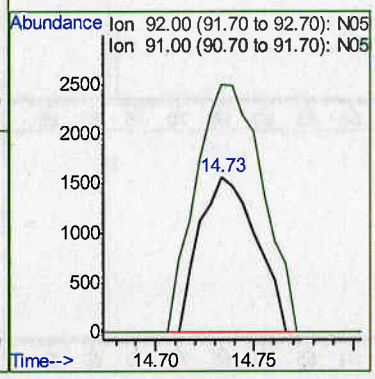




#48
Toluene
Concen: 0.16 ppb
RT: 14.73 min Scan# 1919
Delta R.T. -0.01 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

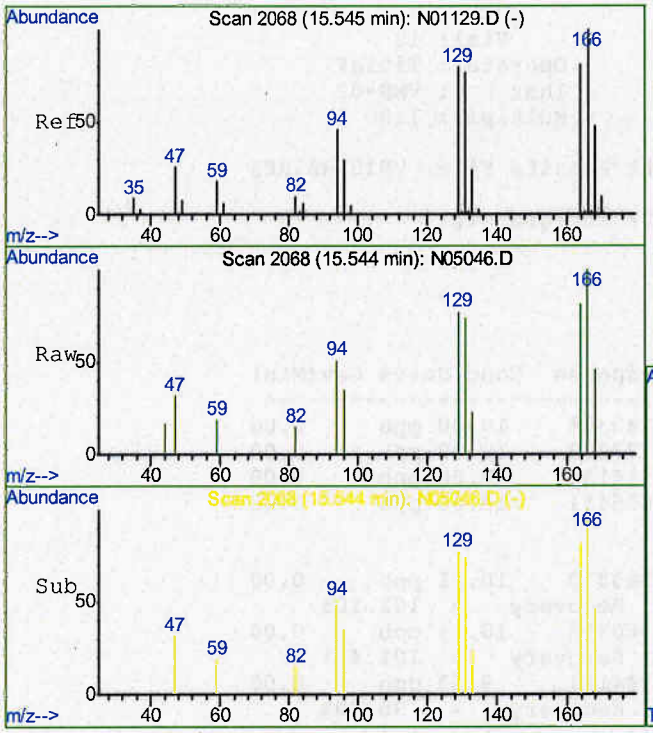
Tgt Ion: 92 Resp: 31587

Ion	Ratio	Lower	Upper
92	100		
91	186.0	147.3	187.3



6.1.16 6

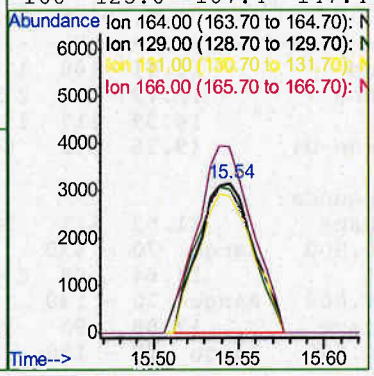
ACCUTEST Laboratories C4507

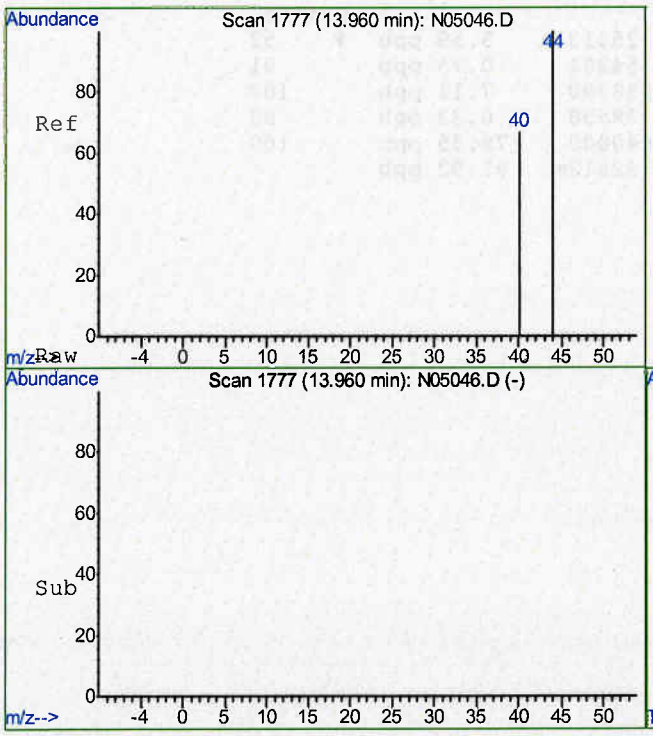


#53
Tetrachloroethene
Concen: 1.34 ppb
RT: 15.54 min Scan# 2068
Delta R.T. 0.00 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

Tgt Ion:164 Resp: 71522

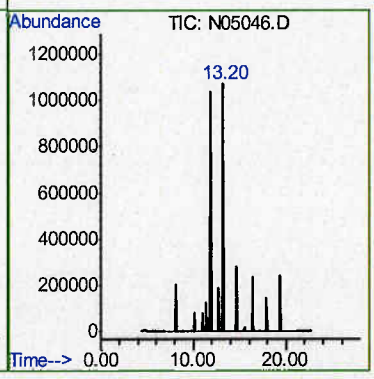
Ion	Ratio	Lower	Upper
164	100		
129	101.5	80.8	120.8
131	93.3	76.7	116.7
166	125.0	107.4	147.4





#88
TPH-GRO (C6-C10)
Concen: 135.29 ppb m
RT: 13.96 min Scan# 1777
Delta R.T. 0.00 min
Lab File: N05046.D
Acq: 23 Feb 2009 7:09 pm

Tgt Ion:TIC Resp:70409058



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05037.D Vial: 12
Acq On : 23 Feb 2009 2:41 pm Operator: TitiaF
Sample : C4507-7 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

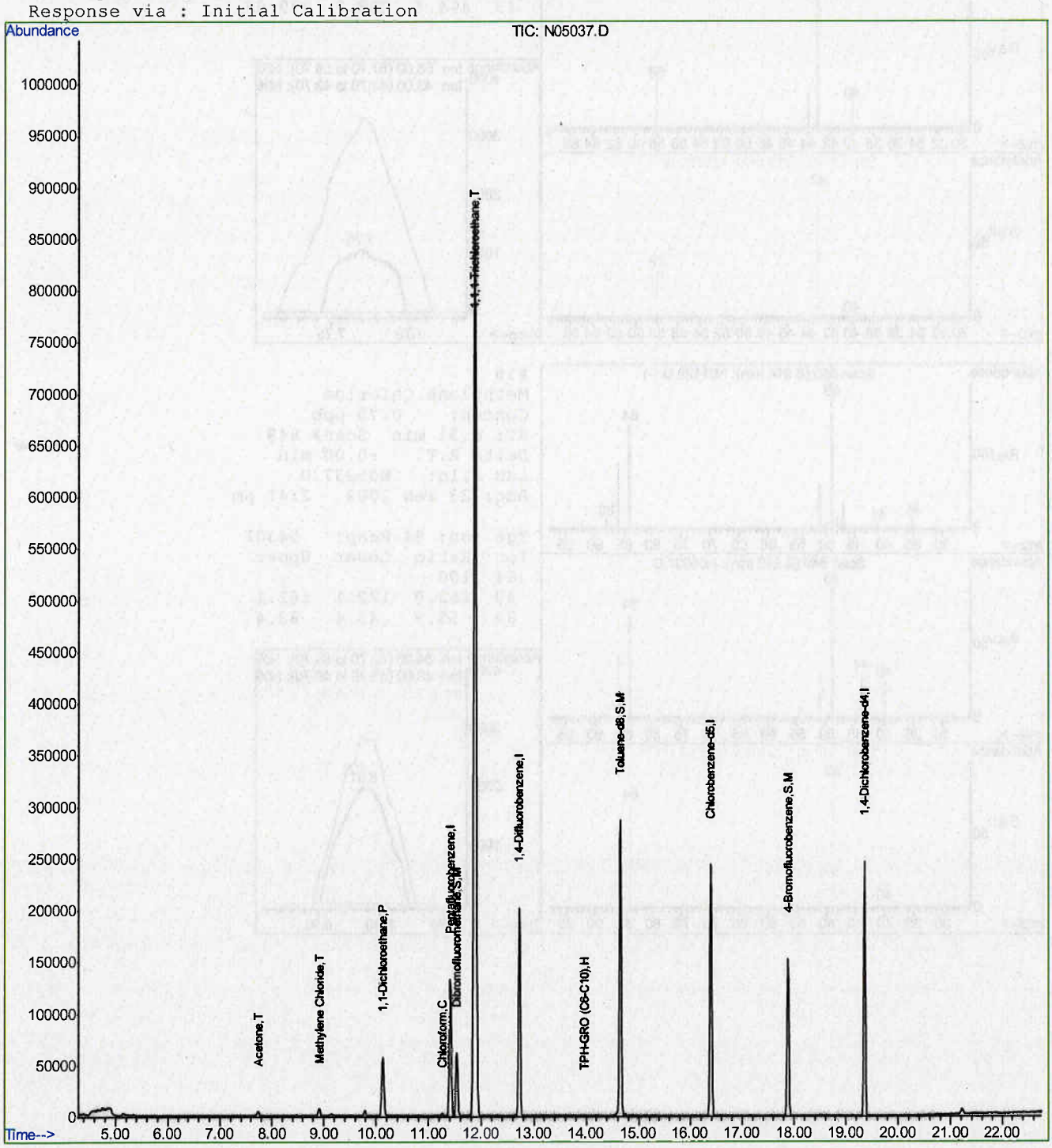
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1183358	10.00 ppb	0.00
33) 1,4-Difluorobenzene	12.72	114	2173203	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	1916158	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	806451	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	583510	10.21 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 102.10%	
47) Toluene-d8	14.64	98	2660753	10.14 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 101.40%	
64) 4-Bromofluorobenzene	17.88	95	944151	9.53 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 95.30%	
Target Compounds					Qvalue
10) Acetone	7.73	58	25513	5.59 ppb #	52
16) Methylene Chloride	8.91	84	54301	0.75 ppb	91
22) 1,1-Dichloroethane	10.12	63	938398	7.12 ppb	100
28) Chloroform	11.26	83	38558	0.33 ppb	90
31) 1,1,1-Trichloroethane	11.87	97	8440000	79.35 ppb	100
88) TPH-GRO (C6-C10)	13.96	TIC	28192512m	51.92 ppb	

(#) = qualifier out of range (m) = manual integration

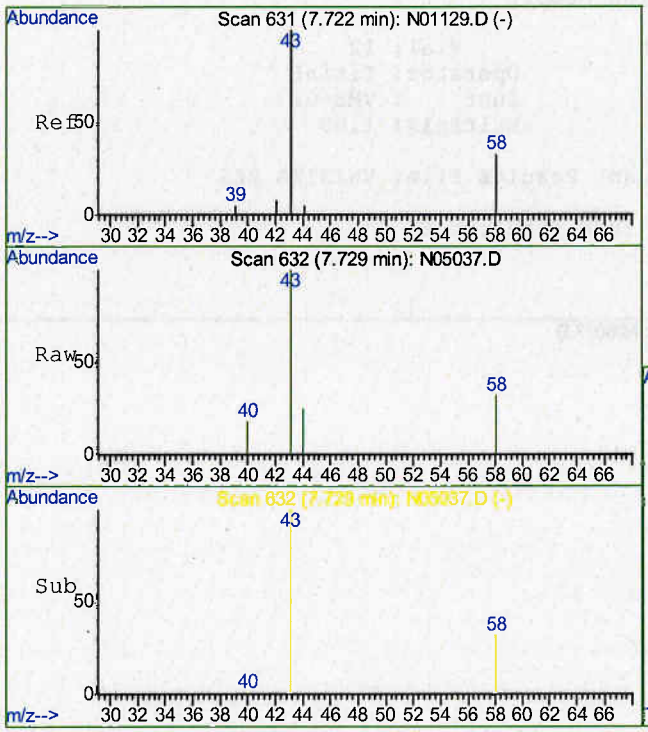
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05037.D Vial: 12
Acq On : 23 Feb 2009 2:41 pm Operator: TitiaF
Sample : C4507-7 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



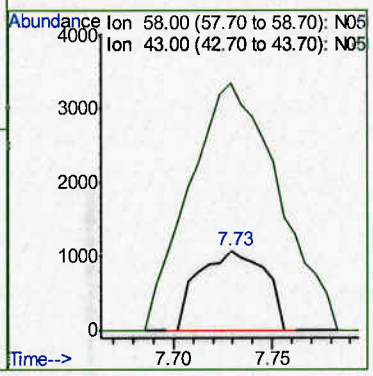
ACCUTEST Laboratories C4507

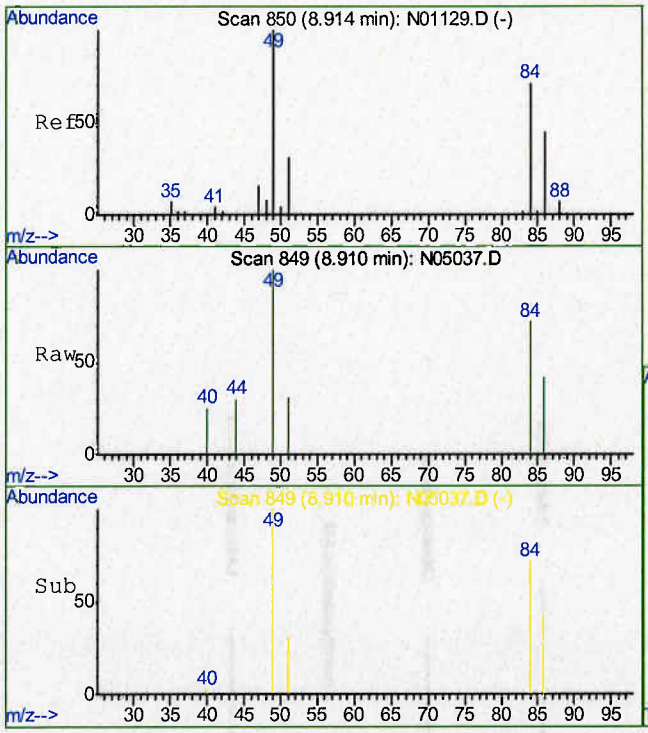


#10
Acetone
Concen: 5.59 ppb
RT: 7.73 min Scan# 632
Delta R.T. 0.00 min
Lab File: N05037.D
Acq: 23 Feb 2009 2:41 pm

Tgt Ion: 58 Resp: 25513

Ion	Ratio	Lower	Upper
58	100		
43	414.6	253.2	379.8#

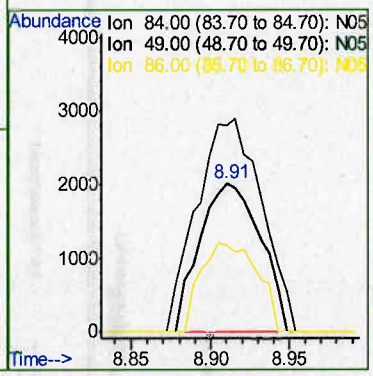




#16
Methylene Chloride
Concen: 0.75 ppb
RT: 8.91 min Scan# 849
Delta R.T. -0.00 min
Lab File: N05037.D
Acq: 23 Feb 2009 2:41 pm

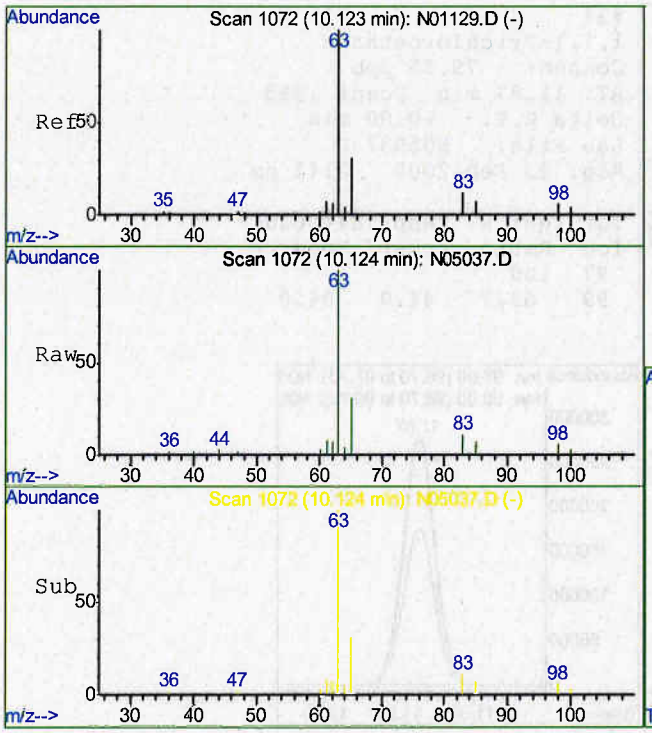
Tgt Ion: 84 Resp: 54301

Ion	Ratio	Lower	Upper
84	100		
49	152.9	122.1	162.1
86	55.9	43.4	83.4



6.1.17

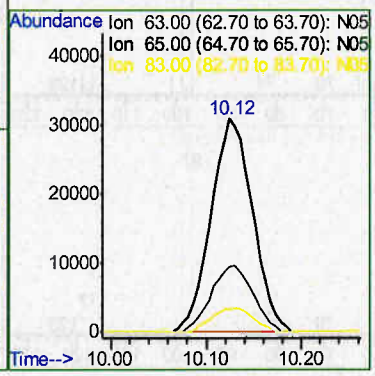
6

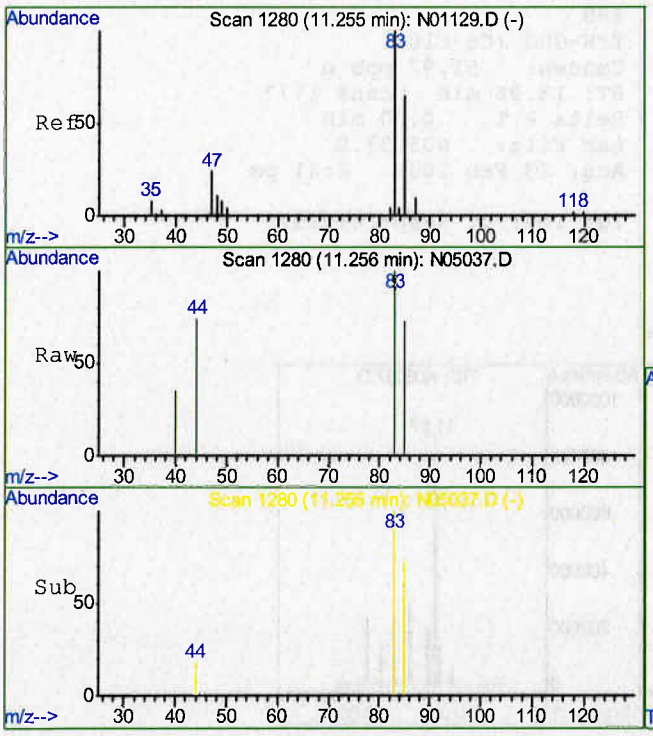


#22
1,1-Dichloroethane
Concen: 7.12 ppb
RT: 10.12 min Scan# 1072
Delta R.T. -0.00 min
Lab File: N05037.D
Acq: 23 Feb 2009 2:41 pm

Tgt Ion: 63 Resp: 938398

Ion	Ratio	Lower	Upper
63	100		
65	31.3	11.5	51.5
83	11.2	0.0	41.5

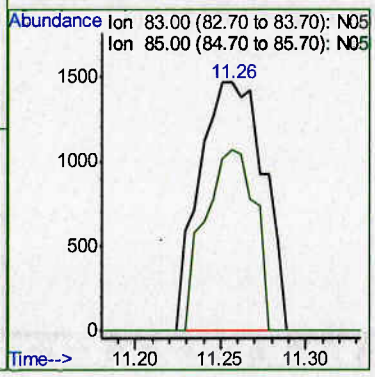




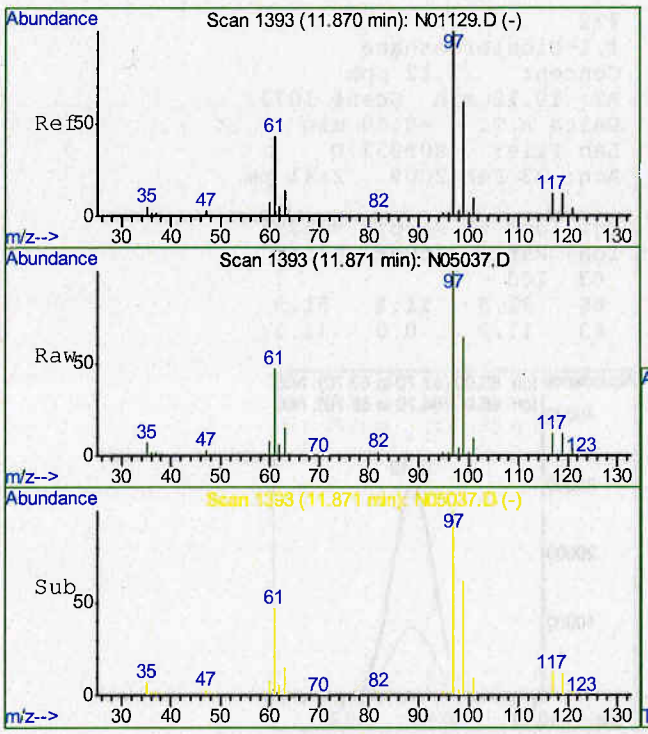
#28
Chloroform
Concen: 0.33 ppb
RT: 11.26 min Scan# 1280
Delta R.T. 0.00 min
Lab File: N05037.D
Acq: 23 Feb 2009 2:41 pm

Tgt Ion: 83 Resp: 38558

Ion	Ratio	Lower	Upper
83	100		
85	56.4	44.6	84.6



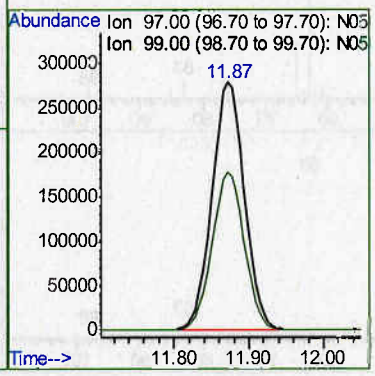
6.1.17 6

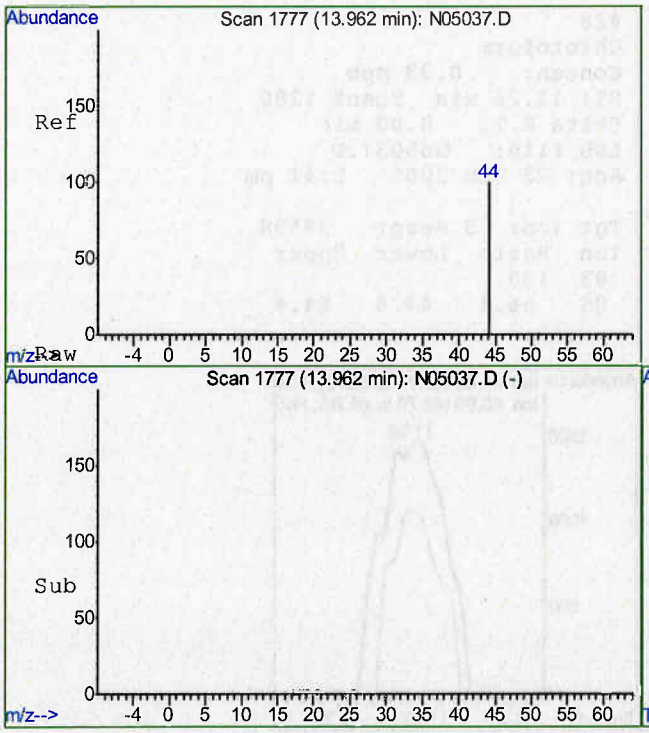


#31
1,1,1-Trichloroethane
Concen: 79.35 ppb
RT: 11.87 min Scan# 1393
Delta R.T. -0.00 min
Lab File: N05037.D
Acq: 23 Feb 2009 2:41 pm

Tgt Ion: 97 Resp: 8440000

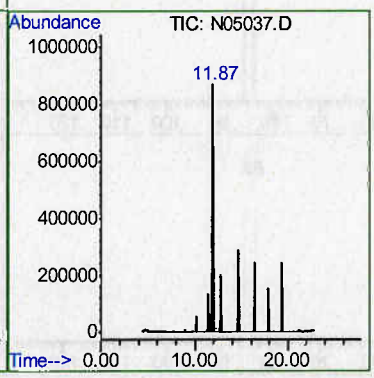
Ion	Ratio	Lower	Upper
97	100		
99	63.7	44.0	84.0





#88
TPH-GRO (C6-C10)
Concen: 51.92 ppb m
RT: 13.96 min Scan# 1777
Delta R.T. 0.00 min
Lab File: N05037.D
Acq: 23 Feb 2009 2:41 pm

Tgt Ion:TIC Resp:28192512



6.1.17

6

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05038.D Vial: 13
Acq On : 23 Feb 2009 3:11 pm Operator: TitiaF
Sample : C4507-8 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

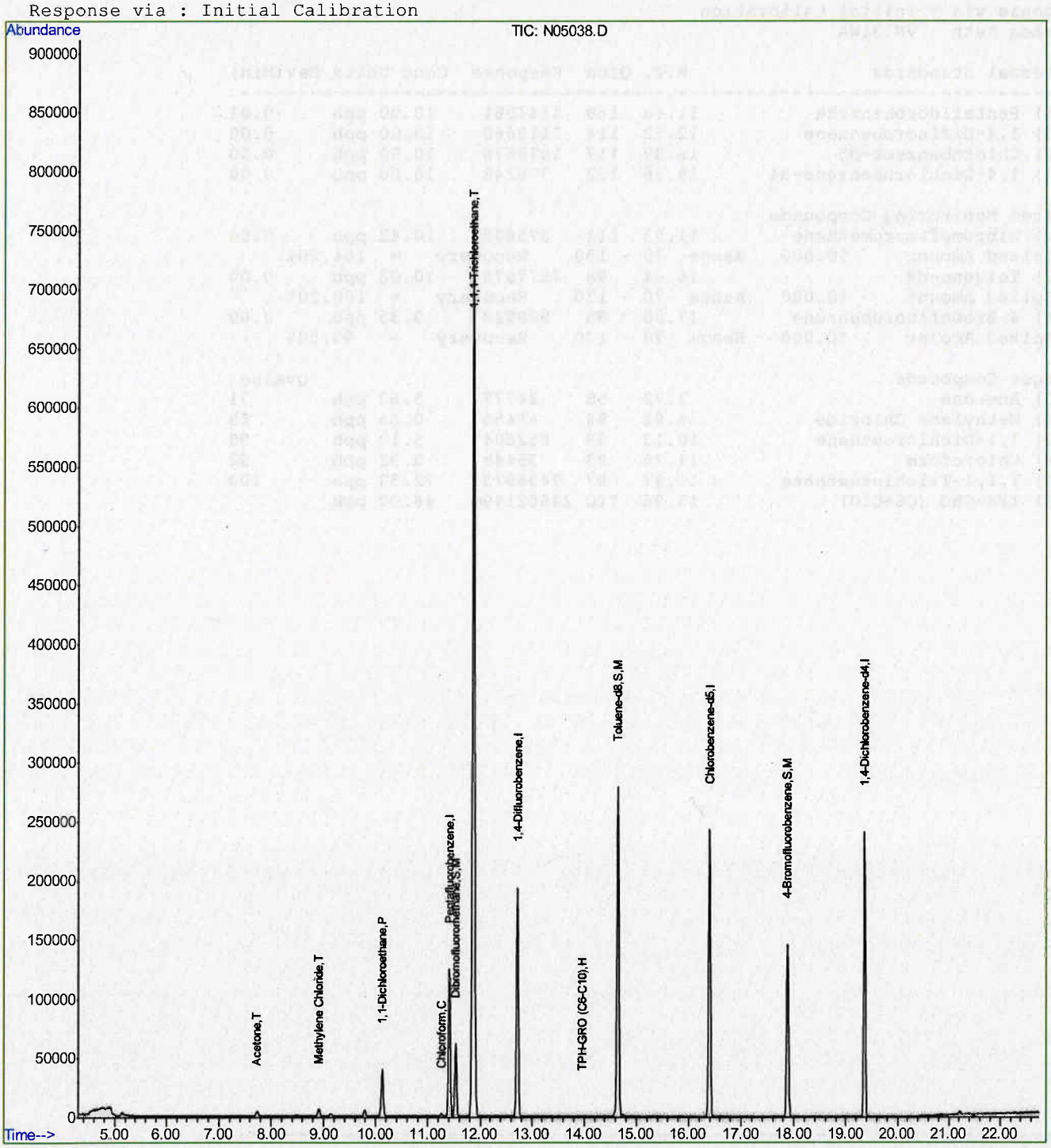
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1144061	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2119660	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	1878676	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	796248	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	575605	10.42 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 104.20%	
47) Toluene-d8	14.64	98	2577876	10.02 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 100.20%	
64) 4-Bromofluorobenzene	17.88	95	908929	9.35 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 93.50%	
Target Compounds					Qvalue
10) Acetone	7.72	58	24777	5.62 ppb	71
16) Methylene Chloride	8.92	84	45455	0.65 ppb	85
22) 1,1-Dichloroethane	10.13	63	652604	5.12 ppb	98
28) Chloroform	11.26	83	35448	0.32 ppb	92
31) 1,1,1-Trichloroethane	11.87	97	7436973	72.33 ppb	100
88) TPH-GRO (C6-C10)	13.96	TIC	24662149m	46.00 ppb	

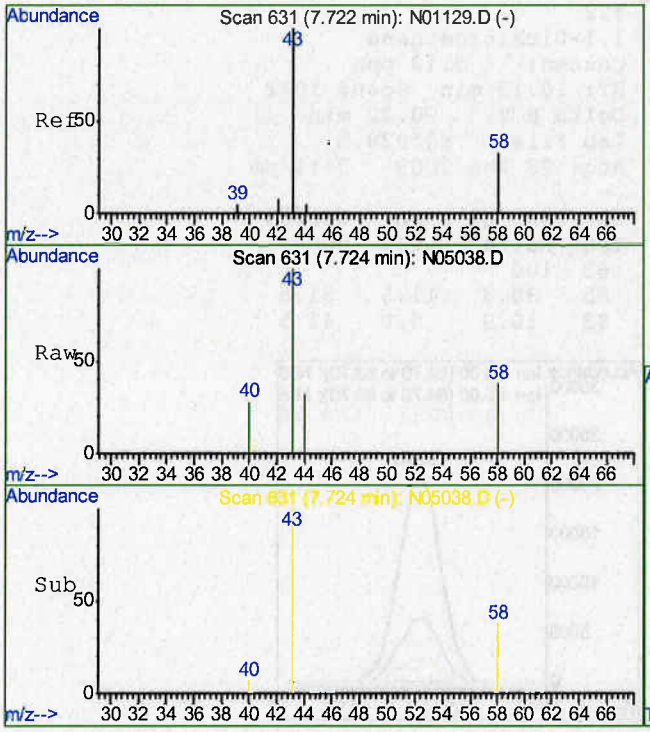
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05038.D Vial: 13
Acq On : 23 Feb 2009 3:11 pm Operator: TitiaF
Sample : C4507-8 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration

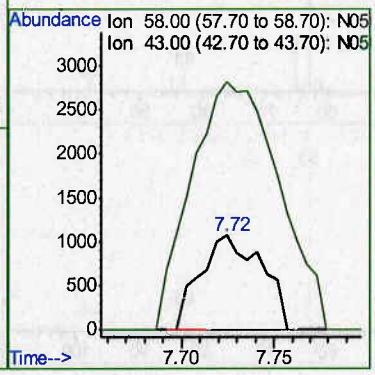


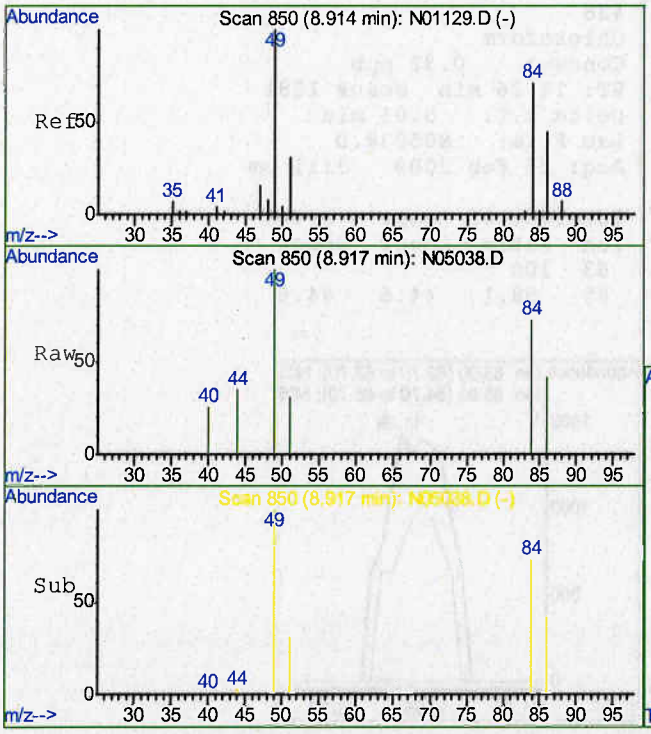


#10
Acetone
Concen: 5.62 ppb
RT: 7.72 min Scan# 631
Delta R.T. -0.00 min
Lab File: N05038.D
Acq: 23 Feb 2009 3:11 pm

Tgt Ion: 58 Resp: 24777

Ion	Ratio	Lower	Upper
58	100		
43	375.9	253.2	379.8

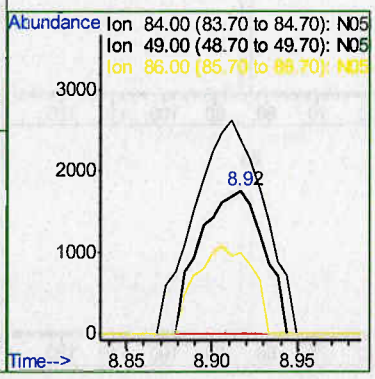




#16
Methylene Chloride
Concen: 0.65 ppb
RT: 8.92 min Scan# 850
Delta R.T. 0.00 min
Lab File: N05038.D
Acq: 23 Feb 2009 3:11 pm

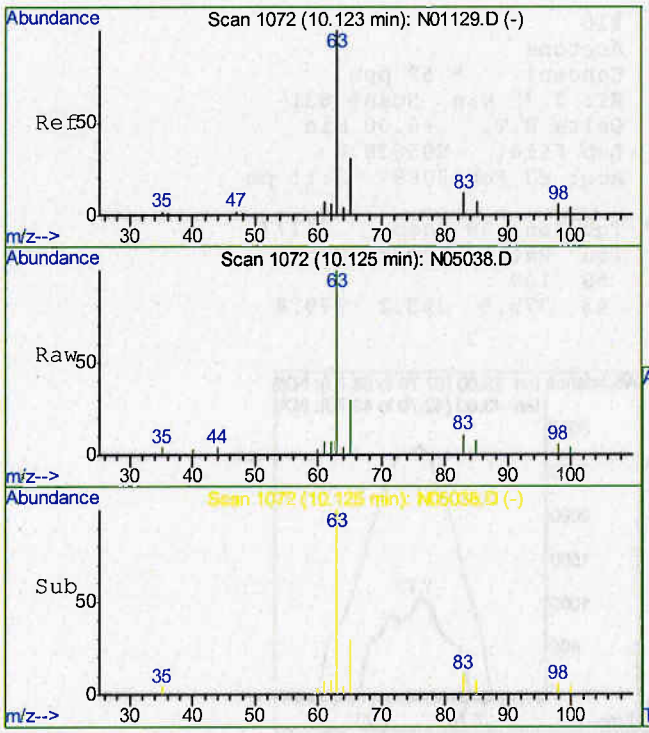
Tgt Ion: 84 Resp: 45455

Ion	Ratio	Lower	Upper
84	100		
49	162.0	122.1	162.1
86	54.7	43.4	83.4



6.1.18

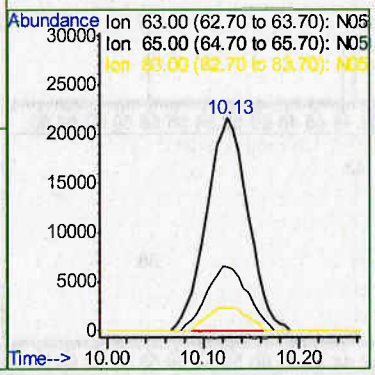
6

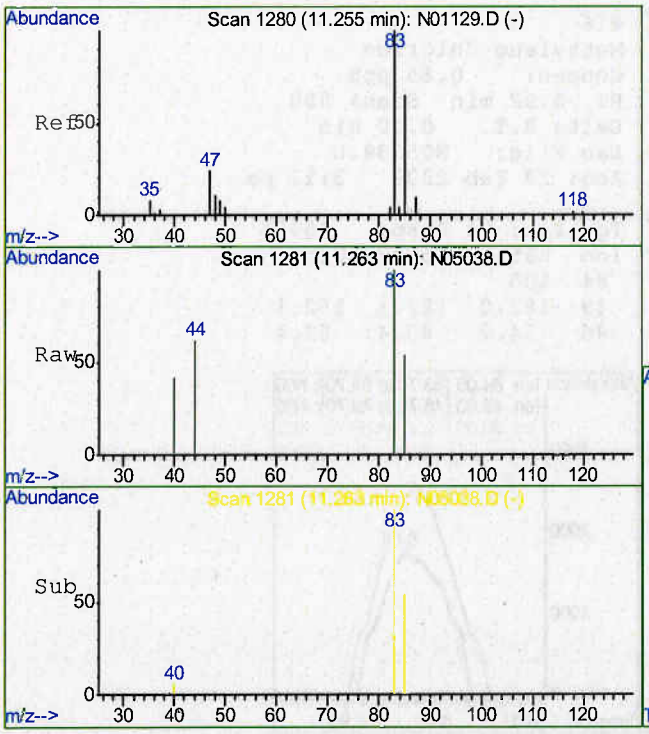


#22
1,1-Dichloroethane
Concen: 5.12 ppb
RT: 10.13 min Scan# 1072
Delta R.T. -0.00 min
Lab File: N05038.D
Acq: 23 Feb 2009 3:11 pm

Tgt Ion: 63 Resp: 652604

Ion	Ratio	Lower	Upper
63	100		
65	30.3	11.5	51.5
83	10.9	0.0	41.5

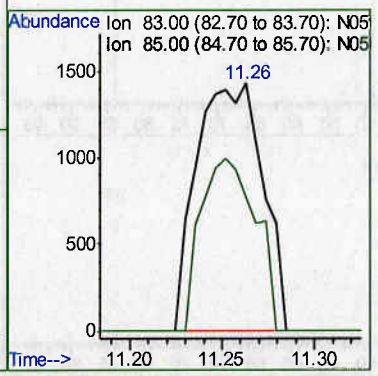




#28
Chloroform
Concen: 0.32 ppb
RT: 11.26 min Scan# 1281
Delta R.T. 0.01 min
Lab File: N05038.D
Acq: 23 Feb 2009 3:11 pm

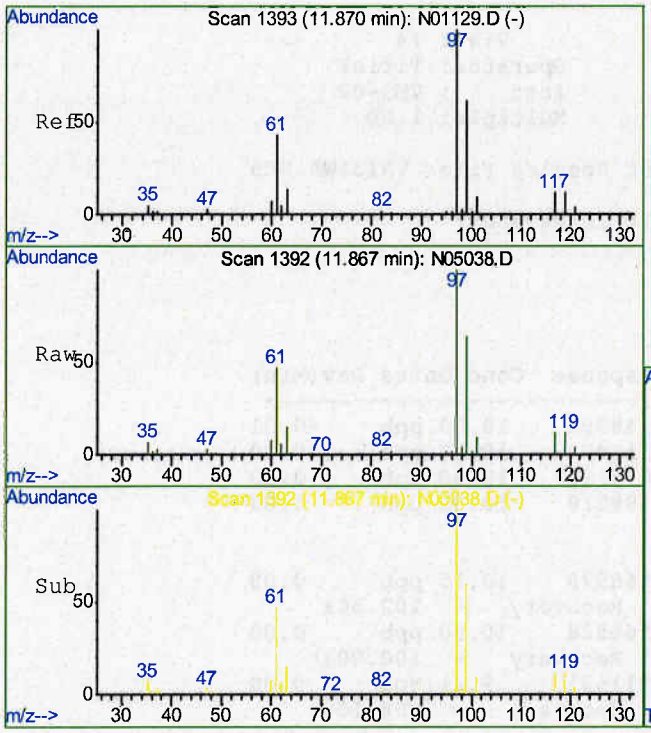
Tgt Ion: 83 Resp: 35448

Ion	Ratio	Lower	Upper
83	100		
85	58.1	44.6	84.6



6.1.18

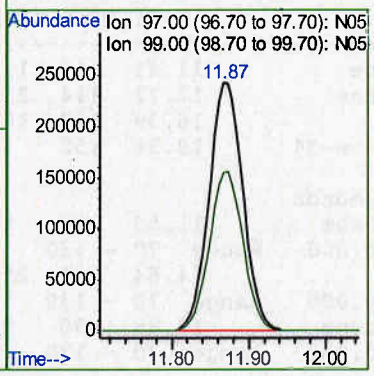
6

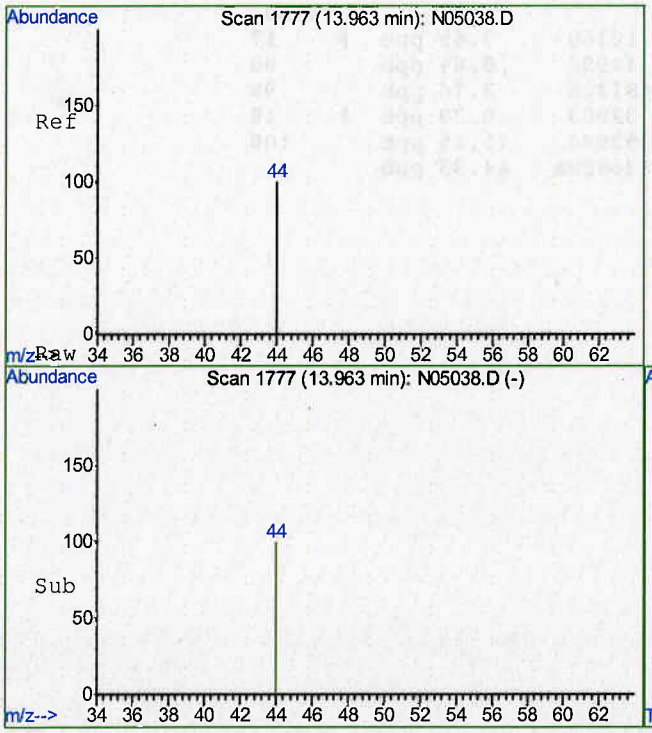


#31
1,1,1-Trichloroethane
Concen: 72.33 ppb
RT: 11.87 min Scan# 1392
Delta R.T. -0.01 min
Lab File: N05038.D
Acq: 23 Feb 2009 3:11 pm

Tgt Ion: 97 Resp: 7436973

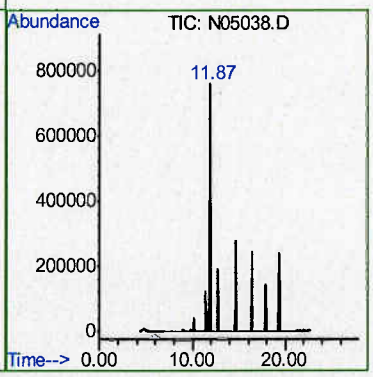
Ion	Ratio	Lower	Upper
97	100		
99	63.9	44.0	84.0





#88
TPH-GRO (C6-C10)
Concen: 46.00 ppb m
RT: 13.96 min Scan# 1777
Delta R.T. 0.00 min
Lab File: N05038.D
Acq: 23 Feb 2009 3:11 pm

Tgt Ion:TIC Resp:24662149



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05039.D Vial: 14
Acq On : 23 Feb 2009 3:40 pm Operator: TitiaF
Sample : C4507-9 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1148398	10.00	ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2112994	10.00	ppb	0.00
46) Chlorobenzene-d5	16.39	117	1873111	10.00	ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	788018	10.00	ppb	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.53	111	568578	10.25	ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.50%			
47) Toluene-d8	14.64	98	2566528	10.00	ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.00%			
64) 4-Bromofluorobenzene	17.88	95	911531	9.41	ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 94.10%			

Target Compounds						Qvalue
10) Acetone	7.73	58	16160	3.65	ppb	# 17
16) Methylene Chloride	8.91	84	44995	0.64	ppb	90
22) 1,1-Dichloroethane	10.12	63	481229	3.76	ppb	98
28) Chloroform	11.26	83	32903	0.29	ppb	# 18
31) 1,1,1-Trichloroethane	11.87	97	7353964	71.25	ppb	100
88) TPH-GRO (C6-C10)	13.96	TIC	23836829m	44.93	ppb	

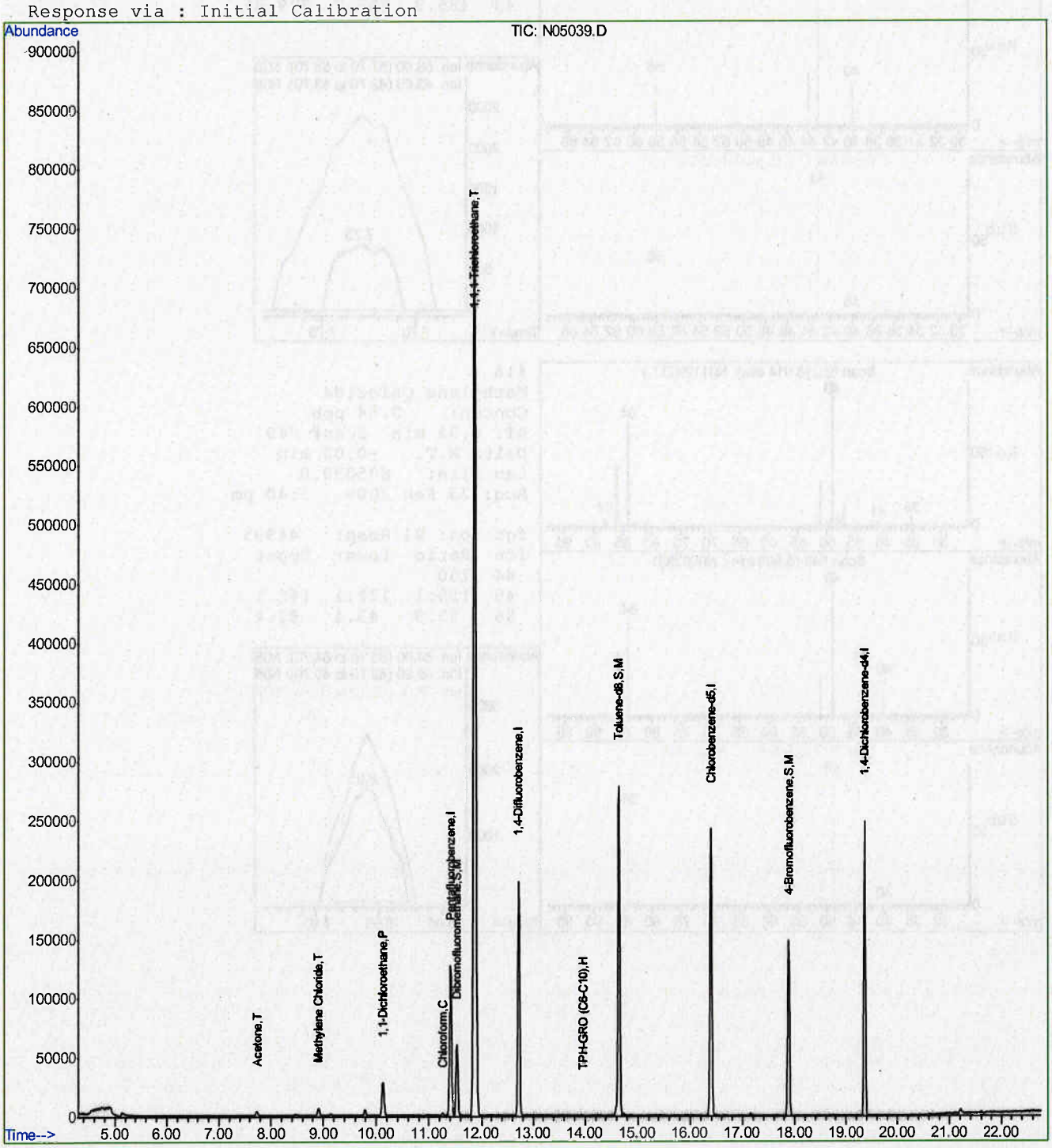
(#) = qualifier out of range (m) = manual integration

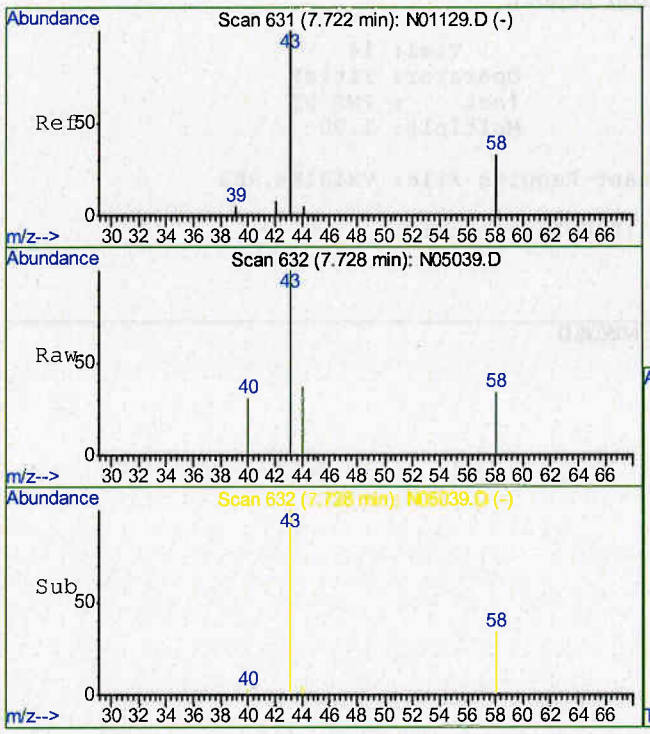
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05039.D
Acq On : 23 Feb 2009 3:40 pm
Sample : C4507-9
Misc : MS713,VN168,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009

Vial: 14
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00
Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration

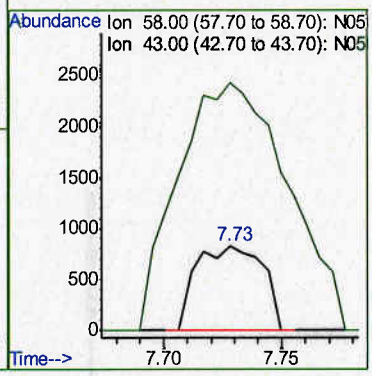


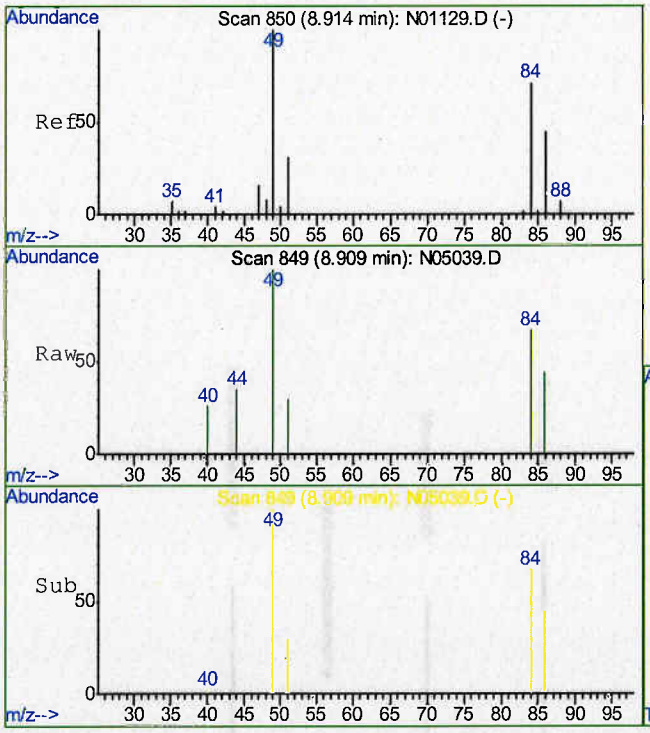


#10
Acetone
Concen: 3.65 ppb
RT: 7.73 min Scan# 632
Delta R.T. 0.00 min
Lab File: N05039.D
Acq: 23 Feb 2009 3:40 pm

Tgt Ion: 58 Resp: 16160

Ion	Ratio	Lower	Upper
58	100		
43	485.8	253.2	379.8#

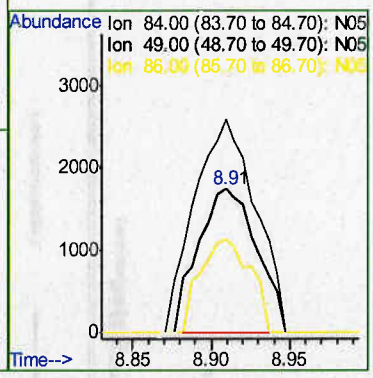




#16
Methylene Chloride
Concen: 0.64 ppb
RT: 8.91 min Scan# 849
Delta R.T. -0.00 min
Lab File: N05039.D
Acq: 23 Feb 2009 3:40 pm

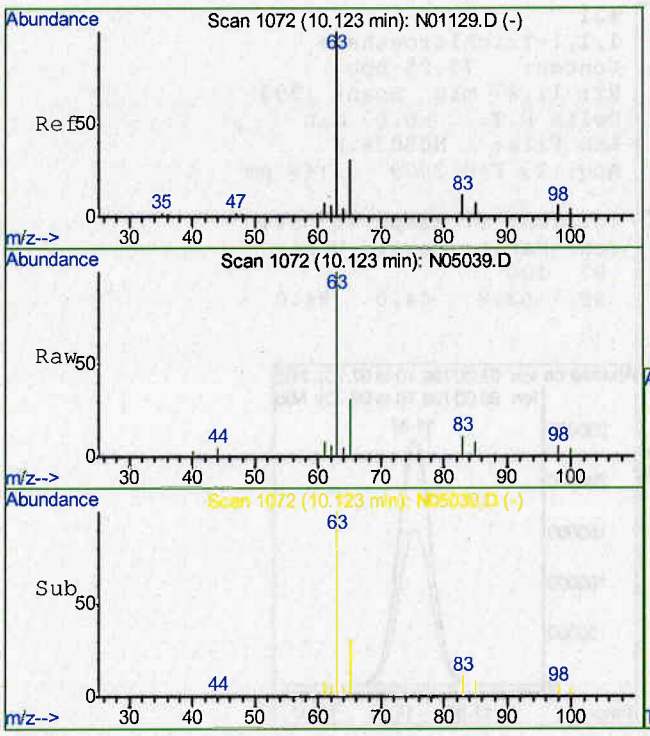
Tgt Ion: 84 Resp: 44995

Ion	Ratio	Lower	Upper
84	100		
49	155.1	122.1	162.1
86	55.9	43.4	83.4



6.1.19

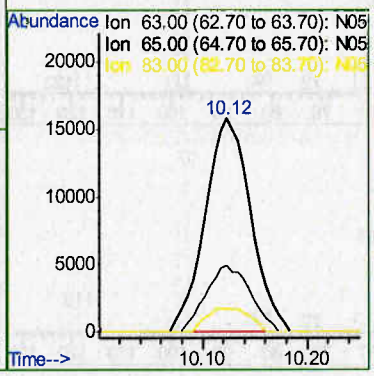
6

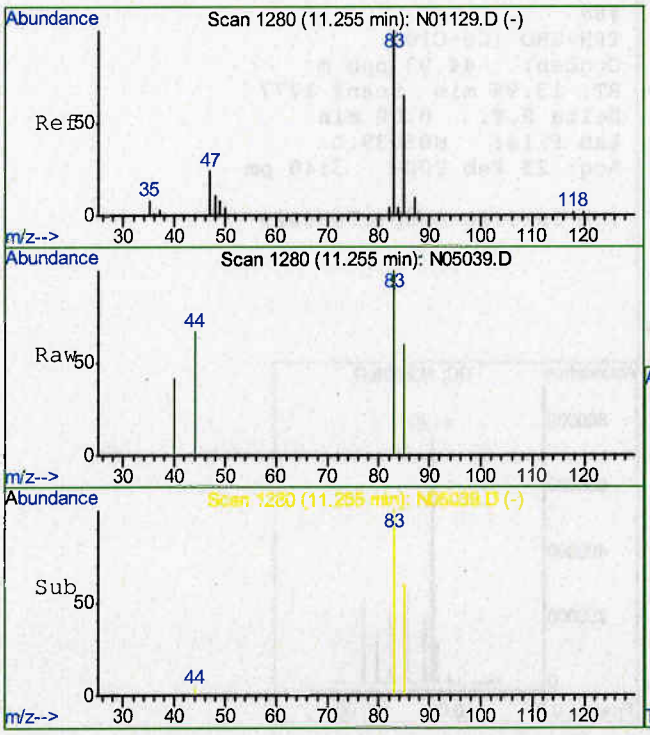


#22
1,1-Dichloroethane
Concen: 3.76 ppb
RT: 10.12 min Scan# 1072
Delta R.T. -0.00 min
Lab File: N05039.D
Acq: 23 Feb 2009 3:40 pm

Tgt Ion: 63 Resp: 481229

Ion	Ratio	Lower	Upper
63	100		
65	30.5	11.5	51.5
83	10.6	0.0	41.5

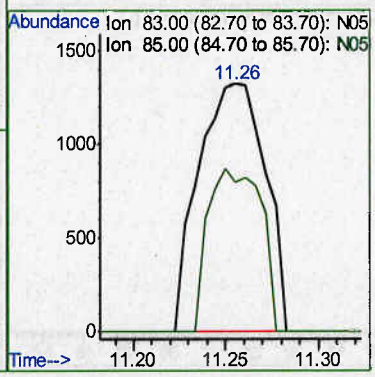




#28
Chloroform
Concen: 0.29 ppb
RT: 11.26 min Scan# 1280
Delta R.T. 0.00 min
Lab File: N05039.D
Acq: 23 Feb 2009 3:40 pm

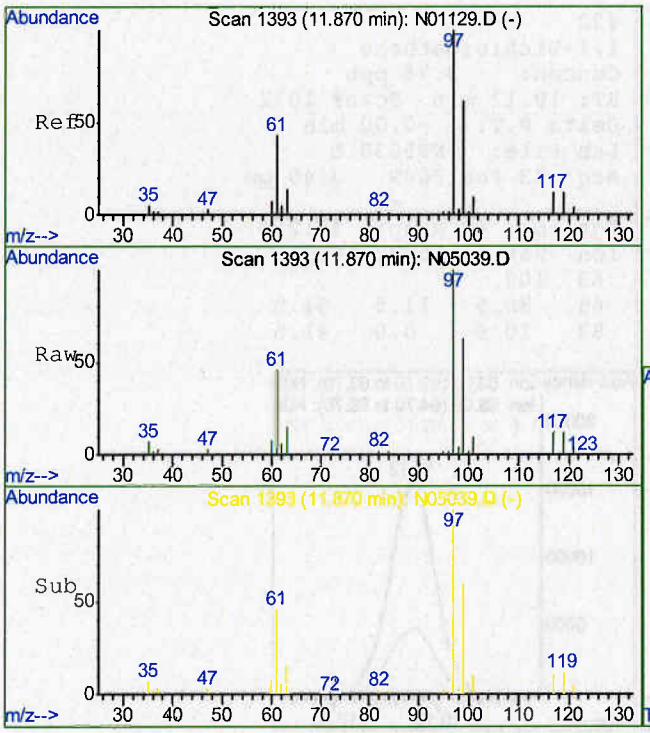
Tgt Ion: 83 Resp: 32903

Ion	Ratio	Lower	Upper
83	100		
85	0.0	44.6	84.6#



6.1.19

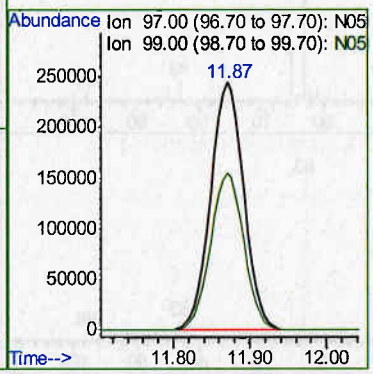
6

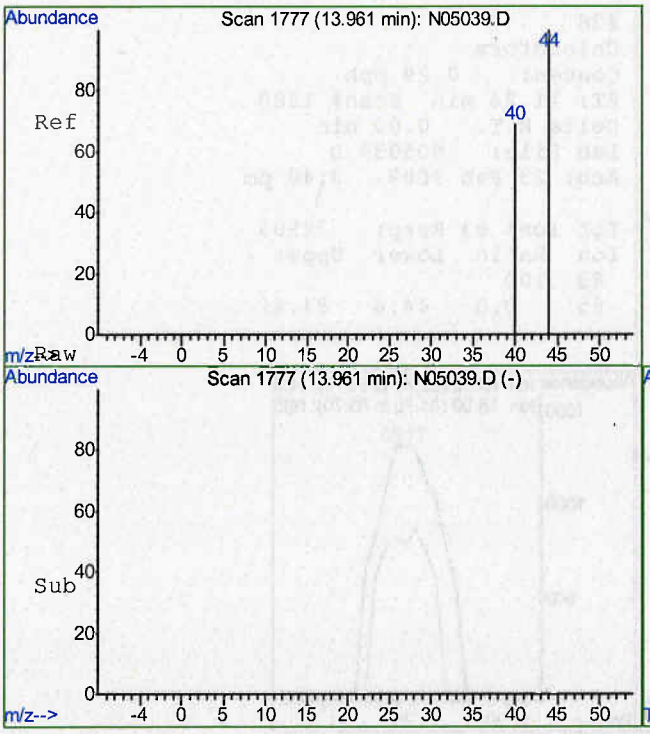


#31
1,1,1-Trichloroethane
Concen: 71.25 ppb
RT: 11.87 min Scan# 1393
Delta R.T. -0.00 min
Lab File: N05039.D
Acq: 23 Feb 2009 3:40 pm

Tgt Ion: 97 Resp: 7353964

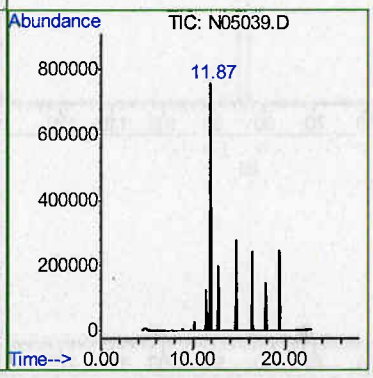
Ion	Ratio	Lower	Upper
97	100		
99	63.8	44.0	84.0





#88
TPH-GRO (C6-C10)
Concen: 44.93 ppb m
RT: 13.96 min Scan# 1777
Delta R.T. 0.00 min
Lab File: N05039.D
Acq: 23 Feb 2009 3:40 pm

Tgt Ion:TIC Resp:23836829



6.1.19 6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05040.D Vial: 15
Acq On : 23 Feb 2009 4:10 pm Operator: TitiaF
Sample : C4507-10 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

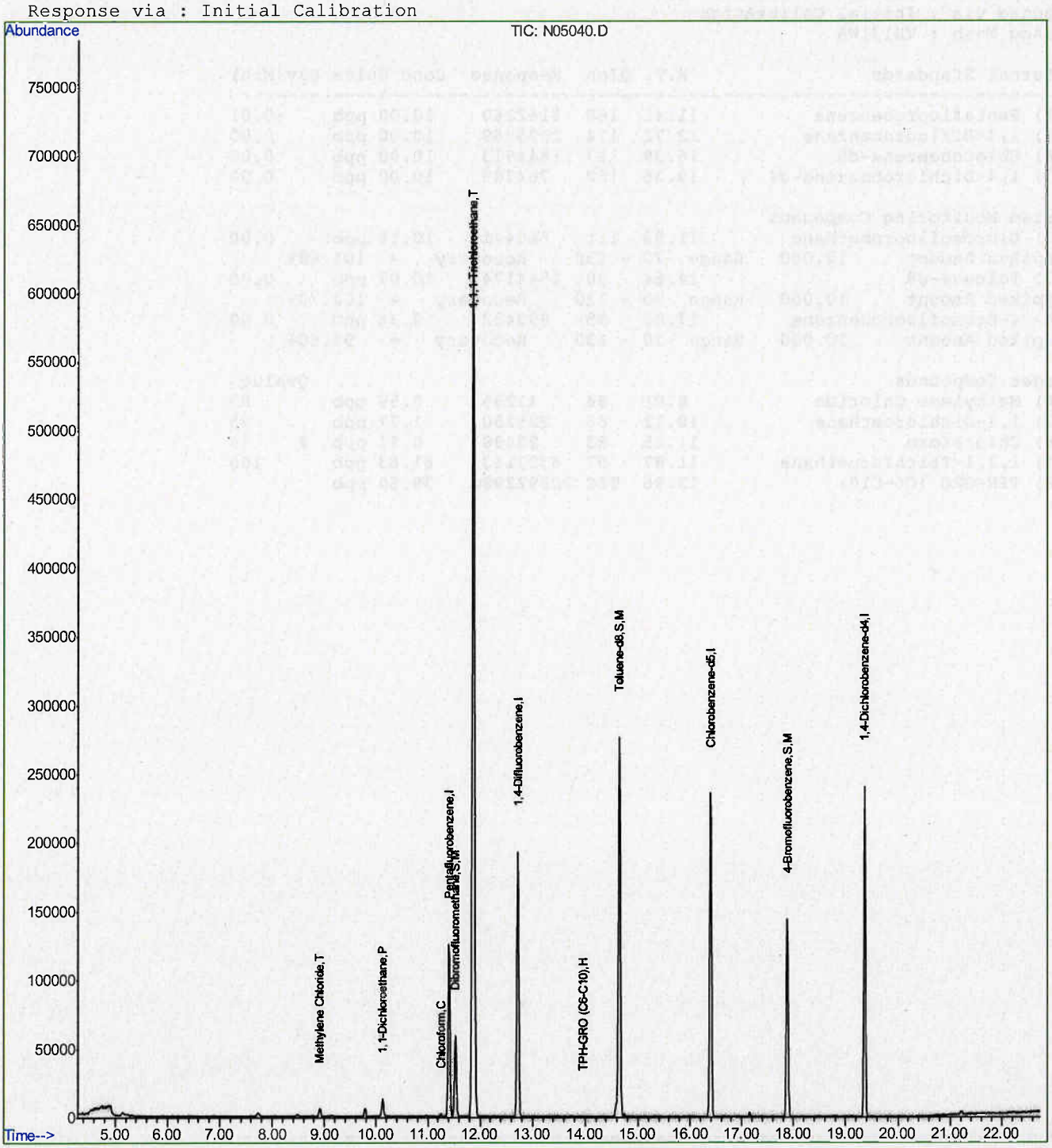
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1142260	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2095569	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	1844813	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	764789	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	560441	10.16 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 101.60%	
47) Toluene-d8	14.64	98	2544174	10.07 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 100.70%	
64) 4-Bromofluorobenzene	17.88	95	893432	9.36 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 93.60%	
Target Compounds					Qvalue
16) Methylene Chloride	8.91	84	41235	0.59 ppb	89
22) 1,1-Dichloroethane	10.12	63	225250	1.77 ppb	95
28) Chloroform	11.25	83	23488	0.21 ppb #	18
31) 1,1,1-Trichloroethane	11.87	97	6327163	61.63 ppb	100
88) TPH-GRO (C6-C10)	13.96	TIC	20392298m	39.60 ppb	

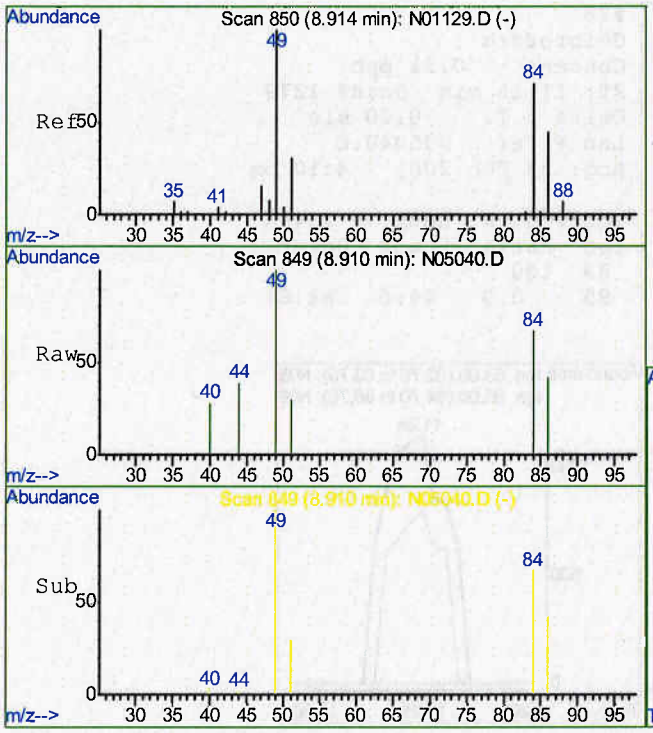
(#) = qualifier out of range (m) = manual integration
N05040.D VN131WA.M Tue Feb 24 09:47:33 2009 RPT1 Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05040.D Vial: 15
Acq On : 23 Feb 2009 4:10 pm Operator: TitiaF
Sample : C4507-10 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:22 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration

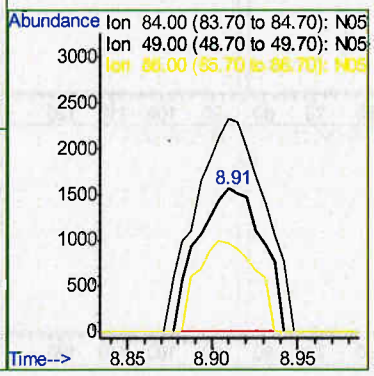


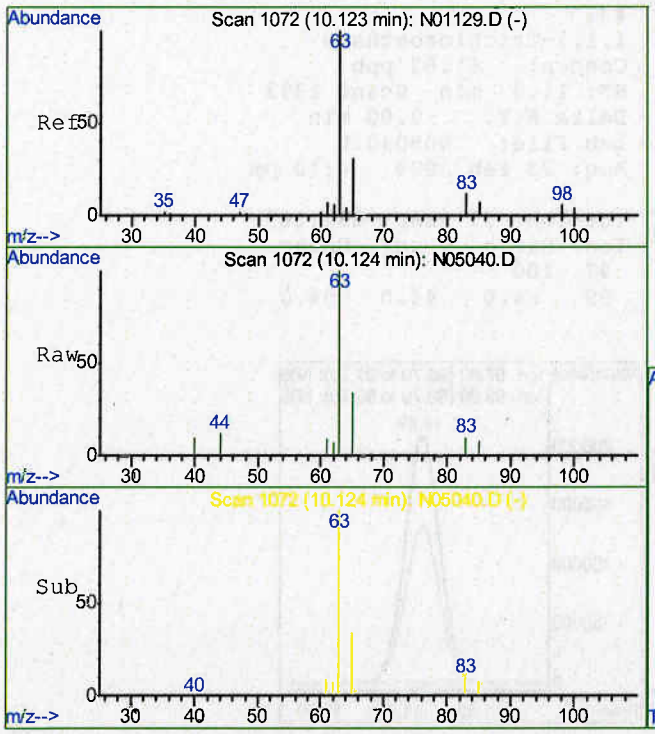


#16
Methylene Chloride
Concen: 0.59 ppb
RT: 8.91 min Scan# 849
Delta R.T. -0.00 min
Lab File: N05040.D
Acq: 23 Feb 2009 4:10 pm

Tgt Ion: 84 Resp: 41235

Ion	Ratio	Lower	Upper
84	100		
49	157.7	122.1	162.1
86	56.5	43.4	83.4

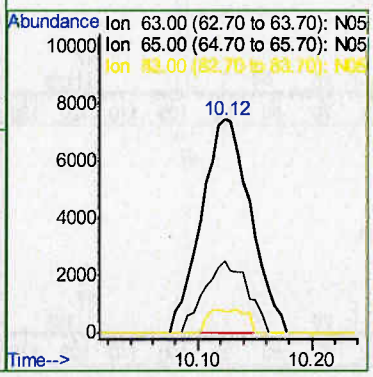




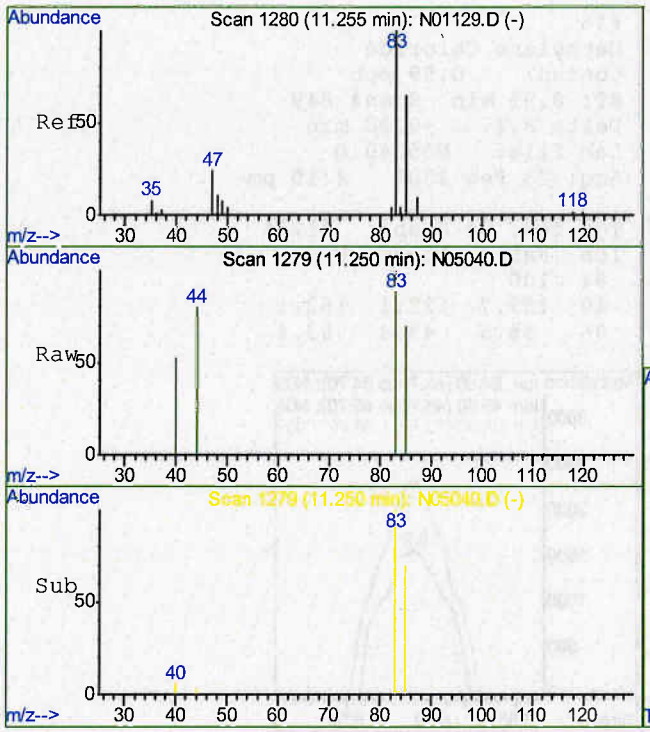
#22
1,1-Dichloroethane
Concen: 1.77 ppb
RT: 10.12 min Scan# 1072
Delta R.T. -0.00 min
Lab File: N05040.D
Acq: 23 Feb 2009 4:10 pm

Tgt Ion: 63 Resp: 225250

Ion	Ratio	Lower	Upper
63	100		
65	29.5	11.5	51.5
83	8.6	0.0	41.5



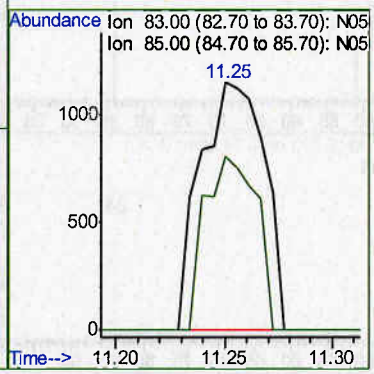
6.1.20 6

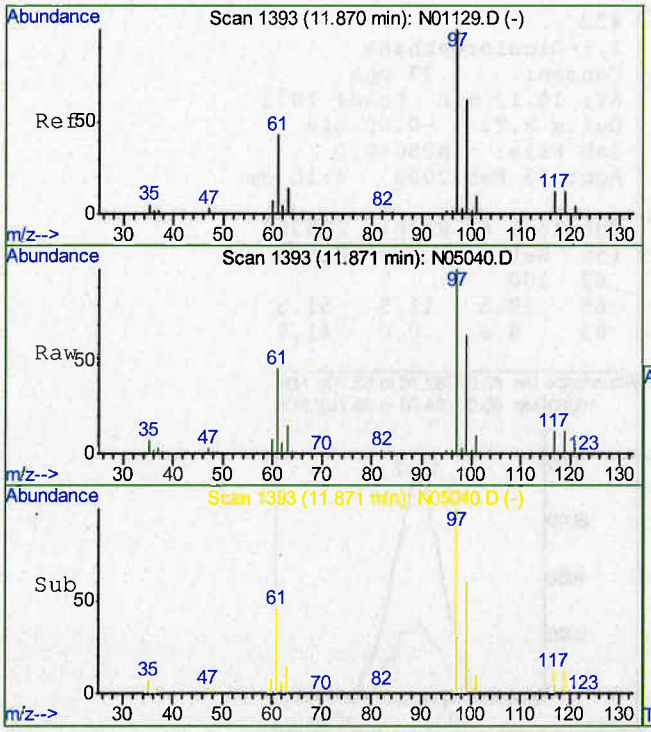


#28
Chloroform
Concen: 0.21 ppb
RT: 11.25 min Scan# 1279
Delta R.T. -0.00 min
Lab File: N05040.D
Acq: 23 Feb 2009 4:10 pm

Tgt Ion: 83 Resp: 23488

Ion	Ratio	Lower	Upper
83	100		
85	0.0	44.6	84.6#

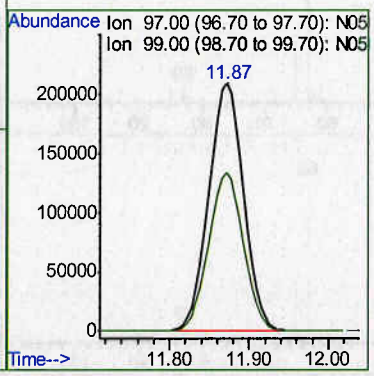




#31
1,1,1-Trichloroethane
Concen: 61.63 ppb
RT: 11.87 min Scan# 1393
Delta R.T. -0.00 min
Lab File: N05040.D
Acq: 23 Feb 2009 4:10 pm

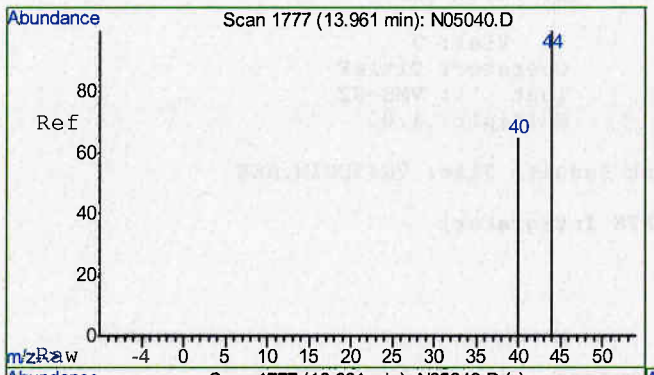
Tgt Ion: 97 Resp: 6327163

Ion	Ratio	Lower	Upper
97	100		
99	64.0	44.0	84.0



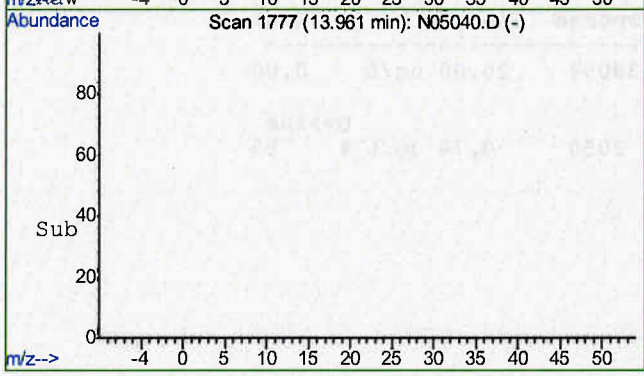
6.1.20

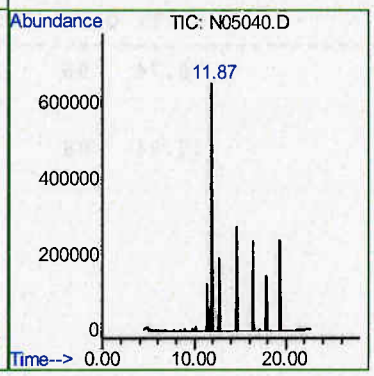
6



#88
TPH-GRO (C6-C10)
Concen: 39.60 ppb m
RT: 13.96 min Scan# 1777
Delta R.T. 0.00 min
Lab File: N05040.D
Acq: 23 Feb 2009 4:10 pm

Tgt Ion:TIC Resp:20392298





6.1.20

6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05057.D Vial: 7
Acq On : 24 Feb 2009 1:55 pm Operator: TitiaF
Sample : MB Inst : VMS-02
Misc : MS712,VN169,1,,,,10 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	38057	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	2050	0.76 ug/L #	85

(#) = qualifier out of range (m) = manual integration
N05057.D VN43DSIM.M Wed Feb 25 09:52:03 2009 RPT1

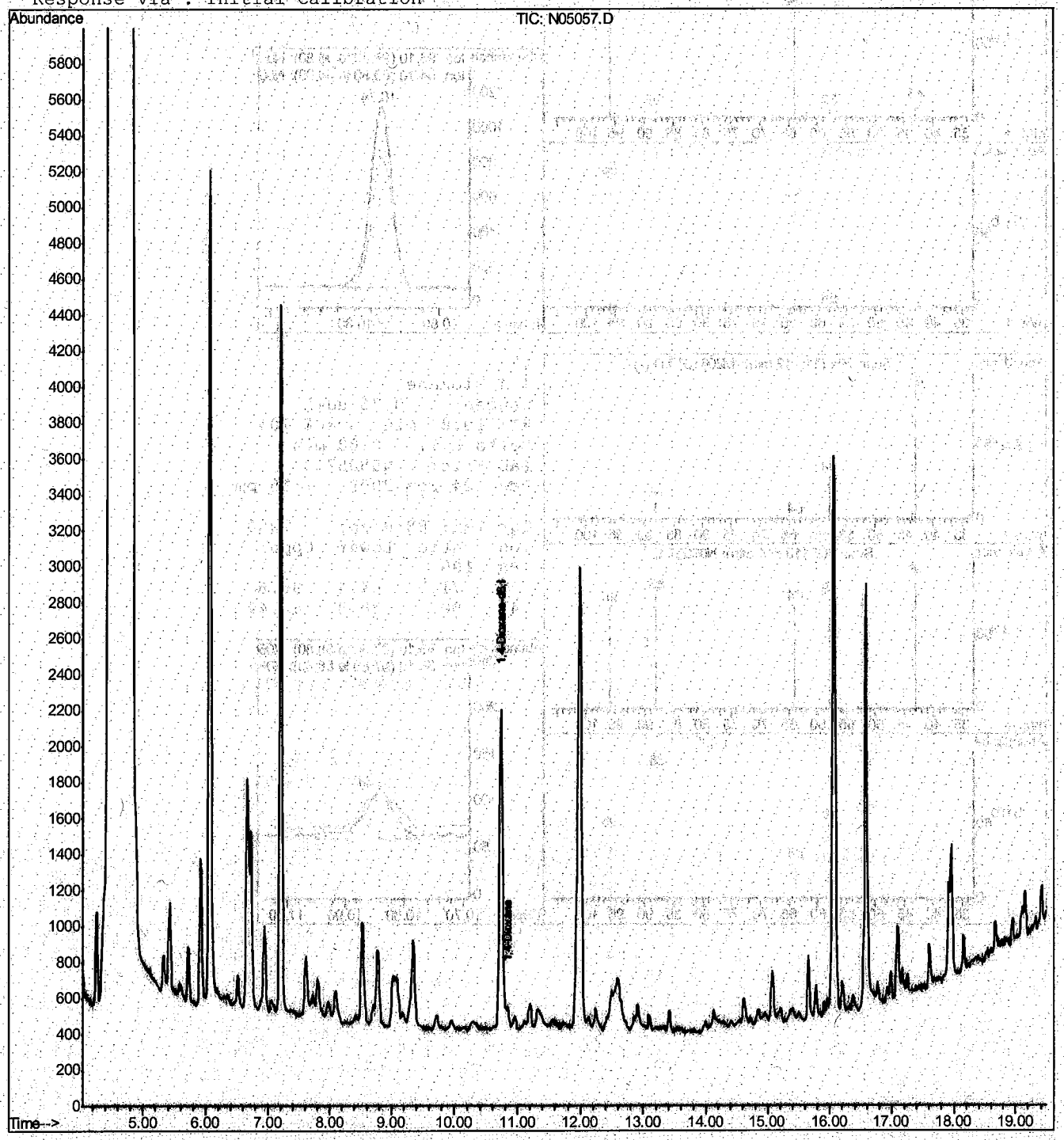
Quantitation Report

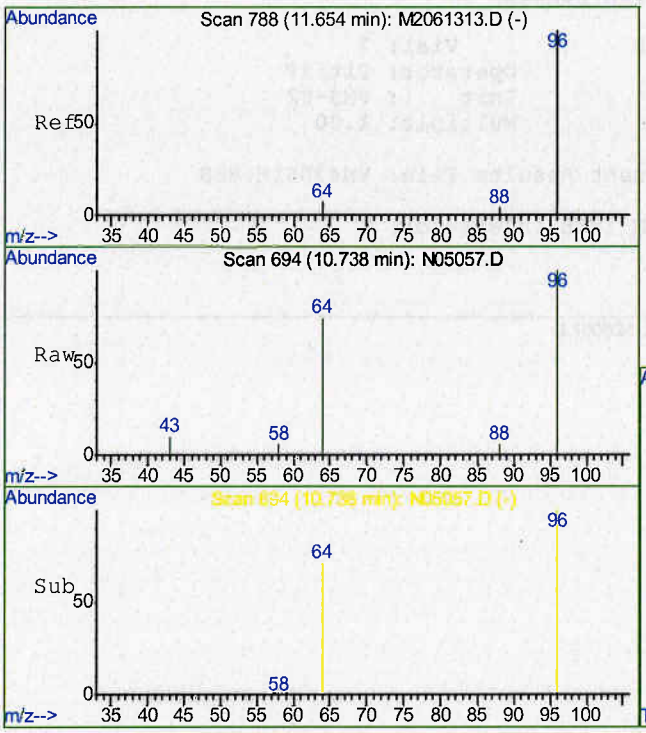
Data File : C:\HPCHEM\1\DATA\N090224\N05057.D
Acq On : 24 Feb 2009 1:55 pm
Sample : MB
Misc : MS712,VN169,1,,,,10
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009

Vial: 7
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration

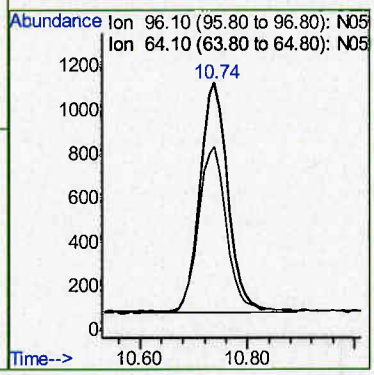


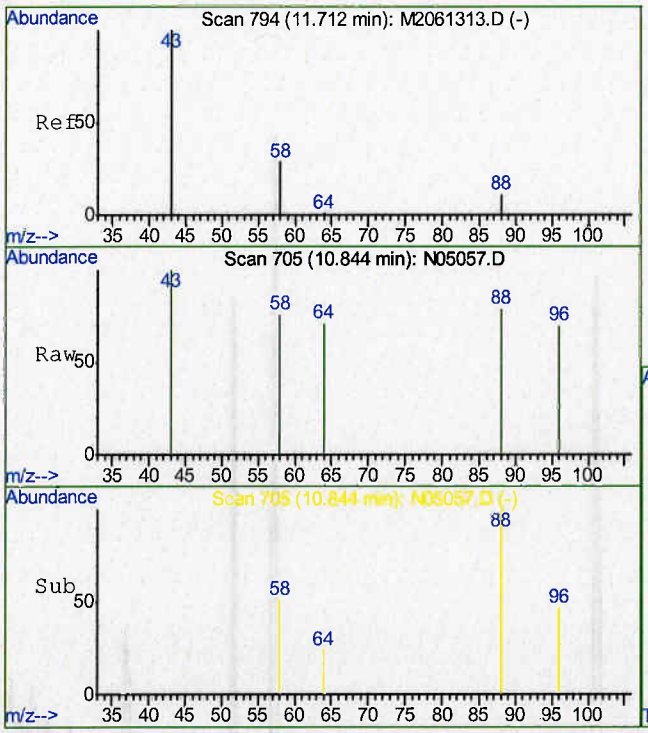


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. 0.00 min
Lab File: N05057.D
Acq: 24 Feb 2009 1:55 pm

Tgt Ion: 96 Resp: 38057

Ion	Ratio	Lower	Upper
96	100		
64	71.1	65.1	97.7

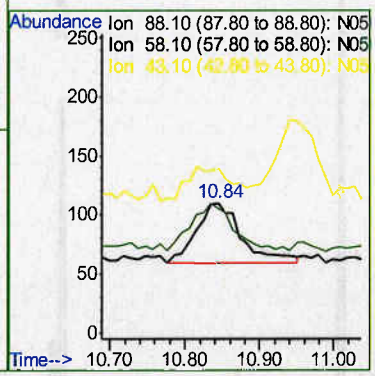




#2
1,4-Dioxane
Concen: 0.76 ug/L
RT: 10.84 min Scan# 705
Delta R.T. 0.00 min
Lab File: N05057.D
Acq: 24 Feb 2009 1:55 pm

Tgt Ion: 88 Resp: 2050

Ion	Ratio	Lower	Upper
88	100		
58	71.5	64.4	96.6
43	50.6	28.2	42.4#



6.2.1

6

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05029.D Vial: 4
Acq On : 23 Feb 2009 10:02 am Operator: TitiaF
Sample : MB Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:39 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1284527	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2341414	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2084012	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	897551	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	634017	10.22 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 102.20%	
47) Toluene-d8	14.64	98	2880357	10.09 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 100.90%	
64) 4-Bromofluorobenzene	17.87	95	1025617	9.52 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 95.20%	
Target Compounds					Qvalue
16) Methylene Chloride	8.91	84	53103	0.68 ppb	93
86) Naphthalene	21.82	128	28326	0.16 ppb	100
88) TPH-GRO (C6-C10)	13.96	TIC	-71888m	Below Cal	

(#) = qualifier out of range (m) = manual integration
N05029.D VN131WA.M Tue Feb 24 09:39:46 2009 RPT1

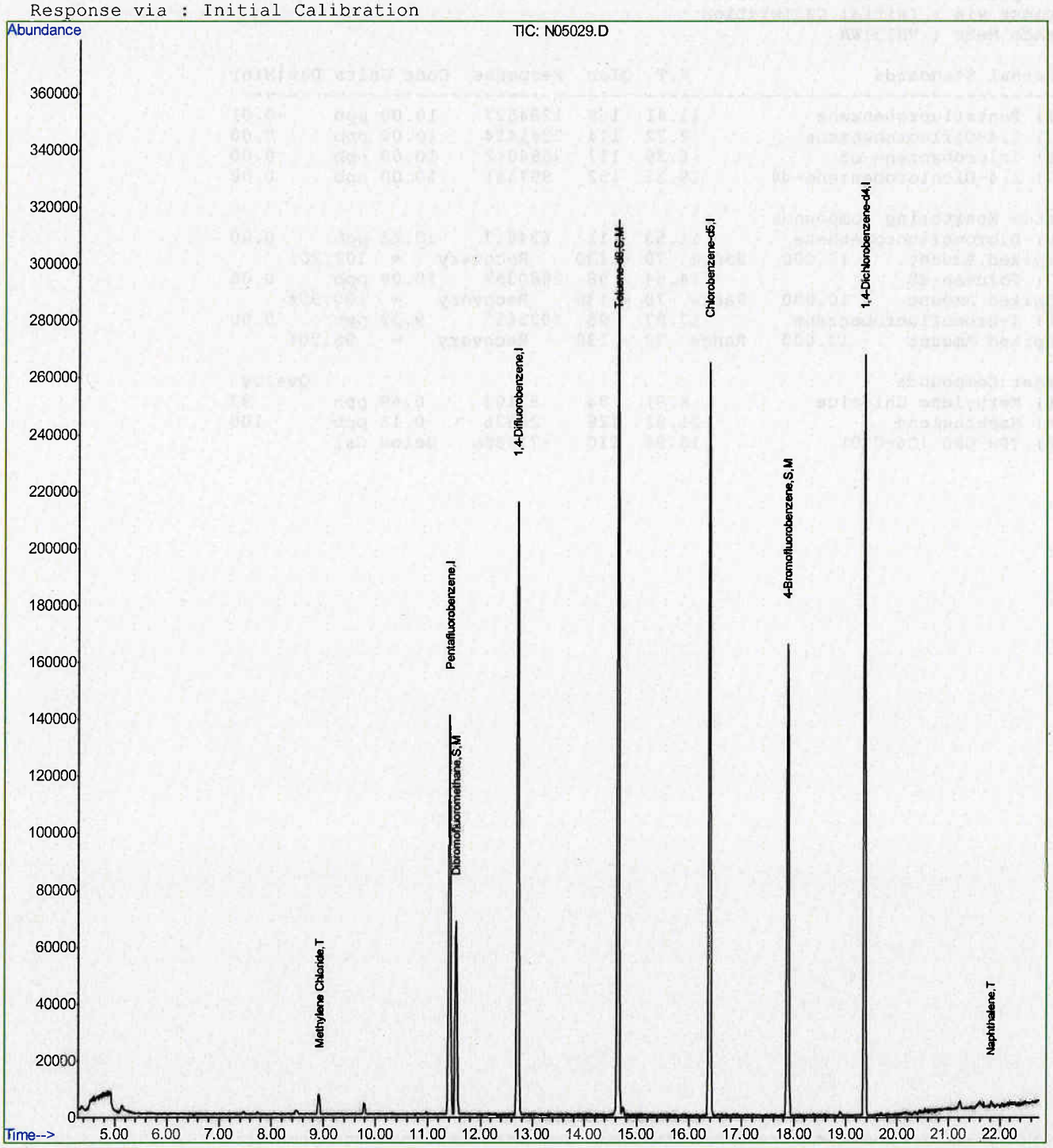
6.2.2 6

C4507 AccuTest Laboratories

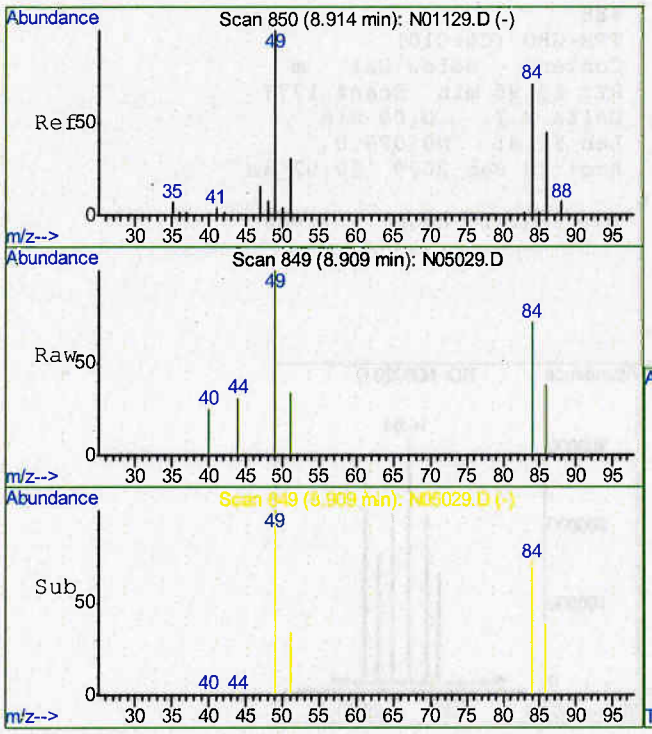
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05029.D Vial: 4
Acq On : 23 Feb 2009 10:02 am Operator: TitiaF
Sample : MB Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:39 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



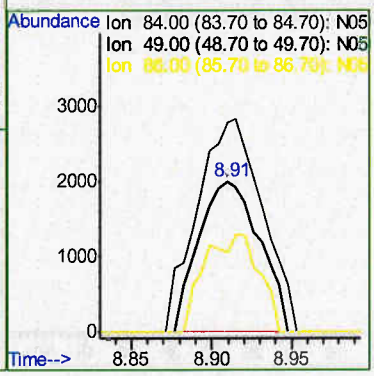
N05029.D VN131WA.M Tue Feb 24 09:39:46 2009 RPT1 Page 2

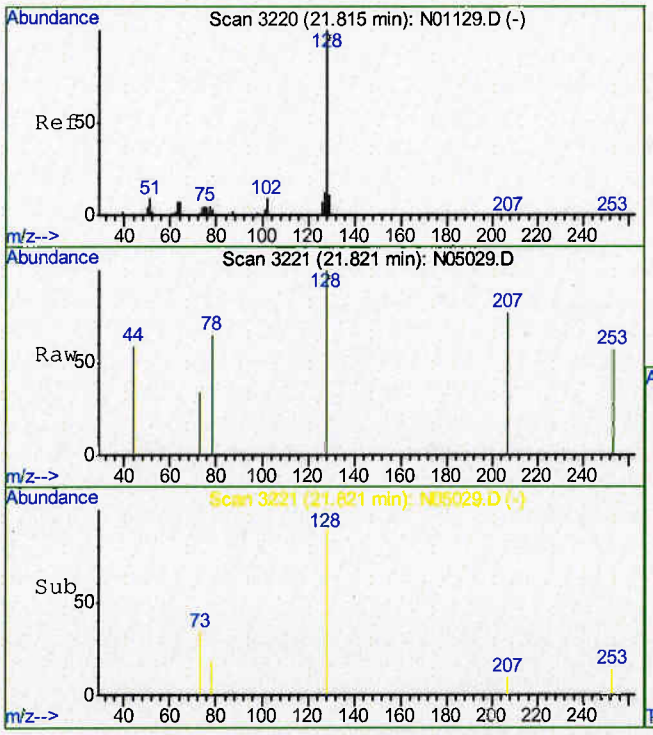


#16
Methylene Chloride
Concen: 0.68 ppb
RT: 8.91 min Scan# 849
Delta R.T. -0.00 min
Lab File: N05029.D
Acq: 23 Feb 2009 10:02 am

Tgt Ion: 84 Resp: 53103

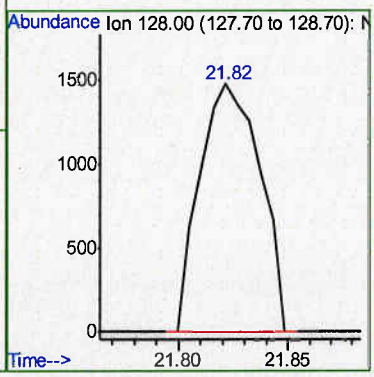
Ion	Ratio	Lower	Upper
84	100		
49	151.2	122.1	162.1
86	58.3	43.4	83.4





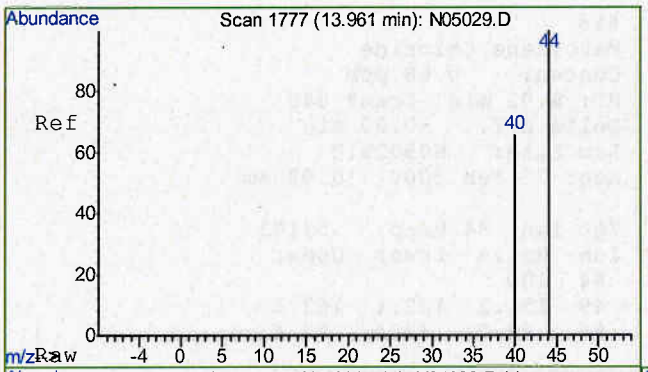
#86
Naphthalene
Concen: 0.16 ppb
RT: 21.82 min Scan# 3221
Delta R.T. 0.01 min
Lab File: N05029.D
Acq: 23 Feb 2009 10:02 am

Tgt Ion:128 Resp: 28326



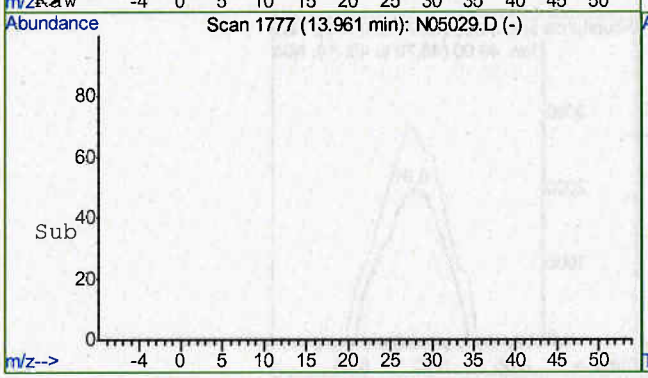
6.2.2 6

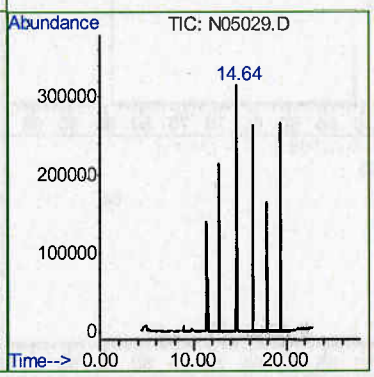
ACCUTEST Laboratories C4507



#88
TPH-GRO (C6-C10)
Concen: Below Cal m
RT: 13.96 min Scan# 1777
Delta R.T. 0.00 min
Lab File: N05029.D
Acq: 23 Feb 2009 10:02 am

Tgt Ion:TIC Resp: -71888





6.2.2

6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05056.D Vial: 6
Acq On : 24 Feb 2009 1:29 pm Operator: TitiaF
Sample : BS Inst : VMS-02
Misc : MS712,VN169,10,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	36067	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.83	88	25587	10.06 ug/L	90

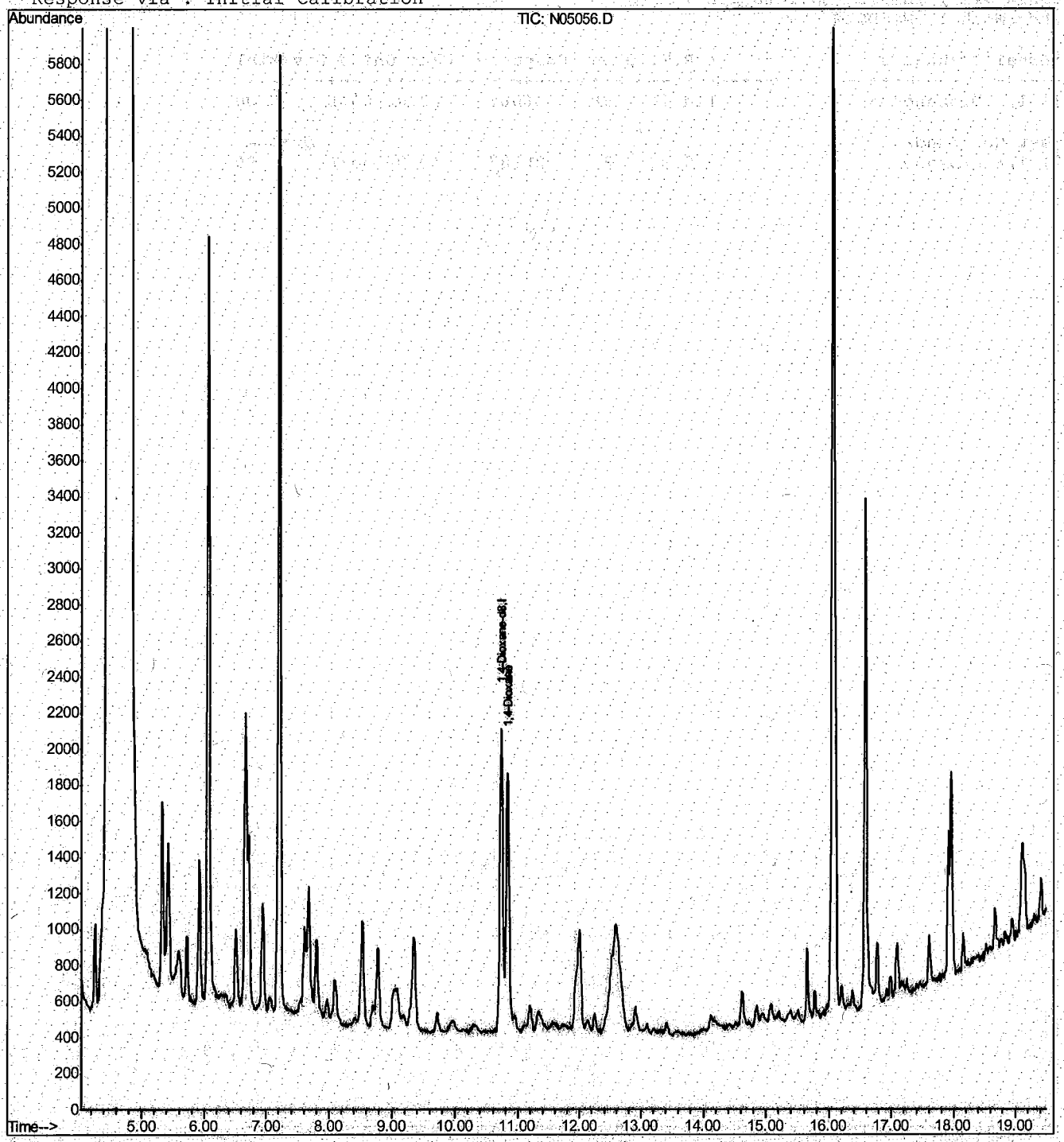
(#) = qualifier out of range (m) = manual integration
N05056.D VN43DSIM.M Wed Feb 25 09:51:45 2009 RPT1 Page 1

6.3.1 6

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090224\N05056.D Vial: 6
Acq On : 24 Feb 2009 1:29 pm Operator: TitiaF
Sample : BS Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration



Manual Integrations
APPROVED
(compounds with "m" flag)
Helena Ueng
02/24/09 11:21

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05030.D Vial: 5
Acq On : 23 Feb 2009 10:32 am Operator: TitiaF
Sample : BS Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:40 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

6.3.2 6

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1307150	10.00 ppb	-0.02
33) 1,4-Difluorobenzene	12.72	114	2350060	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2115685	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1011885	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	636797	10.09 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.90%		
47) Toluene-d8	14.64	98	2870890	9.91 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.10%		
64) 4-Bromofluorobenzene	17.87	95	1079265	9.86 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.60%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.45	85	1781748	17.06 ppb	100
3) Chloromethane	4.92	50	3402154	27.21 ppb	99
4) Vinyl Chloride	5.17	62	2775305	23.25 ppb	100
5) Bromomethane	6.12	94	1076843	17.52 ppb	99
6) Chloroethane	6.31	64	1817592	19.94 ppb	100
7) Ethanol	6.42	45	296357	404.78 ppb	98
8) Trichlorofluoromethane	6.96	101	2183992	17.12 ppb	100
9) Diethyl Ether	7.52	74	900390	22.74 ppb	96
10) Acetone	7.73	58	794424	157.71 ppb	96
11) Freon 113	7.91	151	1159084	25.80 ppb	99
12) 1,1-Dichloroethene	8.14	96	1578551	24.36 ppb	98
13) tert-Butanol (TBA)	8.21	59	562792m	89.18 ppb	
14) Acetonitrile	8.11	41	126726	19.67 ppb	96
15) Iodomethane	8.63	142	793923	11.94 ppb	95
16) Methylene Chloride	8.91	84	1603797	20.06 ppb	98
17) Carbon Disulfide	9.02	76	5883031	25.82 ppb	100
18) Methyl-t-butyl Ether	9.30	73	3768599	20.86 ppb	99
19) trans-1,2-Dichloroethene	9.50	96	1644633	21.03 ppb	100
20) Diisopropyl Ether	10.07	45	6161090	23.76 ppb	100
21) Vinyl Acetate	10.08	43	4979814	20.81 ppb	97
22) 1,1-Dichloroethane	10.12	63	3324288	22.84 ppb	100
23) tert-Butyl Ethyl Ether	10.68	59	4689322	20.58 ppb	98
24) Tetrahydrofuran	11.52	42	327375	18.49 ppb	97
25) 2-Butanone (MEK)	10.67	72	700787	100.27 ppb	91
26) 2,2-Dichloropropane	11.01	77	2651588	21.94 ppb	99
27) cis-1,2-Dichloroethene	11.02	96	1802362	22.26 ppb	99
28) Chloroform	11.26	83	2792447	21.84 ppb	100
29) Bromochloromethane	11.45	128	655608	24.06 ppb	100
31) 1,1,1-Trichloroethane	11.87	97	2612067	22.23 ppb	100
32) tert-Amyl Methyl Ether	12.26	73	4099388	20.64 ppb	100
34) 1,1-Dichloropropene	12.09	75	2553591	22.28 ppb	100
35) Carbon Tetrachloride	12.25	117	2242868	22.46 ppb	100
36) 1,2-Dichloroethane	12.31	62	1833875	23.74 ppb	100
37) Benzene	12.41	78	6923239	20.38 ppb	100
38) Trichloroethene	13.20	95	1731617	22.00 ppb	99
39) 1,2-Dichloropropane	13.37	63	1774847	22.69 ppb	95

(#) = qualifier out of range (m) = manual integration

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05030.D Vial: 5
Acq On : 23 Feb 2009 10:32 am Operator: TitiaF
Sample : BS Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:40 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

6.3.2

6

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
40)	1,4-Dioxane	13.61	88	259749	368.24 ppb	#	47
41)	Bromodichloromethane	13.65	83	2019245	21.79 ppb		100
42)	Dibromomethane	13.69	93	776960	22.85 ppb		97
43)	2-Chloroethyl Vinyl Ether	13.95	63	412930	13.40 ppb		99
44)	4-Methyl-2-Pentanone(MIBK)	14.02	100	647757	84.29 ppb		95
45)	cis-1,3-Dichloropropene	14.28	75	2454373	21.12 ppb		100
48)	Toluene	14.73	92	4249924	18.93 ppb		99
49)	trans-1,3-Dichloropropene	14.84	75	2094600	20.65 ppb		99
50)	1,1,2-Trichloroethane	15.04	83	987464	22.61 ppb		96
51)	2-Hexanone	15.02	43	4328449	107.54 ppb		99
52)	1,3-Dichloropropane	15.32	76	2173806	22.03 ppb		100
53)	Tetrachloroethene	15.55	164	1302318	21.20 ppb		99
54)	Dibromochloromethane	15.68	129	1118886	20.06 ppb		99
55)	1,2-Dibromoethane (EDB)	15.92	107	973275	20.83 ppb		99
56)	Chlorobenzene	16.44	112	4415949	20.87 ppb		87
57)	1,1,1,2-Tetrachloroethane	16.46	131	1344775	20.50 ppb		100
58)	Ethyl Benzene	16.49	91	8411158	20.43 ppb		99
59)	Xylene, m+p	16.58	106	6704337	42.22 ppb		99
60)	Xylene, o	17.12	106	2952043	19.70 ppb		100
61)	Styrene	17.13	104	4690892	19.84 ppb		98
62)	Bromoform	17.56	173	652263	22.17 ppb		99
63)	Isopropylbenzene	17.57	105	7828863	19.61 ppb		99
65)	1,2,3-Trichloropropane	17.90	77	495167	18.96 ppb		98
66)	trans-1,4-Dichloro-2-buten	17.92	53	391427	20.32 ppb		94
68)	1,1,2,2-Tetrachloroethane	17.70	83	1268375	19.12 ppb		100
69)	n-Propylbenzene	18.11	91	9927127	19.52 ppb		99
70)	Bromobenzene	18.19	156	1544439	20.82 ppb		95
71)	1,3,5-Trimethylbenzene	18.30	105	6614574	19.75 ppb		100
72)	2-Chlorotoluene	18.36	91	5521294	17.86 ppb		93
73)	4-Chlorotoluene	18.41	91	5677353	19.95 ppb		96
74)	tert-Butylbenzene	18.77	119	6350773	19.20 ppb		98
75)	Pentachloroethane	18.85	167	932041	23.23 ppb		97
76)	1,2,4-Trimethylbenzene	18.81	105	6443504	19.22 ppb		99
77)	sec-Butylbenzene	19.02	105	8593695	18.68 ppb		99
78)	p-Isopropyltoluene	19.16	119	6702293	18.06 ppb		99
79)	1,3-Dichlorobenzene	19.29	146	3291204	20.89 ppb		99
80)	1,4-Dichlorobenzene	19.39	146	3032533	18.93 ppb		100
81)	n-Butylbenzene	19.61	91	6000115	15.77 ppb		100
82)	1,2-Dichlorobenzene	19.81	146	2687121	19.33 ppb		100
83)	1,2-Dibromo-3-Chloropropan	20.56	75	214743	17.87 ppb		97
84)	1,2,4-Trichlorobenzene	21.54	180	1758881	18.31 ppb		100
85)	Hexachlorobutadiene	21.71	225	1087493	20.47 ppb		99
86)	Naphthalene	21.82	128	2848372	14.10 ppb		100
87)	1,2,3-Trichlorobenzene	22.09	180	1530350	18.34 ppb		99

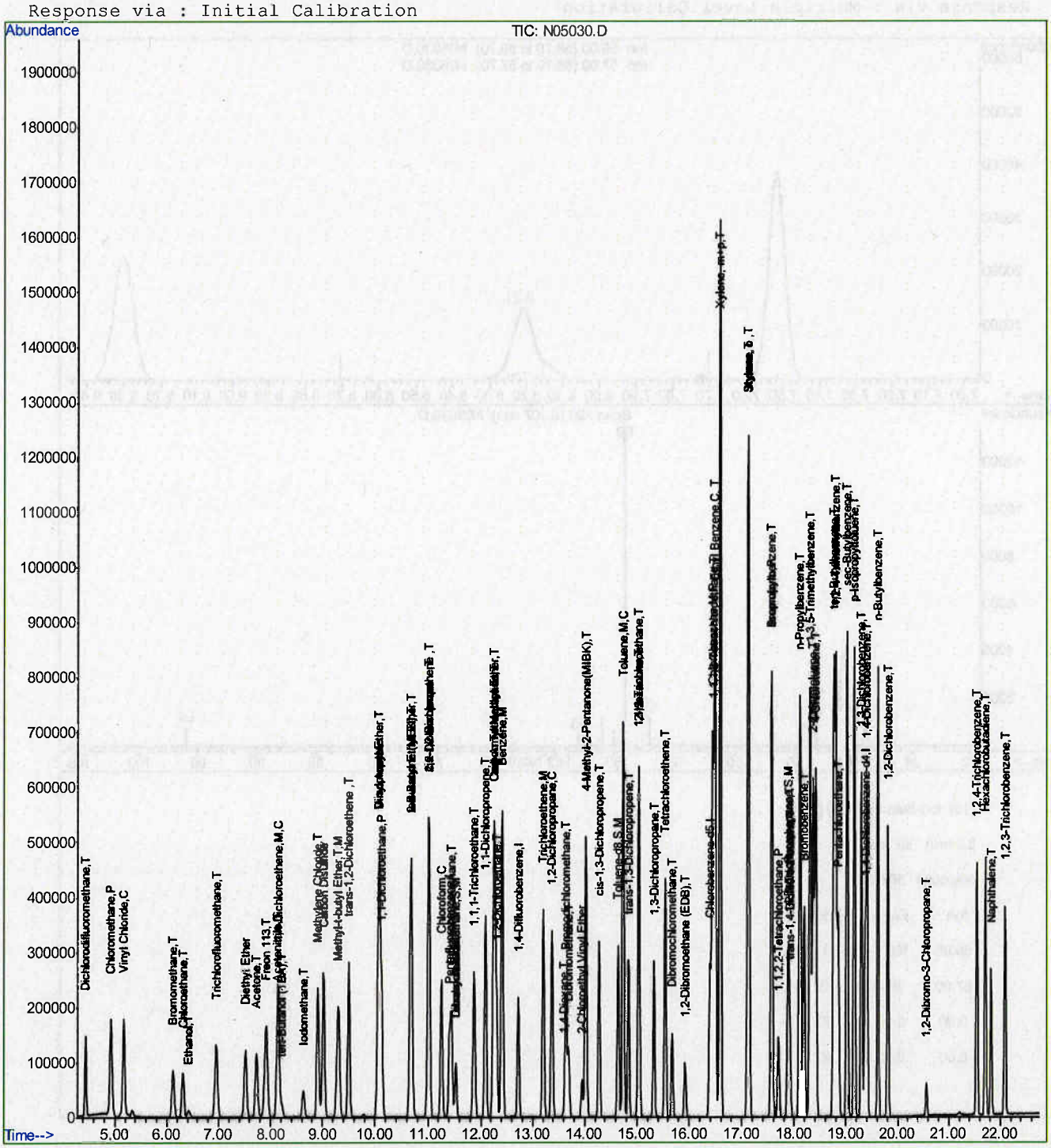
(#) = qualifier out of range (m) = manual integration

ACCUTEST Laboratories C2307

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05030.D Vial: 5
Acq On : 23 Feb 2009 10:32 am Operator: TitiaF
Sample : BS Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:40 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



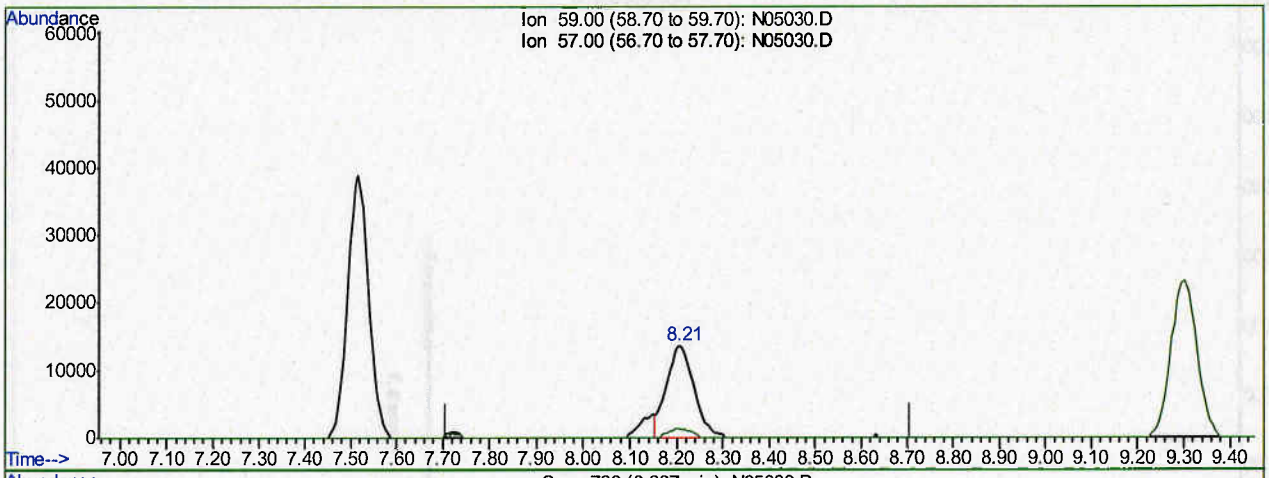
N05030.D VN131WA.M Tue Feb 24 09:40:50 2009 RPT1 Page 3

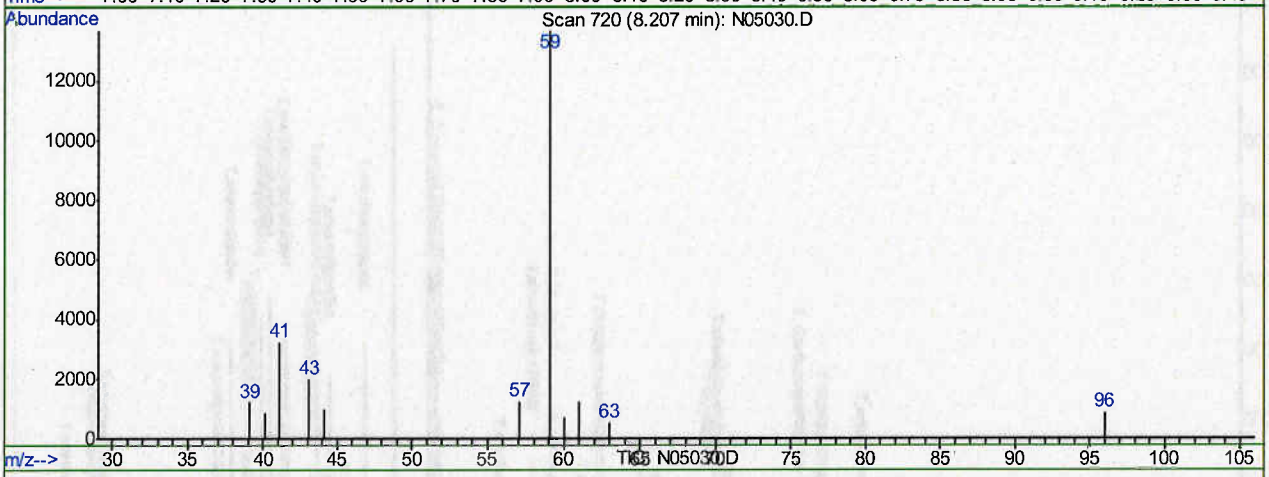
ACCUTEST Laboratories C4507

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090223\N05030.D Vial: 5
Acq On : 23 Feb 2009 10:32 am Operator: TitiaF
Sample : BS Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:40 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Multiple Level Calibration





(13) tert-Butanol (TBA) (T)

8.21min 89.18ppb m

response 562792

Ion	Exp%	Act%
59.00	100	100
57.00	8.80	8.29
0.00	0.00	0.00
0.00	0.00	0.00

N05030.D VN131WA.M Tue Feb 24 09:40:09 2009 RPT1

6.3.2.1

6

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05068.D Vial: 18
Acq On : 24 Feb 2009 6:49 pm Operator: TitiaF
Sample : C4507-10MS Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	29826	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	20560	9.77 ug/L	94

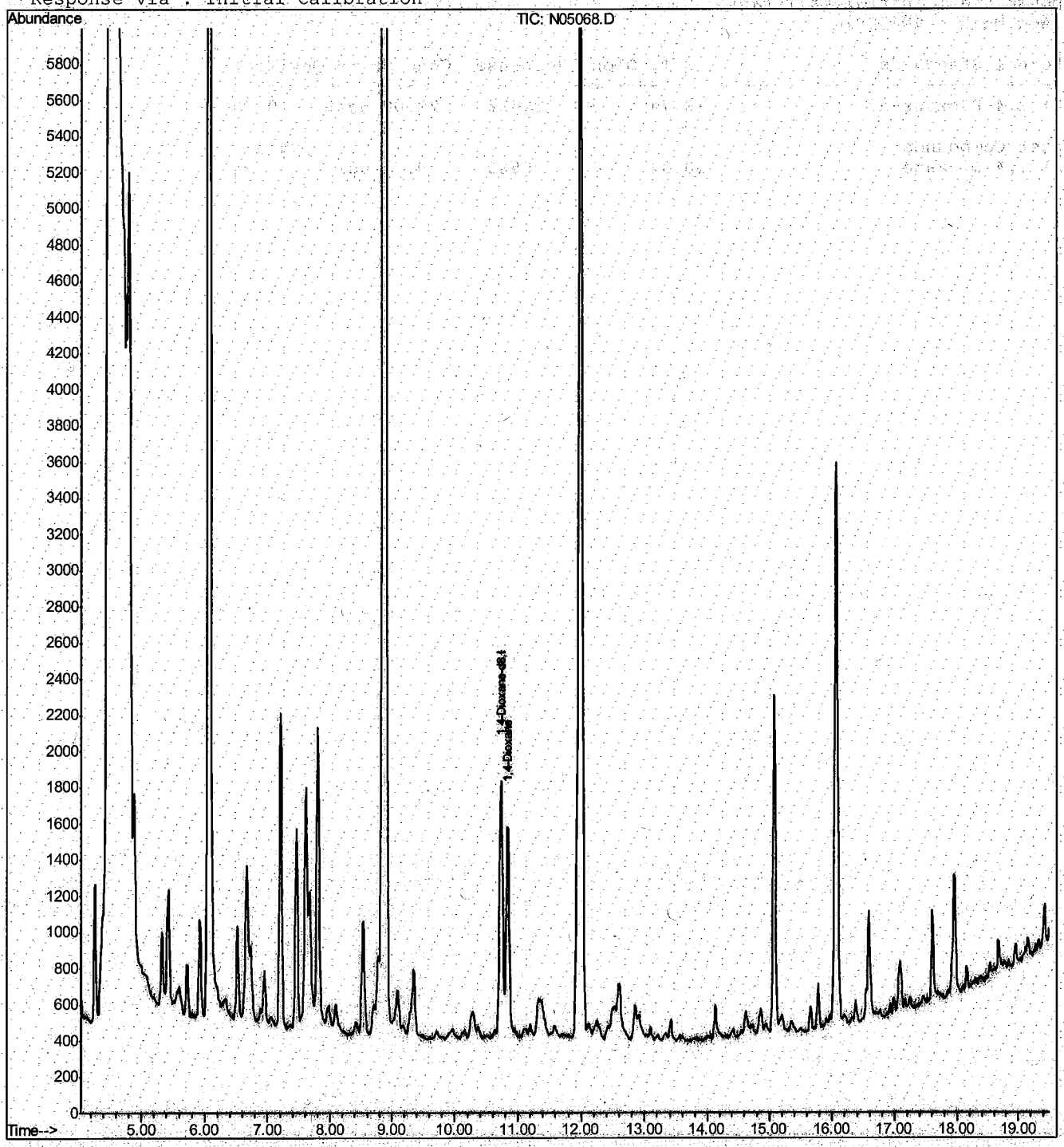
(#) = qualifier out of range (m) = manual integration
N05068.D VN43DSIM.M Wed Feb 25 09:55:28 2009 RPT1 Page 1

6.4.1 6

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090224\N05068.D Vial: 18
Acq On : 24 Feb 2009 6:49 pm Operator: TitiaF
Sample : C4507-10MS Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration



N05068.D VN43DSIM.M Wed Feb 25 09:55:28 2009 RPT1 Page 2

6.4.1

6

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05069.D Vial: 19
Acq On : 24 Feb 2009 7:16 pm Operator: TitiaF
Sample : C4507-10MSD Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

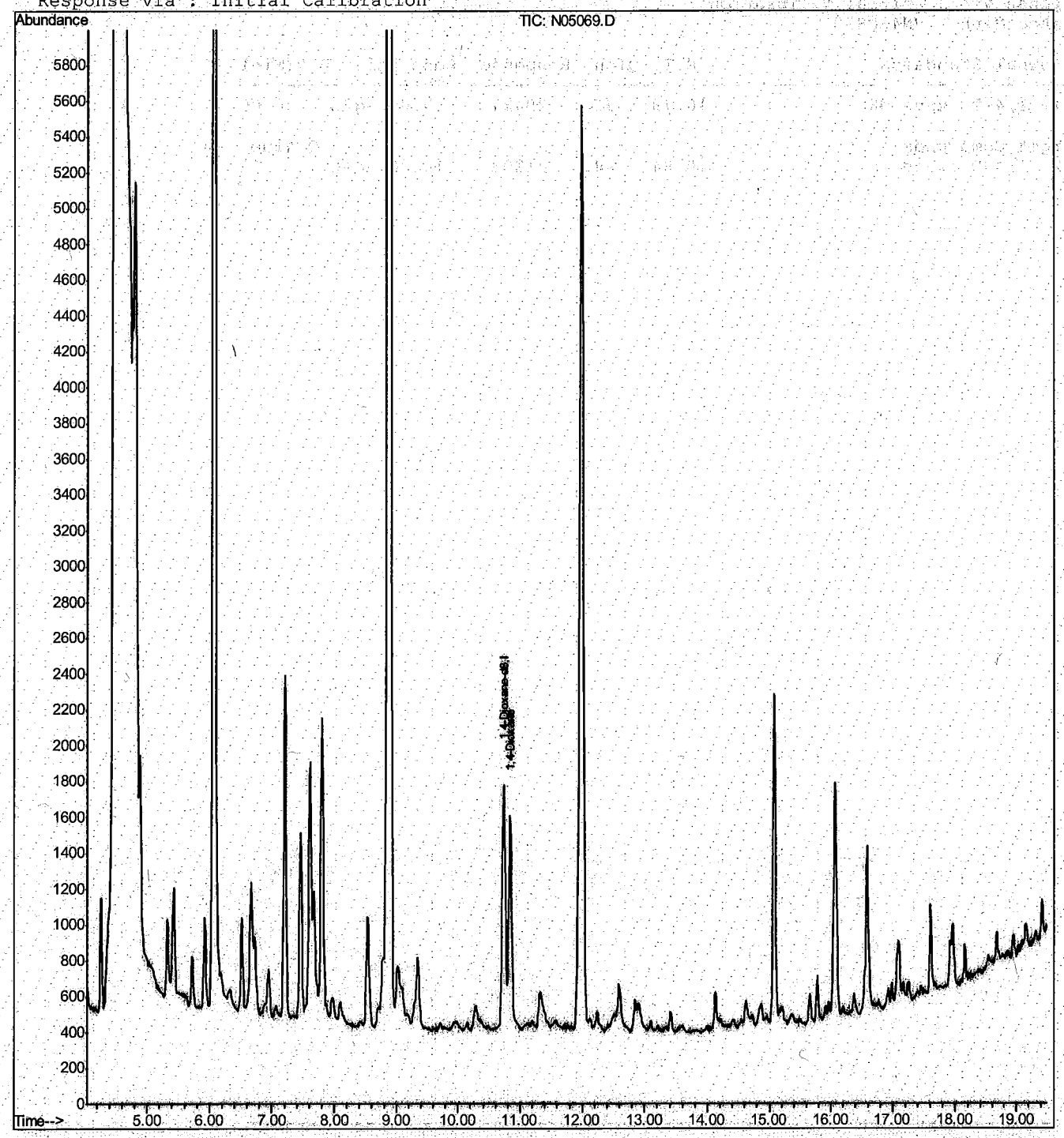
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.73	96	29484	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	21203	10.20 ug/L	91

(#) = qualifier out of range (m) = manual integration
N05069.D VN43DSIM.M Wed Feb 25 09:55:41 2009 RPT1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090224\N05069.D Vial: 19
Acq On : 24 Feb 2009 7:16 pm Operator: TitiaF
Sample : C4507-10MSD Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:05 2009 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration



6.4.2

6

Manual Integrations
APPROVED
(compounds with "m" flag)
Helena Ueng
02/24/09 11:22

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05047.D Vial: 22
Acq On : 23 Feb 2009 7:39 pm Operator: TitiaF
Sample : C4507-10MS Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 10:06 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

6.4.3 6

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1169100	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2135491	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	1955091	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	933079	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	581204	10.29 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.90%		
47) Toluene-d8	14.64	98	2642356	9.87 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.70%		
64) 4-Bromofluorobenzene	17.88	95	984830	9.74 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 97.40%		

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.45	85	1601506	17.15 ppb		100
3) Chloromethane	4.92	50	3261745	29.17 ppb		99
4) Vinyl Chloride	5.17	62	2681748	25.12 ppb		99
5) Bromomethane	6.12	94	968305	17.62 ppb		99
6) Chloroethane	6.31	64	1217447	20.60 ppb		100
7) Ethanol	6.42	45	231192	353.06 ppb		97
8) Trichlorofluoromethane	6.96	101	1951292	17.11 ppb		100
9) Diethyl Ether	7.52	74	720411	20.35 ppb		96
10) Acetone	7.72	58	330656	73.39 ppb		95
11) Freon 113	7.91	151	902098	22.45 ppb		98
12) 1,1-Dichloroethene	8.14	96	1223846	21.11 ppb		95
13) tert-Butanol (TBA)	8.21	59	422032m	74.77 ppb		
14) Acetonitrile	8.12	41	99877	17.33 ppb	#	82
15) Iodomethane	8.63	142	417741	6.97 ppb		95
16) Methylene Chloride	8.91	84	1288828	18.02 ppb		96
17) Carbon Disulfide	9.02	76	4675215	22.94 ppb		100
18) Methyl-t-butyl Ether	9.30	73	3013413	18.65 ppb		99
19) trans-1,2-Dichloroethene	9.50	96	1299041	18.57 ppb		99
20) Diisopropyl Ether	10.07	45	5039626	21.73 ppb		99
21) Vinyl Acetate	10.08	43	3955070	18.48 ppb	#	96
22) 1,1-Dichloroethane	10.12	63	2914587	22.39 ppb		100
23) tert-Butyl Ethyl Ether	10.68	59	3783190	18.56 ppb		99
24) Tetrahydrofuran	11.52	42	271139	17.12 ppb		99
25) 2-Butanone (MEK)	10.67	72	418262	66.91 ppb		99
26) 2,2-Dichloropropane	11.01	77	1953453	18.07 ppb		98
27) cis-1,2-Dichloroethene	11.02	96	1431044	19.76 ppb		98
28) Chloroform	11.25	83	2264983	19.81 ppb		100
29) Bromochloromethane	11.45	128	522594	21.44 ppb		97
31) 1,1,1-Trichloroethane	11.87	97	8482895	80.73 ppb		100
32) tert-Amyl Methyl Ether	12.26	73	3299052	18.57 ppb		100
34) 1,1-Dichloropropene	12.09	75	2016415	19.36 ppb		99
35) Carbon Tetrachloride	12.25	117	1778310	19.60 ppb		100
36) 1,2-Dichloroethane	12.30	62	1459804	20.80 ppb		99
37) Benzene	12.41	78	5593741	18.12 ppb		100
38) Trichloroethene	13.21	95	1373847	19.21 ppb		99
39) 1,2-Dichloropropane	13.37	63	1461206	20.56 ppb		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05047.D Vial: 22
Acq On : 23 Feb 2009 7:39 pm Operator: TitiaF
Sample : C4507-10MS Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 10:06 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

6.4.3

6

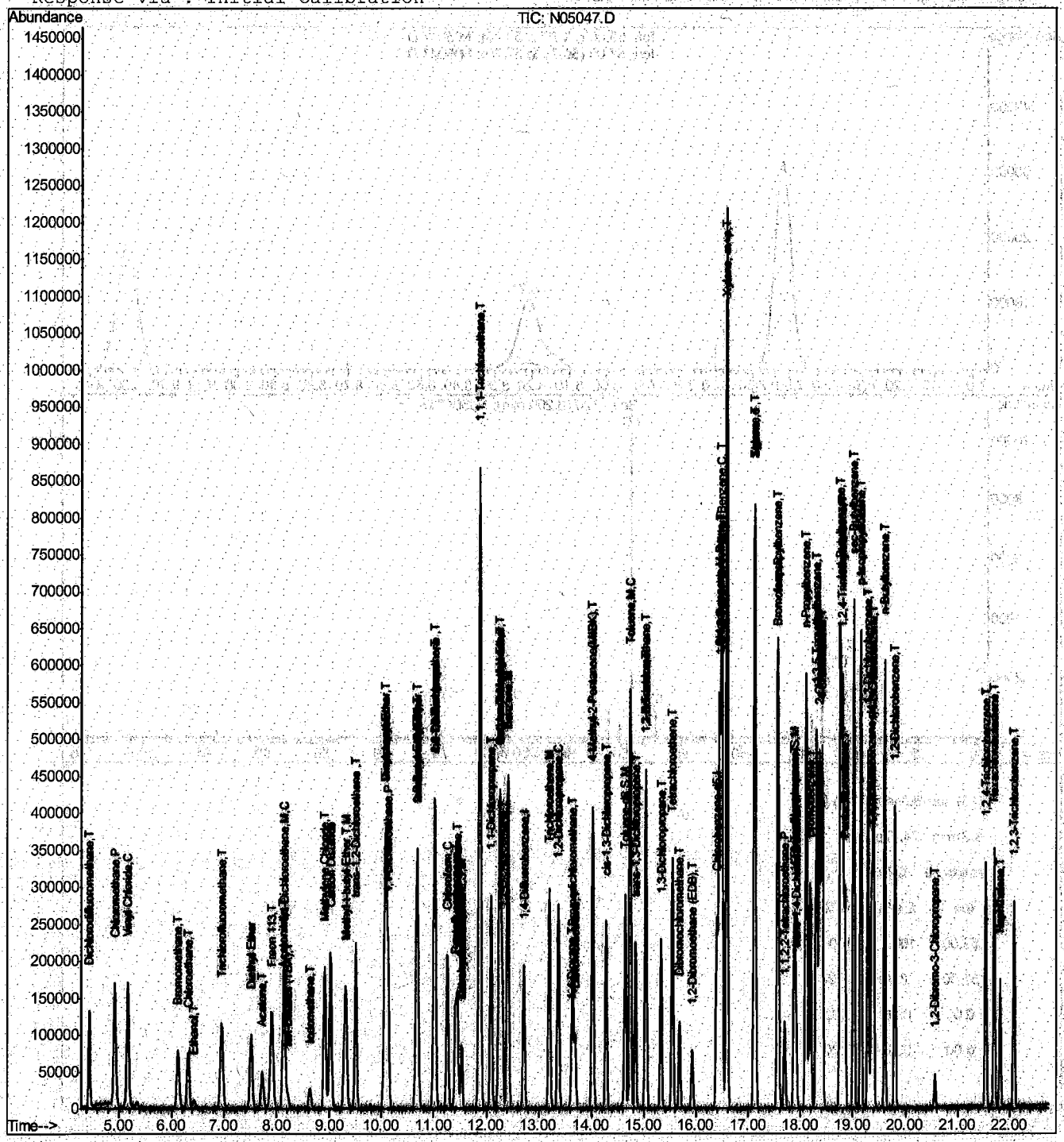
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
40)	1,4-Dioxane	13.61	88	199597	311.40 ppb	#	47
41)	Bromodichloromethane	13.64	83	1619310	19.23 ppb		99
42)	Dibromomethane	13.69	93	620893	20.09 ppb		96
44)	4-Methyl-2-Pentanone(MIBK)	14.02	100	505185	72.34 ppb		92
45)	cis-1,3-Dichloropropene	14.28	75	1934249	18.32 ppb		100
48)	Toluene	14.74	92	3333969	16.07 ppb		99
49)	trans-1,3-Dichloropropene	14.84	75	1648815	17.59 ppb		99
50)	1,1,2-Trichloroethane	15.04	83	791858	19.62 ppb		98
51)	2-Hexanone	15.02	43	2906902	78.15 ppb		99
52)	1,3-Dichloropropane	15.32	76	1745044	19.14 ppb		99
53)	Tetrachloroethene	15.54	164	984565	17.34 ppb		99
54)	Dibromochloromethane	15.68	129	890586	17.28 ppb		100
55)	1,2-Dibromoethane (EDB)	15.92	107	766246	17.75 ppb	#	99
56)	Chlorobenzene	16.44	112	3498063	17.89 ppb		88
57)	1,1,1,2-Tetrachloroethane	16.47	131	1069988	17.65 ppb		99
58)	Ethyl Benzene	16.49	91	6602196	17.36 ppb		100
59)	Xylene, m+p	16.59	106	5021734	34.22 ppb		99
60)	Xylene, o	17.13	106	2222552	16.05 ppb		98
61)	Styrene	17.13	104	2425198	11.10 ppb		93
62)	Bromoform	17.56	173	517546	19.03 ppb		99
63)	Isopropylbenzene	17.57	105	6109488	16.56 ppb		100
65)	1,2,3-Trichloropropane	17.90	77	388962	16.12 ppb		95
66)	trans-1,4-Dichloro-2-buten	17.92	53	296124	16.63 ppb		96
68)	1,1,2,2-Tetrachloroethane	17.70	83	1017174	16.63 ppb		100
69)	n-Propylbenzene	18.11	91	7652786	16.32 ppb		100
70)	Bromobenzene	18.19	156	1216259	17.78 ppb		97
71)	1,3,5-Trimethylbenzene	18.31	105	4402807	14.25 ppb		99
72)	2-Chlorotoluene	18.37	91	4459606	15.65 ppb		99
73)	4-Chlorotoluene	18.42	91	4354935	16.59 ppb		99
74)	tert-Butylbenzene	18.76	119	4947669	16.22 ppb		99
75)	Pentachloroethane	18.85	167	767301	20.74 ppb		97
76)	1,2,4-Trimethylbenzene	18.80	105	4465448	14.44 ppb		100
77)	sec-Butylbenzene	19.02	105	6672178	15.73 ppb		100
78)	p-Isopropyltoluene	19.16	119	5005852	14.62 ppb		99
79)	1,3-Dichlorobenzene	19.29	146	2554087	17.58 ppb		99
80)	1,4-Dichlorobenzene	19.39	146	2342313	15.86 ppb		100
81)	n-Butylbenzene	19.61	91	4452977	12.69 ppb		100
82)	1,2-Dichlorobenzene	19.81	146	2100614	16.39 ppb		100
83)	1,2-Dibromo-3-Chloropropan	20.56	75	164704	14.87 ppb		97
84)	1,2,4-Trichlorobenzene	21.53	180	1253403	14.15 ppb		100
85)	Hexachlorobutadiene	21.70	225	806265	16.46 ppb		99
86)	Naphthalene	21.81	128	1849964	9.93 ppb		100
87)	1,2,3-Trichlorobenzene	22.08	180	1105540	14.37 ppb		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05047.D Vial: 22
Acq On : 23 Feb 2009 7:39 pm Operator: TitiaF
Sample : C4507-10MS Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 10:06 2009 Quant Results File: VN131WA.RES

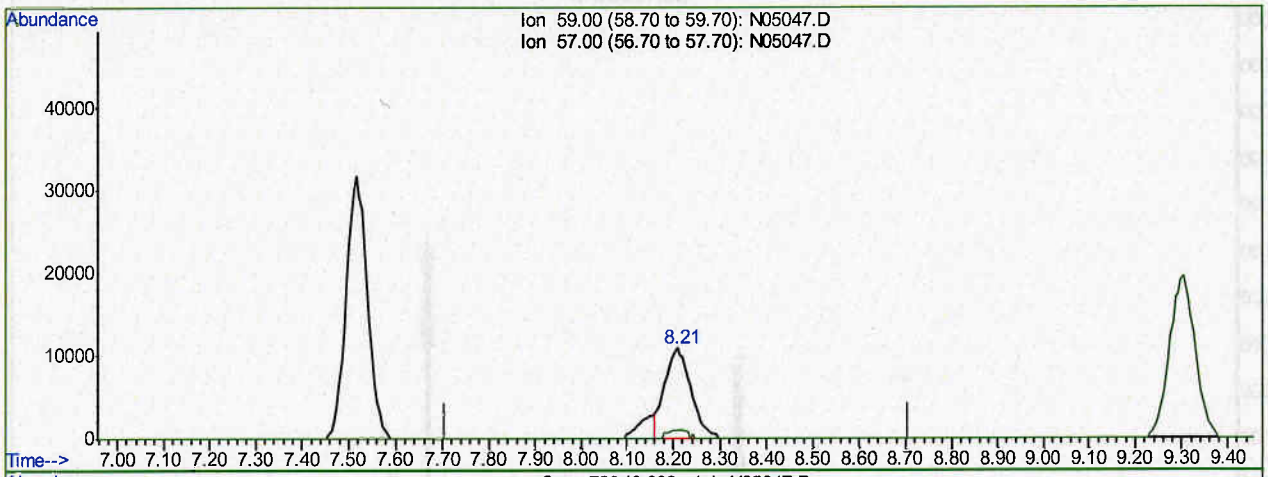
Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration

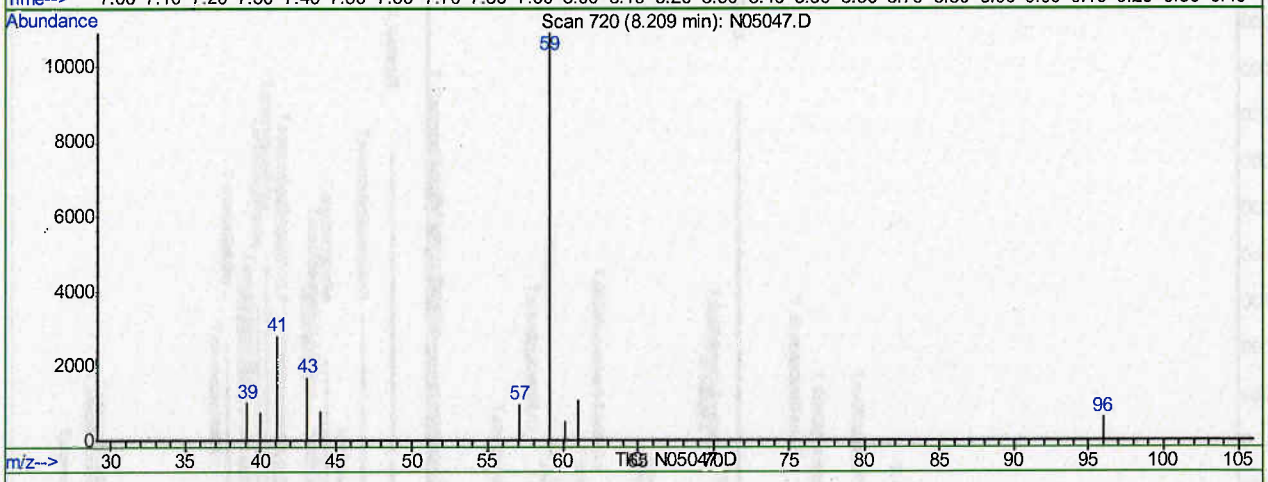


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090223\N05047.D Vial: 22
Acq On : 23 Feb 2009 7:39 pm Operator: TitiaF
Sample : C4507-10MS Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 10:05 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Multiple Level Calibration





(13) tert-Butanol (TBA) (T)

8.21min 74.77ppb m

response 422032

Ion	Exp%	Act%
59.00	100	100
57.00	8.80	7.27
0.00	0.00	0.00
0.00	0.00	0.00

N05047.D VN131WA.M Tue Feb 24 10:05:52 2009 RPT1

Manual Integrations APPROVED (compounds with "m" flag)
Helena Ueng
02/24/09 11:22

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05048.D Vial: 23
Acq On : 23 Feb 2009 8:09 pm Operator: TitiaF
Sample : C4507-10MSD Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 10:08 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

6.4.4 6

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1267432	10.00 ppb	-0.02
33) 1,4-Difluorobenzene	12.72	114	2282762	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2091082	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1004265	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	626795	10.24 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =	102.40%	
47) Toluene-d8	14.64	98	2802535	9.78 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =	97.80%	
64) 4-Bromofluorobenzene	17.87	95	1068371	9.88 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery =	98.80%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.45	85	1780488	17.58 ppb	100
3) Chloromethane	4.92	50	3337059	27.53 ppb	99
4) Vinyl Chloride	5.17	62	2727818	23.57 ppb	100
5) Bromomethane	6.12	94	1068233	17.93 ppb	100
6) Chloroethane	6.31	64	1298273	20.26 ppb	99
7) Ethanol	6.42	45	329072	463.55 ppb	99
8) Trichlorofluoromethane	6.96	101	2129534	17.22 ppb	100
9) Diethyl Ether	7.52	74	947053	24.67 ppb	97
10) Acetone	7.72	58	443928	90.89 ppb	94
11) Freon 113	7.91	151	1139118	26.15 ppb	98
12) 1,1-Dichloroethene	8.14	96	1543731	24.56 ppb	97
13) tert-Butanol (TBA)	8.21	59	624794m	102.11 ppb	
14) Acetonitrile	8.12	41	141811	22.70 ppb	85
15) Iodomethane	8.63	142	772955	11.99 ppb	95
16) Methylene Chloride	8.91	84	1623799	20.94 ppb	98
17) Carbon Disulfide	9.02	76	5774772	26.14 ppb	100
18) Methyl-t-butyl Ether	9.30	73	3969827	22.66 ppb	99
19) trans-1,2-Dichloroethene	9.50	96	1639403	21.62 ppb	100
20) Diisopropyl Ether	10.07	45	6355162	25.27 ppb	100
21) Vinyl Acetate	10.08	43	4696571	20.24 ppb #	96
22) 1,1-Dichloroethane	10.12	63	3583981	25.39 ppb	100
23) tert-Butyl Ethyl Ether	10.68	59	4849055	21.95 ppb	99
24) Tetrahydrofuran	11.52	42	370061	21.56 ppb	100
25) 2-Butanone (MEK)	10.67	72	579707	85.55 ppb	96
26) 2,2-Dichloropropane	11.01	77	2445376	20.87 ppb	99
27) cis-1,2-Dichloroethene	11.02	96	1795356	22.86 ppb	98
28) Chloroform	11.26	83	2847842	22.97 ppb	100
29) Bromochloromethane	11.45	128	670542	25.38 ppb	99
31) 1,1,1-Trichloroethane	11.87	97	9165219	80.46 ppb	100
32) tert-Amyl Methyl Ether	12.26	73	4286671	22.26 ppb	100
34) 1,1-Dichloropropene	12.09	75	2516755	22.60 ppb	99
35) Carbon Tetrachloride	12.25	117	2233068	23.02 ppb	100
36) 1,2-Dichloroethane	12.31	62	1886619	25.15 ppb	100
37) Benzene	12.40	78	6962897	21.10 ppb	100
38) Trichloroethene	13.20	95	1717946	22.47 ppb	100
39) 1,2-Dichloropropane	13.37	63	1824513	24.02 ppb	96

(#) = qualifier out of range (m) = manual integration

AccuTest Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05048.D Vial: 23
Acq On : 23 Feb 2009 8:09 pm Operator: TitiaF
Sample : C4507-10MSD Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 10:08 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

6.4.4 6

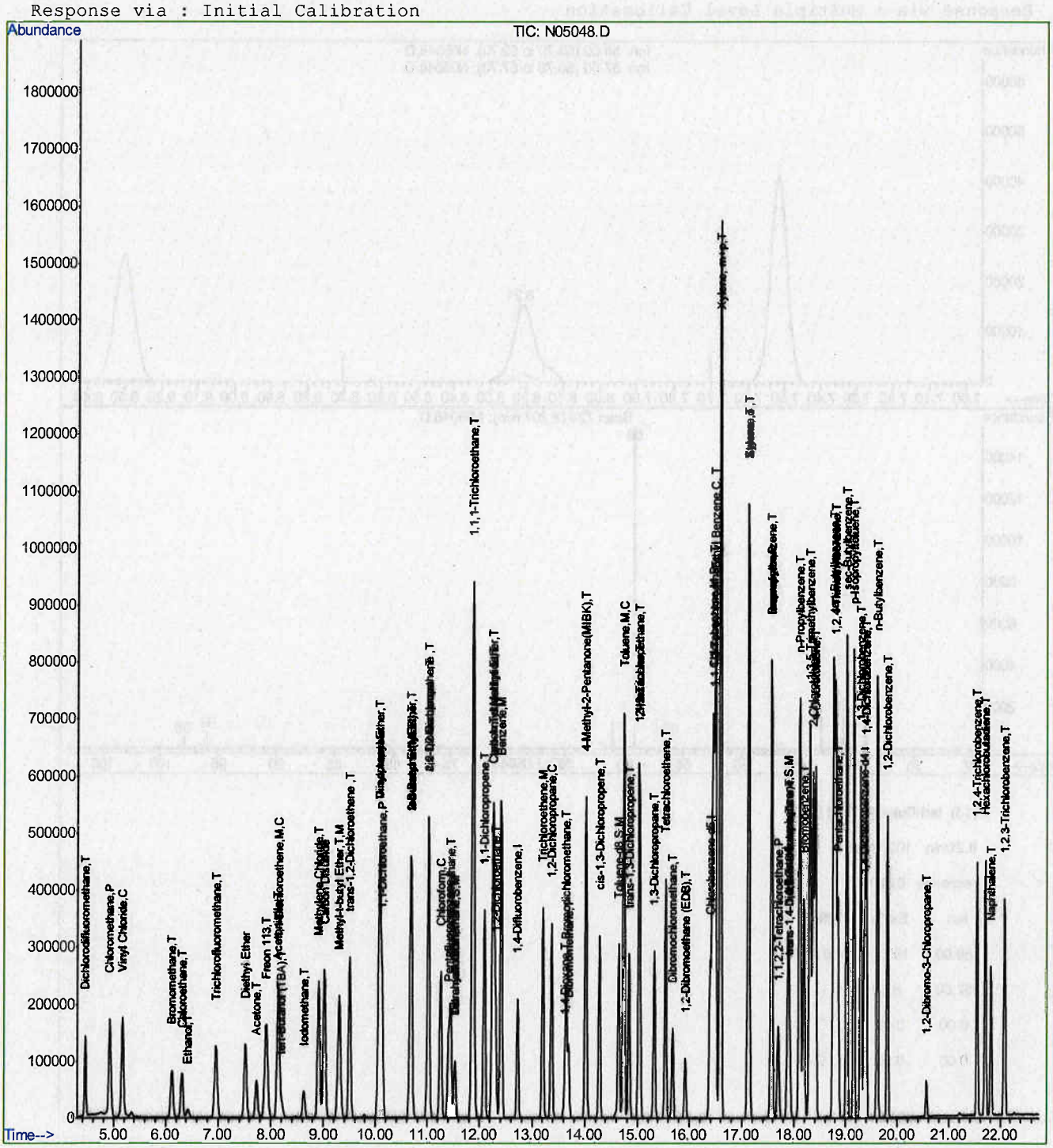
Compound	R.T.	QIon	Response	Conc Unit		Qvalue
40) 1,4-Dioxane	13.61	88	276420	403.43 ppb	#	47
41) Bromodichloromethane	13.65	83	2059883	22.88 ppb		99
42) Dibromomethane	13.69	93	798372	24.17 ppb		98
44) 4-Methyl-2-Pentanone(MIBK)	14.02	100	711961	95.37 ppb		95
45) cis-1,3-Dichloropropene	14.28	75	2448990	21.70 ppb		100
48) Toluene	14.73	92	4198417	18.92 ppb		99
49) trans-1,3-Dichloropropene	14.84	75	2122119	21.17 ppb		99
50) 1,1,2-Trichloroethane	15.04	83	1032495	23.92 ppb		98
51) 2-Hexanone	15.02	43	4101201	103.09 ppb		99
52) 1,3-Dichloropropane	15.32	76	2260049	23.18 ppb		100
53) Tetrachloroethene	15.54	164	1239705	20.42 ppb		99
54) Dibromochloromethane	15.68	129	1173095	21.28 ppb		100
55) 1,2-Dibromoethane (EDB)	15.92	107	1016334	22.01 ppb		99
56) Chlorobenzene	16.44	112	4420521	21.13 ppb		88
57) 1,1,1,2-Tetrachloroethane	16.47	131	1367296	21.09 ppb		100
58) Ethyl Benzene	16.49	91	8323542	20.46 ppb		100
59) Xylene, m+p	16.58	106	6467483	41.21 ppb		99
60) Xylene, o	17.12	106	2876479	19.42 ppb		100
61) Styrene	17.13	104	3412095	14.60 ppb		94
62) Bromoform	17.56	173	685263	23.56 ppb		96
63) Isopropylbenzene	17.57	105	7680741	19.47 ppb		99
65) 1,2,3-Trichloropropane	17.90	77	526502	20.40 ppb		98
66) trans-1,4-Dichloro-2-buten	17.92	53	389965	20.48 ppb		96
68) 1,1,2,2-Tetrachloroethane	17.70	83	1354652	20.58 ppb		100
69) n-Propylbenzene	18.11	91	9594781	19.01 ppb		100
70) Bromobenzene	18.19	156	1550041	21.06 ppb		96
71) 1,3,5-Trimethylbenzene	18.30	105	5891011	17.72 ppb		100
72) 2-Chlorotoluene	18.36	91	5531323	18.03 ppb		94
73) 4-Chlorotoluene	18.41	91	5493370	19.45 ppb		97
74) tert-Butylbenzene	18.76	119	6168254	18.79 ppb		99
75) Pentachloroethane	18.85	167	982589	24.67 ppb		96
76) 1,2,4-Trimethylbenzene	18.81	105	5866744	17.63 ppb		100
77) sec-Butylbenzene	19.02	105	8269138	18.11 ppb		100
78) p-Isopropyltoluene	19.15	119	6363222	17.27 ppb		99
79) 1,3-Dichlorobenzene	19.29	146	3240123	20.72 ppb		99
80) 1,4-Dichlorobenzene	19.39	146	2981188	18.75 ppb		100
81) n-Butylbenzene	19.61	91	5624705	14.89 ppb		100
82) 1,2-Dichlorobenzene	19.81	146	2705104	19.61 ppb		100
83) 1,2-Dibromo-3-Chloropropan	20.56	75	231897	19.45 ppb		99
84) 1,2,4-Trichlorobenzene	21.53	180	1677917	17.60 ppb		99
85) Hexachlorobutadiene	21.70	225	1039619	19.71 ppb		99
86) Naphthalene	21.82	128	2826602	14.10 ppb		100
87) 1,2,3-Trichlorobenzene	22.08	180	1507125	18.20 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05048.D Vial: 23
Acq On : 23 Feb 2009 8:09 pm Operator: TitiaF
Sample : C4507-10MSD Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 10:08 2009 Quant Results File: VN131WA.RES

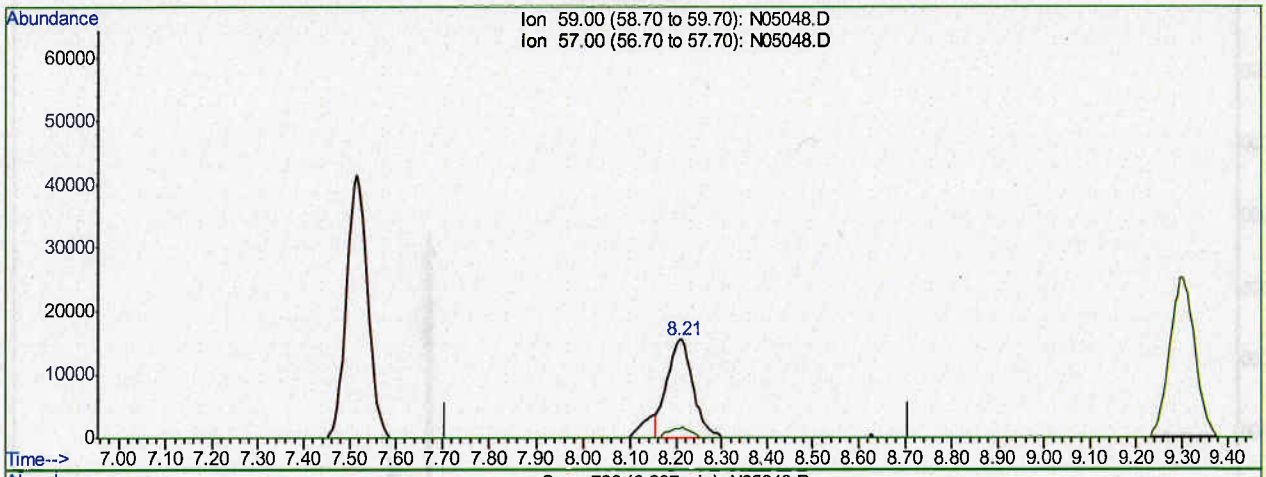
Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration

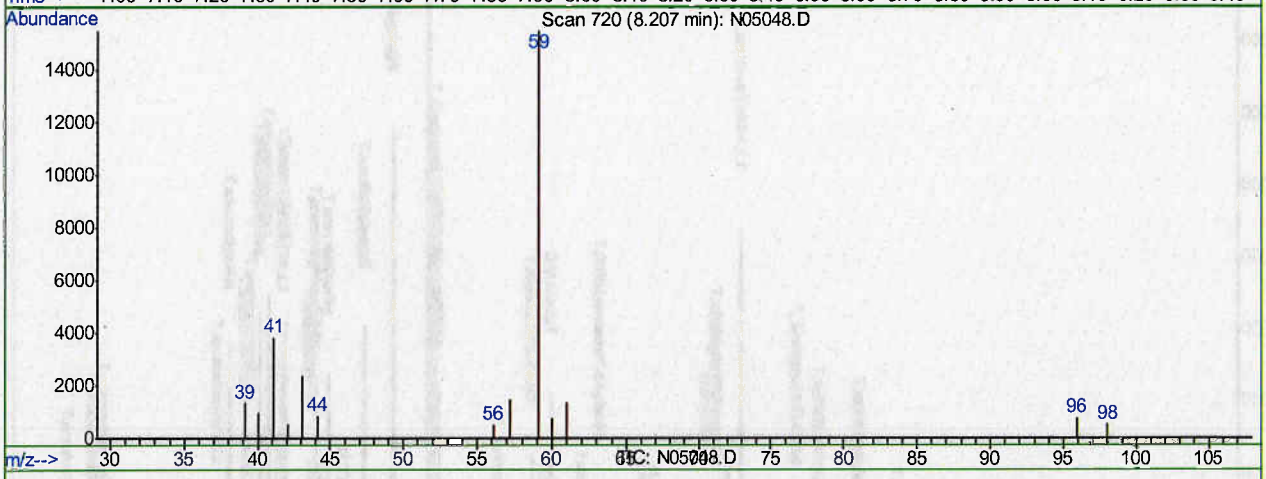


Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090223\N05048.D Vial: 23
Acq On : 23 Feb 2009 8:09 pm Operator: TitiaF
Sample : C4507-10MSD Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 10:07 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Multiple Level Calibration





(13) tert-Butanol (TBA) (T)

8.21min 102.11ppb m

response 624794

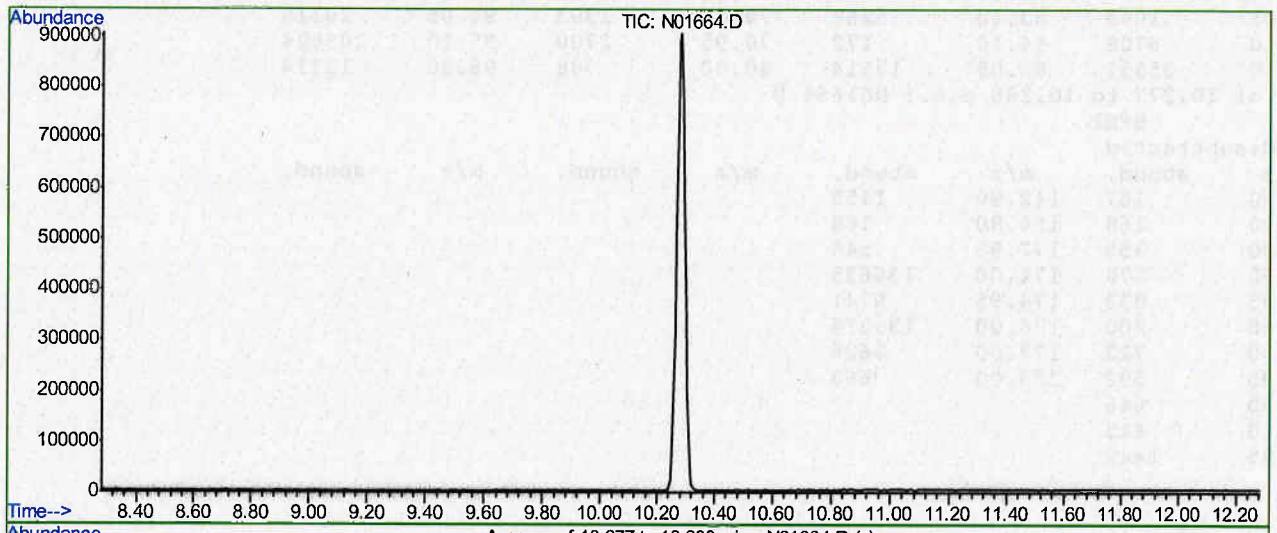
Ion	Exp%	Act%
59.00	100	100
57.00	8.80	8.76
0.00	0.00	0.00
0.00	0.00	0.00

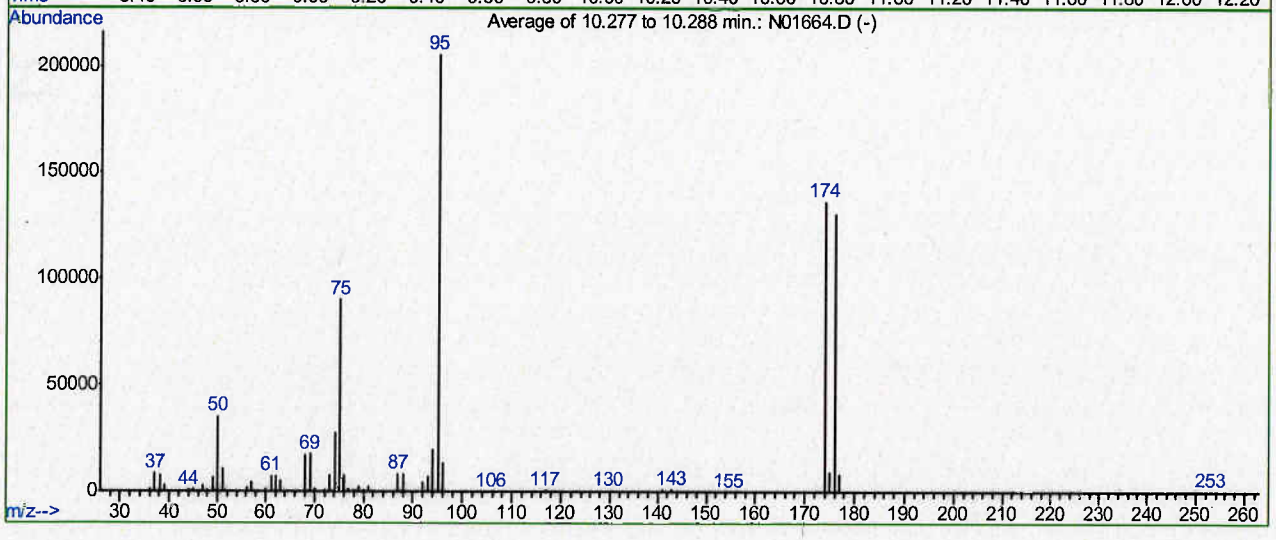
N05048.D VN131WA.M Tue Feb 24 10:07:38 2009 RPT1

ACCUTEST Laboratories C4507

BFB

Data File : C:\HPCHEM\1\DATA\N080822\N01664.D Vial: 19
Acq On : 22 Aug 2008 6:11 pm Operator: TitiaF
Sample : BFB Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM





Spectrum Information: Average of 10.277 to 10.288 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.3	35531	PASS
75	95	30	60	44.0	90632	PASS
95	95	100	100	100.0	205824	PASS
96	95	5	9	6.7	13714	PASS
173	174	0.00	2	0.4	545	PASS
174	95	50	100	66.4	136635	PASS
175	174	5	9	7.1	9741	PASS
176	174	95	101	95.6	130576	PASS
177	176	5	9	6.6	8626	PASS

N01664.D VN43DSIM.M Wed Aug 27 10:59:55 2008 RPTLGM

Average of 10.277 to 10.288 min.: N01664.D
BFB2
Modified:subtracted

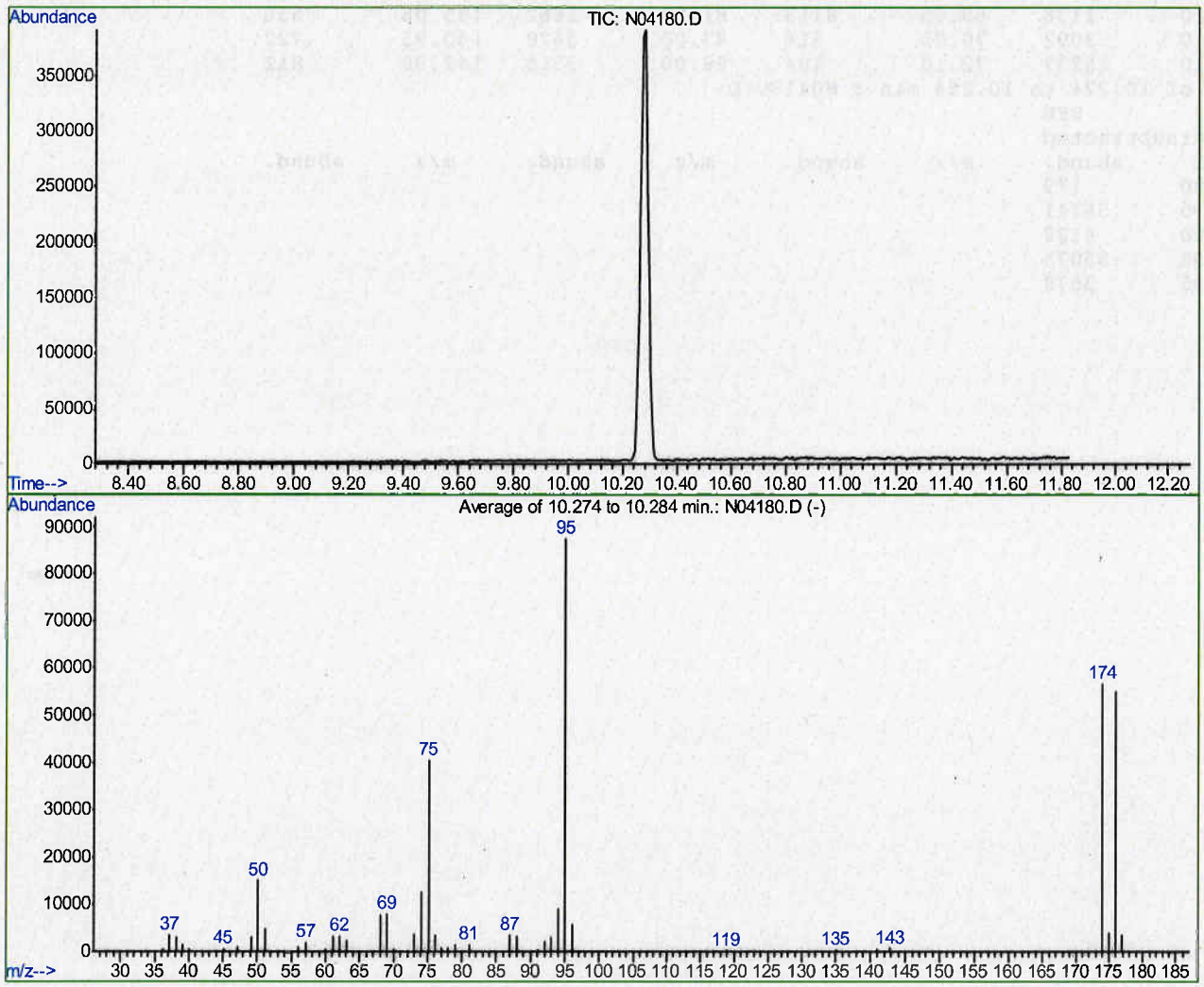
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.05	1425	51.10	11160	69.05	17811	81.00	2822
37.10	8947	52.10	376	70.05	1467	81.95	721
38.10	7921	55.10	180	72.00	881	87.00	8563
39.10	3253	56.10	2130	73.05	7708	88.00	8319
40.00	135	57.10	4620	74.10	28075	90.90	358
44.00	1053	60.05	1435	75.10	90632	91.10	199
45.05	1617	61.10	7574	76.10	7882	92.05	4651
47.10	3370	62.05	7454	77.00	1449	93.00	7149
48.05	1043	63.10	5268	78.05	1303	94.05	20115
49.10	6708	64.10	172	78.95	2700	95.10	205824
50.10	35531	68.05	17514	80.00	988	96.10	13714

Average of 10.277 to 10.288 min.: N01664.D
BFB2
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
97.00	167	142.90	1455				
103.90	168	154.80	168				
106.00	355	172.95	545				
115.90	170	174.00	136635				
116.95	833	174.95	9741				
118.00	200	176.00	130576				
118.90	722	177.00	8626				
127.95	592	253.00	663				
129.90	646						
135.10	415						
140.95	1442						

BFB

Data File : C:\HPCHEM\1\DATA\N090112\N04180.D Vial: 1
Acq On : 12 Jan 2009 9:29 am Operator: TitiaF
Sample : BFB Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B



Spectrum Information: Average of 10.274 to 10.284 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	15237	PASS
75	95	30	60	46.4	40608	PASS
95	95	100	100	100.0	87539	PASS
96	95	5	9	6.7	5879	PASS
173	174	0.00	2	0.3	179	PASS
174	95	50	100	64.8	56741	PASS
175	174	5	9	7.3	4128	PASS
176	174	95	101	97.1	55075	PASS
177	176	5	9	6.5	3578	PASS

N04180.D VN131WA.M Tue Jan 13 10:45:27 2009 RPT1

Average of 10.274 to 10.284 min.: N04180.D
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	676	51.10	5006	73.05	3788	91.05	360
37.10	3640	56.05	1066	74.05	12775	92.00	2202
38.10	3259	57.10	2136	75.10	40608	93.05	3215
39.10	1517	60.00	642	76.05	3504	94.05	9114
40.05	576	61.10	3367	77.05	912	95.05	87539
43.10	67	62.05	3375	78.00	807	96.05	5879
44.05	289	63.10	2545	79.00	1602	117.00	167
45.10	730	68.00	7866	80.00	204	118.95	357
47.10	1136	69.05	8113	81.00	1662	135.05	536
49.10	3092	70.05	616	87.00	3628	140.95	722
50.10	15237	72.10	184	88.00	3315	142.90	812

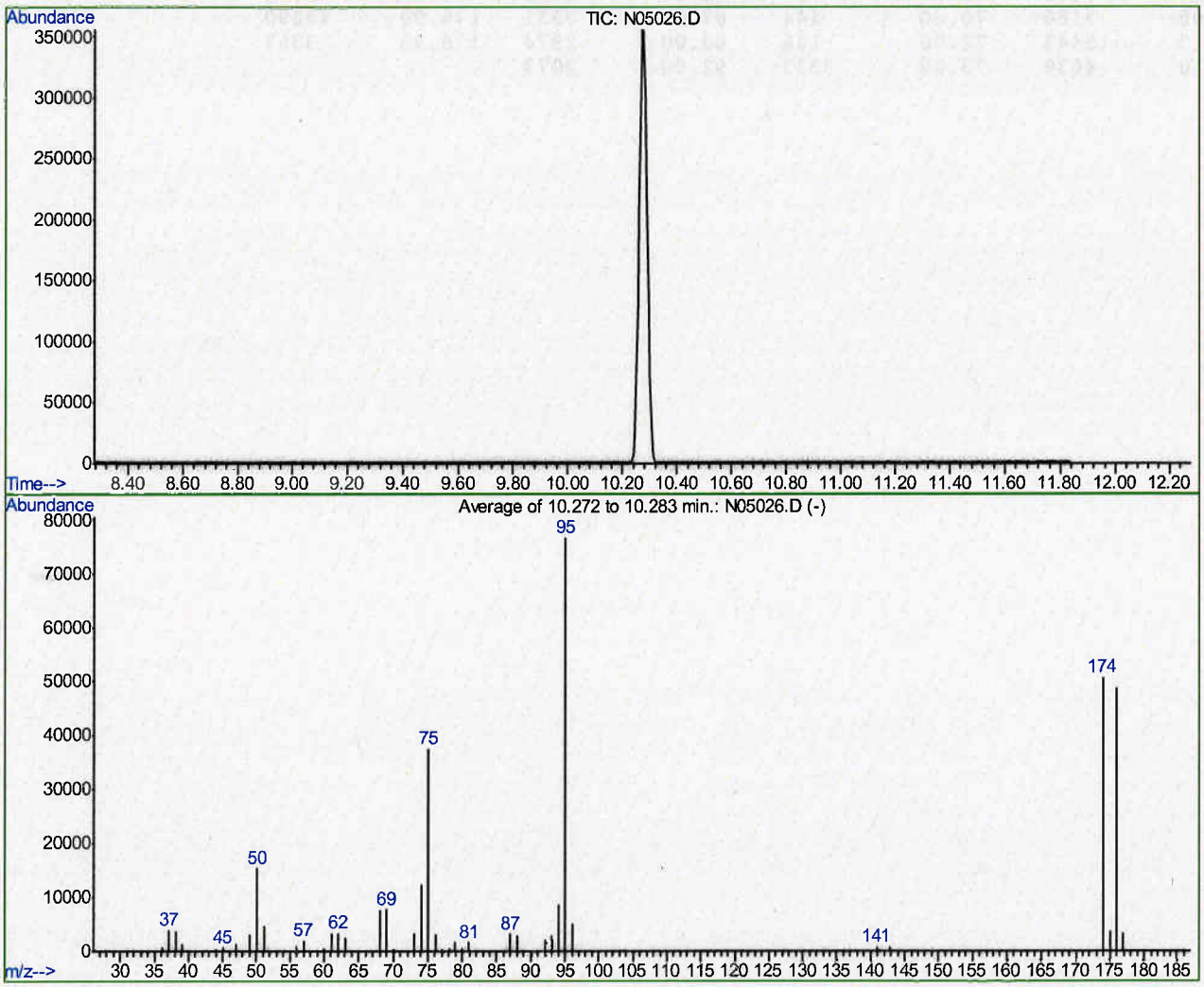
Average of 10.274 to 10.284 min.: N04180.D
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
173.00	179						
173.95	56741						
175.00	4128						
175.95	55075						
176.95	3578						

6.5.2 6

BFB

Data File : C:\HPCHEM\1\DATA\N090223\N05026.D Vial: 1
Acq On : 23 Feb 2009 8:43 am Operator: TitiaF
Sample : BFB Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B



Spectrum Information: Average of 10.272 to 10.283 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.1	15443	PASS
75	95	30	60	49.0	37573	PASS
95	95	100	100	100.0	76696	PASS
96	95	5	9	6.6	5082	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	66.2	50763	PASS
175	174	5	9	7.2	3675	PASS
176	174	95	101	96.1	48800	PASS
177	176	5	9	6.9	3357	PASS

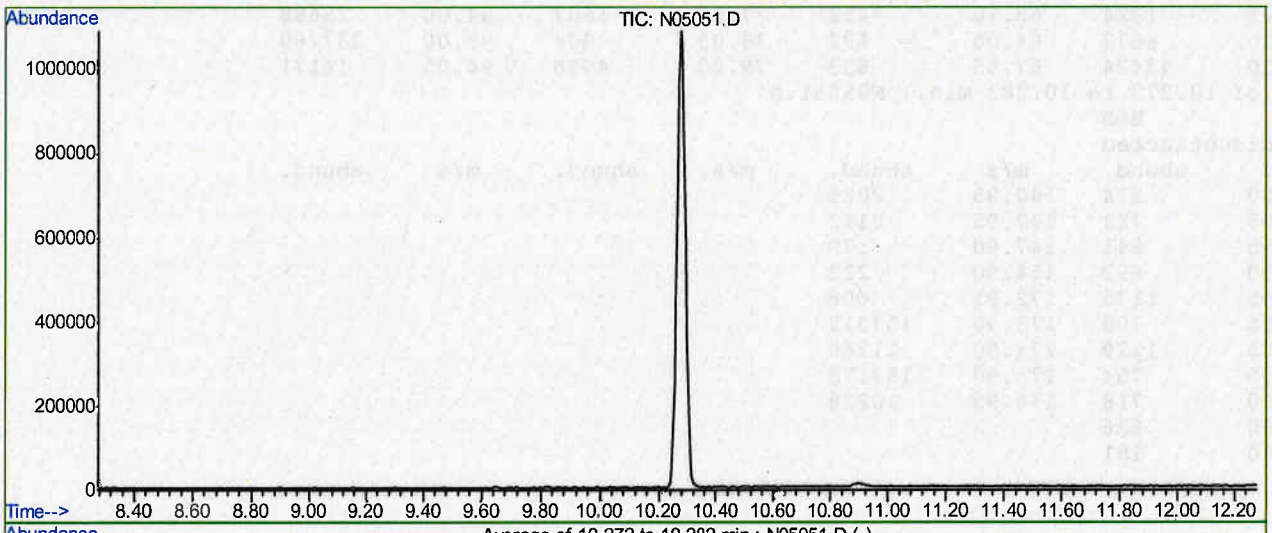
N05026.D VN131WA.M Tue Feb 24 09:26:04 2009 RPT1

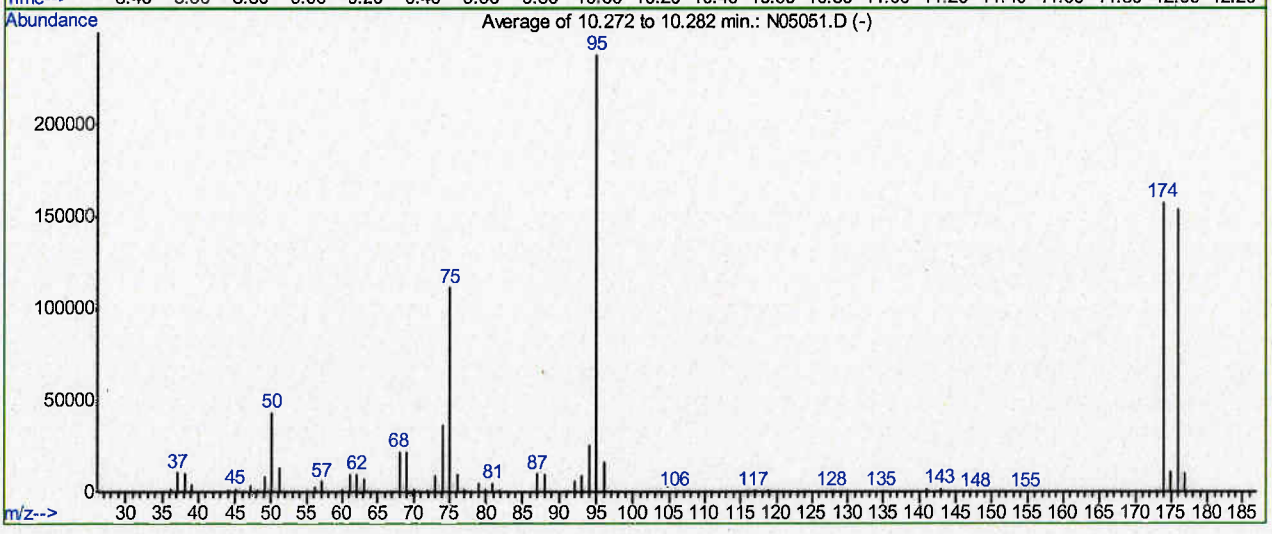
Average of 10.272 to 10.283 min.: N05026.D
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.15	715	56.05	1052	74.05	12434	93.00	2995
37.10	3976	57.05	2018	75.05	37573	94.05	8610
38.10	3722	60.05	690	76.10	3218	95.00	76696
39.10	1394	61.05	3316	77.00	424	96.00	5082
40.00	177	62.05	3411	78.05	683	140.95	788
44.00	448	63.10	2601	78.95	1808	142.90	723
45.10	729	68.00	7711	79.95	615	173.90	50763
47.05	1302	69.05	7781	80.95	1692	174.95	3675
49.05	3166	70.00	444	87.00	3331	175.90	48800
50.10	15443	72.00	186	88.00	2974	176.95	3357
51.10	4638	73.00	3333	92.00	2073		

BFB

Data File : C:\HPCHEM\1\DATA\N090224\N05051.D Vial: 1
Acq On : 24 Feb 2009 11:07 am Operator: TitiaF
Sample : BFB Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM





Spectrum Information: Average of 10.272 to 10.282 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.3	43424	PASS
75	95	30	60	46.8	111232	PASS
95	95	100	100	100.0	237760	PASS
96	95	5	9	6.8	16171	PASS
173	174	0.00	2	0.4	606	PASS
174	95	50	100	66.2	157312	PASS
175	174	5	9	7.2	11260	PASS
176	174	95	101	97.4	153173	PASS
177	176	5	9	6.7	10228	PASS

N05051.D VN43DSIM.M Thu Feb 26 12:57:27 2009 RPT1

Average of 10.272 to 10.282 min.: N05051.D
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	1982	51.10	13191	68.00	21931	80.00	1801
37.10	10831	52.05	808	69.00	21851	80.95	5154
38.10	10107	55.10	354	70.05	1807	81.90	1378
39.10	4270	56.10	2898	71.95	1125	87.00	10093
40.00	189	57.10	5948	73.00	9186	88.00	9494
44.05	1059	60.05	1806	74.10	36619	90.95	898
45.10	2098	61.05	9565	75.05	111232	92.05	5922
47.10	3793	62.05	9778	76.05	9604	93.00	9125
48.05	1324	63.10	7452	77.00	1607	94.00	25688
49.10	8672	64.05	692	78.05	904	95.00	237760
50.10	43424	67.05	633	79.00	4996	96.05	16171

Average of 10.272 to 10.282 min.: N05051.D
BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
97.00	374	140.95	2025				
103.95	722	142.95	2112				
105.95	841	147.90	179				
115.90	692	154.90	223				
116.95	1175	172.95	606				
117.95	705	173.90	157312				
118.85	1129	174.90	11260				
127.95	754	175.90	153173				
129.90	718	176.95	10228				
134.90	626						
137.00	181						

6.5.4 6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N080822\N01672.D Vial: 27
Acq On : 22 Aug 2008 9:42 pm Operator: TitiaF
Sample : IC43-2 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	25790	20.00	ug/L	-0.02

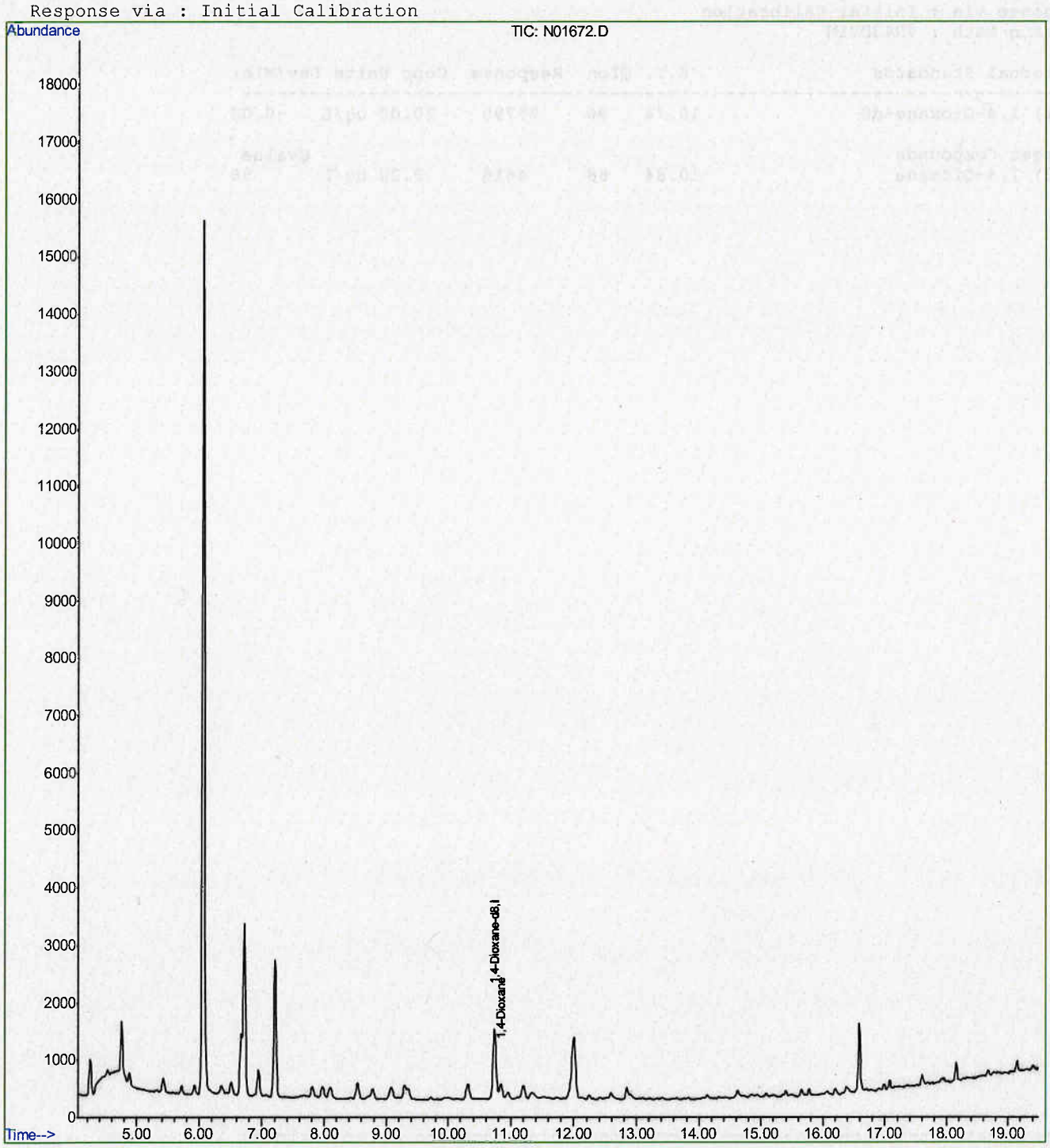
Target Compounds						Qvalue
2) 1,4-Dioxane	10.84	88	4616	3.20	ug/L	96

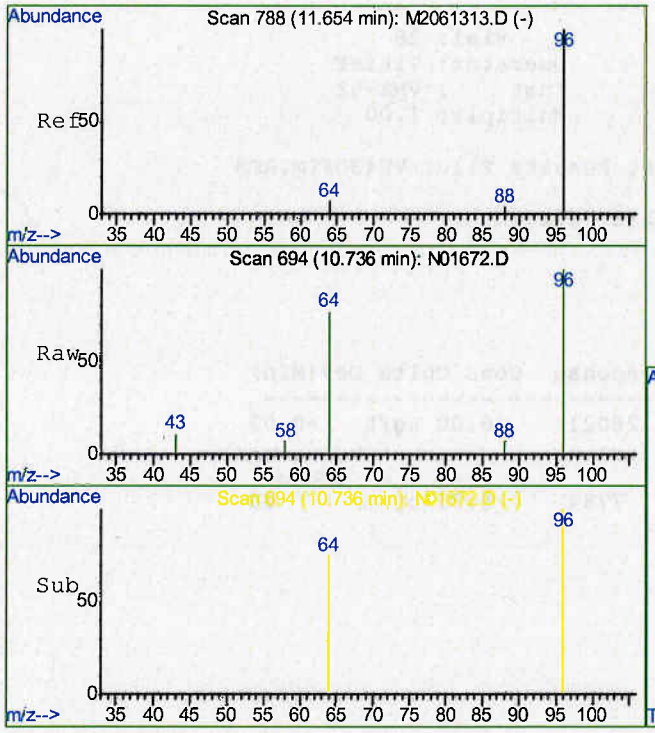
(#) = qualifier out of range (m) = manual integration
N01672.D VN43DSIM.M Mon Aug 25 08:27:10 2008 RPTLGM Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N080822\N01672.D Vial: 27
Acq On : 22 Aug 2008 9:42 pm Operator: TitiaF
Sample : IC43-2 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration

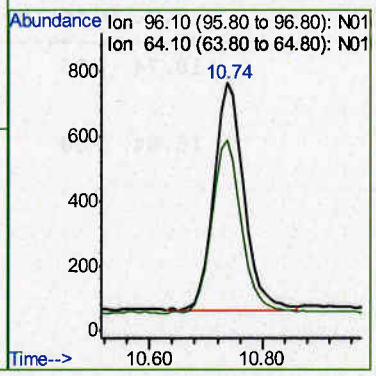


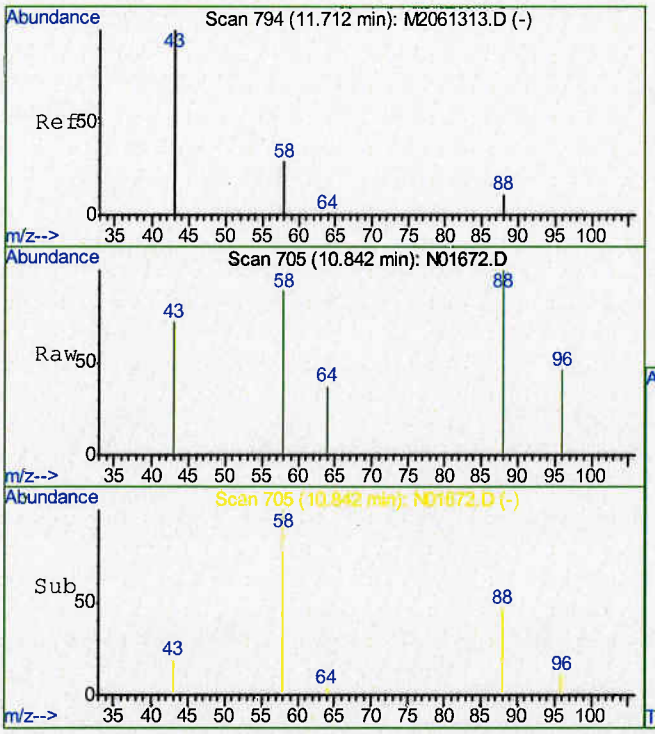


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. -0.02 min
Lab File: N01672.D
Acq: 22 Aug 2008 9:42 pm

Tgt Ion: 96 Resp: 25790

Ion	Ratio	Lower	Upper
96	100		
64	76.7	65.1	97.7

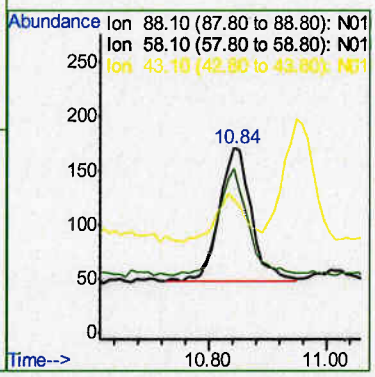




#2
1,4-Dioxane
Concen: 3.20 ug/L
RT: 10.84 min Scan# 705
Delta R.T. -0.01 min
Lab File: N01672.D
Acq: 22 Aug 2008 9:42 pm

Tgt Ion: 88 Resp: 4616

Ion	Ratio	Lower	Upper
88	100		
58	77.0	64.4	96.6
43	33.5	28.2	42.4



6.6.1

6

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N080822\N01673.D Vial: 28
Acq On : 22 Aug 2008 10:09 pm Operator: TitiaF
Sample : IC43-4 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	26021	20.00 ug/L	-0.02
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	7784	5.35 ug/L	95

(#) = qualifier out of range (m) = manual integration

ACCUTEST Laboratories
Q4507

6.6.2 6

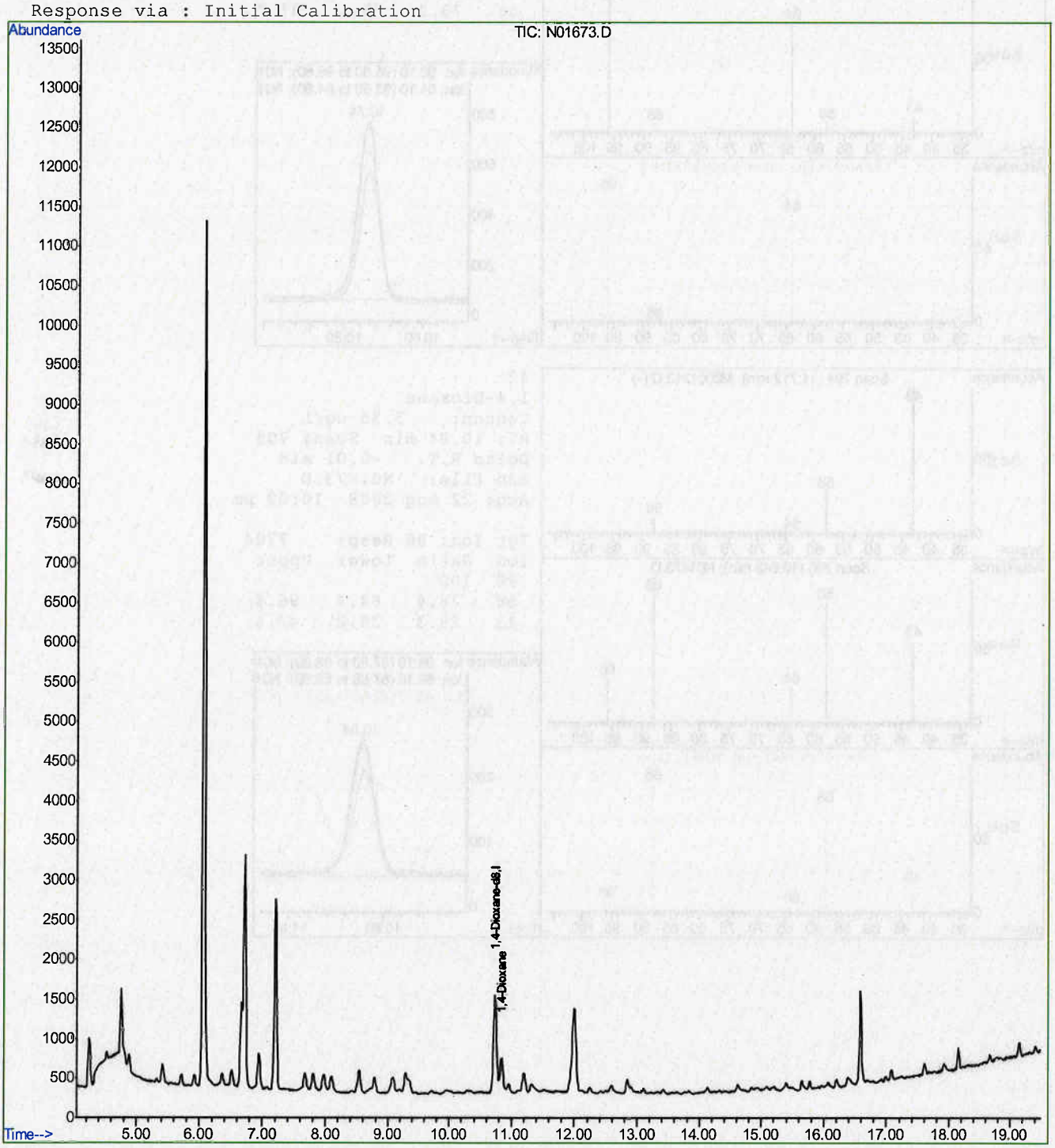
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N080822\N01673.D
Acq On : 22 Aug 2008 10:09 pm
Sample : IC43-4
Misc : MS353,VN43,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008

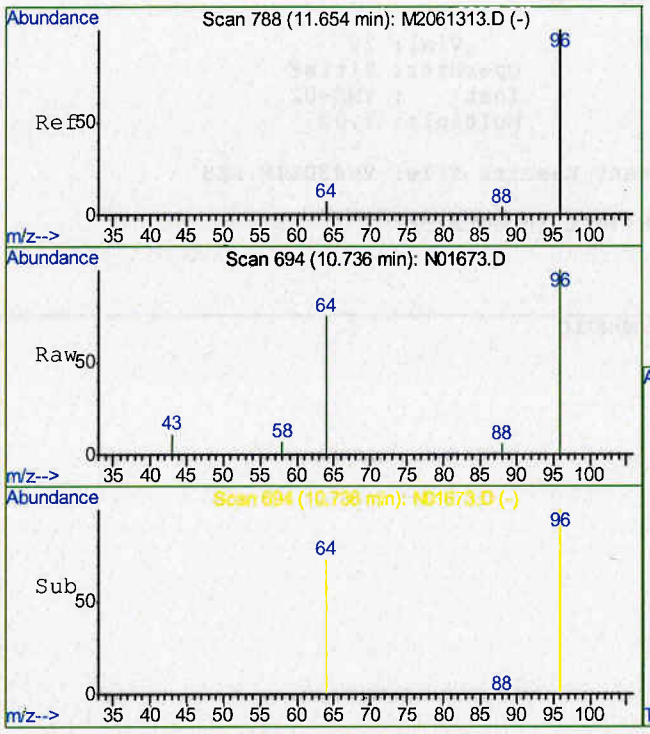
Vial: 28
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration



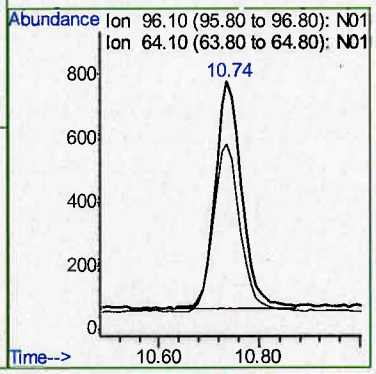
ACCUTEST. Laboratories C4507

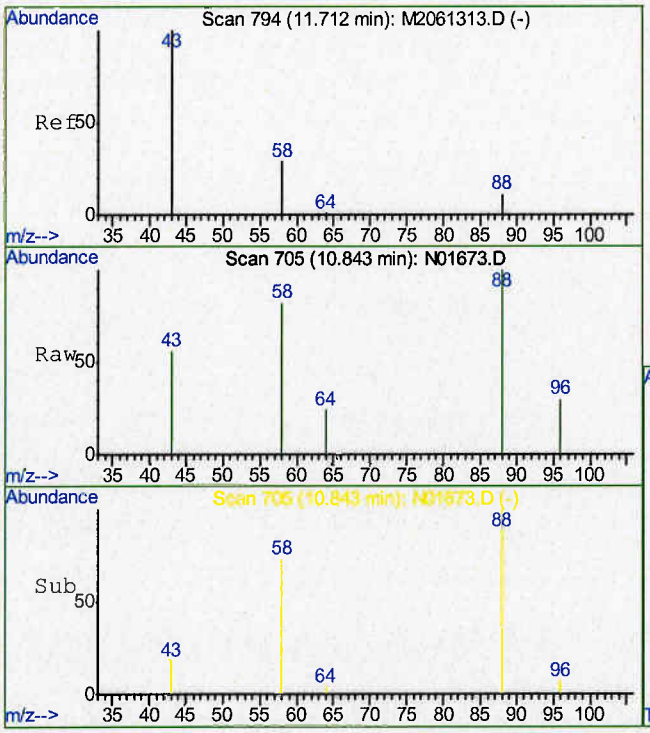


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. -0.02 min
Lab File: N01673.D
Acq: 22 Aug 2008 10:09 pm

Tgt Ion: 96 Resp: 26021

Ion	Ratio	Lower	Upper
96	100		
64	75.3	65.1	97.7

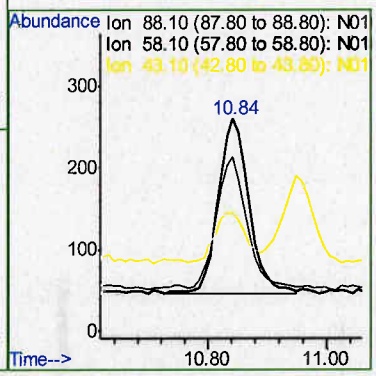




#2
1,4-Dioxane
Concen: 5.35 ug/L
RT: 10.84 min Scan# 705
Delta R.T. -0.01 min
Lab File: N01673.D
Acq: 22 Aug 2008 10:09 pm

Tgt Ion: 88 Resp: 7784

Ion	Ratio	Lower	Upper
88	100		
58	78.4	64.4	96.6
43	28.3	28.2	42.4



6.6.2

6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N080822\N01674.D Vial: 29
Acq On : 22 Aug 2008 10:36 pm Operator: TitiaF
Sample : IC43-6 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

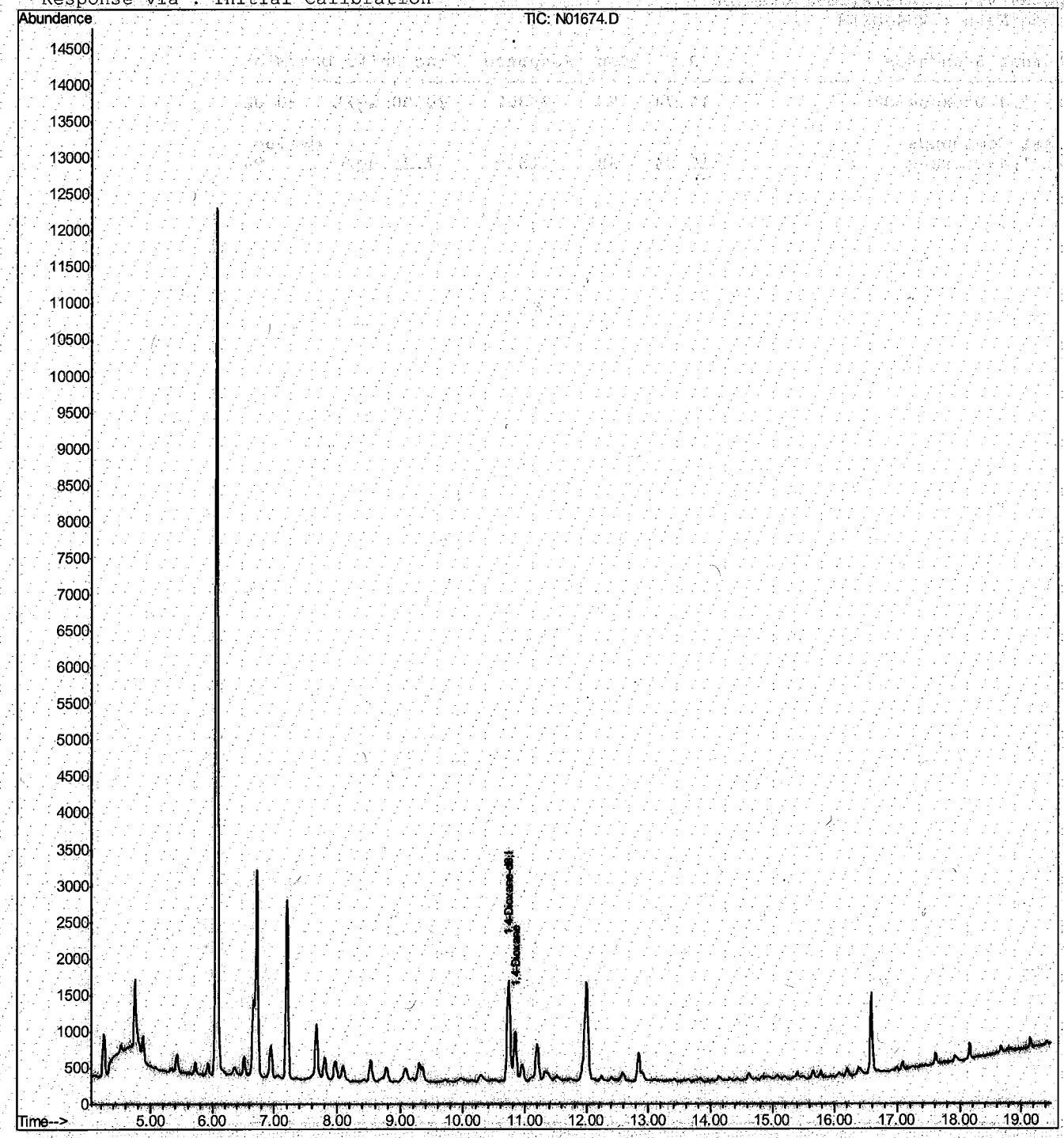
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	28302	20.00 ug/L	-0.02
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	11549	7.29 ug/L	94

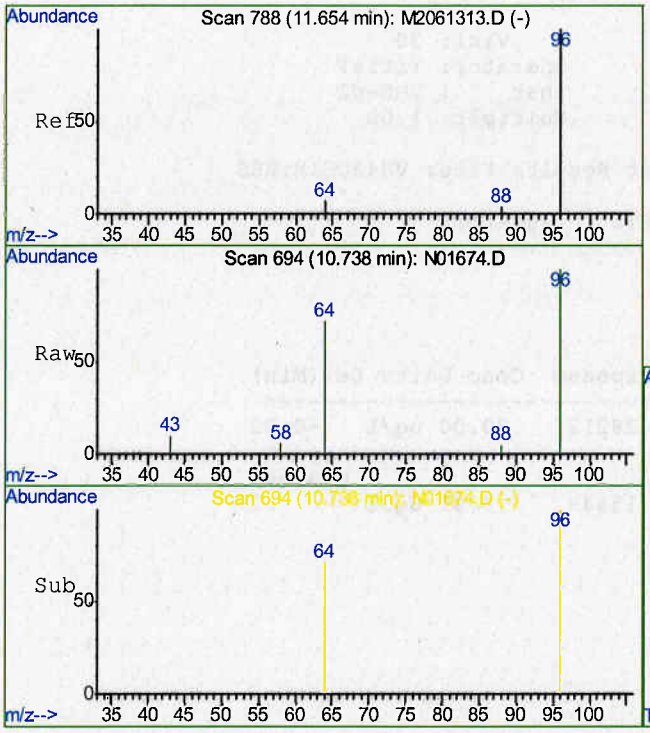
(#) = qualifier out of range (m) = manual integration
N01674.D VN43DSIM.M Mon Aug 25 08:27:18 2008 RPTLGM Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N080822\N01674.D Vial: 29
Acq On : 22 Aug 2008 10:36 pm Operator: TitiaF
Sample : IC43-6 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration

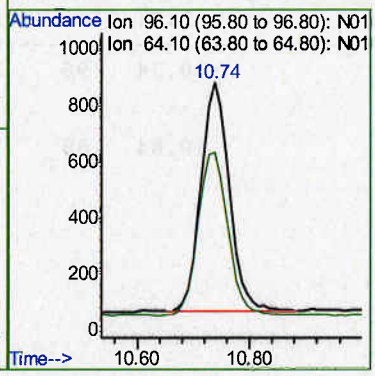


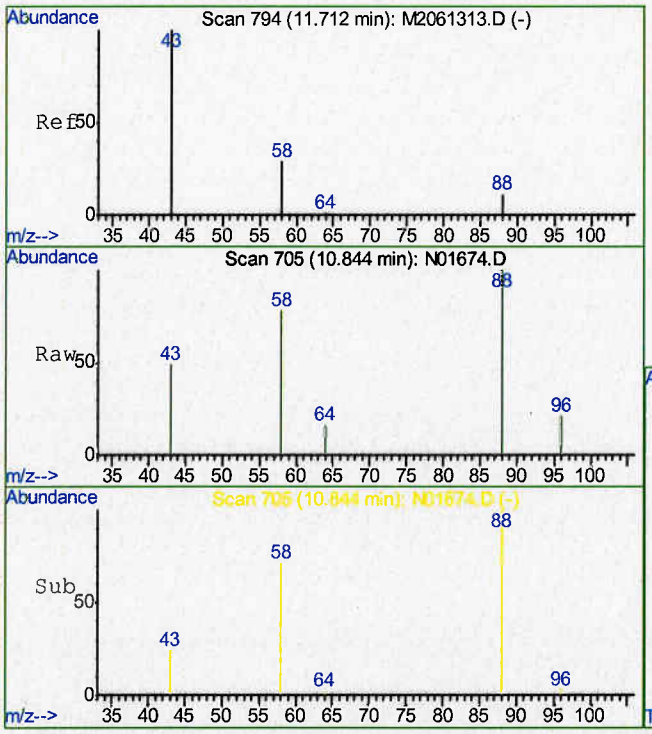


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. -0.02 min
Lab File: N01674.D
Acq: 22 Aug 2008 10:36 pm

Tgt Ion: 96 Resp: 28302

Ion	Ratio	Lower	Upper
96	100		
64	75.3	65.1	97.7

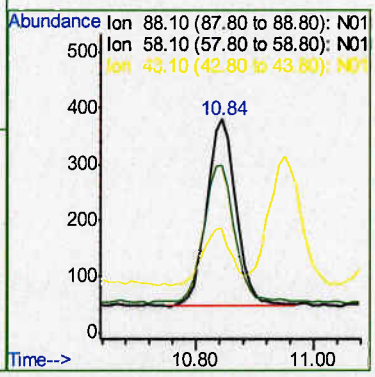




#2
1,4-Dioxane
Concen: 7.29 ug/L
RT: 10.84 min Scan# 705
Delta R.T. -0.01 min
Lab File: N01674.D
Acq: 22 Aug 2008 10:36 pm

Tgt Ion: 88 Resp: 11549

Ion	Ratio	Lower	Upper
88	100		
58	77.4	64.4	96.6
43	29.3	28.2	42.4



ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N080822\N01675.D Vial: 30
Acq On : 22 Aug 2008 11:02 pm Operator: TitiaF
Sample : IC43-8 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	28212	20.00 ug/L	-0.02
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	15648	9.91 ug/L	93

(#) = qualifier out of range (m) = manual integration
N01675.D VN43DSIM.M Mon Aug 25 08:27:32 2008 RPTLGM Page 1

6.6.4 6

ACCUTEST Laboratories C4507

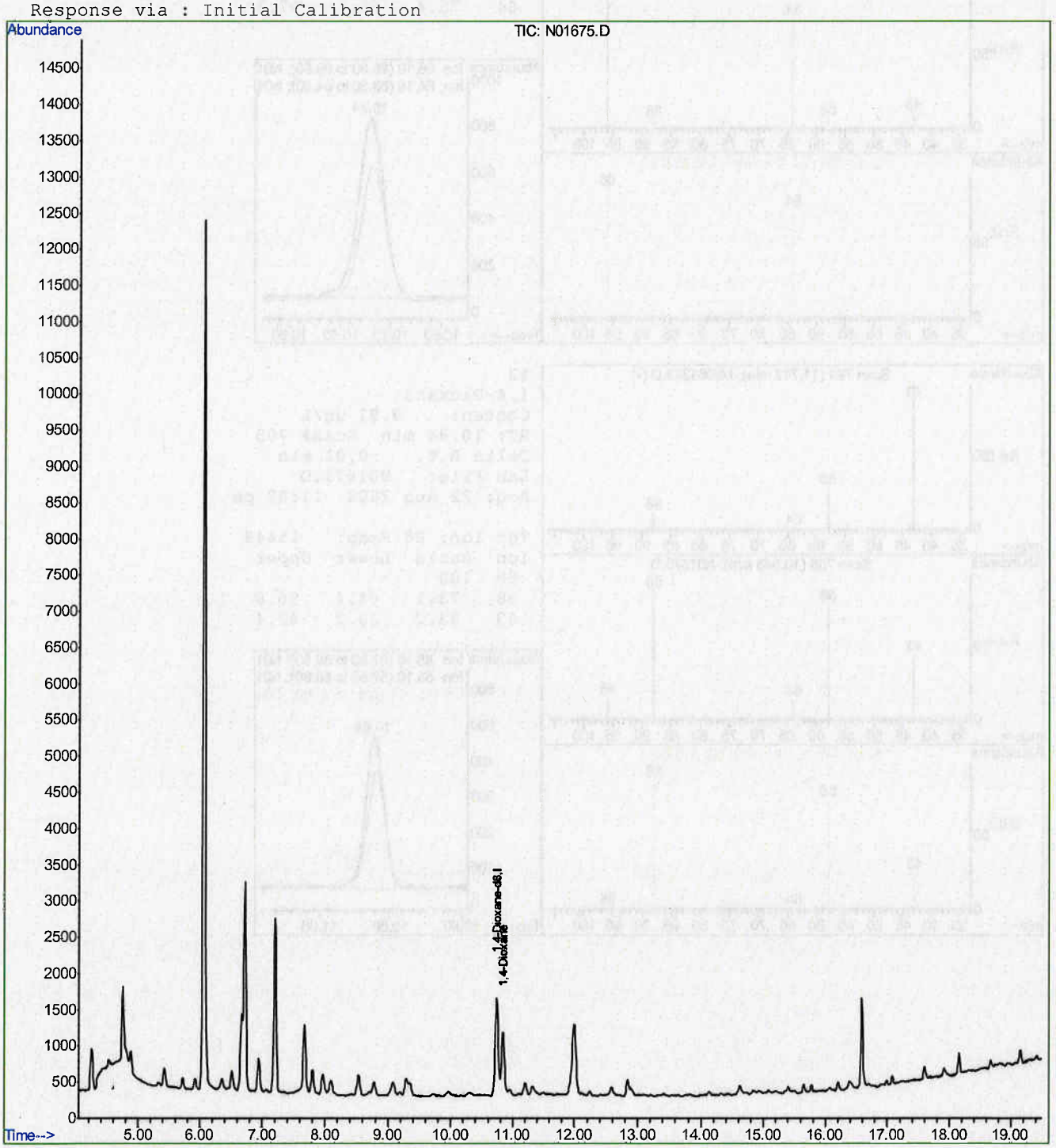
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N080822\N01675.D
Acq On : 22 Aug 2008 11:02 pm
Sample : IC43-8
Misc : MS353,VN43,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008

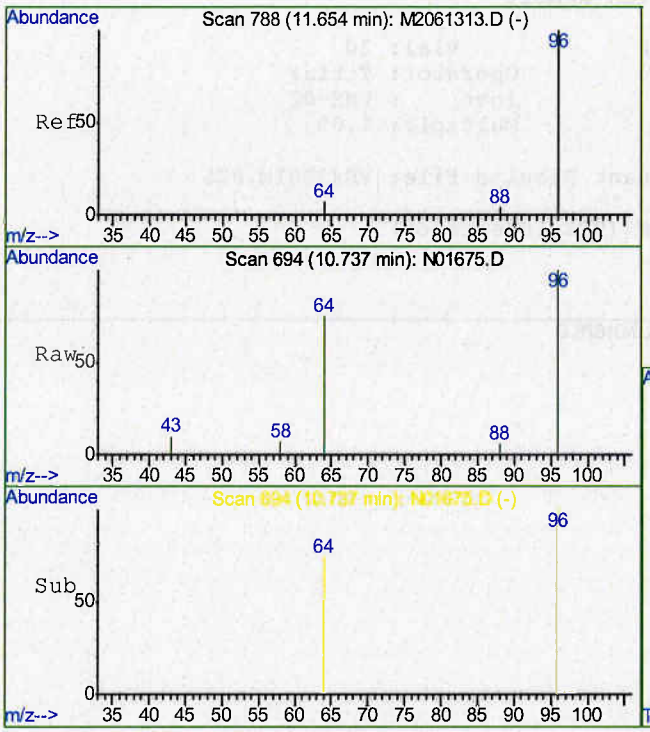
Vial: 30
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration



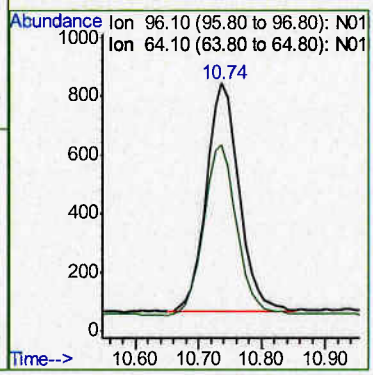
ACCUTEST Laboratories C4507

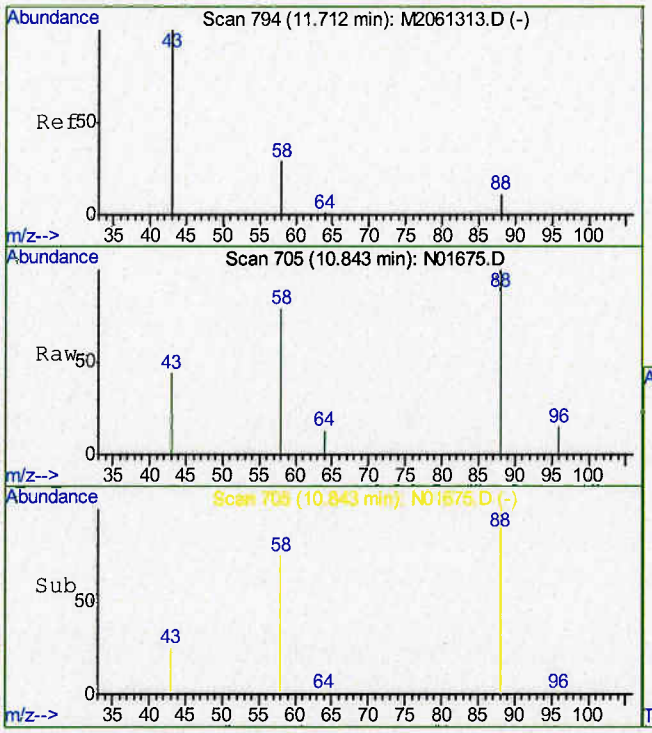


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. -0.02 min
Lab File: N01675.D
Acq: 22 Aug 2008 11:02 pm

Tgt Ion: 96 Resp: 28212

Ion	Ratio	Lower	Upper
96	100		
64	75.4	65.1	97.7

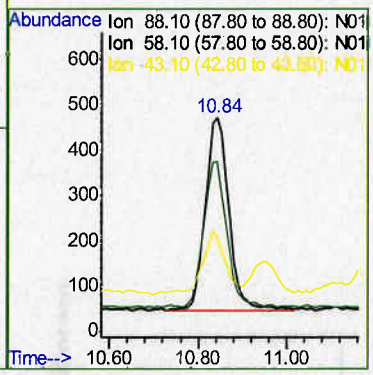




#2
1,4-Dioxane
Concen: 9.91 ug/L
RT: 10.84 min Scan# 705
Delta R.T. -0.01 min
Lab File: N01675.D
Acq: 22 Aug 2008 11:02 pm

Tgt Ion: 88 Resp: 15648

Ion	Ratio	Lower	Upper
88	100		
58	73.1	64.4	96.6
43	33.2	28.2	42.4



6.6.4

6

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N080822\N01676.D Vial: 31
Acq On : 22 Aug 2008 11:29 pm Operator: TitiaF
Sample : ICC43-10 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	28183	20.00 ug/L	-0.02
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	18625	11.81 ug/L	93

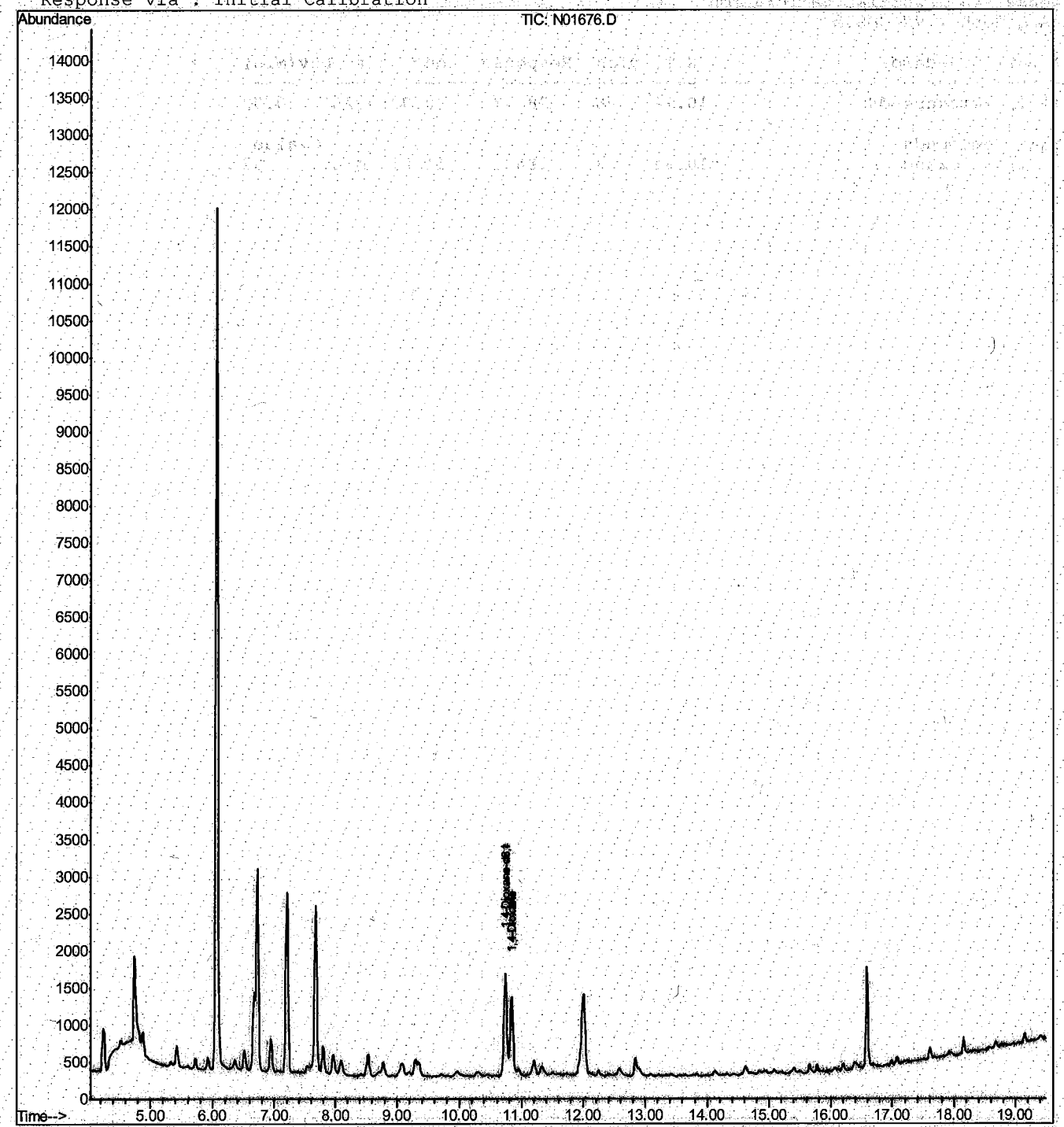
(#) = qualifier out of range (m) = manual integration
N01676.D VN43DSIM.M Mon Aug 25 08:27:36 2008 RPTLGM Page 1

ACCUTEST Laboratories C4507

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N080822\N01676.D Vial: 31
Acq On : 22 Aug 2008 11:29 pm Operator: TitiaF
Sample : ICC43-10 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008 Quant Results File: VN43DSIM.RES

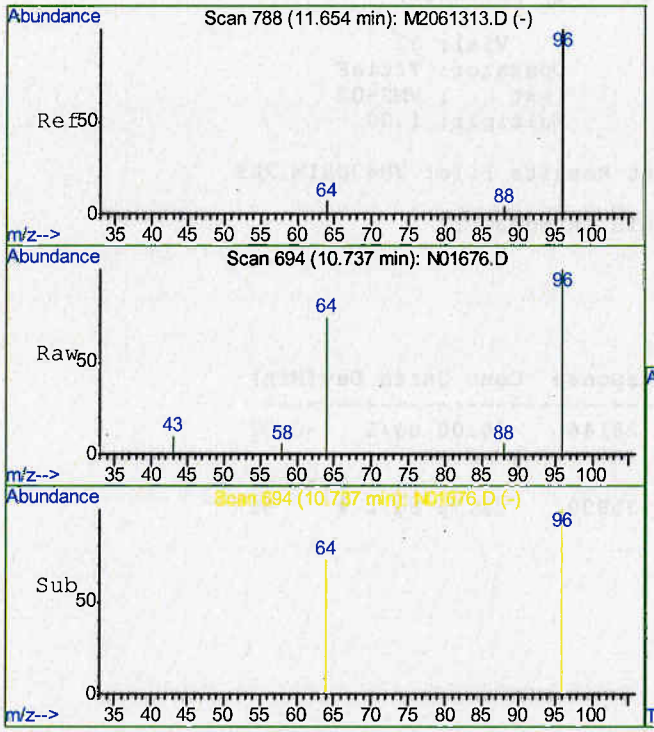
Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration



6.6.5

6

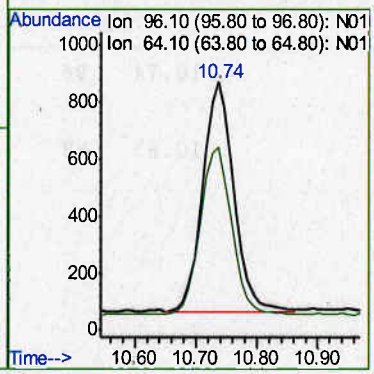
ACCUTEST Laboratories C4507

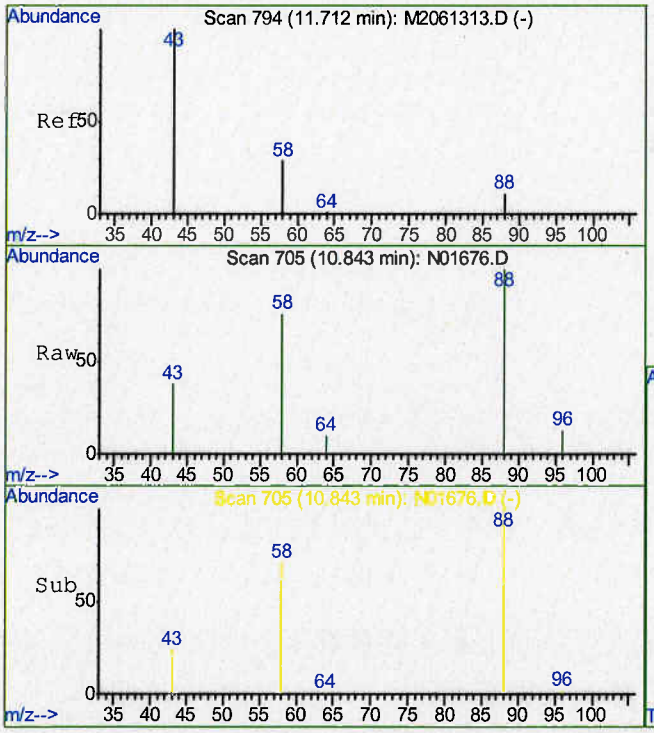


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. -0.02 min
Lab File: N01676.D
Acq: 22 Aug 2008 11:29 pm

Tgt Ion: 96 Resp: 28183

Ion	Ratio	Lower	Upper
96	100		
64	74.3	65.1	97.7

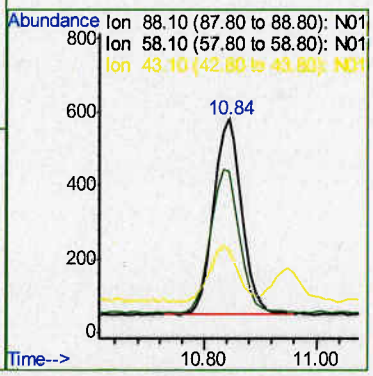




#2
1,4-Dioxane
Concen: 11.81 ug/L
RT: 10.84 min Scan# 705
Delta R.T. -0.01 min
Lab File: N01676.D
Acq: 22 Aug 2008 11:29 pm

Tgt Ion: 88 Resp: 18625

Ion	Ratio	Lower	Upper
88	100		
58	75.3	64.4	96.6
43	29.0	28.2	42.4



6.6.5

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N080822\N01677.D
Acq On : 22 Aug 2008 11:55 pm
Sample : IC43-20
Misc : MS353,VN43,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008

Vial: 32
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	28146	20.00 ug/L	-0.02
Target Compounds					Qvalue
2) 1,4-Dioxane	10.85	88	35890	22.79 ug/L #	92

(#) = qualifier out of range (m) = manual integration
N01677.D VN43DSIM.M Mon Aug 25 08:27:41 2008 RPTLGM

ACCUTEST LABORATORIES C4507

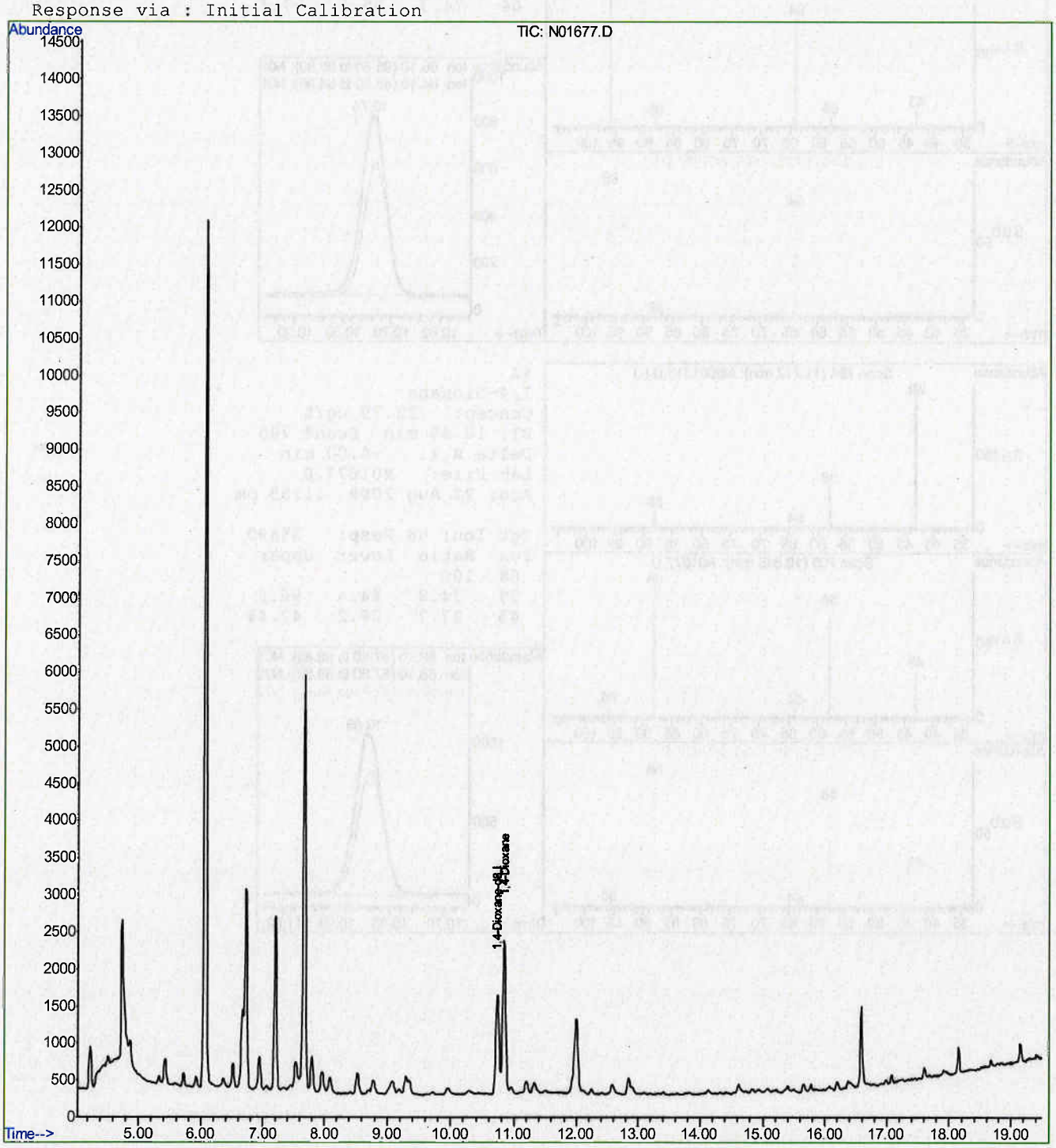
Quantitation Report

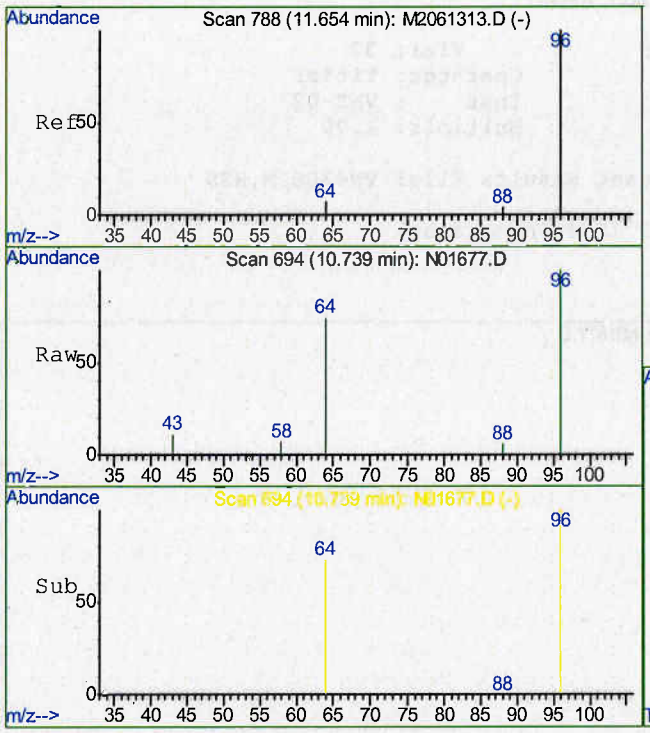
Data File : C:\HPCHEM\1\DATA\N080822\N01677.D
Acq On : 22 Aug 2008 11:55 pm
Sample : IC43-20
Misc : MS353,VN43,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008

Vial: 32
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration

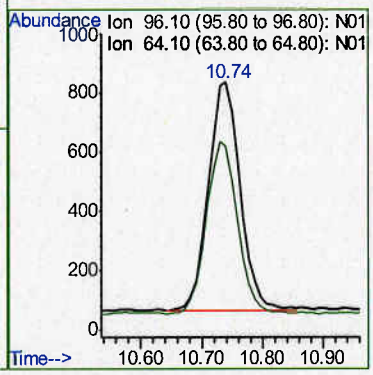


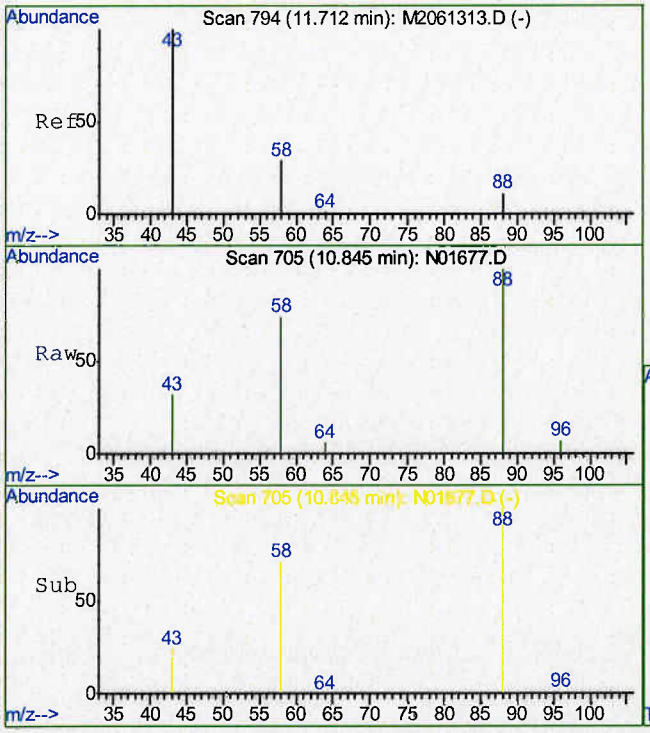


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. -0.02 min
Lab File: N01677.D
Acq: 22 Aug 2008 11:55 pm

Tgt Ion: 96 Resp: 28146

Ion	Ratio	Lower	Upper
96	100		
64	74.3	65.1	97.7

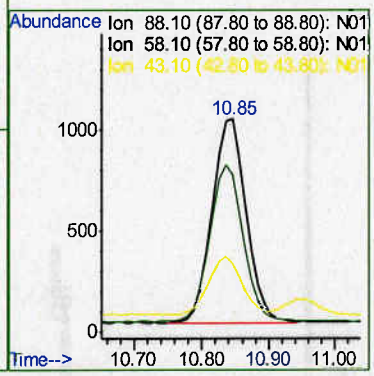




#2
1,4-Dioxane
Concen: 22.79 ug/L
RT: 10.85 min Scan# 705
Delta R.T. -0.00 min
Lab File: N01677.D
Acq: 22 Aug 2008 11:55 pm

Tgt Ion: 88 Resp: 35890

Ion	Ratio	Lower	Upper
88	100		
58	74.8	64.4	96.6
43	27.7	28.2	42.4#



6.6.6

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N080822\N01678.D Vial: 33
Acq On : 23 Aug 2008 12:22 am Operator: TitiaF
Sample : IC43-40 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	27018	20.00 ug/L	-0.02

Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	67269	44.50 ug/L #	92

6.6.7

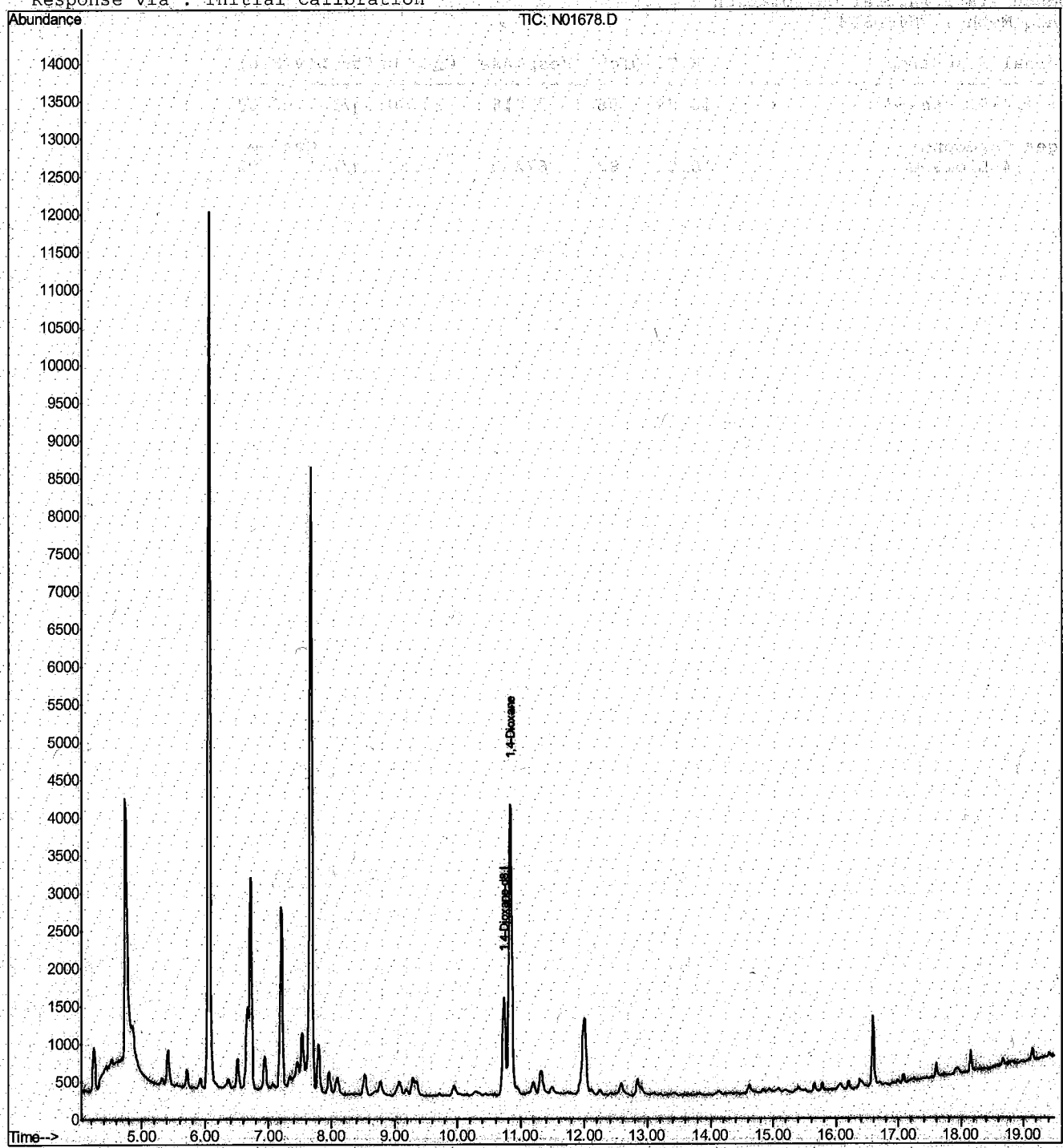
6

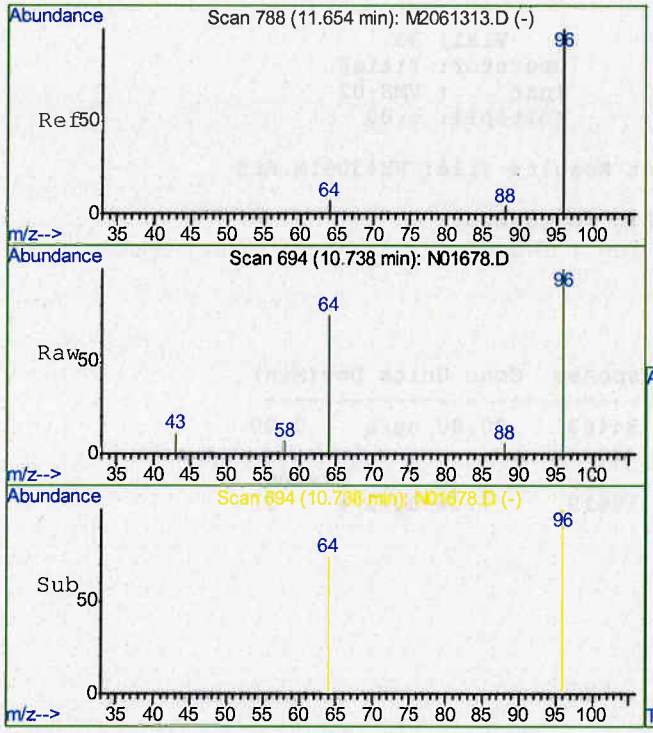
(#) = qualifier out of range (m) = manual integration
N01678.D VN43DSIM.M Mon Aug 25 08:27:54 2008 RPTLGM Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N080822\N01678.D Vial: 33
Acq On : 23 Aug 2008 12:22 am Operator: TitiaF
Sample : IC43-40 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:20 2008 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Fri Aug 22 18:07:13 2008
Response via : Initial Calibration

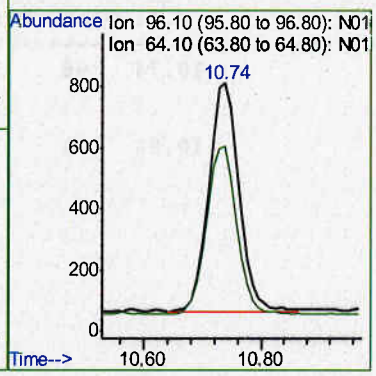


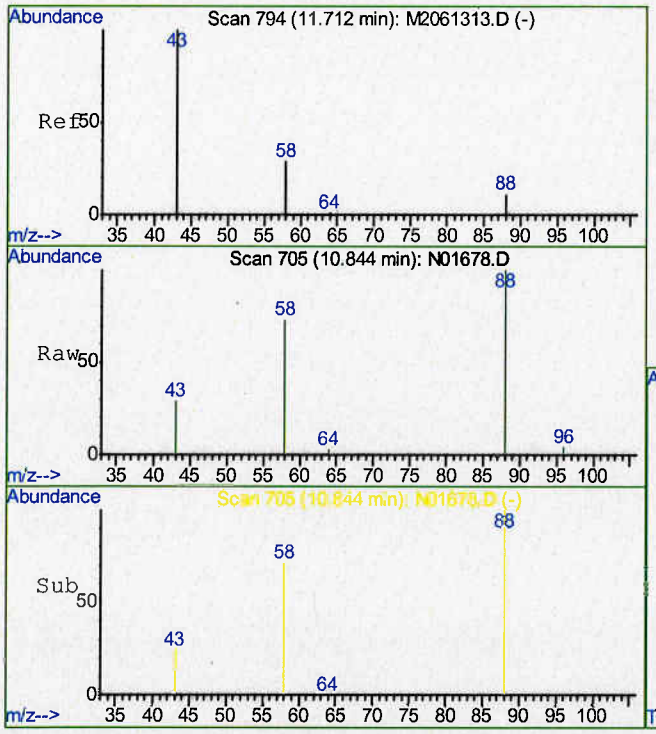


#1
1,4-Dioxane-d8
Concen: 20.00 ug/L
RT: 10.74 min Scan# 694
Delta R.T. -0.02 min
Lab File: N01678.D
Acq: 23 Aug 2008 12:22 am

Tgt Ion: 96 Resp: 27018

Ion	Ratio	Lower	Upper
96	100		
64	73.9	65.1	97.7

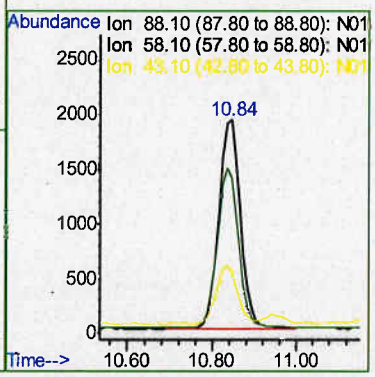




#2
1,4-Dioxane
Concen: 44.50 ug/L
RT: 10.84 min Scan# 705
Delta R.T. -0.01 min
Lab File: N01678.D
Acq: 23 Aug 2008 12:22 am

Tgt Ion: 88 Resp: 67269

Ion	Ratio	Lower	Upper
88	100		
58	75.2	64.4	96.6
43	27.5	28.2	42.4#



6.6.7

6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N080822\N01680.D Vial: 35
Acq On : 23 Aug 2008 1:15 am Operator: TitiaF
Sample : ICV43-10 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:39 2008 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	34483	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	18619	7.66 ug/L #	93

6.6.8

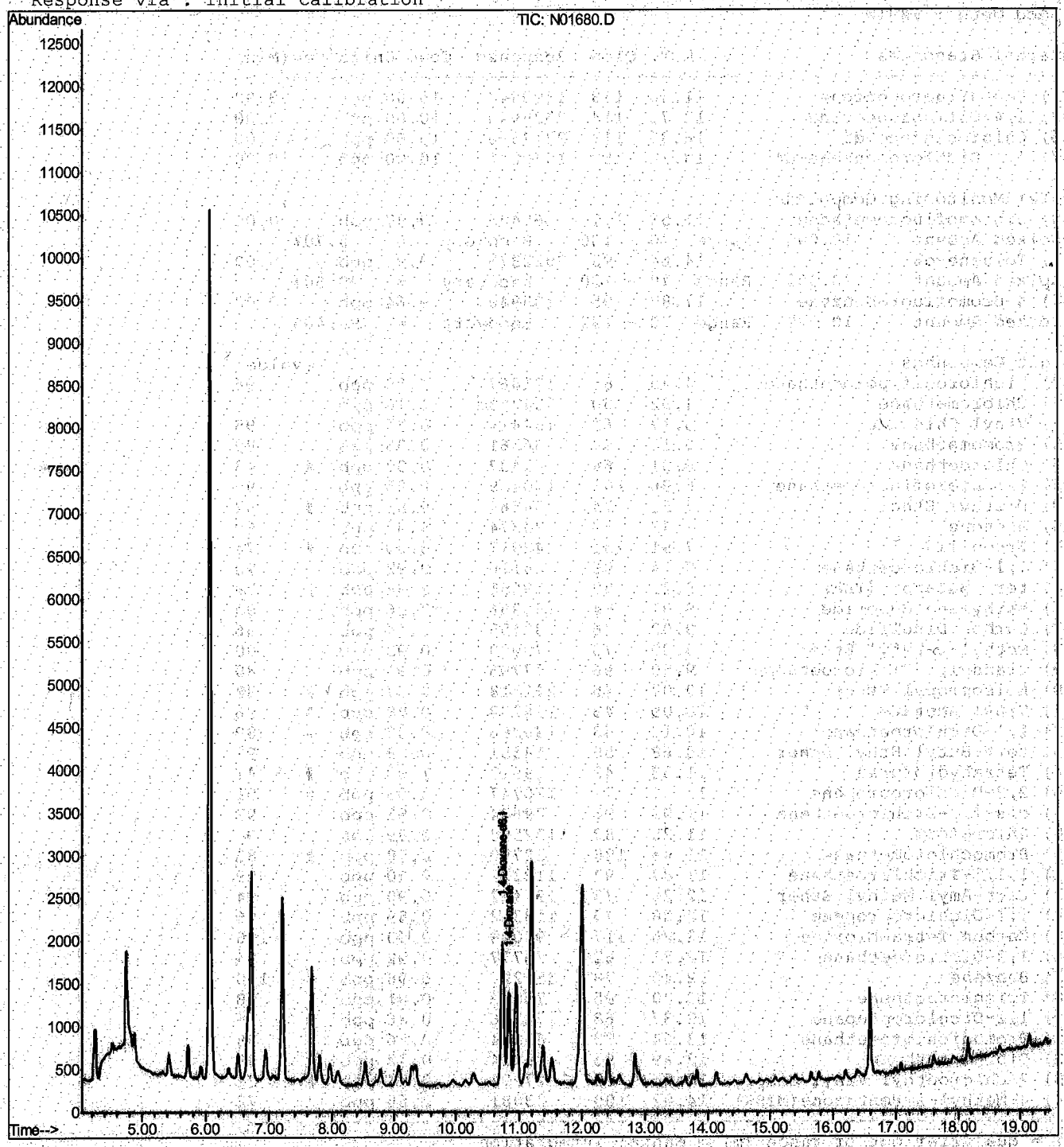
6

(#) = qualifier out of range (m) = manual integration
N01680.D VN43DSIM.M Mon Aug 25 08:39:35 2008 RPTLGM Page 1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N080822\N01680.D Vial: 35
Acq On : 23 Aug 2008 1:15 am Operator: TitiaF
Sample : ICV43-10 Inst : VMS-02
Misc : MS353,VN43,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Aug 25 8:39 2008 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration



6.6.8
6

ACCUTEST Laboratories C4507

Cal Report: N04182.D

Manual Integrations
APPROVED
(compounds with "m" flag)
Helena Ueng
01/19/09 12:46

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04182.D Vial: 3
Acq On : 12 Jan 2009 10:17 am Operator: TitiaF
Sample : IC131-1 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:44 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.9

6

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1403947	10.00 ppb	-0.02
33) 1,4-Difluorobenzene	12.72	114	2528940	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2217396	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1030242	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	669405	9.87 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 98.70%	
47) Toluene-d8	14.64	98	3022375	9.95 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 99.50%	
64) 4-Bromofluorobenzene	17.87	95	1105940	9.64 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 96.40%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.45	85	121867	1.09 ppb	96
3) Chloromethane	4.92	50	154758m	1.16 ppb	
4) Vinyl Chloride	5.17	62	134414	0.77 ppb	95
5) Bromomethane	6.12	94	36561	0.55 ppb	99
6) Chloroethane	6.31	64	65437	0.92 ppb #	43
8) Trichlorofluoromethane	6.96	101	130439	0.95 ppb	99
9) Diethyl Ether	7.51	74	34264	0.81 ppb #	82
10) Acetone	7.72	58	23374	4.32 ppb	69
11) Freon 113	7.91	151	42917	0.89 ppb #	74
12) 1,1-Dichloroethene	8.14	96	64116	0.92 ppb	90
13) tert-Butanol (TBA)	8.20	59	19651	2.94 ppb #	76
16) Methylene Chloride	8.91	84	193956	2.26 ppb	90
17) Carbon Disulfide	9.02	76	230459	0.94 ppb	96
18) Methyl-t-butyl Ether	9.30	73	179990	0.93 ppb	100
19) trans-1,2-Dichloroethene	9.50	96	77796	0.93 ppb	88
20) Diisopropyl Ether	10.07	45	241318	0.87 ppb #	88
21) Vinyl Acetate	10.09	43	226258	0.88 ppb #	86
22) 1,1-Dichloroethane	10.12	63	138296	0.88 ppb #	89
23) tert-Butyl Ethyl Ether	10.68	59	214351	0.88 ppb	99
24) Tetrahydrofuran	11.53	42	19517	1.03 ppb #	41
26) 2,2-Dichloropropane	11.01	77	120747	0.93 ppb #	91
27) cis-1,2-Dichloroethene	11.02	96	79674	0.92 ppb	92
28) Chloroform	11.25	83	122503	0.89 ppb	98
29) Bromochloromethane	11.45	128	22790	0.78 ppb #	83
31) 1,1,1-Trichloroethane	11.87	97	113272	0.90 ppb	99
32) tert-Amyl Methyl Ether	12.26	73	191472	0.90 ppb	94
34) 1,1-Dichloropropene	12.08	75	110312	0.89 ppb	96
35) Carbon Tetrachloride	12.25	117	97008	0.90 ppb	100
36) 1,2-Dichloroethane	12.31	62	76777	0.92 ppb	94
37) Benzene	12.40	78	357227	0.98 ppb	100
38) Trichloroethene	13.20	95	76875	0.91 ppb	98
39) 1,2-Dichloropropane	13.37	63	72146	0.86 ppb #	95
41) Bromodichloromethane	13.64	83	85864	0.86 ppb #	98
42) Dibromomethane	13.69	93	28714	0.78 ppb	99
43) 2-Chloroethyl Vinyl Ether	13.95	63	27995	0.84 ppb #	22
44) 4-Methyl-2-Pentanone(MIBK)	14.02	100	23081	2.66 ppb	72

(#) = qualifier out of range (m) = manual integration

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04182.D Vial: 3
Acq On : 12 Jan 2009 10:17 am Operator: TitiaF
Sample : IC131-1 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:44 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.9

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
45)	cis-1,3-Dichloropropene	14.28	75	112130	0.90 ppb		100
48)	Toluene	14.73	92	245344	1.04 ppb		99
49)	trans-1,3-Dichloropropene	14.83	75	92258	0.87 ppb		99
50)	1,1,2-Trichloroethane	15.04	83	37743	0.82 ppb		88
51)	2-Hexanone	15.03	43	137621	3.26 ppb	#	94
52)	1,3-Dichloropropane	15.32	76	94789	0.92 ppb		91
53)	Tetrachloroethene	15.54	164	55776	0.87 ppb		93
54)	Dibromochloromethane	15.68	129	51018	0.87 ppb		91
55)	1,2-Dibromoethane (EDB)	15.92	107	40232	0.82 ppb	#	97
56)	Chlorobenzene	16.44	112	206652	0.93 ppb		95
57)	1,1,1,2-Tetrachloroethane	16.46	131	62502	0.91 ppb		91
58)	Ethyl Benzene	16.49	91	398720	0.92 ppb		100
59)	Xylene, m+p	16.58	106	303028	1.82 ppb		99
60)	Xylene, o	17.12	106	141801	0.90 ppb		98
61)	Styrene	17.13	104	207272	0.84 ppb		93
62)	Bromoform	17.55	173	21829	0.71 ppb	#	29
63)	Isopropylbenzene	17.56	105	376563	0.90 ppb		99
65)	1,2,3-Trichloropropane	17.90	77	25883	0.95 ppb	#	1
68)	1,1,2,2-Tetrachloroethane	17.70	83	59066	0.87 ppb	#	94
69)	n-Propylbenzene	18.11	91	475575	0.92 ppb		99
70)	Bromobenzene	18.19	156	72935	0.97 ppb		94
71)	1,3,5-Trimethylbenzene	18.30	105	307409	0.90 ppb		100
72)	2-Chlorotoluene	18.36	91	304958	0.97 ppb		95
73)	4-Chlorotoluene	18.41	91	254452	0.88 ppb		94
74)	tert-Butylbenzene	18.76	119	310159	0.92 ppb		99
75)	Pentachloroethane	18.85	167	33622	0.82 ppb		96
76)	1,2,4-Trimethylbenzene	18.80	105	312666	0.92 ppb		98
77)	sec-Butylbenzene	19.02	105	433681	0.93 ppb		98
78)	p-Isopropyltoluene	19.15	119	354482	0.94 ppb		98
79)	1,3-Dichlorobenzene	19.29	146	150757	0.94 ppb		97
80)	1,4-Dichlorobenzene	19.39	146	161001	0.99 ppb		96
81)	n-Butylbenzene	19.61	91	372928	0.96 ppb		97
82)	1,2-Dichlorobenzene	19.81	146	136641	0.97 ppb		99
83)	1,2-Dibromo-3-Chloropropan	20.57	75	12307m	1.01 ppb		
84)	1,2,4-Trichlorobenzene	21.54	180	103018	1.05 ppb		92
85)	Hexachlorobutadiene	21.71	225	53055	0.98 ppb		94
86)	Naphthalene	21.82	128	214052	1.04 ppb		100
87)	1,2,3-Trichlorobenzene	22.09	180	90936	1.07 ppb		92

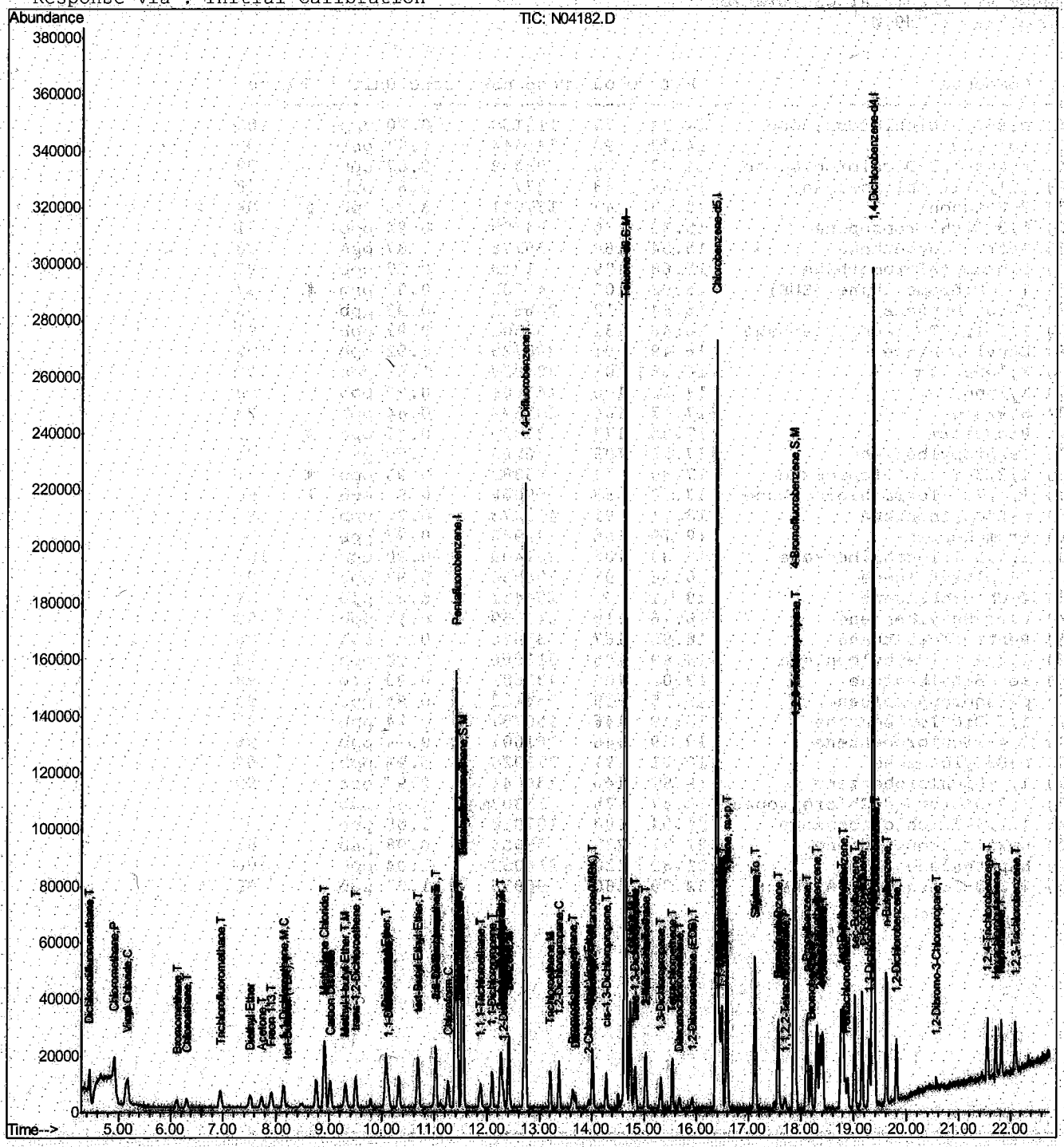
(#) = qualifier out of range (m) = manual integration

C4507 Accutest Laboratories

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04182.D Vial: 3
Acq On : 12 Jan 2009 10:17 am Operator: TitiaF
Sample : IC131-1 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:44 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration

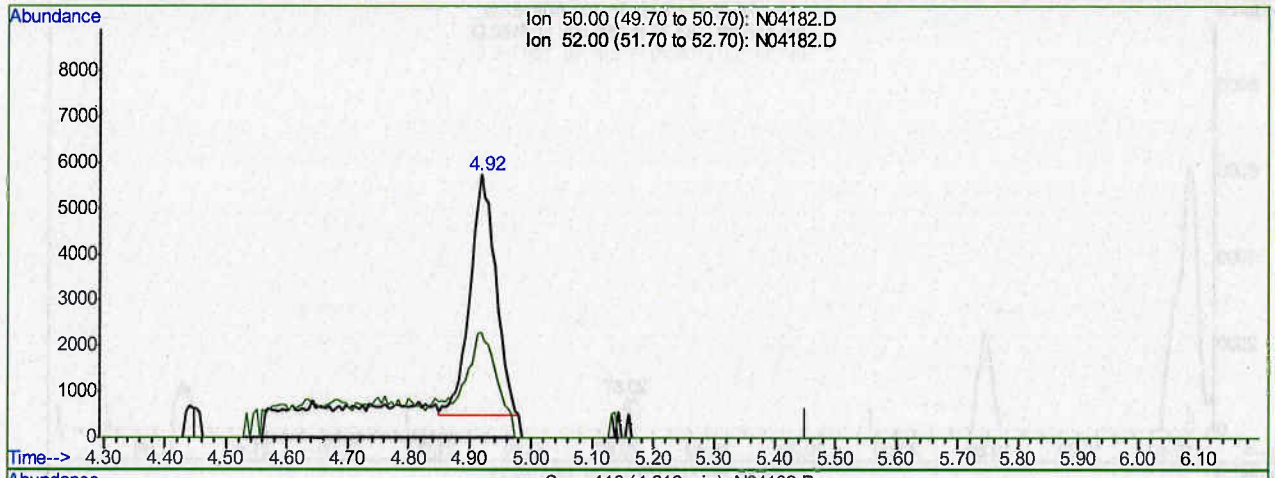


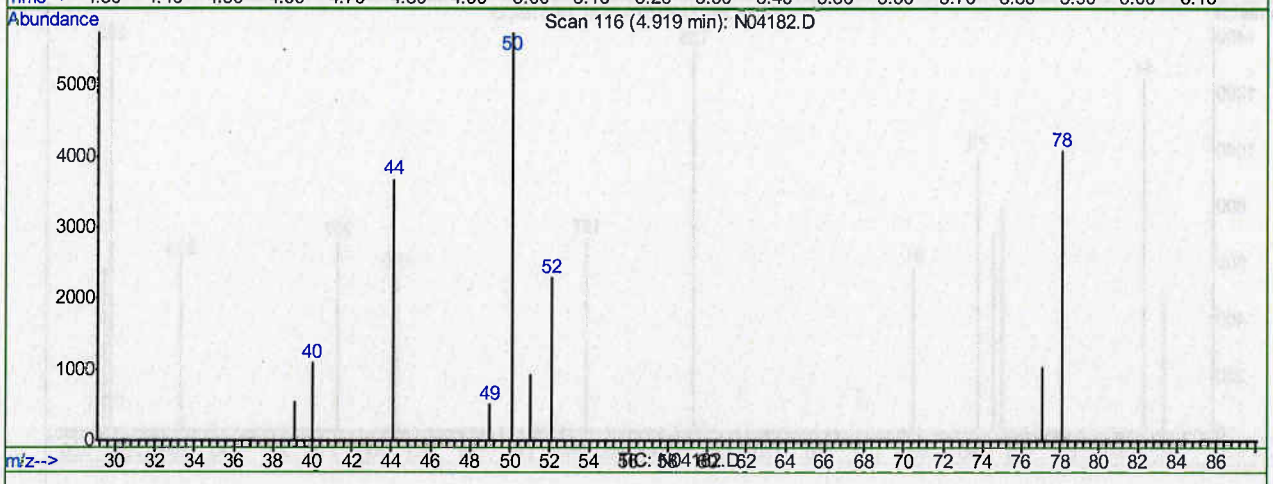
ACCUTEST Laboratories C4507

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04182.D Vial: 3
Acq On : 12 Jan 2009 10:17 am Operator: TitiaF
Sample : IC131-1 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:40 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(3) Chloromethane (P)

4.92min 1.16ppb m

response 154758

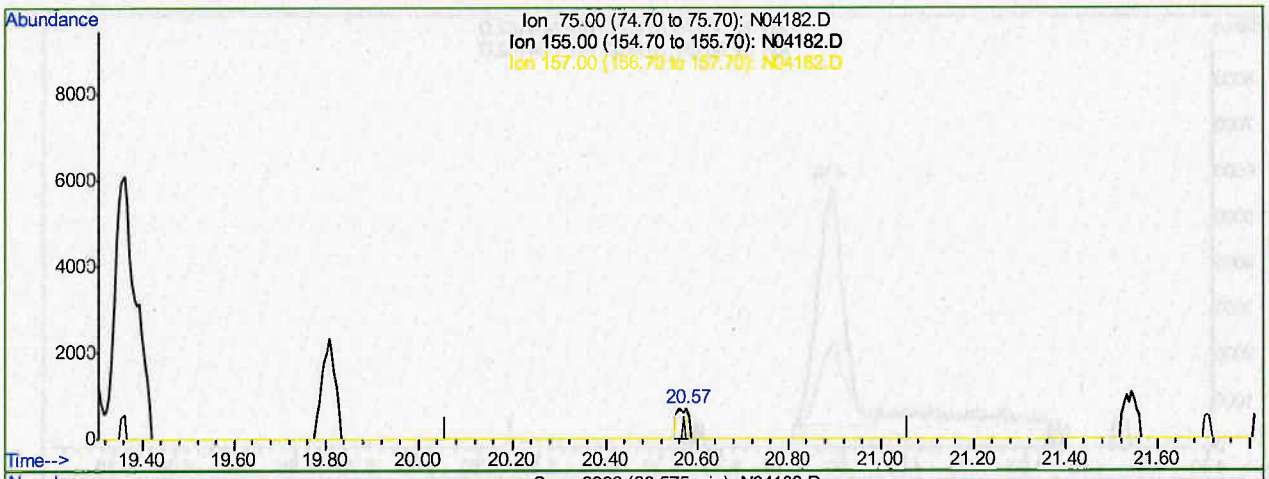
Ion	Exp%	Act%
50.00	100	100
52.00	33.00	53.19#
0.00	0.00	0.00
0.00	0.00	0.00

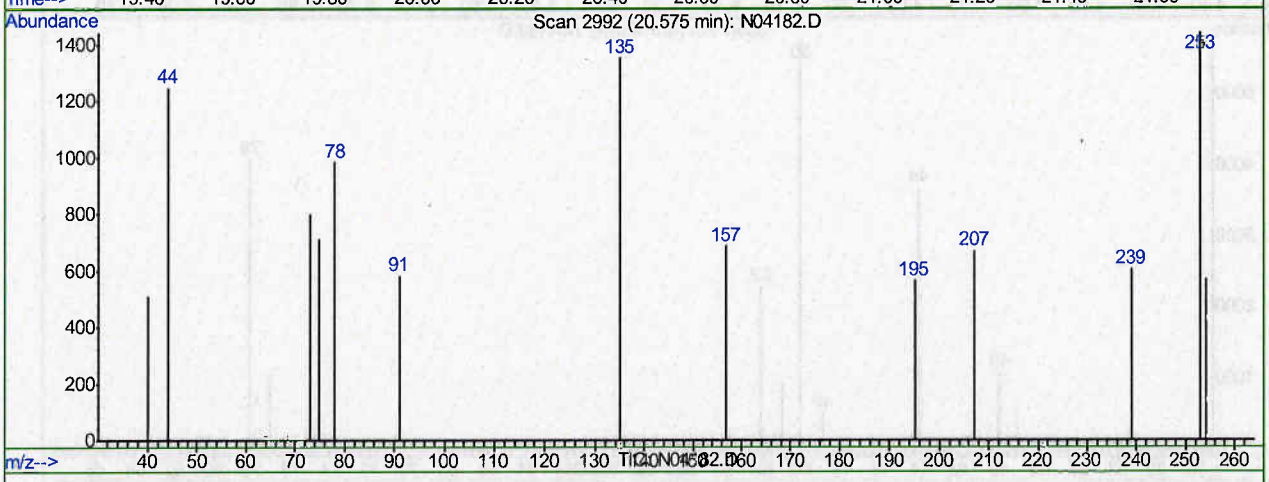
N04182.D VN131WA.M Tue Jan 13 08:40:57 2009 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04182.D Vial: 3
Acq On : 12 Jan 2009 10:17 am Operator: TitiaF
Sample : IC131-1 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:44 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(83) 1,2-Dibromo-3-Chloropropane (T)

20.57min 1.01ppb m

response 12307

Ion	Exp%	Act%
75.00	100	100
155.00	72.10	0.00#
157.00	96.80	0.00#
0.00	0.00	0.00

N04182.D VN131WA.M Tue Jan 13 08:44:45 2009 RPT1

Cal Report: N04183.D

Manual Integrations
APPROVED
(compounds with "m" flag)
Helena Ueng
01/19/09 12:46

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04183.D Vial: 4
Acq On : 12 Jan 2009 10:57 am Operator: TitiaF
Sample : IC131-2.5 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:47 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1441595	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2607085	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2275863	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1074892	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	697399	10.02 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 100.20%	
47) Toluene-d8	14.64	98	3096613	9.93 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 99.30%	
64) 4-Bromofluorobenzene	17.87	95	1137444	9.66 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 96.60%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.45	85	315581	2.74 ppb		98
3) Chloromethane	4.92	50	373918m	2.73 ppb		
4) Vinyl Chloride	5.16	62	382749	2.16 ppb		99
5) Bromomethane	6.12	94	155708	2.30 ppb		98
6) Chloroethane	6.31	64	177029	2.43 ppb		98
7) Ethanol	6.42	45	26384	32.68 ppb	#	44
8) Trichlorofluoromethane	6.95	101	351464	2.50 ppb		100
9) Diethyl Ether	7.52	74	107991	2.47 ppb		93
10) Acetone	7.73	58	63223	11.38 ppb		95
11) Freon 113	7.91	151	122057	2.46 ppb		98
12) 1,1-Dichloroethene	8.14	96	170977	2.39 ppb		94
13) tert-Butanol (TBA)	8.22	59	81892	11.91 ppb	#	76
15) Iodomethane	8.63	142	49436	0.66 ppb	#	45
16) Methylene Chloride	8.91	84	324167	3.68 ppb		92
17) Carbon Disulfide	9.02	76	595038	2.37 ppb		96
18) Methyl-t-butyl Ether	9.31	73	484529	2.43 ppb		100
19) trans-1,2-Dichloroethene	9.50	96	207923	2.41 ppb		91
20) Diisopropyl Ether	10.07	45	655511	2.29 ppb		95
21) Vinyl Acetate	10.08	43	619099	2.35 ppb		99
22) 1,1-Dichloroethane	10.12	63	378664	2.36 ppb		100
23) tert-Butyl Ethyl Ether	10.68	59	588430	2.34 ppb		97
24) Tetrahydrofuran	11.53	42	56339	2.89 ppb	#	41
25) 2-Butanone (MEK)	10.68	72	76735	9.96 ppb		65
26) 2,2-Dichloropropane	11.02	77	316480	2.37 ppb		95
27) cis-1,2-Dichloroethene	11.02	96	207558	2.32 ppb		96
28) Chloroform	11.26	83	335137	2.38 ppb		100
29) Bromochloromethane	11.45	128	75565	2.51 ppb		90
31) 1,1,1-Trichloroethane	11.87	97	304099	2.35 ppb		98
32) tert-Amyl Methyl Ether	12.27	73	518997	2.37 ppb		99
34) 1,1-Dichloropropene	12.09	75	298084	2.34 ppb		99
35) Carbon Tetrachloride	12.25	117	266097	2.40 ppb		99
36) 1,2-Dichloroethane	12.31	62	207881	2.43 ppb		99
37) Benzene	12.40	78	895802	2.38 ppb		100
38) Trichloroethene	13.20	95	204316	2.34 ppb		98
39) 1,2-Dichloropropane	13.38	63	205179	2.36 ppb	#	98
40) 1,4-Dioxane	13.62	88	38485	47.11 ppb		85

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04183.D Vial: 4
Acq On : 12 Jan 2009 10:57 am Operator: TitiaF
Sample : IC131-2.5 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:47 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.10 6

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
41)	Bromodichloromethane	13.64	83	234748	2.28 ppb	#	96
42)	Dibromomethane	13.69	93	89012	2.36 ppb		99
43)	2-Chloroethyl Vinyl Ether	13.95	63	85729	2.51 ppb		94
44)	4-Methyl-2-Pentanone(MIBK)	14.03	100	88829	9.92 ppb		84
45)	cis-1,3-Dichloropropene	14.28	75	298163	2.31 ppb		99
48)	Toluene	14.73	92	596267	2.47 ppb		100
49)	trans-1,3-Dichloropropene	14.84	75	259832	2.38 ppb		100
50)	1,1,2-Trichloroethane	15.04	83	115557	2.46 ppb		93
51)	2-Hexanone	15.03	43	441227	10.19 ppb		98
52)	1,3-Dichloropropane	15.32	76	260977	2.46 ppb		94
53)	Tetrachloroethene	15.54	164	166896	2.53 ppb		98
54)	Dibromochloromethane	15.68	129	143271	2.39 ppb		98
55)	1,2-Dibromoethane (EDB)	15.92	107	126028	2.51 ppb	#	97
56)	Chlorobenzene	16.44	112	552404	2.43 ppb		88
57)	1,1,1,2-Tetrachloroethane	16.46	131	169848	2.41 ppb		98
58)	Ethyl Benzene	16.49	91	1046051	2.36 ppb		100
59)	Xylene, m+p	16.58	106	809200	4.74 ppb		99
60)	Xylene, o	17.12	106	379328	2.35 ppb		100
61)	Styrene	17.13	104	578885	2.28 ppb		99
62)	Bromoform	17.56	173	76986	2.43 ppb		92
63)	Isopropylbenzene	17.57	105	1006573	2.34 ppb		99
65)	1,2,3-Trichloropropane	17.90	77	73912	2.63 ppb	#	71
66)	trans-1,4-Dichloro-2-buten	17.92	53	46608	2.25 ppb	#	80
68)	1,1,2,2-Tetrachloroethane	17.69	83	176184	2.50 ppb	#	96
69)	n-Propylbenzene	18.11	91	1245855	2.31 ppb		99
70)	Bromobenzene	18.19	156	187915	2.38 ppb		97
71)	1,3,5-Trimethylbenzene	18.30	105	827846	2.33 ppb		100
72)	2-Chlorotoluene	18.37	91	769999	2.35 ppb		98
73)	4-Chlorotoluene	18.41	91	707866	2.34 ppb		100
74)	tert-Butylbenzene	18.77	119	829751	2.36 ppb		98
75)	Pentachloroethane	18.85	167	93283	2.19 ppb		86
76)	1,2,4-Trimethylbenzene	18.81	105	837693	2.35 ppb		99
77)	sec-Butylbenzene	19.02	105	1146412	2.35 ppb		100
78)	p-Isopropyltoluene	19.16	119	930907	2.36 ppb		99
79)	1,3-Dichlorobenzene	19.30	146	407134	2.43 ppb		99
80)	1,4-Dichlorobenzene	19.40	146	418020	2.46 ppb		98
81)	n-Butylbenzene	19.61	91	957855	2.37 ppb		98
82)	1,2-Dichlorobenzene	19.81	146	364880	2.47 ppb		99
83)	1,2-Dibromo-3-Chloropropan	20.57	75	34023	2.67 ppb	#	92
84)	1,2,4-Trichlorobenzene	21.55	180	255637	2.51 ppb		98
85)	Hexachlorobutadiene	21.71	225	135559	2.40 ppb		98
86)	Naphthalene	21.83	128	564959	2.63 ppb		100
87)	1,2,3-Trichlorobenzene	22.10	180	226312	2.55 ppb		98

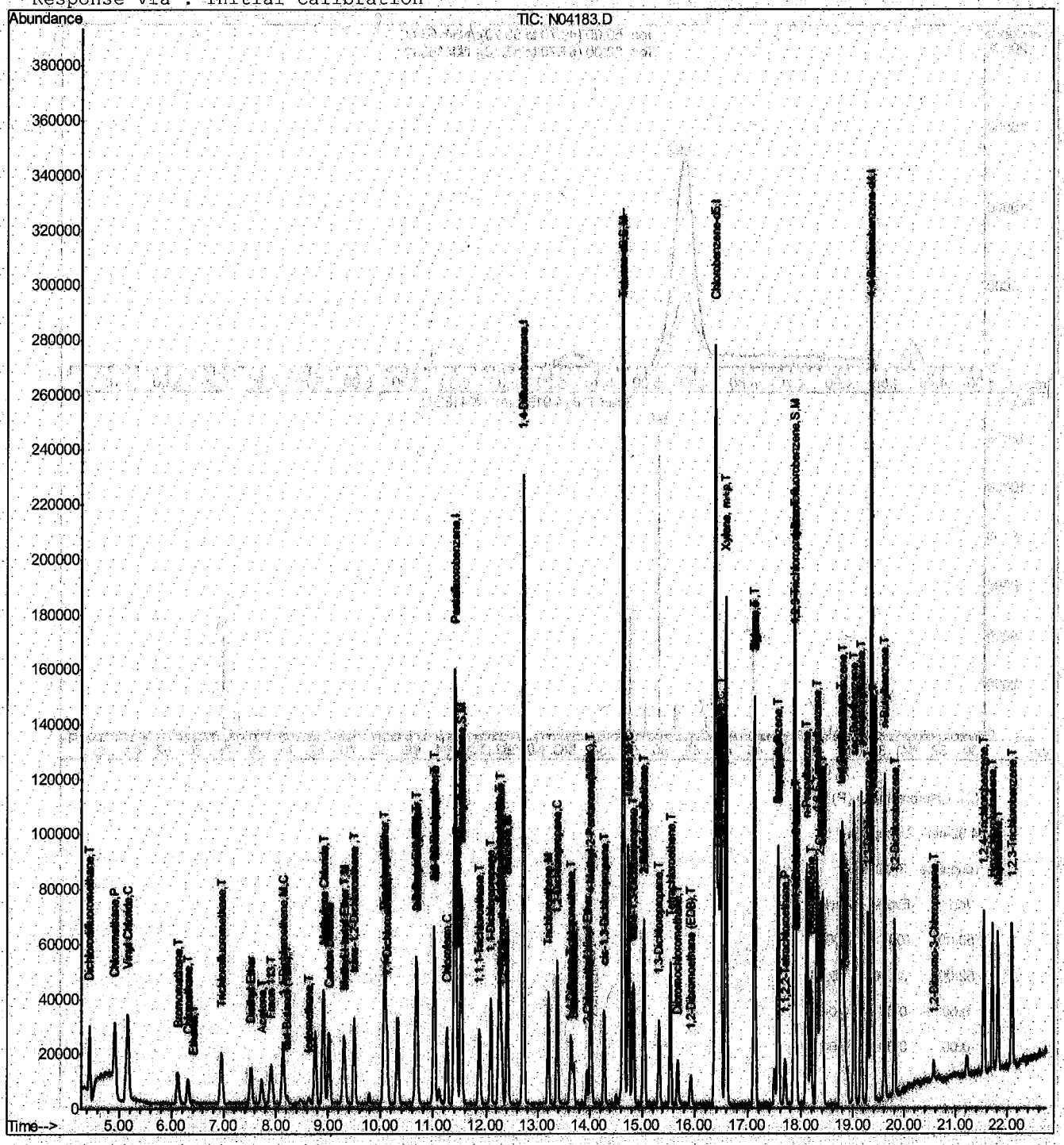
(#) = qualifier out of range (m) = manual integration

ACCUTEST Laboratories C4507

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04183.D Vial: 4
Acq On : 12 Jan 2009 10:57 am Operator: TitiaF
Sample : IC131-2.5 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:47 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



6.6.10 6

ACCUTEST Laboratories C4507

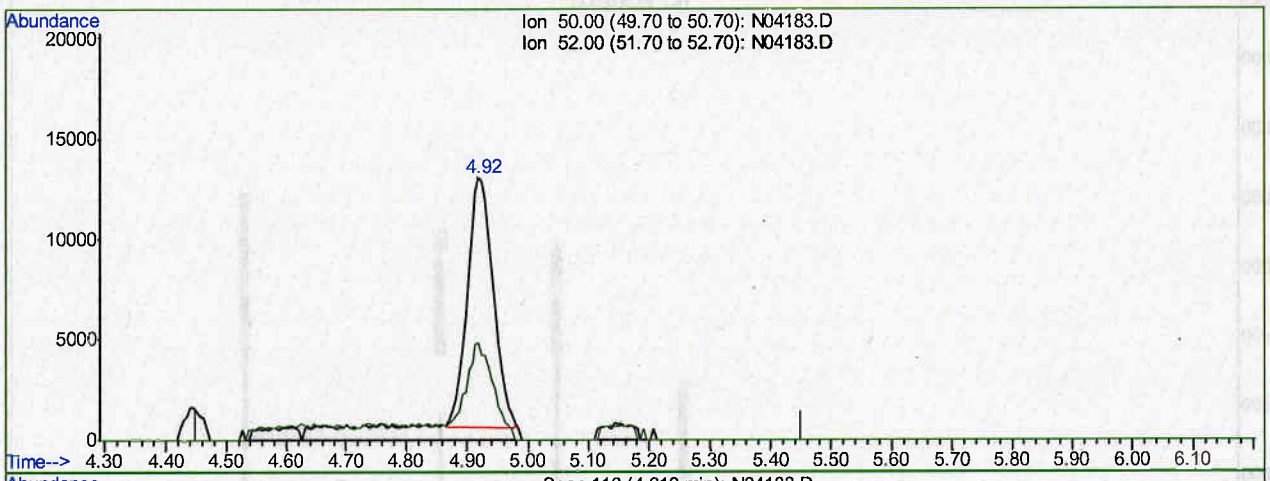
Quantitation Report (Qedit)

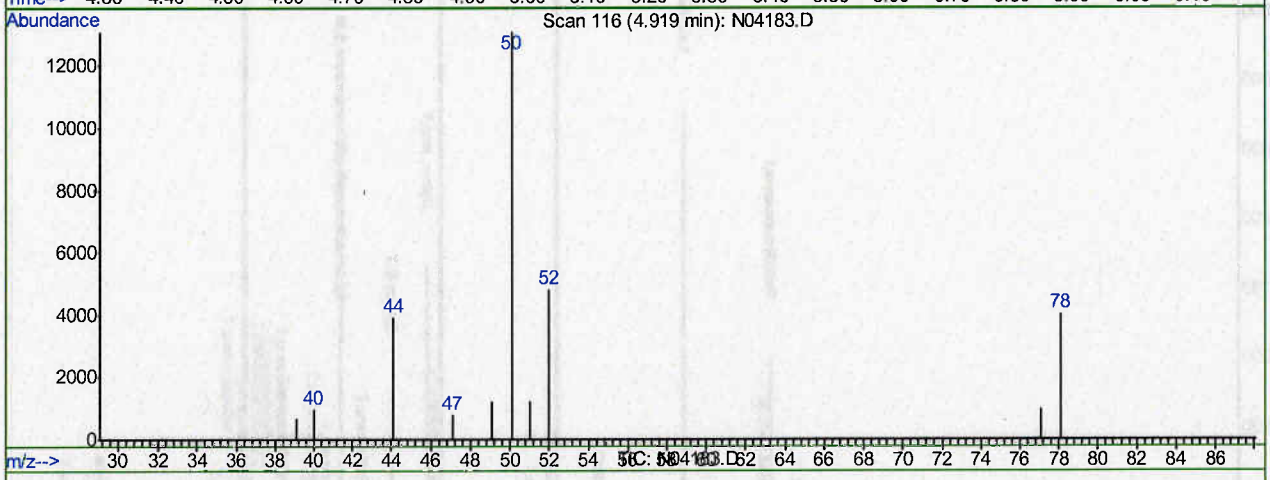
Data File : C:\HPCHEM\1\DATA\N090112\N04183.D
Acq On : 12 Jan 2009 10:57 am
Sample :
Misc : MS640,VN131,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:46 2009

Vial: 4
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(3) Chloromethane (P)

4.92min 2.73ppb m

response 373918

Ion	Exp%	Act%
50.00	100	100
52.00	33.00	45.58
0.00	0.00	0.00
0.00	0.00	0.00

N04183.D VN131WA.M Tue Jan 13 08:46:09 2009 RPT1

ACCUTEST Laboratories C4507

Manual Integrations APPROVED (compounds with "m" flag)
Helena Ueng 01/19/09 12:46

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04184.D Vial: 5
Acq On : 12 Jan 2009 11:27 am Operator: TitiaF
Sample : IC131-5 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:48 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Pentafluorobenzene	11.40	168	1441158	10.00	ppb		-0.01
33) 1,4-Difluorobenzene	12.72	114	2596656	10.00	ppb		0.00
46) Chlorobenzene-d5	16.39	117	2280266	10.00	ppb		0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1071280	10.00	ppb		0.00
System Monitoring Compounds							
30) Dibromofluoromethane	11.53	111	688222	9.89	ppb		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.90%				
47) Toluene-d8	14.64	98	3122783	10.00	ppb		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.00%				
64) 4-Bromofluorobenzene	17.88	95	1136487	9.64	ppb		0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 96.40%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	4.45	85	620756	5.39	ppb		99
3) Chloromethane	4.92	50	756649m	5.52	ppb		
4) Vinyl Chloride	5.16	62	554521	3.15	ppb		100
5) Bromomethane	6.11	94	313825	4.63	ppb		99
6) Chloroethane	6.31	64	361067	4.96	ppb		99
7) Ethanol	6.43	45	58816	72.86	ppb	#	44
8) Trichlorofluoromethane	6.95	101	702868	5.00	ppb		99
9) Diethyl Ether	7.51	74	208372	4.77	ppb		95
10) Acetone	7.73	58	102294	18.42	ppb		99
11) Freon 113	7.91	151	250267	5.05	ppb		98
12) 1,1-Dichloroethene	8.13	96	345951	4.84	ppb		94
13) tert-Butanol (TBA)	8.21	59	148044m	21.54	ppb		
14) Acetonitrile	8.12	41	23944	3.37	ppb	#	30
15) Iodomethane	8.63	142	235345	3.17	ppb	#	85
16) Methylene Chloride	8.91	84	525829	5.96	ppb		91
17) Carbon Disulfide	9.02	76	1187527	4.73	ppb		98
18) Methyl-t-butyl Ether	9.30	73	922942	4.63	ppb		99
19) trans-1,2-Dichloroethene	9.50	96	413729	4.80	ppb		93
20) Diisopropyl Ether	10.07	45	1318369	4.61	ppb		95
21) Vinyl Acetate	10.08	43	1204825	4.57	ppb		99
22) 1,1-Dichloroethane	10.12	63	757528	4.72	ppb		100
23) tert-Butyl Ethyl Ether	10.68	59	1170390	4.66	ppb		97
24) Tetrahydrofuran	11.52	42	87097	4.46	ppb		98
25) 2-Butanone (MEK)	10.67	72	168517	21.87	ppb	#	43
26) 2,2-Dichloropropane	11.01	77	624373	4.69	ppb		99
27) cis-1,2-Dichloroethene	11.02	96	432034	4.84	ppb		94
28) Chloroform	11.25	83	676772	4.80	ppb		99
29) Bromochloromethane	11.44	128	155783	5.19	ppb	#	88
31) 1,1,1-Trichloroethane	11.87	97	619041	4.78	ppb		100
32) tert-Amyl Methyl Ether	12.26	73	1012178	4.62	ppb		100
34) 1,1-Dichloropropene	12.08	75	602850	4.76	ppb		100
35) Carbon Tetrachloride	12.25	117	532963	4.83	ppb		99
36) 1,2-Dichloroethane	12.30	62	411700	4.82	ppb		99
37) Benzene	12.41	78	1801370	4.80	ppb		100
38) Trichloroethene	13.20	95	419070	4.82	ppb		100
39) 1,2-Dichloropropane	13.37	63	404821	4.68	ppb	#	95

(#) = qualifier out of range (m) = manual integration
N04184.D VN131WA.M Tue Jan 13 08:48:43 2009 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04184.D Vial: 5
Acq On : 12 Jan 2009 11:27 am Operator: TitiaF
Sample : IC131-5 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:48 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
40)	1,4-Dioxane	13.61	88	73860	90.78 ppb		89
41)	Bromodichloromethane	13.64	83	490129	4.79 ppb		99
42)	Dibromomethane	13.69	93	183472	4.88 ppb		98
43)	2-Chloroethyl Vinyl Ether	13.95	63	162562	4.77 ppb		97
44)	4-Methyl-2-Pentanone(MIBK)	14.02	100	159400	17.87 ppb		81
45)	cis-1,3-Dichloropropene	14.28	75	603083	4.70 ppb		99
48)	Toluene	14.73	92	1140222	4.71 ppb		99
49)	trans-1,3-Dichloropropene	14.83	75	508033	4.65 ppb		99
50)	1,1,2-Trichloroethane	15.04	83	228249	4.85 ppb		98
51)	2-Hexanone	15.02	43	765830	17.65 ppb		95
52)	1,3-Dichloropropane	15.32	76	505149	4.75 ppb		96
53)	Tetrachloroethene	15.54	164	327405	4.94 ppb		98
54)	Dibromochloromethane	15.67	129	284050	4.72 ppb		99
55)	1,2-Dibromoethane (EDB)	15.92	107	241216	4.79 ppb	#	99
56)	Chlorobenzene	16.43	112	1099021	4.82 ppb		88
57)	1,1,1,2-Tetrachloroethane	16.46	131	337084	4.77 ppb		97
58)	Ethyl Benzene	16.49	91	2103070	4.74 ppb		98
59)	Xylene, m+p	16.59	106	1635116	9.55 ppb		98
60)	Xylene, o	17.12	106	767408	4.75 ppb		100
61)	Styrene	17.13	104	1182204	4.64 ppb		99
62)	Bromoform	17.56	173	146997	4.64 ppb		97
63)	Isopropylbenzene	17.57	105	2059540	4.79 ppb		99
65)	1,2,3-Trichloropropane	17.89	77	131570	4.68 ppb	#	87
66)	trans-1,4-Dichloro-2-buten	17.91	53	90948	4.38 ppb	#	87
68)	1,1,2,2-Tetrachloroethane	17.70	83	327866	4.67 ppb		98
69)	n-Propylbenzene	18.11	91	2539947	4.72 ppb		99
70)	Bromobenzene	18.19	156	382769	4.87 ppb		95
71)	1,3,5-Trimethylbenzene	18.31	105	1678458	4.73 ppb		100
72)	2-Chlorotoluene	18.37	91	1523465	4.66 ppb		98
73)	4-Chlorotoluene	18.41	91	1456081	4.83 ppb		98
74)	tert-Butylbenzene	18.76	119	1687279	4.82 ppb		99
75)	Pentachloroethane	18.85	167	193453	4.55 ppb		95
76)	1,2,4-Trimethylbenzene	18.80	105	1683390	4.74 ppb		98
77)	sec-Butylbenzene	19.02	105	2337260	4.80 ppb		100
78)	p-Isopropyltoluene	19.16	119	1874557	4.77 ppb		99
79)	1,3-Dichlorobenzene	19.29	146	807357	4.84 ppb		99
80)	1,4-Dichlorobenzene	19.39	146	806159	4.75 ppb		98
81)	n-Butylbenzene	19.61	91	1931495	4.79 ppb		99
82)	1,2-Dichlorobenzene	19.81	146	708769	4.82 ppb		99
83)	1,2-Dibromo-3-Chloropropan	20.57	75	56605	4.45 ppb		94
84)	1,2,4-Trichlorobenzene	21.54	180	484921	4.77 ppb		99
85)	Hexachlorobutadiene	21.71	225	271349	4.82 ppb		99
86)	Naphthalene	21.83	128	1018783	4.76 ppb		100
87)	1,2,3-Trichlorobenzene	22.10	180	430765	4.88 ppb		98

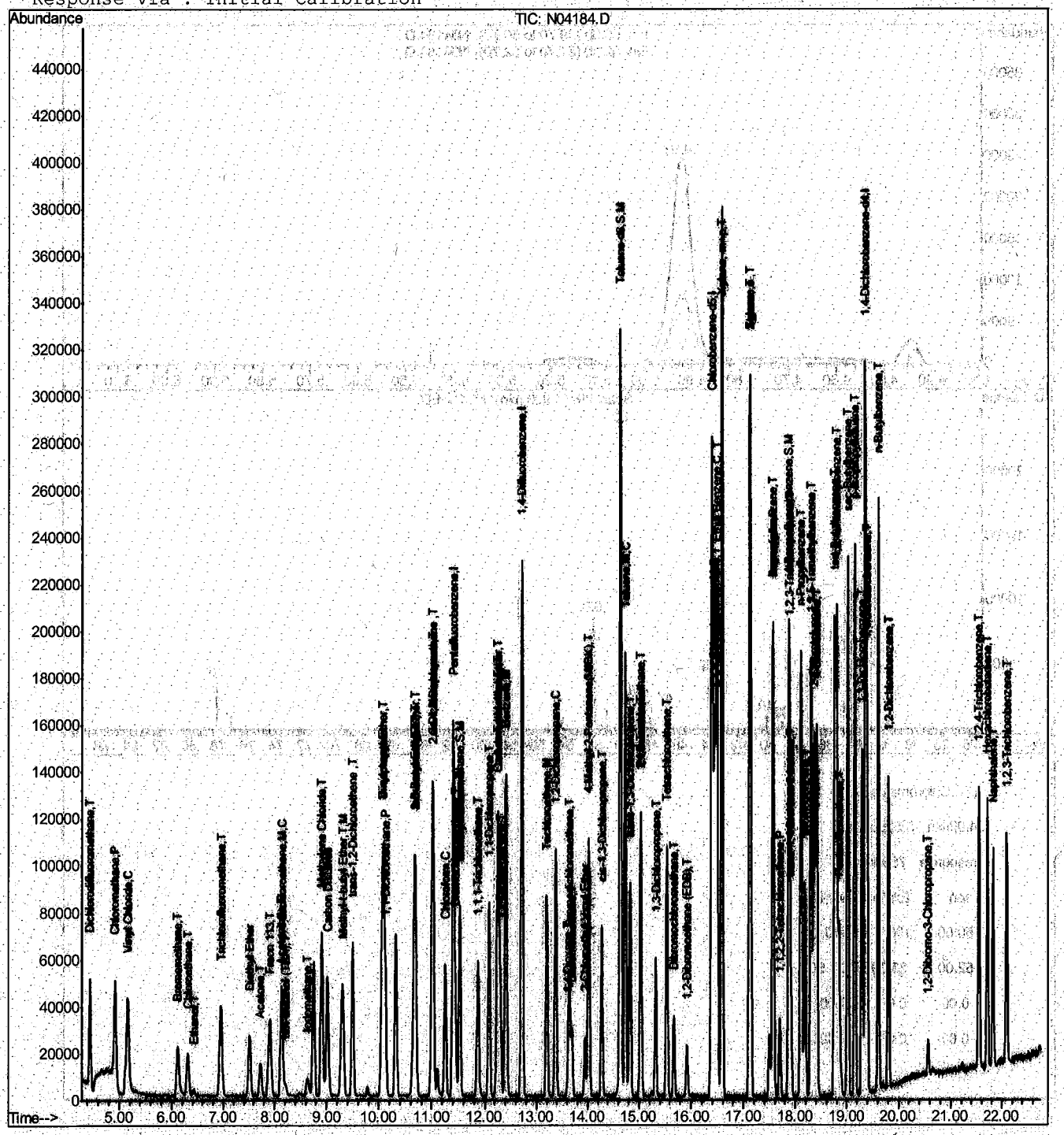
(#) = qualifier out of range (m) = manual integration

ACCUTEST Laboratories C4507

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04184.D Vial: 5
Acq On : 12 Jan 2009 11:27 am Operator: TitiaF
Sample : IC131-5 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:48 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration



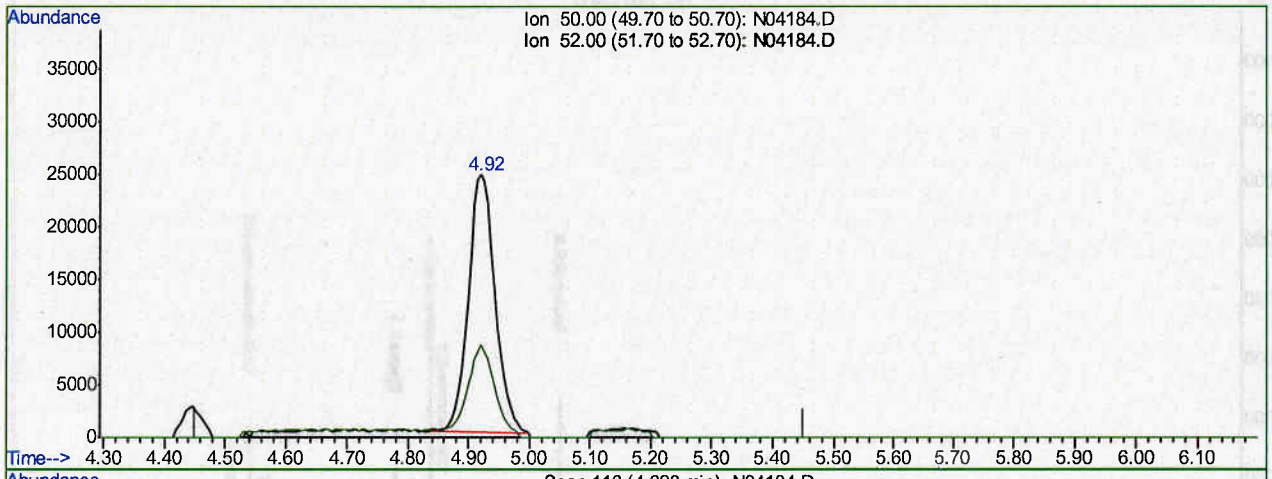
N04184.D VN131WA.M Tue Jan 13 08:48:45 2009 RPT1 Page 3

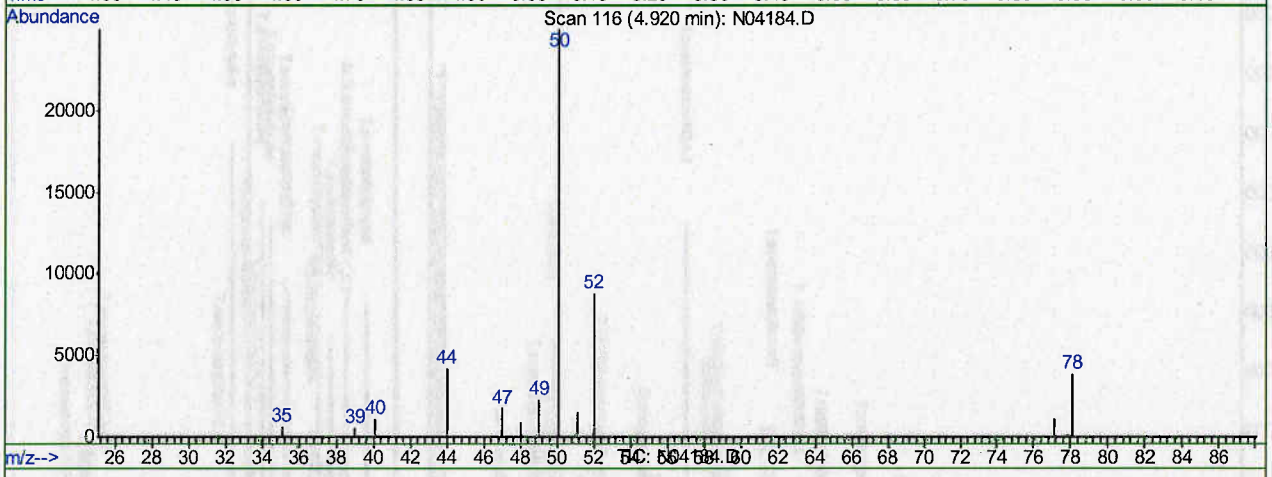
6.6.11 6
AccuTest Laboratories C4507

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04184.D Vial: 5
Acq On : 12 Jan 2009 11:27 am Operator: TitiaF
Sample : IC131-5 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:47 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(3) Chloromethane (P)

4.92min 5.52ppb m

response 756649

Ion	Exp%	Act%
50.00	100	100
52.00	33.00	37.80
0.00	0.00	0.00
0.00	0.00	0.00

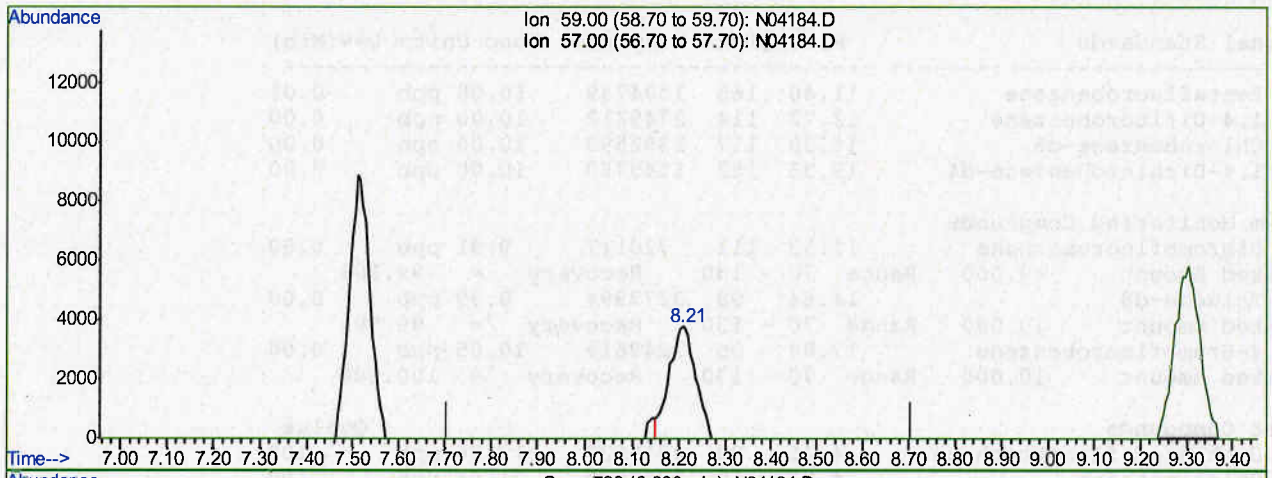
N04184.D VN131WA.M Tue Jan 13 08:47:34 2009 RPT1

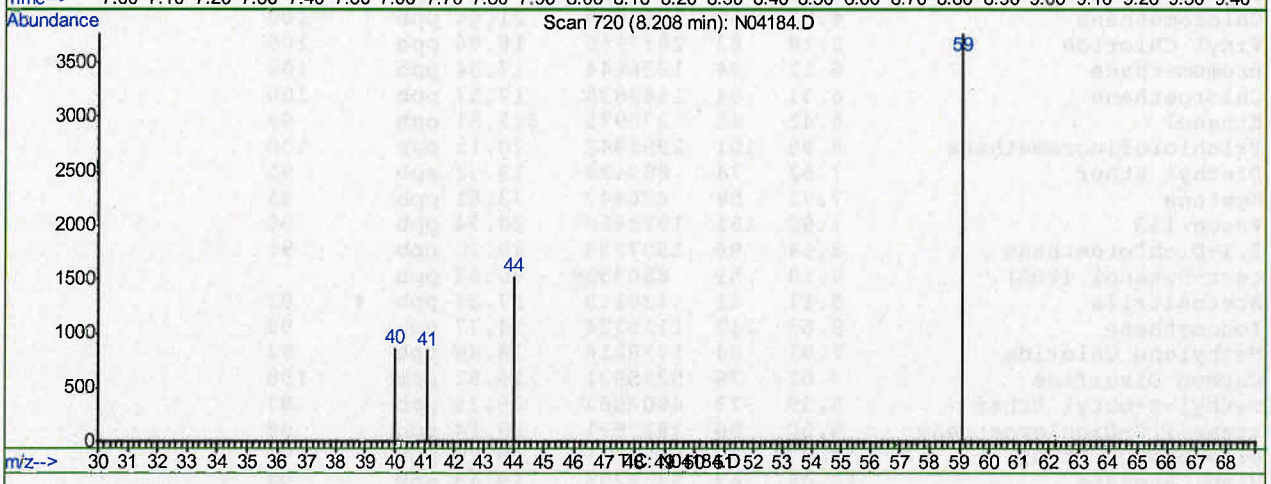
ACCUTEST Laboratories C4507

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04184.D Vial: 5
Acq On : 12 Jan 2009 11:27 am Operator: TitiaF
Sample : IC131-5 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:47 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(13) tert-Butanol (TBA) (T)

8.21min 21.54ppb m

response 148044

Ion	Exp%	Act%
59.00	100	100
57.00	8.80	0.00#
0.00	0.00	0.00
0.00	0.00	0.00

N04184.D VN131WA.M Tue Jan 13 08:47:52 2009 RPT1

Manual Integrations APPROVED (compounds with "m" flag)
Helena Ueng 01/19/09 12:46

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04185.D Vial: 6
Acq On : 12 Jan 2009 11:57 am Operator: TitiaF
Sample : ICC131-20 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:50 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.12 6

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1504739	10.00	ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2749212	10.00	ppb	0.00
46) Chlorobenzene-d5	16.39	117	2392593	10.00	ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1145760	10.00	ppb	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.53	111	720117	9.91	ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.10%			
47) Toluene-d8	14.64	98	3273994	9.99	ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.90%			
64) 4-Bromofluorobenzene	17.88	95	1243619	10.05	ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.50%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.45	85	2315623	19.26	ppb	100
3) Chloromethane	4.93	50	3098079	21.64	ppb	100
4) Vinyl Chloride	5.18	62	2877245	16.86	ppb	100
5) Bromomethane	6.12	94	1226644	17.34	ppb	100
6) Chloroethane	6.31	64	1488835	19.57	ppb	100
7) Ethanol	6.42	45	270975	321.51	ppb	99
8) Trichlorofluoromethane	6.95	101	2958942	20.15	ppb	100
9) Diethyl Ether	7.52	74	889423	19.52	ppb	95
10) Acetone	7.72	58	426847	73.61	ppb	95
11) Freon 113	7.90	151	1072610	20.74	ppb	99
12) 1,1-Dichloroethene	8.14	96	1507394	20.20	ppb	95
13) tert-Butanol (TBA)	8.20	59	650353m	90.63	ppb	
14) Acetonitrile	8.11	41	130115	17.54	ppb #	92
15) Iodomethane	8.63	142	1125224	14.77	ppb	98
16) Methylene Chloride	8.91	84	1738216	18.88	ppb	92
17) Carbon Disulfide	9.02	76	5225921	19.92	ppb	100
18) Methyl-t-butyl Ether	9.30	73	4002967	19.25	ppb	97
19) trans-1,2-Dichloroethene	9.50	96	1812871	20.14	ppb	93
20) Diisopropyl Ether	10.07	45	5757591	19.28	ppb	94
21) Vinyl Acetate	10.08	43	5352293	19.43	ppb	98
22) 1,1-Dichloroethane	10.12	63	3318558	19.81	ppb	99
23) tert-Butyl Ethyl Ether	10.67	59	5071013	19.33	ppb	97
24) Tetrahydrofuran	11.52	42	375039	18.40	ppb	96
25) 2-Butanone (MEK)	10.67	72	572009	71.10	ppb	74
26) 2,2-Dichloropropane	11.01	77	2851750	20.50	ppb	99
27) cis-1,2-Dichloroethene	11.02	96	1867589	20.03	ppb	96
28) Chloroform	11.25	83	2942825	19.99	ppb	100
29) Bromochloromethane	11.44	128	660210	21.05	ppb #	89
31) 1,1,1-Trichloroethane	11.87	97	2769968	20.48	ppb	100
32) tert-Amyl Methyl Ether	12.26	73	4404362	19.26	ppb	99
34) 1,1-Dichloropropene	12.08	75	2679249	19.98	ppb	99
35) Carbon Tetrachloride	12.25	117	2421959	20.73	ppb	100
36) 1,2-Dichloroethane	12.30	62	1788063	19.79	ppb	100
37) Benzene	12.41	78	7742620	19.48	ppb	100
38) Trichloroethene	13.20	95	1853746	20.13	ppb	100
39) 1,2-Dichloropropane	13.37	63	1781220	19.47	ppb	95

(#) = qualifier out of range (m) = manual integration
N04185.D VN131WA.M Tue Jan 13 08:50:09 2009 RPT1

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04185.D
Acq On : 12 Jan 2009 11:57 am
Sample : ICC131-20
Misc : MS640,VN131,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:50 2009

Vial: 6
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00
Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.12 6

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
40)	1,4-Dioxane	13.61	88	330699	383.90 ppb	91
41)	Bromodichloromethane	13.64	83	2158563	19.91 ppb	99
42)	Dibromomethane	13.69	93	809938	20.36 ppb	98
43)	2-Chloroethyl Vinyl Ether	13.95	63	604565	16.77 ppb	92
44)	4-Methyl-2-Pentanone(MIBK)	14.02	100	717513	75.98 ppb	82
45)	cis-1,3-Dichloropropene	14.28	75	2678243	19.70 ppb	100
48)	Toluene	14.74	92	5068140	19.96 ppb	100
49)	trans-1,3-Dichloropropene	14.83	75	2312776	20.16 ppb	100
50)	1,1,2-Trichloroethane	15.04	83	989743	20.04 ppb	95
51)	2-Hexanone	15.02	43	3546269	77.91 ppb	96
52)	1,3-Dichloropropane	15.32	76	2192454	19.65 ppb	98
53)	Tetrachloroethene	15.54	164	1407757	20.26 ppb	98
54)	Dibromochloromethane	15.68	129	1289596	20.44 ppb	99
55)	1,2-Dibromoethane (EDB)	15.92	107	1079727	20.44 ppb	100
56)	Chlorobenzene	16.43	112	4852375	20.27 ppb	88
57)	1,1,1,2-Tetrachloroethane	16.46	131	1517885	20.46 ppb	99
58)	Ethyl Benzene	16.49	91	9459253	20.30 ppb	99
59)	Xylene, m+p	16.59	106	7423558	41.34 ppb	100
60)	Xylene, o	17.12	106	3484226	20.56 ppb	100
61)	Styrene	17.13	104	5552775	20.77 ppb	100
62)	Bromoform	17.56	173	701315	21.08 ppb	100
63)	Isopropylbenzene	17.57	105	9400965	20.83 ppb	99
65)	1,2,3-Trichloropropane	17.90	77	579712	19.63 ppb	98
66)	trans-1,4-Dichloro-2-buten	17.91	53	438547	20.13 ppb	97
68)	1,1,2,2-Tetrachloroethane	17.69	83	1480246	19.71 ppb	100
69)	n-Propylbenzene	18.11	91	11762610	20.43 ppb	100
70)	Bromobenzene	18.19	156	1672132	19.91 ppb	98
71)	1,3,5-Trimethylbenzene	18.30	105	7758628	20.46 ppb	100
72)	2-Chlorotoluene	18.37	91	6976272	19.93 ppb	100
73)	4-Chlorotoluene	18.42	91	6655049	20.65 ppb	100
74)	tert-Butylbenzene	18.76	119	7631359	20.37 ppb	99
75)	Pentachloroethane	18.85	167	966521	21.27 ppb	97
76)	1,2,4-Trimethylbenzene	18.80	105	7722324	20.34 ppb	99
77)	sec-Butylbenzene	19.02	105	10708184	20.56 ppb	99
78)	p-Isopropyltoluene	19.16	119	8591404	20.44 ppb	99
79)	1,3-Dichlorobenzene	19.29	146	3591470	20.13 ppb	99
80)	1,4-Dichlorobenzene	19.39	146	3623134	19.98 ppb	100
81)	n-Butylbenzene	19.61	91	8704030	20.20 ppb	100
82)	1,2-Dichlorobenzene	19.81	146	3141540	19.96 ppb	99
83)	1,2-Dibromo-3-Chloropropan	20.57	75	258439	19.00 ppb	100
84)	1,2,4-Trichlorobenzene	21.55	180	2102169	19.33 ppb	99
85)	Hexachlorobutadiene	21.71	225	1204380	20.02 ppb	99
86)	Naphthalene	21.83	128	4358557	19.05 ppb	100
87)	1,2,3-Trichlorobenzene	22.09	180	1814798	19.21 ppb	99

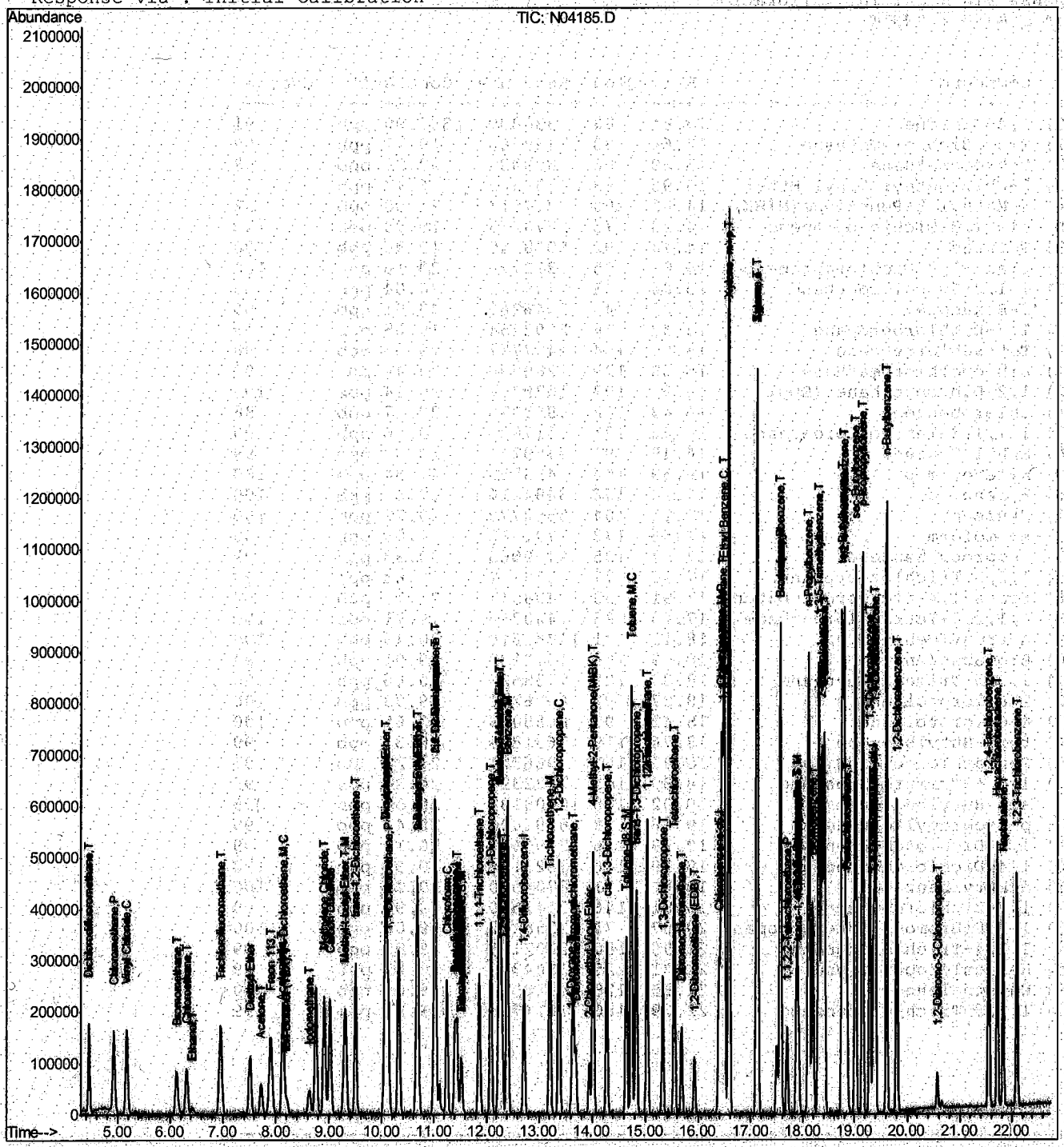
(#) = qualifier out of range (m) = manual integration

ACCUTEST Laboratories C4507

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04185.D Vial: 6
Acq On : 12 Jan 2009 11:57 am Operator: TitiaF
Sample : ICC131-20 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:50 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration



ACCUTEST. C4507 LABORATORIES

6.6.12 6

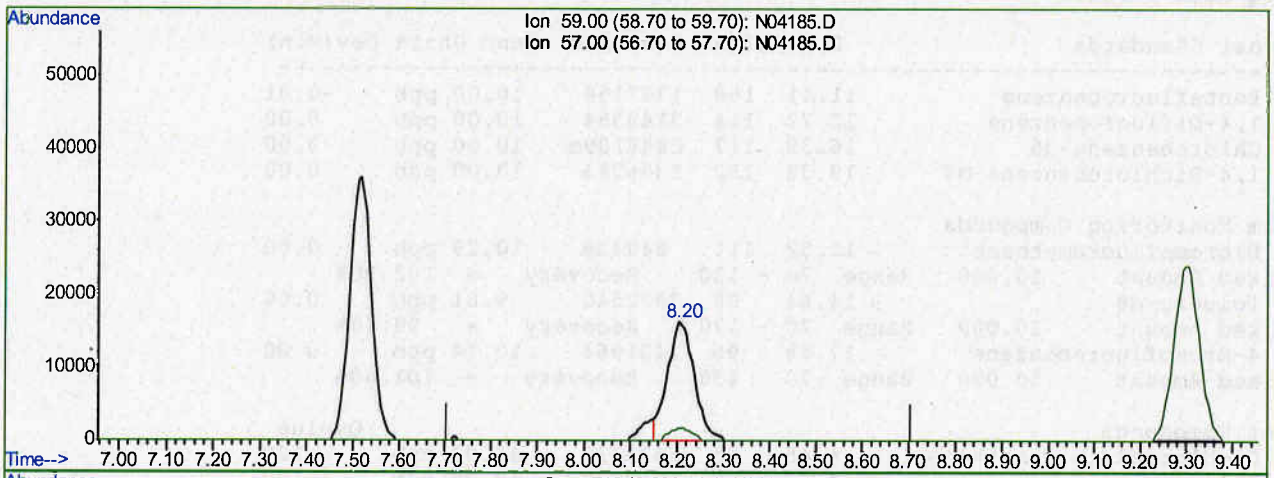
Quantitation Report (Qedit)

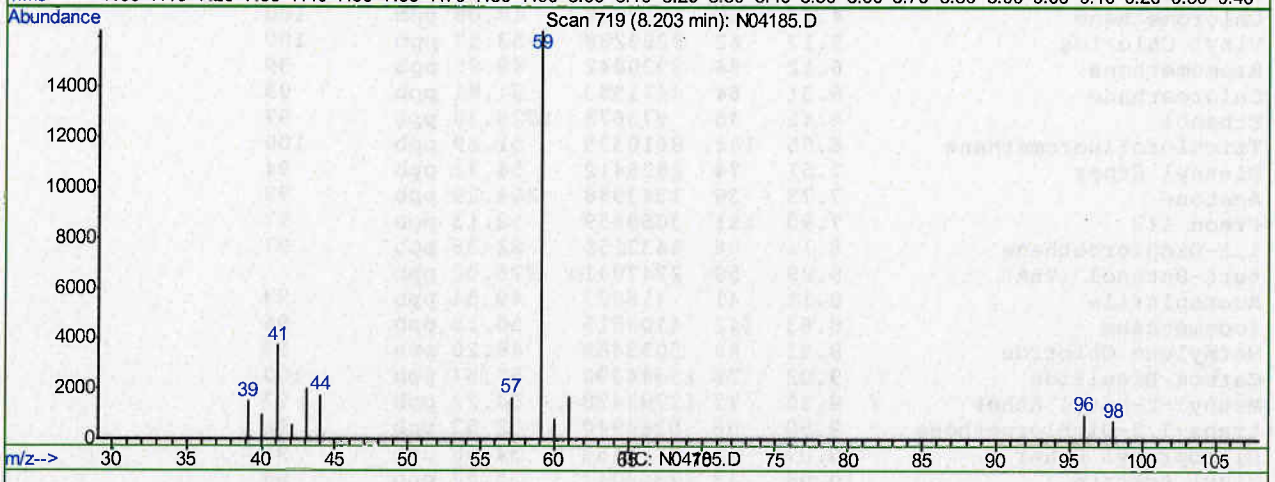
Data File : C:\HPCHEM\1\DATA\N090112\N04185.D
Acq On : 12 Jan 2009 11:57 am
Sample : ICC131-20
Misc : MS640,VN131,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:49 2009

Vial: 6
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(13) tert-Butanol (TBA) (T)

8.20min 90.63ppb m

response 650353

Ion	Exp%	Act%
59.00	100	100
57.00	8.80	9.02
0.00	0.00	0.00
0.00	0.00	0.00

N04185.D VN131WA.M Tue Jan 13 08:49:18 2009 RPT1

Manual Integrations
APPROVED
(compounds with "m" flag)
Helena Ueng
01/19/09 12:46

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04186.D Vial: 7
Acq On : 12 Jan 2009 12:27 pm Operator: TitiaF
Sample : IC131-50 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:51 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.13

6

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1707158	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	3149354	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2846109m	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1306383	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.52	111	848438	10.29 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.90%		
47) Toluene-d8	14.64	98	3822540	9.81 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.10%		
64) 4-Bromofluorobenzene	17.88	95	1491964	10.14 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.40%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.45	85	6536439	47.93 ppb	100
3) Chloromethane	4.93	50	7810229	48.08 ppb	100
4) Vinyl Chloride	5.17	62	8229288	53.57 ppb	100
5) Bromomethane	6.12	94	3920842	48.85 ppb	99
6) Chloroethane	6.31	64	4471553	51.81 ppb	99
7) Ethanol	6.42	45	975675	1020.38 ppb	97
8) Trichlorofluoromethane	6.95	101	8610325	51.69 ppb	100
9) Diethyl Ether	7.51	74	2828412	54.71 ppb	94
10) Acetone	7.73	58	1343988	204.29 ppb	93
11) Freon 113	7.90	151	3058459	52.13 ppb	97
12) 1,1-Dichloroethene	8.14	96	4432155	52.36 ppb	97
13) tert-Butanol (TBA)	8.20	59	2247041m	276.02 ppb	
14) Acetonitrile	8.11	41	416823	49.54 ppb	93
15) Iodomethane	8.63	142	4103515	50.18 ppb	96
16) Methylene Chloride	8.91	84	5033489	48.20 ppb	93
17) Carbon Disulfide	9.02	76	15644390	52.57 ppb	100
18) Methyl-t-butyl Ether	9.30	73	12793420	54.22 ppb	97
19) trans-1,2-Dichloroethene	9.50	96	5364940	52.53 ppb	96
20) Diisopropyl Ether	10.07	45	18486468	54.58 ppb	95
21) Vinyl Acetate	10.08	43	17360047	55.54 ppb	98
22) 1,1-Dichloroethane	10.12	63	10211034	53.71 ppb	99
23) tert-Butyl Ethyl Ether	10.68	59	16343798	54.92 ppb	98
24) Tetrahydrofuran	11.52	42	1192547	51.58 ppb	92
25) 2-Butanone (MEK)	10.67	72	1930704	211.52 ppb	72
26) 2,2-Dichloropropane	11.01	77	8579506	54.35 ppb	100
27) cis-1,2-Dichloroethene	11.02	96	5688800	53.79 ppb	98
28) Chloroform	11.25	83	8985465	53.81 ppb	100
29) Bromochloromethane	11.45	128	1930232	54.24 ppb	93
31) 1,1,1-Trichloroethane	11.87	97	8281773	53.98 ppb	100
32) tert-Amyl Methyl Ether	12.26	73	14327393	55.24 ppb	99
34) 1,1-Dichloropropene	12.09	75	8153723	53.08 ppb	100
35) Carbon Tetrachloride	12.24	117	7181313	53.67 ppb	100
36) 1,2-Dichloroethane	12.30	62	5565248	53.77 ppb	99
37) Benzene	12.41	78	23508510	51.64 ppb	100
38) Trichloroethene	13.20	95	5575873	52.86 ppb	98
39) 1,2-Dichloropropane	13.37	63	5635767	53.77 ppb	96

(#) = qualifier out of range (m) = manual integration

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04186.D Vial: 7
Acq On : 12 Jan 2009 12:27 pm Operator: TitiaF
Sample : IC131-50 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:51 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.13 6

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
40)	1,4-Dioxane	13.61	88	1110229	1125.09 ppb	91
41)	Bromodichloromethane	13.64	83	6787598	54.66 ppb	99
42)	Dibromomethane	13.69	93	2529648	55.51 ppb	97
43)	2-Chloroethyl Vinyl Ether	13.95	63	2349647	56.90 ppb	94
44)	4-Methyl-2-Pentanone(MIBK)	14.02	100	2374625	219.51 ppb	85
45)	cis-1,3-Dichloropropene	14.28	75	8400862	53.94 ppb	100
48)	Toluene	14.74	92	14998380	49.66 ppb	100
49)	trans-1,3-Dichloropropene	14.83	75	7364467	53.97 ppb	99
50)	1,1,2-Trichloroethane	15.04	83	3149795	53.62 ppb	96
51)	2-Hexanone	15.02	43	12236668	226.00 ppb	95
52)	1,3-Dichloropropane	15.32	76	6938906	52.28 ppb	99
53)	Tetrachloroethene	15.54	164	4097749	49.58 ppb	98
54)	Dibromochloromethane	15.68	129	4040927	53.85 ppb	99
55)	1,2-Dibromoethane (EDB)	15.92	107	3375109	53.70 ppb	100
56)	Chlorobenzene	16.43	112	14698393	51.63 ppb	88
57)	1,1,1,2-Tetrachloroethane	16.46	131	4635640	52.52 ppb	99
58)	Ethyl Benzene	16.49	91	28933761m	52.20 ppb	
59)	Xylene, m+p	16.59	106	22481139	105.25 ppb	99
60)	Xylene, o	17.12	106	10621303	52.70 ppb	99
61)	Styrene	17.13	104	17334191	54.50 ppb	99
62)	Bromoform	17.56	173	2219163	56.06 ppb	98
63)	Isopropylbenzene	17.57	105	28128373	52.39 ppb	100
65)	1,2,3-Trichloropropane	17.90	77	1831404	52.14 ppb	96
66)	trans-1,4-Dichloro-2-buten	17.92	53	1416966	54.68 ppb	97
68)	1,1,2,2-Tetrachloroethane	17.69	83	4714660	55.06 ppb	99
69)	n-Propylbenzene	18.11	91	34999497	53.31 ppb	100
70)	Bromobenzene	18.19	156	4957300	51.77 ppb	98
71)	1,3,5-Trimethylbenzene	18.30	105	23136896	53.50 ppb	99
72)	2-Chlorotoluene	18.36	91	20968655	52.55 ppb	99
73)	4-Chlorotoluene	18.41	91	19650433	53.47 ppb	99
74)	tert-Butylbenzene	18.76	119	22450129	52.56 ppb	98
75)	Pentachloroethane	18.85	167	2960492	57.14 ppb	95
76)	1,2,4-Trimethylbenzene	18.80	105	23120652	53.42 ppb	99
77)	sec-Butylbenzene	19.02	105	31288786	52.69 ppb	99
78)	p-Isopropyltoluene	19.16	119	25121389	52.42 ppb	99
79)	1,3-Dichlorobenzene	19.29	146	10506917	51.65 ppb	99
80)	1,4-Dichlorobenzene	19.40	146	10579524	51.16 ppb	99
81)	n-Butylbenzene	19.61	91	25573947	52.06 ppb	99
82)	1,2-Dichlorobenzene	19.81	146	9274000	51.68 ppb	98
83)	1,2-Dibromo-3-Chloropropan	20.57	75	826139	53.26 ppb	97
84)	1,2,4-Trichlorobenzene	21.55	180	6158449	49.67 ppb	99
85)	Hexachlorobutadiene	21.71	225	3433947	50.06 ppb	99
86)	Naphthalene	21.82	128	13367558	51.25 ppb	100
87)	1,2,3-Trichlorobenzene	22.10	180	5324892	49.43 ppb	99

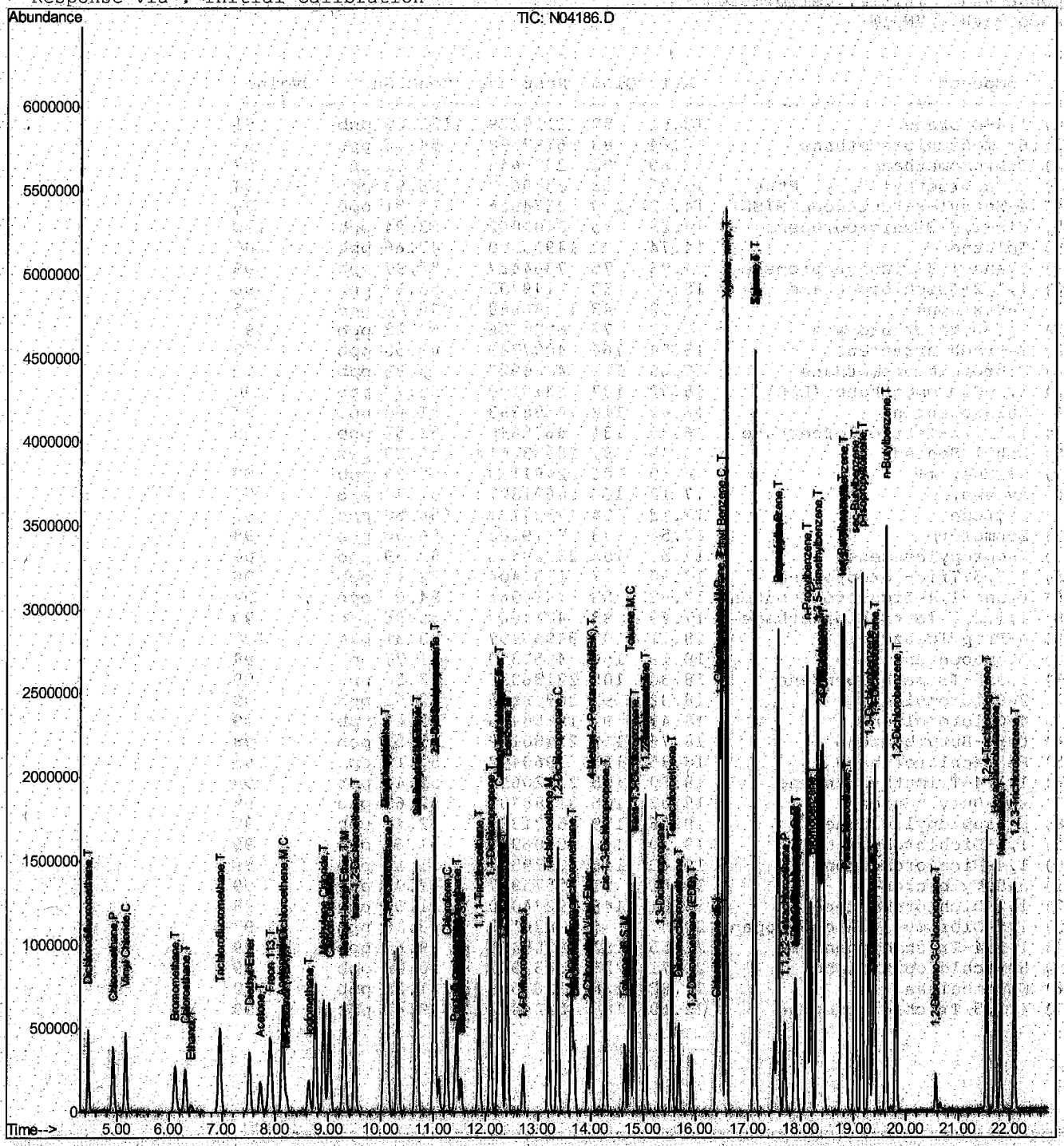
(#) = qualifier out of range (m) = manual integration

ACCUTEST Laboratories C4507

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04186.D Vial: 7
Acq On : 12 Jan 2009 12:27 pm Operator: TitiaF
Sample : IC131-50 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:51 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration

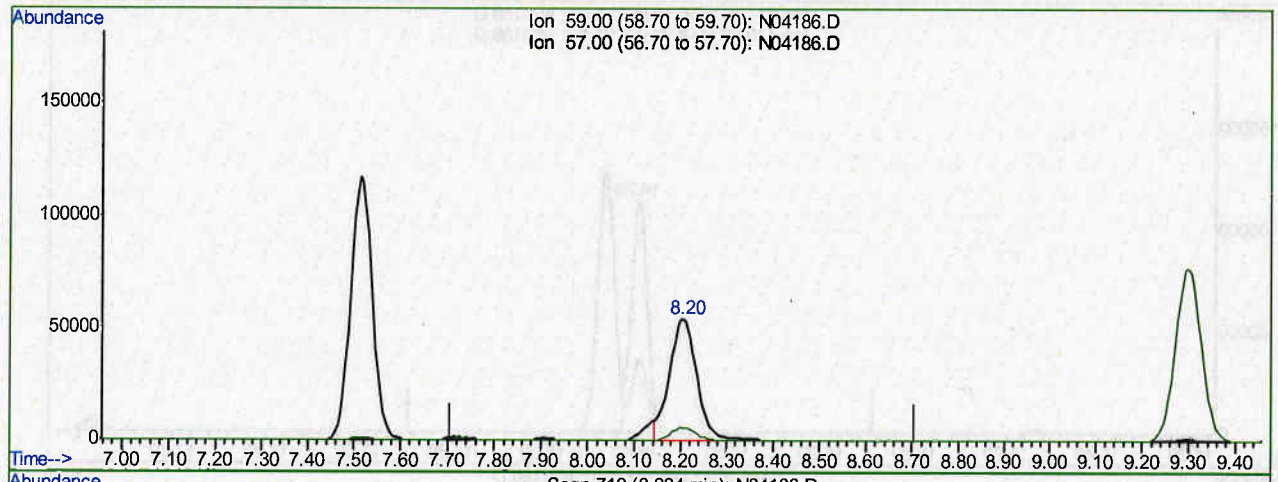


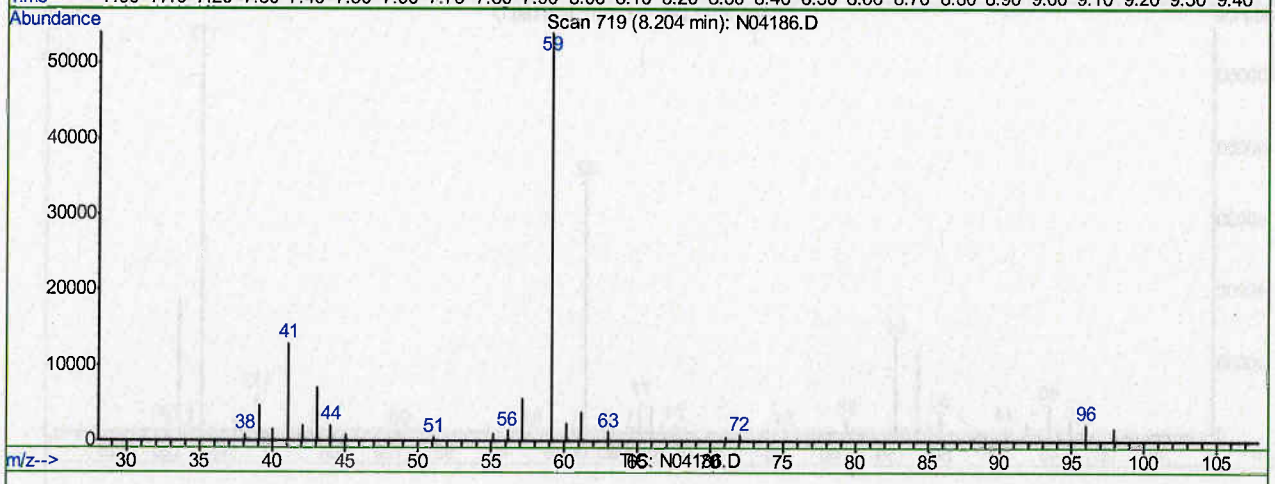
ACCUTEST Laboratories CA507

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04186.D Vial: 7
Acq On : 12 Jan 2009 12:27 pm Operator: TitiaF
Sample : IC131-50 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:50 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(13) tert-Butanol (TBA) (T)

8.20min 276.02ppb m

response 2247041

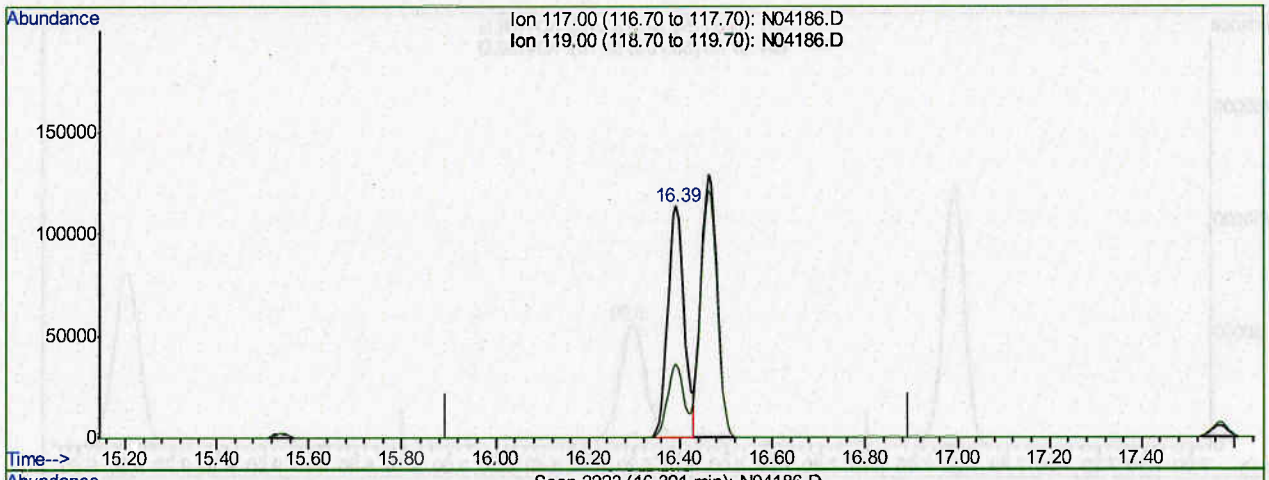
Ion	Exp%	Act%
59.00	100	100
57.00	8.80	9.76
0.00	0.00	0.00
0.00	0.00	0.00

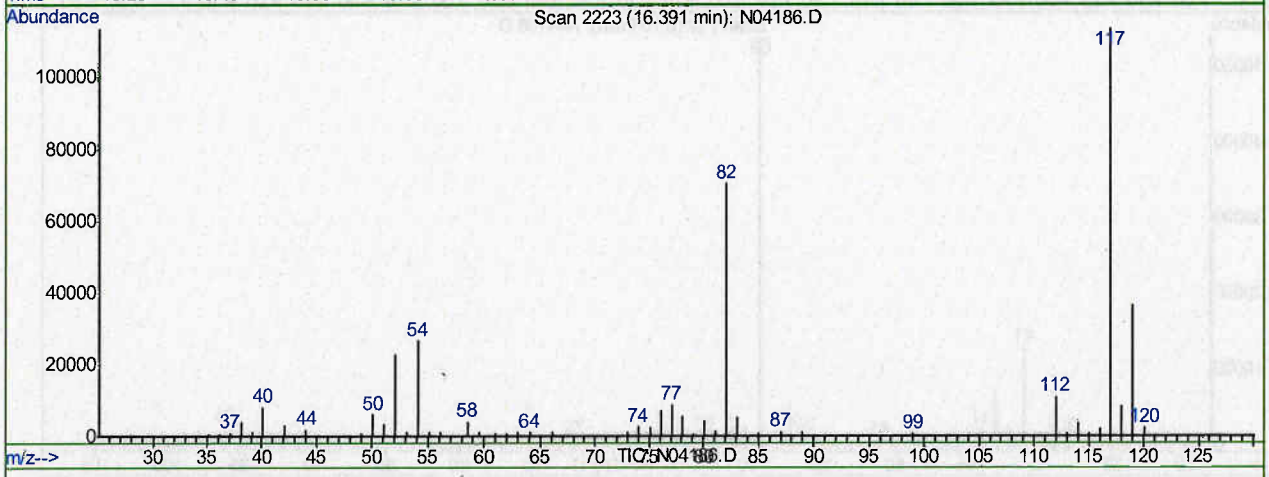
N04186.D VN131WA.M Tue Jan 13 08:50:43 2009 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04186.D Vial: 7
Acq On : 12 Jan 2009 12:27 pm Operator: TitiaF
Sample : IC131-50 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:51 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(46) Chlorobenzene-d5 (I)

16.39min 10.00ppb m

response 2846109

Ion	Exp%	Act%
117.00	100	100
119.00	32.10	109.19#
0.00	0.00	0.00
0.00	0.00	0.00

N04186.D VN131WA.M Tue Jan 13 08:51:20 2009 RPT1

ACCUTEST Laboratories C4507

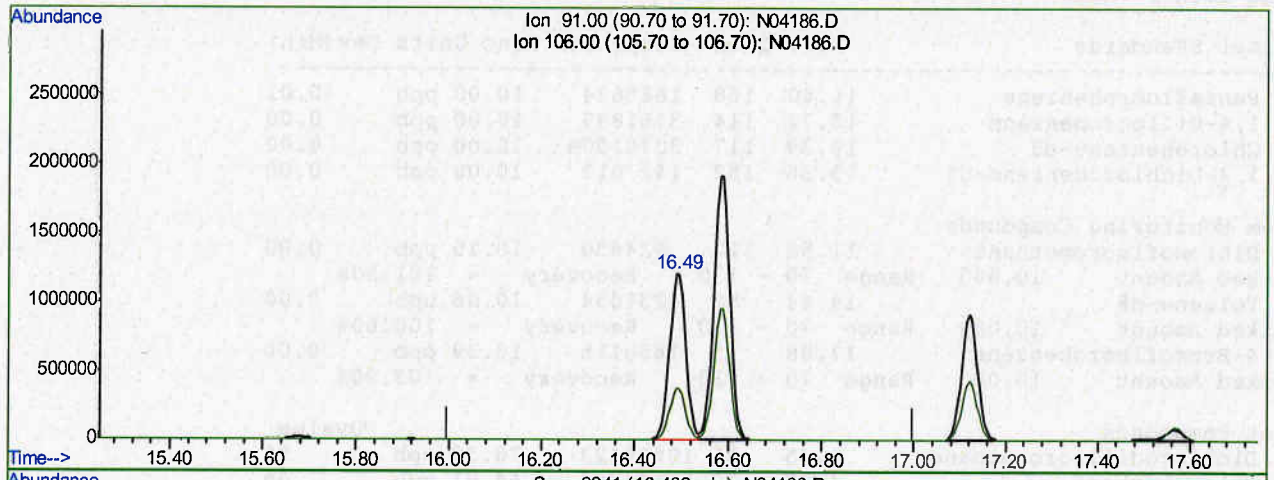
N04186.D edits: Chlorobenzene-d5

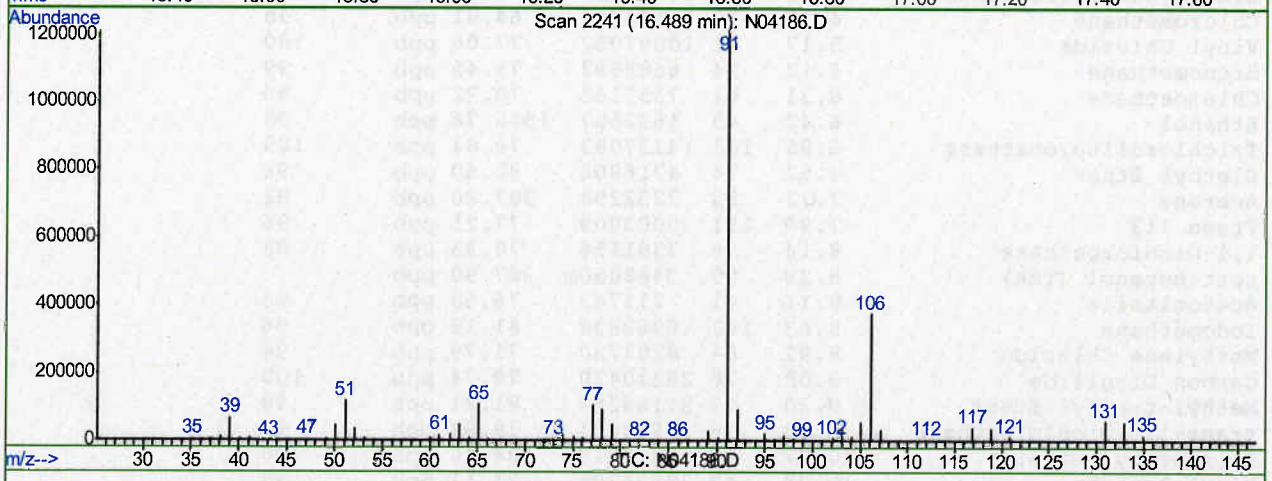
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04186.D
Acq On : 12 Jan 2009 12:27 pm
Sample : IC131-50
Misc : MS640,VN131,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:51 2009

Vial: 7
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(58) Ethyl Benzene (C, T)

16.49min 52.20ppb

response 28933761

Ion	Exp%	Act%
91.00	100	100
106.00	31.10	77.70#
0.00	0.00	0.00
0.00	0.00	0.00

N04186.D VN131WA.M Tue Jan 13 08:51:32 2009 RPT1

Manual Integrations
APPROVED
(compounds with "m" flag)
Helena Ueng
01/19/09 12:46

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04187.D Vial: 8
Acq On : 12 Jan 2009 12:56 pm Operator: TitiaF
Sample : IC131-75 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:53 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.14 6

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1885634	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	3461839	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	3070100m	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1427010	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.52	111	924630	10.15 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.50%		
47) Toluene-d8	14.64	98	4231094	10.06 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.60%		
64) 4-Bromofluorobenzene	17.88	95	1650115	10.39 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 103.90%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.45	85	10604423	70.39 ppb	99
3) Chloromethane	4.93	50	11644763	64.91 ppb	98
4) Vinyl Chloride	5.17	62	10897932	77.06 ppb	100
5) Bromomethane	6.12	94	6688993	75.45 ppb	99
6) Chloroethane	6.31	64	7552165	79.22 ppb	99
7) Ethanol	6.42	45	1632557	1545.76 ppb	98
8) Trichlorofluoromethane	6.95	101	14137083	76.84 ppb	100
9) Diethyl Ether	7.52	74	4716806	82.60 ppb	96
10) Acetone	7.72	58	2232290	307.20 ppb	92
11) Freon 113	7.90	151	5003009	77.21 ppb	96
12) 1,1-Dichloroethene	8.14	96	7381456	78.95 ppb	98
13) tert-Butanol (TBA)	8.20	59	3488850m	387.99 ppb	
14) Acetonitrile	8.11	41	711743	76.58 ppb	95
15) Iodomethane	8.63	142	6963838	81.16 ppb	96
16) Methylene Chloride	8.91	84	8281720	71.79 ppb	94
17) Carbon Disulfide	9.02	76	26210410	79.74 ppb	100
18) Methyl-t-butyl Ether	9.30	73	21166252	81.21 ppb	98
19) trans-1,2-Dichloroethene	9.50	96	8904431	78.94 ppb	97
20) Diisopropyl Ether	10.07	45	31576018	84.40 ppb	96
21) Vinyl Acetate	10.08	43	28694305	83.11 ppb	99
22) 1,1-Dichloroethane	10.12	63	17132037	81.59 ppb	99
23) tert-Butyl Ethyl Ether	10.67	59	27359654	83.24 ppb	98
24) Tetrahydrofuran	11.52	42	1939251	75.93 ppb	93
25) 2-Butanone (MEK)	10.67	72	3130698	310.53 ppb	73
26) 2,2-Dichloropropane	11.01	77	13883931	79.63 ppb	100
27) cis-1,2-Dichloroethene	11.02	96	9376902	80.27 ppb	99
28) Chloroform	11.25	83	14791710	80.20 ppb	100
29) Bromochloromethane	11.45	128	3097101	78.79 ppb	95
31) 1,1,1-Trichloroethane	11.87	97	13582171	80.14 ppb	100
32) tert-Amyl Methyl Ether	12.26	73	23805841	83.09 ppb	99
34) 1,1-Dichloropropene	12.08	75	13685620	81.05 ppb	100
35) Carbon Tetrachloride	12.24	117	11552630	78.54 ppb	100
36) 1,2-Dichloroethane	12.30	62	9039910	79.46 ppb	99
37) Benzene	12.41	78	39439439	78.81 ppb	100
38) Trichloroethene	13.20	95	9306247	80.26 ppb	98
39) 1,2-Dichloropropane	13.37	63	9536171	82.77 ppb	97

(#) = qualifier out of range (m) = manual integration
N04187.D VN131WA.M Tue Jan 13 08:53:30 2009 RPT1

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04187.D Vial: 8
Acq On : 12 Jan 2009 12:56 pm Operator: TitiaF
Sample : IC131-75 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:53 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.14 6

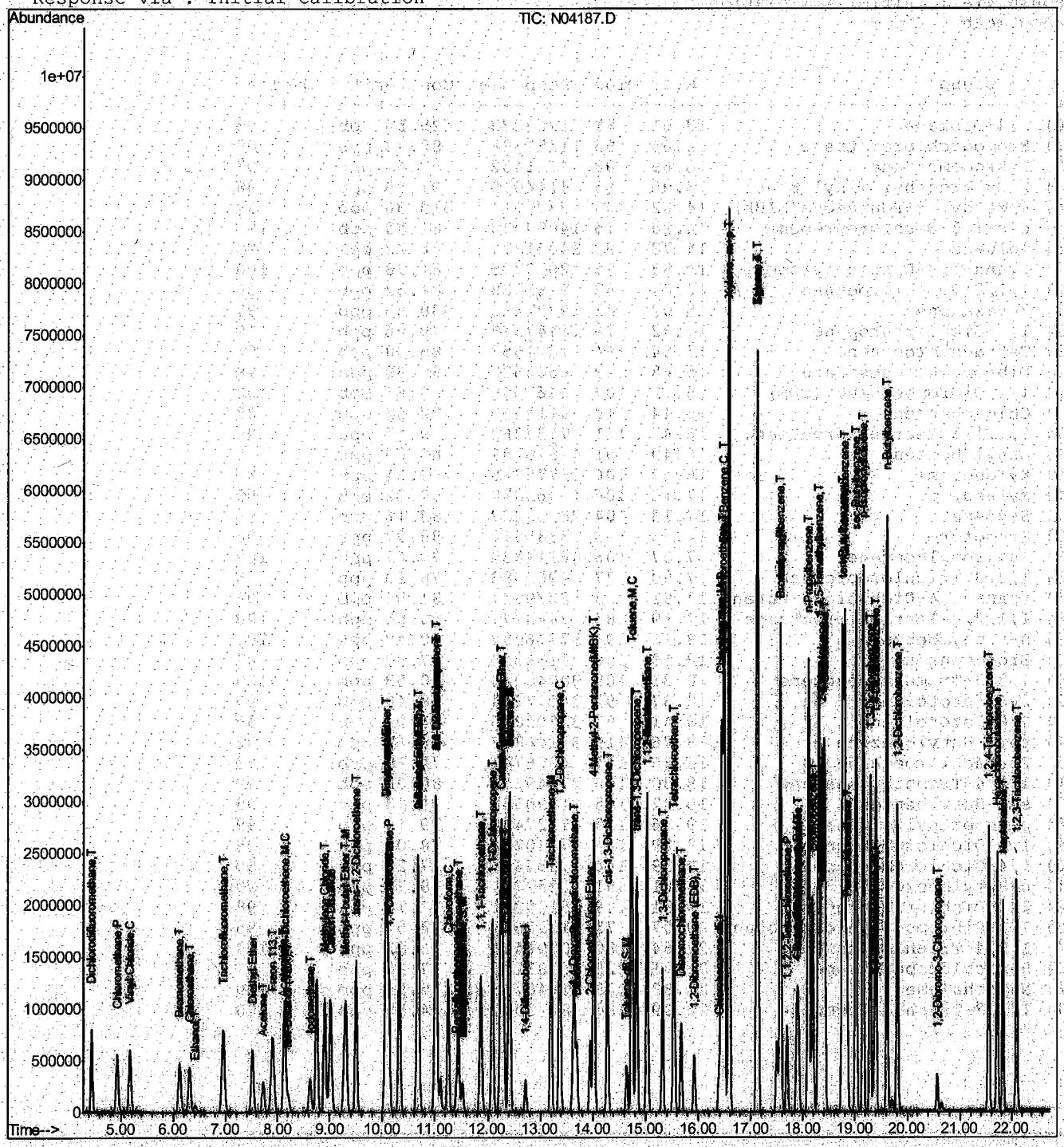
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
40)	1,4-Dioxane	13.61	88	1763233	1625.55 ppb	93
41)	Bromodichloromethane	13.64	83	11251328	82.43 ppb	99
42)	Dibromomethane	13.69	93	4141432	82.68 ppb	97
43)	2-Chloroethyl Vinyl Ether	13.95	63	4144019	91.29 ppb	98
44)	4-Methyl-2-Pentanone(MIBK)	14.02	100	3797524	319.36 ppb	88
45)	cis-1,3-Dichloropropene	14.28	75	14007929	81.83 ppb	100
48)	Toluene	14.73	92	24831824	76.22 ppb	99
49)	trans-1,3-Dichloropropene	14.83	75	12037795	81.78 ppb	100
50)	1,1,2-Trichloroethane	15.04	83	5165858	81.52 ppb	96
51)	2-Hexanone	15.02	43	19791458	338.85 ppb	95
52)	1,3-Dichloropropane	15.32	76	11447578	79.96 ppb	99
53)	Tetrachloroethene	15.54	164	7611553	85.38 ppb	99
54)	Dibromochloromethane	15.68	129	6500532	80.30 ppb	98
55)	1,2-Dibromoethane (EDB)	15.92	107	5467640	80.65 ppb	100
56)	Chlorobenzene	16.44	112	24113419	78.52 ppb	88
57)	1,1,1,2-Tetrachloroethane	16.47	131	7537362	79.17 ppb	99
58)	Ethyl Benzene	16.49	91	47870189m	80.06 ppb	
59)	Xylene, m+p	16.59	106	36775845	159.61 ppb	99
60)	Xylene, o	17.12	106	17463380	80.32 ppb	99
61)	Styrene	17.13	104	28532207	83.16 ppb	99
62)	Bromoform	17.55	173	3585511	83.97 ppb	98
63)	Isopropylbenzene	17.57	105	46144839	79.67 ppb	100
65)	1,2,3-Trichloropropane	17.90	77	2962983	78.20 ppb	95
66)	trans-1,4-Dichloro-2-buten	17.91	53	2279627	81.55 ppb	97
68)	1,1,2,2-Tetrachloroethane	17.69	83	7483777	80.01 ppb	100
69)	n-Propylbenzene	18.11	91	57716083	80.48 ppb	100
70)	Bromobenzene	18.19	156	8138625	77.80 ppb	97
71)	1,3,5-Trimethylbenzene	18.31	105	38040948	80.53 ppb	100
72)	2-Chlorotoluene	18.37	91	34172644	78.40 ppb	99
73)	4-Chlorotoluene	18.41	91	32893016	81.94 ppb	99
74)	tert-Butylbenzene	18.76	119	37146857	79.62 ppb	99
75)	Pentachloroethane	18.85	167	4096741	72.39 ppb	93
76)	1,2,4-Trimethylbenzene	18.80	105	37849252	80.05 ppb	99
77)	sec-Butylbenzene	19.02	105	51390552	79.23 ppb	99
78)	p-Isopropyltoluene	19.16	119	41427420	79.14 ppb	99
79)	1,3-Dichlorobenzene	19.29	146	17340210	78.03 ppb	99
80)	1,4-Dichlorobenzene	19.39	146	17454445	77.27 ppb	99
81)	n-Butylbenzene	19.61	91	42257751	78.75 ppb	99
82)	1,2-Dichlorobenzene	19.81	146	15129211	77.19 ppb	98
83)	1,2-Dibromo-3-Chloropropan	20.57	75	1313617	77.53 ppb	95
84)	1,2,4-Trichlorobenzene	21.54	180	10296496	76.02 ppb	100
85)	Hexachlorobutadiene	21.71	225	5781103	77.15 ppb	99
86)	Naphthalene	21.83	128	21640793	75.96 ppb	100
87)	1,2,3-Trichlorobenzene	22.09	180	8773020	74.55 ppb	100

(#) = qualifier out of range (m) = manual integration
N04187.D VN131WA.M Tue Jan 13 08:53:30 2009 RPT1

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04187.D Vial: 8
Acq On : 12 Jan 2009 12:56 pm Operator: TitiaF
Sample : IC131-75 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:53 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration



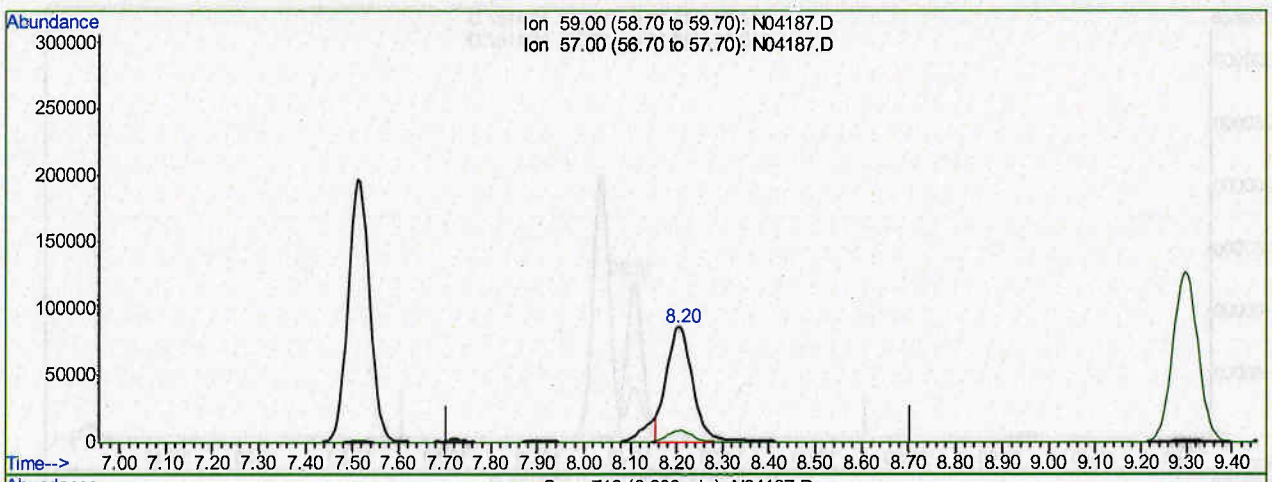
ACCUTEST Laboratories C4507

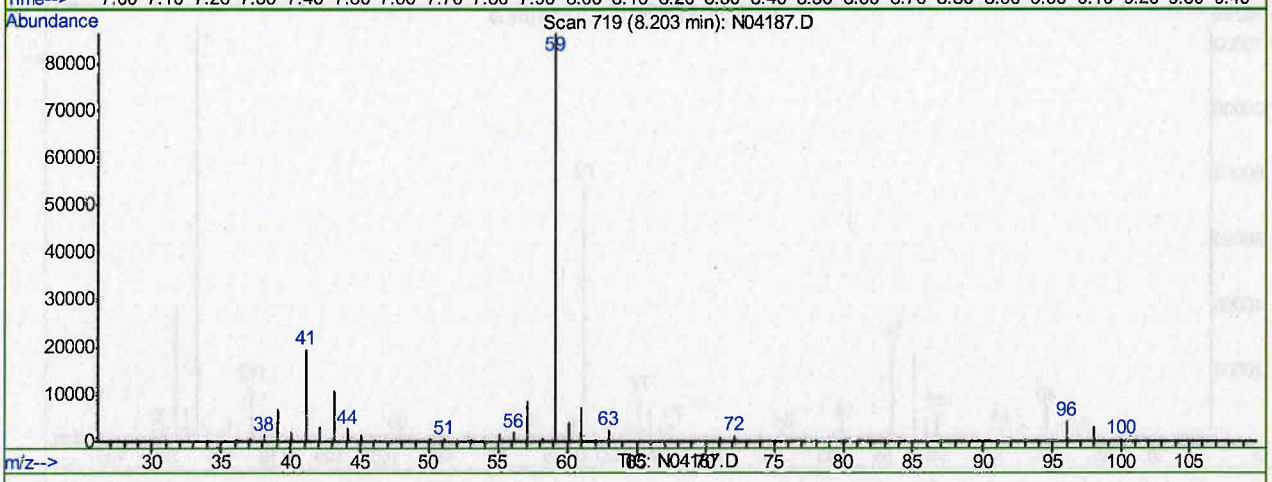
Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04187.D
Acq On : 12 Jan 2009 12:56 pm
Sample : IC131-75
Misc : MS640,VN131,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:52 2009

Vial: 8
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00
Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(13) tert-Butanol (TBA) (T)

8.20min 387.99ppb m

response 3488850

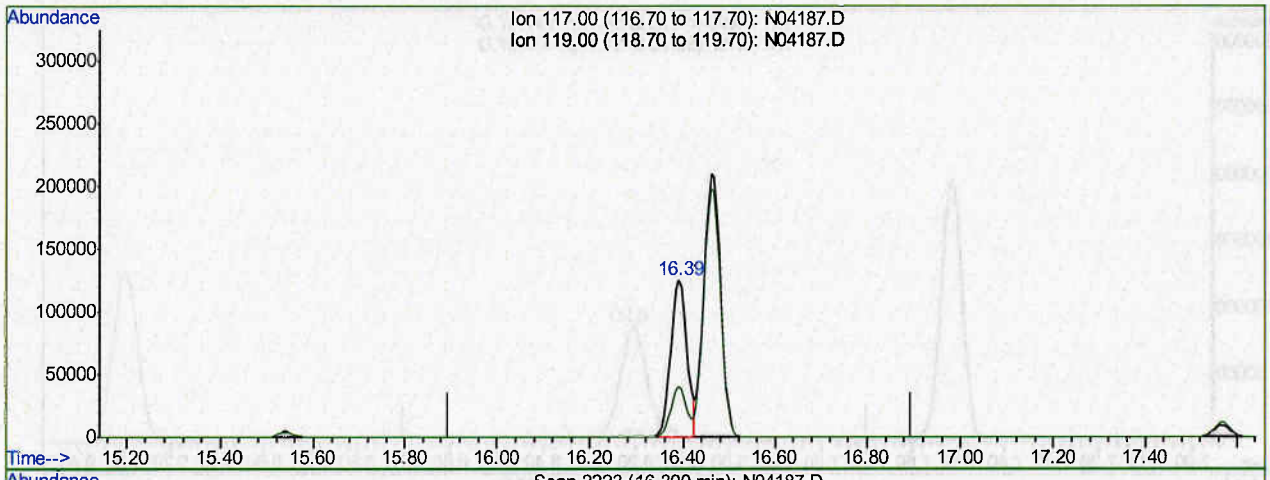
Ion	Exp%	Act%
59.00	100	100
57.00	8.80	10.01
0.00	0.00	0.00
0.00	0.00	0.00

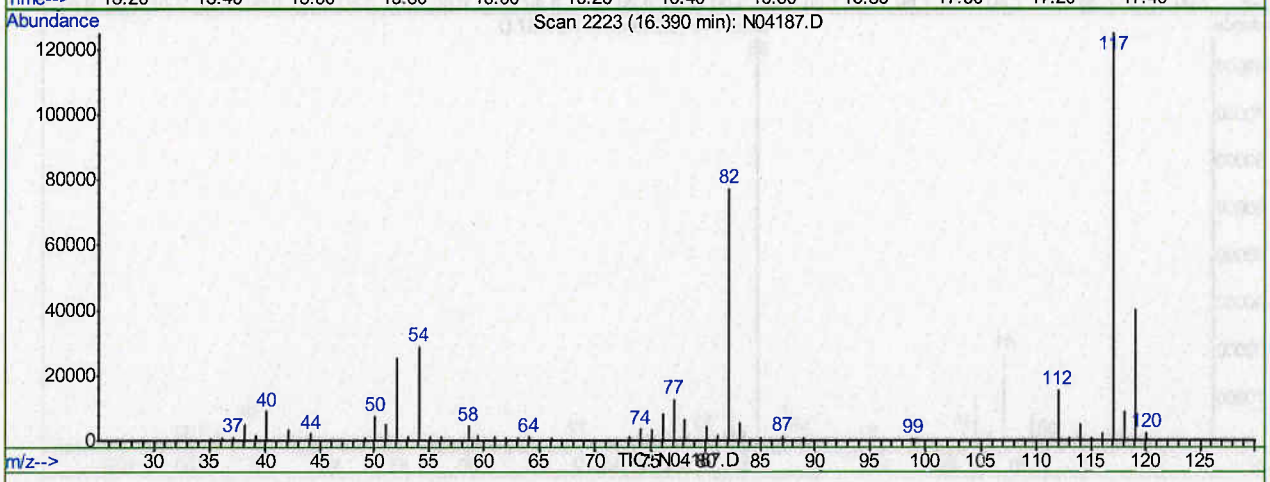
N04187.D VN131WA.M Tue Jan 13 08:52:25 2009 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04187.D Vial: 8
Acq On : 12 Jan 2009 12:56 pm Operator: TitiaF
Sample : IC131-75 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:52 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(46) Chlorobenzene-d5 (I)

16.39min 10.00ppb m

response 3070100

Ion	Exp%	Act%
117.00	100	100
119.00	32.10	165.25#
0.00	0.00	0.00
0.00	0.00	0.00

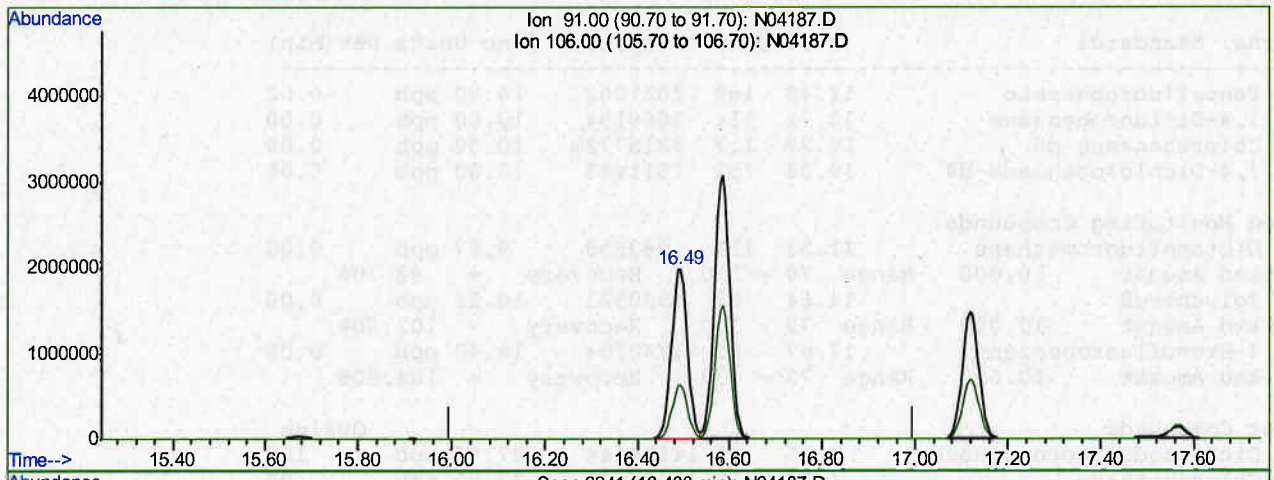
N04187.D VN131WA.M Tue Jan 13 08:52:51 2009 RPT1

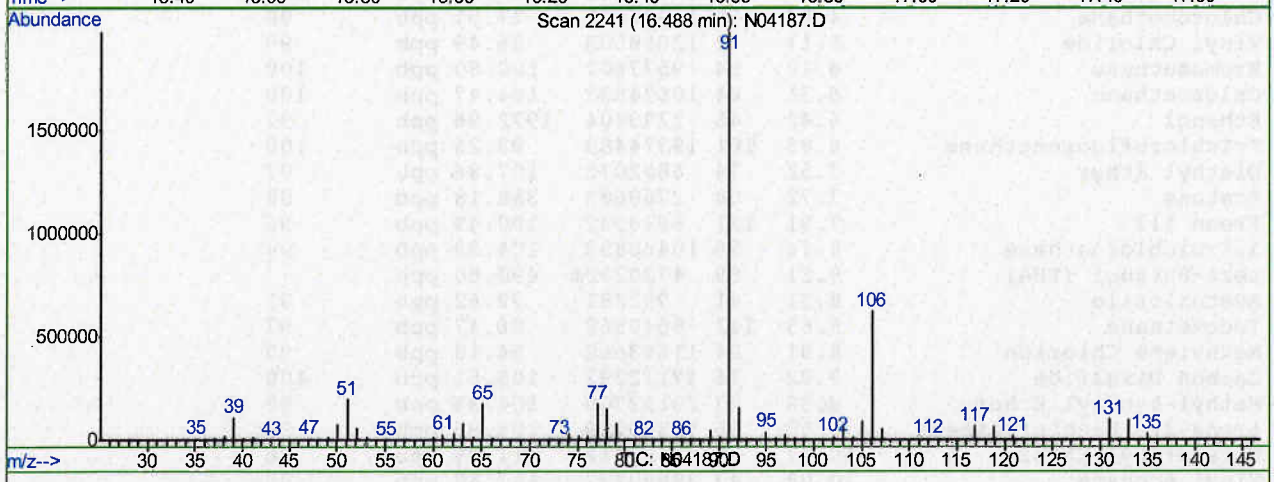
ACCUTEST Laboratories C4507

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04187.D Vial: 8
Acq On : 12 Jan 2009 12:56 pm Operator: TitiaF
Sample : IC131-75 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:53 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(58) Ethyl Benzene (C, T)

16.49min 80.06ppb

response 47870189

Ion	Exp%	Act%
91.00	100	100
106.00	31.10	76.82#
0.00	0.00	0.00
0.00	0.00	0.00

N04187.D VN131WA.M Tue Jan 13 08:53:06 2009 RPT1

Cal Report:

N04188.D

Manual Integrations APPROVED (compounds with "m" flag)

Helena Ueng 01/19/09 12:46

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04188.D Vial: 9
Acq On : 12 Jan 2009 1:26 pm Operator: TitiaF
Sample : IC131-100 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:55 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.15

6

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	2021062	10.00 ppb	-0.02
33) 1,4-Difluorobenzene	12.72	114	3668154	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	3215772m	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1511443	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	963558	9.87 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.70%		
47) Toluene-d8	14.64	98	4520921	10.26 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.60%		
64) 4-Bromofluorobenzene	17.87	95	1742704	10.48 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 104.80%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.45	85	14189444	87.88 ppb	100
3) Chloromethane	4.93	50	14904692	77.51 ppb	98
4) Vinyl Chloride	5.17	62	12058503	86.49 ppb	99
5) Bromomethane	6.12	94	9577602	100.80 ppb	100
6) Chloroethane	6.31	64	10674533	104.47 ppb	100
7) Ethanol	6.42	45	2233404	1972.96 ppb	97
8) Trichlorofluoromethane	6.95	101	19374489	98.25 ppb	100
9) Diethyl Ether	7.52	74	6602075	107.86 ppb	97
10) Acetone	7.72	58	2789683	358.18 ppb	88
11) Freon 113	7.91	151	6978932	100.49 ppb	96
12) 1,1-Dichloroethene	8.14	96	10460853	104.39 ppb	98
13) tert-Butanol (TBA)	8.21	59	4730290m	490.80 ppb	
14) Acetonitrile	8.11	41	992281	99.62 ppb	91
15) Iodomethane	8.63	142	8640568	96.47 ppb	97
16) Methylene Chloride	8.91	84	11643662	94.18 ppb	95
17) Carbon Disulfide	9.02	76	37172292	105.51 ppb	100
18) Methyl-t-butyl Ether	9.30	73	29152309	104.36 ppb	98
19) trans-1,2-Dichloroethene	9.50	96	12569759	103.96 ppb	98
20) Diisopropyl Ether	10.07	45	44668912	111.39 ppb	96
21) Vinyl Acetate	10.08	43	39890797	107.80 ppb	99
22) 1,1-Dichloroethane	10.12	63	24202664	107.54 ppb	99
23) tert-Butyl Ethyl Ether	10.68	59	38081757	108.09 ppb	98
24) Tetrahydrofuran	11.52	42	2636167	96.30 ppb	93
25) 2-Butanone (MEK)	10.67	72	4017888	371.82 ppb	75
26) 2,2-Dichloropropane	11.01	77	18865555	100.95 ppb	100
27) cis-1,2-Dichloroethene	11.02	96	13007645	103.89 ppb	99
28) Chloroform	11.25	83	20791309	105.17 ppb	100
29) Bromochloromethane	11.45	128	4174544	99.08 ppb	97
31) 1,1,1-Trichloroethane	11.87	97	18811304	103.56 ppb	100
32) tert-Amyl Methyl Ether	12.26	73	32376317	105.43 ppb	99
34) 1,1-Dichloropropene	12.09	75	19225092	107.46 ppb	100
35) Carbon Tetrachloride	12.25	117	15789310	101.31 ppb	100
36) 1,2-Dichloroethane	12.30	62	12254472	101.65 ppb	99
37) Benzene	12.40	78	55919373	105.46 ppb	100
38) Trichloroethene	13.20	95	13007101	105.87 ppb	98
39) 1,2-Dichloropropane	13.37	63	13521046	110.76 ppb	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04188.D Vial: 9
Acq On : 12 Jan 2009 1:26 pm Operator: TitiaF
Sample : IC131-100 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:55 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.15 6

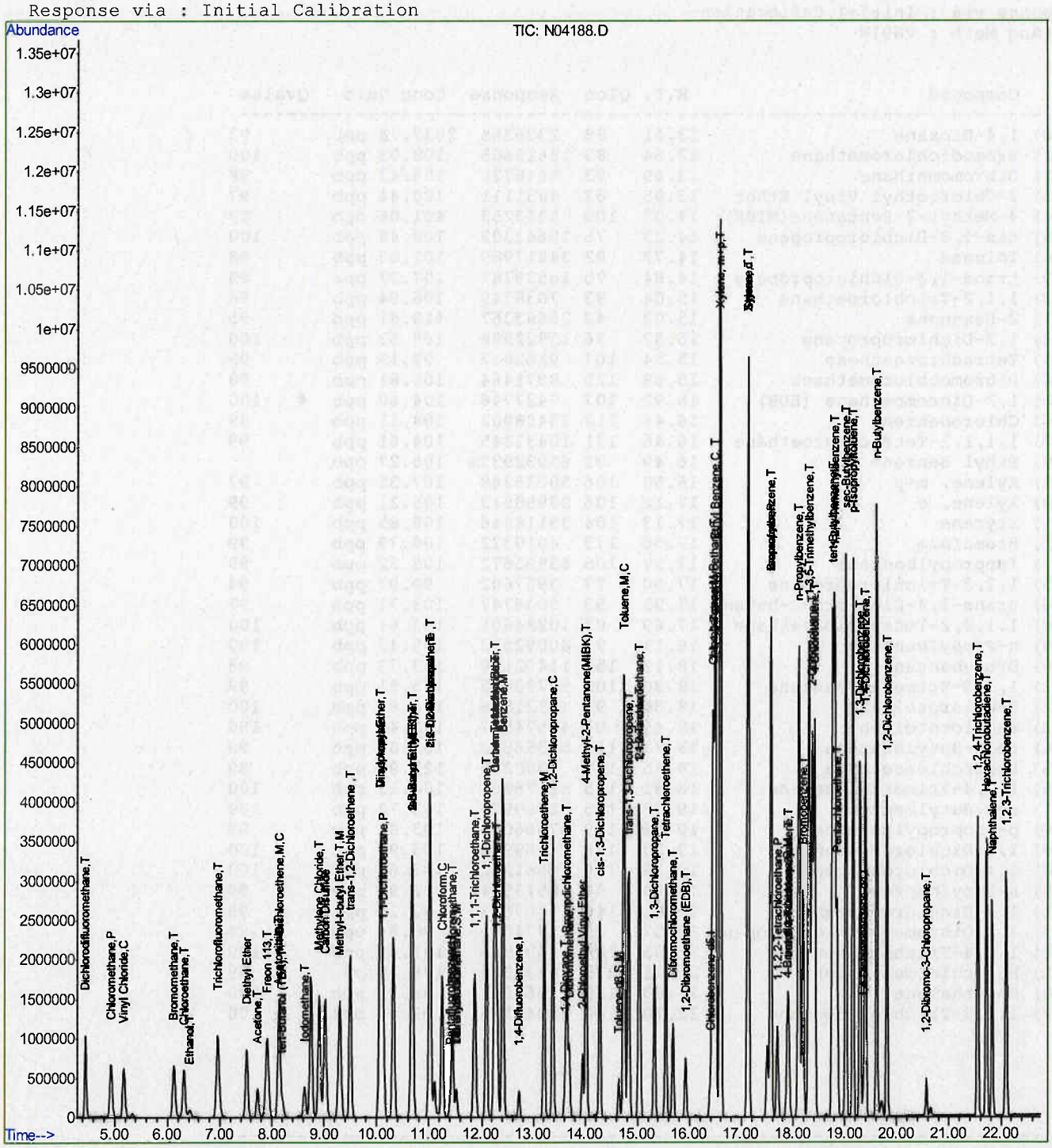
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
40)	1,4-Dioxane	13.61	88	2336365	2032.78 ppb		92
41)	Bromodichloromethane	13.64	83	15625605	108.03 ppb		100
42)	Dibromomethane	13.69	93	5648730	106.43 ppb		98
43)	2-Chloroethyl Vinyl Ether	13.95	63	4831111	100.44 ppb		97
44)	4-Methyl-2-Pentanone(MIBK)	14.02	100	5053253	401.06 ppb		89
45)	cis-1,3-Dichloropropene	14.28	75	19662302	108.40 ppb		100
48)	Toluene	14.73	92	34817989	102.03 ppb		98
49)	trans-1,3-Dichloropropene	14.84	75	16539787	107.27 ppb		99
50)	1,1,2-Trichloroethane	15.04	83	7038749	106.04 ppb		96
51)	2-Hexanone	15.02	43	25683367	419.81 ppb		95
52)	1,3-Dichloropropane	15.32	76	15822998	105.52 ppb		100
53)	Tetrachloroethene	15.54	164	9262817	99.19 ppb		99
54)	Dibromochloromethane	15.68	129	8971464	105.81 ppb		98
55)	1,2-Dibromoethane (EDB)	15.92	107	7427746	104.60 ppb	#	100
56)	Chlorobenzene	16.44	112	33488902	104.11 ppb		89
57)	1,1,1,2-Tetrachloroethane	16.46	131	10431345	104.61 ppb		99
58)	Ethyl Benzene	16.49	91	65932933m	105.27 ppb		
59)	Xylene, m+p	16.58	106	50035268	207.32 ppb		97
60)	Xylene, o	17.12	106	23958513	105.21 ppb		99
61)	Styrene	17.13	104	39118946	108.85 ppb		100
62)	Bromoform	17.56	173	4910372	109.79 ppb		99
63)	Isopropylbenzene	17.57	105	63895672	105.32 ppb		99
65)	1,2,3-Trichloropropane	17.90	77	3967602	99.97 ppb		94
66)	trans-1,4-Dichloro-2-buten	17.92	53	3036747	103.71 ppb		97
68)	1,1,2,2-Tetrachloroethane	17.69	83	10284601	103.81 ppb		100
69)	n-Propylbenzene	18.11	91	80092552	105.45 ppb		100
70)	Bromobenzene	18.19	156	11492148	103.73 ppb		98
71)	1,3,5-Trimethylbenzene	18.30	105	52790455	105.51 ppb		99
72)	2-Chlorotoluene	18.36	91	49321536	106.84 ppb		100
73)	4-Chlorotoluene	18.41	91	43574527	102.49 ppb		100
74)	tert-Butylbenzene	18.77	119	51396862	104.01 ppb		99
75)	Pentachloroethane	18.85	167	7308289	121.93 ppb		99
76)	1,2,4-Trimethylbenzene	18.81	105	52176867	104.19 ppb		100
77)	sec-Butylbenzene	19.02	105	71260933	103.72 ppb		100
78)	p-Isopropyltoluene	19.16	119	57566022	103.82 ppb		99
79)	1,3-Dichlorobenzene	19.30	146	24469959	103.96 ppb		100
80)	1,4-Dichlorobenzene	19.39	146	24561252	102.66 ppb		100
81)	n-Butylbenzene	19.61	91	58513974	102.95 ppb		99
82)	1,2-Dichlorobenzene	19.81	146	21207013	102.15 ppb		99
83)	1,2-Dibromo-3-Chloropropan	20.57	75	1774042	98.86 ppb		94
84)	1,2,4-Trichlorobenzene	21.55	180	14588805	101.69 ppb		100
85)	Hexachlorobutadiene	21.71	225	8438334	106.32 ppb		99
86)	Naphthalene	21.83	128	29068981	96.33 ppb		100
87)	1,2,3-Trichlorobenzene	22.10	180	12347195	99.06 ppb		100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04188.D Vial: 9
Acq On : 12 Jan 2009 1:26 pm Operator: TitiaF
Sample : IC131-100 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:55 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



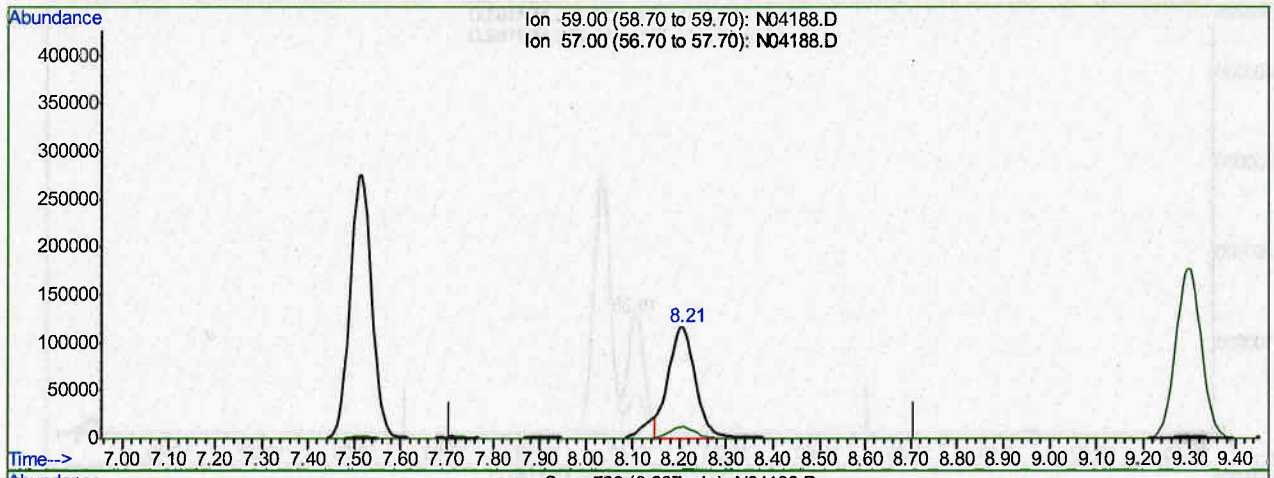
N04188.D VN131WA.M Mon Jan 19 08:25:43 2009 RPT1 Page 3

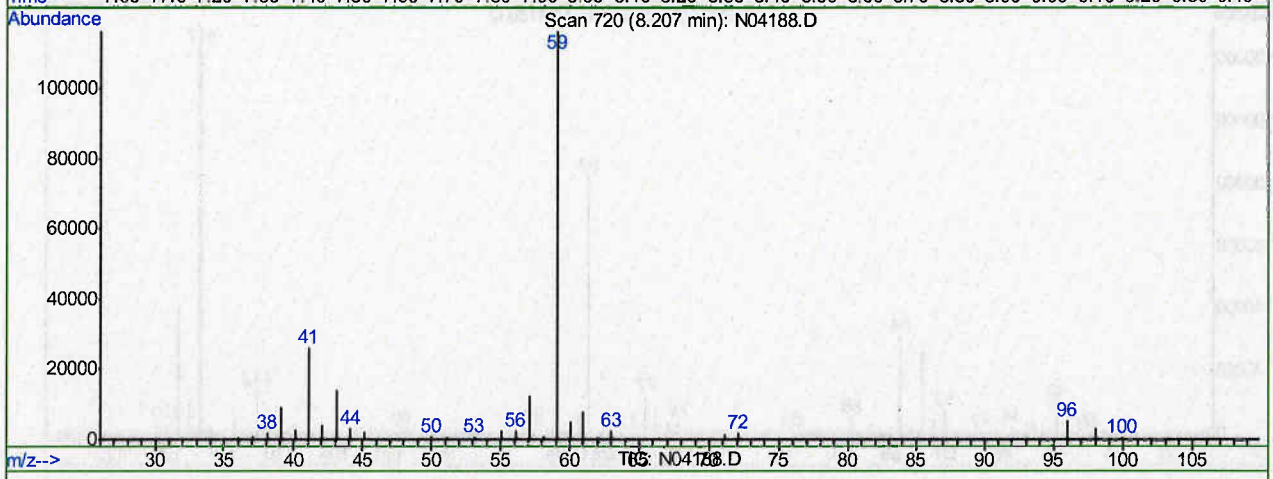
ACCUTEST Laboratories C4507

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04188.D Vial: 9
Acq On : 12 Jan 2009 1:26 pm Operator: TitiaF
Sample : Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:53 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(13) tert-Butanol (TBA) (T)

8.21min 490.80ppb m

response 4730290

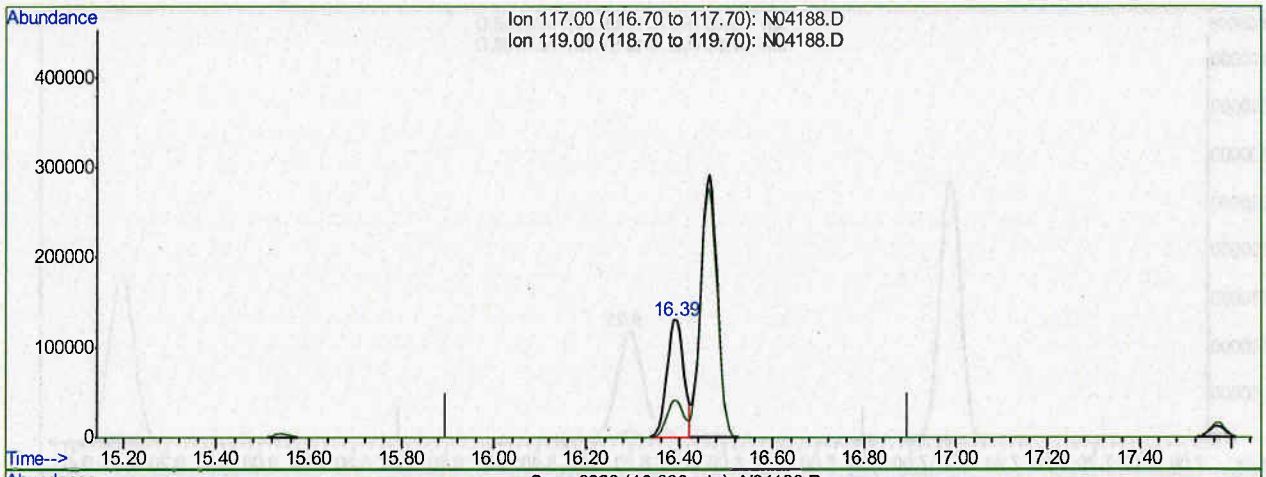
Ion	Exp%	Act%
59.00	100	100
57.00	8.80	9.97
0.00	0.00	0.00
0.00	0.00	0.00

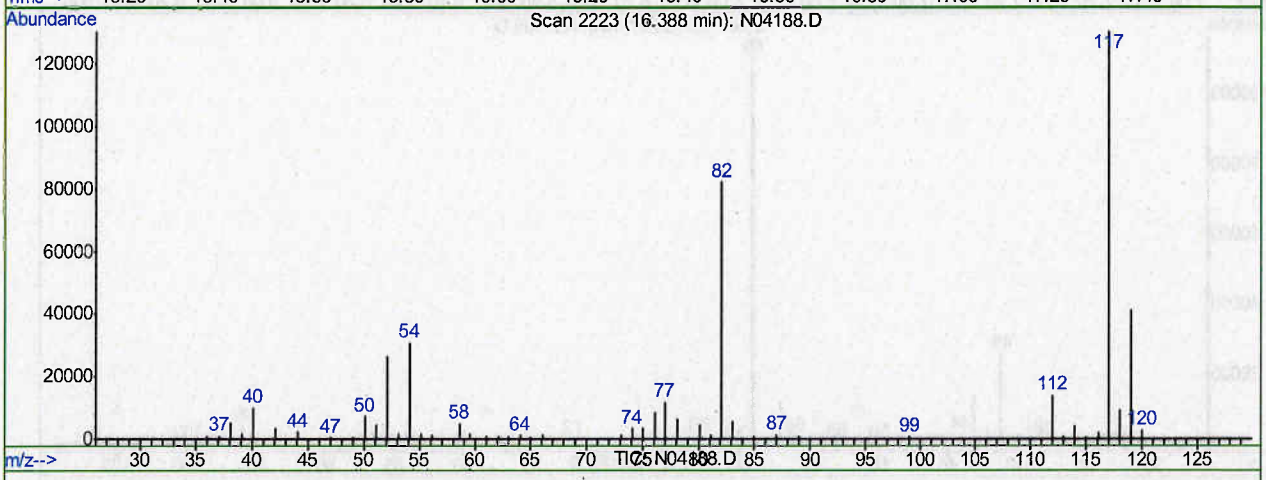
N04188.D VN131WA.M Tue Jan 13 08:54:01 2009 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04188.D Vial: 9
Acq On : 12 Jan 2009 1:26 pm Operator: TitiaF
Sample : Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:54 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(46) Chlorobenzene-d5 (I)

16.39min 10.00ppb m

response 3215772

Ion	Exp%	Act%
117.00	100	100
119.00	32.10	216.17#
0.00	0.00	0.00
0.00	0.00	0.00

N04188.D VN131WA.M Tue Jan 13 08:54:29 2009 RPT1

ACCUTEST Laboratories C4507

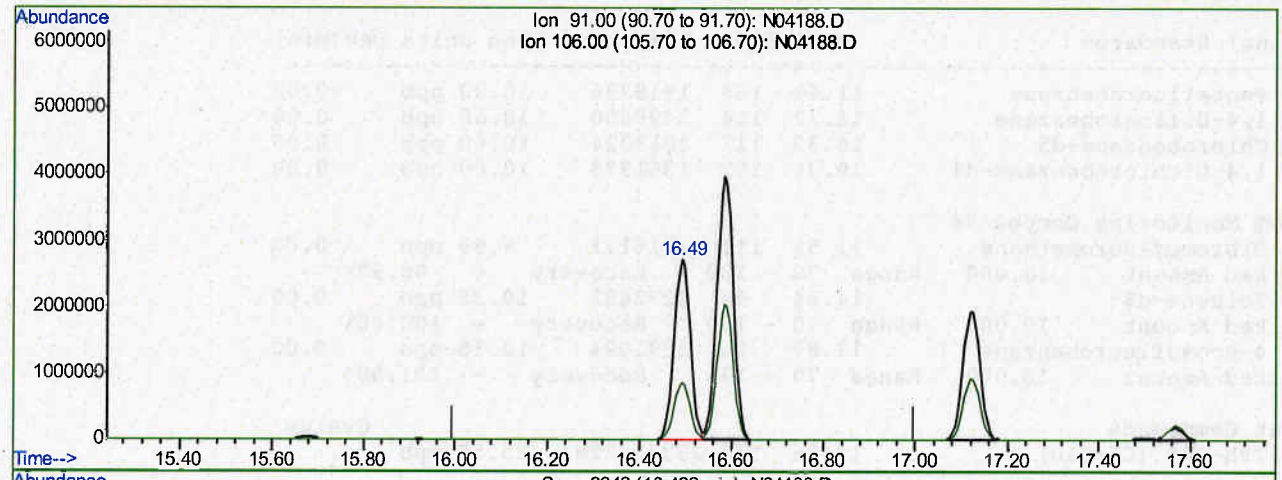
Quantitation Report (Qedit)

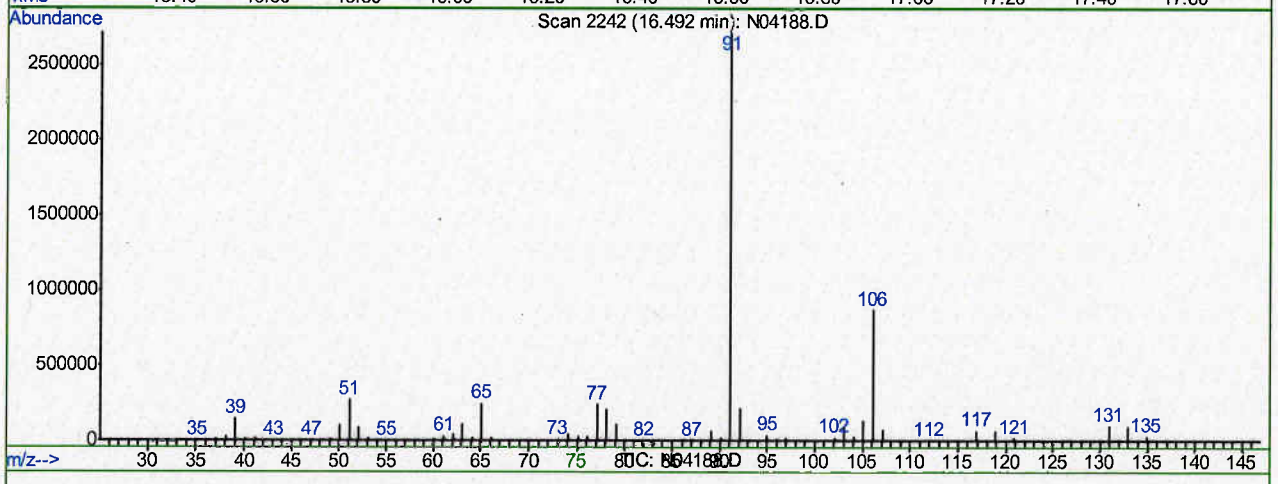
Data File : C:\HPCHEM\1\DATA\N090112\N04188.D
Acq On : 12 Jan 2009 1:26 pm
Sample :
Misc : MS640,VN131,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:54 2009

Vial: 9
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Multiple Level Calibration





(58) Ethyl Benzene (C, T)

16.49min 105.27ppb

response 65932933

Ion	Exp%	Act%
91.00	100	100
106.00	31.10	75.89#
0.00	0.00	0.00
0.00	0.00	0.00

N04188.D VN131WA.M Tue Jan 13 08:54:45 2009 RPT1

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04190.D Vial: 11
Acq On : 12 Jan 2009 2:26 pm Operator: TitiaF
Sample : IC131-25 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:56 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1918336	10.00 ppb	-0.02
33) 1,4-Difluorobenzene	12.72	114	3499650	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	3013024	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1361373	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	916111	9.89 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.90%		
47) Toluene-d8	14.64	98	4273892	10.36 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 103.60%		
64) 4-Bromofluorobenzene	17.87	95	1581094	10.15 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.50%		
Target Compounds					Qvalue
88) TPH-GRO (C6-C10)	13.96	TIC	23375372m	25.50 ppb	

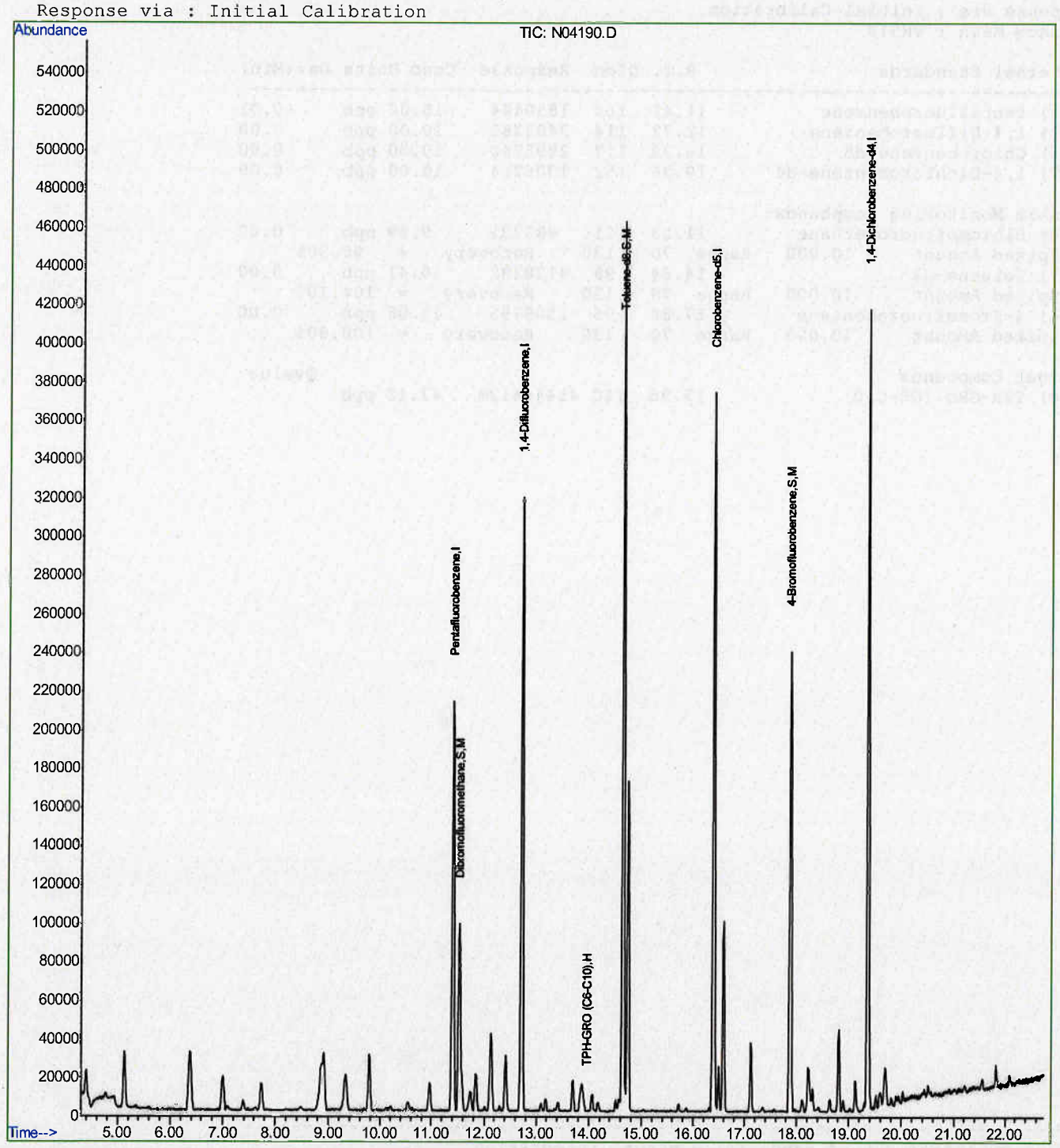
(#) = qualifier out of range (m) = manual integration
N04190.D VN131WA.M Tue Jan 13 08:56:17 2009 RPT1

ACCUTEST Laboratories C4507

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04190.D Vial: 11
Acq On : 12 Jan 2009 2:26 pm Operator: TitiaF
Sample : IC131-25 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:56 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration



N04190.D VN131WA.M Tue Jan 13 08:56:17 2009 RPT1 Page 2

6.6.16 6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04191.D Vial: 12
Acq On : 12 Jan 2009 2:56 pm Operator: TitiaF
Sample : IC131-50 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:57 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1850484	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	3403780	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2895740	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1306214	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	883731	9.89 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.90%		
47) Toluene-d8	14.64	98	4128282	10.41 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 104.10%		
64) 4-Bromofluorobenzene	17.88	95	1509795	10.08 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.80%		
Target Compounds					Qvalue
88) TPH-GRO (C6-C10)	13.96	TIC	41446612m	47.12 ppb	

(#) = qualifier out of range (m) = manual integration
N04191.D VN131WA.M Tue Jan 13 08:57:08 2009 RPT1

6.6.17 6

ACCUTEST Laboratories Q4507

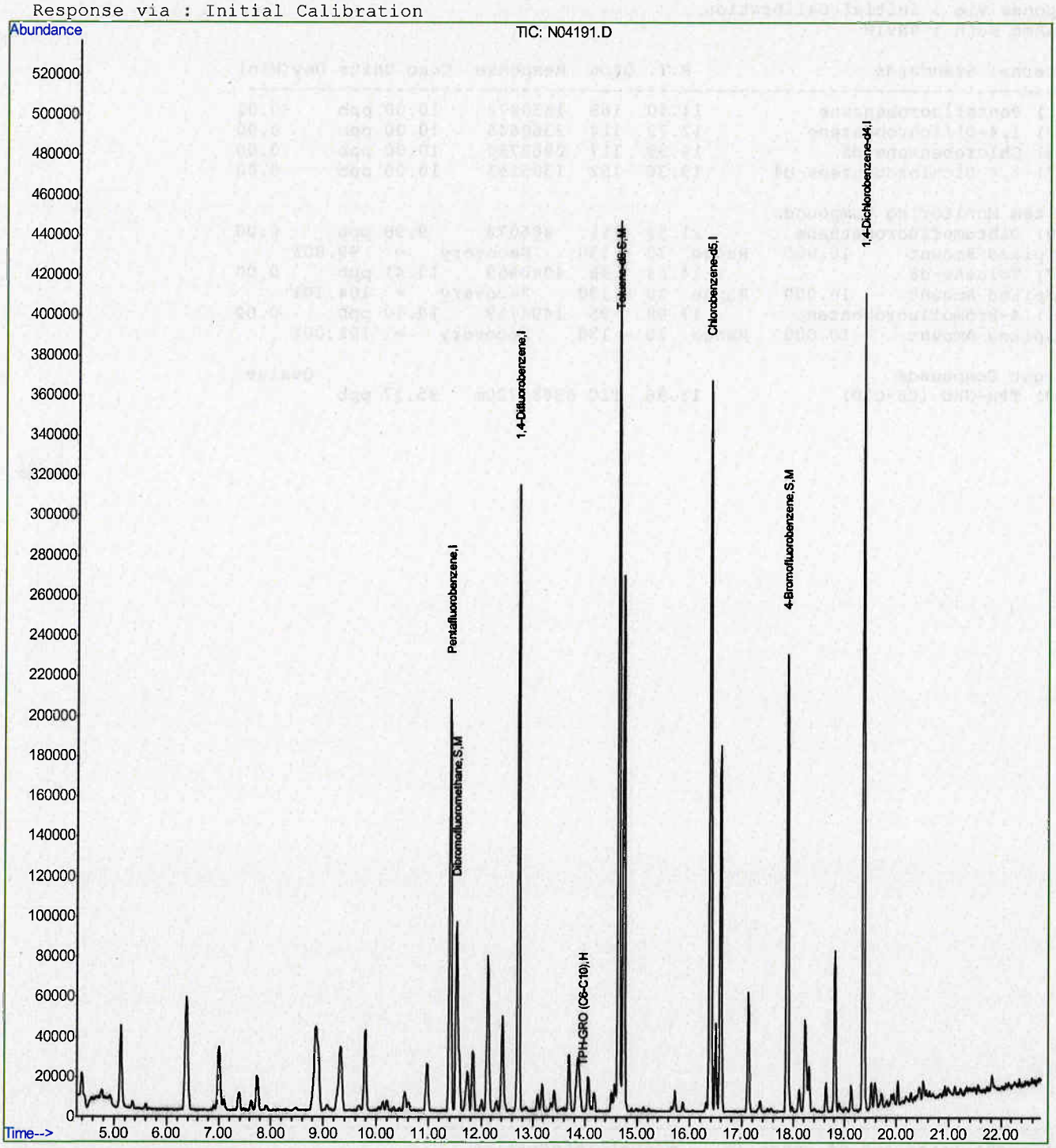
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04191.D
Acq On : 12 Jan 2009 2:56 pm
Sample : IC131-50 GRO
Misc : MS640,VN131,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:57 2009

Vial: 12
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration



N04191.D VN131WA.M Tue Jan 13 08:57:08 2009 RPT1 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04192.D Vial: 13
Acq On : 12 Jan 2009 3:25 pm Operator: TitiaF
Sample : IC131-100 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:57 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

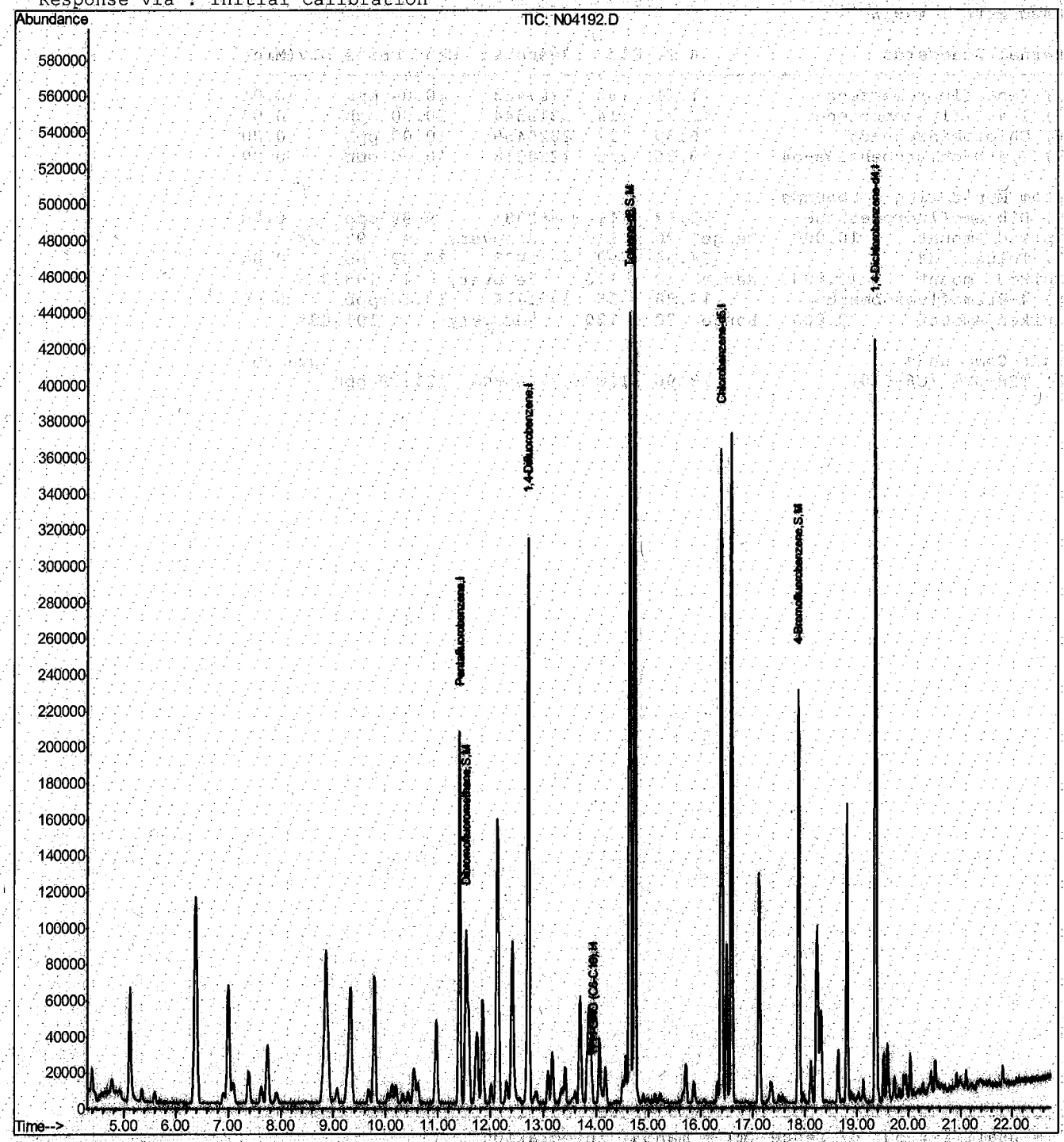
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1838872	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	3360645	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2862780	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1303195	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	886078	9.98 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.80%		
47) Toluene-d8	14.64	98	4080959	10.41 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 104.10%		
64) 4-Bromofluorobenzene	17.88	95	1494759	10.10 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.00%		
Target Compounds					Qvalue
88) TPH-GRO (C6-C10)	13.96	TIC	83683720m	95.37 ppb	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04192.D Vial: 13
Acq On : 12 Jan 2009 3:25 pm Operator: TitiaF
Sample : IC131-100 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:57 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04193.D Vial: 14
Acq On : 12 Jan 2009 3:55 pm Operator: TitiaF
Sample : ICC131-125 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:59 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1787423	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	3313344	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2820459	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1258318	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	862381	9.99 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.90%		
47) Toluene-d8	14.64	98	4015003	10.39 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 103.90%		
64) 4-Bromofluorobenzene	17.88	95	1481726	10.16 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.60%		
Target Compounds					Qvalue
88) TPH-GRO (C6-C10)	13.96	TIC	102766880m	121.29 ppb	

(#) = qualifier out of range (m) = manual integration

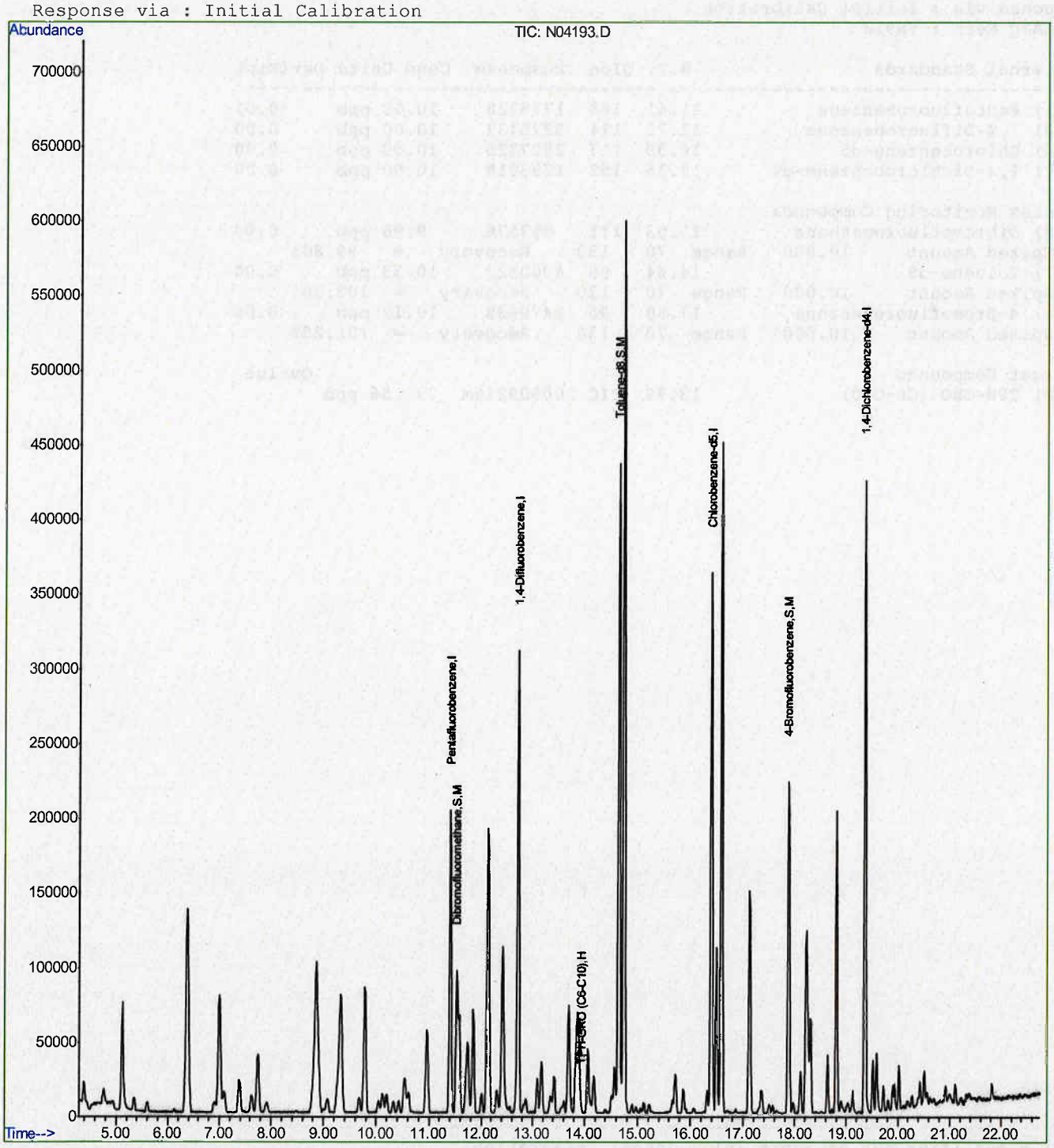
6.6.19 6

ACCUTEST Laboratories C4507

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04193.D Vial: 14
Acq On : 12 Jan 2009 3:55 pm Operator: TitiaF
Sample : ICC131-125 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 8:59 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration



ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04194.D Vial: 15
Acq On : 12 Jan 2009 4:25 pm Operator: TitiaF
Sample : IC131-250 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 9:00 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1778328	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	3275737	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2827325	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1283018	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	857578	9.98 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.80%		
47) Toluene-d8	14.64	98	4000523	10.33 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 103.30%		
64) 4-Bromofluorobenzene	17.88	95	1479938	10.12 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.20%		
Target Compounds					Qvalue
88) TPH-GRO (C6-C10)	13.96	TIC	200909210m	232.56 ppb	

(#) = qualifier out of range (m) = manual integration
N04194.D VN131WA.M Tue Jan 13 09:00:36 2009 RPT1

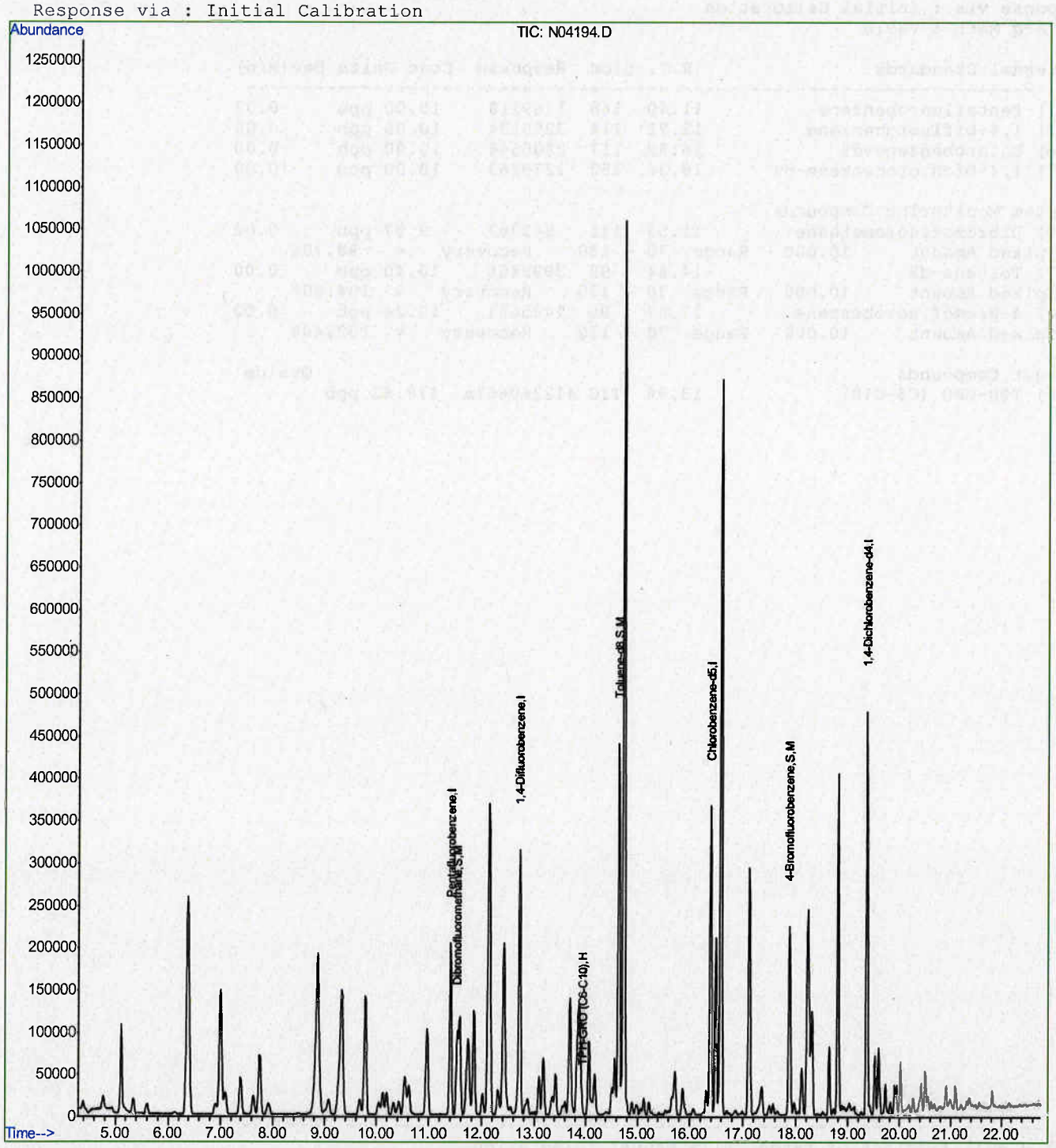
6.6.20 6

ACCUTEST Laboratories CA507

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04194.D Vial: 15
Acq On : 12 Jan 2009 4:25 pm Operator: TitiaF
Sample : IC131-250 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 9:00 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration



ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04195.D Vial: 16
Acq On : 12 Jan 2009 4:55 pm Operator: TitiaF
Sample : IC131-500 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 9:01 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1769118	10.00 ppb	-0.02
33) 1,4-Difluorobenzene	12.72	114	3250134	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2806568	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1279263	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	843362	9.87 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 98.70%		
47) Toluene-d8	14.64	98	3998456	10.40 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 104.00%		
64) 4-Bromofluorobenzene	17.87	95	1485654	10.24 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.40%		
Target Compounds					Qvalue
88) TPH-GRO (C6-C10)	13.96	TIC	412260667m	478.62 ppb	

(#) = qualifier out of range (m) = manual integration

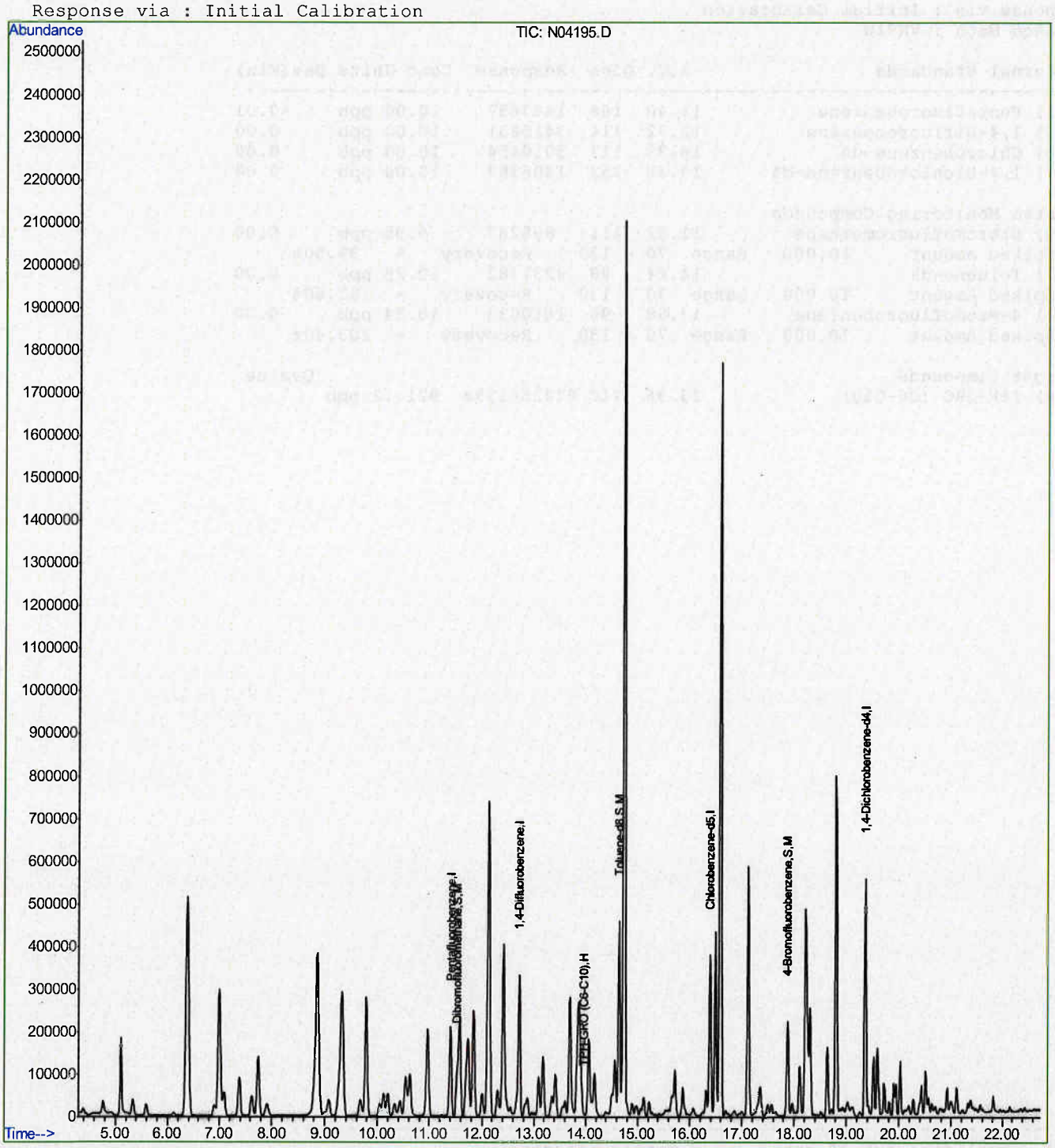
6.6.21 6

ACCUTEST Laboratories 04507

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04195.D Vial: 16
Acq On : 12 Jan 2009 4:55 pm Operator: TitiaF
Sample : IC131-500 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 9:01 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration



ACCUTEST Laboratories C4507

6.6.21 6

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04196.D Vial: 17
Acq On : 12 Jan 2009 5:24 pm Operator: TitiaF
Sample : IC131-1000 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 9:02 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

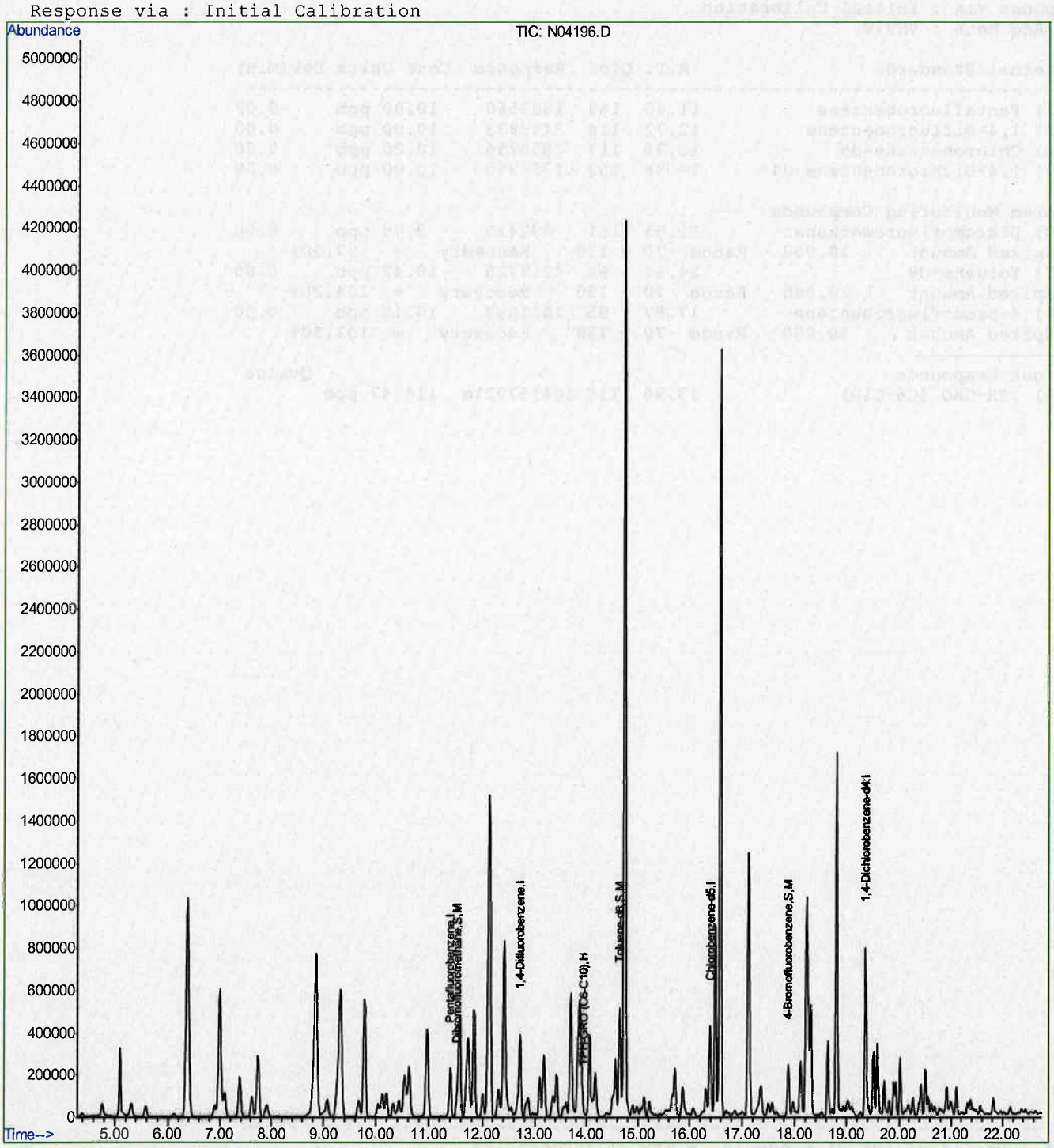
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1863637	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	3410631	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	3010454	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1406383	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.52	111	895267	9.95 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 99.50%		
47) Toluene-d8	14.64	98	4231782	10.26 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 102.60%		
64) 4-Bromofluorobenzene	17.88	95	1610033	10.34 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 103.40%		
Target Compounds					Qvalue
88) TPH-GRO (C6-C10)	13.96	TIC	872256135m	921.12 ppb	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04196.D Vial: 17
Acq On : 12 Jan 2009 5:24 pm Operator: TitiaF
Sample : IC131-1000 GRO Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 9:02 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 08:25:31 2009
Response via : Initial Calibration



N04196.D VN131WA.M Tue Jan 13 09:02:56 2009 RPT1 Page 2

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04199.D Vial: 20
Acq On : 12 Jan 2009 6:54 pm Operator: TitiaF
Sample : ICV131-125 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 10:57 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.40	168	1887560	10.00 ppb	-0.02
33) 1,4-Difluorobenzene	12.72	114	3413833	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2955756	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1351350	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	892415	9.79 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 97.90%		
47) Toluene-d8	14.64	98	4217725	10.42 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 104.20%		
64) 4-Bromofluorobenzene	17.87	95	1551593	10.15 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 101.50%		
Target Compounds					Qvalue
88) TPH-GRO (C6-C10)	13.96	TIC	104157921m	114.47 ppb	

(#) = qualifier out of range (m) = manual integration

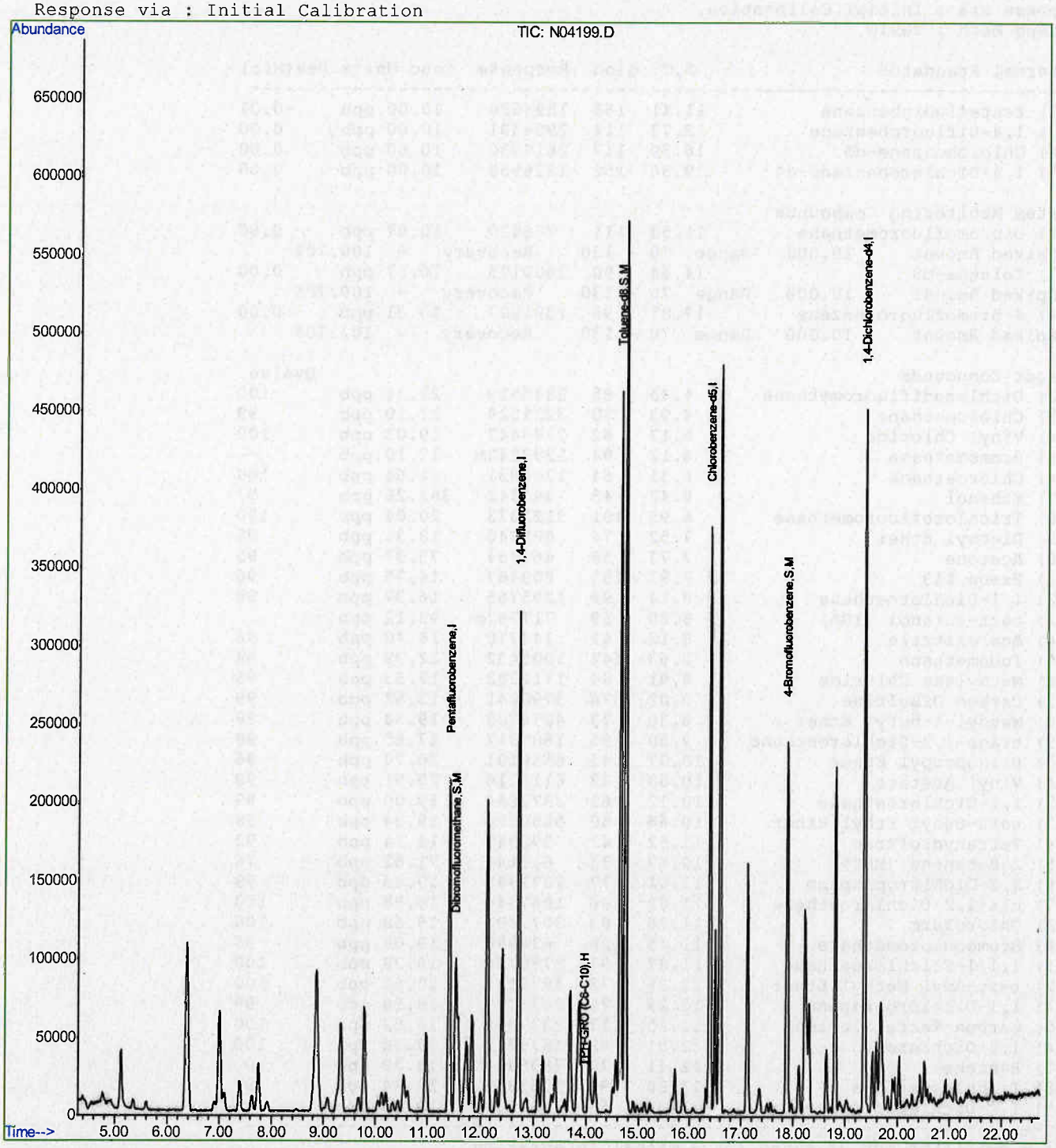
Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04199.D
Acq On : 12 Jan 2009 6:54 pm
Sample : ICV131-125
Misc : MS640,VN131,10,,,,1
MS Integration Params: RTEINT.P
Quant Time: Jan 13 10:57 2009

Vial: 20
Operator: TitiaF
Inst : VMS-02
Multiplr: 1.00

Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



ACCUTEST. Laboratories C4507

Cal Report: N04206.D

Manual Integrations
APPROVED
(compounds with "m" flag)
Helena Ueng
01/19/09 12:46

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04206.D Vial: 27
Acq On : 13 Jan 2009 10:26 am Operator: TitiaF
Sample : ICV131-20 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 10:53 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.24 **6**

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1596620	10.00 ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2954391	10.00 ppb	0.00
46) Chlorobenzene-d5	16.39	117	2610930	10.00 ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	1226959	10.00 ppb	0.00
System Monitoring Compounds					
30) Dibromofluoromethane	11.53	111	776829	10.07 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.70%		
47) Toluene-d8	14.64	98	3600175	10.07 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 100.70%		
64) 4-Bromofluorobenzene	17.87	95	1391987	10.31 ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery = 103.10%		
Target Compounds					Qvalue
2) Dichlorodifluoromethane	4.45	85	2845529	22.31 ppb	100
3) Chloromethane	4.93	50	3221529	21.10 ppb	99
4) Vinyl Chloride	5.17	62	2774443	19.03 ppb	100
5) Bromomethane	6.12	94	1283242m	17.10 ppb	
6) Chloroethane	6.31	64	1746931	21.64 ppb	100
7) Ethanol	6.42	45	341842	382.26 ppb	97
8) Trichlorofluoromethane	6.95	101	3122073	20.04 ppb	100
9) Diethyl Ether	7.52	74	885340	18.31 ppb	95
10) Acetone	7.73	58	463764	75.37 ppb	93
11) Freon 113	7.91	151	809487	14.75 ppb	96
12) 1,1-Dichloroethene	8.14	96	1295765	16.37 ppb	98
13) tert-Butanol (TBA)	8.20	59	717762m	93.12 ppb	
14) Acetonitrile	8.12	41	144770	18.40 ppb	96
15) Iodomethane	8.63	142	1005432	12.39 ppb	98
16) Methylene Chloride	8.91	84	1712382	17.53 ppb	95
17) Carbon Disulfide	9.02	76	3790841	13.62 ppb	99
18) Methyl-t-butyl Ether	9.30	73	4276703	19.38 ppb	98
19) trans-1,2-Dichloroethene	9.50	96	1685917	17.65 ppb	98
20) Diisopropyl Ether	10.07	45	6556101	20.70 ppb	96
21) Vinyl Acetate	10.08	43	6111216	20.91 ppb	99
22) 1,1-Dichloroethane	10.12	63	3377656	19.00 ppb	99
23) tert-Butyl Ethyl Ether	10.68	59	5550094	19.94 ppb	98
24) Tetrahydrofuran	11.52	42	392345	18.14 ppb	93
25) 2-Butanone (MEK)	10.67	72	613144	71.82 ppb	76
26) 2,2-Dichloropropane	11.01	77	2871889	19.45 ppb	99
27) cis-1,2-Dichloroethene	11.02	96	1867544	18.88 ppb	100
28) Chloroform	11.26	83	3073601	19.68 ppb	100
29) Bromochloromethane	11.45	128	634988	19.08 ppb	96
31) 1,1,1-Trichloroethane	11.87	97	2758290	19.22 ppb	100
32) tert-Amyl Methyl Ether	12.26	73	4978181	20.52 ppb	100
34) 1,1-Dichloropropene	12.09	75	2677219	18.58 ppb	99
35) Carbon Tetrachloride	12.25	117	2337368	18.62 ppb	100
36) 1,2-Dichloroethane	12.31	62	1879711	19.36 ppb	100
37) Benzene	12.41	78	7855884	18.39 ppb	100
38) Trichloroethene	13.20	95	1863876	18.84 ppb	97
39) 1,2-Dichloropropane	13.37	63	1926808	19.60 ppb	96

(#) = qualifier out of range (m) = manual integration

ACCUTEST C4807

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090112\N04206.D Vial: 27
Acq On : 13 Jan 2009 10:26 am Operator: TitiaF
Sample : ICV131-20 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 10:53 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN91W

6.6.24

6

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
40)	1,4-Dioxane	13.61	88	349904	394.59 ppb	92
41)	Bromodichloromethane	13.64	83	2228010	19.13 ppb	99
42)	Dibromomethane	13.69	93	822977	19.25 ppb	97
43)	2-Chloroethyl Vinyl Ether	13.95	63	540634	13.95 ppb	98
44)	4-Methyl-2-Pentanone(MIBK)	14.02	100	727495	75.30 ppb	92
45)	cis-1,3-Dichloropropene	14.28	75	2859910	19.58 ppb	100
48)	Toluene	14.73	92	4994730	18.03 ppb	100
49)	trans-1,3-Dichloropropene	14.84	75	2506464	20.02 ppb	99
50)	1,1,2-Trichloroethane	15.04	83	1061175	19.69 ppb	97
51)	2-Hexanone	15.02	43	3903978	78.59 ppb	96
52)	1,3-Dichloropropane	15.32	76	2353741	19.33 ppb	99
53)	Tetrachloroethene	15.54	164	1415788	18.67 ppb	98
54)	Dibromochloromethane	15.68	129	1322327	19.21 ppb	98
55)	1,2-Dibromoethane (EDB)	15.92	107	1104524	19.16 ppb	100
56)	Chlorobenzene	16.44	112	4925467	18.86 ppb	89
57)	1,1,1,2-Tetrachloroethane	16.46	131	1519094	18.76 ppb	100
58)	Ethyl Benzene	16.49	91	9694593	19.08 ppb	100
59)	Xylene, m+p	16.58	106	7417389	37.85 ppb	98
60)	Xylene, o	17.12	106	3501583	18.94 ppb	97
61)	Styrene	17.13	104	5670715	19.43 ppb	98
62)	Bromoform	17.56	173	701092	19.31 ppb	98
63)	Isopropylbenzene	17.57	105	9549793	19.39 ppb	99
65)	1,2,3-Trichloropropane	17.90	77	620051	19.24 ppb	98
66)	trans-1,4-Dichloro-2-buten	17.92	53	477238	20.07 ppb	99
68)	1,1,2,2-Tetrachloroethane	17.69	83	1578354	19.62 ppb	99
69)	n-Propylbenzene	18.11	91	11977794	19.43 ppb	99
70)	Bromobenzene	18.19	156	1659085	18.45 ppb	96
71)	1,3,5-Trimethylbenzene	18.30	105	7820671	19.25 ppb	99
72)	2-Chlorotoluene	18.36	91	6880671	18.36 ppb	99
73)	4-Chlorotoluene	18.41	91	7066097	20.47 ppb	98
74)	tert-Butylbenzene	18.76	119	7673012	19.13 ppb	98
75)	Pentachloroethane	18.85	167	922715	18.96 ppb	94
76)	1,2,4-Trimethylbenzene	18.81	105	7772747	19.12 ppb	98
77)	sec-Butylbenzene	19.02	105	10821701	19.40 ppb	98
78)	p-Isopropyltoluene	19.15	119	8592662	19.09 ppb	98
79)	1,3-Dichlorobenzene	19.29	146	3635571	19.03 ppb	99
80)	1,4-Dichlorobenzene	19.39	146	3656140	18.83 ppb	99
81)	n-Butylbenzene	19.61	91	8914040	19.32 ppb	99
82)	1,2-Dichlorobenzene	19.81	146	3197532	18.97 ppb	99
83)	1,2-Dibromo-3-Chloropropan	20.56	75	279292	19.17 ppb	91
84)	1,2,4-Trichlorobenzene	21.54	180	2107745	18.10 ppb	100
85)	Hexachlorobutadiene	21.71	225	1206451	18.73 ppb	99
86)	Naphthalene	21.82	128	4475999	18.27 ppb	100
87)	1,2,3-Trichlorobenzene	22.09	180	1805687	17.85 ppb	99

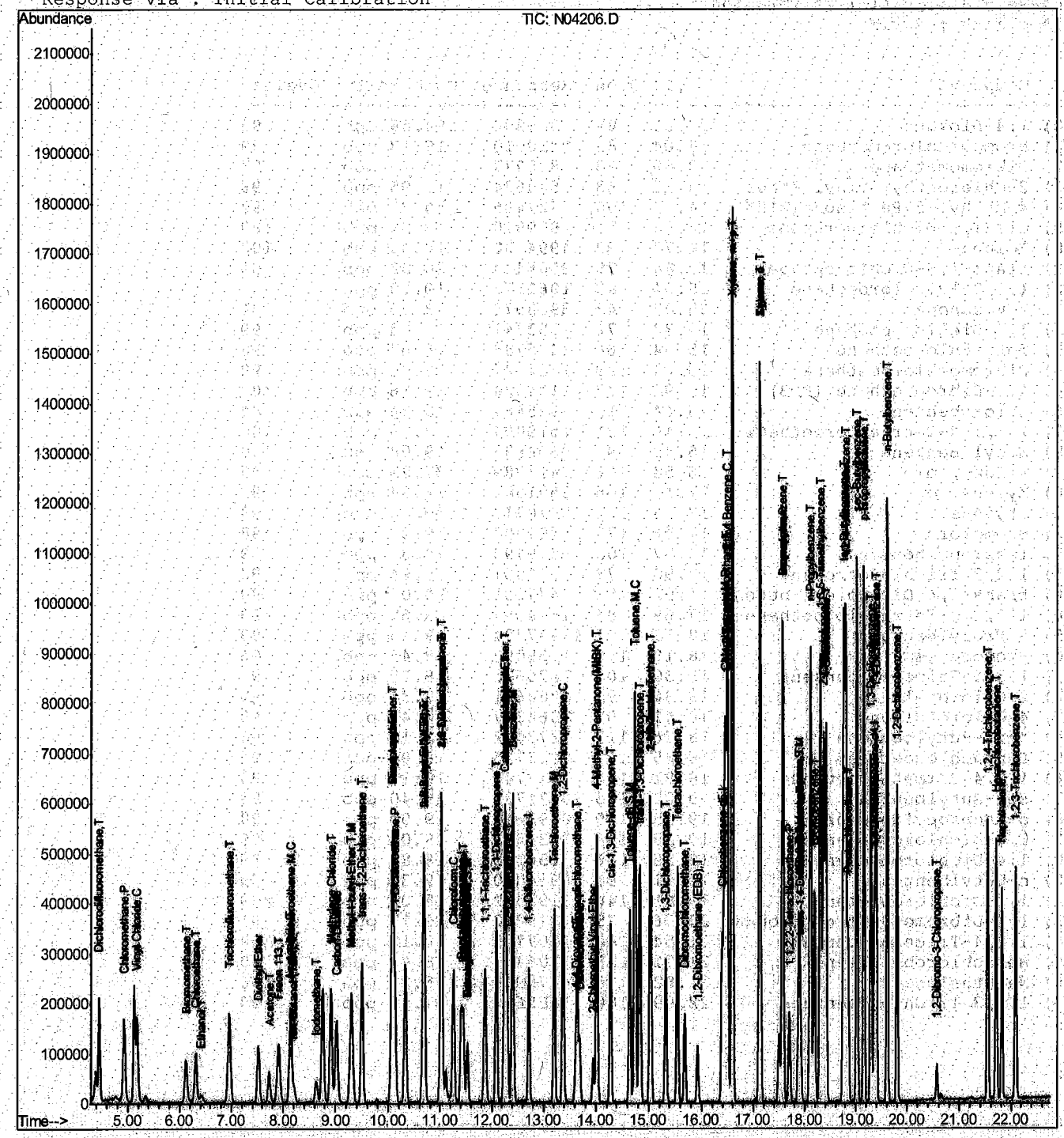
(#) = qualifier out of range (m) = manual integration
N04206.D VN131WA.M Tue Jan 13 10:53:24 2009 RPT1

C4507 Accutest Laboratories

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090112\N04206.D Vial: 27
Acq On : 13 Jan 2009 10:26 am Operator: TitiaF
Sample : ICV131-20 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 10:53 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration

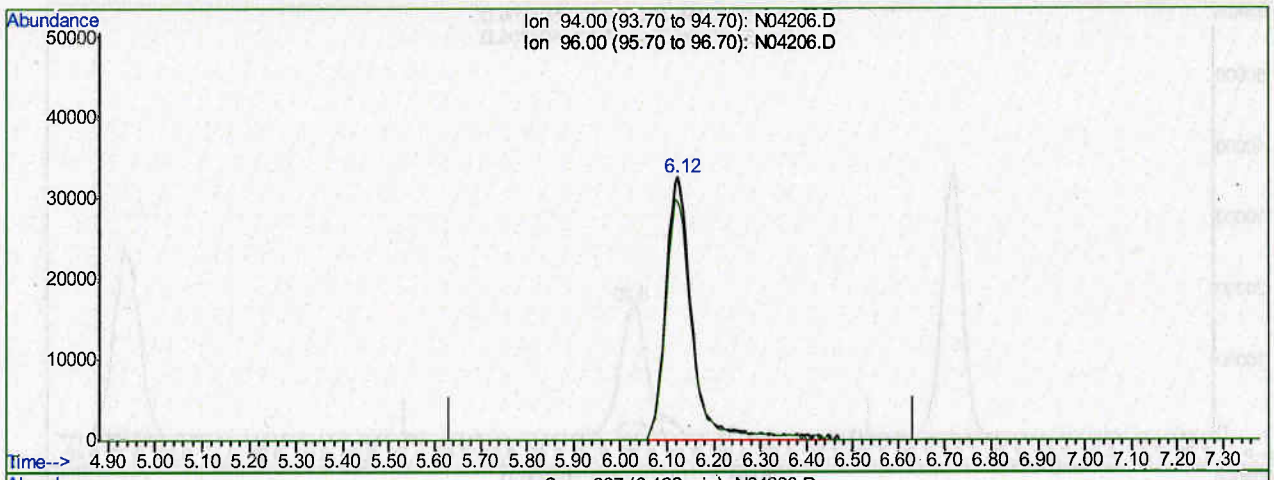


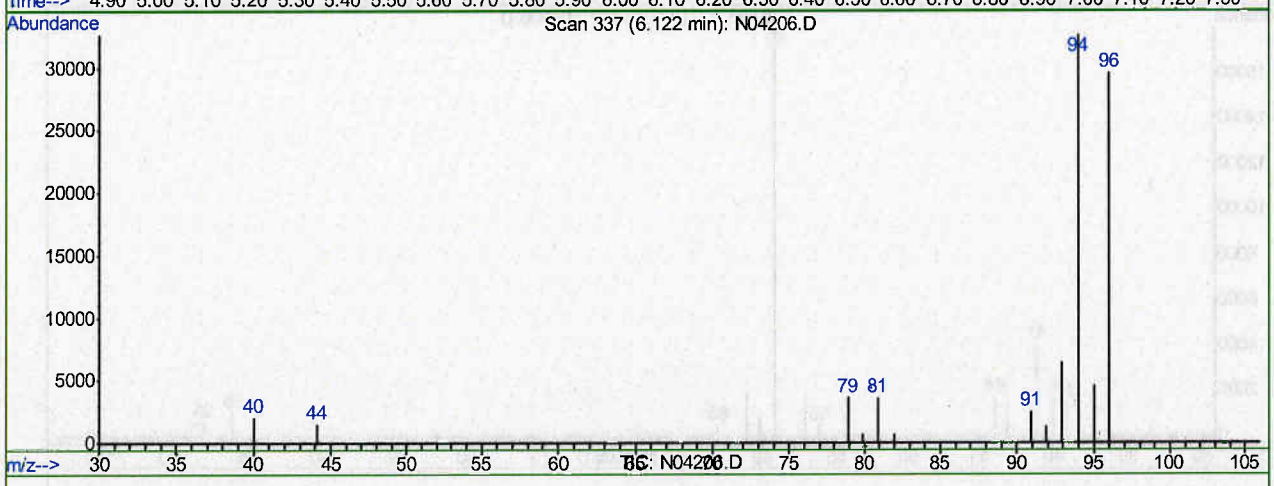
ACCUTEST. C4607 Laboratories

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04206.D Vial: 27
Acq On : 13 Jan 2009 10:26 am Operator: TitiaF
Sample : ICV131-20 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 10:52 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Multiple Level Calibration





(5) Bromomethane (T)

6.12min 17.10ppb m

response 1283242

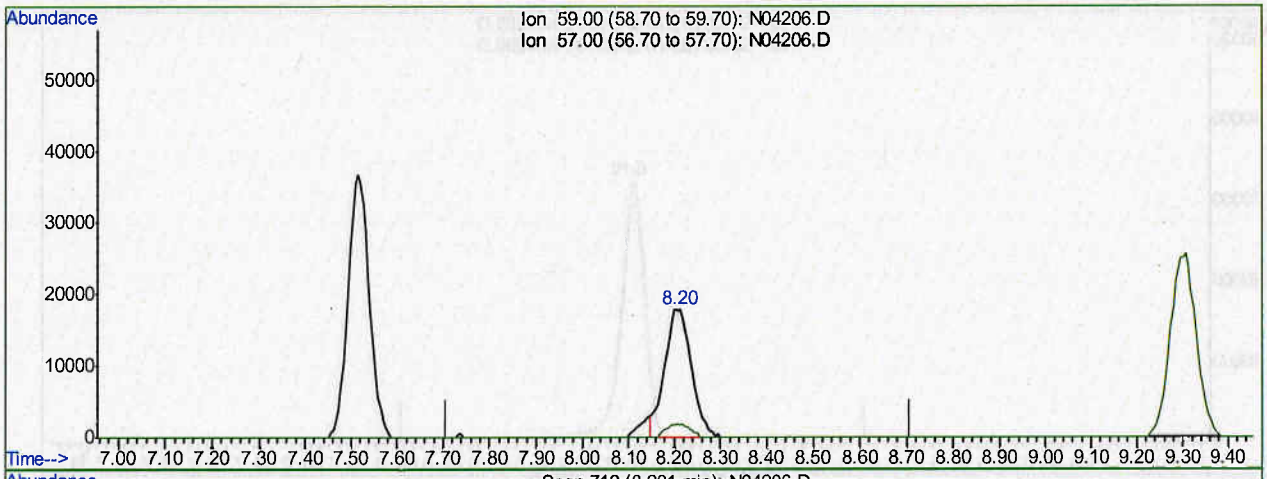
Ion	Exp%	Act%
94.00	100	100
96.00	93.40	92.31
0.00	0.00	0.00
0.00	0.00	0.00

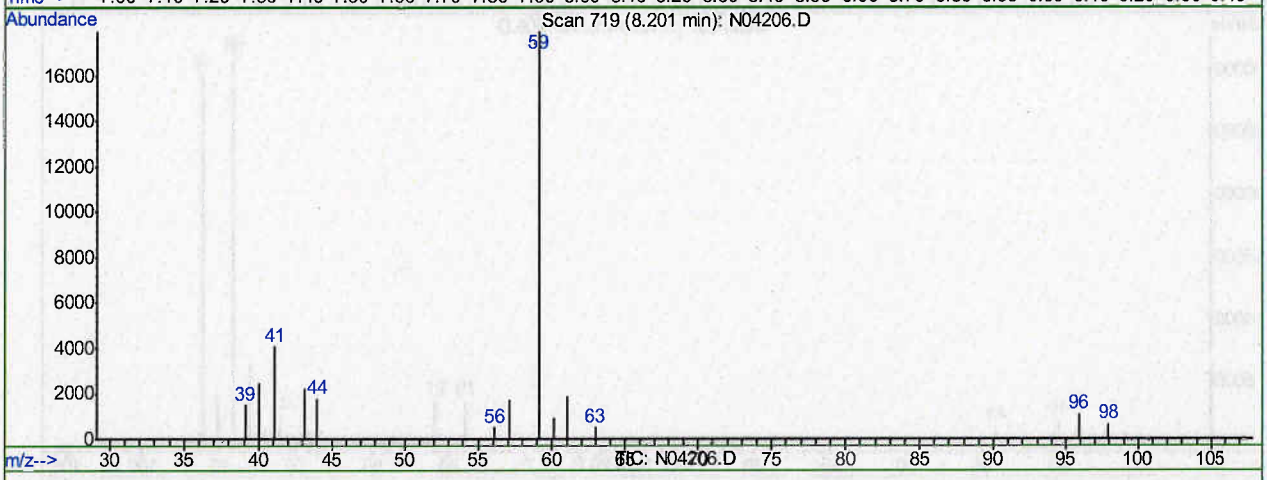
N04206.D VN131WA.M Tue Jan 13 10:52:27 2009 RPT1

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090112\N04206.D Vial: 27
Acq On : 13 Jan 2009 10:26 am Operator: TitiaF
Sample : ICV131-20 Inst : VMS-02
Misc : MS640,VN131,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Jan 13 10:52 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Multiple Level Calibration





(13) tert-Butanol (TBA) (T)

8.20min 93.12ppb m

response 717762

Ion	Exp%	Act%
59.00	100	100
57.00	8.80	9.22
0.00	0.00	0.00
0.00	0.00	0.00

N04206.D VN131WA.M Tue Jan 13 10:52:39 2009 RPT1

ACCUTEST Laboratories C4507

Manual Integrations
APPROVED
(compounds with "m" flag)
Helena Ueng
02/24/09 11:21

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05027.D Vial: 2
Acq On : 23 Feb 2009 9:03 am Operator: TitiaF
Sample : CC131-20 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:28 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Pentafluorobenzene	11.41	168	1229100	10.00	ppb	-0.01
33) 1,4-Difluorobenzene	12.72	114	2239116	10.00	ppb	0.00
46) Chlorobenzene-d5	16.39	117	2041945	10.00	ppb	0.00
67) 1,4-Dichlorobenzene-d4	19.36	152	999963	10.00	ppb	0.00
System Monitoring Compounds						
30) Dibromofluoromethane	11.53	111	625640	10.54	ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 105.40%		
47) Toluene-d8	14.64	98	2761189	9.87	ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 98.70%		
64) 4-Bromofluorobenzene	17.88	95	1060874	10.05	ppb	0.00
Spiked Amount 10.000	Range 70 - 130		Recovery	= 100.50%		
Target Compounds						Qvalue
2) Dichlorodifluoromethane	4.44	85	1605218	16.35	ppb	98
3) Chloromethane	4.92	50	3015834	25.65	ppb	99
4) Vinyl Chloride	5.17	62	2649764	23.61	ppb	100
5) Bromomethane	6.12	94	873727	15.12	ppb	100
6) Chloroethane	6.31	64	1234461	19.87	ppb	100
7) Ethanol	6.43	45	376455	546.84	ppb	99
8) Trichlorofluoromethane	6.96	101	2320974	19.35	ppb	100
9) Diethyl Ether	7.52	74	803510	21.59	ppb	96
10) Acetone	7.73	58	436053	92.06	ppb	94
11) Freon 113	7.91	151	873413	20.68	ppb	98
12) 1,1-Dichloroethene	8.14	96	1226710	20.13	ppb	97
13) tert-Butanol (TBA)	8.21	59	763373m	128.65	ppb	
14) Acetonitrile	8.12	41	146688	24.21	ppb #	9
15) Iodomethane	8.63	142	424303	6.73	ppb	95
16) Methylene Chloride	8.91	84	1454617	19.35	ppb	97
17) Carbon Disulfide	9.02	76	4007024	18.70	ppb	100
18) Methyl-t-butyl Ether	9.30	73	3740785	22.02	ppb	99
19) trans-1,2-Dichloroethene	9.50	96	1444375	19.64	ppb	99
20) Diisopropyl Ether	10.07	45	5835743	23.93	ppb	100
21) Vinyl Acetate	10.08	43	4805858	21.36	ppb	98
22) 1,1-Dichloroethane	10.13	63	2951696	21.57	ppb	100
23) tert-Butyl Ethyl Ether	10.68	59	4570986	21.33	ppb	99
24) Tetrahydrofuran	11.53	42	460371	27.65	ppb	100
25) 2-Butanone (MEK)	10.67	72	593112	90.25	ppb	93
26) 2,2-Dichloropropane	11.01	77	2505757	22.05	ppb	99
27) cis-1,2-Dichloroethene	11.02	96	1604037	21.07	ppb	97
28) Chloroform	11.25	83	2531585	21.06	ppb	100
29) Bromochloromethane	11.45	128	572481	22.34	ppb	98
31) 1,1,1-Trichloroethane	11.88	97	2293781	20.76	ppb	100
32) tert-Amyl Methyl Ether	12.26	73	3936647	21.08	ppb	100
34) 1,1-Dichloropropene	12.09	75	2286144	20.93	ppb	99
35) Carbon Tetrachloride	12.25	117	1976279	20.77	ppb	100
36) 1,2-Dichloroethane	12.31	62	1712632	23.27	ppb	100
37) Benzene	12.41	78	6566923	20.29	ppb	100
38) Trichloroethene	13.20	95	1534822	20.47	ppb	100
39) 1,2-Dichloropropane	13.38	63	1624718	21.80	ppb	97

(#) = qualifier out of range (m) = manual integration

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090223\N05027.D Vial: 2
Acq On : 23 Feb 2009 9:03 am Operator: TitiaF
Sample : CC131-20 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:28 2009 Quant Results File: VN131WA.RES

Quant Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration
DataAcq Meth : VN131WA

6.6.25

6

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
40)	1,4-Dioxane	13.62	88	318877	474.47 ppb	97
41)	Bromodichloromethane	13.64	83	1887706	21.38 ppb	100
42)	Dibromomethane	13.69	93	759674	23.45 ppb	97
43)	2-Chloroethyl Vinyl Ether	13.95	63	458145	15.60 ppb	98
44)	4-Methyl-2-Pentanone(MIBK)	14.02	100	707329	96.60 ppb	91
45)	cis-1,3-Dichloropropene	14.28	75	2339501	21.13 ppb	100
48)	Toluene	14.74	92	4058600	18.73 ppb	99
49)	trans-1,3-Dichloropropene	14.84	75	2072319	21.17 ppb	99
50)	1,1,2-Trichloroethane	15.04	83	915788	21.73 ppb	95
51)	2-Hexanone	15.03	43	4032302	103.80 ppb	99
52)	1,3-Dichloropropane	15.33	76	2041288	21.44 ppb	99
53)	Tetrachloroethene	15.54	164	1119474	18.88 ppb	99
54)	Dibromochloromethane	15.68	129	1146282	21.29 ppb	99
55)	1,2-Dibromoethane (EDB)	15.92	107	968964	21.49 ppb	99
56)	Chlorobenzene	16.44	112	4025702	19.71 ppb	88
57)	1,1,1,2-Tetrachloroethane	16.46	131	1282052	20.25 ppb	100
58)	Ethyl Benzene	16.49	91	7878871	19.83 ppb	99
59)	Xylene, m+p	16.59	106	6058987	39.54 ppb	98
60)	Xylene, o	17.12	106	2847922	19.69 ppb	99
61)	Styrene	17.13	104	4503262	19.73 ppb	98
62)	Bromoform	17.56	173	654413	23.04 ppb	98
63)	Isopropylbenzene	17.57	105	7578920	19.67 ppb	100
65)	1,2,3-Trichloropropane	17.90	77	519059	20.60 ppb	95
66)	trans-1,4-Dichloro-2-buten	17.92	53	378751	20.37 ppb	95
68)	1,1,2,2-Tetrachloroethane	17.69	83	1380996	21.07 ppb	100
69)	n-Propylbenzene	18.11	91	9070491	18.05 ppb	100
70)	Bromobenzene	18.19	156	1446547	19.73 ppb	97
71)	1,3,5-Trimethylbenzene	18.30	105	6103583	18.44 ppb	100
72)	2-Chlorotoluene	18.36	91	5720040	18.73 ppb	99
73)	4-Chlorotoluene	18.41	91	5192362	18.46 ppb	99
74)	tert-Butylbenzene	18.77	119	5825870	17.82 ppb	99
75)	Pentachloroethane	18.85	167	868328	21.90 ppb	100
76)	1,2,4-Trimethylbenzene	18.80	105	5814169	17.55 ppb	99
77)	sec-Butylbenzene	19.02	105	7898026	17.38 ppb	100
78)	p-Isopropyltoluene	19.16	119	6228464	16.98 ppb	99
79)	1,3-Dichlorobenzene	19.29	146	2964992	19.04 ppb	100
80)	1,4-Dichlorobenzene	19.40	146	2985091	18.86 ppb	99
81)	n-Butylbenzene	19.62	91	5844367	15.54 ppb	100
82)	1,2-Dichlorobenzene	19.81	146	2629728	19.15 ppb	100
83)	1,2-Dibromo-3-Chloropropan	20.57	75	230098	19.38 ppb	98
84)	1,2,4-Trichlorobenzene	21.54	180	1684149	17.74 ppb	99
85)	Hexachlorobutadiene	21.71	225	1019950	19.42 ppb	99
86)	Naphthalene	21.83	128	2868403	14.37 ppb	100
87)	1,2,3-Trichlorobenzene	22.09	180	1429585	17.34 ppb	100

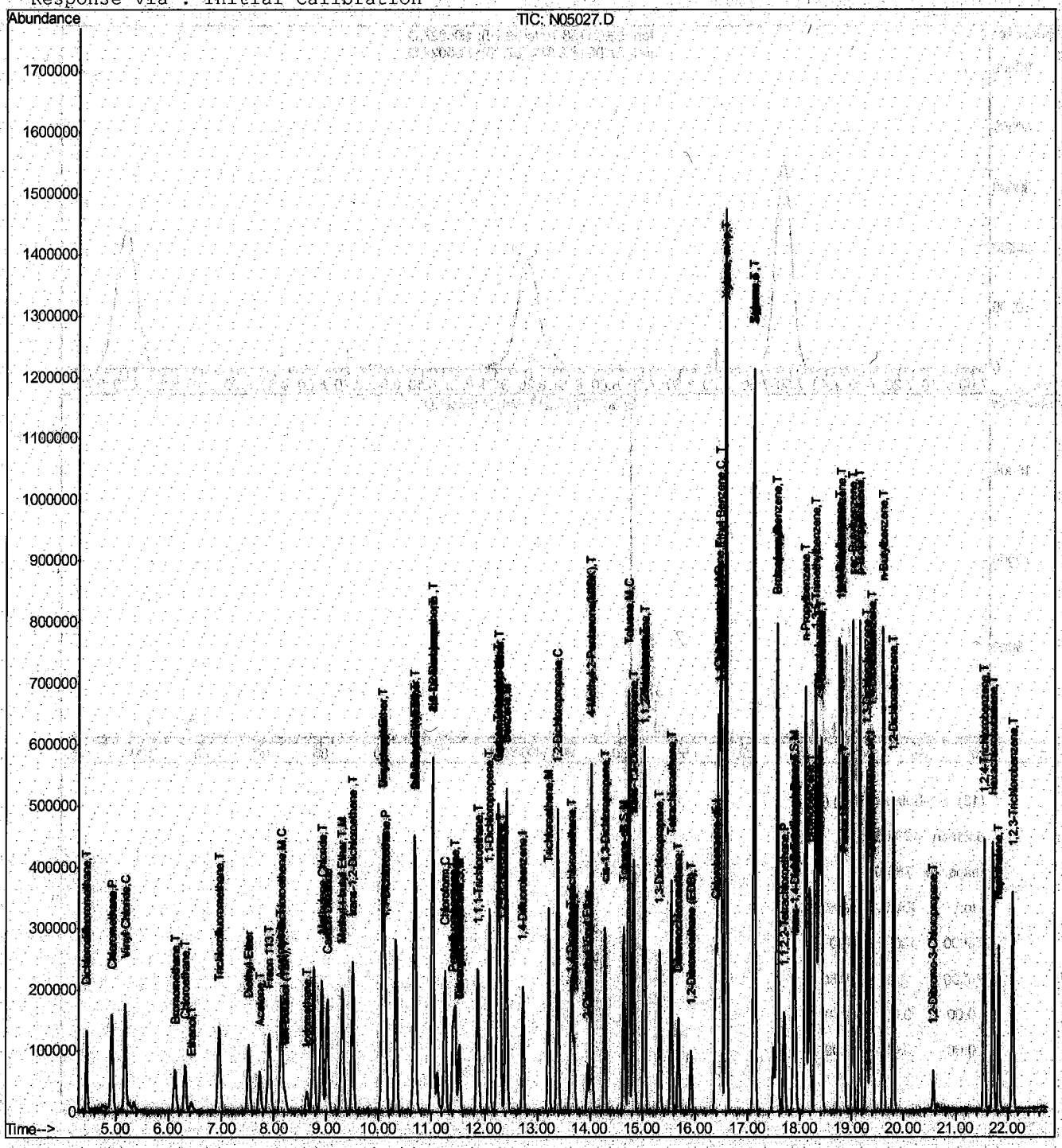
(#) = qualifier out of range (m) = manual integration

ACCUTEST Laboratories C4507

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090223\N05027.D Vial: 2
Acq On : 23 Feb 2009 9:03 am Operator: TitiaF
Sample : CC131-20 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:28 2009 Quant Results File: VN131WA.RES

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Initial Calibration



6.6.25

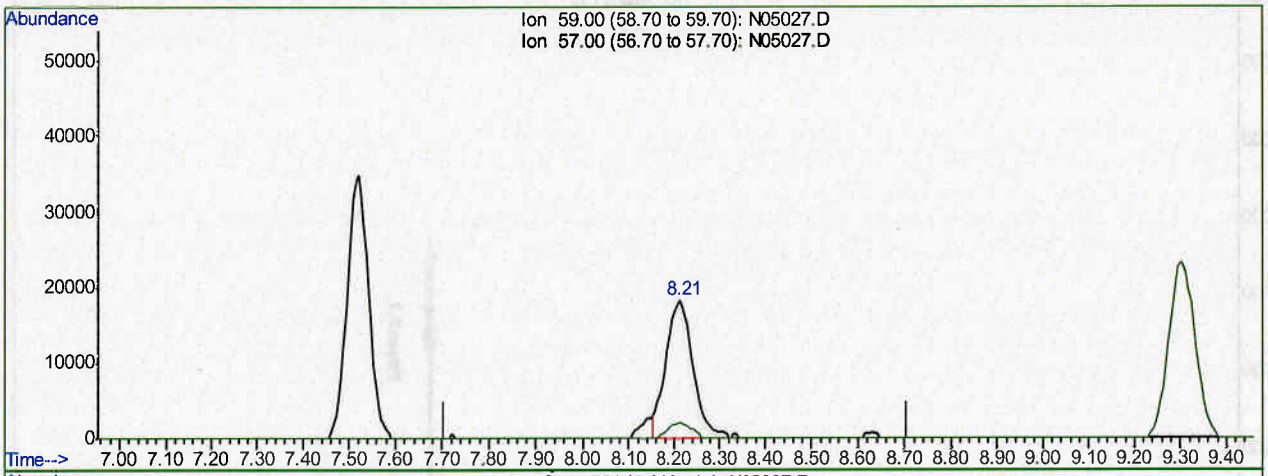
6

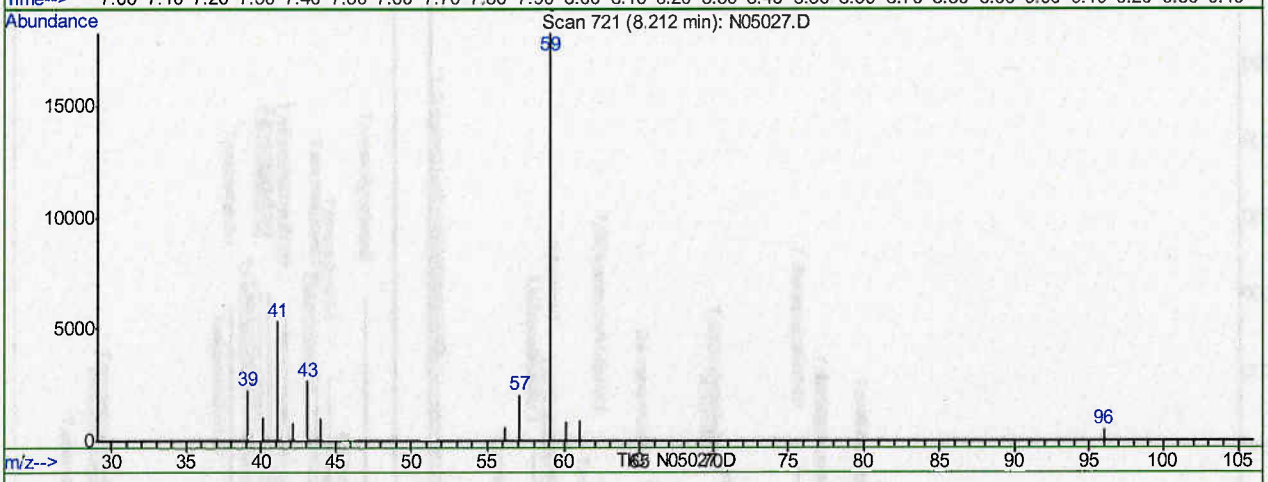
ACCUTEST Laboratories C4807

Quantitation Report (Qedit)

Data File : C:\HPCHEM\1\DATA\N090223\N05027.D Vial: 2
Acq On : 23 Feb 2009 9:03 am Operator: TitiaF
Sample : CC131-20 Inst : VMS-02
Misc : MS713,VN168,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 24 9:27 2009 Quant Results File: temp.res

Method : C:\HPCHEM\1\METHODS\VN131WA.M (RTE Integrator)
Title : WATER-EPA 8260B
Last Update : Tue Jan 13 09:22:01 2009
Response via : Multiple Level Calibration





(13) tert-Butanol (TBA) (T)

8.21min 128.65ppb m

response 763373

Ion	Exp%	Act%
59.00	100	100
57.00	8.80	9.60
0.00	0.00	0.00
0.00	0.00	0.00

N05027.D VN131WA.M Tue Feb 24 09:27:59 2009 RPT1

ACCUTEST Laboratories C4507

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\N090224\N05054.D Vial: 4
Acq On : 24 Feb 2009 12:25 pm Operator: TitiaF
Sample : CC43-10 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Quant Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration
DataAcq Meth : VN43DSIM

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dioxane-d8	10.74	96	38240	20.00 ug/L	0.00
Target Compounds					Qvalue
2) 1,4-Dioxane	10.84	88	27908	10.35 ug/L	91

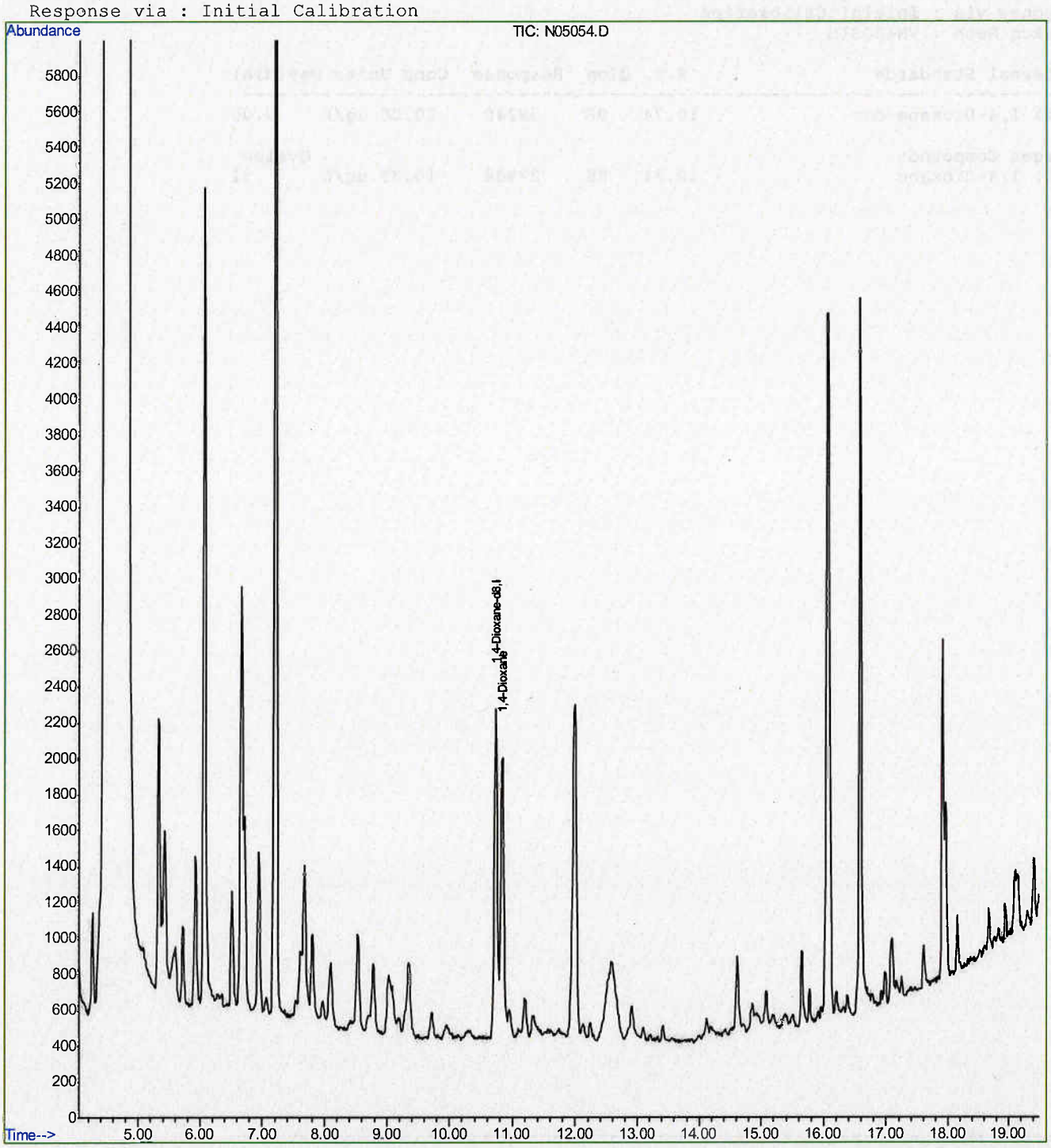
(#) = qualifier out of range (m) = manual integration
N05054.D VN43DSIM.M Wed Feb 25 09:51:30 2009 RPT1

ACCUTEST Laboratories G4507

Quantitation Report

Data File : C:\HPCHEM\1\DATA\N090224\N05054.D Vial: 4
Acq On : 24 Feb 2009 12:25 pm Operator: TitiaF
Sample : CC43-10 Inst : VMS-02
Misc : MS712,VN169,10,,,,1 Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Feb 25 9:04 2009 Quant Results File: VN43DSIM.RES

Method : C:\HPCHEM\1\METHODS\VN43DSIM.M (RTE Integrator)
Title : Dioxane-SIM
Last Update : Mon Aug 25 08:35:08 2008
Response via : Initial Calibration



N05054.D VN43DSIM.M Wed Feb 25 09:51:30 2009 RPT1 Page 2

ACCUTEST LABORATORIES, INC.

DATE: 1/12/09
COLUMN TYPE: RTX Volatiles
DETECTOR: 5973 MSD
INSTRUMENT: N
PURGE PRESSURE: 20 psi
ANALYST: [illegible]

N ANALYSIS LOG

D:\MSDATA\: N09012
METHOD FILE: UN131W
CALIB. DATE: 1/12/09
EM VOLTAGE: [illegible]
DFB RESPONSE:
RUN ID: VN 13

STANDARDS:
DFB: [illegible]
ICAL/CCV: [illegible]
09012B, C 09012D
ISTD/SURR: [illegible]
ICV/OC: [illegible]
[illegible] RB

DATA FILE	SAMPLE ID	AMOUNT INJECT.	DF	MATRIX	ACQU. METHOD	ANALYTICAL METHOD	ARCHIVE POSITION	PH	RR	COMMENTS
[illegible]	[illegible]	[illegible]		W	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]					2			
[illegible]	[illegible]						3			VN131A
[illegible]	[illegible]						4			
[illegible]	[illegible]						5			
[illegible]	[illegible]						6			
[illegible]	[illegible]						7			
[illegible]	[illegible]						8			
[illegible]	[illegible]						9			
[illegible]	[illegible]						10			
[illegible]	[illegible]						11			
[illegible]	[illegible]						12			
[illegible]	[illegible]						13			
[illegible]	[illegible]						14			
[illegible]	[illegible]						15			
[illegible]	[illegible]						16			
[illegible]	[illegible]						17			
[illegible]	[illegible]						18			
[illegible]	[illegible]						19			
[illegible]	[illegible]						20			
[illegible]	[illegible]						21			
[illegible]	[illegible]						22			
[illegible]	[illegible]						23			
[illegible]	[illegible]						24			
[illegible]	[illegible]						25			
[illegible]	[illegible]						26			
[illegible]	[illegible]						27			
[illegible]	[illegible]						28			
[illegible]	[illegible]						29			
[illegible]	[illegible]						30			
[illegible]	[illegible]						31			
[illegible]	[illegible]						32			

Reviewer's Signature: _____

Analyst's Signature: [illegible]

MS2 NEW RUNLOG NF 13/06

ACCUTEST LABORATORIES INC

DATE:	2/23/07
COLUMN TYPE:	RTX Volatiles
DETECTOR:	5973 MSD
INSTRUMENT:	N
PURGE PRESSURE:	20 psi
ANALYST:	[illegible]

N ANALYSIS LOG

D:\MS2DATA\	N070223
METHOD FILE:	[illegible]
CALIB. DATE:	1/12/07
EM VOLTAGE:	1498
BFB RESPONSE:	91.7/211.
RUN ID:	VN 16 F

STANDARDS

BFB:	070202P
ICAL/CCV:	070213A, 070211D, 070212E GRO: 070206A
ISTD/SURR:	070211A
ICV/QC:	070212C, 070210C GRO: 070205A

DATA FILE	SAMPLE ID	AMOUNT INJECT.	DF	MATRIX	ACQU. METHOD	ANALYTICAL METHOD	ARCHIVE POSITION	PH	RR	COMMENTS
N070223	BFB 50ng	1ml		W	APOW	[illegible]	02			
N 43	CL31-20	10ml			[illegible]		2			
N 44	CL031-125						3			
N 45	MB						4			
N 30	BS						5			
N 31	CL LCS						6			
N 32	CH5070-1 (A)	10ml	1				7	<2		(A) 1ml
N 33	West olive	10ml					8			
N 34	CH5070-2 (A)	0.1	10ml				9	<2		(A) 2ml
N 35	-3 (A)	0.1					10	<2		2ml
N 36	-4 (A)	0.1					11	<2		1ml
N 37	-7 (A)	10ml	1				12	<2		
N 38	-8 (A)						13	<2		
N 39	-9 (A)						14	<2		
N 40	-10 (A)						15	<2		
N 41	-1 (A)	1	10				16	<2		
N 42	-2 (A)	2	5				17	<2		
N 43	-3 (A)	2					18	<2		
N 44	-4 (A)	2					19	<2		
N 45	-5 (A)	2					20	<2		
N 46	-7 (A)	10					21	<2		
N 47	-8 (A)						22	<2		
N 48	-10 (A)						23	<2		
N 49	Rinse						24	[illegible]		[illegible]
N 50							25	—		
N 51							26	—		
N										not run

Matrix: Designate "W" for Water, "S" for Soil, "O" for Oil, "L" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate

Reviewer's Signature: _____

Analyst's Signature: [signature]

MS2 NEW RUNLOG NF 11/06

ACCUTEST LABORATORIES INC

DATE: 2/24/05
COLUMN TYPE: RTX Volatiles
DETECTOR: 5973 MSD
INSTRUMENT: 4
PURGE PRESSURE: 20 psi
ANALYST: [illegible]

MANALYSIS LOG

DYNSDATA: [illegible]
METHOD FILE: [illegible]
CALIB DATE: 2/22/05
EM VOLTAGE: 1706
PER RESPONSE: 222 12267
RUN ID: VN163

STANDARDS

RFF: [illegible]
CALICCV: [illegible]
STDSURR: [illegible]
CHKCC: [illegible]

DATA FILE	SAMPLE ID	ANOMER INJECT.	OF	METRIC	ACCU METHOD	ANALYTICAL METHOD	ANCHOR POSITION	RM	RR	COMMENTS
[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]					2			[illegible]
[illegible]	[illegible]						3			
[illegible]	[illegible]						4			
[illegible]	[illegible]						5			[illegible]
[illegible]	[illegible]						6			
[illegible]	[illegible]						7			
[illegible]	[illegible]	[illegible]	[illegible]				8	<2		
[illegible]	[illegible]	[illegible]	[illegible]				9	<2		
[illegible]	[illegible]						10	<2		
[illegible]	[illegible]						11	<2		
[illegible]	[illegible]						12	<2		
[illegible]	[illegible]						13	<2		
[illegible]	[illegible]						14	<2		
[illegible]	[illegible]						15	<2		
[illegible]	[illegible]						16	<2		
[illegible]	[illegible]						17	<2		
[illegible]	[illegible]						18	<2		
[illegible]	[illegible]						19	<2		
[illegible]	[illegible]						20			
[illegible]	[illegible]						21			
[illegible]	[illegible]						22			
[illegible]	[illegible]						23			
[illegible]	[illegible]						24			

Note: Designate "W" for Water, "S" for Soil, "S" for QC, "L" for Laboratory Blank and "TCLP" or "SPLP" for Leachate

Reviewer's Signature: _____

Analyst's Signature: [illegible]

MS2 NEW RUN LOG MF 11/05

ACCUTEST LABORATORIES
CA507

ACCUTEST LABORATORIES INC. | **N ANALYSIS LOG** | **STANDARDS**

DATE: [illegible]	D:\MS\DATA\: [illegible]	BFB: [illegible]
COLUMN TYPE: Restek RTX-VOLATILE	PROCESSING METHOD: [illegible]	CAL/CCV: [illegible]
DETECTOR: 5973MSD	CALIB. DATE: [illegible]	[illegible]
INSTRUMENT: N	EM VOLTAGE: [illegible]	ISTD/SURR: [illegible]
PURGE PRESSURE: [illegible]	BFB AREA:	ICV/QC: [illegible]
ANALYST: [illegible]	RUN ID: VB [illegible]	[illegible]

DATAFILE	SAMPLE ID	AMOUNT INJECT.	DF	MATRIX	ACQM. METHOD	ANALYTICAL METHOD	AUTOSAMPLER POSITION	PH	RR	COMMENTS
N [illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]			
N [illegible]	[illegible]	[illegible]					[illegible]			
N [illegible]	[illegible]	[illegible]					[illegible]			
N [illegible]	[illegible]	[illegible]					[illegible]			
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		[illegible]
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		[illegible]
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		
N [illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		

Matrix: Designate "W" for Water, "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate

Reviewer's Signature: [illegible]

Analyst's Signature: [illegible]

N_Files1_GCMS_Runlog.xls NF 11/06

ACCUTEST LABORATORIES NC

DATE:	8/22/08
COLUMN TYPE:	Restek RTX-VOLATILE
DETECTOR:	5973 MSD
INSTRUMENT:	N
PURGE PRESSURE:	20psi
ANALYST:	[illegible]

N ANALYSIS LOG

D:\MS2DATA\	N080822
PROCESSING METHOD:	VN43DSM
CALIB. DATE:	8/22/08
EM VOLTAGE:	1528
BFB AREA:	—
RUN ID:	~~VB~~ VN43

STANDARDS

BFB:	080708R
ICAL/CCV:	080703A
ISTD/SURR:	080822A
ICV/QC:	080703B

DATA FILE	SAMPLE ID. 8/22/08	AMOUNT INJECT.	DF	MATRIX	ACQU. METHOD	ANALYTICAL METHOD	ARCHON POSITION	PH	RR	COMMENTS
N 0623	RZ43-4	10ml		W	VN43DSM	8260DM	24			
N 24	6						25			
N 25	8						26			
N 26	1CL43-10						27			
N 27	1CL43-20						28			
N 28	40						29			
N 29	Blank						30			
N 30	1CV43-10						31			
N										
N										
N										
N										
N										
N										
N										
N										
N										
N										
N										
N										
N										
N										
N										
N										
N										
N										
N										

8/25/08

Matrix: Designate "W" for Water, "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate

Reviewer's Signature: [signature]

Analyst's Signature: [signature]

N_Titia1_GCMS_Runlog.xls NF 1/1/06

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
Analyst: MF Run ID: MA536
Parameters: Ca,Fe,Mg,K,Na

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:37	MA536-STD1	1		STD1
11:40	MA536-STD2	1		STD2
11:44	MA536-HSTD1	1		
11:58	MA536-ICB1	1		
12:02	MA536-ICV1	1		
12:22	MA536-ICB2	1		
12:25	MA536-CRIA1	1		
12:30	MA536-CRIA2	1		
12:34	MA536-ICSA1	1		
12:39	MA536-ICSAB1	1		
12:43	MA536-CCV1	1		
12:55	MA536-CCB1	1		
12:58	ZZZZZZ	1		
13:01	ZZZZZZ	1		
13:04	ZZZZZZ	1		
13:08	ZZZZZZ	1		
13:13	C4533-1	1		(sample used for QC only; not part of login C4507)
13:17	MP932-SD1	5		
13:21	MP932-S1	1		
13:24	MP932-S2	1		
13:28	ZZZZZZ	1		
13:32	ZZZZZZ	1		
13:37	MA536-CCV2	1		
13:41	MA536-CCB2	1		
13:44	ZZZZZZ	1		
13:48	ZZZZZZ	1		
13:52	ZZZZZZ	1		
13:56	ZZZZZZ	1		
14:05	ZZZZZZ	1		
14:09	ZZZZZZ	1		
14:13	ZZZZZZ	5		
14:13	ZZZZZZ	5		
14:18	ZZZZZZ	5		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
Analyst: MF Run ID: MA536
Parameters: Ca,Fe,Mg,K,Na

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:18	ZZZZZZ	5		
14:22	ZZZZZZ	1		
14:26	MA536-CCV3	1		
14:38	MA536-CCB3	1		
14:42	MP933-MB1	1		
14:45	MP933-B1	1		
14:49	MP933-B2	1		
14:53	C4552-1	1		(sample used for QC only; not part of login C4507)
14:57	MP933-SD1	5		
15:02	MP933-S1	1		
15:06	MP933-S2	1		
15:10	ZZZZZZ	1		
15:14	MP931-MB1	1		
15:19	MP931-B1	1		
15:23	MA536-CCV4	1		
15:34	MA536-CCB4	1		
15:37	MP931-B2	1		
15:41	C4492-3	10		(sample used for QC only; not part of login C4507)
15:46	MP931-SD1	50		
15:50	MP931-S1	10		
15:54	MP931-S2	10		
15:59	ZZZZZZ	1		
16:03	ZZZZZZ	1		
16:07	ZZZZZZ	1		
16:11	ZZZZZZ	1		
16:15	ZZZZZZ	1		
16:20	MA536-CCV5	1		
16:34	MA536-CCB5	1		
16:38	ZZZZZZ	1		
16:42	ZZZZZZ	1		
16:47	ZZZZZZ	1		
16:51	ZZZZZZ	1		
16:55	MP928-MB1	1		

7.1

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
Analyst: MF Run ID: MA536
Parameters: Ca,Fe,Mg,K,Na

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	16:59	MP928-B1	1		
	17:03	MP928-B2	1		
	17:08	C4383-3F	1		(sample used for QC only; not part of login C4507)
	17:12	MP928-SD1	5		
	17:16	MA536-CCV6	1		
	17:24	MA536-CCB6	1		
	17:27	MP928-MB1	1		
	17:30	MP928-S1	1		
	17:34	MP928-S2	1		
	17:38	ZZZZZZ	1		
	17:43	ZZZZZZ	1		
	17:47	ZZZZZZ	1		
	17:51	ZZZZZZ	1		
	17:55	ZZZZZZ	1		
	17:59	ZZZZZZ	1		
	18:03	ZZZZZZ	1		
	18:16	MA536-CCV7	1		
	18:29	MA536-CCB7	1		
	18:32	ZZZZZZ	1		
	18:36	ZZZZZZ	1		
	18:43	ZZZZZZ	1		
	18:53	ZZZZZZ	1		
	18:58	C4507-1F	1		
	19:02	C4507-6F	1		
---------->	Last reportable sample/prep for job C4507				
	19:06	ZZZZZZ	2		
	19:11	ZZZZZZ	2		
	19:15	ZZZZZZ	5		
	19:19	MA536-CCV8	1		
	19:23	MA536-CCB8	1		
---------->	Last reportable CCB for job C4507				
	19:28	ZZZZZZ	2		
	19:32	MP925-PS1	1		
	19:36	ZZZZZZ	1		
	19:40	MP936-MB1	1		

7.1
7

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
Analyst: MF Run ID: MA536
Parameters: Ca,Fe,Mg,K,Na

Time	Sample Description	Dilution Factor	PS Recov	Comments
19:44	MP936-B1	1		
19:49	MP936-B2	1		
19:53	ZZZZZZ	1		
19:57	ZZZZZZ	1		
20:01	ZZZZZZ	1		
20:06	ZZZZZZ	1		
20:10	MA536-CCV9	1		
20:14	MA536-CCB9	1		
20:18	C4528-5T	1		(sample used for QC only; not part of login C4507)
20:23	MP936-SD1	5		
20:27	MP936-S1	1		
20:31	ZZZZZZ	1		
20:36	ZZZZZZ	1		
20:40	ZZZZZZ	1		
20:44	ZZZZZZ	1		
20:48	ZZZZZZ	5		
20:52	ZZZZZZ	5		
20:56	ZZZZZZ	1		
21:01	MA536-CCV10	1		
21:05	MA536-CCB10	1		

Refer to raw data for calibration curve and standards.

7.1

INTERNAL STANDARD SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV
Analyst: MF
Parameters: Ca,Fe,Mg,K,Na

Date Analyzed: 02/25/09
Run ID: MA536

Methods: EPA 200.7, SW846 6010B

Time	Sample Description	Istd#1
11:37	MA536-STD1	100
11:40	MA536-STD2	98.001
11:44	MA536-HSTD1	98.818
11:58	MA536-ICB1	100.7
12:02	MA536-ICV1	101.98
12:22	MA536-ICB2	101.01
12:25	MA536-CRIA1	99.861
12:30	MA536-CRIA2	100.21
12:34	MA536-ICSA1	88.056
12:39	MA536-ICSAB1	87.935
12:43	MA536-CCV1	100.82
12:55	MA536-CCB1	101.31
12:58	ZZZZZZ	100.24
13:01	ZZZZZZ	100.99
13:04	ZZZZZZ	100.67
13:08	ZZZZZZ	98.249
13:13	C4533-1	101.63
13:17	MP932-SD1	104.53
13:21	MP932-S1	102.27
13:24	MP932-S2	100.84
13:28	ZZZZZZ	102.51
13:32	ZZZZZZ	100.84
13:37	MA536-CCV2	101.93
13:41	MA536-CCB2	105.11
13:44	ZZZZZZ	86.605
13:48	ZZZZZZ	102.65
13:52	ZZZZZZ	102.7
13:56	ZZZZZZ	105.43
14:05	ZZZZZZ	100.66
14:09	ZZZZZZ	101.05
14:13	ZZZZZZ	105.4
14:13	ZZZZZZ	105.4
14:18	ZZZZZZ	101.79

7.1.1

7

INTERNAL STANDARD SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
Analyst: MF Run ID: MA536
Parameters: Ca,Fe,Mg,K,Na

Time	Sample Description	Istd#1
14:18	ZZZZZZ	101.79
14:22	ZZZZZZ	105.47
14:26	MA536-CCV3	104.49
14:38	MA536-CCB3	103.96
14:42	MP933-MB1	105.76
14:45	MP933-B1	102.47
14:49	MP933-B2	104.75
14:53	C4552-1	96.424
14:57	MP933-SD1	100.76
15:02	MP933-S1	92.869
15:06	MP933-S2	95.175
15:10	ZZZZZZ	103.38
15:14	MP931-MB1	106.35
15:19	MP931-B1	107.3
15:23	MA536-CCV4	103.18
15:34	MA536-CCB4	105.63
15:37	MP931-B2	106.27
15:41	C4492-3	101.36
15:46	MP931-SD1	102.94
15:50	MP931-S1	100.93
15:54	MP931-S2	100.19
15:59	ZZZZZZ	105.65
16:03	ZZZZZZ	103.84
16:07	ZZZZZZ	104.56
16:11	ZZZZZZ	108.68
16:15	ZZZZZZ	105.68
16:20	MA536-CCV5	102.01
16:34	MA536-CCB5	102.27
16:38	ZZZZZZ	107.71
16:42	ZZZZZZ	104.06
16:47	ZZZZZZ	108.17
16:51	ZZZZZZ	102.84
16:55	MP928-MB1	106.19

INTERNAL STANDARD SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV
Analyst: MF
Parameters: Ca,Fe,Mg,K,Na

Date Analyzed: 02/25/09
Run ID: MA536

Methods: EPA 200.7, SW846 6010B

Time	Sample Description	Istd#1
16:59	MP928-B1	104.12
17:03	MP928-B2	102.39
17:08	C4383-3F	97.073
17:12	MP928-SD1	99.718
17:16	MA536-CCV6	102.32
17:24	MA536-CCB6	104.15
17:27	MP928-MB1	102.64
17:30	MP928-S1	97.34
17:34	MP928-S2	95.735
17:38	ZZZZZZ	97.474
17:43	ZZZZZZ	97.86
17:47	ZZZZZZ	99.571
17:51	ZZZZZZ	99.728
17:55	ZZZZZZ	96.796
17:59	ZZZZZZ	85.226
18:03	ZZZZZZ	107.13
18:16	MA536-CCV7	104.5
18:29	MA536-CCB7	102.82
18:32	ZZZZZZ	89.837
18:36	ZZZZZZ	84.816
18:43	ZZZZZZ	105.84
18:53	ZZZZZZ	106.11
18:58	C4507-1F	105.88
19:02	C4507-6F	102.26
19:06	ZZZZZZ	101.93
19:11	ZZZZZZ	116.43
19:15	ZZZZZZ	124.7
19:19	MA536-CCV8	102.75
19:23	MA536-CCB8	105.67
19:28	ZZZZZZ	118.05
19:32	MP925-PS1	101.42
19:36	ZZZZZZ	107.55
19:40	MP936-MB1	105.49

7.1.1

7

INTERNAL STANDARD SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV
Analyst: MF
Parameters: Ca,Fe,Mg,K,Na

Date Analyzed: 02/25/09
Run ID: MA536

Methods: EPA 200.7, SW846 6010B

Time	Sample Description	Istd#1
19:44	MP936-B1	103.66
19:49	MP936-B2	103.69
19:53	ZZZZZZ	103.01
19:57	ZZZZZZ	102.96
20:01	ZZZZZZ	104.87
20:06	ZZZZZZ	96.281
20:10	MA536-CCV9	102.12
20:14	MA536-CCB9	102.1
20:18	C4528-5T	103.52
20:23	MP936-SD1	106.37
20:27	MP936-S1	103.25
20:31	ZZZZZZ	97.328
20:36	ZZZZZZ	92.911
20:40	ZZZZZZ	91.631
20:44	ZZZZZZ	91.866
20:48	ZZZZZZ	99.386
20:52	ZZZZZZ	109.35
20:56	ZZZZZZ	105.37
21:01	MA536-CCV10	102.55
21:05	MA536-CCB10	103.36

! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium	60-125 %

7.1.1

7

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
QC Limits: result < RL Run ID: MA536 Units: ug/l

Metal	RL	IDL	11:58 ICB1 raw	final	12:02 ICB2 raw	final	12:05 CCB1 raw	final	12:11 CCB2 raw	final
Aluminum	50	13								
Antimony	10	6.7	anr							
Arsenic	10	9.6	anr							
Barium	5.0	.2	anr							
Beryllium	5.0	.4	anr							
Boron	10	7								
Cadmium	2.0	.3	anr							
Calcium	50	5.2	-0.90	<50	-1.0	<50	0.10	<50	-2.1	<50
Chromium	5.0	.5	anr							
Cobalt	5.0	.4	anr							
Copper	5.0	.7	anr							
Iron	50	3.3	0.80	<50	1.5	<50	0.70	<50	1.2	<50
Lead	5.0	2.4	anr							
Lithium	10	1.9								
Magnesium	50	13	-4.3	<50	3.9	<50	2.6	<50	-1.9	<50
Manganese	5.0	1.2	anr							
Molybdenum	5.0	1.3	anr							
Nickel	5.0	.9	anr							
Potassium	500	51	12.5	<500	24.4	<500	23.3	<500	48.8	<500
Selenium	20	9.8	anr							
Silicon	50	14								
Silver	5.0	.8	anr							
Sodium	100	16	-14	<100	-12	<100	25.6	<100	22.1	<100
Strontium	10	.2								
Thallium	20	4	anr							
Tin	50	2.6	anr							
Titanium	2.0	.2	anr							
Vanadium	5.0	.2	anr							
Zinc	10	3.5	anr							

(*) Outside of QC limits
(anr) Analyte not requested

7.1.2

7

ACCUTEST Laboratories
C4507

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
QC Limits: result < RL Run ID: MA536 Units: ug/l

			14:03:38 CCB5		15:23:34 CCB7		16:23:34 CCB9		17:24:31 CCB6	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	50	13								
Antimony	10	6.7	anr							
Arsenic	10	9.6	anr							
Barium	5.0	.2	anr							
Beryllium	5.0	.4	anr							
Boron	10	7								
Cadmium	2.0	.3	anr							
Calcium	50	5.2	-1.6	<50	-3.3	<50	-0.80	<50	-3.7	<50
Chromium	5.0	.5	anr							
Cobalt	5.0	.4	anr							
Copper	5.0	.7	anr							
Iron	50	3.3	3.7	<50	1.3	<50	1.1	<50	1.5	<50
Lead	5.0	2.4	anr							
Lithium	10	1.9								
Magnesium	50	13	2.2	<50	-5.0	<50	2.0	<50	-1.3	<50
Manganese	5.0	1.2	anr							
Molybdenum	5.0	1.3	anr							
Nickel	5.0	.9	anr							
Potassium	500	51	-0.50	<500	-44	<500	-1.9	<500	28.8	<500
Selenium	20	9.8	anr							
Silicon	50	14								
Silver	5.0	.8	anr							
Sodium	100	16	-13	<100	2.1	<100	-16	<100	-1.5	<100
Strontium	10	.2								
Thallium	20	4	anr							
Tin	50	2.6	anr							
Titanium	2.0	.2	anr							
Vanadium	5.0	.2	anr							
Zinc	10	3.5	anr							

(*) Outside of QC limits
(anr) Analyte not requested

7.1.2

7

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
QC Limits: result < RL Run ID: MA536 Units: ug/l

Time / Sample ID			18:29 CCB7		19:23 CCB8	
Metal	RL	IDL	raw	final	raw	final
Aluminum	50	13				
Antimony	10	6.7	anr			
Arsenic	10	9.6	anr			
Barium	5.0	.2	anr			
Beryllium	5.0	.4	anr			
Boron	10	7				
Cadmium	2.0	.3	anr			
Calcium	50	5.2	1.3	<50	-2.0	<50
Chromium	5.0	.5	anr			
Cobalt	5.0	.4	anr			
Copper	5.0	.7	anr			
Iron	50	3.3	0.50	<50	5.6	<50
Lead	5.0	2.4	anr			
Lithium	10	1.9				
Magnesium	50	13	-4.5	<50	-4.1	<50
Manganese	5.0	1.2	anr			
Molybdenum	5.0	1.3	anr			
Nickel	5.0	.9	anr			
Potassium	500	51	56.9	<500	47.6	<500
Selenium	20	9.8	anr			
Silicon	50	14				
Silver	5.0	.8	anr			
Sodium	100	16	28.8	<100	25.3	<100
Strontium	10	.2				
Thallium	20	4	anr			
Tin	50	2.6	anr			
Titanium	2.0	.2	anr			
Vanadium	5.0	.2	anr			
Zinc	10	3.5	anr			

(*) Outside of QC limits
(anr) Analyte not requested

7.1.2
7

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA536 Units: ug/l

Metal	ICV True	12:02 ICV1 Results	% Rec	CCV True	12:43 CCV1 Results	% Rec	CCV True	1:17 CCV2 Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium	1000	963	96.3	1000	939	93.9	1000	986	98.6
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	10000	9970	99.7	10000	9620	96.2	10000	10000	100.0
Lead	anr								
Lithium									
Magnesium	1000	1000	100.0	1000	978	97.8	1000	1020	102.0
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	10000	9570	95.7	10000	9380	93.8	10000	9700	97.0
Selenium	anr								
Silicon									
Silver	anr								
Sodium	1000	937	93.7 (a)	1000	952	95.2	1000	962	96.2
Strontium									
Thallium	anr								
Tin	anr								
Titanium	anr								
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested
(a) Not reportable for 200.7 samples.

7.1.3

7

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA536 Units: ug/l

Time / Sample Type	CCV	14:26 CCV6		CCV	15:23 CCV1		CCV	16:20 CCV3	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium	1000	929	92.9	1000	947	94.7 (a)	1000	930	93.0
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	10000	9690	96.9	10000	9940	99.4	10000	9820	98.2
Lead	anr								
Lithium									
Magnesium	1000	971	97.1	1000	1000	100.0	1000	982	98.2
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	10000	9320	93.2	10000	9520	95.2	10000	9440	94.4
Selenium	anr								
Silicon									
Silver	anr								
Sodium	1000	899	89.9 (a)	1000	927	92.7 (a)	1000	910	91.0
Strontium									
Thallium	anr								
Tin	anr								
Titanium	anr								
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested
(a) No samples for this element reported in the area bracketed by this QC.

7.1.3 7

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
QC Limits: 90 to 110 % Recovery Run ID: MA536 Units: ug/l

Time / Sample Id:	CCV	17:16 CCV6		CCV	18:16 CCV7		CCV	19:19 CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum									
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Boron									
Cadmium	anr								
Calcium	1000	922	92.2	1000	960	96.0	1000	936	93.6
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	10000	9850	98.5	10000	9750	97.5	10000	9840	98.4
Lead	anr								
Lithium									
Magnesium	1000	971	97.1	1000	1000	100.0	1000	976	97.6
Manganese	anr								
Molybdenum	anr								
Nickel	anr								
Potassium	10000	9500	95.0	10000	9500	95.0	10000	9590	95.9
Selenium	anr								
Silicon									
Silver	anr								
Sodium	1000	951	95.1	1000	958	95.8	1000	933	93.3
Strontium									
Thallium	anr								
Tin	anr								
Titanium	anr								
Vanadium	anr								
Zinc	anr								

(*) Outside of QC limits
(anr) Analyte not requested

7.1.3

7

HIGH STANDARD CHECK SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
QC Limits: 95 to 105 % Recovery Run ID: MA536 Units: ug/l

Metal	HSTD True	Results	% Rec
Aluminum			
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Boron			
Cadmium	anr		
Calcium	10000	10000	100.0
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	100000	101000	101.0
Lead	anr		
Lithium			
Magnesium	10000	10300	103.0
Manganese	anr		
Molybdenum	anr		
Nickel	anr		
Potassium	4000	4090	102.3
Selenium	anr		
Silicon			
Silver	anr		
Sodium	2000	2040	102.0
Strontium			
Thallium	anr		
Tin	anr		
Titanium	anr		
Vanadium	anr		
Zinc	anr		

(*) Outside of QC limits
(anr) Analyte not requested

7.1.4

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
QC Limits: CRI 70-130% CRIA 50-150% Run ID: MA536 Units: ug/l

Metal	CRI True	CRIA True	CRIA Results	% Rec	CRIA Results	% Rec
Aluminum	50	50				
Antimony	10	10	anr			
Arsenic	10	10	anr			
Barium	5.0	5.0	anr			
Beryllium	5.0	5.0	anr			
Boron	10	10				
Cadmium	5.0	2.0	anr			
Calcium	50	50	56.4	112.8		
Chromium	5.0	5.0	anr			
Cobalt	5.0	5.0	anr			
Copper	5.0	5.0	anr			
Iron	50	50	49.5	99.0		
Lead	5.0	5.0				
Lithium	10	10				
Magnesium	50	50	55.6	111.2		
Manganese	5.0	5.0	anr			
Molybdenum	5.0	5.0	anr			
Nickel	5.0	5.0	anr			
Potassium	500	500	513	102.6		
Selenium	10	20	anr			
Silicon	50	50				
Silver	5.0	5.0	anr			
Sodium	100	100	94.7	94.7		
Strontium	10	10				
Thallium	20	20	anr			
Tin	50	50	anr			
Titanium	2.0	2.0	anr			
Vanadium	5.0	5.0	anr			
Zinc	10	10	anr			

(*) Outside of QC limits
(anr) Analyte not requested

7.1.5

7

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: PA022509M1.CSV Date Analyzed: 02/25/09 Methods: EPA 200.7, SW846 6010B
QC Limits: 80 to 120 % Recovery Run ID: MA536 Units: ug/l

Sample ID:	ICSA	ICSAB	12:34 ICSA		12:39 ICSAB	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	484000H	96.8	496000H	99.2
Antimony		1000	3.0		1110	111.0
Arsenic		1000	18.3		1070	107.0
Barium		500	-0.70		513	102.6
Beryllium		500	-0.40		493	98.6
Boron		1000			1100	110.0
Cadmium		1000	0.10		1050	105.0
Calcium	500000	500000	470000H	94.0	497000H	99.4
Chromium		500	1.5		499	99.8
Cobalt		500	-1.0		459	91.8
Copper		500	-5.0		554	110.8
Iron	200000	200000	189000	94.5	201000	100.5
Lead		1000	-7.1		979	97.9
Lithium						
Magnesium	500000	500000	498000H	99.6	507000HH	101.4
Manganese		500	7.5		502	100.4
Molybdenum		1000	1.7		998	99.8
Nickel		1000	1.8		911	91.1
Potassium			135		60.2	
Selenium		1000	2.7		1030	103.0
Silicon		100	-13		106	106.0
Silver		1000	-1.0		1090	109.0
Sodium		1000	88.9		1160	116.0
Strontium			-6.1		-6.7	
Thallium		1000	-3.2		953	95.3
Tin			-21		-19	
Titanium			3.9		4.0	
Vanadium		500	0.30		503	100.6
Zinc		1000	-15		996	99.6

(*) Outside of QC limits
(anr) Analyte not requested

7.1.6

7

Prep Log: MP928

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

QC Batch ID: MP928
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/23/09

Metal	RL	IDL	MB raw	final
Aluminum	50	13		
Antimony	10	6.7		
Arsenic	10	9.6		
Barium	5.0	.2	anr	
Beryllium	5.0	.4		
Boron	10	7		
Cadmium	2.0	.3		
Calcium	50	5.2	23.5	<50
Chromium	5.0	.5	anr	
Cobalt	5.0	.4		
Copper	5.0	.7		
Iron	50	3.3	32.5	<50
Lead	5.0	2.4		
Lithium	10	1.9		
Magnesium	50	13	5.2	<50
Manganese	5.0	1.2		
Molybdenum	5.0	1.3		
Nickel	5.0	.9		
Potassium	500	51	9.8	<500
Selenium	20	9.8		
Silicon	50	14		
Silver	5.0	.8		
Sodium	100	16	15.9	<100
Strontium	10	.2		
Thallium	20	4		
Tin	50	2.6		
Titanium	2.0	.2		
Vanadium	5.0	.2		
Zinc	10	3.5		

Associated samples MP928: C4507-1F, C4507-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.2.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

QC Batch ID: MP928
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/23/08

Metal	C4383-3F Original	MS	Spikelot MPIR3	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium	anr				
Beryllium					
Boron					
Cadmium					
Calcium	128000	127000	500	200.0(a)	80-120
Chromium	anr				
Cobalt					
Copper					
Iron	182	678	500	99.2	80-120
Lead					
Lithium					
Magnesium	75600	75600	500	0.0 (a)	80-120
Manganese					
Molybdenum					
Nickel					
Potassium	1240	6370	5000	102.6	80-120
Selenium					
Silicon					
Silver					
Sodium	193000	192000(b	500	200.0(a)	80-120
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP928: C4507-1F, C4507-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

QC Batch ID: MP928
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(b) Within linear range.

7.2.2

7

ACCUTEST Laboratories

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

QC Batch ID: MP928 Methods: SW846 6010B
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 02/23/09

Metal	C4383-3F Original	MSD	Spikelot MPIR3	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium	anr					
Beryllium						
Boron						
Cadmium						
Calcium	128000	122000	500	-1200.0a	4.9	20
Chromium	anr					
Cobalt						
Copper						
Iron	182	683	500	100.2	0.7	20
Lead						
Lithium						
Magnesium	75600	72700	500	-580.0(a	4.0	20
Manganese						
Molybdenum						
Nickel						
Potassium	1240	6480	5000	104.8	1.7	20
Selenium						
Silicon						
Silver						
Sodium	193000	186000(b	500	-1400.0a	3.2	20
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP928: C4507-1F, C4507-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

QC Batch ID: MP928
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(b) Within linear range.

7.2.2

7

ACCUTEST Laboratories
C4507

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

QC Batch ID: MP928
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:			02/23/09					02/23/09	
Metal	BSP Result	Spikelot MPIR3	% Rec	QC Limits	BSD Result	Spikelot MPIR3	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic									
Barium	anr								
Beryllium									
Boron									
Cadmium									
Calcium	519	500	103.8	80-120	493	500	98.6	5.1	
Chromium	anr								
Cobalt									
Copper									
Iron	530	500	106.0	80-120	525	500	105.0	0.9	
Lead									
Lithium									
Magnesium	537	500	107.4	80-120	521	500	104.2	3.0	
Manganese									
Molybdenum									
Nickel									
Potassium	4970	5000	99.4	80-120	4860	5000	97.2	2.2	
Selenium									
Silicon									
Silver									
Sodium	489	500	97.8	80-120	479	500	95.8	2.1	
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP928: C4507-1F, C4507-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

QC Batch ID: MP928
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 02/25/09

Metal	C4383-3F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium	anr			
Beryllium				
Boron				
Cadmium				
Calcium	128000	125000	2.3	0-10
Chromium	anr			
Cobalt				
Copper				
Iron	182	177	2.8	0-10
Lead				
Lithium				
Magnesium	75600	71400	5.6	0-10
Manganese				
Molybdenum				
Nickel				
Potassium	1240	1260	1.6	0-10
Selenium				
Silicon				
Silver				
Sodium	193000	187000	3.1	0-10
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP928: C4507-1F, C4507-6F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.2.4

7

Instrument Detection Limits

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Instrument ID: PEICP1 **Effective Date:** 12/10/08

Analyte	IDL ug/l
Aluminum	12.6
Antimony	6.7
Arsenic	9.6
Barium	.2
Beryllium	.4
Bismuth	2.2
Boron	7
Cadmium	.3
Calcium	5.2
Chromium	.5
Cobalt	.4
Copper	.7
Iron	3.3
Lead	2.4
Lithium	1.9
Magnesium	13.2
Manganese	1.2
Molybdenum	1.3
Nickel	.9
Potassium	50.5
Selenium	9.8
Silicon	14.1
Silver	.8
Sodium	16.2
Strontium	.2
Thallium	4
Tin	2.6
Titanium	.2
Tungsten	5.3
Vanadium	.2
Zinc	3.5

The above applies to the following instrument runs:
MA536

7.3 7

Instrument Linear Ranges

Job Number: C4507
Account: ECCMAM ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Instrument ID: PEICP1 **Effective Date:** 12/10/08

Analyte	Linear Range ug/l
Aluminum	500000
Antimony	100000
Arsenic	100000
Barium	10000
Beryllium	5000
Bismuth	10000
Boron	100000
Cadmium	20000
Calcium	500000
Chromium	100000
Cobalt	100000
Copper	100000
Iron	500000
Lead	50000
Lithium	10000
Magnesium	500000
Manganese	20000
Molybdenum	50000
Nickel	100000
Potassium	500000
Selenium	100000
Silicon	50000
Silver	100000
Sodium	200000
Strontium	10000
Thallium	50000
Tin	100000
Titanium	20000
Tungsten	10000
Vanadium	100000
Zinc	20000

The above applies to the following instrument runs:
MA536

7.3

Metals Analysis

Raw Data

Inst QC: [redacted] MA536 [redacted]

Method : 080419-200.7

Seq.	Loc.	Sample ID	Status
1	1	STD1	Applied
2	2	STD2	Applied
3	2	HSTD	QC Failed
4	1	ICB	QC Passed
5	3	ICV	QC Failed
6	1	ICB	QC Passed
7	6	CRIA	QC Failed
8	4	ICSA	QC Failed
9	5	ICSAB	QC Passed
10	3	CCV	QC Failed
11	1	CCB	QC Passed
12	13	MP932-MB1	Analyzed
13	14	MP932-B1	Analyzed
14	15	MP932-B2	Analyzed
15	16	C4539-1	Analyzed
16	17	C4533-1	Analyzed
17	18	MP932-SD1	Analyzed
18	19	MP932-S1	Analyzed
19	20	MP932-S2	Analyzed
20	21	C4533-2	Analyzed
21	22	C4533-3	Analyzed
22	3	CCV	QC Failed
23	1	CCB	QC Passed
24	23	C4512-1	Analyzed
25	24	C4528-5	Analyzed
26	25	C4526-1	Analyzed
27	26	C4526-2	Analyzed
28	27	C4537-1	Analyzed
29	28	C4546-1	Analyzed
30	29	C4546-2	Analyzed
31	9	C43501-1	Analyzed
32	9	C4350-1	Analyzed
33	7	blankconf	Analyzed
34	3	CCV	QC Failed
35	1	CCB	QC Failed
36	30	MP933-MB1	Analyzed
37	31	MP933-B1	Analyzed
38	32	MP933-B2	Analyzed
39	33	C4552-1	Analyzed
40	34	MP933-SD1	Analyzed
41	35	MP933-S1	Analyzed
42	36	MP933-S2	Analyzed
43	37	C4541-1	Analyzed
44	71	MP931-MB1	Analyzed
45	72	MP931-B1	Analyzed
46	3	CCV	QC Failed
47	1	CCB	QC Failed
48	73	MP931-B2	Analyzed
49	74	C4492-3	Analyzed
50	75	MP931-SD1	Analyzed
51	76	MP931-S1	Analyzed
52	77	MP931-S2	Analyzed
53	78	C4492-1	Analyzed
54	79	C4400-1	Analyzed
55	80	C4401-1	Analyzed
56	81	C4402-1	Analyzed
57	82	C4403-1	Analyzed
58	3	CCV	QC Failed

Inst QC: A[redacted]ce

Method : 080419-200.7

Seq.	Loc.		Sample ID	Status
59	1	qc	CCB	QC Passed
60	83		C4404-1	Analyzed
61	84		C4405-1	Analyzed
62	85		C4406-1	Analyzed
63	86		C4514-1	Analyzed
64	87		MP928-MB1	Analyzed
65	88		MP928-B1	Analyzed
66	89		MP928-B2	Analyzed
67	90		C4383-3F	Analyzed
68	91		MP928-SD1	Analyzed
69	3	qc	CCV	QC Failed
70	92		MP928-S1	
71	1	qc	CCB	QC Passed
72	87		MP928-MB1	Analyzed
73	92		MP928-S1	Analyzed
74	93		MP928-S2	Analyzed
75	94		C4383-4F	Analyzed
76	95		C4383-5F	Analyzed
77	96		C4383-6F	Analyzed
78	97		C4383-7F	Analyzed
79	98		C4348-8F	Analyzed
80	99		C4408-1F	Analyzed
81	7		BLANKCONF	Analyzed
82	3	qc	CCV	QC Failed
83	1	qc	CCB	QC Failed
84	100		C4408-2F	Analyzed
85	101		C4408-3F	Analyzed
86	7		BLANKCONF	Analyzed
87	102		C4507-1F	Analyzed
88	103		C4507-6F	Analyzed
89	104		C4370-2	Analyzed
90	105		C4370-3	Analyzed
91	106		C4523-1	Analyzed
92	3	qc	CCV	QC Failed
93	1	qc	CCB	QC Passed
94	107		C4523-3	Analyzed
95	108		MP925-PS1	Analyzed
96	7		BLANKCONF	Analyzed
97	109		MP936-MB1	Analyzed
98	110		MP936-B1	Analyzed
99	111		MP936-B2	Analyzed
100	112		C4496-1T	Analyzed
101	113		C4508-1T	Analyzed
102	114		C4508-2T	Analyzed
103	115		C4508-3T	Analyzed
104	3	qc	CCV	QC Failed
105	1	qc	CCB	QC Passed
106	116		C4528-5T	Analyzed
107	117		MP936-SD1	Analyzed
108	118		MP936-S1	Analyzed
109	119		C4544-1T	Analyzed
110	120		C4544-2T	Analyzed
111	121		C4544-3T	Analyzed
112	25		C4526-1	Analyzed
113	23		C4512-1	Analyzed
114	122		C4370-3	Analyzed
115	7		BLANKCONF	Analyzed
116	3	qc	CCV	QC Failed

Inst QC: [redacted] MA536 [redacted]

Method : [redacted]

Seq.	Loc.		Sample ID	Status
117	1	[redacted]	CCB	QC Passed

8.1

8

ACCUTEST LABORATORIES
C4507

Sequence No.: 1
Sample ID: STD1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/25/2009 11:37:25 AM
Data Type: Reprocessed on 2/26/2009 10:22:58 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD1

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Yttrium	1517679.8	33814.53	2.23%	100.00	%
Aluminum†	229.0	21.85	9.54%	[0.00]	mg/L
Antimony†	85.2	5.80	6.81%	[0.00]	mg/L
Arsenic 188†	3.3	0.15	4.50%	[0.00]	mg/L
Arsenic†	-7.1	10.68	151.25%	[0.00]	mg/L
Barium †	381.6	139.88	36.66%	[0.00]	mg/L
Beryllium†	-4212.2	82.21	1.95%	[0.00]	mg/L
Boron†	169.0	7.81	4.62%	[0.00]	mg/L
Cadmium†	154.1	8.75	5.68%	[0.00]	mg/L
Calcium†	2869.7	69.60	2.43%	[0.00]	mg/L
Chromium†	36.9	6.24	16.92%	[0.00]	mg/L
Cobalt†	-133.7	17.13	12.81%	[0.00]	mg/L
Copper†	6098.2	146.96	2.41%	[0.00]	mg/L
Iron†	42.6	17.96	42.16%	[0.00]	mg/L
Lead†	98.7	17.26	17.49%	[0.00]	mg/L
Lithium†	-11679.3	343.25	2.94%	[0.00]	mg/L
Magnesium†	105.6	24.36	23.06%	[0.00]	mg/L
Manganese†	109.3	8.08	7.40%	[0.00]	mg/L
Molybdenum†	19.0	6.03	31.76%	[0.00]	mg/L
Nickel†	-70.3	11.05	15.72%	[0.00]	mg/L
Potassium†	1013.4	196.07	19.35%	[0.00]	mg/L
Selenium†	3.9	4.03	103.24%	[0.00]	mg/L
Silicon†	68.0	10.16	14.93%	[0.00]	mg/L
Silver†	-2060.9	38.55	1.87%	[0.00]	mg/L
Sodium†	784.9	96.16	12.25%	[0.00]	mg/L
Strontium†	73.1	57.20	78.26%	[0.00]	mg/L
Thallium†	-24.9	2.90	11.68%	[0.00]	mg/L
Tin†	18.9	10.17	53.85%	[0.00]	mg/L
Titanium†	174.2	86.18	49.48%	[0.00]	mg/L
Vanadium†	-74.6	16.35	21.91%	[0.00]	mg/L
Zinc†	147.4	5.22	3.54%	[0.00]	mg/L

8.1 8

Sequence No.: 2
Sample ID: STD2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/23/2009 11:40:44 AM
Data Type: Reprocessed on 2/26/2009 10:22:59 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD2

Analyte	Mean Corrected Intensity	Std.Dev.	RSD	Conc.	Calib Units
Yttrium	1487343.3	14390.56	0.97%	98.001	%
Aluminum†	4282.0	77.03	1.80%	[2.00]	mg/L
Antimony†	5107.0	10.62	0.21%	[2.00]	mg/L
Arsenic 188†	8610.7	12.36	0.14%	[5.00]	mg/L
Arsenic†	7473.7	25.33	0.34%	[5.00]	mg/L
Barium †	374043.5	6007.76	1.61%	[1.00]	mg/L
Beryllium†	1314385.5	5004.70	0.38%	[0.50]	mg/L
Boron†	4557.5	59.79	1.31%	[1.00]	mg/L
Cadmium†	87119.7	307.75	0.35%	[1.50]	mg/L
Calcium†	213401.8	3335.85	1.56%	[10.00]	mg/L
Chromium†	15172.3	22.12	0.15%	[0.20]	mg/L
Cobalt†	49226.9	235.77	0.48%	[1.00]	mg/L
Copper†	254085.0	682.97	0.27%	[1.00]	mg/L
Iron†	1668496.8	29120.08	1.75%	[100.0]	mg/L
Lead†	35598.2	66.12	0.19%	[5.00]	mg/L
Lithium†	640615.3	452.07	0.07%	[2.00]	mg/L
Magnesium†	22130.8	410.15	1.85%	[10.00]	mg/L
Manganese†	697138.9	3427.28	0.49%	[1.00]	mg/L
Molybdenum†	10140.6	38.82	0.38%	[1.00]	mg/L
Nickel†	6532.9	23.40	0.36%	[0.20]	mg/L
Potassium†	12831.4	130.36	1.02%	[4.00]	mg/L
Selenium†	1774.9	11.50	0.65%	[2.00]	mg/L
Silicon†	4757.5	73.90	1.55%	[1.00]	mg/L
Silver†	83652.8	297.88	0.36%	[0.50]	mg/L
Sodium†	23093.0	199.39	0.86%	[2.00]	mg/L
Strontium†	291595.2	4055.35	1.39%	[0.50]	mg/L
Thallium†	3664.2	14.61	0.40%	[2.00]	mg/L
Tin†	8275.4	15.30	0.18%	[2.00]	mg/L
Titanium†	691267.9	3521.64	0.51%	[1.00]	mg/L
Vanadium†	135570.9	432.71	0.32%	[1.00]	mg/L
Zinc†	134240.8	678.26	0.51%	[1.50]	mg/L

Calibration Summary

Analyte	Stds.	Equation	Intercept	Slope	Curvature	Corr. Coef.	Reslope
Aluminum	1	Lin, Calc Int	0.0	2141	0.00000	1.000000	
Antimony	1	Lin, Calc Int	0.0	2554	0.00000	1.000000	
Arsenic 188	1	Lin, Calc Int	-0.0	1722	0.00000	1.000000	
Arsenic	1	Lin, Calc Int	-0.0	1495	0.00000	1.000000	
Barium	1	Lin, Calc Int	0.0	374000	0.00000	1.000000	
Beryllium	1	Lin, Calc Int	0.0	2629000	0.00000	1.000000	
Boron	1	Lin, Calc Int	0.0	4557	0.00000	1.000000	
Cadmium	1	Lin, Calc Int	0.0	58080	0.00000	1.000000	
Calcium	1	Lin, Calc Int	0.0	21340	0.00000	1.000000	
Chromium	1	Lin, Calc Int	0.0	75860	0.00000	1.000000	
Cobalt	1	Lin, Calc Int	0.0	49230	0.00000	1.000000	
Copper	1	Lin, Calc Int	0.0	254100	0.00000	1.000000	
Iron	1	Lin, Calc Int	0.0	16680	0.00000	1.000000	
Lead	1	Lin, Calc Int	0.0	7120	0.00000	1.000000	
Lithium	1	Lin, Calc Int	0.0	320300	0.00000	1.000000	
Magnesium	1	Lin, Calc Int	0.0	2213	0.00000	1.000000	
Manganese	1	Lin, Calc Int	0.0	697100	0.00000	1.000000	
Molybdenum	1	Lin, Calc Int	0.0	10140	0.00000	1.000000	
Nickel	1	Lin, Calc Int	0.0	32660	0.00000	1.000000	
Potassium	1	Lin, Calc Int	0.0	3208	0.00000	1.000000	
Selenium	1	Lin, Calc Int	0.0	887.5	0.00000	1.000000	
Silicon	1	Lin, Calc Int	0.0	4757	0.00000	1.000000	
Silver	1	Lin, Calc Int	0.0	167300	0.00000	1.000000	
Sodium	1	Lin, Calc Int	0.0	11550	0.00000	1.000000	
Strontium	1	Lin, Calc Int	0.0	583200	0.00000	1.000000	

Thallium	1	Lin, Calc Int	0.0	1832	0.00000	1.000000
Tin	1	Lin, Calc Int	0.0	4138	0.00000	1.000000
Titanium	1	Lin, Calc Int	0.0	691300	0.00000	1.000000
Vanadium	1	Lin, Calc Int	0.0	135600	0.00000	1.000000
Zinc	1	Lin, Calc Int	0.0	89490	0.00000	1.000000

8.1 8

Sequence No.: 3
Sample ID: NSTD
Analyst:
Logged in Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 2
Date Collected: 2/25/2009 11:44:50 AM
Data Type: Reprocessed on 2/26/2009 10:23:00 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: NSTD

Analyte	Mean Corrected Intensity	Conc.	Calib Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1499739.7	98.818	%	0.0965				0.10%
Aluminum†	4317.3	1.9652	mg/L	0.00634	1.9652	mg/L	0.00634	0.32%
QC value within limits for Aluminum Recovery = 98.26%								
Antimony†	5261.8	2.0604	mg/L	0.02439	2.0604	mg/L	0.02439	1.18%
QC value within limits for Antimony Recovery = 103.02%								
Arsenic 188†	8849.9	5.1501	mg/L	0.05459	5.1501	mg/L	0.05459	1.06%
QC value within limits for Arsenic 188 Recovery = 103.00%								
Arsenic†	7645.1	5.1405	mg/L	0.05709	5.1405	mg/L	0.05709	1.11%
QC value within limits for Arsenic Recovery = 102.81%								
Barium †	372109.2	0.9933	mg/L	0.00634	0.9933	mg/L	0.00634	0.64%
QC value within limits for Barium Recovery = 99.33%								
Beryllium†	1327261.8	0.5080	mg/L	0.00093	0.5080	mg/L	0.00093	0.18%
QC value within limits for Beryllium Recovery = 101.59%								
Boron†	4716.0	1.0651	mg/L	0.01190	1.0651	mg/L	0.01190	1.12%
QC value greater than the upper limit for Boron Recovery = 106.51%								
Cadmium†	87821.3	1.5160	mg/L	0.00069	1.5160	mg/L	0.00069	0.05%
QC value within limits for Cadmium Recovery = 101.07%								
Calcium†	215706.8	10.030	mg/L	0.0827	10.030	mg/L	0.0827	0.82%
QC value within limits for Calcium Recovery = 100.30%								
Chromium†	15517.7	0.2046	mg/L	0.00179	0.2046	mg/L	0.00179	0.88%
QC value within limits for Chromium Recovery = 102.28%								
Cobalt†	49827.9	1.0082	mg/L	0.00293	1.0082	mg/L	0.00293	0.29%
QC value within limits for Cobalt Recovery = 100.82%								
Copper†	253735.7	0.9989	mg/L	0.00257	0.9989	mg/L	0.00257	0.26%
QC value within limits for Copper Recovery = 99.89%								
Iron†	1682072.6	100.81	mg/L	0.874	100.81	mg/L	0.874	0.87%
QC value within limits for Iron Recovery = 100.81%								
Lead†	36627.3	5.1527	mg/L	0.02166	5.1527	mg/L	0.02166	0.42%
QC value within limits for Lead Recovery = 103.05%								
Lithium†	641154.7	2.0231	mg/L	0.01725	2.0231	mg/L	0.01725	0.85%
QC value within limits for Lithium Recovery = 101.16%								
Magnesium†	22791.3	10.319	mg/L	0.0975	10.319	mg/L	0.0975	0.94%
QC value within limits for Magnesium Recovery = 103.19%								
Manganese†	704520.6	1.0114	mg/L	0.00231	1.0114	mg/L	0.00231	0.23%
QC value within limits for Manganese Recovery = 101.14%								
Molybdenum†	10361.6	1.0259	mg/L	0.00717	1.0259	mg/L	0.00717	0.70%
QC value within limits for Molybdenum Recovery = 102.59%								
Nickel†	6685.3	0.2048	mg/L	0.00133	0.2048	mg/L	0.00133	0.65%
QC value within limits for Nickel Recovery = 102.40%								
Potassium†	13101.6	4.0853	mg/L	0.03241	4.0853	mg/L	0.03241	0.79%
QC value within limits for Potassium Recovery = 102.13%								
Selenium†	1817.8	2.0877	mg/L	0.02720	2.0877	mg/L	0.02720	1.30%
QC value within limits for Selenium Recovery = 104.39%								
Silicon†	4908.2	1.0351	mg/L	0.01151	1.0351	mg/L	0.01151	1.11%
QC value within limits for Silicon Recovery = 103.51%								
Silver†	83685.6	0.5044	mg/L	0.00107	0.5044	mg/L	0.00107	0.21%
QC value within limits for Silver Recovery = 100.87%								
Sodium†	23563.4	2.0382	mg/L	0.01948	2.0382	mg/L	0.01948	0.96%
QC value within limits for Sodium Recovery = 101.91%								
Strontium†	292648.7	0.5015	mg/L	0.00408	0.5015	mg/L	0.00408	0.81%
QC value within limits for Strontium Recovery = 100.30%								
Thallium†	3744.6	2.0443	mg/L	0.01628	2.0443	mg/L	0.01628	0.80%
QC value within limits for Thallium Recovery = 102.21%								
Tin†	8499.0	2.0596	mg/L	0.00983	2.0596	mg/L	0.00983	0.48%
QC value within limits for Tin Recovery = 102.98%								
Titanium†	696427.4	1.0074	mg/L	0.00179	1.0074	mg/L	0.00179	0.18%
QC value within limits for Titanium Recovery = 100.74%								
Vanadium†	136536.0	1.0078	mg/L	0.00138	1.0078	mg/L	0.00138	0.14%
QC value within limits for Vanadium Recovery = 100.78%								
Zinc†	135272.6	1.5012	mg/L	0.00455	1.5012	mg/L	0.00455	0.30%
QC value within limits for Zinc Recovery = 100.08%								

8.1 8

QC Failed. Continue with analysis.

Sequence No.: 4
Sample ID: ICB
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/23/2009 11:58:51 AM
Data Type: Reprocessed on 2/26/2009 10:23:02 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB

Analyte	Mean Corrected Intensity	Conc.	Calib Units	Std.Dev.	Cond.	Sample Units	Std.Dev.	RSD
Yttrium	1528238.3	100.70	%	0.726				0.72%
Aluminum†	-2.9	-0.0014	mg/L	0.00601	-0.0014	mg/L	0.00601	439.90%
QC value within limits for Aluminum Recovery = -2.73%								
Antimony†	2.7	0.0011	mg/L	0.00304	0.0011	mg/L	0.00304	284.96%
QC value within limits for Antimony Recovery = 10.66%								
Arsenic 188†	5.7	0.0033	mg/L	0.00263	0.0033	mg/L	0.00263	79.78%
QC value within limits for Arsenic 188 Recovery = 32.93%								
Arsenic†	-2.1	-0.0014	mg/L	0.00414	-0.0014	mg/L	0.00414	294.51%
QC value within limits for Arsenic Recovery = -14.06%								
Barium †	-109.3	-0.0003	mg/L	0.00016	-0.0003	mg/L	0.00016	53.73%
QC value within limits for Barium Recovery = -5.85%								
Beryllium†	72.9	0.0000	mg/L	0.00001	0.0000	mg/L	0.00001	38.65%
QC value within limits for Beryllium Recovery = 0.56%								
Boron†	-2.8	-0.0006	mg/L	0.00156	-0.0006	mg/L	0.00156	256.04%
QC value within limits for Boron Recovery = -6.08%								
Cadmium†	-8.8	-0.0002	mg/L	0.00019	-0.0002	mg/L	0.00019	125.57%
QC value within limits for Cadmium Recovery = -7.58%								
Calcium†	-18.8	-0.0009	mg/L	0.00162	-0.0009	mg/L	0.00162	184.44%
QC value within limits for Calcium Recovery = -1.76%								
Chromium†	-13.3	-0.0002	mg/L	0.00012	-0.0002	mg/L	0.00012	67.02%
QC value within limits for Chromium Recovery = -3.49%								
Cobalt†	2.8	0.0001	mg/L	0.00023	0.0001	mg/L	0.00023	413.29%
QC value within limits for Cobalt Recovery = 1.13%								
Copper†	-112.1	-0.0004	mg/L	0.00061	-0.0004	mg/L	0.00061	138.45%
QC value within limits for Copper Recovery = -8.82%								
Iron†	13.1	0.0008	mg/L	0.00044	0.0008	mg/L	0.00044	56.54%
QC value within limits for Iron Recovery = 1.57%								
Lead†	-18.0	-0.0025	mg/L	0.00206	-0.0025	mg/L	0.00206	81.28%
QC value within limits for Lead Recovery = -50.59%								
Lithium†	128.2	0.0004	mg/L	0.00137	0.0004	mg/L	0.00137	344.21%
QC value within limits for Lithium Recovery = 3.98%								
Magnesium†	-9.4	-0.0043	mg/L	0.00306	-0.0043	mg/L	0.00306	71.89%
QC value within limits for Magnesium Recovery = -8.52%								
Manganese†	6.1	0.0000	mg/L	0.00000	0.0000	mg/L	0.00000	41.64%
QC value within limits for Manganese Recovery = 0.18%								
Molybdenum†	2.0	0.0002	mg/L	0.00066	0.0002	mg/L	0.00066	335.90%
QC value within limits for Molybdenum Recovery = 3.95%								
Nickel†	3.2	0.0001	mg/L	0.00024	0.0001	mg/L	0.00024	245.12%
QC value within limits for Nickel Recovery = 1.95%								
Potassium†	40.2	0.0125	mg/L	0.02086	0.0125	mg/L	0.02086	166.29%
QC value within limits for Potassium Recovery = 2.51%								
Selenium†	5.6	0.0063	mg/L	0.00993	0.0063	mg/L	0.00993	158.05%
QC value within limits for Selenium Recovery = 31.41%								
Silicon†	14.4	0.0030	mg/L	0.00105	0.0030	mg/L	0.00105	34.75%
QC value within limits for Silicon Recovery = 6.03%								
Silver†	8.4	0.0001	mg/L	0.00032	0.0001	mg/L	0.00032	640.31%
QC value within limits for Silver Recovery = 1.01%								
Sodium†	-163.2	-0.0141	mg/L	0.01097	-0.0141	mg/L	0.01097	77.60%
QC value within limits for Sodium Recovery = -14.13%								
Strontium†	3.1	0.0000	mg/L	0.00016	0.0000	mg/L	0.00016	>999.9%
QC value within limits for Strontium Recovery = 0.11%								
Thallium†	0.8	0.0004	mg/L	0.00283	0.0004	mg/L	0.00283	675.71%
QC value within limits for Thallium Recovery = 2.10%								
Tin†	3.5	0.0008	mg/L	0.00169	0.0008	mg/L	0.00169	202.10%
QC value within limits for Tin Recovery = 1.68%								
Titanium†	99.6	0.0001	mg/L	0.00008	0.0001	mg/L	0.00008	58.45%
QC value within limits for Titanium Recovery = 7.21%								
Vanadium†	19.0	0.0001	mg/L	0.00002	0.0001	mg/L	0.00002	17.11%
QC value within limits for Vanadium Recovery = 2.80%								
Zinc†	-25.2	-0.0003	mg/L	0.00010	-0.0003	mg/L	0.00010	34.12%
QC value within limits for Zinc Recovery = -2.82%								

8.1 8

All analyte(s) passed QC.

8.1

8

Sequence No.: 5
Sample ID: ICV
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/25/2009 12:02:58 PM
Date Type: Reprocessed on 2/26/2009 10:23:03 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1547790.4	101.98	%	0.845				0.83%
Aluminum†	2089.2	0.9642	mg/L	0.03203	0.9642	mg/L	0.03203	3.32%
QC value within limits for Aluminum Recovery = 96.42%								
Antimony†	2549.6	0.9856	mg/L	0.01019	0.9856	mg/L	0.01019	1.03%
QC value within limits for Antimony Recovery = 98.56%								
Arsenic 188†	1707.2	0.9968	mg/L	0.01184	0.9968	mg/L	0.01184	1.19%
QC value within limits for Arsenic 188 Recovery = 99.68%								
Arsenic†	1452.5	0.9943	mg/L	0.01161	0.9943	mg/L	0.01161	1.17%
QC value within limits for Arsenic Recovery = 99.43%								
Barium †	354568.1	0.9478	mg/L	0.03116	0.9478	mg/L	0.03116	3.29%
QC value less than the lower limit for Barium Recovery = 94.78%								
Beryllium†	2539772.4	0.9691	mg/L	0.00351	0.9691	mg/L	0.00351	0.36%
QC value within limits for Beryllium Recovery = 96.91%								
Boron†	4472.9	0.9837	mg/L	0.01580	0.9837	mg/L	0.01580	1.61%
QC value within limits for Boron Recovery = 98.37%								
Cadmium†	55699.0	0.9628	mg/L	0.02076	0.9628	mg/L	0.02076	2.16%
QC value within limits for Cadmium Recovery = 96.28%								
Calcium†	20739.9	0.9634	mg/L	0.01768	0.9634	mg/L	0.01768	1.83%
QC value within limits for Calcium Recovery = 96.34%								
Chromium†	74049.2	0.9761	mg/L	0.01949	0.9761	mg/L	0.01949	2.00%
QC value within limits for Chromium Recovery = 97.61%								
Cobalt†	47148.2	0.9556	mg/L	0.02087	0.9556	mg/L	0.02087	2.18%
QC value within limits for Cobalt Recovery = 95.56%								
Copper†	245051.8	0.9649	mg/L	0.02473	0.9649	mg/L	0.02473	2.56%
QC value within limits for Copper Recovery = 96.49%								
Iron†	166412.2	9.9737	mg/L	0.35226	9.9737	mg/L	0.35226	3.53%
QC value within limits for Iron Recovery = 99.74%								
Lead†	7045.1	1.0005	mg/L	0.00981	1.0005	mg/L	0.00981	0.98%
QC value within limits for Lead Recovery = 100.05%								
Lithium†	307000.3	0.9605	mg/L	0.00284	0.9605	mg/L	0.00284	0.30%
QC value within limits for Lithium Recovery = 96.05%								
Magnesium†	2199.1	0.9995	mg/L	0.02672	0.9995	mg/L	0.02672	2.67%
QC value within limits for Magnesium Recovery = 99.95%								
Manganese†	679766.2	0.9751	mg/L	0.00461	0.9751	mg/L	0.00461	0.47%
QC value within limits for Manganese Recovery = 97.51%								
Molybdenum†	9808.7	0.9678	mg/L	0.00990	0.9678	mg/L	0.00990	1.02%
QC value within limits for Molybdenum Recovery = 96.78%								
Nickel†	31646.0	0.9689	mg/L	0.00986	0.9689	mg/L	0.00986	1.02%
QC value within limits for Nickel Recovery = 96.89%								
Potassium†	30687.0	9.5673	mg/L	0.29947	9.5673	mg/L	0.29947	3.13%
QC value within limits for Potassium Recovery = 95.67%								
Selenium†	880.7	0.9966	mg/L	0.01368	0.9966	mg/L	0.01368	1.37%
QC value within limits for Selenium Recovery = 99.66%								
Silicon†	2702.3	0.5681	mg/L	0.02265	0.5681	mg/L	0.02265	3.99%
QC value greater than the upper limit for Silicon Recovery = 113.62%								
Silver†	159896.5	0.9568	mg/L	0.02073	0.9568	mg/L	0.02073	2.17%
QC value within limits for Silver Recovery = 95.68%								
Sodium†	10846.0	0.9366	mg/L	0.03904	0.9366	mg/L	0.03904	4.17%
QC value less than the lower limit for Sodium Recovery = 93.66%								
Strontium†	545103.3	0.9347	mg/L	0.03192	0.9347	mg/L	0.03192	3.41%
QC value less than the lower limit for Strontium Recovery = 93.47%								
Thallium†	1767.5	0.9651	mg/L	0.01222	0.9651	mg/L	0.01222	1.27%
QC value within limits for Thallium Recovery = 96.51%								
Tin†	3995.5	0.9686	mg/L	0.01734	0.9686	mg/L	0.01734	1.79%
QC value within limits for Tin Recovery = 96.86%								
Titanium†	679802.6	0.9831	mg/L	0.00432	0.9831	mg/L	0.00432	0.44%
QC value within limits for Titanium Recovery = 98.31%								
Vanadium†	130536.3	0.9645	mg/L	0.02152	0.9645	mg/L	0.02152	2.23%
QC value within limits for Vanadium Recovery = 96.45%								
Zinc†	88234.3	0.9794	mg/L	0.02275	0.9794	mg/L	0.02275	2.32%
QC value within limits for Zinc Recovery = 97.94%								

8.1 8

QC Failed. Continue with analysis.

Sequence No.: 6
Sample ID: ICB
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/25/2009 12:22:31 PM
Data Type: Reprocessed on 2/26/2009 10:23:05 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1532970.3	101.01	%	0.131				0.13%
Aluminum†	12.6	0.0059	mg/L	0.00667	0.0059	mg/L	0.00667	113.11%
QC value within limits for Aluminum Recovery = 11.79%								
Antimony†	16.3	0.0064	mg/L	0.00286	0.0064	mg/L	0.00286	44.74%
QC value within limits for Antimony Recovery = 63.91%								
Arsenic 188†	0.3	0.0002	mg/L	0.00396	0.0002	mg/L	0.00396	>999.9%
QC value within limits for Arsenic 188 Recovery = 1.94%								
Arsenic†	1.9	0.0013	mg/L	0.00712	0.0013	mg/L	0.00712	557.82%
QC value within limits for Arsenic Recovery = 12.77%								
Barium †	-203.4	-0.0005	mg/L	0.00012	-0.0005	mg/L	0.00012	21.89%
QC value within limits for Barium Recovery = -10.88%								
Beryllium†	-72.3	0.0000	mg/L	0.00003	0.0000	mg/L	0.00003	96.55%
QC value within limits for Beryllium Recovery = -0.55%								
Boron†	-25.9	-0.0057	mg/L	0.00233	-0.0057	mg/L	0.00233	40.89%
QC value within limits for Boron Recovery = -56.92%								
Cadmium†	2.6	0.0000	mg/L	0.00009	0.0000	mg/L	0.00009	219.74%
QC value within limits for Cadmium Recovery = 2.15%								
Calcium†	-20.7	-0.0010	mg/L	0.00103	-0.0010	mg/L	0.00103	106.12%
QC value within limits for Calcium Recovery = -1.94%								
Chromium†	-8.0	-0.0001	mg/L	0.00014	-0.0001	mg/L	0.00014	132.65%
QC value within limits for Chromium Recovery = -2.12%								
Cobalt†	-11.7	-0.0002	mg/L	0.00030	-0.0002	mg/L	0.00030	127.27%
QC value within limits for Cobalt Recovery = -4.74%								
Copper†	-8.6	0.0000	mg/L	0.00023	0.0000	mg/L	0.00023	681.94%
QC value within limits for Copper Recovery = -0.68%								
Iron†	25.6	0.0015	mg/L	0.00132	0.0015	mg/L	0.00132	85.72%
QC value within limits for Iron Recovery = 3.07%								
Lead†	-16.0	-0.0023	mg/L	0.00128	-0.0023	mg/L	0.00128	56.69%
QC value within limits for Lead Recovery = -45.03%								
Lithium†	121.0	0.0004	mg/L	0.00053	0.0004	mg/L	0.00053	139.93%
QC value within limits for Lithium Recovery = 3.76%								
Magnesium†	8.7	0.0039	mg/L	0.00480	0.0039	mg/L	0.00480	122.37%
QC value within limits for Magnesium Recovery = 7.84%								
Manganese†	0.8	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	>999.9%
QC value within limits for Manganese Recovery = 0.02%								
Molybdenum†	7.7	0.0008	mg/L	0.00048	0.0008	mg/L	0.00048	62.59%
QC value within limits for Molybdenum Recovery = 15.26%								
Nickel†	11.3	0.0003	mg/L	0.00082	0.0003	mg/L	0.00082	238.27%
QC value within limits for Nickel Recovery = 6.90%								
Potassium†	78.2	0.0244	mg/L	0.01983	0.0244	mg/L	0.01983	81.38%
QC value within limits for Potassium Recovery = 4.87%								
Selenium†	-0.2	-0.0002	mg/L	0.00757	-0.0002	mg/L	0.00757	>999.9%
QC value within limits for Selenium Recovery = -1.16%								
Silicon†	21.3	0.0045	mg/L	0.00359	0.0045	mg/L	0.00359	80.34%
QC value within limits for Silicon Recovery = 8.95%								
Silver†	175.2	0.0010	mg/L	0.00006	0.0010	mg/L	0.00006	6.13%
QC value within limits for Silver Recovery = 20.95%								
Sodium†	-141.2	-0.0122	mg/L	0.01357	-0.0122	mg/L	0.01357	110.91%
QC value within limits for Sodium Recovery = -12.23%								
Strontium†	-73.1	-0.0001	mg/L	0.00014	-0.0001	mg/L	0.00014	108.74%
QC value within limits for Strontium Recovery = -2.51%								
Thallium†	-1.4	-0.0007	mg/L	0.00093	-0.0007	mg/L	0.00093	125.41%
QC value within limits for Thallium Recovery = -3.72%								
Tin†	-2.4	-0.0006	mg/L	0.00240	-0.0006	mg/L	0.00240	414.86%
QC value within limits for Tin Recovery = -1.16%								
Titanium†	8.8	0.0000	mg/L	0.00006	0.0000	mg/L	0.00006	440.86%
QC value within limits for Titanium Recovery = 0.64%								
Vanadium†	35.8	0.0003	mg/L	0.00009	0.0003	mg/L	0.00009	34.62%
QC value within limits for Vanadium Recovery = 5.28%								
Zinc†	-24.7	-0.0003	mg/L	0.00008	-0.0003	mg/L	0.00008	28.37%
QC value within limits for Zinc Recovery = -2.79%								

8.1 8

All analyte(s) passed QC.

Sequence No.: 7
Sample ID: CRIA
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/25/2009 12:25:09 PM
Data Type: Reprocessed on 2/26/2009 10:23:06 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CRIA

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1515563.1	99.861	%	3.8539				3.86%
Aluminum†	108.0	0.0504	mg/L	0.00781	0.0504	mg/L	0.00781	15.50%
QC value within limits for Aluminum Recovery = 100.79%								
Antimony†	16.0	0.0062	mg/L	0.00334	0.0062	mg/L	0.00334	53.84%
QC value within limits for Antimony Recovery = 62.00%								
Arsenic 188†	16.8	0.0098	mg/L	0.00510	0.0098	mg/L	0.00510	52.00%
QC value within limits for Arsenic 188 Recovery = 98.09%								
Arsenic†	15.7	0.0106	mg/L	0.00275	0.0106	mg/L	0.00275	25.84%
QC value within limits for Arsenic Recovery = 106.35%								
Barium †	1686.6	0.0045	mg/L	0.00006	0.0045	mg/L	0.00006	1.30%
QC value within limits for Barium Recovery = 90.17%								
Beryllium†	12614.8	0.0048	mg/L	0.00009	0.0048	mg/L	0.00009	1.91%
QC value within limits for Beryllium Recovery = 96.10%								
Boron†	9.6	0.0021	mg/L	0.00272	0.0021	mg/L	0.00272	128.61%
QC value less than the lower limit for Boron Recovery = 21.11%								
Cadmium†	99.7	0.0017	mg/L	0.00010	0.0017	mg/L	0.00010	5.90%
QC value within limits for Cadmium Recovery = 86.74%								
Calcium†	1204.5	0.0564	mg/L	0.00473	0.0564	mg/L	0.00473	8.38%
QC value within limits for Calcium Recovery = 112.79%								
Chromium†	381.6	0.0050	mg/L	0.00028	0.0050	mg/L	0.00028	5.51%
QC value within limits for Chromium Recovery = 100.61%								
Cobalt†	233.0	0.0047	mg/L	0.00051	0.0047	mg/L	0.00051	10.83%
QC value within limits for Cobalt Recovery = 94.56%								
Copper†	1151.8	0.0045	mg/L	0.00040	0.0045	mg/L	0.00040	8.72%
QC value within limits for Copper Recovery = 90.69%								
Iron†	826.1	0.0495	mg/L	0.00113	0.0495	mg/L	0.00113	2.29%
QC value within limits for Iron Recovery = 99.02%								
Lead†	9.5	0.0014	mg/L	0.00130	0.0014	mg/L	0.00130	93.32%
QC value less than the lower limit for Lead Recovery = 27.90%								
Lithium†	2647.7	0.0084	mg/L	0.00145	0.0084	mg/L	0.00145	17.27%
QC value within limits for Lithium Recovery = 83.86%								
Magnesium†	123.1	0.0556	mg/L	0.00256	0.0556	mg/L	0.00256	4.60%
QC value within limits for Magnesium Recovery = 111.26%								
Manganese†	3544.6	0.0051	mg/L	0.00025	0.0051	mg/L	0.00025	4.90%
QC value within limits for Manganese Recovery = 101.67%								
Molybdenum†	45.5	0.0045	mg/L	0.00121	0.0045	mg/L	0.00121	26.84%
QC value within limits for Molybdenum Recovery = 89.84%								
Nickel†	159.8	0.0049	mg/L	0.00013	0.0049	mg/L	0.00013	2.70%
QC value within limits for Nickel Recovery = 97.88%								
Potassium†	1644.6	0.5127	mg/L	0.04184	0.5127	mg/L	0.04184	8.16%
QC value within limits for Potassium Recovery = 102.53%								
Selenium†	13.2	0.0149	mg/L	0.01234	0.0149	mg/L	0.01234	82.82%
QC value within limits for Selenium Recovery = 74.52%								
Silicon†	244.2	0.0513	mg/L	0.00255	0.0513	mg/L	0.00255	4.96%
QC value within limits for Silicon Recovery = 102.64%								
Silver†	905.4	0.0054	mg/L	0.00093	0.0054	mg/L	0.00093	17.12%
QC value within limits for Silver Recovery = 108.34%								
Sodium†	1093.4	0.0947	mg/L	0.01149	0.0947	mg/L	0.01149	12.14%
QC value within limits for Sodium Recovery = 94.68%								
Strontium†	2881.0	0.0049	mg/L	0.00014	0.0049	mg/L	0.00014	2.93%
QC value within limits for Strontium Recovery = 98.77%								
Thallium†	33.9	0.0185	mg/L	0.00525	0.0185	mg/L	0.00525	28.43%
QC value within limits for Thallium Recovery = 92.33%								
Tin†	210.8	0.0510	mg/L	0.00415	0.0510	mg/L	0.00415	8.14%
QC value within limits for Tin Recovery = 101.91%								
Titanium†	1452.0	0.0021	mg/L	0.00013	0.0021	mg/L	0.00013	6.03%
QC value within limits for Titanium Recovery = 104.95%								
Vanadium†	681.7	0.0050	mg/L	0.00006	0.0050	mg/L	0.00006	1.23%
QC value within limits for Vanadium Recovery = 100.79%								
Zinc†	872.9	0.0097	mg/L	0.00040	0.0097	mg/L	0.00040	4.07%
QC value within limits for Zinc Recovery = 97.18%								

8.1 8

QC Failed. Continue with analysis.

==========

Sequence No.: 8
Sample ID: CRIA
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 6
Date Collected: 2/25/2009 12:30:29 PM
Data Type: Reprocessed on 2/26/2009 10:23:07 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CRIA

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1520830.0	100.21	%	1.380				1.38%
Aluminum†	320.7	0.1497	mg/L	0.00825	0.1497	mg/L	0.00825	5.51%
QC value greater than the upper limit for Aluminum Recovery = 299.39%								
Antimony†	23.5	0.0091	mg/L	0.00554	0.0091	mg/L	0.00554	60.63%
QC value within limits for Antimony Recovery = 91.30%								
Arsenic 188†	10.2	0.0059	mg/L	0.00043	0.0059	mg/L	0.00043	7.33%
QC value within limits for Arsenic 188 Recovery = 59.36%								
Arsenic†	20.1	0.0136	mg/L	0.00485	0.0136	mg/L	0.00485	35.71%
QC value within limits for Arsenic Recovery = 135.82%								
Barium †	1787.0	0.0048	mg/L	0.00032	0.0048	mg/L	0.00032	6.79%
QC value within limits for Barium Recovery = 95.52%								
Beryllium†	12667.9	0.0048	mg/L	0.00005	0.0048	mg/L	0.00005	0.96%
QC value within limits for Beryllium Recovery = 96.50%								
Boron†	-7.6	-0.0016	mg/L	0.00140	-0.0016	mg/L	0.00140	85.33%
QC value less than the lower limit for Boron Recovery = -16.44%								
Cadmium†	119.0	0.0021	mg/L	0.00018	0.0021	mg/L	0.00018	8.89%
QC value within limits for Cadmium Recovery = 103.37%								
Calcium†	3079.8	0.1442	mg/L	0.01137	0.1442	mg/L	0.01137	7.89%
QC value greater than the upper limit for Calcium Recovery = 288.45%								
Chromium†	370.8	0.0049	mg/L	0.00027	0.0049	mg/L	0.00027	5.45%
QC value within limits for Chromium Recovery = 97.75%								
Cobalt†	238.2	0.0048	mg/L	0.00031	0.0048	mg/L	0.00031	6.40%
QC value within limits for Cobalt Recovery = 96.67%								
Copper†	1270.6	0.0050	mg/L	0.00025	0.0050	mg/L	0.00025	4.98%
QC value within limits for Copper Recovery = 100.02%								
Iron†	1553.9	0.0931	mg/L	0.00461	0.0931	mg/L	0.00461	4.95%
QC value greater than the upper limit for Iron Recovery = 186.24%								
Lead†	30.7	0.0044	mg/L	0.00165	0.0044	mg/L	0.00165	37.74%
QC value within limits for Lead Recovery = 87.44%								
Lithium†	3066.1	0.0099	mg/L	0.00092	0.0099	mg/L	0.00092	9.36%
QC value within limits for Lithium Recovery = 98.78%								
Magnesium†	309.8	0.1400	mg/L	0.01420	0.1400	mg/L	0.01420	10.14%
QC value greater than the upper limit for Magnesium Recovery = 280.03%								
Manganese†	3523.3	0.0051	mg/L	0.00011	0.0051	mg/L	0.00011	2.16%
QC value within limits for Manganese Recovery = 101.04%								
Molybdenum†	43.3	0.0043	mg/L	0.00129	0.0043	mg/L	0.00129	30.28%
QC value within limits for Molybdenum Recovery = 85.43%								
Nickel†	162.4	0.0050	mg/L	0.00029	0.0050	mg/L	0.00029	5.92%
QC value within limits for Nickel Recovery = 99.47%								
Potassium†	1669.5	0.5204	mg/L	0.04604	0.5204	mg/L	0.04604	8.85%
QC value within limits for Potassium Recovery = 104.09%								
Selenium†	25.4	0.0287	mg/L	0.00723	0.0287	mg/L	0.00723	25.18%
QC value within limits for Selenium Recovery = 143.51%								
Silicon†	248.7	0.0522	mg/L	0.00333	0.0522	mg/L	0.00333	6.37%
QC value within limits for Silicon Recovery = 104.50%								
Silver†	1038.9	0.0062	mg/L	0.00035	0.0062	mg/L	0.00035	5.62%
QC value within limits for Silver Recovery = 124.34%								
Sodium†	1216.6	0.1053	mg/L	0.00413	0.1053	mg/L	0.00413	3.92%
QC value within limits for Sodium Recovery = 105.35%								
Strontium†	2796.5	0.0048	mg/L	0.00008	0.0048	mg/L	0.00008	1.68%
QC value within limits for Strontium Recovery = 95.82%								
Thallium†	35.6	0.0194	mg/L	0.00620	0.0194	mg/L	0.00620	31.94%
QC value within limits for Thallium Recovery = 97.14%								
Tin†	208.6	0.0504	mg/L	0.00081	0.0504	mg/L	0.00081	1.61%
QC value within limits for Tin Recovery = 100.83%								
Titanium†	1371.4	0.0020	mg/L	0.00010	0.0020	mg/L	0.00010	4.99%
QC value within limits for Titanium Recovery = 99.12%								
Vanadium†	713.7	0.0053	mg/L	0.00017	0.0053	mg/L	0.00017	3.28%
QC value within limits for Vanadium Recovery = 105.51%								
Zinc†	865.8	0.0096	mg/L	0.00044	0.0096	mg/L	0.00044	4.58%

8.1

QC value within limits for Zinc Recovery = 96.31%
QC Failed. Continue with analysis.

Sequence No.: 9
Sample ID: ICSA
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 4
Date Collected: 2/25/2009 12:34:47 PM
Data Type: Reprocessed on 2/26/2009 10:21:09 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSA

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Yttrium	1336408.0	88.056	%	1.2722				1.44%
Aluminum†	1036283.5	483.94	mg/L	5.164	483.94	mg/L	5.164	1.07%
QC value within limits for Aluminum Recovery = 96.79%								
Antimony†	48.6	0.0030	mg/L	0.00997	0.0030	mg/L	0.00997	337.11%
QC value within limits for Antimony Recovery = 29.56%								
Arsenic 188†	5.3	0.0183	mg/L	0.00416	0.0183	mg/L	0.00416	22.70%
QC value within limits for Arsenic 188 Recovery = 183.37%								
Arsenic†	2.1	-0.0047	mg/L	0.01040	-0.0047	mg/L	0.01040	222.17%
Barium †	838.6	-0.0007	mg/L	0.00038	-0.0007	mg/L	0.00038	55.90%
QC value within limits for Barium Recovery = -13.46%								
Beryllium†	-1044.4	-0.0004	mg/L	0.00006	-0.0004	mg/L	0.00006	16.43%
QC value within limits for Beryllium Recovery = -7.71%								
Boron†	-139.2	0.0289	mg/L	0.00457	0.0289	mg/L	0.00457	15.81%
QC value greater than the upper limit for Boron Recovery = 289.23%								
Cadmium†	4.7	0.0001	mg/L	0.00030	0.0001	mg/L	0.00030	329.49%
QC value within limits for Cadmium Recovery = 4.60%								
Calcium†	10032302.1	469.93	mg/L	5.857	469.93	mg/L	5.857	1.25%
QC value within limits for Calcium Recovery = 93.99%								
Chromium†	115.8	0.0015	mg/L	0.00059	0.0015	mg/L	0.00059	38.73%
QC value within limits for Chromium Recovery = 30.41%								
Cobalt†	142.8	-0.0010	mg/L	0.00021	-0.0010	mg/L	0.00021	19.75%
QC value within limits for Cobalt Recovery = -20.89%								
Copper†	-154.5	-0.0050	mg/L	0.00079	-0.0050	mg/L	0.00079	15.87%
QC value within limits for Copper Recovery = -99.80%								
Iron†	3158322.1	189.25	mg/L	2.827	189.25	mg/L	2.827	1.49%
QC value within limits for Iron Recovery = 94.63%								
Lead†	-224.6	-0.0071	mg/L	0.00160	-0.0071	mg/L	0.00160	22.70%
QC value within limits for Lead Recovery = -141.06%								
Lithium†	-244298.2	0.2339	mg/L	0.01632	0.2339	mg/L	0.01632	6.97%
Magnesium†	1102159.0	498.05	mg/L	5.262	498.05	mg/L	5.262	1.06%
QC value within limits for Magnesium Recovery = 99.61%								
Manganese†	10116.0	0.0075	mg/L	0.00019	0.0075	mg/L	0.00019	2.58%
QC value within limits for Manganese Recovery = 149.54%								
Molybdenum†	-58.0	0.0017	mg/L	0.00161	0.0017	mg/L	0.00161	94.53%
QC value within limits for Molybdenum Recovery = 34.00%								
Nickel†	59.9	0.0018	mg/L	0.00086	0.0018	mg/L	0.00086	46.69%
QC value within limits for Nickel Recovery = 36.70%								
Potassium†	431.8	0.1346	mg/L	0.05765	0.1346	mg/L	0.05765	42.83%
QC value within limits for Potassium Recovery = 26.92%								
Selenium†	-79.9	0.0027	mg/L	0.01295	0.0027	mg/L	0.01295	482.77%
QC value within limits for Selenium Recovery = 13.41%								
Silicon†	248.3	-0.0133	mg/L	0.00508	-0.0133	mg/L	0.00508	38.07%
QC value within limits for Silicon Recovery = -26.68%								
Silver†	-1243.1	-0.0010	mg/L	0.00018	-0.0010	mg/L	0.00018	17.45%
QC value within limits for Silver Recovery = -20.67%								
Sodium†	1027.0	0.0889	mg/L	0.00912	0.0889	mg/L	0.00912	10.26%
QC value within limits for Sodium Recovery = 88.91%								
Strontium†	4492.4	-0.0061	mg/L	0.00004	-0.0061	mg/L	0.00004	0.65%
QC value within limits for Strontium Recovery = -122.36%								
Thallium†	-5.9	-0.0032	mg/L	0.00647	-0.0032	mg/L	0.00647	201.69%
QC value within limits for Thallium Recovery = -16.03%								
Tin†	-106.7	-0.0207	mg/L	0.00152	-0.0207	mg/L	0.00152	7.33%
QC value within limits for Tin Recovery = -41.35%								
Titanium†	2692.7	0.0039	mg/L	0.00011	0.0039	mg/L	0.00011	2.92%
QC value within limits for Titanium Recovery = 194.75%								
Vanadium†	-235.2	0.0003	mg/L	0.00025	0.0003	mg/L	0.00025	93.44%
QC value within limits for Vanadium Recovery = 5.44%								
Zinc†	1724.6	-0.0150	mg/L	0.00019	-0.0150	mg/L	0.00019	1.27%
QC value within limits for Zinc Recovery = -149.73%								

QC Failed. Continue with analysis.

Sequence No.: 10
Sample ID: ICSAB
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 5
Date Collected: 2/25/2009 12:39:00 PM
Data Type: Reprocessed on 2/26/2009 10:23:10 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICSAB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1334570.3	87.935	%	0.8190				0.93%
Aluminum†	1061820.7	495.86	mg/L	7.037	495.86	mg/L	7.037	1.42%
QC value within limits for Aluminum Recovery = 99.17%								
Antimony†	2894.7	1.1104	mg/L	0.01262	1.1104	mg/L	0.01262	1.14%
QC value within limits for Antimony Recovery = 111.04%								
Arsenic 188†	1808.6	1.0691	mg/L	0.01049	1.0691	mg/L	0.01049	0.98%
QC value within limits for Arsenic 188 Recovery = 106.91%								
Arsenic†	1554.6	1.0459	mg/L	0.00696	1.0459	mg/L	0.00696	0.67%
QC value within limits for Arsenic Recovery = 104.59%								
Barium †	192862.9	0.5125	mg/L	0.00610	0.5125	mg/L	0.00610	1.19%
QC value within limits for Barium Recovery = 102.50%								
Beryllium†	1295288.5	0.4928	mg/L	0.00148	0.4928	mg/L	0.00148	0.30%
QC value within limits for Beryllium Recovery = 98.55%								
Boron†	4736.0	1.1019	mg/L	0.00676	1.1019	mg/L	0.00676	0.61%
QC value within limits for Boron Recovery = 110.19%								
Cadmium†	60687.7	1.0468	mg/L	0.01580	1.0468	mg/L	0.01580	1.51%
QC value within limits for Cadmium Recovery = 104.68%								
Calcium†	10607621.7	496.88	mg/L	13.857	496.88	mg/L	13.857	2.79%
QC value within limits for Calcium Recovery = 99.38%								
Chromium†	37836.7	0.4988	mg/L	0.00928	0.4988	mg/L	0.00928	1.86%
QC value within limits for Chromium Recovery = 99.75%								
Cobalt†	22823.8	0.4594	mg/L	0.00467	0.4594	mg/L	0.00467	1.02%
QC value within limits for Cobalt Recovery = 91.87%								
Copper†	141952.3	0.5543	mg/L	0.01160	0.5543	mg/L	0.01160	2.09%
QC value within limits for Copper Recovery = 110.87%								
Iron†	3351287.2	200.82	mg/L	5.615	200.82	mg/L	5.615	2.80%
QC value within limits for Iron Recovery = 100.41%								
Lead†	6758.0	0.9792	mg/L	0.00933	0.9792	mg/L	0.00933	0.95%
QC value within limits for Lead Recovery = 97.92%								
Lithium†	-257836.1	0.2488	mg/L	0.03922	0.2488	mg/L	0.03922	15.76%
Magnesium†	1122601.8	507.29	mg/L	11.314	507.29	mg/L	11.314	2.23%
QC value within limits for Magnesium Recovery = 101.46%								
Manganese†	354583.8	0.5015	mg/L	0.00899	0.5015	mg/L	0.00899	1.79%
QC value within limits for Manganese Recovery = 100.30%								
Molybdenum†	10042.6	0.9983	mg/L	0.01419	0.9983	mg/L	0.01419	1.42%
QC value within limits for Molybdenum Recovery = 99.83%								
Nickel†	29770.1	0.9114	mg/L	0.01035	0.9114	mg/L	0.01035	1.14%
QC value within limits for Nickel Recovery = 91.14%								
Potassium†	192.4	0.0602	mg/L	0.03367	0.0602	mg/L	0.03367	55.97%
Selenium†	829.9	1.0326	mg/L	0.01430	1.0326	mg/L	0.01430	1.38%
QC value within limits for Selenium Recovery = 103.26%								
Silicon†	823.4	0.1056	mg/L	0.01053	0.1056	mg/L	0.01053	9.97%
QC value within limits for Silicon Recovery = 105.64%								
Silver†	181988.2	1.0949	mg/L	0.01904	1.0949	mg/L	0.01904	1.74%
QC value within limits for Silver Recovery = 109.49%								
Sodium†	13389.8	1.1581	mg/L	0.01622	1.1581	mg/L	0.01622	1.40%
QC value within limits for Sodium Recovery = 115.81%								
Strontium†	4598.3	-0.0067	mg/L	0.00019	-0.0067	mg/L	0.00019	2.83%
Thallium†	1751.5	0.9528	mg/L	0.01363	0.9528	mg/L	0.01363	1.43%
QC value within limits for Thallium Recovery = 95.28%								
Tin†	-101.3	-0.0190	mg/L	0.00214	-0.0190	mg/L	0.00214	11.24%
Titanium†	2867.5	0.0040	mg/L	0.00029	0.0040	mg/L	0.00029	7.37%
Vanadium†	67798.6	0.5034	mg/L	0.00913	0.5034	mg/L	0.00913	1.81%
QC value within limits for Vanadium Recovery = 100.69%								
Zinc†	92813.5	0.9958	mg/L	0.01874	0.9958	mg/L	0.01874	1.88%
QC value within limits for Zinc Recovery = 99.58%								

All analyte(s) passed QC.

8.1 8

Sequence No.: 11
Sample ID: CCV
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/25/2009 12:43:15 PM
Data Type: Reprocessed on 2/26/2009 10:33:11 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Yttrium	1530184.2	100.82	%	1.768				1.75%
Aluminum†	2054.4	0.9481	mg/L	0.02859	0.9481	mg/L	0.02859	3.02%
QC value within limits for Aluminum Recovery = 94.81%								
Antimony†	2515.2	0.9722	mg/L	0.02631	0.9722	mg/L	0.02631	2.71%
QC value within limits for Antimony Recovery = 97.22%								
Arsenic 188†	1677.5	0.9795	mg/L	0.03009	0.9795	mg/L	0.03009	3.07%
QC value within limits for Arsenic 188 Recovery = 97.95%								
Arsenic†	1423.7	0.9749	mg/L	0.01994	0.9749	mg/L	0.01994	2.05%
QC value within limits for Arsenic Recovery = 97.49%								
Barium †	345481.4	0.9235	mg/L	0.01519	0.9235	mg/L	0.01519	1.65%
QC value within limits for Barium Recovery = 92.35%								
Beryllium†	2491605.3	0.9508	mg/L	0.00095	0.9508	mg/L	0.00095	0.10%
QC value within limits for Beryllium Recovery = 95.08%								
Boron†	4329.7	0.9521	mg/L	0.02718	0.9521	mg/L	0.02718	2.85%
QC value within limits for Boron Recovery = 95.21%								
Cadmium†	55343.2	0.9566	mg/L	0.01521	0.9566	mg/L	0.01521	1.59%
QC value within limits for Cadmium Recovery = 95.66%								
Calcium†	20218.1	0.9392	mg/L	0.02144	0.9392	mg/L	0.02144	2.28%
QC value within limits for Calcium Recovery = 93.92%								
Chromium†	73695.6	0.9715	mg/L	0.01708	0.9715	mg/L	0.01708	1.76%
QC value within limits for Chromium Recovery = 97.15%								
Cobalt†	46758.6	0.9478	mg/L	0.01631	0.9478	mg/L	0.01631	1.72%
QC value within limits for Cobalt Recovery = 94.78%								
Copper†	244303.9	0.9619	mg/L	0.01631	0.9619	mg/L	0.01631	1.70%
QC value within limits for Copper Recovery = 96.19%								
Iron†	160518.5	9.6205	mg/L	0.14619	9.6205	mg/L	0.14619	1.52%
QC value within limits for Iron Recovery = 96.20%								
Lead†	6964.4	0.9891	mg/L	0.02563	0.9891	mg/L	0.02563	2.59%
QC value within limits for Lead Recovery = 98.91%								
Lithium†	302544.8	0.9466	mg/L	0.00451	0.9466	mg/L	0.00451	0.48%
QC value within limits for Lithium Recovery = 94.66%								
Magnesium†	2150.8	0.9776	mg/L	0.04229	0.9776	mg/L	0.04229	4.33%
QC value within limits for Magnesium Recovery = 97.76%								
Manganese†	668215.2	0.9585	mg/L	0.00155	0.9585	mg/L	0.00155	0.16%
QC value within limits for Manganese Recovery = 95.85%								
Molybdenum†	9771.4	0.9641	mg/L	0.01903	0.9641	mg/L	0.01903	1.97%
QC value within limits for Molybdenum Recovery = 96.41%								
Nickel†	31386.2	0.9610	mg/L	0.02162	0.9610	mg/L	0.02162	2.25%
QC value within limits for Nickel Recovery = 96.10%								
Potassium†	30085.3	9.3797	mg/L	0.19084	9.3797	mg/L	0.19084	2.03%
QC value within limits for Potassium Recovery = 93.80%								
Selenium†	874.0	0.9888	mg/L	0.02962	0.9888	mg/L	0.02962	3.00%
QC value within limits for Selenium Recovery = 98.88%								
Silicon†	2675.5	0.5625	mg/L	0.01717	0.5625	mg/L	0.01717	3.05%
QC value greater than the upper limit for Silicon Recovery = 112.49%								
Silver†	159453.6	0.9541	mg/L	0.01654	0.9541	mg/L	0.01654	1.73%
QC value within limits for Silver Recovery = 95.41%								
Sodium†	11019.6	0.9517	mg/L	0.02008	0.9517	mg/L	0.02008	2.11%
QC value within limits for Sodium Recovery = 95.17%								
Strontium†	532824.5	0.9136	mg/L	0.01416	0.9136	mg/L	0.01416	1.55%
QC value within limits for Strontium Recovery = 91.36%								
Thallium†	1738.6	0.9492	mg/L	0.02485	0.9492	mg/L	0.02485	2.62%
QC value within limits for Thallium Recovery = 94.92%								
Tin†	3964.3	0.9611	mg/L	0.02398	0.9611	mg/L	0.02398	2.50%
QC value within limits for Tin Recovery = 96.11%								
Titanium†	670590.6	0.9698	mg/L	0.00115	0.9698	mg/L	0.00115	0.12%
QC value within limits for Titanium Recovery = 96.98%								
Vanadium†	129991.6	0.9605	mg/L	0.01668	0.9605	mg/L	0.01668	1.74%
QC value within limits for Vanadium Recovery = 96.05%								
Zinc†	87417.0	0.9704	mg/L	0.01575	0.9704	mg/L	0.01575	1.62%
QC value within limits for Zinc Recovery = 97.04%								

8.1 8

QC Failed. Continue with analysis.

Sequence No.: 12
Sample ID: CCB
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt.:
Dilution:

Autosampler Location: 1
Date Collected: 2/25/2009 12:55:36 PM
Data Type: Reprocessed on 2/26/2009 10:23:13 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1537606.4	101.31	%	1.821				1.80%
Aluminum†	3.7	0.0017	mg/L	0.00599	0.0017	mg/L	0.00599	347.07%
QC value within limits for Aluminum Recovery = 3.45%								
Antimony†	11.6	0.0045	mg/L	0.00193	0.0045	mg/L	0.00193	42.52%
QC value within limits for Antimony Recovery = 45.31%								
Arsenic 188†	8.1	0.0047	mg/L	0.00361	0.0047	mg/L	0.00361	76.51%
QC value within limits for Arsenic 188 Recovery = 47.18%								
Arsenic†	-1.1	-0.0008	mg/L	0.00612	-0.0008	mg/L	0.00612	799.03%
QC value within limits for Arsenic Recovery = -7.66%								
Barium †	-41.7	-0.0001	mg/L	0.00012	-0.0001	mg/L	0.00012	104.65%
QC value within limits for Barium Recovery = -2.23%								
Beryllium†	-181.1	-0.0001	mg/L	0.00003	-0.0001	mg/L	0.00003	40.92%
QC value within limits for Beryllium Recovery = -1.36%								
Boron†	-29.4	-0.0064	mg/L	0.00266	-0.0064	mg/L	0.00266	41.33%
QC value within limits for Boron Recovery = -64.43%								
Cadmium†	-12.1	-0.0002	mg/L	0.00008	-0.0002	mg/L	0.00008	38.14%
QC value within limits for Cadmium Recovery = -10.36%								
Calcium†	1.6	0.0001	mg/L	0.00149	0.0001	mg/L	0.00149	>999.9%
QC value within limits for Calcium Recovery = 0.15%								
Chromium†	-7.2	-0.0001	mg/L	0.00002	-0.0001	mg/L	0.00002	23.59%
QC value within limits for Chromium Recovery = -1.89%								
Cobalt†	10.0	0.0002	mg/L	0.00007	0.0002	mg/L	0.00007	35.50%
QC value within limits for Cobalt Recovery = 4.06%								
Copper†	-68.9	-0.0003	mg/L	0.00057	-0.0003	mg/L	0.00057	211.73%
QC value within limits for Copper Recovery = -5.43%								
Iron†	11.1	0.0007	mg/L	0.00051	0.0007	mg/L	0.00051	76.17%
QC value within limits for Iron Recovery = 1.33%								
Lead†	-9.6	-0.0014	mg/L	0.00241	-0.0014	mg/L	0.00241	178.43%
QC value within limits for Lead Recovery = -27.04%								
Lithium†	-117.0	-0.0004	mg/L	0.00127	-0.0004	mg/L	0.00127	348.50%
QC value within limits for Lithium Recovery = -3.65%								
Magnesium†	5.8	0.0026	mg/L	0.00689	0.0026	mg/L	0.00689	263.70%
QC value within limits for Magnesium Recovery = 5.22%								
Manganese†	-2.0	0.0000	mg/L	0.00003	0.0000	mg/L	0.00003	939.38%
QC value within limits for Manganese Recovery = -0.06%								
Molybdenum†	6.2	0.0006	mg/L	0.00063	0.0006	mg/L	0.00063	102.45%
QC value within limits for Molybdenum Recovery = 12.23%								
Nickel†	1.2	0.0000	mg/L	0.00032	0.0000	mg/L	0.00032	869.10%
QC value within limits for Nickel Recovery = 0.73%								
Potassium†	74.6	0.0233	mg/L	0.02999	0.0233	mg/L	0.02999	128.97%
QC value within limits for Potassium Recovery = 4.65%								
Selenium†	3.0	0.0034	mg/L	0.00529	0.0034	mg/L	0.00529	154.52%
QC value within limits for Selenium Recovery = 17.11%								
Silicon†	15.4	0.0032	mg/L	0.00088	0.0032	mg/L	0.00088	27.31%
QC value within limits for Silicon Recovery = 6.46%								
Silver†	60.1	0.0004	mg/L	0.00047	0.0004	mg/L	0.00047	129.72%
QC value within limits for Silver Recovery = 7.18%								
Sodium†	295.9	0.0256	mg/L	0.01581	0.0256	mg/L	0.01581	61.72%
QC value within limits for Sodium Recovery = 25.62%								
Strontium†	31.5	0.0001	mg/L	0.00016	0.0001	mg/L	0.00016	294.39%
QC value within limits for Strontium Recovery = 1.08%								
Thallium†	2.2	0.0012	mg/L	0.00338	0.0012	mg/L	0.00338	277.26%
QC value within limits for Thallium Recovery = 6.09%								
Tin†	-3.8	-0.0009	mg/L	0.00174	-0.0009	mg/L	0.00174	191.02%
QC value within limits for Tin Recovery = -1.83%								
Titanium†	159.8	0.0002	mg/L	0.00005	0.0002	mg/L	0.00005	21.46%
QC value within limits for Titanium Recovery = 11.56%								
Vanadium†	6.4	0.0000	mg/L	0.00011	0.0000	mg/L	0.00011	235.33%
QC value within limits for Vanadium Recovery = 0.94%								
Zinc†	-34.9	-0.0004	mg/L	0.00004	-0.0004	mg/L	0.00004	9.53%
QC value within limits for Zinc Recovery = -3.90%								

8.1
8

All analyte(s) passed QC.

8.1

8

Sequence No.: 13
Sample ID: MP932-MB1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 13
Date Collected: 2/25/2009 12:58:18 PM
Data Type: Reprocessed on 2/26/2009 10:23:14 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP932-MB1

Analyte	Mean Corrected Intensity	Calib Cond.	Calib Units	Calib Std.Dev.	Sample Cond.	Sample Units	Sample Std.Dev.	RSD
Yttrium	1521297.3	100.24	%	3.151				3.14%
Aluminum†	-13.1	-0.0061	mg/L	0.01103	-0.0061	mg/L	0.01103	179.84%
Antimony†	0.5	0.0002	mg/L	0.00126	0.0002	mg/L	0.00126	611.60%
Arsenic 188†	2.7	0.0016	mg/L	0.00378	0.0016	mg/L	0.00378	238.86%
Arsenic†	3.0	0.0020	mg/L	0.00673	0.0020	mg/L	0.00673	329.90%
Barium †	48.1	0.0001	mg/L	0.00008	0.0001	mg/L	0.00008	60.66%
Beryllium†	-42.6	0.0000	mg/L	0.00006	0.0000	mg/L	0.00006	346.13%
Boron†	-38.1	-0.0084	mg/L	0.00055	-0.0084	mg/L	0.00055	6.60%
Cadmium†	-3.3	-0.0001	mg/L	0.00018	-0.0001	mg/L	0.00018	313.96%
Calcium†	485.1	0.0227	mg/L	0.00510	0.0227	mg/L	0.00510	22.43%
Chromium†	30.6	0.0004	mg/L	0.00006	0.0004	mg/L	0.00006	15.62%
Cobalt†	-15.7	-0.0003	mg/L	0.00018	-0.0003	mg/L	0.00018	55.15%
Copper†	-139.7	-0.0005	mg/L	0.00096	-0.0005	mg/L	0.00096	174.89%
Iron†	60.9	0.0036	mg/L	0.00022	0.0036	mg/L	0.00022	6.04%
Lead†	-12.1	-0.0017	mg/L	0.00066	-0.0017	mg/L	0.00066	39.00%
Lithium†	-82.6	-0.0002	mg/L	0.00054	-0.0002	mg/L	0.00054	257.34%
Magnesium†	5.3	0.0024	mg/L	0.00383	0.0024	mg/L	0.00383	160.05%
Manganese†	102.0	0.0001	mg/L	0.00001	0.0001	mg/L	0.00001	6.08%
Molybdenum†	-4.5	-0.0004	mg/L	0.00083	-0.0004	mg/L	0.00083	187.97%
Nickel†	-5.5	-0.0002	mg/L	0.00005	-0.0002	mg/L	0.00005	28.64%
Potassium†	256.7	0.0800	mg/L	0.02093	0.0800	mg/L	0.02093	26.15%
Selenium†	2.2	0.0025	mg/L	0.00235	0.0025	mg/L	0.00235	93.41%
Silicon†	30.5	0.0064	mg/L	0.00151	0.0064	mg/L	0.00151	23.58%
Silver†	27.2	0.0002	mg/L	0.00039	0.0002	mg/L	0.00039	237.10%
Sodium†	427.0	0.0370	mg/L	0.01041	0.0370	mg/L	0.01041	28.13%
Strontium†	-34.8	-0.0001	mg/L	0.00006	-0.0001	mg/L	0.00006	102.30%
Thallium†	0.3	0.0002	mg/L	0.00492	0.0002	mg/L	0.00492	>999.9%
Tin†	7.6	0.0018	mg/L	0.00163	0.0018	mg/L	0.00163	89.41%
Titanium†	31.3	0.0000	mg/L	0.00012	0.0000	mg/L	0.00012	269.53%
Vanadium†	8.4	0.0001	mg/L	0.00007	0.0001	mg/L	0.00007	106.68%
Zinc†	150.5	0.0017	mg/L	0.00014	0.0017	mg/L	0.00014	8.40%

Sequence No.: 14
Sample ID: M9932-B1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 14
Date Collected: 2/25/2009 1:01:00 PM
Data Type: Reprocessed on 2/26/2009 10:23:15 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: M9932-B1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1532777.0	100.99	%	0.970				0.96%
Aluminum†	996.3	0.4614	mg/L	0.00835	0.4614	mg/L	0.00835	1.81%
Antimony†	1287.3	0.4975	mg/L	0.00652	0.4975	mg/L	0.00652	1.31%
Arsenic 188†	823.6	0.4806	mg/L	0.00559	0.4806	mg/L	0.00559	1.16%
Arsenic†	710.2	0.4866	mg/L	0.00161	0.4866	mg/L	0.00161	0.33%
Barium †	173158.5	0.4629	mg/L	0.00233	0.4629	mg/L	0.00233	0.50%
Beryllium†	1256920.5	0.4797	mg/L	0.00146	0.4797	mg/L	0.00146	0.30%
Boron†	2149.2	0.4713	mg/L	0.01453	0.4713	mg/L	0.01453	3.08%
Cadmium†	28067.7	0.4852	mg/L	0.00302	0.4852	mg/L	0.00302	0.62%
Calcium†	9996.5	0.4676	mg/L	0.01466	0.4676	mg/L	0.01466	3.14%
Chromium†	38213.9	0.5037	mg/L	0.00083	0.5037	mg/L	0.00083	0.16%
Cobalt†	24227.6	0.4912	mg/L	0.00289	0.4912	mg/L	0.00289	0.59%
Copper†	123394.1	0.4859	mg/L	0.00349	0.4859	mg/L	0.00349	0.72%
Iron†	8289.0	0.4968	mg/L	0.00963	0.4968	mg/L	0.00963	1.94%
Lead†	3456.1	0.4912	mg/L	0.00199	0.4912	mg/L	0.00199	0.41%
Lithium†	152870.2	0.4783	mg/L	0.00254	0.4783	mg/L	0.00254	0.53%
Magnesium†	1080.3	0.4904	mg/L	0.01909	0.4904	mg/L	0.01909	3.89%
Manganese†	345442.3	0.4955	mg/L	0.00133	0.4955	mg/L	0.00133	0.27%
Molybdenum†	4958.5	0.4891	mg/L	0.00369	0.4891	mg/L	0.00369	0.75%
Nickel†	16204.6	0.4961	mg/L	0.00177	0.4961	mg/L	0.00177	0.36%
Potassium†	15096.7	4.7067	mg/L	0.07855	4.7067	mg/L	0.07855	1.67%
Selenium†	404.9	0.4566	mg/L	0.00367	0.4566	mg/L	0.00367	0.80%
Silicon†	2278.3	0.4787	mg/L	0.00734	0.4787	mg/L	0.00734	1.53%
Silver†	40227.8	0.2408	mg/L	0.00080	0.2408	mg/L	0.00080	0.33%
Sodium†	5659.5	0.4888	mg/L	0.00264	0.4888	mg/L	0.00264	0.54%
Strontium†	269446.4	0.4620	mg/L	0.00255	0.4620	mg/L	0.00255	0.55%
Thallium†	859.4	0.4692	mg/L	0.00371	0.4692	mg/L	0.00371	0.79%
Tin†	3903.8	0.9449	mg/L	0.01033	0.9449	mg/L	0.01033	1.09%
Titanium†	345650.9	0.4999	mg/L	0.00156	0.4999	mg/L	0.00156	0.31%
Vanadium†	67230.6	0.4967	mg/L	0.00099	0.4967	mg/L	0.00099	0.20%
Zinc†	43732.7	0.4858	mg/L	0.00184	0.4858	mg/L	0.00184	0.38%

Sequence No.: 15
Sample ID: MP932-B2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 15
Date Collected: 2/25/2009 1:04:55 PM
Data Type: Reprocessed on 2/26/2009 10:23:17 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP932-B2

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1527808.3	100.67	%	1.336				1.33%
Aluminum†	999.7	0.4630	mg/L	0.01668	0.4630	mg/L	0.01668	3.60%
Antimony†	1298.5	0.5019	mg/L	0.00788	0.5019	mg/L	0.00788	1.57%
Arsenic 188†	827.2	0.4826	mg/L	0.01076	0.4826	mg/L	0.01076	2.23%
Arsenic†	712.2	0.4878	mg/L	0.00792	0.4878	mg/L	0.00792	1.62%
Barium †	180413.5	0.4823	mg/L	0.00888	0.4823	mg/L	0.00888	1.84%
Beryllium†	1250950.8	0.4774	mg/L	0.00051	0.4774	mg/L	0.00051	0.11%
Boron†	2177.1	0.4774	mg/L	0.01241	0.4774	mg/L	0.01241	2.60%
Cadmium†	27518.2	0.4757	mg/L	0.01011	0.4757	mg/L	0.01011	2.13%
Calcium†	10939.7	0.5118	mg/L	0.01026	0.5118	mg/L	0.01026	2.00%
Chromium†	37740.7	0.4975	mg/L	0.01336	0.4975	mg/L	0.01336	2.69%
Cobalt†	23786.6	0.4822	mg/L	0.01034	0.4822	mg/L	0.01034	2.14%
Copper†	120853.8	0.4759	mg/L	0.01028	0.4759	mg/L	0.01028	2.16%
Iron†	8395.0	0.5031	mg/L	0.01158	0.5031	mg/L	0.01158	2.30%
Lead†	3495.0	0.4966	mg/L	0.00693	0.4966	mg/L	0.00693	1.40%
Lithium†	150405.4	0.4707	mg/L	0.00057	0.4707	mg/L	0.00057	0.12%
Magnesium†	1114.9	0.5060	mg/L	0.01016	0.5060	mg/L	0.01016	2.01%
Manganese†	343804.7	0.4931	mg/L	0.00124	0.4931	mg/L	0.00124	0.25%
Molybdenum†	5043.3	0.4974	mg/L	0.00696	0.4974	mg/L	0.00696	1.40%
Nickel†	16004.6	0.4900	mg/L	0.01019	0.4900	mg/L	0.01019	2.08%
Potassium†	15772.4	4.9173	mg/L	0.12416	4.9173	mg/L	0.12416	2.52%
Selenium†	403.6	0.4552	mg/L	0.00903	0.4552	mg/L	0.00903	1.98%
Silicon†	2383.8	0.5009	mg/L	0.01163	0.5009	mg/L	0.01163	2.32%
Silver†	39716.9	0.2378	mg/L	0.00493	0.2378	mg/L	0.00493	2.08%
Sodium†	6000.2	0.5183	mg/L	0.01169	0.5183	mg/L	0.01169	2.25%
Strontium†	280377.7	0.4808	mg/L	0.00801	0.4808	mg/L	0.00801	1.67%
Thallium†	870.6	0.4753	mg/L	0.00798	0.4753	mg/L	0.00798	1.68%
Tin†	3967.0	0.9601	mg/L	0.01474	0.9601	mg/L	0.01474	1.54%
Titanium†	344471.6	0.4982	mg/L	0.00138	0.4982	mg/L	0.00138	0.28%
Vanadium†	66551.8	0.4917	mg/L	0.01073	0.4917	mg/L	0.01073	2.18%
Zinc†	42935.7	0.4769	mg/L	0.01154	0.4769	mg/L	0.01154	2.42%

Sequence No.: 16
Sample ID: C4539-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 16
Date Collected: 2/25/2009 1:08:58 PM
Data Type: Reprocessed on 2/26/2009 10:23:18 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4539-1

Analyte	Mean Corrected Intensity	Conc.	Calib Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1491100.2	98.249	%	0.3249				0.33%
Aluminum†	264.4	0.1226	mg/L	0.00743	0.1226	mg/L	0.00743	6.06%
Antimony†	-0.9	-0.0004	mg/L	0.00125	-0.0004	mg/L	0.00125	323.98%
Arsenic 188†	6.0	0.0037	mg/L	0.00685	0.0037	mg/L	0.00685	182.97%
Arsenic†	0.7	0.0005	mg/L	0.00401	0.0005	mg/L	0.00401	814.01%
Barium †	17314.6	0.0463	mg/L	0.00075	0.0463	mg/L	0.00075	1.62%
Beryllium†	-433.7	-0.0002	mg/L	0.00007	-0.0002	mg/L	0.00007	46.11%
Boron†	477.4	0.1053	mg/L	0.00218	0.1053	mg/L	0.00218	2.07%
Cadmium†	61.0	0.0011	mg/L	0.00033	0.0011	mg/L	0.00033	31.32%
Calcium†	3371667.0	157.99	mg/L	2.653	157.99	mg/L	2.653	1.68%
Chromium†	283.8	0.0037	mg/L	0.00030	0.0037	mg/L	0.00030	8.15%
Cobalt†	43.4	0.0008	mg/L	0.00026	0.0008	mg/L	0.00026	30.63%
Copper†	1983.5	0.0078	mg/L	0.00082	0.0078	mg/L	0.00082	10.49%
Iron†	27036.3	1.6081	mg/L	0.00743	1.6081	mg/L	0.00743	0.46%
Lead†	11.5	0.0016	mg/L	0.00176	0.0016	mg/L	0.00176	111.85%
Lithium†	-67515.0	0.1242	mg/L	0.00449	0.1242	mg/L	0.00449	3.62%
Magnesium†	6062.4	2.7382	mg/L	0.01381	2.7382	mg/L	0.01381	0.50%
Manganese†	89984.7	0.1290	mg/L	0.00379	0.1290	mg/L	0.00379	2.94%
Molybdenum†	42.3	0.0042	mg/L	0.00019	0.0042	mg/L	0.00019	4.43%
Nickel†	225.5	0.0069	mg/L	0.00047	0.0069	mg/L	0.00047	6.85%
Potassium†	7871.5	2.4538	mg/L	0.04462	2.4538	mg/L	0.04462	1.82%
Selenium†	4.4	0.0054	mg/L	0.00786	0.0054	mg/L	0.00786	145.96%
Silicon†	3904.9	0.8123	mg/L	0.00641	0.8123	mg/L	0.00641	0.79%
Silver†	2.4	0.0001	mg/L	0.00056	0.0001	mg/L	0.00056	813.60%
Sodium†	362115.5	31.361	mg/L	0.4040	31.361	mg/L	0.4040	1.29%
Strontium†	745728.6	1.2741	mg/L	0.01893	1.2741	mg/L	0.01893	1.49%
Thallium†	-16.2	-0.0089	mg/L	0.00301	-0.0089	mg/L	0.00301	33.92%
Tin†	-75.0	-0.0181	mg/L	0.00185	-0.0181	mg/L	0.00185	10.23%
Titanium†	2670.3	0.0039	mg/L	0.00083	0.0039	mg/L	0.00083	21.62%
Vanadium†	70.9	0.0005	mg/L	0.00031	0.0005	mg/L	0.00031	56.34%
Zinc†	33284.0	0.3716	mg/L	0.01056	0.3716	mg/L	0.01056	2.84%

Sequence No.: 17
Sample ID: C4533-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 17
Date Collected: 2/25/2009 1:13:15 PM
Data Type: Reprocessed on 2/26/2009 10:23:19 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4533-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1542447.6	101.63	%	0.965				0.95%
Aluminum†	1065.0	0.4967	mg/L	0.01336	0.4967	mg/L	0.01336	2.69%
Antimony†	-0.1	-0.0001	mg/L	0.00257	-0.0001	mg/L	0.00257	>999.9%
Arsenic 188†	6.9	0.0042	mg/L	0.00177	0.0042	mg/L	0.00177	41.99%
Arsenic†	-4.6	-0.0030	mg/L	0.00166	-0.0030	mg/L	0.00166	55.03%
Barium †	11894.2	0.0318	mg/L	0.00090	0.0318	mg/L	0.00090	2.84%
Beryllium†	-256.7	0.0000	mg/L	0.00005	0.0000	mg/L	0.00005	218.42%
Boron†	450.4	0.0993	mg/L	0.00148	0.0993	mg/L	0.00148	1.49%
Cadmium†	26.4	0.0005	mg/L	0.00022	0.0005	mg/L	0.00022	47.07%
Calcium†	736515.2	34.511	mg/L	0.7628	34.511	mg/L	0.7628	2.21%
Chromium†	320.3	0.0042	mg/L	0.00019	0.0042	mg/L	0.00019	4.56%
Cobalt†	80.3	0.0016	mg/L	0.00016	0.0016	mg/L	0.00016	10.22%
Copper†	3691.4	0.0145	mg/L	0.00062	0.0145	mg/L	0.00062	4.30%
Iron†	25073.0	1.5000	mg/L	0.01583	1.5000	mg/L	0.01583	1.06%
Lead†	74.5	0.0105	mg/L	0.00274	0.0105	mg/L	0.00274	26.14%
Lithium†	-11742.8	0.0365	mg/L	0.00158	0.0365	mg/L	0.00158	4.32%
Magnesium†	5393.8	2.4371	mg/L	0.01599	2.4371	mg/L	0.01599	0.66%
Manganese†	64216.7	0.0921	mg/L	0.00188	0.0921	mg/L	0.00188	2.04%
Molybdenum†	154.4	0.0153	mg/L	0.00053	0.0153	mg/L	0.00053	3.46%
Nickel†	190.6	0.0058	mg/L	0.00051	0.0058	mg/L	0.00051	8.67%
Potassium†	23748.5	7.4032	mg/L	0.16890	7.4032	mg/L	0.16890	2.28%
Selenium†	0.2	0.0006	mg/L	0.00805	0.0006	mg/L	0.00805	>999.9%
Silicon†	15708.7	3.2999	mg/L	0.02739	3.2999	mg/L	0.02739	0.83%
Silver†	61.3	0.0004	mg/L	0.00055	0.0004	mg/L	0.00055	130.43%
Sodium†	141175.1	12.226	mg/L	0.2744	12.226	mg/L	0.2744	2.24%
Strontium†	107081.2	0.1826	mg/L	0.00433	0.1826	mg/L	0.00433	2.37%
Thallium†	-12.5	-0.0067	mg/L	0.00483	-0.0067	mg/L	0.00483	72.14%
Tin†	-30.8	-0.0073	mg/L	0.00122	-0.0073	mg/L	0.00122	16.58%
Titanium†	16903.9	0.0245	mg/L	0.00237	0.0245	mg/L	0.00237	9.70%
Vanadium†	403.9	0.0030	mg/L	0.00018	0.0030	mg/L	0.00018	5.95%
Zinc†	22351.1	0.2495	mg/L	0.00378	0.2495	mg/L	0.00378	1.52%

8.1 8

Sequence No.: 18
Sample ID: MP932-SD1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 5X

Autosampler Location: 18
Date Collected: 2/25/2009 1:17:30 PM
Data Type: Reprocessed on 2/26/2009 10:23:20 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP932-SD1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Yttrium	1586417.5	104.53	%	1.162				1.11%
Aluminum†	208.8	0.0974	mg/L	0.01578	0.4870	mg/L	0.07890	16.20%
Antimony†	-16.4	-0.0064	mg/L	0.00417	-0.0322	mg/L	0.02083	64.77%
Arsenic 188†	3.9	0.0023	mg/L	0.00165	0.0115	mg/L	0.00823	71.43%
Arsenic†	2.3	0.0015	mg/L	0.00106	0.0076	mg/L	0.00529	69.15%
Barium †	2216.6	0.0059	mg/L	0.00024	0.0296	mg/L	0.00120	4.04%
Beryllium†	-47.4	0.0000	mg/L	0.00005	0.0000	mg/L	0.00027	>999.9%
Boron†	34.3	0.0076	mg/L	0.00128	0.0381	mg/L	0.00642	16.84%
Cadmium†	-5.0	-0.0001	mg/L	0.00015	-0.0004	mg/L	0.00073	172.37%
Calcium†	139112.2	6.5185	mg/L	0.11620	32.592	mg/L	0.5810	1.78%
Chromium†	58.7	0.0008	mg/L	0.00029	0.0038	mg/L	0.00146	38.17%
Cobalt†	20.1	0.0004	mg/L	0.00037	0.0020	mg/L	0.00187	94.94%
Copper†	651.7	0.0026	mg/L	0.00007	0.0128	mg/L	0.00036	2.84%
Iron†	4812.5	0.2879	mg/L	0.00413	1.4396	mg/L	0.02064	1.43%
Lead†	-1.0	-0.0001	mg/L	0.00148	-0.0007	mg/L	0.00738	>999.9%
Lithium†	-1828.9	0.0081	mg/L	0.00127	0.0406	mg/L	0.00634	15.64%
Magnesium†	1050.4	0.4746	mg/L	0.00789	2.3730	mg/L	0.03945	1.66%
Manganese†	12619.7	0.0181	mg/L	0.00015	0.0905	mg/L	0.00075	0.83%
Molybdenum†	22.4	0.0022	mg/L	0.00062	0.0111	mg/L	0.00309	27.87%
Nickel†	45.3	0.0014	mg/L	0.00013	0.0069	mg/L	0.00063	9.02%
Potassium†	4597.5	1.4332	mg/L	0.03597	7.1660	mg/L	0.17984	2.51%
Selenium†	5.1	0.0058	mg/L	0.01049	0.0292	mg/L	0.05246	179.55%
Silicon†	2946.1	0.6189	mg/L	0.00446	3.0944	mg/L	0.02231	0.72%
Silver†	58.1	0.0004	mg/L	0.00043	0.0018	mg/L	0.00213	119.25%
Sodium†	26523.3	2.2970	mg/L	0.05140	11.485	mg/L	0.2570	2.24%
Strontium†	19983.3	0.0341	mg/L	0.00065	0.1704	mg/L	0.00326	1.91%
Thallium†	-3.0	-0.0016	mg/L	0.00109	-0.0082	mg/L	0.00543	66.51%
Tin†	-8.9	-0.0021	mg/L	0.00276	-0.0106	mg/L	0.01379	129.77%
Titanium†	3066.3	0.0044	mg/L	0.00027	0.0222	mg/L	0.00135	6.08%
Vanadium†	28.0	0.0002	mg/L	0.00011	0.0010	mg/L	0.00056	54.45%
Zinc†	4496.3	0.0502	mg/L	0.00049	0.2510	mg/L	0.00244	0.97%

Sequence No.: 19
Sample ID: MP932-81
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 19
Date Collected: 2/25/2009 1:21:04 PM
Date Type: Reprocessed on 2/26/2009 10:23:21 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP932-81

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1552101.4	102.27	%	2.065				2.02%
Aluminum†	2036.6	0.9464	mg/L	0.04050	0.9464	mg/L	0.04050	4.28%
Antimony†	1351.7	0.5225	mg/L	0.01228	0.5225	mg/L	0.01228	2.35%
Arsenic 188†	887.5	0.5179	mg/L	0.01280	0.5179	mg/L	0.01280	2.47%
Arsenic†	750.3	0.5138	mg/L	0.01122	0.5138	mg/L	0.01122	2.18%
Barium †	187321.9	0.5008	mg/L	0.01092	0.5008	mg/L	0.01092	2.18%
Beryllium†	1306410.6	0.4986	mg/L	0.00096	0.4986	mg/L	0.00096	0.19%
Boron†	2721.4	0.5972	mg/L	0.02127	0.5972	mg/L	0.02127	3.56%
Cadmium†	28774.5	0.4974	mg/L	0.01653	0.4974	mg/L	0.01653	3.32%
Calcium†	722198.6	33.840	mg/L	0.6740	33.840	mg/L	0.6740	1.99%
Chromium†	39333.2	0.5185	mg/L	0.01513	0.5185	mg/L	0.01513	2.92%
Cobalt†	24943.8	0.5056	mg/L	0.01541	0.5056	mg/L	0.01541	3.05%
Copper†	132615.6	0.5221	mg/L	0.01857	0.5221	mg/L	0.01857	3.56%
Iron†	32266.7	1.9312	mg/L	0.04359	1.9312	mg/L	0.04359	2.26%
Lead†	3603.1	0.5121	mg/L	0.01308	0.5121	mg/L	0.01308	2.56%
Lithium†	148163.0	0.5343	mg/L	0.00876	0.5343	mg/L	0.00876	1.64%
Magnesium†	6311.8	2.8542	mg/L	0.07912	2.8542	mg/L	0.07912	2.77%
Manganese†	416806.7	0.5978	mg/L	0.00086	0.5978	mg/L	0.00086	0.14%
Molybdenum†	5282.4	0.5211	mg/L	0.01091	0.5211	mg/L	0.01091	2.09%
Nickel†	16654.6	0.5099	mg/L	0.01698	0.5099	mg/L	0.01698	3.33%
Potassium†	38722.1	12.072	mg/L	0.2336	12.072	mg/L	0.2336	1.94%
Selenium†	427.9	0.4830	mg/L	0.01678	0.4830	mg/L	0.01678	3.47%
Silicon†	17711.7	3.7208	mg/L	0.09141	3.7208	mg/L	0.09141	2.46%
Silver†	40659.7	0.2435	mg/L	0.00681	0.2435	mg/L	0.00681	2.80%
Sodium†	141876.7	12.286	mg/L	0.2657	12.286	mg/L	0.2657	2.16%
Strontium†	379433.4	0.6496	mg/L	0.01511	0.6496	mg/L	0.01511	2.33%
Thallium†	893.4	0.4879	mg/L	0.01720	0.4879	mg/L	0.01720	3.53%
Tin†	4046.4	0.9795	mg/L	0.01750	0.9795	mg/L	0.01750	1.79%
Titanium†	368188.4	0.5325	mg/L	0.00173	0.5325	mg/L	0.00173	0.32%
Vanadium†	69383.1	0.5126	mg/L	0.01486	0.5126	mg/L	0.01486	2.90%
Zinc†	67083.7	0.7464	mg/L	0.02202	0.7464	mg/L	0.02202	2.95%

8.1 8

Sequence No.: 20
Sample ID: MP932-S2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 20
Date Collected: 2/25/2009 1:24:26 PM
Data Type: Reprocessed on 2/26/2009 10:23:22 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP932-S2

Analyte	Mean Corrected Intensity	Conc.	Calib Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1530422.0	100.84	%	0.882				0.87%
Aluminum†	2029.6	0.9431	mg/L	0.00764	0.9431	mg/L	0.00764	0.81%
Antimony†	1363.6	0.5272	mg/L	0.01545	0.5272	mg/L	0.01545	2.93%
Arsenic 188†	878.8	0.5129	mg/L	0.01560	0.5129	mg/L	0.01560	3.04%
Arsenic†	756.8	0.5182	mg/L	0.01682	0.5182	mg/L	0.01682	3.25%
Barium †	188493.8	0.5039	mg/L	0.00983	0.5039	mg/L	0.00983	1.95%
Beryllium†	1282940.3	0.4896	mg/L	0.00150	0.4896	mg/L	0.00150	0.31%
Boron†	2768.9	0.6077	mg/L	0.02022	0.6077	mg/L	0.02022	3.33%
Cadmium†	28695.2	0.4960	mg/L	0.00610	0.4960	mg/L	0.00610	1.23%
Calcium†	723256.9	33.889	mg/L	0.5743	33.889	mg/L	0.5743	1.69%
Chromium†	39246.6	0.5173	mg/L	0.00912	0.5173	mg/L	0.00912	1.76%
Cobalt†	24757.4	0.5019	mg/L	0.00710	0.5019	mg/L	0.00710	1.42%
Copper†	132607.0	0.5221	mg/L	0.00636	0.5221	mg/L	0.00636	1.22%
Iron†	32480.4	1.9440	mg/L	0.03451	1.9440	mg/L	0.03451	1.78%
Lead†	3606.9	0.5125	mg/L	0.01277	0.5125	mg/L	0.01277	2.49%
Lithium†	145523.5	0.5262	mg/L	0.00405	0.5262	mg/L	0.00405	0.77%
Magnesium†	6334.3	2.8643	mg/L	0.07331	2.8643	mg/L	0.07331	2.56%
Manganese†	407837.1	0.5850	mg/L	0.00167	0.5850	mg/L	0.00167	0.29%
Molybdenum†	5296.8	0.5225	mg/L	0.01266	0.5225	mg/L	0.01266	2.42%
Nickel†	16576.1	0.5075	mg/L	0.00896	0.5075	mg/L	0.00896	1.77%
Potassium†	39072.6	12.181	mg/L	0.1568	12.181	mg/L	0.1568	1.29%
Selenium†	420.4	0.4745	mg/L	0.01782	0.4745	mg/L	0.01782	3.76%
Silicon†	17715.7	3.7217	mg/L	0.08333	3.7217	mg/L	0.08333	2.24%
Silver†	40526.8	0.2427	mg/L	0.00287	0.2427	mg/L	0.00287	1.18%
Sodium†	142594.7	12.348	mg/L	0.2252	12.348	mg/L	0.2252	1.82%
Strontium†	382151.4	0.6543	mg/L	0.01164	0.6543	mg/L	0.01164	1.78%
Thallium†	885.5	0.4835	mg/L	0.01688	0.4835	mg/L	0.01688	3.49%
Tin†	4068.8	0.9849	mg/L	0.02245	0.9849	mg/L	0.02245	2.28%
Titanium†	360544.3	0.5214	mg/L	0.00095	0.5214	mg/L	0.00095	0.18%
Vanadium†	69531.1	0.5137	mg/L	0.00789	0.5137	mg/L	0.00789	1.54%
Zinc†	66829.8	0.7436	mg/L	0.01043	0.7436	mg/L	0.01043	1.40%

Sequence No.: 21
Sample ID: C4533-2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 21
Date Collected: 2/25/2009 1:28:27 PM
Data Type: Reprocessed on 2/26/2009 10:22:23 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4533-2

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1555740.6	102.51	%	1.923				1.88%
Aluminum†	14137.4	6.5973	mg/L	0.14488	6.5973	mg/L	0.14488	2.20%
Antimony†	-4.4	-0.0020	mg/L	0.00330	-0.0020	mg/L	0.00330	167.75%
Arsenic 188†	5.1	0.0042	mg/L	0.00367	0.0042	mg/L	0.00367	88.38%
Arsenic†	10.3	0.0075	mg/L	0.00710	0.0075	mg/L	0.00710	94.08%
Barium †	61408.4	0.1640	mg/L	0.00086	0.1640	mg/L	0.00086	0.53%
Beryllium†	-2088.4	0.0002	mg/L	0.00001	0.0002	mg/L	0.00001	5.72%
Boron†	376.9	0.0867	mg/L	0.00385	0.0867	mg/L	0.00385	4.44%
Cadmium†	49.2	0.0009	mg/L	0.00019	0.0009	mg/L	0.00019	21.30%
Calcium†	883633.8	41.396	mg/L	0.3374	41.396	mg/L	0.3374	0.82%
Chromium†	1693.3	0.0222	mg/L	0.00063	0.0222	mg/L	0.00063	2.83%
Cobalt†	273.3	0.0046	mg/L	0.00019	0.0046	mg/L	0.00019	4.18%
Copper†	12613.6	0.0496	mg/L	0.00074	0.0496	mg/L	0.00074	1.50%
Iron†	210486.5	12.612	mg/L	0.1358	12.612	mg/L	0.1358	1.08%
Lead†	744.6	0.1048	mg/L	0.00463	0.1048	mg/L	0.00463	4.42%
Lithium†	-13347.9	0.0461	mg/L	0.00068	0.0461	mg/L	0.00068	1.46%
Magnesium†	19529.8	8.8269	mg/L	0.19183	8.8269	mg/L	0.19183	2.17%
Manganese†	146414.4	0.2100	mg/L	0.00212	0.2100	mg/L	0.00212	1.01%
Molybdenum†	164.3	0.0167	mg/L	0.00082	0.0167	mg/L	0.00082	4.88%
Nickel†	686.1	0.0210	mg/L	0.00061	0.0210	mg/L	0.00061	2.90%
Potassium†	17968.1	5.6015	mg/L	0.07916	5.6015	mg/L	0.07916	1.41%
Selenium†	1.0	0.0061	mg/L	0.01424	0.0061	mg/L	0.01424	233.98%
Silicon†	78534.9	16.505	mg/L	0.2360	16.505	mg/L	0.2360	1.43%
Silver†	1.9	0.0005	mg/L	0.00027	0.0005	mg/L	0.00027	59.76%
Sodium†	180222.9	15.608	mg/L	0.1984	15.608	mg/L	0.1984	1.27%
Strontium†	131536.6	0.2243	mg/L	0.00315	0.2243	mg/L	0.00315	1.40%
Thallium†	-13.3	-0.0050	mg/L	0.00535	-0.0050	mg/L	0.00535	107.87%
Tin†	-27.0	-0.0052	mg/L	0.00188	-0.0052	mg/L	0.00188	35.96%
Titanium†	237936.6	0.3442	mg/L	0.00479	0.3442	mg/L	0.00479	1.39%
Vanadium†	2977.5	0.0219	mg/L	0.00108	0.0219	mg/L	0.00108	4.93%
Zinc†	42284.0	0.4711	mg/L	0.00570	0.4711	mg/L	0.00570	1.21%

Sequence No.: 22
Sample ID: C4533-3
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 22
Date Collected: 2/25/2009 1:32:45 PM
Data Type: Reprocessed on 2/26/2009 10:23:29 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4533-3

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1530393.6	100.84	%	1.043				1.03%
Aluminum†	252.3	0.1178	mg/L	0.00722	0.1178	mg/L	0.00722	6.13%
Antimony†	-10.7	-0.0042	mg/L	0.00413	-0.0042	mg/L	0.00413	97.47%
Arsenic 188†	0.2	0.0008	mg/L	0.00202	0.0008	mg/L	0.00202	253.51%
Arsenic†	1.9	0.0007	mg/L	0.00166	0.0007	mg/L	0.00166	231.90%
Barium †	29908.5	0.0800	mg/L	0.00285	0.0800	mg/L	0.00285	3.57%
Beryllium†	-192.9	-0.0001	mg/L	0.00003	-0.0001	mg/L	0.00003	47.47%
Boron†	437.4	0.0960	mg/L	0.00346	0.0960	mg/L	0.00346	3.61%
Cadmium†	6.0	0.0001	mg/L	0.00042	0.0001	mg/L	0.00042	400.41%
Calcium†	1669573.9	78.232	mg/L	2.3754	78.232	mg/L	2.3754	3.04%
Chromium†	231.1	0.0030	mg/L	0.00038	0.0030	mg/L	0.00038	12.52%
Cobalt†	5.0	0.0001	mg/L	0.00015	0.0001	mg/L	0.00015	183.48%
Copper†	3420.1	0.0132	mg/L	0.00065	0.0132	mg/L	0.00065	4.96%
Iron†	2859.7	0.1653	mg/L	0.00277	0.1653	mg/L	0.00277	1.67%
Lead†	-5.4	-0.0008	mg/L	0.00085	-0.0008	mg/L	0.00085	111.86%
Lithium†	-33926.1	0.0599	mg/L	0.00692	0.0599	mg/L	0.00692	11.54%
Magnesium†	69544.6	31.422	mg/L	0.9304	31.422	mg/L	0.9304	2.96%
Manganese†	1731.8	0.0019	mg/L	0.00007	0.0019	mg/L	0.00007	3.54%
Molybdenum†	29.0	0.0029	mg/L	0.00088	0.0029	mg/L	0.00088	30.58%
Nickel†	94.2	0.0029	mg/L	0.00045	0.0029	mg/L	0.00045	15.68%
Potassium†	14234.8	4.4375	mg/L	0.12570	4.4375	mg/L	0.12570	2.83%
Selenium†	4.5	0.0051	mg/L	0.00965	0.0051	mg/L	0.00965	189.33%
Silicon†	37283.5	7.8295	mg/L	0.26663	7.8295	mg/L	0.26663	3.41%
Silver†	86.2	0.0005	mg/L	0.00024	0.0005	mg/L	0.00024	45.61%
Sodium†	474897.9	41.129	mg/L	1.3376	41.129	mg/L	1.3376	3.25%
Strontium†	433709.8	0.7414	mg/L	0.02468	0.7414	mg/L	0.02468	3.33%
Thallium†	-6.6	-0.0036	mg/L	0.00610	-0.0036	mg/L	0.00610	170.85%
Tin†	-56.8	-0.0137	mg/L	0.00167	-0.0137	mg/L	0.00167	12.17%
Titanium†	4558.7	0.0066	mg/L	0.00051	0.0066	mg/L	0.00051	7.76%
Vanadium†	738.1	0.0054	mg/L	0.00016	0.0054	mg/L	0.00016	2.91%
Zinc†	243.7	0.0016	mg/L	0.00005	0.0016	mg/L	0.00005	2.77%

Sequence No.: 23
Sample ID: CCV
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/25/2009 1:37:05 PM
Data Type: Reprocessed on 2/26/2009 10:23:26 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1547026.8	101.93	%	1.026				1.01%
Aluminum†	2097.8	0.9680	mg/L	0.01238	0.9680	mg/L	0.01238	1.28%
QC value within limits for Aluminum Recovery = 96.80%								
Antimony†	2592.3	1.0019	mg/L	0.01195	1.0019	mg/L	0.01195	1.19%
QC value within limits for Antimony Recovery = 100.19%								
Arsenic 188†	1747.1	1.0202	mg/L	0.01683	1.0202	mg/L	0.01683	1.65%
QC value within limits for Arsenic 188 Recovery = 102.02%								
Arsenic†	1489.9	1.0199	mg/L	0.02039	1.0199	mg/L	0.02039	2.00%
QC value within limits for Arsenic Recovery = 101.99%								
Barium †	350480.2	0.9368	mg/L	0.00804	0.9368	mg/L	0.00804	0.86%
QC value within limits for Barium Recovery = 93.68%								
Beryllium†	2544509.1	0.9709	mg/L	0.00078	0.9709	mg/L	0.00078	0.08%
QC value within limits for Beryllium Recovery = 97.09%								
Boron†	4528.5	0.9958	mg/L	0.01529	0.9958	mg/L	0.01529	1.54%
QC value within limits for Boron Recovery = 99.58%								
Cadmium†	57281.5	0.9901	mg/L	0.02056	0.9901	mg/L	0.02056	2.08%
QC value within limits for Cadmium Recovery = 99.01%								
Calcium†	21213.1	0.9855	mg/L	0.01060	0.9855	mg/L	0.01060	1.08%
QC value within limits for Calcium Recovery = 98.55%								
Chromium†	76309.0	1.0059	mg/L	0.01815	1.0059	mg/L	0.01815	1.80%
QC value within limits for Chromium Recovery = 100.59%								
Cobalt†	48572.6	0.9846	mg/L	0.01846	0.9846	mg/L	0.01846	1.87%
QC value within limits for Cobalt Recovery = 98.46%								
Copper†	251202.9	0.9891	mg/L	0.01943	0.9891	mg/L	0.01943	1.96%
QC value within limits for Copper Recovery = 98.91%								
Iron†	166973.5	10.007	mg/L	0.0860	10.007	mg/L	0.0860	0.86%
QC value within limits for Iron Recovery = 100.07%								
Lead†	7208.5	1.0238	mg/L	0.01091	1.0238	mg/L	0.01091	1.07%
QC value within limits for Lead Recovery = 102.38%								
Lithium†	306035.2	0.9575	mg/L	0.00345	0.9575	mg/L	0.00345	0.36%
QC value within limits for Lithium Recovery = 95.75%								
Magnesium†	2239.3	1.0177	mg/L	0.02041	1.0177	mg/L	0.02041	2.01%
QC value within limits for Magnesium Recovery = 101.77%								
Manganese†	679977.5	0.9754	mg/L	0.00092	0.9754	mg/L	0.00092	0.09%
QC value within limits for Manganese Recovery = 97.54%								
Molybdenum†	9989.4	0.9856	mg/L	0.01279	0.9856	mg/L	0.01279	1.30%
QC value within limits for Molybdenum Recovery = 98.56%								
Nickel†	32323.2	0.9896	mg/L	0.01092	0.9896	mg/L	0.01092	1.10%
QC value within limits for Nickel Recovery = 98.96%								
Potassium†	31115.8	9.7010	mg/L	0.08446	9.7010	mg/L	0.08446	0.87%
QC value within limits for Potassium Recovery = 97.01%								
Selenium†	896.0	1.0138	mg/L	0.00562	1.0138	mg/L	0.00562	0.55%
QC value within limits for Selenium Recovery = 101.38%								
Silicon†	2782.8	0.5850	mg/L	0.01033	0.5850	mg/L	0.01033	1.77%
QC value greater than the upper limit for Silicon Recovery = 117.00%								
Silver†	164084.6	0.9818	mg/L	0.01759	0.9818	mg/L	0.01759	1.79%
QC value within limits for Silver Recovery = 98.18%								
Sodium†	11143.9	0.9624	mg/L	0.00443	0.9624	mg/L	0.00443	0.46%
QC value within limits for Sodium Recovery = 96.24%								
Strontium†	544914.8	0.9343	mg/L	0.00851	0.9343	mg/L	0.00851	0.91%
QC value within limits for Strontium Recovery = 93.43%								
Thallium†	1799.8	0.9825	mg/L	0.01852	0.9825	mg/L	0.01852	1.89%
QC value within limits for Thallium Recovery = 98.25%								
Tin†	4101.6	0.9943	mg/L	0.01080	0.9943	mg/L	0.01080	1.09%
QC value within limits for Tin Recovery = 99.43%								
Titanium†	678623.1	0.9814	mg/L	0.00022	0.9814	mg/L	0.00022	0.02%
QC value within limits for Titanium Recovery = 98.14%								
Vanadium†	134006.7	0.9902	mg/L	0.01791	0.9902	mg/L	0.01791	1.81%
QC value within limits for Vanadium Recovery = 99.02%								
Zinc†	90674.5	1.0066	mg/L	0.02115	1.0066	mg/L	0.02115	2.10%
QC value within limits for Zinc Recovery = 100.66%								

8.1 8

QC Failed. Continue with analysis.

Sequence No.: 34
Sample ID: CCB
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/25/2009 1:41:13 PM
Date Type: Reprocessed on 2/26/2009 10:23:27 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Yttrium	1595249.0	105.11	%	1.132				1.08%
Aluminum†	6.0	0.0028	mg/L	0.00866	0.0028	mg/L	0.00866	310.45%
QC value within limits for Aluminum Recovery = 5.58%								
Antimony†	25.4	0.0099	mg/L	0.00118	0.0099	mg/L	0.00118	11.86%
QC value within limits for Antimony Recovery = 99.29%								
Arsenic 188†	6.3	0.0037	mg/L	0.00189	0.0037	mg/L	0.00189	51.78%
QC value within limits for Arsenic 188 Recovery = 36.56%								
Arsenic†	4.2	0.0028	mg/L	0.00445	0.0028	mg/L	0.00445	158.80%
QC value within limits for Arsenic Recovery = 28.02%								
Barium †	-38.4	-0.0001	mg/L	0.00042	-0.0001	mg/L	0.00042	406.45%
QC value within limits for Barium Recovery = -2.05%								
Beryllium†	115.7	0.0000	mg/L	0.00003	0.0000	mg/L	0.00003	71.31%
QC value within limits for Beryllium Recovery = 0.89%								
Boron†	-28.9	-0.0063	mg/L	0.00153	-0.0063	mg/L	0.00153	24.06%
QC value within limits for Boron Recovery = -63.49%								
Cadmium†	2.8	0.0000	mg/L	0.00018	0.0000	mg/L	0.00018	374.06%
QC value within limits for Cadmium Recovery = 2.44%								
Calcium†	-44.2	-0.0021	mg/L	0.00135	-0.0021	mg/L	0.00135	64.91%
QC value within limits for Calcium Recovery = -4.14%								
Chromium†	18.5	0.0002	mg/L	0.00018	0.0002	mg/L	0.00018	73.24%
QC value within limits for Chromium Recovery = 4.87%								
Cobalt†	13.9	0.0003	mg/L	0.00007	0.0003	mg/L	0.00007	25.02%
QC value within limits for Cobalt Recovery = 5.63%								
Copper†	-309.4	-0.0012	mg/L	0.00050	-0.0012	mg/L	0.00050	41.41%
QC value within limits for Copper Recovery = -24.35%								
Iron†	19.4	0.0012	mg/L	0.00032	0.0012	mg/L	0.00032	27.47%
QC value within limits for Iron Recovery = 2.33%								
Lead†	-1.8	-0.0002	mg/L	0.00235	-0.0002	mg/L	0.00235	960.45%
QC value within limits for Lead Recovery = -4.90%								
Lithium†	249.8	0.0008	mg/L	0.00087	0.0008	mg/L	0.00087	111.91%
QC value within limits for Lithium Recovery = 7.75%								
Magnesium†	-4.2	-0.0019	mg/L	0.00590	-0.0019	mg/L	0.00590	313.20%
QC value within limits for Magnesium Recovery = -3.77%								
Manganese†	-11.8	0.0000	mg/L	0.00003	0.0000	mg/L	0.00003	202.48%
QC value within limits for Manganese Recovery = -0.34%								
Molybdenum†	21.8	0.0022	mg/L	0.00032	0.0022	mg/L	0.00032	15.00%
QC value within limits for Molybdenum Recovery = 43.02%								
Nickel†	7.1	0.0002	mg/L	0.00031	0.0002	mg/L	0.00031	141.47%
QC value within limits for Nickel Recovery = 4.33%								
Potassium†	156.6	0.0488	mg/L	0.02120	0.0488	mg/L	0.02120	43.43%
QC value within limits for Potassium Recovery = 9.76%								
Selenium†	3.7	0.0042	mg/L	0.00502	0.0042	mg/L	0.00502	119.72%
QC value within limits for Selenium Recovery = 20.96%								
Silicon†	-6.4	-0.0013	mg/L	0.00160	-0.0013	mg/L	0.00160	119.19%
QC value within limits for Silicon Recovery = -2.68%								
Silver†	105.1	0.0006	mg/L	0.00015	0.0006	mg/L	0.00015	23.36%
QC value within limits for Silver Recovery = 12.56%								
Sodium†	255.1	0.0221	mg/L	0.00833	0.0221	mg/L	0.00833	37.70%
QC value within limits for Sodium Recovery = 22.09%								
Strontium†	5.1	0.0000	mg/L	0.00001	0.0000	mg/L	0.00001	119.71%
QC value within limits for Strontium Recovery = 0.18%								
Thallium†	4.8	0.0026	mg/L	0.00710	0.0026	mg/L	0.00710	271.94%
QC value within limits for Thallium Recovery = 13.06%								
Tin†	-3.8	-0.0009	mg/L	0.00120	-0.0009	mg/L	0.00120	129.32%
QC value within limits for Tin Recovery = -1.86%								
Titanium†	53.4	0.0001	mg/L	0.00007	0.0001	mg/L	0.00007	89.11%
QC value within limits for Titanium Recovery = 3.86%								
Vanadium†	32.9	0.0002	mg/L	0.00016	0.0002	mg/L	0.00016	66.30%
QC value within limits for Vanadium Recovery = 4.86%								
Zinc†	-34.7	-0.0004	mg/L	0.00012	-0.0004	mg/L	0.00012	30.48%
QC value within limits for Zinc Recovery = -3.89%								

All analyte(s) passed QC.

8.1

8

Sequence No.: 25
Sample ID: C4512-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 23
Date Collected: 2/25/2009 1:44:07 PM
Data Type: Reprocessed on 2/26/2009 10:21:29 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4512-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1314391.4	86.605	%	0.9189				1.06%
Aluminum†	1057.0	-0.6158	mg/L	0.04093	-0.6158	mg/L	0.04093	6.65%
Antimony†	92.0	0.0517	mg/L	0.02193	0.0517	mg/L	0.02193	42.45%
Arsenic 188†	-295.5	0.0934	mg/L	0.03032	0.0934	mg/L	0.03032	32.47%
Arsenic†	-386.4	-0.0355	mg/L	0.01103	-0.0355	mg/L	0.01103	31.03%
Barium †	73605.0	0.1591	mg/L	0.00335	0.1591	mg/L	0.00335	2.11%
Beryllium†	-3327.6	-0.0003	mg/L	0.00006	-0.0003	mg/L	0.00006	17.10%
Boron†	2329.0	1.2817	mg/L	0.02365	1.2817	mg/L	0.02365	1.84%
Cadmium†	-287.3	-0.0049	mg/L	0.00175	-0.0049	mg/L	0.00175	35.82%
Calcium†	1175321.5	53.204	mg/L	1.0772	53.204	mg/L	1.0772	2.02%
Chromium†	9470.2	0.1256	mg/L	0.00069	0.1256	mg/L	0.00069	0.55%
Cobalt†	5229.4	0.0548	mg/L	0.00071	0.0548	mg/L	0.00071	1.30%
Copper†	-35078.8	-0.1370	mg/L	0.00155	-0.1370	mg/L	0.00155	1.13%
Iron†	40878186.6	2450.0	mg/L	40.35	2450.0	mg/L	40.35	1.65%
Lead†	886.5	0.0332	mg/L	0.01006	0.0332	mg/L	0.01006	30.33%
Lithium†	-27131.7	0.0321	mg/L	0.00149	0.0321	mg/L	0.00149	4.65%
Magnesium†	25683.1	11.980	mg/L	0.2851	11.980	mg/L	0.2851	2.38%
Manganese†	3595429.0	5.1822	mg/L	0.05800	5.1822	mg/L	0.05800	1.12%
Molybdenum†	-1024.8	-0.0037	mg/L	0.00288	-0.0037	mg/L	0.00288	77.05%
Nickel†	3893.7	0.1192	mg/L	0.00152	0.1192	mg/L	0.00152	1.27%
Potassium†	3800072.5	1184.6	mg/L	24.87	1184.6	mg/L	24.87	2.10%
Selenium†	-1128.2	-0.3300	mg/L	0.03090	-0.3300	mg/L	0.03090	9.37%
Silicon†	150006.5	31.657	mg/L	0.5663	31.657	mg/L	0.5663	1.79%
Silver†	137169.2	0.9079	mg/L	0.00164	0.9079	mg/L	0.00164	0.18%
Sodium†	6937598.5	600.83	mg/L	11.638	600.83	mg/L	11.638	1.94%
Strontium†	192059.2	0.3277	mg/L	0.00721	0.3277	mg/L	0.00721	2.20%
Thallium†	-118.0	-0.0708	mg/L	0.00055	-0.0708	mg/L	0.00055	0.78%
Tin†	-214.1	0.0151	mg/L	0.00112	0.0151	mg/L	0.00112	7.45%
Titanium†	172329.8	0.2493	mg/L	0.00034	0.2493	mg/L	0.00034	0.14%
Vanadium†	943233.8	6.9836	mg/L	0.01203	6.9836	mg/L	0.01203	0.17%
Zinc†	35084.8	0.1671	mg/L	0.00657	0.1671	mg/L	0.00657	3.93%

Sequence No.: 26
Sample ID: C4526-5
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 24
Date Collected: 2/25/2009 1:48:11 PM
Data Type: Reprocessed on 2/26/2009 10:23:30 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4526-5

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1557850.3	102.65	%	1.496				1.46%
Aluminum†	18.4	0.0084	mg/L	0.00749	0.0084	mg/L	0.00749	88.72%
Antimony†	-2.4	-0.0009	mg/L	0.00425	-0.0009	mg/L	0.00425	448.08%
Arsenic 188†	-0.7	-0.0004	mg/L	0.00340	-0.0004	mg/L	0.00340	900.56%
Arsenic†	2.9	0.0020	mg/L	0.00214	0.0020	mg/L	0.00214	109.27%
Barium †	1886.4	0.0050	mg/L	0.00003	0.0050	mg/L	0.00003	0.62%
Beryllium†	-92.6	0.0000	mg/L	0.00004	0.0000	mg/L	0.00004	115.97%
Boron†	119.8	0.0264	mg/L	0.00111	0.0264	mg/L	0.00111	4.21%
Cadmium†	4.9	0.0001	mg/L	0.00022	0.0001	mg/L	0.00022	268.03%
Calcium†	88523.3	4.1477	mg/L	0.12003	4.1477	mg/L	0.12003	2.89%
Chromium†	51.8	0.0007	mg/L	0.00025	0.0007	mg/L	0.00025	36.62%
Cobalt†	-30.5	-0.0006	mg/L	0.00028	-0.0006	mg/L	0.00028	44.00%
Copper†	744.0	0.0029	mg/L	0.00043	0.0029	mg/L	0.00043	14.71%
Iron†	6143.8	0.3679	mg/L	0.10575	0.3679	mg/L	0.10575	28.74%
Lead†	-1.0	-0.0002	mg/L	0.00110	-0.0002	mg/L	0.00110	680.07%
Lithium†	-767.8	0.0064	mg/L	0.00079	0.0064	mg/L	0.00079	12.34%
Magnesium†	647.8	0.2925	mg/L	0.01111	0.2925	mg/L	0.01111	3.80%
Manganese†	1530.9	0.0022	mg/L	0.00002	0.0022	mg/L	0.00002	1.11%
Molybdenum†	-0.5	0.0000	mg/L	0.00057	0.0000	mg/L	0.00057	>999.9%
Nickel†	-10.7	-0.0003	mg/L	0.00036	-0.0003	mg/L	0.00036	111.06%
Potassium†	1249.1	0.3894	mg/L	0.00110	0.3894	mg/L	0.00110	0.28%
Selenium†	0.5	0.0007	mg/L	0.00656	0.0007	mg/L	0.00656	942.67%
Silicon†	10649.1	2.2382	mg/L	0.03951	2.2382	mg/L	0.03951	1.77%
Silver†	80.4	0.0005	mg/L	0.00057	0.0005	mg/L	0.00057	115.42%
Sodium†	64433.3	5.5803	mg/L	0.14510	5.5803	mg/L	0.14510	2.60%
Strontium†	17293.9	0.0295	mg/L	0.00113	0.0295	mg/L	0.00113	3.84%
Thallium†	-0.6	-0.0003	mg/L	0.00127	-0.0003	mg/L	0.00127	381.52%
Tin†	-1.6	-0.0004	mg/L	0.00134	-0.0004	mg/L	0.00134	361.91%
Titanium†	195.6	0.0003	mg/L	0.00003	0.0003	mg/L	0.00003	12.17%
Vanadium†	88.1	0.0007	mg/L	0.00015	0.0007	mg/L	0.00015	23.50%
Zinc†	1315.2	0.0147	mg/L	0.00017	0.0147	mg/L	0.00017	1.15%

8.1

8

Sequence No.: 27
Sample ID: C4526-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 25
Date Collected: 2/25/2009 1:52:29 PM
Date Type: Reprocessed on 2/26/2009 10:23:31 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4526-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1558669.0	102.70	%	1.654				1.61%
Aluminum†	4974.6	2.3217	mg/L	0.05955	2.3217	mg/L	0.05955	2.56%
Antimony†	0.1	-0.0001	mg/L	0.00433	-0.0001	mg/L	0.00433	>999.9%
Arsenic 188†	-3.4	-0.0016	mg/L	0.00307	-0.0016	mg/L	0.00307	192.50%
Arsenic†	-0.1	0.0002	mg/L	0.00463	0.0002	mg/L	0.00463	>999.9%
Barium †	18140.7	0.0484	mg/L	0.00085	0.0484	mg/L	0.00085	1.76%
Beryllium†	-800.2	0.0000	mg/L	0.00006	0.0000	mg/L	0.00006	>999.9%
Boron†	197.9	0.0446	mg/L	0.00166	0.0446	mg/L	0.00166	3.72%
Cadmium†	14.4	0.0003	mg/L	0.00023	0.0003	mg/L	0.00023	90.10%
Calcium†	240907.1	11.286	mg/L	0.2087	11.286	mg/L	0.2087	1.85%
Chromium†	843.2	0.0111	mg/L	0.00010	0.0111	mg/L	0.00010	0.87%
Cobalt†	109.6	0.0020	mg/L	0.00023	0.0020	mg/L	0.00023	11.98%
Copper†	6733.8	0.0265	mg/L	0.00176	0.0265	mg/L	0.00176	6.63%
Iron†	63223.9	3.7884	mg/L	0.07012	3.7884	mg/L	0.07012	1.85%
Lead†	19.1	0.0028	mg/L	0.00176	0.0028	mg/L	0.00176	63.05%
Lithium†	-2357.1	0.0166	mg/L	0.00053	0.0166	mg/L	0.00053	3.22%
Magnesium†	6733.2	3.0431	mg/L	0.07139	3.0431	mg/L	0.07139	2.35%
Manganese†	73607.4	0.1056	mg/L	0.00358	0.1056	mg/L	0.00358	3.39%
Molybdenum†	11.0	0.0012	mg/L	0.00005	0.0012	mg/L	0.00005	4.21%
Nickel†	444.0	0.0136	mg/L	0.00041	0.0136	mg/L	0.00041	3.03%
Potassium†	9120.9	2.8434	mg/L	0.01242	2.8434	mg/L	0.01242	0.44%
Selenium†	-3.1	-0.0020	mg/L	0.00751	-0.0020	mg/L	0.00751	372.43%
Silicon†	25186.3	5.2934	mg/L	0.12714	5.2934	mg/L	0.12714	2.40%
Silver†	7.1	0.0002	mg/L	0.00107	0.0002	mg/L	0.00107	603.52%
Sodium†	77845.9	6.7417	mg/L	0.13298	6.7417	mg/L	0.13298	1.97%
Strontium†	29745.0	0.0507	mg/L	0.00106	0.0507	mg/L	0.00106	2.09%
Thallium†	-4.1	-0.0016	mg/L	0.00434	-0.0016	mg/L	0.00434	270.78%
Tin†	-10.3	-0.0021	mg/L	0.00040	-0.0021	mg/L	0.00040	18.85%
Titanium†	69366.3	0.1003	mg/L	0.00364	0.1003	mg/L	0.00364	3.63%
Vanadium†	1330.6	0.0098	mg/L	0.00019	0.0098	mg/L	0.00019	1.90%
Zinc†	28791.7	0.3212	mg/L	0.01094	0.3212	mg/L	0.01094	3.41%

8.1 8

Sequence No.: 28
Sample ID: C4526-2
Analyst:
Logged in Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 26
Date Collected: 2/25/2009 1:56:49 PM
Data Type: Reprocessed on 2/26/2009 10:23:32 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4526-2

Analyte	Mean Corrected Intensity	Conc.	Calib Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1600057.7	105.43	%	1.159				1.10%
Aluminum†	409.8	0.1912	mg/L	0.00582	0.1912	mg/L	0.00582	3.04%
Antimony†	-6.6	-0.0026	mg/L	0.00183	-0.0026	mg/L	0.00183	70.34%
Arsenic 188†	2.0	0.0012	mg/L	0.00206	0.0012	mg/L	0.00206	168.37%
Arsenic†	-0.7	-0.0005	mg/L	0.00677	-0.0005	mg/L	0.00677	>999.9%
Barium †	6271.4	0.0168	mg/L	0.00056	0.0168	mg/L	0.00056	3.35%
Beryllium†	-213.0	-0.0001	mg/L	0.00003	-0.0001	mg/L	0.00003	45.61%
Boron†	45.0	0.0100	mg/L	0.00209	0.0100	mg/L	0.00209	20.85%
Cadmium†	0.4	0.0000	mg/L	0.00017	0.0000	mg/L	0.00017	>999.9%
Calcium†	248109.0	11.626	mg/L	0.3220	11.626	mg/L	0.3220	2.77%
Chromium†	78.5	0.0010	mg/L	0.00018	0.0010	mg/L	0.00018	17.24%
Cobalt†	20.8	0.0004	mg/L	0.00037	0.0004	mg/L	0.00037	93.86%
Copper†	4539.6	0.0179	mg/L	0.00038	0.0179	mg/L	0.00038	2.11%
Iron†	7223.0	0.4320	mg/L	0.00334	0.4320	mg/L	0.00334	0.77%
Lead†	-9.0	-0.0013	mg/L	0.00198	-0.0013	mg/L	0.00198	157.04%
Lithium†	-3584.2	0.0135	mg/L	0.00101	0.0135	mg/L	0.00101	7.52%
Magnesium†	2984.7	1.3486	mg/L	0.01143	1.3486	mg/L	0.01143	0.85%
Manganese†	22597.3	0.0324	mg/L	0.00036	0.0324	mg/L	0.00036	1.11%
Molybdenum†	0.6	0.0001	mg/L	0.00086	0.0001	mg/L	0.00086	>999.9%
Nickel†	73.8	0.0023	mg/L	0.00030	0.0023	mg/L	0.00030	13.25%
Potassium†	2516.4	0.7845	mg/L	0.02685	0.7845	mg/L	0.02685	3.42%
Selenium†	-1.0	-0.0011	mg/L	0.00300	-0.0011	mg/L	0.00300	284.68%
Silicon†	5024.0	1.0553	mg/L	0.01190	1.0553	mg/L	0.01190	1.13%
Silver†	121.8	0.0007	mg/L	0.00049	0.0007	mg/L	0.00049	66.18%
Sodium†	50481.7	4.3720	mg/L	0.10171	4.3720	mg/L	0.10171	2.33%
Strontium†	20155.0	0.0342	mg/L	0.00079	0.0342	mg/L	0.00079	2.31%
Thallium†	-4.8	-0.0026	mg/L	0.00073	-0.0026	mg/L	0.00073	27.96%
Tin†	-11.7	-0.0028	mg/L	0.00046	-0.0028	mg/L	0.00046	16.61%
Titanium†	5433.2	0.0079	mg/L	0.00030	0.0079	mg/L	0.00030	3.88%
Vanadium†	208.9	0.0015	mg/L	0.00014	0.0015	mg/L	0.00014	9.10%
Zinc†	12038.9	0.1344	mg/L	0.00180	0.1344	mg/L	0.00180	1.34%

Sequence No.: 29
Sample ID: C4537-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 27
Date Collected: 2/25/2009 2:01:07 PM
Data Type: Reprocessed on 2/26/2009 10:23:33 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4537-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1567176.5	103.26	%	0.814				0.79%
Aluminum†	-0.4	-0.0002	mg/L	0.01440	-0.0002	mg/L	0.01440	>999.9%
Antimony†	-15.2	-0.0060	mg/L	0.00372	-0.0060	mg/L	0.00372	62.36%
Arsenic 188†	1.3	0.0008	mg/L	0.00390	0.0008	mg/L	0.00390	498.84%
Arsenic†	-3.0	-0.0020	mg/L	0.00376	-0.0020	mg/L	0.00376	187.79%
Barium †	-186.3	-0.0005	mg/L	0.00026	-0.0005	mg/L	0.00026	51.97%
Beryllium†	-58.8	0.0000	mg/L	0.00005	0.0000	mg/L	0.00005	208.94%
Boron†	-48.1	-0.0106	mg/L	0.00055	-0.0106	mg/L	0.00055	5.25%
Cadmium†	-11.0	-0.0002	mg/L	0.00021	-0.0002	mg/L	0.00021	110.99%
Calcium†	38.8	0.0018	mg/L	0.00161	0.0018	mg/L	0.00161	88.47%
Chromium†	3.8	0.0001	mg/L	0.00005	0.0001	mg/L	0.00005	93.55%
Cobalt†	4.6	0.0001	mg/L	0.00011	0.0001	mg/L	0.00011	119.02%
Copper†	-92.5	-0.0004	mg/L	0.00075	-0.0004	mg/L	0.00075	205.18%
Iron†	63.3	0.0038	mg/L	0.00055	0.0038	mg/L	0.00055	14.56%
Lead†	-13.0	-0.0018	mg/L	0.00170	-0.0018	mg/L	0.00170	93.16%
Lithium†	39.8	0.0001	mg/L	0.00057	0.0001	mg/L	0.00057	441.57%
Magnesium†	-4.1	-0.0018	mg/L	0.00532	-0.0018	mg/L	0.00532	289.28%
Manganese†	-27.3	0.0000	mg/L	0.00004	0.0000	mg/L	0.00004	106.68%
Molybdenum†	-11.1	-0.0011	mg/L	0.00099	-0.0011	mg/L	0.00099	90.83%
Nickel†	22.6	0.0007	mg/L	0.00058	0.0007	mg/L	0.00058	84.45%
Potassium†	122.7	0.0383	mg/L	0.01681	0.0383	mg/L	0.01681	43.94%
Selenium†	-1.5	-0.0017	mg/L	0.00828	-0.0017	mg/L	0.00828	487.58%
Silicon†	5.9	0.0012	mg/L	0.00299	0.0012	mg/L	0.00299	240.15%
Silver†	35.3	0.0002	mg/L	0.00055	0.0002	mg/L	0.00055	258.97%
Sodium†	12.5	0.0011	mg/L	0.00983	0.0011	mg/L	0.00983	909.56%
Strontium†	-0.8	0.0000	mg/L	0.00006	0.0000	mg/L	0.00006	>999.9%
Thallium†	-0.3	-0.0002	mg/L	0.00296	-0.0002	mg/L	0.00296	>999.9%
Tin†	-5.6	-0.0014	mg/L	0.00275	-0.0014	mg/L	0.00275	202.26%
Titanium†	8.8	0.0000	mg/L	0.00011	0.0000	mg/L	0.00011	871.81%
Vanadium†	24.4	0.0002	mg/L	0.00021	0.0002	mg/L	0.00021	114.98%
Zinc†	58.8	0.0007	mg/L	0.00011	0.0007	mg/L	0.00011	17.27%

8.1 8

Sequence No.: 30
Sample ID: G4546-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 28
Date Collected: 2/25/2009 2:05:24 PM
Date Type: Reprocessed on 2/26/2009 10:23:34 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: G4546-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1527714.6	100.66	%	1.033				1.03%
Aluminum†	641.0	0.2988	mg/L	0.00155	0.2988	mg/L	0.00155	0.52%
Antimony†	-6.7	-0.0028	mg/L	0.00354	-0.0028	mg/L	0.00354	126.45%
Arsenic 188†	5.5	0.0035	mg/L	0.00502	0.0035	mg/L	0.00502	141.54%
Arsenic†	0.9	0.0005	mg/L	0.00806	0.0005	mg/L	0.00806	>999.9%
Barium †	5266.3	0.0141	mg/L	0.00025	0.0141	mg/L	0.00025	1.81%
Beryllium†	-324.4	-0.0001	mg/L	0.00001	-0.0001	mg/L	0.00001	12.11%
Boron†	412.4	0.0908	mg/L	0.00235	0.0908	mg/L	0.00235	2.59%
Cadmium†	315.3	0.0054	mg/L	0.00015	0.0054	mg/L	0.00015	2.69%
Calcium†	313601.3	14.692	mg/L	0.0243	14.692	mg/L	0.0243	0.17%
Chromium†	1259.1	0.0165	mg/L	0.00024	0.0165	mg/L	0.00024	1.44%
Cobalt†	135.8	0.0027	mg/L	0.00032	0.0027	mg/L	0.00032	11.88%
Copper†	11340.1	0.0446	mg/L	0.00033	0.0446	mg/L	0.00033	0.73%
Iron†	14584.2	0.8729	mg/L	0.01059	0.8729	mg/L	0.01059	1.21%
Lead†	31.3	0.0044	mg/L	0.00292	0.0044	mg/L	0.00292	65.96%
Lithium†	-4386.6	0.0175	mg/L	0.00094	0.0175	mg/L	0.00094	5.41%
Magnesium†	18956.8	8.5625	mg/L	0.07406	8.5625	mg/L	0.07406	0.86%
Manganese†	131528.9	0.1885	mg/L	0.00055	0.1885	mg/L	0.00055	0.29%
Molybdenum†	344.4	0.0340	mg/L	0.00109	0.0340	mg/L	0.00109	3.21%
Nickel†	1605.6	0.0492	mg/L	0.00107	0.0492	mg/L	0.00107	2.17%
Potassium†	7354.9	2.2928	mg/L	0.01331	2.2928	mg/L	0.01331	0.58%
Selenium†	-0.0	0.0000	mg/L	0.00196	0.0000	mg/L	0.00196	>999.9%
Silicon†	18130.1	3.8093	mg/L	0.05670	3.8093	mg/L	0.05670	1.49%
Silver†	233.5	0.0014	mg/L	0.00020	0.0014	mg/L	0.00020	14.09%
Sodium†	830412.6	71.919	mg/L	0.2711	71.919	mg/L	0.2711	0.38%
Strontium†	50172.8	0.0856	mg/L	0.00049	0.0856	mg/L	0.00049	0.57%
Thallium†	-5.0	-0.0027	mg/L	0.00282	-0.0027	mg/L	0.00282	104.43%
Tin†	-19.1	-0.0045	mg/L	0.00174	-0.0045	mg/L	0.00174	38.33%
Titanium†	10986.1	0.0159	mg/L	0.00405	0.0159	mg/L	0.00405	25.50%
Vanadium†	259.8	0.0020	mg/L	0.00010	0.0020	mg/L	0.00010	5.16%
Zinc†	9254.9	0.1027	mg/L	0.00127	0.1027	mg/L	0.00127	1.23%

Sequence No.: 31
Sample ID: C4546-2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 29
Date Collected: 2/25/2009 2:09:40 PM
Data Type: Reprocessed on 2/26/2009 10:23:36 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4546-2

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1533541.7	101.05	%	1.366				1.35%
Aluminum†	767.0	0.3572	mg/L	0.01329	0.3572	mg/L	0.01329	3.72%
Antimony†	-6.3	-0.0025	mg/L	0.00519	-0.0025	mg/L	0.00519	205.57%
Arsenic 188†	-5.0	-0.0025	mg/L	0.00155	-0.0025	mg/L	0.00155	62.20%
Arsenic†	2.2	0.0014	mg/L	0.00325	0.0014	mg/L	0.00325	237.43%
Barium †	3306.5	0.0088	mg/L	0.00031	0.0088	mg/L	0.00031	3.56%
Beryllium†	-296.4	-0.0001	mg/L	0.00001	-0.0001	mg/L	0.00001	10.92%
Boron†	650.6	0.1435	mg/L	0.00648	0.1435	mg/L	0.00648	4.51%
Cadmium†	50.8	0.0009	mg/L	0.00017	0.0009	mg/L	0.00017	19.78%
Calcium†	392258.7	18.377	mg/L	0.4738	18.377	mg/L	0.4738	2.58%
Chromium†	236.0	0.0031	mg/L	0.00014	0.0031	mg/L	0.00014	4.56%
Cobalt†	27.2	0.0005	mg/L	0.00032	0.0005	mg/L	0.00032	64.38%
Copper†	15470.7	0.0608	mg/L	0.00074	0.0608	mg/L	0.00074	1.21%
Iron†	38679.6	2.3168	mg/L	0.05740	2.3168	mg/L	0.05740	2.48%
Lead†	9.2	0.0012	mg/L	0.00043	0.0012	mg/L	0.00043	34.91%
Lithium†	-5817.9	0.0208	mg/L	0.00092	0.0208	mg/L	0.00092	4.41%
Magnesium†	15995.6	7.2241	mg/L	0.13202	7.2241	mg/L	0.13202	1.83%
Manganese†	39465.7	0.0565	mg/L	0.00052	0.0565	mg/L	0.00052	0.92%
Molybdenum†	388.7	0.0384	mg/L	0.00088	0.0384	mg/L	0.00088	2.28%
Nickel†	469.6	0.0144	mg/L	0.00047	0.0144	mg/L	0.00047	3.29%
Potassium†	7121.6	2.2200	mg/L	0.04928	2.2200	mg/L	0.04928	2.22%
Selenium†	1.9	0.0030	mg/L	0.00688	0.0030	mg/L	0.00688	229.22%
Silicon†	13257.7	2.7851	mg/L	0.04787	2.7851	mg/L	0.04787	1.72%
Silver†	-25.8	-0.0001	mg/L	0.00057	-0.0001	mg/L	0.00057	756.51%
Sodium†	885884.5	76.723	mg/L	2.0206	76.723	mg/L	2.0206	2.63%
Strontium†	47093.4	0.0802	mg/L	0.00214	0.0802	mg/L	0.00214	2.67%
Thallium†	-7.9	-0.0043	mg/L	0.00245	-0.0043	mg/L	0.00245	56.63%
Tin†	-20.2	-0.0048	mg/L	0.00173	-0.0048	mg/L	0.00173	35.75%
Titanium†	233.9	0.0003	mg/L	0.00009	0.0003	mg/L	0.00009	25.88%
Vanadium†	62.7	0.0005	mg/L	0.00013	0.0005	mg/L	0.00013	25.53%
Zinc†	3071.7	0.0338	mg/L	0.00055	0.0338	mg/L	0.00055	1.63%

8.1

8

Sequence No.: 32
Sample ID: C43501-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 5X

Autosampler Location: 9
Date Collected: 2/25/2009 2:13:56 PM
Data Type: Reprocessed on 2/26/2009 10:22:37 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C43501-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1599604.2	105.40	%	3.210				3.05%
Aluminum†	45571.0	21.247	mg/L	0.9998	106.23	mg/L	4.999	4.71%
Antimony†	-14.1	-0.0026	mg/L	0.00143	-0.0130	mg/L	0.00715	54.83%
Arsenic 188†	9.9	0.0113	mg/L	0.00327	0.0564	mg/L	0.01636	29.02%
Arsenic†	-24.5	-0.0135	mg/L	0.00481	-0.0677	mg/L	0.02406	35.57%
Barium †	265164.4	0.7082	mg/L	0.01520	3.5408	mg/L	0.07598	2.15%
Beryllium†	-1384.4	0.0009	mg/L	0.00006	0.0047	mg/L	0.00028	5.84%
Boron†	86.3	0.0345	mg/L	0.00429	0.1724	mg/L	0.02147	12.45%
Cadmium†	71.2	0.0013	mg/L	0.00011	0.0067	mg/L	0.00056	8.28%
Calcium†	3414675.6	159.97	mg/L	3.260	799.86	mg/L	16.298	2.04%
Chromium†	7809.1	0.0977	mg/L	0.00212	0.4886	mg/L	0.01062	2.17%
Cobalt†	1423.7	0.0269	mg/L	0.00102	0.1347	mg/L	0.00509	3.78%
Copper†	25636.0	0.1007	mg/L	0.00141	0.5036	mg/L	0.00705	1.40%
Iron†	823598.4	49.349	mg/L	1.0170	246.75	mg/L	5.085	2.06%
Lead†	258.8	0.0365	mg/L	0.00375	0.1826	mg/L	0.01876	10.27%
Lithium†	-63241.6	0.1418	mg/L	0.00722	0.7089	mg/L	0.03608	5.09%
Magnesium†	70343.7	31.824	mg/L	0.6887	159.12	mg/L	3.444	2.16%
Manganese†	9409025.4	13.497	mg/L	0.1942	67.483	mg/L	0.9711	1.44%
Molybdenum†	3.7	0.0023	mg/L	0.00034	0.0116	mg/L	0.00171	14.74%
Nickel†	4615.5	0.1413	mg/L	0.00474	0.7065	mg/L	0.02369	3.35%
Potassium†	66186.7	20.633	mg/L	0.3622	103.17	mg/L	1.811	1.76%
Selenium†	-10.0	-0.0170	mg/L	0.00240	-0.0848	mg/L	0.01202	14.17%
Silicon†	115733.3	24.318	mg/L	0.5032	121.59	mg/L	2.516	2.07%
Silver†	145.3	0.0026	mg/L	0.00038	0.0131	mg/L	0.00189	14.48%
Sodium†	72089.3	6.2101	mg/L	0.13422	31.050	mg/L	0.6711	2.16%
Strontium†	247232.2	0.4192	mg/L	0.00917	2.0961	mg/L	0.04583	2.19%
Thallium†	-5.4	-0.0057	mg/L	0.00491	-0.0285	mg/L	0.02454	86.20%
Tin†	-78.1	-0.0162	mg/L	0.00206	-0.0810	mg/L	0.01029	12.71%
Titanium†	336651.0	0.4870	mg/L	0.00042	2.4349	mg/L	0.00208	0.09%
Vanadium†	13387.9	0.0991	mg/L	0.00033	0.4955	mg/L	0.00166	0.34%
Zinc†	265932.0	2.9653	mg/L	0.02868	14.826	mg/L	0.1434	0.97%

8.1.8

Sequence No.: 33
Sample ID: C4350-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 9
Date Collected: 2/25/2009 2:18:05 PM
Data Type: Reprocessed on 2/26/2009 10:23:38 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4350-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1544808.1	101.79	%	1.396				1.37%
Aluminum†	44640.9	20.813	mg/L	0.1897	20.813	mg/L	0.1897	0.91%
Antimony†	1.4	0.0035	mg/L	0.00098	0.0035	mg/L	0.00098	28.21%
Arsenic 188†	8.3	0.0102	mg/L	0.00488	0.0102	mg/L	0.00488	47.81%
Arsenic†	-25.5	-0.0142	mg/L	0.00286	-0.0142	mg/L	0.00286	20.12%
Barium †	262880.9	0.7021	mg/L	0.00517	0.7021	mg/L	0.00517	0.74%
Beryllium†	-1547.8	0.0009	mg/L	0.00004	0.0009	mg/L	0.00004	4.64%
Boron†	54.3	0.0272	mg/L	0.00490	0.0272	mg/L	0.00490	18.01%
Cadmium†	77.5	0.0015	mg/L	0.00020	0.0015	mg/L	0.00020	13.93%
Calcium†	3349449.0	156.92	mg/L	0.803	156.92	mg/L	0.803	0.51%
Chromium†	7706.9	0.0964	mg/L	0.00169	0.0964	mg/L	0.00169	1.75%
Cobalt†	1451.3	0.0275	mg/L	0.00014	0.0275	mg/L	0.00014	0.50%
Copper†	25258.5	0.0992	mg/L	0.00080	0.0992	mg/L	0.00080	0.80%
Iron†	811505.1	48.625	mg/L	0.2528	48.625	mg/L	0.2528	0.52%
Lead†	277.2	0.0391	mg/L	0.00190	0.0391	mg/L	0.00190	4.87%
Lithium†	-64378.9	0.1318	mg/L	0.00332	0.1318	mg/L	0.00332	2.52%
Magnesium†	68845.4	31.147	mg/L	0.1392	31.147	mg/L	0.1392	0.45%
Manganese†	9412085.0	13.501	mg/L	0.1677	13.501	mg/L	0.1677	1.24%
Molybdenum†	6.8	0.0026	mg/L	0.00103	0.0026	mg/L	0.00103	39.80%
Nickel†	4719.3	0.1445	mg/L	0.00065	0.1445	mg/L	0.00065	0.45%
Potassium†	65136.8	20.306	mg/L	0.1088	20.306	mg/L	0.1088	0.54%
Selenium†	-6.9	-0.0138	mg/L	0.00496	-0.0138	mg/L	0.00496	36.03%
Silicon†	113681.3	23.887	mg/L	0.1626	23.887	mg/L	0.1626	0.68%
Silver†	101.0	0.0023	mg/L	0.00105	0.0023	mg/L	0.00105	45.27%
Sodium†	71216.9	6.1345	mg/L	0.03004	6.1345	mg/L	0.03004	0.49%
Strontium†	244435.8	0.4145	mg/L	0.00244	0.4145	mg/L	0.00244	0.59%
Thallium†	-10.6	-0.0086	mg/L	0.00478	-0.0086	mg/L	0.00478	55.76%
Tin†	-83.0	-0.0174	mg/L	0.00143	-0.0174	mg/L	0.00143	8.24%
Titanium†	335149.2	0.4848	mg/L	0.00124	0.4848	mg/L	0.00124	0.26%
Vanadium†	13303.2	0.0985	mg/L	0.00110	0.0985	mg/L	0.00110	1.12%
Zinc†	263068.4	2.9333	mg/L	0.03560	2.9333	mg/L	0.03560	1.21%

Sequence No.: 34
Sample ID: blankcont
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/25/2009 2:22:15 PM
Data Type: Reprocessed on 2/26/2009 10:23:39 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: blankcont

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1600630.9	105.47	%	0.996				0.94%
Aluminum†	-15.0	-0.0070	mg/L	0.00965	-0.0070	mg/L	0.00965	137.23%
Antimony†	-31.2	-0.0122	mg/L	0.00119	-0.0122	mg/L	0.00119	9.70%
Arsenic 188†	3.7	0.0021	mg/L	0.00280	0.0021	mg/L	0.00280	130.88%
Arsenic†	-0.7	-0.0005	mg/L	0.00462	-0.0005	mg/L	0.00462	947.21%
Barium †	-41.8	-0.0001	mg/L	0.00017	-0.0001	mg/L	0.00017	147.55%
Beryllium†	-85.2	0.0000	mg/L	0.00008	0.0000	mg/L	0.00008	234.03%
Boron†	-81.9	-0.0180	mg/L	0.00080	-0.0180	mg/L	0.00080	4.42%
Cadmium†	-6.2	-0.0001	mg/L	0.00017	-0.0001	mg/L	0.00017	158.72%
Calcium†	-536.3	-0.0251	mg/L	0.00127	-0.0251	mg/L	0.00127	5.05%
Chromium†	-15.8	-0.0002	mg/L	0.00011	-0.0002	mg/L	0.00011	50.81%
Cobalt†	2.7	0.0001	mg/L	0.00014	0.0001	mg/L	0.00014	263.21%
Copper†	-154.3	-0.0006	mg/L	0.00008	-0.0006	mg/L	0.00008	13.13%
Iron†	47.5	0.0028	mg/L	0.00326	0.0028	mg/L	0.00326	114.52%
Lead†	-32.1	-0.0045	mg/L	0.00152	-0.0045	mg/L	0.00152	33.79%
Lithium†	54.9	0.0001	mg/L	0.00104	0.0001	mg/L	0.00104	877.10%
Magnesium†	-5.4	-0.0024	mg/L	0.00280	-0.0024	mg/L	0.00280	114.51%
Manganese†	355.0	0.0005	mg/L	0.00003	0.0005	mg/L	0.00003	5.41%
Molybdenum†	-11.6	-0.0011	mg/L	0.00096	-0.0011	mg/L	0.00096	84.29%
Nickel†	9.4	0.0003	mg/L	0.00015	0.0003	mg/L	0.00015	51.75%
Potassium†	35.7	0.0111	mg/L	0.01559	0.0111	mg/L	0.01559	140.04%
Selenium†	-2.6	-0.0030	mg/L	0.00136	-0.0030	mg/L	0.00136	45.99%
Silicon†	14.1	0.0030	mg/L	0.00090	0.0030	mg/L	0.00090	30.28%
Silver†	64.0	0.0004	mg/L	0.00033	0.0004	mg/L	0.00033	85.14%
Sodium†	-148.8	-0.0129	mg/L	0.00031	-0.0129	mg/L	0.00031	2.38%
Strontium†	-94.4	-0.0002	mg/L	0.00011	-0.0002	mg/L	0.00011	65.43%
Thallium†	5.4	0.0029	mg/L	0.00403	0.0029	mg/L	0.00403	136.82%
Tin†	-7.0	-0.0017	mg/L	0.00184	-0.0017	mg/L	0.00184	108.38%
Titanium†	16.8	0.0000	mg/L	0.00007	0.0000	mg/L	0.00007	284.64%
Vanadium†	27.2	0.0002	mg/L	0.00041	0.0002	mg/L	0.00041	202.53%
Zinc†	48.2	0.0005	mg/L	0.00004	0.0005	mg/L	0.00004	8.01%

Sequence No.: 35
Sample ID: CCV
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/25/2009 2:26:38 PM
Date Type: Reprocessed on 2/26/2009 10:23:40 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1585813.0	104.49	%	1.136				1.09%
Aluminum†	2021.6	0.9329	mg/L	0.01397	0.9329	mg/L	0.01397	1.50%
QC value within limits for Aluminum Recovery = 93.29%								
Antimony†	2473.2	0.9560	mg/L	0.00282	0.9560	mg/L	0.00282	0.29%
QC value within limits for Antimony Recovery = 95.60%								
Arsenic 188†	1672.4	0.9765	mg/L	0.00820	0.9765	mg/L	0.00820	0.84%
QC value within limits for Arsenic 188 Recovery = 97.65%								
Arsenic†	1417.5	0.9702	mg/L	0.01291	0.9702	mg/L	0.01291	1.33%
QC value within limits for Arsenic Recovery = 97.02%								
Barium †	338248.5	0.9042	mg/L	0.01842	0.9042	mg/L	0.01842	2.04%
QC value within limits for Barium Recovery = 90.42%								
Beryllium†	2466959.9	0.9413	mg/L	0.00084	0.9413	mg/L	0.00084	0.09%
QC value within limits for Beryllium Recovery = 94.13%								
Boron†	4351.0	0.9568	mg/L	0.02272	0.9568	mg/L	0.02272	2.37%
QC value within limits for Boron Recovery = 95.68%								
Cadmium†	54083.4	0.9349	mg/L	0.01284	0.9349	mg/L	0.01284	1.37%
QC value within limits for Cadmium Recovery = 93.49%								
Calcium†	20001.8	0.9290	mg/L	0.01744	0.9290	mg/L	0.01744	1.88%
QC value within limits for Calcium Recovery = 92.90%								
Chromium†	72063.7	0.9499	mg/L	0.01393	0.9499	mg/L	0.01393	1.47%
QC value within limits for Chromium Recovery = 94.99%								
Cobalt†	45851.2	0.9294	mg/L	0.01373	0.9294	mg/L	0.01373	1.48%
QC value within limits for Cobalt Recovery = 92.94%								
Copper†	237419.5	0.9348	mg/L	0.01247	0.9348	mg/L	0.01247	1.33%
QC value within limits for Copper Recovery = 93.48%								
Iron†	161703.2	9.6915	mg/L	0.25533	9.6915	mg/L	0.25533	2.63%
QC value within limits for Iron Recovery = 96.91%								
Lead†	6885.1	0.9777	mg/L	0.01470	0.9777	mg/L	0.01470	1.50%
QC value within limits for Lead Recovery = 97.77%								
Lithium†	296147.7	0.9266	mg/L	0.00599	0.9266	mg/L	0.00599	0.65%
QC value within limits for Lithium Recovery = 92.66%								
Magnesium†	2137.2	0.9714	mg/L	0.03421	0.9714	mg/L	0.03421	3.52%
QC value within limits for Magnesium Recovery = 97.14%								
Manganese†	659353.8	0.9458	mg/L	0.00238	0.9458	mg/L	0.00238	0.25%
QC value within limits for Manganese Recovery = 94.58%								
Molybdenum†	9568.2	0.9441	mg/L	0.01137	0.9441	mg/L	0.01137	1.20%
QC value within limits for Molybdenum Recovery = 94.41%								
Nickel†	30875.9	0.9453	mg/L	0.01123	0.9453	mg/L	0.01123	1.19%
QC value within limits for Nickel Recovery = 94.53%								
Potassium†	29887.3	9.3180	mg/L	0.21677	9.3180	mg/L	0.21677	2.33%
QC value within limits for Potassium Recovery = 93.18%								
Selenium†	861.8	0.9751	mg/L	0.01117	0.9751	mg/L	0.01117	1.15%
QC value within limits for Selenium Recovery = 97.51%								
Silicon†	2625.8	0.5520	mg/L	0.01233	0.5520	mg/L	0.01233	2.23%
QC value greater than the upper limit for Silicon Recovery = 110.41%								
Silver†	155589.2	0.9310	mg/L	0.01190	0.9310	mg/L	0.01190	1.28%
QC value within limits for Silver Recovery = 93.10%								
Sodium†	10404.7	0.8985	mg/L	0.02713	0.8985	mg/L	0.02713	3.02%
QC value less than the lower limit for Sodium Recovery = 89.85%								
Strontium†	528702.3	0.9065	mg/L	0.02163	0.9065	mg/L	0.02163	2.39%
QC value within limits for Strontium Recovery = 90.65%								
Thallium†	1723.5	0.9410	mg/L	0.00671	0.9410	mg/L	0.00671	0.71%
QC value within limits for Thallium Recovery = 94.10%								
Tin†	3906.9	0.9471	mg/L	0.01370	0.9471	mg/L	0.01370	1.45%
QC value within limits for Tin Recovery = 94.71%								
Titanium†	658791.2	0.9527	mg/L	0.00123	0.9527	mg/L	0.00123	0.13%
QC value within limits for Titanium Recovery = 95.27%								
Vanadium†	126712.1	0.9363	mg/L	0.01283	0.9363	mg/L	0.01283	1.37%
QC value within limits for Vanadium Recovery = 93.63%								
Zinc†	85772.3	0.9521	mg/L	0.01409	0.9521	mg/L	0.01409	1.48%
QC value within limits for Zinc Recovery = 95.21%								

8.1 8

QC Failed. Continue with analysis.

8.1 8

Sequence No.: 36
Sample ID: CCB
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/26/2009 2:36:34 PM
Data Type: Reprocessed on 2/26/2009 10:23:42 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1577824.0	103.96	%	0.389				0.37%
Aluminum†	-9.8	-0.0046	mg/L	0.00123	-0.0046	mg/L	0.00123	26.82%
QC value within limits for Aluminum Recovery = -9.14%								
Antimony†	4.3	0.0017	mg/L	0.00086	0.0017	mg/L	0.00086	50.97%
QC value within limits for Antimony Recovery = 16.93%								
Arsenic 188†	0.3	0.0002	mg/L	0.00223	0.0002	mg/L	0.00223	>999.9%
QC value within limits for Arsenic 188 Recovery = 1.90%								
Arsenic†	2.5	0.0016	mg/L	0.00373	0.0016	mg/L	0.00373	226.91%
QC value within limits for Arsenic Recovery = 16.45%								
Barium †	-180.8	-0.0005	mg/L	0.00004	-0.0005	mg/L	0.00004	7.77%
QC value within limits for Barium Recovery = -9.67%								
Beryllium†	34.1	0.0000	mg/L	0.00005	0.0000	mg/L	0.00005	406.08%
QC value within limits for Beryllium Recovery = 0.27%								
Boron†	-68.9	-0.0151	mg/L	0.00212	-0.0151	mg/L	0.00212	14.01%
QC value less than the lower limit for Boron Recovery = -151.25%								
Cadmium†	-9.9	-0.0002	mg/L	0.00028	-0.0002	mg/L	0.00028	163.39%
QC value within limits for Cadmium Recovery = -8.53%								
Calcium†	-34.1	-0.0016	mg/L	0.00061	-0.0016	mg/L	0.00061	38.38%
QC value within limits for Calcium Recovery = -3.20%								
Chromium†	-1.0	0.0000	mg/L	0.00031	0.0000	mg/L	0.00031	>999.9%
QC value within limits for Chromium Recovery = -0.26%								
Cobalt†	-4.8	-0.0001	mg/L	0.00033	-0.0001	mg/L	0.00033	336.24%
QC value within limits for Cobalt Recovery = -1.97%								
Copper†	-232.8	-0.0009	mg/L	0.00058	-0.0009	mg/L	0.00058	63.54%
QC value within limits for Copper Recovery = -18.33%								
Iron†	61.7	0.0037	mg/L	0.00160	0.0037	mg/L	0.00160	43.27%
QC value within limits for Iron Recovery = 7.40%								
Lead†	2.5	0.0003	mg/L	0.00086	0.0003	mg/L	0.00086	249.19%
QC value within limits for Lead Recovery = 6.93%								
Lithium†	192.9	0.0006	mg/L	0.00031	0.0006	mg/L	0.00031	52.05%
QC value within limits for Lithium Recovery = 5.99%								
Magnesium†	4.8	0.0022	mg/L	0.00675	0.0022	mg/L	0.00675	308.60%
QC value within limits for Magnesium Recovery = 4.38%								
Manganese†	45.4	0.0001	mg/L	0.00002	0.0001	mg/L	0.00002	27.81%
QC value within limits for Manganese Recovery = 1.30%								
Molybdenum†	4.9	0.0005	mg/L	0.00106	0.0005	mg/L	0.00106	217.38%
QC value within limits for Molybdenum Recovery = 9.72%								
Nickel†	9.5	0.0003	mg/L	0.00016	0.0003	mg/L	0.00016	55.73%
QC value within limits for Nickel Recovery = 5.80%								
Potassium†	-1.5	-0.0005	mg/L	0.07287	-0.0005	mg/L	0.07287	>999.9%
QC value within limits for Potassium Recovery = -0.09%								
Selenium†	-0.6	-0.0007	mg/L	0.01270	-0.0007	mg/L	0.01270	>999.9%
QC value within limits for Selenium Recovery = -3.37%								
Silicon†	17.4	0.0037	mg/L	0.00023	0.0037	mg/L	0.00023	6.16%
QC value within limits for Silicon Recovery = 7.32%								
Silver†	-18.5	-0.0001	mg/L	0.00087	-0.0001	mg/L	0.00087	786.23%
QC value within limits for Silver Recovery = -2.20%								
Sodium†	-149.4	-0.0129	mg/L	0.00469	-0.0129	mg/L	0.00469	36.25%
QC value within limits for Sodium Recovery = -12.94%								
Strontium†	4.4	0.0000	mg/L	0.00006	0.0000	mg/L	0.00006	852.64%
QC value within limits for Strontium Recovery = 0.15%								
Thallium†	0.4	0.0002	mg/L	0.00353	0.0002	mg/L	0.00353	>999.9%
QC value within limits for Thallium Recovery = 1.14%								
Tin†	-1.8	-0.0004	mg/L	0.00143	-0.0004	mg/L	0.00143	332.50%
QC value within limits for Tin Recovery = -0.86%								
Titanium†	68.7	0.0001	mg/L	0.00012	0.0001	mg/L	0.00012	124.66%
QC value within limits for Titanium Recovery = 4.97%								
Vanadium†	16.3	0.0001	mg/L	0.00021	0.0001	mg/L	0.00021	175.64%
QC value within limits for Vanadium Recovery = 2.40%								
Zinc†	-44.6	-0.0005	mg/L	0.00014	-0.0005	mg/L	0.00014	28.84%
QC value within limits for Zinc Recovery = -5.01%								

8.1
8

QC Failed. Continue with analysis.

Sequence No.: 17
Sample ID: M9933-MB1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 30
Date Collected: 2/25/2009 2:42:50 PM
Data Type: Reprocessed on 2/26/2009 10:23:43 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: M9933-MB1

Analyte	Mean Corrected Intensity	Calib Cond.	Calib Units	Std.Dev.	Sample Cond.	Sample Units	Std.Dev.	RSD
Yttrium	1605163.6	105.76	%	1.041				0.98%
Aluminum†	-21.7	-0.0101	mg/L	0.00333	-0.0101	mg/L	0.00333	32.83%
Antimony†	-17.5	-0.0068	mg/L	0.00144	-0.0068	mg/L	0.00144	21.03%
Arsenic 188†	2.0	0.0011	mg/L	0.00338	0.0011	mg/L	0.00338	297.66%
Arsenic†	2.0	0.0013	mg/L	0.00413	0.0013	mg/L	0.00413	309.78%
Barium †	-91.0	-0.0002	mg/L	0.00020	-0.0002	mg/L	0.00020	80.85%
Beryllium†	18.6	0.0000	mg/L	0.00004	0.0000	mg/L	0.00004	598.31%
Boron†	-66.1	-0.0145	mg/L	0.00305	-0.0145	mg/L	0.00305	21.01%
Cadmium†	-3.9	-0.0001	mg/L	0.00011	-0.0001	mg/L	0.00011	155.45%
Calcium†	-203.2	-0.0095	mg/L	0.00197	-0.0095	mg/L	0.00197	20.70%
Chromium†	12.8	0.0002	mg/L	0.00026	0.0002	mg/L	0.00026	154.09%
Cobalt†	-10.8	-0.0002	mg/L	0.00035	-0.0002	mg/L	0.00035	157.09%
Copper†	-172.1	-0.0007	mg/L	0.00078	-0.0007	mg/L	0.00078	114.79%
Iron†	96.0	0.0058	mg/L	0.00081	0.0058	mg/L	0.00081	14.06%
Lead†	-15.2	-0.0021	mg/L	0.00067	-0.0021	mg/L	0.00067	31.50%
Lithium†	335.2	0.0010	mg/L	0.00107	0.0010	mg/L	0.00107	103.80%
Magnesium†	-8.8	-0.0040	mg/L	0.00595	-0.0040	mg/L	0.00595	149.85%
Manganese†	124.8	0.0002	mg/L	0.00001	0.0002	mg/L	0.00001	5.89%
Molybdenum†	-2.2	-0.0002	mg/L	0.00036	-0.0002	mg/L	0.00036	163.79%
Nickel†	6.5	0.0002	mg/L	0.00067	0.0002	mg/L	0.00067	333.69%
Potassium†	12.5	0.0039	mg/L	0.01224	0.0039	mg/L	0.01224	314.13%
Selenium†	-11.2	-0.0126	mg/L	0.00805	-0.0126	mg/L	0.00805	63.76%
Silicon†	36.8	0.0077	mg/L	0.00097	0.0077	mg/L	0.00097	12.52%
Silver†	3.7	0.0000	mg/L	0.00047	0.0000	mg/L	0.00047	>999.9%
Sodium†	-96.1	-0.0083	mg/L	0.00907	-0.0083	mg/L	0.00907	108.97%
Strontium†	-53.8	-0.0001	mg/L	0.00018	-0.0001	mg/L	0.00018	195.90%
Thallium†	-3.5	-0.0019	mg/L	0.00202	-0.0019	mg/L	0.00202	105.01%
Tin†	-4.0	-0.0010	mg/L	0.00054	-0.0010	mg/L	0.00054	56.01%
Titanium†	47.4	0.0001	mg/L	0.00009	0.0001	mg/L	0.00009	137.37%
Vanadium†	27.9	0.0002	mg/L	0.00020	0.0002	mg/L	0.00020	98.31%
Zinc†	220.0	0.0025	mg/L	0.00013	0.0025	mg/L	0.00013	5.34%

Sequence No.: 38
Sample ID: M9933-81
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 34
Date Collected: 2/25/2009 2:45:38 PM
Data Type: Reprocessed on 2/26/2009 10:23:44 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: M9933-81

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1555211.0	102.47	%	0.863				0.84%
Aluminum†	1049.2	0.4859	mg/L	0.00999	0.4859	mg/L	0.00999	2.06%
Antimony†	1335.1	0.5160	mg/L	0.01020	0.5160	mg/L	0.01020	1.98%
Arsenic 188†	866.3	0.5055	mg/L	0.00879	0.5055	mg/L	0.00879	1.74%
Arsenic†	739.7	0.5067	mg/L	0.01379	0.5067	mg/L	0.01379	2.72%
Barium †	175806.8	0.4700	mg/L	0.01178	0.4700	mg/L	0.01178	2.51%
Beryllium†	1282425.8	0.4894	mg/L	0.00131	0.4894	mg/L	0.00131	0.27%
Boron†	2248.5	0.4931	mg/L	0.01011	0.4931	mg/L	0.01011	2.05%
Cadmium†	28869.5	0.4991	mg/L	0.01028	0.4991	mg/L	0.01028	2.06%
Calcium†	10798.2	0.5051	mg/L	0.01144	0.5051	mg/L	0.01144	2.27%
Chromium†	39418.7	0.5196	mg/L	0.00995	0.5196	mg/L	0.00995	1.91%
Cobalt†	24988.6	0.5066	mg/L	0.01071	0.5066	mg/L	0.01071	2.11%
Copper†	126945.2	0.4998	mg/L	0.01192	0.4998	mg/L	0.01192	2.38%
Iron†	8813.1	0.5282	mg/L	0.00397	0.5282	mg/L	0.00397	0.75%
Lead†	3598.7	0.5114	mg/L	0.00712	0.5114	mg/L	0.00712	1.39%
Lithium†	154538.8	0.4835	mg/L	0.00328	0.4835	mg/L	0.00328	0.68%
Magnesium†	1182.3	0.5365	mg/L	0.02070	0.5365	mg/L	0.02070	3.86%
Manganese†	352070.9	0.5050	mg/L	0.00171	0.5050	mg/L	0.00171	0.34%
Molybdenum†	5116.0	0.5046	mg/L	0.00753	0.5046	mg/L	0.00753	1.49%
Nickel†	16779.1	0.5137	mg/L	0.00837	0.5137	mg/L	0.00837	1.63%
Potassium†	15595.6	4.8622	mg/L	0.04830	4.8622	mg/L	0.04830	0.99%
Selenium†	430.6	0.4856	mg/L	0.00981	0.4856	mg/L	0.00981	2.02%
Silicon†	2398.4	0.5039	mg/L	0.00586	0.5039	mg/L	0.00586	1.16%
Silver†	40598.5	0.2431	mg/L	0.00649	0.2431	mg/L	0.00649	2.67%
Sodium†	5616.7	0.4850	mg/L	0.01809	0.4850	mg/L	0.01809	3.73%
Strontium†	282230.2	0.4839	mg/L	0.00957	0.4839	mg/L	0.00957	1.98%
Thallium†	889.1	0.4854	mg/L	0.00709	0.4854	mg/L	0.00709	1.46%
Tin†	3952.9	0.9568	mg/L	0.01395	0.9568	mg/L	0.01395	1.46%
Titanium†	349900.3	0.5060	mg/L	0.00180	0.5060	mg/L	0.00180	0.35%
Vanadium†	69130.6	0.5108	mg/L	0.01074	0.5108	mg/L	0.01074	2.10%
Zinc†	45200.5	0.5020	mg/L	0.01056	0.5020	mg/L	0.01056	2.10%

Sequence No.: 39
Sample ID: MF933-B2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 32
Date Collected: 2/25/2009 2:49:41 PM
Data Type: Reprocessed on 2/26/2009 10:23:46 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MF933-B2

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1589822.1	104.75	%	1.810				1.73%
Aluminum†	957.5	0.4433	mg/L	0.03279	0.4433	mg/L	0.03279	7.40%
Antimony†	1275.4	0.4930	mg/L	0.01164	0.4930	mg/L	0.01164	2.36%
Arsenic 188†	827.6	0.4829	mg/L	0.01563	0.4829	mg/L	0.01563	3.24%
Arsenic†	707.8	0.4847	mg/L	0.00945	0.4847	mg/L	0.00945	1.95%
Barium †	171169.3	0.4576	mg/L	0.00603	0.4576	mg/L	0.00603	1.32%
Beryllium†	1247287.0	0.4760	mg/L	0.00071	0.4760	mg/L	0.00071	0.15%
Boron†	2183.8	0.4789	mg/L	0.01416	0.4789	mg/L	0.01416	2.96%
Cadmium†	27297.2	0.4719	mg/L	0.00826	0.4719	mg/L	0.00826	1.75%
Calcium†	10112.4	0.4730	mg/L	0.01096	0.4730	mg/L	0.01096	2.32%
Chromium†	37412.7	0.4932	mg/L	0.00831	0.4932	mg/L	0.00831	1.69%
Cobalt†	23583.6	0.4781	mg/L	0.00744	0.4781	mg/L	0.00744	1.56%
Copper†	119192.7	0.4693	mg/L	0.00909	0.4693	mg/L	0.00909	1.94%
Iron†	8404.7	0.5037	mg/L	0.00894	0.5037	mg/L	0.00894	1.77%
Lead†	3432.8	0.4878	mg/L	0.01342	0.4878	mg/L	0.01342	2.75%
Lithium†	151155.1	0.4729	mg/L	0.00242	0.4729	mg/L	0.00242	0.51%
Magnesium†	1126.1	0.5111	mg/L	0.01998	0.5111	mg/L	0.01998	3.91%
Manganese†	342443.4	0.4912	mg/L	0.00133	0.4912	mg/L	0.00133	0.27%
Molybdenum†	4923.1	0.4856	mg/L	0.01173	0.4856	mg/L	0.01173	2.42%
Nickel†	15836.5	0.4849	mg/L	0.00667	0.4849	mg/L	0.00667	1.38%
Potassium†	14990.6	4.6736	mg/L	0.11454	4.6736	mg/L	0.11454	2.45%
Selenium†	403.8	0.4553	mg/L	0.01528	0.4553	mg/L	0.01528	3.36%
Silicon†	2304.1	0.4841	mg/L	0.01330	0.4841	mg/L	0.01330	2.75%
Silver†	38818.7	0.2324	mg/L	0.00400	0.2324	mg/L	0.00400	1.72%
Sodium†	5295.5	0.4572	mg/L	0.01140	0.4572	mg/L	0.01140	2.49%
Strontium†	272132.5	0.4666	mg/L	0.00777	0.4666	mg/L	0.00777	1.67%
Thallium†	850.1	0.4642	mg/L	0.01024	0.4642	mg/L	0.01024	2.21%
Tin†	3820.8	0.9248	mg/L	0.02248	0.9248	mg/L	0.02248	2.43%
Titanium†	342065.6	0.4947	mg/L	0.00085	0.4947	mg/L	0.00085	0.17%
Vanadium†	65507.1	0.4840	mg/L	0.00826	0.4840	mg/L	0.00826	1.71%
Zinc†	42652.9	0.4738	mg/L	0.00858	0.4738	mg/L	0.00858	1.81%

Sequence No.: 40
Sample ID: MP933-SD1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 5X

Autosampler Location: 34
Date Collected: 2/25/2009 2:57:46 PM
Data Type: Reprocessed on 2/26/2009 10:23:47 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP933-SD1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1529154.3	100.76	%	1.518				1.51%
Aluminum†	50.9	0.0187	mg/L	0.00671	0.0937	mg/L	0.03357	35.83%
Antimony†	-9.1	-0.0036	mg/L	0.00105	-0.0178	mg/L	0.00524	29.50%
Arsenic 188†	2.6	0.0028	mg/L	0.00350	0.0139	mg/L	0.01748	125.34%
Arsenic†	-33.6	-0.0223	mg/L	0.00251	-0.1113	mg/L	0.01253	11.26%
Barium †	4261.1	0.0112	mg/L	0.00049	0.0561	mg/L	0.00244	4.34%
Beryllium†	-260.5	-0.0001	mg/L	0.00006	-0.0005	mg/L	0.00032	65.67%
Boron†	104.4	0.0265	mg/L	0.00156	0.1323	mg/L	0.00782	5.91%
Cadmium†	13.9	0.0002	mg/L	0.00012	0.0012	mg/L	0.00060	48.58%
Calcium†	114516.4	5.3553	mg/L	0.09446	26.776	mg/L	0.4723	1.76%
Chromium†	100.5	0.0013	mg/L	0.00025	0.0064	mg/L	0.00125	19.62%
Cobalt†	77.0	0.0013	mg/L	0.00021	0.0066	mg/L	0.00107	16.10%
Copper†	493.6	0.0019	mg/L	0.00021	0.0096	mg/L	0.00107	11.10%
Iron†	188302.8	11.285	mg/L	0.2116	56.427	mg/L	1.0579	1.87%
Lead†	5.9	0.0004	mg/L	0.00106	0.0021	mg/L	0.00532	252.44%
Lithium†	-1830.8	0.0057	mg/L	0.00121	0.0283	mg/L	0.00604	21.36%
Magnesium†	5869.0	2.6498	mg/L	0.03736	13.249	mg/L	0.1868	1.41%
Manganese†	85939.4	0.1233	mg/L	0.00353	0.6167	mg/L	0.01763	2.86%
Molybdenum†	16.6	0.0021	mg/L	0.00045	0.0104	mg/L	0.00227	21.82%
Nickel†	523.2	0.0160	mg/L	0.00021	0.0801	mg/L	0.00106	1.32%
Potassium†	4344.3	1.3543	mg/L	0.01631	6.7713	mg/L	0.08157	1.20%
Selenium†	-7.1	-0.0039	mg/L	0.00574	-0.0194	mg/L	0.02872	148.15%
Silicon†	4405.7	0.9261	mg/L	0.01200	4.6306	mg/L	0.06002	1.30%
Silver†	14.6	0.0005	mg/L	0.00017	0.0023	mg/L	0.00085	36.33%
Sodium†	902007.8	78.119	mg/L	1.4103	390.60	mg/L	7.052	1.81%
Strontium†	40998.4	0.0701	mg/L	0.00128	0.3507	mg/L	0.00638	1.82%
Thallium†	-4.8	-0.0027	mg/L	0.00166	-0.0134	mg/L	0.00831	62.16%
Tin†	-3.3	-0.0005	mg/L	0.00197	-0.0025	mg/L	0.00983	398.00%
Titanium†	652.7	0.0009	mg/L	0.00008	0.0047	mg/L	0.00039	8.19%
Vanadium†	72.4	0.0007	mg/L	0.00011	0.0033	mg/L	0.00054	16.34%
Zinc†	4057.0	0.0441	mg/L	0.00076	0.2206	mg/L	0.00380	1.72%

Sequence No.: 41
Sample ID: C4552-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 33
Date Collected: 2/25/2009 2:53:43 PM
Data Type: Reprocessed on 2/26/2009 10:23:48 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4552-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1463400.6	96.424	%	1.2504				1.30%
Aluminum†	238.9	0.0858	mg/L	0.01546	0.0858	mg/L	0.01546	18.03%
Antimony†	3.8	0.0016	mg/L	0.00205	0.0016	mg/L	0.00205	128.53%
Arsenic 188†	-13.0	-0.0010	mg/L	0.00888	-0.0010	mg/L	0.00888	923.49%
Arsenic†	-167.1	-0.1106	mg/L	0.00383	-0.1106	mg/L	0.00383	3.46%
Barium †	22725.3	0.0599	mg/L	0.00172	0.0599	mg/L	0.00172	2.87%
Beryllium†	-534.1	-0.0002	mg/L	0.00003	-0.0002	mg/L	0.00003	17.69%
Boron†	803.1	0.1944	mg/L	0.01505	0.1944	mg/L	0.01505	7.74%
Cadmium†	20.1	0.0004	mg/L	0.00013	0.0004	mg/L	0.00013	35.38%
Calcium†	590736.8	27.626	mg/L	0.7391	27.626	mg/L	0.7391	2.68%
Chromium†	519.4	0.0066	mg/L	0.00042	0.0066	mg/L	0.00042	6.29%
Cobalt†	353.0	0.0059	mg/L	0.00040	0.0059	mg/L	0.00040	6.76%
Copper†	2136.2	0.0083	mg/L	0.00046	0.0083	mg/L	0.00046	5.49%
Iron†	967583.8	57.989	mg/L	1.4885	57.989	mg/L	1.4885	2.57%
Lead†	98.9	0.0118	mg/L	0.00115	0.0118	mg/L	0.00115	9.76%
Lithium†	-11855.0	0.0217	mg/L	0.00048	0.0217	mg/L	0.00048	2.20%
Magnesium†	29611.3	13.369	mg/L	0.4402	13.369	mg/L	0.4402	3.29%
Manganese†	427224.1	0.6132	mg/L	0.00215	0.6132	mg/L	0.00215	0.35%
Molybdenum†	109.5	0.0131	mg/L	0.00055	0.0131	mg/L	0.00055	4.23%
Nickel†	2632.1	0.0806	mg/L	0.00157	0.0806	mg/L	0.00157	1.95%
Potassium†	22606.1	7.0471	mg/L	0.18381	7.0471	mg/L	0.18381	2.61%
Selenium†	-13.8	0.0058	mg/L	0.00719	0.0058	mg/L	0.00719	123.89%
Silicon†	23427.2	4.9246	mg/L	0.15257	4.9246	mg/L	0.15257	3.10%
Silver†	-163.1	0.0010	mg/L	0.00030	0.0010	mg/L	0.00030	30.54%
Sodium†	4642040.5	402.03	mg/L	9.875	402.03	mg/L	9.875	2.46%
Strontium†	212594.8	0.3637	mg/L	0.00983	0.3637	mg/L	0.00983	2.70%
Thallium†	-34.4	-0.0191	mg/L	0.00305	-0.0191	mg/L	0.00305	15.99%
Tin†	-4.6	0.0005	mg/L	0.00288	0.0005	mg/L	0.00288	610.90%
Titanium†	3343.4	0.0048	mg/L	0.00030	0.0048	mg/L	0.00030	6.11%
Vanadium†	298.8	0.0028	mg/L	0.00043	0.0028	mg/L	0.00043	15.31%
Zinc†	19063.0	0.2068	mg/L	0.00204	0.2068	mg/L	0.00204	0.99%

Sequence No.: 42
Sample ID: MP933-S1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 35
Date Collected: 2/25/2009 3:02:23 PM
Data Type: Reprocessed on 2/26/2009 10:23:49 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP933-S1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1409454.9	92.869	%	0.8016				0.86%
Aluminum†	1367.6	0.6071	mg/L	0.01884	0.6071	mg/L	0.01884	3.10%
Antimony†	1372.9	0.5311	mg/L	0.00828	0.5311	mg/L	0.00828	1.56%
Arsenic 188†	925.1	0.5466	mg/L	0.00471	0.5466	mg/L	0.00471	0.86%
Arsenic†	622.7	0.4298	mg/L	0.00560	0.4298	mg/L	0.00560	1.30%
Barium †	211085.2	0.5634	mg/L	0.02030	0.5634	mg/L	0.02030	3.60%
Beryllium†	1319830.1	0.5037	mg/L	0.00049	0.5037	mg/L	0.00049	0.10%
Boron†	3420.4	0.7697	mg/L	0.03280	0.7697	mg/L	0.03280	4.26%
Cadmium†	29953.7	0.5178	mg/L	0.00738	0.5178	mg/L	0.00738	1.43%
Calcium†	644317.9	30.132	mg/L	1.2205	30.132	mg/L	1.2205	4.05%
Chromium†	39251.9	0.5172	mg/L	0.00155	0.5172	mg/L	0.00155	0.30%
Cobalt†	25185.2	0.5093	mg/L	0.00633	0.5093	mg/L	0.00633	1.24%
Copper†	135618.0	0.5338	mg/L	0.00163	0.5338	mg/L	0.00163	0.30%
Iron†	1044038.1	62.571	mg/L	2.3609	62.571	mg/L	2.3609	3.77%
Lead†	3759.3	0.5317	mg/L	0.00611	0.5317	mg/L	0.00611	1.15%
Lithium†	149588.5	0.5310	mg/L	0.00341	0.5310	mg/L	0.00341	0.64%
Magnesium†	33646.0	15.194	mg/L	0.7100	15.194	mg/L	0.7100	4.67%
Manganese†	790379.9	1.1341	mg/L	0.00113	1.1341	mg/L	0.00113	0.10%
Molybdenum†	5437.2	0.5387	mg/L	0.00648	0.5387	mg/L	0.00648	1.20%
Nickel†	19186.4	0.5874	mg/L	0.00841	0.5874	mg/L	0.00841	1.43%
Potassium†	41701.8	13.000	mg/L	0.4676	13.000	mg/L	0.4676	3.60%
Selenium†	461.9	0.5437	mg/L	0.00622	0.5437	mg/L	0.00622	1.14%
Silicon†	27904.5	5.8655	mg/L	0.24071	5.8655	mg/L	0.24071	4.10%
Silver†	40961.2	0.2473	mg/L	0.00059	0.2473	mg/L	0.00059	0.24%
Sodium†	4938132.5	427.67	mg/L	14.213	427.67	mg/L	14.213	3.32%
Strontium†	522665.4	0.8953	mg/L	0.03183	0.8953	mg/L	0.03183	3.55%
Thallium†	888.7	0.4850	mg/L	0.00450	0.4850	mg/L	0.00450	0.93%
Tin†	4164.9	1.0097	mg/L	0.01348	1.0097	mg/L	0.01348	1.33%
Titanium†	363619.6	0.5259	mg/L	0.00022	0.5259	mg/L	0.00022	0.04%
Vanadium†	69856.2	0.5168	mg/L	0.00097	0.5168	mg/L	0.00097	0.19%
Zinc†	65850.1	0.7262	mg/L	0.00133	0.7262	mg/L	0.00133	0.18%

Sequence No.: 43
Sample ID: MF933-S2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 36
Date Collected: 2/25/2009 3:06:31 PM
Data Type: Reprocessed on 2/26/2009 10:23:50 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MF933-S2

Analyte	Mean Corrected Intensity	Calib Cond.	Calib Units	Std.Dev.	Sample Cond.	Sample Units	Std.Dev.	RSD
Yttrium	1444455.7	95.175	%	0.3981				0.42%
Aluminum†	1257.3	0.5587	mg/L	0.01233	0.5587	mg/L	0.01233	2.21%
Antimony†	1337.6	0.5173	mg/L	0.00127	0.5173	mg/L	0.00127	0.24%
Arsenic 188†	891.4	0.5262	mg/L	0.00237	0.5262	mg/L	0.00237	0.45%
Arsenic†	616.1	0.4251	mg/L	0.00869	0.4251	mg/L	0.00869	2.04%
Barium †	194701.2	0.5197	mg/L	0.00282	0.5197	mg/L	0.00282	0.54%
Beryllium†	1301192.6	0.4966	mg/L	0.00081	0.4966	mg/L	0.00081	0.16%
Boron†	3114.5	0.7004	mg/L	0.00775	0.7004	mg/L	0.00775	1.11%
Cadmium†	29095.4	0.5029	mg/L	0.00309	0.5029	mg/L	0.00309	0.61%
Calcium†	570224.2	26.666	mg/L	0.1994	26.666	mg/L	0.1994	0.75%
Chromium†	38786.9	0.5111	mg/L	0.00174	0.5111	mg/L	0.00174	0.34%
Cobalt†	24423.1	0.4939	mg/L	0.00350	0.4939	mg/L	0.00350	0.71%
Copper†	134063.0	0.5277	mg/L	0.00127	0.5277	mg/L	0.00127	0.24%
Iron†	926144.7	55.506	mg/L	0.3645	55.506	mg/L	0.3645	0.66%
Lead†	3647.5	0.5161	mg/L	0.00475	0.5161	mg/L	0.00475	0.92%
Lithium†	148282.6	0.5196	mg/L	0.00127	0.5196	mg/L	0.00127	0.24%
Magnesium†	29984.5	13.541	mg/L	0.1090	13.541	mg/L	0.1090	0.80%
Manganese†	767731.0	1.1016	mg/L	0.00129	1.1016	mg/L	0.00129	0.12%
Molybdenum†	5281.0	0.5230	mg/L	0.00426	0.5230	mg/L	0.00426	0.81%
Nickel†	18524.1	0.5671	mg/L	0.00503	0.5671	mg/L	0.00503	0.89%
Potassium†	37616.9	11.727	mg/L	0.0842	11.727	mg/L	0.0842	0.72%
Selenium†	449.8	0.5273	mg/L	0.01119	0.5273	mg/L	0.01119	2.12%
Silicon†	25265.6	5.3108	mg/L	0.02848	5.3108	mg/L	0.02848	0.54%
Silver†	40611.4	0.2450	mg/L	0.00005	0.2450	mg/L	0.00005	0.02%
Sodium†	4418634.8	382.68	mg/L	1.988	382.68	mg/L	1.988	0.52%
Strontium†	474048.7	0.8121	mg/L	0.00423	0.8121	mg/L	0.00423	0.52%
Thallium†	863.9	0.4715	mg/L	0.00398	0.4715	mg/L	0.00398	0.85%
Tin†	4020.8	0.9747	mg/L	0.00966	0.9747	mg/L	0.00966	0.99%
Titanium†	359647.9	0.5201	mg/L	0.00146	0.5201	mg/L	0.00146	0.28%
Vanadium†	69008.7	0.5104	mg/L	0.00198	0.5104	mg/L	0.00198	0.39%
Zinc†	64201.6	0.7086	mg/L	0.00150	0.7086	mg/L	0.00150	0.21%

Sequence No.: 44
Sample ID: C4541-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 37
Date Collected: 2/25/2009 3:10:40 PM
Data Type: Reprocessed on 2/26/2009 10:23:51 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4541-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1568976.9	103.38	%	2.035				1.97%
Aluminum†	318.0	0.1483	mg/L	0.00528	0.1483	mg/L	0.00528	3.56%
Antimony†	-0.6	-0.0002	mg/L	0.00273	-0.0002	mg/L	0.00273	>999.9%
Arsenic 188†	4.8	0.0028	mg/L	0.00344	0.0028	mg/L	0.00344	121.86%
Arsenic†	-3.5	-0.0023	mg/L	0.00706	-0.0023	mg/L	0.00706	305.85%
Barium †	8593.3	0.0230	mg/L	0.00017	0.0230	mg/L	0.00017	0.75%
Beryllium†	-92.3	0.0000	mg/L	0.00004	0.0000	mg/L	0.00004	654.60%
Boron†	91.8	0.0203	mg/L	0.00322	0.0203	mg/L	0.00322	15.92%
Cadmium†	75.9	0.0013	mg/L	0.00004	0.0013	mg/L	0.00004	2.69%
Calcium†	153898.8	7.2110	mg/L	0.04028	7.2110	mg/L	0.04028	0.56%
Chromium†	165.6	0.0022	mg/L	0.00015	0.0022	mg/L	0.00015	6.92%
Cobalt†	34.0	0.0007	mg/L	0.00026	0.0007	mg/L	0.00026	40.31%
Copper†	5883.6	0.0232	mg/L	0.00170	0.0232	mg/L	0.00170	7.34%
Iron†	5915.8	0.3540	mg/L	0.00402	0.3540	mg/L	0.00402	1.14%
Lead†	17.0	0.0024	mg/L	0.00100	0.0024	mg/L	0.00100	41.76%
Lithium†	514.8	0.0169	mg/L	0.00107	0.0169	mg/L	0.00107	6.32%
Magnesium†	1968.7	0.8892	mg/L	0.01547	0.8892	mg/L	0.01547	1.74%
Manganese†	25138.4	0.0360	mg/L	0.00123	0.0360	mg/L	0.00123	3.41%
Molybdenum†	27.6	0.0027	mg/L	0.00092	0.0027	mg/L	0.00092	33.70%
Nickel†	108.9	0.0033	mg/L	0.00052	0.0033	mg/L	0.00052	15.52%
Potassium†	6948.8	2.1662	mg/L	0.03146	2.1662	mg/L	0.03146	1.45%
Selenium†	2.3	0.0027	mg/L	0.00967	0.0027	mg/L	0.00967	356.67%
Silicon†	7301.8	1.5344	mg/L	0.01931	1.5344	mg/L	0.01931	1.26%
Silver†	45.8	0.0003	mg/L	0.00047	0.0003	mg/L	0.00047	163.13%
Sodium†	125704.7	10.887	mg/L	0.0168	10.887	mg/L	0.0168	0.15%
Strontium†	23049.1	0.0393	mg/L	0.00003	0.0393	mg/L	0.00003	0.07%
Thallium†	-3.5	-0.0018	mg/L	0.00188	-0.0018	mg/L	0.00188	102.77%
Tin†	-8.1	-0.0019	mg/L	0.00249	-0.0019	mg/L	0.00249	130.66%
Titanium†	9558.5	0.0138	mg/L	0.00134	0.0138	mg/L	0.00134	9.70%
Vanadium†	241.1	0.0018	mg/L	0.00030	0.0018	mg/L	0.00030	17.02%
Zinc†	28835.5	0.3221	mg/L	0.01088	0.3221	mg/L	0.01088	3.38%

8.1 8

Sequence No.: 45
Sample ID: M9031-MB1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 71
Date Collected: 2/25/2009 3:14:55 PM
Data Type: Reprocessed on 2/26/2009 10:23:52 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: M9031-MB1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1614093.8	106.35	%	0.825				0.78%
Aluminum†	-31.1	-0.0145	mg/L	0.00686	-0.0145	mg/L	0.00686	47.19%
Antimony†	-21.1	-0.0083	mg/L	0.00463	-0.0083	mg/L	0.00463	55.99%
Arsenic 188†	-2.2	-0.0013	mg/L	0.00312	-0.0013	mg/L	0.00312	249.00%
Arsenic†	1.3	0.0009	mg/L	0.00615	0.0009	mg/L	0.00615	702.05%
Barium †	-168.2	-0.0004	mg/L	0.00025	-0.0004	mg/L	0.00025	55.82%
Beryllium†	65.1	0.0000	mg/L	0.00005	0.0000	mg/L	0.00005	187.42%
Boron†	-78.2	-0.0172	mg/L	0.00157	-0.0172	mg/L	0.00157	9.14%
Cadmium†	-9.8	-0.0002	mg/L	0.00007	-0.0002	mg/L	0.00007	43.87%
Calcium†	-590.8	-0.0277	mg/L	0.00071	-0.0277	mg/L	0.00071	2.56%
Chromium†	3.0	0.0000	mg/L	0.00014	0.0000	mg/L	0.00014	348.05%
Cobalt†	5.6	0.0001	mg/L	0.00030	0.0001	mg/L	0.00030	267.59%
Copper†	-265.7	-0.0010	mg/L	0.00025	-0.0010	mg/L	0.00025	23.68%
Iron†	9.0	0.0005	mg/L	0.00071	0.0005	mg/L	0.00071	131.86%
Lead†	-15.8	-0.0022	mg/L	0.00152	-0.0022	mg/L	0.00152	68.29%
Lithium†	702.2	0.0021	mg/L	0.00087	0.0021	mg/L	0.00087	40.75%
Magnesium†	-11.0	-0.0050	mg/L	0.00841	-0.0050	mg/L	0.00841	169.49%
Manganese†	0.2	0.0000	mg/L	0.00003	0.0000	mg/L	0.00003	>999.9%
Molybdenum†	-9.2	-0.0009	mg/L	0.00031	-0.0009	mg/L	0.00031	33.79%
Nickel†	4.8	0.0001	mg/L	0.00028	0.0001	mg/L	0.00028	189.65%
Potassium†	80.5	0.0251	mg/L	0.06523	0.0251	mg/L	0.06523	260.09%
Selenium†	3.9	0.0044	mg/L	0.00001	0.0044	mg/L	0.00001	0.32%
Silicon†	22.2	0.0047	mg/L	0.00147	0.0047	mg/L	0.00147	31.37%
Silver†	140.8	0.0008	mg/L	0.00040	0.0008	mg/L	0.00040	47.09%
Sodium†	345.0	0.0299	mg/L	0.00686	0.0299	mg/L	0.00686	22.97%
Strontium†	-7.9	0.0000	mg/L	0.00005	0.0000	mg/L	0.00005	371.58%
Thallium†	-1.3	-0.0007	mg/L	0.00201	-0.0007	mg/L	0.00201	292.93%
Tin†	-10.1	-0.0024	mg/L	0.00034	-0.0024	mg/L	0.00034	13.81%
Titanium†	-10.6	0.0000	mg/L	0.00016	0.0000	mg/L	0.00016	>999.9%
Vanadium†	36.8	0.0003	mg/L	0.00019	0.0003	mg/L	0.00019	71.57%
Zinc†	122.6	0.0014	mg/L	0.00004	0.0014	mg/L	0.00004	2.98%

8.1
8

Sequence No.: 46
Sample ID: MP931-B1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 72
Date Collected: 2/25/2009 3:19:16 PM
Data Type: Reprocessed on 2/26/2009 10:23:54 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP931-B1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1628525.5	107.30	%	1.223				1.14%
Aluminum†	1033.2	0.4786	mg/L	0.02294	0.4786	mg/L	0.02294	4.79%
Antimony†	1196.2	0.4617	mg/L	0.00481	0.4617	mg/L	0.00481	1.04%
Arsenic 188†	874.3	0.5100	mg/L	0.00398	0.5100	mg/L	0.00398	0.78%
Arsenic†	731.2	0.5007	mg/L	0.00833	0.5007	mg/L	0.00833	1.66%
Barium †	173093.4	0.4628	mg/L	0.00819	0.4628	mg/L	0.00819	1.77%
Beryllium†	1280619.2	0.4887	mg/L	0.00170	0.4887	mg/L	0.00170	0.35%
Boron†	2177.0	0.4773	mg/L	0.00575	0.4773	mg/L	0.00575	1.20%
Cadmium†	28899.1	0.4995	mg/L	0.01001	0.4995	mg/L	0.01001	2.00%
Calcium†	10285.6	0.4811	mg/L	0.01207	0.4811	mg/L	0.01207	2.51%
Chromium†	38722.6	0.5104	mg/L	0.00872	0.5104	mg/L	0.00872	1.71%
Cobalt†	24615.6	0.4990	mg/L	0.00908	0.4990	mg/L	0.00908	1.82%
Copper†	120968.5	0.4763	mg/L	0.00695	0.4763	mg/L	0.00695	1.46%
Iron†	8427.1	0.5050	mg/L	0.01084	0.5050	mg/L	0.01084	2.15%
Lead†	3611.5	0.5132	mg/L	0.00485	0.5132	mg/L	0.00485	0.95%
Lithium†	152370.9	0.4767	mg/L	0.00222	0.4767	mg/L	0.00222	0.47%
Magnesium†	1117.3	0.5071	mg/L	0.01600	0.5071	mg/L	0.01600	3.16%
Manganese†	349771.7	0.5017	mg/L	0.00172	0.5017	mg/L	0.00172	0.34%
Molybdenum†	4920.9	0.4854	mg/L	0.00613	0.4854	mg/L	0.00613	1.26%
Nickel†	16612.3	0.5086	mg/L	0.01057	0.5086	mg/L	0.01057	2.08%
Potassium†	15297.1	4.7692	mg/L	0.09778	4.7692	mg/L	0.09778	2.05%
Selenium†	449.4	0.5067	mg/L	0.01441	0.5067	mg/L	0.01441	2.84%
Silicon†	1214.9	0.2552	mg/L	0.00776	0.2552	mg/L	0.00776	3.04%
Silver†	81966.1	0.4903	mg/L	0.00748	0.4903	mg/L	0.00748	1.53%
Sodium†	5535.4	0.4780	mg/L	0.02005	0.4780	mg/L	0.02005	4.19%
Strontium†	275742.4	0.4728	mg/L	0.01022	0.4728	mg/L	0.01022	2.16%
Thallium†	911.6	0.4977	mg/L	0.00835	0.4977	mg/L	0.00835	1.68%
Tin†	-4.4	0.0003	mg/L	0.00188	0.0003	mg/L	0.00188	542.49%
Titanium†	347617.5	0.5027	mg/L	0.00085	0.5027	mg/L	0.00085	0.17%
Vanadium†	67713.8	0.5003	mg/L	0.00831	0.5003	mg/L	0.00831	1.66%
Zinc†	45646.2	0.5071	mg/L	0.00754	0.5071	mg/L	0.00754	1.49%

8.1 8

Sequence No.: 47
Sample ID: CCV
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/25/2009 3:23:22 PM
Data Type: Reprocessed on 2/26/2009 10:23:55 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Yttrium	1565903.0	103.18	%	1.675				1.62%
Aluminum†	2020.5	0.9322	mg/L	0.01029	0.9322	mg/L	0.01029	1.10%
QC value within limits for Aluminum Recovery = 93.22%								
Antimony†	2581.0	0.9979	mg/L	0.01407	0.9979	mg/L	0.01407	1.41%
QC value within limits for Antimony Recovery = 99.79%								
Arsenic 188†	1713.7	1.0006	mg/L	0.01637	1.0006	mg/L	0.01637	1.64%
QC value within limits for Arsenic 188 Recovery = 100.06%								
Arsenic†	1459.2	0.9986	mg/L	0.01376	0.9986	mg/L	0.01376	1.38%
QC value within limits for Arsenic Recovery = 99.86%								
Barium †	345202.5	0.9227	mg/L	0.00636	0.9227	mg/L	0.00636	0.69%
QC value within limits for Barium Recovery = 92.27%								
Beryllium†	2502060.4	0.9547	mg/L	0.00203	0.9547	mg/L	0.00203	0.21%
QC value within limits for Beryllium Recovery = 95.47%								
Boron†	4444.8	0.9775	mg/L	0.00696	0.9775	mg/L	0.00696	0.71%
QC value within limits for Boron Recovery = 97.75%								
Cadmium†	55358.0	0.9569	mg/L	0.02744	0.9569	mg/L	0.02744	2.87%
QC value within limits for Cadmium Recovery = 95.69%								
Calcium†	20388.3	0.9469	mg/L	0.00679	0.9469	mg/L	0.00679	0.72%
QC value within limits for Calcium Recovery = 94.69%								
Chromium†	73877.1	0.9738	mg/L	0.02978	0.9738	mg/L	0.02978	3.06%
QC value within limits for Chromium Recovery = 97.38%								
Cobalt†	46950.7	0.9517	mg/L	0.02861	0.9517	mg/L	0.02861	3.01%
QC value within limits for Cobalt Recovery = 95.17%								
Copper†	243117.8	0.9572	mg/L	0.03082	0.9572	mg/L	0.03082	3.22%
QC value within limits for Copper Recovery = 95.72%								
Iron†	165911.1	9.9437	mg/L	0.06376	9.9437	mg/L	0.06376	0.64%
QC value within limits for Iron Recovery = 99.44%								
Lead†	7061.8	1.0028	mg/L	0.01554	1.0028	mg/L	0.01554	1.55%
QC value within limits for Lead Recovery = 100.28%								
Lithium†	300153.3	0.9391	mg/L	0.01006	0.9391	mg/L	0.01006	1.07%
QC value within limits for Lithium Recovery = 93.91%								
Magnesium†	2204.1	1.0017	mg/L	0.01578	1.0017	mg/L	0.01578	1.58%
QC value within limits for Magnesium Recovery = 100.17%								
Manganese†	669448.2	0.9603	mg/L	0.00222	0.9603	mg/L	0.00222	0.23%
QC value within limits for Manganese Recovery = 96.03%								
Molybdenum†	9815.1	0.9684	mg/L	0.01335	0.9684	mg/L	0.01335	1.38%
QC value within limits for Molybdenum Recovery = 96.84%								
Nickel†	31766.4	0.9726	mg/L	0.01311	0.9726	mg/L	0.01311	1.35%
QC value within limits for Nickel Recovery = 97.26%								
Potassium†	30527.1	9.5174	mg/L	0.02334	9.5174	mg/L	0.02334	0.25%
QC value within limits for Potassium Recovery = 95.17%								
Selenium†	886.1	1.0026	mg/L	0.01274	1.0026	mg/L	0.01274	1.27%
QC value within limits for Selenium Recovery = 100.26%								
Silicon†	2675.3	0.5624	mg/L	0.00469	0.5624	mg/L	0.00469	0.83%
QC value greater than the upper limit for Silicon Recovery = 112.49%								
Silver†	158900.6	0.9508	mg/L	0.02802	0.9508	mg/L	0.02802	2.95%
QC value within limits for Silver Recovery = 95.08%								
Sodium†	10731.6	0.9267	mg/L	0.00780	0.9267	mg/L	0.00780	0.84%
QC value within limits for Sodium Recovery = 92.67%								
Strontium†	539743.7	0.9255	mg/L	0.00429	0.9255	mg/L	0.00429	0.46%
QC value within limits for Strontium Recovery = 92.55%								
Thallium†	1747.5	0.9540	mg/L	0.01061	0.9540	mg/L	0.01061	1.11%
QC value within limits for Thallium Recovery = 95.40%								
Tin†	4023.0	0.9753	mg/L	0.01345	0.9753	mg/L	0.01345	1.38%
QC value within limits for Tin Recovery = 97.53%								
Titanium†	667995.4	0.9660	mg/L	0.00233	0.9660	mg/L	0.00233	0.24%
QC value within limits for Titanium Recovery = 96.60%								
Vanadium†	129582.5	0.9575	mg/L	0.02708	0.9575	mg/L	0.02708	2.83%
QC value within limits for Vanadium Recovery = 95.75%								
Zinc†	87851.4	0.9751	mg/L	0.03011	0.9751	mg/L	0.03011	3.09%
QC value within limits for Zinc Recovery = 97.51%								

8.1 8

QC Failed. Continue with analysis.

Sequence No.: 48
Sample ID: CCB
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/25/2009 3:34:54 PM
Date Type: Reprocessed on 2/26/2009 10:23:56 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1603188.9	105.63	%	1.155				1.09%
Aluminum†	-23.1	-0.0108	mg/L	0.00841	-0.0108	mg/L	0.00841	77.85%
QC value within limits for Aluminum Recovery = -21.60%								
Antimony†	9.0	0.0035	mg/L	0.00234	0.0035	mg/L	0.00234	65.94%
QC value within limits for Antimony Recovery = 35.41%								
Arsenic 188†	0.9	0.0005	mg/L	0.00408	0.0005	mg/L	0.00408	776.60%
QC value within limits for Arsenic 188 Recovery = 5.25%								
Arsenic†	6.8	0.0046	mg/L	0.00239	0.0046	mg/L	0.00239	52.43%
QC value within limits for Arsenic Recovery = 45.62%								
Barium †	-102.4	-0.0003	mg/L	0.00021	-0.0003	mg/L	0.00021	76.68%
QC value within limits for Barium Recovery = -5.48%								
Beryllium†	52.8	0.0000	mg/L	0.00005	0.0000	mg/L	0.00005	265.52%
QC value within limits for Beryllium Recovery = 0.40%								
Boron†	-61.8	-0.0135	mg/L	0.00123	-0.0135	mg/L	0.00123	9.09%
QC value less than the lower limit for Boron Recovery = -135.49%								
Cadmium†	-10.9	-0.0002	mg/L	0.00005	-0.0002	mg/L	0.00005	25.40%
QC value within limits for Cadmium Recovery = -9.34%								
Calcium†	-69.5	-0.0033	mg/L	0.00189	-0.0033	mg/L	0.00189	57.93%
QC value within limits for Calcium Recovery = -6.51%								
Chromium†	-1.7	0.0000	mg/L	0.00006	0.0000	mg/L	0.00006	257.98%
QC value within limits for Chromium Recovery = -0.46%								
Cobalt†	8.3	0.0002	mg/L	0.00032	0.0002	mg/L	0.00032	189.61%
QC value within limits for Cobalt Recovery = 3.35%								
Copper†	-283.9	-0.0011	mg/L	0.00044	-0.0011	mg/L	0.00044	39.69%
QC value within limits for Copper Recovery = -22.35%								
Iron†	21.2	0.0013	mg/L	0.00083	0.0013	mg/L	0.00083	65.68%
QC value within limits for Iron Recovery = 2.54%								
Lead†	-19.1	-0.0027	mg/L	0.00175	-0.0027	mg/L	0.00175	65.33%
QC value within limits for Lead Recovery = -53.67%								
Lithium†	365.5	0.0011	mg/L	0.00048	0.0011	mg/L	0.00048	41.98%
QC value within limits for Lithium Recovery = 11.34%								
Magnesium†	-11.1	-0.0050	mg/L	0.00231	-0.0050	mg/L	0.00231	45.89%
QC value within limits for Magnesium Recovery = -10.07%								
Manganese†	-10.7	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	116.66%
QC value within limits for Manganese Recovery = -0.31%								
Molybdenum†	10.0	0.0010	mg/L	0.00056	0.0010	mg/L	0.00056	56.27%
QC value within limits for Molybdenum Recovery = 19.75%								
Nickel†	-2.7	-0.0001	mg/L	0.00043	-0.0001	mg/L	0.00043	525.01%
QC value within limits for Nickel Recovery = -1.65%								
Potassium†	-141.0	-0.0440	mg/L	0.03124	-0.0440	mg/L	0.03124	71.06%
QC value within limits for Potassium Recovery = -8.79%								
Selenium†	-0.1	-0.0001	mg/L	0.00311	-0.0001	mg/L	0.00311	>999.9%
QC value within limits for Selenium Recovery = -0.51%								
Silicon†	3.3	0.0007	mg/L	0.00278	0.0007	mg/L	0.00278	400.51%
QC value within limits for Silicon Recovery = 1.39%								
Silver†	98.6	0.0006	mg/L	0.00064	0.0006	mg/L	0.00064	108.22%
QC value within limits for Silver Recovery = 11.79%								
Sodium†	24.3	0.0021	mg/L	0.01262	0.0021	mg/L	0.01262	599.98%
QC value within limits for Sodium Recovery = 2.10%								
Strontium†	15.3	0.0000	mg/L	0.00019	0.0000	mg/L	0.00019	726.29%
QC value within limits for Strontium Recovery = 0.52%								
Thallium†	-2.8	-0.0015	mg/L	0.00129	-0.0015	mg/L	0.00129	84.45%
QC value within limits for Thallium Recovery = -7.64%								
Tin†	0.8	0.0002	mg/L	0.00193	0.0002	mg/L	0.00193	>999.9%
QC value within limits for Tin Recovery = 0.38%								
Titanium†	28.6	0.0000	mg/L	0.00008	0.0000	mg/L	0.00008	201.33%
QC value within limits for Titanium Recovery = 2.07%								
Vanadium†	30.4	0.0002	mg/L	0.00014	0.0002	mg/L	0.00014	63.61%
QC value within limits for Vanadium Recovery = 4.49%								
Zinc†	-30.2	-0.0003	mg/L	0.00011	-0.0003	mg/L	0.00011	33.03%
QC value within limits for Zinc Recovery = -3.37%								

QC Failed. Continue with analysis.

8.1

8

Sequence No.: 49
Sample ID: MF931-B2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 73
Date Collected: 2/25/2009 3:37:38 PM
Data Type: Reprocessed on 2/26/2009 10:23:58 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MF931-B2

Analyte	Mean Corrected Intensity	Calib Cond.	Calib Units	Std.Dev.	Sample Cond.	Sample Units	Std.Dev.	RSD
Yttrium	1612861.1	106.27	%	0.759				0.71%
Aluminum†	999.1	0.4627	mg/L	0.03105	0.4627	mg/L	0.03105	6.71%
Antimony†	1168.8	0.4512	mg/L	0.00729	0.4512	mg/L	0.00729	1.62%
Arsenic 188†	859.5	0.5014	mg/L	0.01168	0.5014	mg/L	0.01168	2.33%
Arsenic†	722.8	0.4948	mg/L	0.01357	0.4948	mg/L	0.01357	2.74%
Barium †	172268.4	0.4605	mg/L	0.00857	0.4605	mg/L	0.00857	1.86%
Beryllium†	1254352.1	0.4787	mg/L	0.00090	0.4787	mg/L	0.00090	0.19%
Boron†	2114.7	0.4637	mg/L	0.02332	0.4637	mg/L	0.02332	5.03%
Cadmium†	27988.8	0.4838	mg/L	0.00416	0.4838	mg/L	0.00416	0.86%
Calcium†	9712.1	0.4543	mg/L	0.02599	0.4543	mg/L	0.02599	5.72%
Chromium†	37401.9	0.4930	mg/L	0.00331	0.4930	mg/L	0.00331	0.67%
Cobalt†	23757.1	0.4816	mg/L	0.00543	0.4816	mg/L	0.00543	1.13%
Copper†	117957.2	0.4645	mg/L	0.00572	0.4645	mg/L	0.00572	1.23%
Iron†	8093.8	0.4851	mg/L	0.01783	0.4851	mg/L	0.01783	3.67%
Lead†	3526.8	0.5011	mg/L	0.00621	0.5011	mg/L	0.00621	1.24%
Lithium†	150828.4	0.4719	mg/L	0.00049	0.4719	mg/L	0.00049	0.10%
Magnesium†	1093.6	0.4964	mg/L	0.00509	0.4964	mg/L	0.00509	1.03%
Manganese†	342931.1	0.4919	mg/L	0.00114	0.4919	mg/L	0.00114	0.23%
Molybdenum†	4821.6	0.4756	mg/L	0.00733	0.4756	mg/L	0.00733	1.54%
Nickel†	15996.4	0.4898	mg/L	0.00528	0.4898	mg/L	0.00528	1.08%
Potassium†	15086.4	4.7035	mg/L	0.10923	4.7035	mg/L	0.10923	2.32%
Selenium†	437.7	0.4935	mg/L	0.00476	0.4935	mg/L	0.00476	0.96%
Silicon†	1144.1	0.2403	mg/L	0.01039	0.2403	mg/L	0.01039	4.32%
Silver†	80957.4	0.4843	mg/L	0.00575	0.4843	mg/L	0.00575	1.19%
Sodium†	5175.3	0.4468	mg/L	0.01876	0.4468	mg/L	0.01876	4.20%
Strontium†	267090.3	0.4580	mg/L	0.00962	0.4580	mg/L	0.00962	2.10%
Thallium†	894.7	0.4885	mg/L	0.00266	0.4885	mg/L	0.00266	0.54%
Tin†	-12.5	-0.0016	mg/L	0.00035	-0.0016	mg/L	0.00035	21.31%
Titanium†	340256.1	0.4921	mg/L	0.00088	0.4921	mg/L	0.00088	0.18%
Vanadium†	65443.1	0.4835	mg/L	0.00527	0.4835	mg/L	0.00527	1.09%
Zinc†	44084.7	0.4897	mg/L	0.00456	0.4897	mg/L	0.00456	0.93%

Sequence No.: 50
Sample ID: C4492-3
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 10%

Autosampler Location: 74
Date Collected: 2/25/2009 3:41:48 PM
Data Type: Reprocessed on 2/26/2009 10:23:59 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4492-3

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1538295.2	101.36	%	1.149				1.13%
Aluminum†	962.7	0.4495	mg/L	0.01045	4.4949	mg/L	0.10447	2.32%
Antimony†	28.8	0.0112	mg/L	0.00331	0.1117	mg/L	0.03309	29.62%
Arsenic 188†	2.8	0.0017	mg/L	0.00309	0.0166	mg/L	0.03086	186.28%
Arsenic†	8.6	0.0058	mg/L	0.00198	0.0579	mg/L	0.01984	34.26%
Barium †	1261.0	0.0034	mg/L	0.00038	0.0337	mg/L	0.00379	11.27%
Beryllium†	-55.3	0.0000	mg/L	0.00006	-0.0002	mg/L	0.00064	338.50%
Boron†	-10.7	-0.0022	mg/L	0.00097	-0.0225	mg/L	0.00973	43.29%
Cadmium†	-8.8	-0.0001	mg/L	0.00026	-0.0015	mg/L	0.00257	174.05%
Calcium†	10949.0	0.5119	mg/L	0.00995	5.1189	mg/L	0.09951	1.94%
Chromium†	553.5	0.0073	mg/L	0.00024	0.0729	mg/L	0.00245	3.35%
Cobalt†	23.4	0.0005	mg/L	0.00022	0.0046	mg/L	0.00215	46.51%
Copper†	11268.3	0.0443	mg/L	0.00137	0.4435	mg/L	0.01368	3.08%
Iron†	4781.6	0.2865	mg/L	0.00531	2.8654	mg/L	0.05306	1.85%
Lead†	-9.8	-0.0014	mg/L	0.00276	-0.0135	mg/L	0.02761	204.32%
Lithium†	4577265.7	14.291	mg/L	0.1250	142.91	mg/L	1.250	0.87%
Magnesium†	402.2	0.1800	mg/L	0.00931	1.8001	mg/L	0.09305	5.17%
Manganese†	13124.5	0.0188	mg/L	0.00018	0.1882	mg/L	0.00178	0.95%
Molybdenum†	109.9	0.0108	mg/L	0.00084	0.1084	mg/L	0.00840	7.75%
Nickel†	1222.1	0.0374	mg/L	0.00050	0.3741	mg/L	0.00502	1.34%
Potassium†	342233.8	106.69	mg/L	1.068	1066.9	mg/L	10.68	1.00%
Selenium†	-0.0	0.0001	mg/L	0.00335	0.0008	mg/L	0.03354	>999.9%
Silicon†	908.0	0.1908	mg/L	0.00538	1.9083	mg/L	0.05378	2.82%
Silver†	15.6	0.0001	mg/L	0.00012	0.0010	mg/L	0.00123	117.72%
Sodium†	385648.9	33.400	mg/L	0.3691	334.00	mg/L	3.691	1.11%
Strontium†	8100.9	0.0139	mg/L	0.00017	0.1388	mg/L	0.00171	1.23%
Thallium†	5.5	0.0030	mg/L	0.00249	0.0299	mg/L	0.02486	83.13%
Tin†	-7.0	-0.0017	mg/L	0.00089	-0.0168	mg/L	0.00894	53.06%
Titanium†	459.6	0.0007	mg/L	0.00013	0.0066	mg/L	0.00126	18.97%
Vanadium†	171.5	0.0013	mg/L	0.00036	0.0129	mg/L	0.00362	28.13%
Zinc†	540.2	0.0058	mg/L	0.00006	0.0577	mg/L	0.00060	1.05%

8.1
8

Sequence No.: 51
Sample ID: M2931-81
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 10X

Autosampler Location: 76
Date Collected: 2/25/2009 3:50:27 PM
Data Type: Reprocessed on 2/26/2009 10:24:00 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: M2931-81

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Concd.	Sample Units	Std.Dev.	RSD
Yttrium	1531863.9	100.93	%	0.692				0.69%
Aluminum†	1058.3	0.4938	mg/L	0.02687	4.9378	mg/L	0.26873	5.44%
Antimony†	120.8	0.0466	mg/L	0.00759	0.4655	mg/L	0.07587	16.30%
Arsenic 188†	91.9	0.0536	mg/L	0.00216	0.5363	mg/L	0.02163	4.03%
Arsenic†	72.8	0.0498	mg/L	0.00682	0.4985	mg/L	0.06824	13.69%
Barium †	18374.6	0.0491	mg/L	0.00110	0.4912	mg/L	0.01099	2.24%
Beryllium†	124289.1	0.0474	mg/L	0.00022	0.4743	mg/L	0.00224	0.47%
Boron†	187.6	0.0412	mg/L	0.00116	0.4123	mg/L	0.01155	2.80%
Cadmium†	2846.5	0.0492	mg/L	0.00073	0.4920	mg/L	0.00728	1.48%
Calcium†	11579.2	0.5413	mg/L	0.00535	5.4133	mg/L	0.05347	0.99%
Chromium†	4233.4	0.0558	mg/L	0.00121	0.5580	mg/L	0.01214	2.17%
Cobalt†	2338.3	0.0474	mg/L	0.00034	0.4739	mg/L	0.00341	0.72%
Copper†	23934.8	0.0942	mg/L	0.00125	0.9422	mg/L	0.01251	1.33%
Iron†	5384.7	0.3227	mg/L	0.00219	3.2269	mg/L	0.02187	0.68%
Lead†	341.7	0.0486	mg/L	0.00239	0.4858	mg/L	0.02386	4.91%
Lithium†	4586963.7	14.322	mg/L	0.2239	143.22	mg/L	2.239	1.56%
Magnesium†	474.0	0.2127	mg/L	0.00662	2.1265	mg/L	0.06621	3.11%
Manganese†	46033.6	0.0660	mg/L	0.00032	0.6603	mg/L	0.00319	0.48%
Molybdenum†	549.8	0.0542	mg/L	0.00153	0.5424	mg/L	0.01535	2.83%
Nickel†	2799.0	0.0857	mg/L	0.00061	0.8569	mg/L	0.00605	0.71%
Potassium†	346911.5	108.14	mg/L	1.957	1081.4	mg/L	19.57	1.81%
Selenium†	49.7	0.0561	mg/L	0.00195	0.5610	mg/L	0.01954	3.48%
Silicon†	992.6	0.2086	mg/L	0.00196	2.0860	mg/L	0.01956	0.94%
Silver†	21907.5	0.1310	mg/L	0.00082	1.3099	mg/L	0.00825	0.63%
Sodium†	389486.1	33.732	mg/L	0.6048	337.32	mg/L	6.048	1.79%
Strontium†	34722.1	0.0595	mg/L	0.00099	0.5952	mg/L	0.00989	1.66%
Thallium†	82.9	0.0452	mg/L	0.00276	0.4524	mg/L	0.02763	6.11%
Tin†	-12.8	-0.0030	mg/L	0.00115	-0.0295	mg/L	0.01152	39.00%
Titanium†	34137.0	0.0494	mg/L	0.00023	0.4937	mg/L	0.00227	0.46%
Vanadium†	6707.5	0.0496	mg/L	0.00023	0.4957	mg/L	0.00233	0.47%
Zinc†	4948.4	0.0547	mg/L	0.00084	0.5475	mg/L	0.00839	1.53%

8.1 8

Sequence No.: 52
Sample ID: MP931+SD1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 50X

Autosampler Location: 75
Date Collected: 2/25/2009 3:46:08 PM
Data Type: Reprocessed on 2/26/2009 10:24:01 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP931+SD1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1562251.1	102.94	%	0.889				0.86%
Aluminum†	194.5	0.0908	mg/L	0.00902	4.5414	mg/L	0.45100	9.93%
Antimony†	-7.5	-0.0030	mg/L	0.00180	-0.1490	mg/L	0.08998	60.39%
Arsenic 188†	6.3	0.0037	mg/L	0.00291	0.1831	mg/L	0.14556	79.49%
Arsenic†	3.3	0.0022	mg/L	0.00209	0.1096	mg/L	0.10465	95.52%
Barium †	173.7	0.0005	mg/L	0.00041	0.0232	mg/L	0.02050	88.47%
Beryllium†	3.8	0.0000	mg/L	0.00003	0.0001	mg/L	0.00127	>999.9%
Boron†	-47.9	-0.0105	mg/L	0.00061	-0.5248	mg/L	0.03053	5.82%
Cadmium†	1.4	0.0000	mg/L	0.00014	0.0013	mg/L	0.00686	538.15%
Calcium†	2220.8	0.1038	mg/L	0.00323	5.1914	mg/L	0.16150	3.11%
Chromium†	120.2	0.0016	mg/L	0.00022	0.0791	mg/L	0.01120	14.16%
Cobalt†	1.0	0.0000	mg/L	0.00017	0.0009	mg/L	0.00845	898.12%
Copper†	1962.0	0.0077	mg/L	0.00058	0.3861	mg/L	0.02887	7.48%
Iron†	961.1	0.0576	mg/L	0.00121	2.8797	mg/L	0.06073	2.11%
Lead†	-26.5	-0.0037	mg/L	0.00216	-0.1860	mg/L	0.10792	58.02%
Lithium†	855558.8	2.6713	mg/L	0.01150	133.56	mg/L	0.575	0.43%
Magnesium†	82.8	0.0371	mg/L	0.00846	1.8535	mg/L	0.42292	22.82%
Manganese†	2603.2	0.0037	mg/L	0.00002	0.1867	mg/L	0.00097	0.52%
Molybdenum†	14.1	0.0014	mg/L	0.00041	0.0695	mg/L	0.02041	29.38%
Nickel†	241.0	0.0074	mg/L	0.00020	0.3690	mg/L	0.01000	2.71%
Potassium†	67918.7	21.173	mg/L	0.3492	1058.6	mg/L	17.46	1.65%
Selenium†	2.7	0.0030	mg/L	0.01110	0.1516	mg/L	0.55477	366.03%
Silicon†	176.8	0.0372	mg/L	0.00075	1.8583	mg/L	0.03760	2.02%
Silver†	57.2	0.0003	mg/L	0.00026	0.0172	mg/L	0.01315	76.46%
Sodium†	77551.1	6.7164	mg/L	0.09912	335.82	mg/L	4.956	1.48%
Strontium†	1455.0	0.0025	mg/L	0.00015	0.1246	mg/L	0.00753	6.04%
Thallium†	-6.4	-0.0035	mg/L	0.00625	-0.1744	mg/L	0.31230	179.05%
Tin†	1.4	0.0003	mg/L	0.00190	0.0169	mg/L	0.09484	561.88%
Titanium†	91.3	0.0001	mg/L	0.00005	0.0066	mg/L	0.00248	37.76%
Vanadium†	58.7	0.0004	mg/L	0.00020	0.0219	mg/L	0.00986	45.12%
Zinc†	109.0	0.0012	mg/L	0.00004	0.0583	mg/L	0.00214	3.67%

Sequence No.: 53
Sample ID: MP931-S2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 10X

Autosampler Location: 77
Date Collected: 2/25/2009 3:54:49 PM
Date Type: Reprocessed on 2/26/2009 10:24:02 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP931-S2

Analyte	Mean Corrected Intensity	Calib Cond.	Calib Units	Std.Dev.	Sample Cond.	Sample Units	Std.Dev.	RSD
Yttrium	1520621.5	100.19	%	1.787				1.78%
Aluminum†	1087.8	0.5075	mg/L	0.01880	5.0754	mg/L	0.18797	3.70%
Antimony†	133.5	0.0515	mg/L	0.00478	0.5152	mg/L	0.04776	9.27%
Arsenic 188†	91.2	0.0533	mg/L	0.00637	0.5327	mg/L	0.06372	11.96%
Arsenic†	77.0	0.0527	mg/L	0.00505	0.5271	mg/L	0.05053	9.59%
Barium †	18314.8	0.0490	mg/L	0.00157	0.4896	mg/L	0.01573	3.21%
Beryllium†	125772.5	0.0480	mg/L	0.00137	0.4800	mg/L	0.01367	2.85%
Boron†	208.4	0.0458	mg/L	0.00224	0.4580	mg/L	0.02237	4.88%
Cadmium†	2874.8	0.0497	mg/L	0.00100	0.4969	mg/L	0.01001	2.01%
Calcium†	11916.5	0.5571	mg/L	0.00829	5.5713	mg/L	0.08292	1.49%
Chromium†	4323.0	0.0570	mg/L	0.00193	0.5698	mg/L	0.01929	3.39%
Cobalt†	2387.4	0.0484	mg/L	0.00083	0.4839	mg/L	0.00829	1.71%
Copper†	24168.7	0.0951	mg/L	0.00390	0.9514	mg/L	0.03902	4.10%
Iron†	5554.2	0.3328	mg/L	0.00449	3.3284	mg/L	0.04486	1.35%
Lead†	351.8	0.0500	mg/L	0.00113	0.5001	mg/L	0.01133	2.27%
Lithium†	4607818.5	14.387	mg/L	0.1684	143.87	mg/L	1.684	1.17%
Magnesium†	506.4	0.2273	mg/L	0.01055	2.2732	mg/L	0.10546	4.64%
Manganese†	46823.2	0.0672	mg/L	0.00209	0.6716	mg/L	0.02090	3.11%
Molybdenum†	577.7	0.0570	mg/L	0.00042	0.5699	mg/L	0.00425	0.75%
Nickel†	2851.0	0.0873	mg/L	0.00176	0.8729	mg/L	0.01762	2.02%
Potassium†	347489.0	108.32	mg/L	3.409	1083.2	mg/L	34.09	3.15%
Selenium†	54.5	0.0615	mg/L	0.00587	0.6151	mg/L	0.05869	9.54%
Silicon†	1022.6	0.2149	mg/L	0.00346	2.1489	mg/L	0.03456	1.61%
Silver†	20040.7	0.1198	mg/L	0.00395	1.1983	mg/L	0.03951	3.30%
Sodium†	389206.4	33.708	mg/L	1.1702	337.08	mg/L	11.702	3.47%
Strontium†	34687.2	0.0595	mg/L	0.00210	0.5946	mg/L	0.02098	3.53%
Thallium†	88.2	0.0481	mg/L	0.00039	0.4813	mg/L	0.00395	0.82%
Tin†	-0.1	0.0001	mg/L	0.00204	0.0013	mg/L	0.02045	>999.9%
Titanium†	34236.3	0.0495	mg/L	0.00166	0.4951	mg/L	0.01662	3.36%
Vanadium†	6665.1	0.0493	mg/L	0.00139	0.4926	mg/L	0.01391	2.82%
Zinc†	5046.8	0.0558	mg/L	0.00111	0.5583	mg/L	0.01112	1.99%

8.1
8

Sequence No.: 34
Sample ID: C4492-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 78
Date Collected: 2/25/2009 3:59:10 PM
Data Type: Reprocessed on 2/26/2009 10:24:03 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4492-1

Analyte	Mean Corrected Intensity	Calib Cond.	Calib Units	Std.Dev.	Sample Cond.	Sample Units	Std.Dev.	RSD
Yttrium	1603374.0	105.65	%	0.997				0.94%
Aluminum†	4131.8	1.9297	mg/L	0.06268	1.9297	mg/L	0.06268	3.25%
Antimony†	-4.5	-0.0018	mg/L	0.00522	-0.0018	mg/L	0.00522	282.62%
Arsenic 188†	22.1	0.0128	mg/L	0.00516	0.0128	mg/L	0.00516	40.31%
Arsenic†	18.5	0.0124	mg/L	0.00237	0.0124	mg/L	0.00237	19.10%
Barium †	3676.9	0.0098	mg/L	0.00030	0.0098	mg/L	0.00030	3.02%
Beryllium†	-229.7	-0.0001	mg/L	0.00004	-0.0001	mg/L	0.00004	78.33%
Boron†	57280.4	12.569	mg/L	0.1537	12.569	mg/L	0.1537	1.22%
Cadmium†	46.9	0.0009	mg/L	0.00004	0.0009	mg/L	0.00004	4.37%
Calcium†	101238.8	4.7431	mg/L	0.06456	4.7431	mg/L	0.06456	1.36%
Chromium†	157.4	0.0021	mg/L	0.00014	0.0021	mg/L	0.00014	6.99%
Cobalt†	764.0	0.0155	mg/L	0.00040	0.0155	mg/L	0.00040	2.60%
Copper†	17555.5	0.0691	mg/L	0.00125	0.0691	mg/L	0.00125	1.80%
Iron†	3766.9	0.2254	mg/L	0.00906	0.2254	mg/L	0.00906	4.02%
Lead†	21.9	0.0034	mg/L	0.00151	0.0034	mg/L	0.00151	44.68%
Lithium†	3425.2	0.0208	mg/L	0.00096	0.0208	mg/L	0.00096	4.62%
Magnesium†	2137.3	0.9645	mg/L	0.03609	0.9645	mg/L	0.03609	3.74%
Manganese†	4974.8	0.0071	mg/L	0.00016	0.0071	mg/L	0.00016	2.25%
Molybdenum†	74.2	0.0073	mg/L	0.00055	0.0073	mg/L	0.00055	7.57%
Nickel†	69.9	0.0021	mg/L	0.00008	0.0021	mg/L	0.00008	3.79%
Potassium†	16167.7	5.0400	mg/L	0.04007	5.0400	mg/L	0.04007	0.80%
Selenium†	1.9	0.0023	mg/L	0.00853	0.0023	mg/L	0.00853	368.99%
Silicon†	17628.7	3.7051	mg/L	0.06861	3.7051	mg/L	0.06861	1.85%
Silver†	59.9	0.0004	mg/L	0.00041	0.0004	mg/L	0.00041	111.78%
Sodium†	281205.7	24.354	mg/L	0.2873	24.354	mg/L	0.2873	1.18%
Strontium†	27134.0	0.0464	mg/L	0.00051	0.0464	mg/L	0.00051	1.10%
Thallium†	9.7	0.0053	mg/L	0.00295	0.0053	mg/L	0.00295	55.74%
Tin†	-6.7	-0.0016	mg/L	0.00049	-0.0016	mg/L	0.00049	30.65%
Titanium†	7747.5	0.0112	mg/L	0.00022	0.0112	mg/L	0.00022	1.92%
Vanadium†	311.1	0.0023	mg/L	0.00020	0.0023	mg/L	0.00020	8.63%
Zinc†	7287.8	0.0814	mg/L	0.00128	0.0814	mg/L	0.00128	1.57%

Sequence No.: 55
Sample ID: C4400-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 79
Date Collected: 2/25/2009 4:03:12 PM
Date Type: Reprocessed on 2/26/2009 10:24:05 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4400-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Calib Std.Dev.	Sample Conc.	Sample Units	Sample Std.Dev.	RSD
Yttrium	1575907.7	103.84	%	0.439				0.42%
Aluminum†	1689.1	0.7851	mg/L	0.02861	0.7851	mg/L	0.02861	3.64%
Antimony†	98.3	0.0382	mg/L	0.00183	0.0382	mg/L	0.00183	4.79%
Arsenic 188†	4.5	0.0037	mg/L	0.00218	0.0037	mg/L	0.00218	59.54%
Arsenic†	-3.0	-0.0018	mg/L	0.00809	-0.0018	mg/L	0.00809	459.71%
Barium †	47464.7	0.1268	mg/L	0.00051	0.1268	mg/L	0.00051	0.40%
Beryllium†	-290.9	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	71.74%
Boron†	821.7	0.1830	mg/L	0.01132	0.1830	mg/L	0.01132	6.19%
Cadmium†	-3.6	-0.0001	mg/L	0.00024	-0.0001	mg/L	0.00024	436.23%
Calcium†	215500.2	10.091	mg/L	0.0303	10.091	mg/L	0.0303	0.30%
Chromium†	1603.4	0.0211	mg/L	0.00039	0.0211	mg/L	0.00039	1.84%
Cobalt†	70.8	0.0012	mg/L	0.00034	0.0012	mg/L	0.00034	29.47%
Copper†	110601.5	0.4353	mg/L	0.00324	0.4353	mg/L	0.00324	0.74%
Iron†	143476.8	8.5984	mg/L	0.01329	8.5984	mg/L	0.01329	0.15%
Lead†	36.6	0.0049	mg/L	0.00189	0.0049	mg/L	0.00189	38.49%
Lithium†	-2417.2	0.0139	mg/L	0.00022	0.0139	mg/L	0.00022	1.62%
Magnesium†	6176.8	2.7913	mg/L	0.11951	2.7913	mg/L	0.11951	4.28%
Manganese†	63089.2	0.0905	mg/L	0.00044	0.0905	mg/L	0.00044	0.49%
Molybdenum†	295.1	0.0294	mg/L	0.00060	0.0294	mg/L	0.00060	2.04%
Nickel†	384.0	0.0118	mg/L	0.00060	0.0118	mg/L	0.00060	5.09%
Potassium†	7130.8	2.2230	mg/L	0.03708	2.2230	mg/L	0.03708	1.67%
Selenium†	-0.9	0.0022	mg/L	0.00704	0.0022	mg/L	0.00704	320.74%
Silicon†	30317.9	6.3724	mg/L	0.24269	6.3724	mg/L	0.24269	3.81%
Silver†	49.4	0.0006	mg/L	0.00017	0.0006	mg/L	0.00017	28.09%
Sodium†	309403.5	26.796	mg/L	0.0520	26.796	mg/L	0.0520	0.19%
Strontium†	43145.1	0.0737	mg/L	0.00031	0.0737	mg/L	0.00031	0.43%
Thallium†	-2.2	-0.0009	mg/L	0.00136	-0.0009	mg/L	0.00136	149.76%
Tin†	274.1	0.0666	mg/L	0.00090	0.0666	mg/L	0.00090	1.34%
Titanium†	31948.4	0.0462	mg/L	0.00040	0.0462	mg/L	0.00040	0.86%
Vanadium†	473.3	0.0036	mg/L	0.00009	0.0036	mg/L	0.00009	2.50%
Zinc†	28480.7	0.3173	mg/L	0.00158	0.3173	mg/L	0.00158	0.50%

8.1 8

Sequence No.: 56
Sample ID: C4401-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 80
Date Collected: 2/25/2009 4:07:22 PM
Data Type: Reprocessed on 2/26/2009 10:24:06 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4401-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1586861.7	104.56	%	1.239				1.18%
Aluminum†	177.1	0.0827	mg/L	0.00377	0.0827	mg/L	0.00377	4.56%
Antimony†	-20.0	-0.0079	mg/L	0.00106	-0.0079	mg/L	0.00106	13.50%
Arsenic 188†	1.4	0.0008	mg/L	0.00302	0.0008	mg/L	0.00302	373.90%
Arsenic†	6.7	0.0045	mg/L	0.00127	0.0045	mg/L	0.00127	28.49%
Barium †	1649.5	0.0044	mg/L	0.00021	0.0044	mg/L	0.00021	4.85%
Beryllium†	-35.9	0.0000	mg/L	0.00005	0.0000	mg/L	0.00005	>999.9%
Boron†	419.6	0.0921	mg/L	0.00137	0.0921	mg/L	0.00137	1.49%
Cadmium†	0.5	0.0000	mg/L	0.00020	0.0000	mg/L	0.00020	>999.9%
Calcium†	58997.2	2.7644	mg/L	0.10835	2.7644	mg/L	0.10835	3.92%
Chromium†	27.4	0.0004	mg/L	0.00018	0.0004	mg/L	0.00018	49.20%
Cobalt†	3.2	0.0001	mg/L	0.00018	0.0001	mg/L	0.00018	326.91%
Copper†	5882.5	0.0231	mg/L	0.00107	0.0231	mg/L	0.00107	4.61%
Iron†	666.9	0.0398	mg/L	0.00042	0.0398	mg/L	0.00042	1.06%
Lead†	-14.0	-0.0020	mg/L	0.00161	-0.0020	mg/L	0.00161	81.98%
Lithium†	57.2	0.0060	mg/L	0.00027	0.0060	mg/L	0.00027	4.51%
Magnesium†	1016.1	0.4588	mg/L	0.00968	0.4588	mg/L	0.00968	2.11%
Manganese†	2099.0	0.0030	mg/L	0.00005	0.0030	mg/L	0.00005	1.79%
Molybdenum†	1.2	0.0001	mg/L	0.00048	0.0001	mg/L	0.00048	406.98%
Nickel†	199.1	0.0061	mg/L	0.00041	0.0061	mg/L	0.00041	6.69%
Potassium†	950.6	0.2963	mg/L	0.04275	0.2963	mg/L	0.04275	14.43%
Selenium†	-0.1	-0.0001	mg/L	0.00266	-0.0001	mg/L	0.00266	>999.9%
Silicon†	10703.8	2.2497	mg/L	0.03566	2.2497	mg/L	0.03566	1.59%
Silver†	33.4	0.0002	mg/L	0.00033	0.0002	mg/L	0.00033	165.67%
Sodium†	63176.0	5.4714	mg/L	0.19424	5.4714	mg/L	0.19424	3.55%
Strontium†	14145.9	0.0242	mg/L	0.00080	0.0242	mg/L	0.00080	3.32%
Thallium†	2.4	0.0013	mg/L	0.00350	0.0013	mg/L	0.00350	262.48%
Tin†	-3.2	-0.0008	mg/L	0.00222	-0.0008	mg/L	0.00222	292.52%
Titanium†	3272.0	0.0047	mg/L	0.00084	0.0047	mg/L	0.00084	17.67%
Vanadium†	44.6	0.0003	mg/L	0.00006	0.0003	mg/L	0.00006	17.35%
Zinc†	1466.6	0.0163	mg/L	0.00055	0.0163	mg/L	0.00055	3.34%

Sequence No.: 57
Sample ID: C4402-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 81
Date Collected: 2/25/2008 4:11:40 PM
Data Type: Reprocessed on 2/26/2008 10:24:07 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4402-1

Analyte	Mean Corrected Intensity	Calib Cond.	Calib Units	Std.Dev.	Sample Cond.	Sample Units	Std.Dev.	RSD
Yttrium	1649341.7	108.68	%	0.216				0.20%
Aluminum†	3323.8	1.5506	mg/L	0.01381	1.5506	mg/L	0.01381	0.89%
Antimony†	54.2	0.0211	mg/L	0.00236	0.0211	mg/L	0.00236	11.20%
Arsenic 188†	0.3	0.0005	mg/L	0.00177	0.0005	mg/L	0.00177	323.81%
Arsenic†	-0.1	0.0001	mg/L	0.00444	0.0001	mg/L	0.00444	>999.9%
Barium †	143448.2	0.3834	mg/L	0.00336	0.3834	mg/L	0.00336	0.88%
Beryllium†	-914.9	0.0001	mg/L	0.00003	0.0001	mg/L	0.00003	33.28%
Boron†	343.8	0.0766	mg/L	0.00367	0.0766	mg/L	0.00367	4.79%
Cadmium†	13.2	0.0002	mg/L	0.00019	0.0002	mg/L	0.00019	78.52%
Calcium†	207365.6	9.7134	mg/L	0.13699	9.7134	mg/L	0.13699	1.41%
Chromium†	928.6	0.0122	mg/L	0.00030	0.0122	mg/L	0.00030	2.44%
Cobalt†	100.4	0.0017	mg/L	0.00009	0.0017	mg/L	0.00009	5.24%
Copper†	60717.9	0.2390	mg/L	0.00207	0.2390	mg/L	0.00207	0.87%
Iron†	63228.0	3.7888	mg/L	0.05930	3.7888	mg/L	0.05930	1.57%
Lead†	66.6	0.0094	mg/L	0.00096	0.0094	mg/L	0.00096	10.23%
Lithium†	-1772.4	0.0151	mg/L	0.00054	0.0151	mg/L	0.00054	3.60%
Magnesium†	5475.6	2.4740	mg/L	0.00096	2.4740	mg/L	0.00096	0.04%
Manganese†	68370.3	0.0981	mg/L	0.00090	0.0981	mg/L	0.00090	0.92%
Molybdenum†	62.3	0.0063	mg/L	0.00082	0.0063	mg/L	0.00082	13.04%
Nickel†	397.3	0.0122	mg/L	0.00024	0.0122	mg/L	0.00024	1.96%
Potassium†	4061.0	1.2661	mg/L	0.04600	1.2661	mg/L	0.04600	3.63%
Selenium†	-0.1	0.0013	mg/L	0.00659	0.0013	mg/L	0.00659	514.99%
Silicon†	43717.9	9.1888	mg/L	0.12639	9.1888	mg/L	0.12639	1.38%
Silver†	-34.2	-0.0001	mg/L	0.00048	-0.0001	mg/L	0.00048	667.62%
Sodium†	259185.5	22.447	mg/L	0.2515	22.447	mg/L	0.2515	1.12%
Strontium†	31263.6	0.0533	mg/L	0.00069	0.0533	mg/L	0.00069	1.29%
Thallium†	-7.5	-0.0032	mg/L	0.00485	-0.0032	mg/L	0.00485	153.52%
Tin†	18.8	0.0051	mg/L	0.00110	0.0051	mg/L	0.00110	21.65%
Titanium†	100032.7	0.1447	mg/L	0.00138	0.1447	mg/L	0.00138	0.96%
Vanadium†	852.1	0.0062	mg/L	0.00015	0.0062	mg/L	0.00015	2.41%
Zinc†	64937.9	0.7252	mg/L	0.00618	0.7252	mg/L	0.00618	0.85%

Sequence No.: 58
Sample ID: C4403-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 82
Date Collected: 2/25/2009 4:15:59 PM
Data Type: Reprocessed on 2/26/2009 10:24:08 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4403-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1603812.1	105.68	%	0.628				0.59%
Aluminum†	1169.0	0.5447	mg/L	0.00591	0.5447	mg/L	0.00591	1.08%
Antimony†	36.6	0.0142	mg/L	0.00194	0.0142	mg/L	0.00194	13.63%
Arsenic 188†	1.5	0.0012	mg/L	0.00449	0.0012	mg/L	0.00449	368.62%
Arsenic†	-4.1	-0.0027	mg/L	0.00200	-0.0027	mg/L	0.00200	74.47%
Barium †	51260.9	0.1370	mg/L	0.00301	0.1370	mg/L	0.00301	2.20%
Beryllium†	-402.5	-0.0001	mg/L	0.00005	-0.0001	mg/L	0.00005	94.81%
Boron†	388.7	0.0862	mg/L	0.00234	0.0862	mg/L	0.00234	2.72%
Cadmium†	23.8	0.0004	mg/L	0.00017	0.0004	mg/L	0.00017	40.65%
Calcium†	199949.5	9.3668	mg/L	0.20236	9.3668	mg/L	0.20236	2.16%
Chromium†	554.6	0.0073	mg/L	0.00011	0.0073	mg/L	0.00011	1.57%
Cobalt†	50.5	0.0009	mg/L	0.00022	0.0009	mg/L	0.00022	24.92%
Copper†	49426.8	0.1945	mg/L	0.00481	0.1945	mg/L	0.00481	2.47%
Iron†	48876.1	2.9286	mg/L	0.06112	2.9286	mg/L	0.06112	2.09%
Lead†	70.9	0.0099	mg/L	0.00168	0.0099	mg/L	0.00168	16.96%
Lithium†	-1959.1	0.0137	mg/L	0.00128	0.0137	mg/L	0.00128	9.31%
Magnesium†	5148.3	2.3262	mg/L	0.01905	2.3262	mg/L	0.01905	0.82%
Manganese†	31305.9	0.0449	mg/L	0.00084	0.0449	mg/L	0.00084	1.88%
Molybdenum†	75.2	0.0075	mg/L	0.00119	0.0075	mg/L	0.00119	15.76%
Nickel†	302.3	0.0093	mg/L	0.00027	0.0093	mg/L	0.00027	2.91%
Potassium†	8216.5	2.5614	mg/L	0.05842	2.5614	mg/L	0.05842	2.28%
Selenium†	-0.7	0.0003	mg/L	0.00436	0.0003	mg/L	0.00436	>999.9%
Silicon†	19438.0	4.0852	mg/L	0.02081	4.0852	mg/L	0.02081	0.51%
Silver†	75.2	0.0006	mg/L	0.00017	0.0006	mg/L	0.00017	30.54%
Sodium†	156438.6	13.548	mg/L	0.2745	13.548	mg/L	0.2745	2.03%
Strontium†	38636.9	0.0660	mg/L	0.00167	0.0660	mg/L	0.00167	2.54%
Thallium†	-0.7	-0.0002	mg/L	0.00317	-0.0002	mg/L	0.00317	>999.9%
Tin†	46.6	0.0114	mg/L	0.00151	0.0114	mg/L	0.00151	13.17%
Titanium†	22528.4	0.0326	mg/L	0.00064	0.0326	mg/L	0.00064	1.97%
Vanadium†	349.0	0.0026	mg/L	0.00008	0.0026	mg/L	0.00008	3.05%
Zinc†	43919.3	0.4904	mg/L	0.00884	0.4904	mg/L	0.00884	1.80%

Sequence No.: 59
Sample ID: CCV
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/25/2009 4:20:15 PM
Date Type: Reprocessed on 2/26/2009 10:24:09 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Yttrium	1548241.2	102.01	%	0.991				0.97%
Aluminum†	1996.2	0.9208	mg/L	0.00546	0.9208	mg/L	0.00546	0.59%
QC value within limits for Aluminum Recovery = 92.08%								
Antimony†	2543.8	0.9833	mg/L	0.01314	0.9833	mg/L	0.01314	1.34%
QC value within limits for Antimony Recovery = 98.33%								
Arsenic 188†	1705.9	0.9961	mg/L	0.00680	0.9961	mg/L	0.00680	0.68%
QC value within limits for Arsenic 188 Recovery = 99.61%								
Arsenic†	1459.6	0.9989	mg/L	0.00729	0.9989	mg/L	0.00729	0.73%
QC value within limits for Arsenic Recovery = 99.89%								
Barium †	340167.3	0.9093	mg/L	0.00137	0.9093	mg/L	0.00137	0.15%
QC value within limits for Barium Recovery = 90.93%								
Beryllium†	2486601.6	0.9488	mg/L	0.00295	0.9488	mg/L	0.00295	0.31%
QC value within limits for Beryllium Recovery = 94.88%								
Boron†	4430.5	0.9743	mg/L	0.00954	0.9743	mg/L	0.00954	0.98%
QC value within limits for Boron Recovery = 97.43%								
Cadmium†	55463.5	0.9587	mg/L	0.01643	0.9587	mg/L	0.01643	1.71%
QC value within limits for Cadmium Recovery = 95.87%								
Calcium†	20022.0	0.9298	mg/L	0.01036	0.9298	mg/L	0.01036	1.11%
QC value within limits for Calcium Recovery = 92.98%								
Chromium†	74021.3	0.9758	mg/L	0.01608	0.9758	mg/L	0.01608	1.65%
QC value within limits for Chromium Recovery = 97.58%								
Cobalt†	46992.3	0.9525	mg/L	0.01635	0.9525	mg/L	0.01635	1.72%
QC value within limits for Cobalt Recovery = 95.25%								
Copper†	242913.3	0.9564	mg/L	0.01518	0.9564	mg/L	0.01518	1.59%
QC value within limits for Copper Recovery = 95.64%								
Iron†	163771.9	9.8155	mg/L	0.03161	9.8155	mg/L	0.03161	0.32%
QC value within limits for Iron Recovery = 98.15%								
Lead†	7089.9	1.0068	mg/L	0.01005	1.0068	mg/L	0.01005	1.00%
QC value within limits for Lead Recovery = 100.68%								
Lithium†	296080.4	0.9264	mg/L	0.00158	0.9264	mg/L	0.00158	0.17%
QC value within limits for Lithium Recovery = 92.64%								
Magnesium†	2161.4	0.9824	mg/L	0.01797	0.9824	mg/L	0.01797	1.83%
QC value within limits for Magnesium Recovery = 98.24%								
Manganese†	664307.2	0.9529	mg/L	0.00338	0.9529	mg/L	0.00338	0.35%
QC value within limits for Manganese Recovery = 95.29%								
Molybdenum†	9792.3	0.9662	mg/L	0.01051	0.9662	mg/L	0.01051	1.09%
QC value within limits for Molybdenum Recovery = 96.62%								
Nickel†	31743.9	0.9719	mg/L	0.01080	0.9719	mg/L	0.01080	1.11%
QC value within limits for Nickel Recovery = 97.19%								
Potassium†	30265.6	9.4359	mg/L	0.03412	9.4359	mg/L	0.03412	0.36%
QC value within limits for Potassium Recovery = 94.36%								
Selenium†	883.9	1.0001	mg/L	0.01206	1.0001	mg/L	0.01206	1.21%
QC value within limits for Selenium Recovery = 100.01%								
Silicon†	2693.7	0.5663	mg/L	0.00444	0.5663	mg/L	0.00444	0.78%
QC value greater than the upper limit for Silicon Recovery = 113.26%								
Silver†	159072.7	0.9518	mg/L	0.01574	0.9518	mg/L	0.01574	1.65%
QC value within limits for Silver Recovery = 95.18%								
Sodium†	10541.9	0.9103	mg/L	0.01216	0.9103	mg/L	0.01216	1.34%
QC value within limits for Sodium Recovery = 91.03%								
Strontium†	532483.6	0.9130	mg/L	0.00533	0.9130	mg/L	0.00533	0.58%
QC value within limits for Strontium Recovery = 91.30%								
Thallium†	1758.8	0.9602	mg/L	0.01279	0.9602	mg/L	0.01279	1.33%
QC value within limits for Thallium Recovery = 96.02%								
Tin†	4020.4	0.9746	mg/L	0.01052	0.9746	mg/L	0.01052	1.08%
QC value within limits for Tin Recovery = 97.46%								
Titanium†	661143.6	0.9561	mg/L	0.00435	0.9561	mg/L	0.00435	0.46%
QC value within limits for Titanium Recovery = 95.61%								
Vanadium†	129869.2	0.9596	mg/L	0.01741	0.9596	mg/L	0.01741	1.81%
QC value within limits for Vanadium Recovery = 95.96%								
Zinc†	88093.5	0.9778	mg/L	0.01664	0.9778	mg/L	0.01664	1.70%
QC value within limits for Zinc Recovery = 97.78%								

8.1 8

QC Failed. Continue with analysis.

Sequence No.: 60
Sample ID: CCB
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/25/2009 4:34:44 PM
Date Type: Reprocessed on 2/26/2009 10:24:11 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1552181.7	102.27	%	1.644				1.61%
Aluminum†	2.1	0.0010	mg/L	0.01132	0.0010	mg/L	0.01132	>999.9%
QC value within limits for Aluminum Recovery = 1.94%								
Antimony†	-7.7	-0.0030	mg/L	0.00160	-0.0030	mg/L	0.00160	52.74%
QC value within limits for Antimony Recovery = -30.26%								
Arsenic 188†	2.7	0.0016	mg/L	0.00463	0.0016	mg/L	0.00463	291.07%
QC value within limits for Arsenic 188 Recovery = 15.92%								
Arsenic†	-2.0	-0.0014	mg/L	0.00575	-0.0014	mg/L	0.00575	422.63%
QC value within limits for Arsenic Recovery = -13.60%								
Barium †	-122.9	-0.0003	mg/L	0.00037	-0.0003	mg/L	0.00037	111.86%
QC value within limits for Barium Recovery = -6.57%								
Beryllium†	-124.8	0.0000	mg/L	0.00007	0.0000	mg/L	0.00007	152.30%
QC value within limits for Beryllium Recovery = -0.94%								
Boron†	10.4	0.0023	mg/L	0.00111	0.0023	mg/L	0.00111	48.65%
QC value within limits for Boron Recovery = 22.84%								
Cadmium†	-25.2	-0.0004	mg/L	0.00040	-0.0004	mg/L	0.00040	93.11%
QC value within limits for Cadmium Recovery = -21.70%								
Calcium†	-16.9	-0.0008	mg/L	0.00253	-0.0008	mg/L	0.00253	320.31%
QC value within limits for Calcium Recovery = -1.58%								
Chromium†	3.9	0.0001	mg/L	0.00009	0.0001	mg/L	0.00009	172.84%
QC value within limits for Chromium Recovery = 1.02%								
Cobalt†	-0.9	0.0000	mg/L	0.00011	0.0000	mg/L	0.00011	597.87%
QC value within limits for Cobalt Recovery = -0.36%								
Copper†	-75.8	-0.0003	mg/L	0.00081	-0.0003	mg/L	0.00081	270.72%
QC value within limits for Copper Recovery = -5.97%								
Iron†	18.4	0.0011	mg/L	0.00037	0.0011	mg/L	0.00037	33.34%
QC value within limits for Iron Recovery = 2.21%								
Lead†	-18.5	-0.0026	mg/L	0.00172	-0.0026	mg/L	0.00172	66.12%
QC value within limits for Lead Recovery = -51.95%								
Lithium†	147.2	0.0005	mg/L	0.00040	0.0005	mg/L	0.00040	86.33%
QC value within limits for Lithium Recovery = 4.58%								
Magnesium†	4.4	0.0020	mg/L	0.00270	0.0020	mg/L	0.00270	136.97%
QC value within limits for Magnesium Recovery = 3.94%								
Manganese†	-17.0	0.0000	mg/L	0.00004	0.0000	mg/L	0.00004	174.17%
QC value within limits for Manganese Recovery = -0.49%								
Molybdenum†	11.5	0.0011	mg/L	0.00048	0.0011	mg/L	0.00048	42.24%
QC value within limits for Molybdenum Recovery = 22.74%								
Nickel†	4.4	0.0001	mg/L	0.00047	0.0001	mg/L	0.00047	345.32%
QC value within limits for Nickel Recovery = 2.71%								
Potassium†	-6.0	-0.0019	mg/L	0.01065	-0.0019	mg/L	0.01065	566.88%
QC value within limits for Potassium Recovery = -0.38%								
Selenium†	-3.2	-0.0036	mg/L	0.00147	-0.0036	mg/L	0.00147	40.68%
QC value within limits for Selenium Recovery = -18.02%								
Silicon†	81.8	0.0172	mg/L	0.00134	0.0172	mg/L	0.00134	7.77%
QC value within limits for Silicon Recovery = 34.41%								
Silver†	38.5	0.0002	mg/L	0.00020	0.0002	mg/L	0.00020	85.32%
QC value within limits for Silver Recovery = 4.60%								
Sodium†	-183.6	-0.0159	mg/L	0.00292	-0.0159	mg/L	0.00292	18.38%
QC value within limits for Sodium Recovery = -15.90%								
Strontium†	100.3	0.0002	mg/L	0.00006	0.0002	mg/L	0.00006	32.94%
QC value within limits for Strontium Recovery = 3.44%								
Thallium†	-2.1	-0.0011	mg/L	0.00151	-0.0011	mg/L	0.00151	133.33%
QC value within limits for Thallium Recovery = -5.68%								
Tin†	-2.3	-0.0006	mg/L	0.00141	-0.0006	mg/L	0.00141	253.44%
QC value within limits for Tin Recovery = -1.12%								
Titanium†	108.9	0.0002	mg/L	0.00010	0.0002	mg/L	0.00010	66.54%
QC value within limits for Titanium Recovery = 7.87%								
Vanadium†	33.3	0.0002	mg/L	0.00013	0.0002	mg/L	0.00013	52.67%
QC value within limits for Vanadium Recovery = 4.92%								
Zinc†	-45.6	-0.0005	mg/L	0.00007	-0.0005	mg/L	0.00007	14.23%
QC value within limits for Zinc Recovery = -5.11%								

8.1 8

All analyte(s) passed QC.

8.1

8

Sequence No.: 61
Sample ID: C4404-1
Analyst:
Logged in Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 93
Date Collected: 2/23/2009 4:30:15 PM
Data Type: Reprocessed on 2/26/2009 10:24:12 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4404-1

Analyte	Mean Corrected Intensity	Calib Cond.	Calib Units	Std.Dev.	Sample Cond.	Sample Units	Std.Dev.	RSD
Yttrium	1634634.7	107.71	%	1.145				1.06%
Aluminum†	1344.1	0.6266	mg/L	0.01556	0.6266	mg/L	0.01556	2.48%
Antimony†	53.9	0.0210	mg/L	0.00322	0.0210	mg/L	0.00322	15.32%
Arsenic 188†	-3.2	-0.0015	mg/L	0.00526	-0.0015	mg/L	0.00526	342.02%
Arsenic†	-3.0	-0.0020	mg/L	0.00691	-0.0020	mg/L	0.00691	348.54%
Barium †	64543.9	0.1725	mg/L	0.00297	0.1725	mg/L	0.00297	1.72%
Beryllium†	-539.4	0.0000	mg/L	0.00004	0.0000	mg/L	0.00004	271.48%
Boron†	166.9	0.0374	mg/L	0.00180	0.0374	mg/L	0.00180	4.81%
Cadmium†	10.5	0.0002	mg/L	0.00017	0.0002	mg/L	0.00017	91.76%
Calcium†	248270.7	11.631	mg/L	0.1682	11.631	mg/L	0.1682	1.45%
Chromium†	547.6	0.0072	mg/L	0.00036	0.0072	mg/L	0.00036	4.97%
Cobalt†	56.0	0.0010	mg/L	0.00028	0.0010	mg/L	0.00028	29.07%
Copper†	51081.0	0.2010	mg/L	0.00414	0.2010	mg/L	0.00414	2.06%
Iron†	43221.2	2.5895	mg/L	0.03499	2.5895	mg/L	0.03499	1.35%
Lead†	44.5	0.0063	mg/L	0.00231	0.0063	mg/L	0.00231	37.02%
Lithium†	-2700.1	0.0162	mg/L	0.00098	0.0162	mg/L	0.00098	6.02%
Magnesium†	6149.2	2.7779	mg/L	0.03641	2.7779	mg/L	0.03641	1.31%
Manganese†	38926.7	0.0558	mg/L	0.00112	0.0558	mg/L	0.00112	2.00%
Molybdenum†	79.1	0.0079	mg/L	0.00062	0.0079	mg/L	0.00062	7.86%
Nickel†	282.5	0.0086	mg/L	0.00005	0.0086	mg/L	0.00005	0.59%
Potassium†	4676.3	1.4578	mg/L	0.01479	1.4578	mg/L	0.01479	1.01%
Selenium†	-2.3	-0.0016	mg/L	0.00819	-0.0016	mg/L	0.00819	502.14%
Silicon†	42952.5	9.0277	mg/L	0.14134	9.0277	mg/L	0.14134	1.57%
Silver†	118.0	0.0008	mg/L	0.00046	0.0008	mg/L	0.00046	57.43%
Sodium†	281765.9	24.403	mg/L	0.2979	24.403	mg/L	0.2979	1.22%
Strontium†	48344.3	0.0826	mg/L	0.00104	0.0826	mg/L	0.00104	1.26%
Thallium†	0.8	0.0009	mg/L	0.00328	0.0009	mg/L	0.00328	375.56%
Tin†	39.7	0.0098	mg/L	0.00183	0.0098	mg/L	0.00183	18.55%
Titanium†	43699.8	0.0632	mg/L	0.00305	0.0632	mg/L	0.00305	4.82%
Vanadium†	306.6	0.0023	mg/L	0.00027	0.0023	mg/L	0.00027	11.94%
Zinc†	26302.9	0.2936	mg/L	0.00478	0.2936	mg/L	0.00478	1.63%

8.1 8

Sequence No.: 62
Sample ID: C4405-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 84
Date Collected: 2/25/2009 4:42:52 PM
Data Type: Reprocessed on 2/26/2009 10:24:14 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4405-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1579245.7	104.06	%	1.527				1.47%
Aluminum†	4196.9	1.9587	mg/L	0.03917	1.9587	mg/L	0.03917	2.00%
Antimony†	100.1	0.0392	mg/L	0.00520	0.0392	mg/L	0.00520	13.28%
Arsenic 188†	6.2	0.0038	mg/L	0.00133	0.0038	mg/L	0.00133	34.59%
Arsenic†	-4.1	-0.0025	mg/L	0.00287	-0.0025	mg/L	0.00287	113.45%
Barium †	119683.2	0.3199	mg/L	0.00441	0.3199	mg/L	0.00441	1.38%
Beryllium†	-1299.0	0.0000	mg/L	0.00005	0.0000	mg/L	0.00005	142.51%
Boron†	24.1	0.0063	mg/L	0.00255	0.0063	mg/L	0.00255	40.28%
Cadmium†	23.0	0.0004	mg/L	0.00023	0.0004	mg/L	0.00023	57.95%
Calcium†	179435.4	8.4052	mg/L	0.11644	8.4052	mg/L	0.11644	1.39%
Chromium†	487.9	0.0064	mg/L	0.00007	0.0064	mg/L	0.00007	1.05%
Cobalt†	113.1	0.0019	mg/L	0.00011	0.0019	mg/L	0.00011	5.93%
Copper†	97694.3	0.3845	mg/L	0.01001	0.3845	mg/L	0.01001	2.60%
Iron†	56002.6	3.3558	mg/L	0.05061	3.3558	mg/L	0.05061	1.51%
Lead†	107.9	0.0153	mg/L	0.00142	0.0153	mg/L	0.00142	9.32%
Lithium†	-2129.9	0.0112	mg/L	0.00004	0.0112	mg/L	0.00004	0.38%
Magnesium†	3748.3	1.6938	mg/L	0.03504	1.6938	mg/L	0.03504	2.07%
Manganese†	53645.2	0.0770	mg/L	0.00147	0.0770	mg/L	0.00147	1.91%
Molybdenum†	6.8	0.0008	mg/L	0.00034	0.0008	mg/L	0.00034	42.18%
Nickel†	428.9	0.0131	mg/L	0.00051	0.0131	mg/L	0.00051	3.87%
Potassium†	2606.2	0.8126	mg/L	0.02325	0.8126	mg/L	0.02325	2.86%
Selenium†	-7.1	-0.0066	mg/L	0.00680	-0.0066	mg/L	0.00680	102.86%
Silicon†	15223.1	3.1994	mg/L	0.05706	3.1994	mg/L	0.05706	1.78%
Silver†	-9.9	0.0001	mg/L	0.00029	0.0001	mg/L	0.00029	492.32%
Sodium†	197235.8	17.082	mg/L	0.2580	17.082	mg/L	0.2580	1.51%
Strontium†	22992.6	0.0392	mg/L	0.00075	0.0392	mg/L	0.00075	1.91%
Thallium†	-2.4	-0.0001	mg/L	0.00619	-0.0001	mg/L	0.00619	>999.9%
Tin†	6.0	0.0020	mg/L	0.00177	0.0020	mg/L	0.00177	87.49%
Titanium†	120912.1	0.1749	mg/L	0.00353	0.1749	mg/L	0.00353	2.02%
Vanadium†	894.5	0.0065	mg/L	0.00014	0.0065	mg/L	0.00014	2.08%
Zinc†	32899.8	0.3673	mg/L	0.00744	0.3673	mg/L	0.00744	2.03%

8.1 8

Sequence No.: 63
Sample ID: C4406-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 85
Date Collected: 2/25/2009 4:47:08 PM
Data Type: Reprocessed on 2/26/2009 10:24:15 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4406-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1641609.4	108.17	%	1.727				1.60%
Aluminum†	1724.5	0.8038	mg/L	0.01255	0.8038	mg/L	0.01255	1.56%
Antimony†	71.5	0.0279	mg/L	0.00165	0.0279	mg/L	0.00165	5.91%
Arsenic 188†	2.1	0.0016	mg/L	0.00405	0.0016	mg/L	0.00405	251.88%
Arsenic†	-3.9	-0.0025	mg/L	0.00593	-0.0025	mg/L	0.00593	237.38%
Barium †	86813.4	0.2320	mg/L	0.00235	0.2320	mg/L	0.00235	1.01%
Beryllium†	-738.5	0.0000	mg/L	0.00006	0.0000	mg/L	0.00006	240.16%
Boron†	180.2	0.0407	mg/L	0.00348	0.0407	mg/L	0.00348	8.57%
Cadmium†	13.1	0.0002	mg/L	0.00006	0.0002	mg/L	0.00006	26.40%
Calcium†	258458.6	12.108	mg/L	0.0954	12.108	mg/L	0.0954	0.79%
Chromium†	766.0	0.0101	mg/L	0.00113	0.0101	mg/L	0.00113	11.24%
Cobalt†	76.6	0.0013	mg/L	0.00004	0.0013	mg/L	0.00004	3.14%
Copper†	66917.5	0.2634	mg/L	0.00380	0.2634	mg/L	0.00380	1.44%
Iron†	58859.3	3.5267	mg/L	0.03313	3.5267	mg/L	0.03313	0.94%
Lead†	54.6	0.0077	mg/L	0.00219	0.0077	mg/L	0.00219	28.62%
Lithium†	-2576.3	0.0176	mg/L	0.00192	0.0176	mg/L	0.00192	10.90%
Magnesium†	6486.8	2.9303	mg/L	0.03919	2.9303	mg/L	0.03919	1.34%
Manganese†	53109.6	0.0762	mg/L	0.00103	0.0762	mg/L	0.00103	1.35%
Molybdenum†	102.6	0.0103	mg/L	0.00103	0.0103	mg/L	0.00103	9.99%
Nickel†	387.3	0.0119	mg/L	0.00049	0.0119	mg/L	0.00049	4.10%
Potassium†	4963.0	1.5472	mg/L	0.02926	1.5472	mg/L	0.02926	1.89%
Selenium†	-7.0	-0.0066	mg/L	0.00469	-0.0066	mg/L	0.00469	70.62%
Silicon†	52646.8	11.065	mg/L	0.2225	11.065	mg/L	0.2225	2.01%
Silver†	21.8	0.0003	mg/L	0.00069	0.0003	mg/L	0.00069	272.54%
Sodium†	355804.0	30.815	mg/L	0.2962	30.815	mg/L	0.2962	0.96%
Strontium†	49902.1	0.0852	mg/L	0.00063	0.0852	mg/L	0.00063	0.74%
Thallium†	-4.2	-0.0017	mg/L	0.00196	-0.0017	mg/L	0.00196	112.12%
Tin†	38.7	0.0097	mg/L	0.00057	0.0097	mg/L	0.00057	5.92%
Titanium†	58375.1	0.0844	mg/L	0.00076	0.0844	mg/L	0.00076	0.90%
Vanadium†	418.4	0.0031	mg/L	0.00006	0.0031	mg/L	0.00006	2.03%
Zinc†	35505.4	0.3963	mg/L	0.00393	0.3963	mg/L	0.00393	0.99%

Sequence No.: 64
Sample ID: C4514-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 86
Date Collected: 2/25/2009 4:51:29 PM
Data Type: Reprocessed on 2/26/2009 10:24:16 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4514-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1560715.6	102.84	%	0.672				0.65%
Aluminum†	4488.4	2.0930	mg/L	0.01889	2.0930	mg/L	0.01889	0.90%
Antimony†	105.3	0.0411	mg/L	0.00259	0.0411	mg/L	0.00259	6.31%
Arsenic 188†	3.2	0.0026	mg/L	0.00250	0.0026	mg/L	0.00250	94.96%
Arsenic†	-5.2	-0.0032	mg/L	0.00478	-0.0032	mg/L	0.00478	149.81%
Barium †	97281.8	0.2600	mg/L	0.00776	0.2600	mg/L	0.00776	2.98%
Beryllium†	-716.6	0.0001	mg/L	0.00002	0.0001	mg/L	0.00002	32.12%
Boron†	772.1	0.1718	mg/L	0.00298	0.1718	mg/L	0.00298	1.74%
Cadmium†	149.3	0.0026	mg/L	0.00018	0.0026	mg/L	0.00018	7.12%
Calcium†	342417.8	16.038	mg/L	0.4925	16.038	mg/L	0.4925	3.07%
Chromium†	1036.2	0.0136	mg/L	0.00052	0.0136	mg/L	0.00052	3.81%
Cobalt†	131.7	0.0023	mg/L	0.00030	0.0023	mg/L	0.00030	12.95%
Copper†	74749.7	0.2942	mg/L	0.00066	0.2942	mg/L	0.00066	0.22%
Iron†	123816.5	7.4196	mg/L	0.23126	7.4196	mg/L	0.23126	3.12%
Lead†	186.8	0.0262	mg/L	0.00236	0.0262	mg/L	0.00236	8.99%
Lithium†	-4227.4	0.0208	mg/L	0.00187	0.0208	mg/L	0.00187	8.98%
Magnesium†	8439.7	3.8129	mg/L	0.04626	3.8129	mg/L	0.04626	1.21%
Manganese†	104458.2	0.1498	mg/L	0.00105	0.1498	mg/L	0.00105	0.70%
Molybdenum†	175.8	0.0176	mg/L	0.00071	0.0176	mg/L	0.00071	4.04%
Nickel†	929.6	0.0285	mg/L	0.00023	0.0285	mg/L	0.00023	0.79%
Potassium†	7852.7	2.4480	mg/L	0.07761	2.4480	mg/L	0.07761	3.17%
Selenium†	-4.1	-0.0019	mg/L	0.00953	-0.0019	mg/L	0.00953	514.66%
Silicon†	55702.0	11.708	mg/L	0.0553	11.708	mg/L	0.0553	0.47%
Silver†	-31.1	0.0001	mg/L	0.00026	0.0001	mg/L	0.00026	363.98%
Sodium†	510963.0	44.252	mg/L	1.2445	44.252	mg/L	1.2445	2.81%
Strontium†	66643.6	0.1138	mg/L	0.00328	0.1138	mg/L	0.00328	2.88%
Thallium†	-18.0	-0.0092	mg/L	0.00683	-0.0092	mg/L	0.00683	74.45%
Tin†	37.3	0.0095	mg/L	0.00167	0.0095	mg/L	0.00167	17.56%
Titanium†	74916.4	0.1084	mg/L	0.00044	0.1084	mg/L	0.00044	0.40%
Vanadium†	1108.8	0.0082	mg/L	0.00040	0.0082	mg/L	0.00040	4.91%
Zinc†	73407.8	0.8193	mg/L	0.00527	0.8193	mg/L	0.00527	0.64%

8.1

8

Sequence No.: 65
Sample ID: MP920-MB1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 87
Date Collected: 2/25/2009 4:33:34 PM
Date Type: Reprocessed on 2/26/2009 10:24:17 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP920-MB1

Analyte	Mean Corrected Intensity	Calib Cond.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1611664.8	106.19	%	1.671				1.57%
Aluminum†	49.9	0.0233	mg/L	0.00392	0.0233	mg/L	0.00392	16.81%
Antimony†	-4.6	-0.0018	mg/L	0.00120	-0.0018	mg/L	0.00120	65.96%
Arsenic 188†	-0.4	-0.0002	mg/L	0.00342	-0.0002	mg/L	0.00342	>999.9%
Arsenic†	-1.5	-0.0010	mg/L	0.00440	-0.0010	mg/L	0.00440	453.05%
Barium †	942.7	0.0025	mg/L	0.00019	0.0025	mg/L	0.00019	7.39%
Beryllium†	135.1	0.0001	mg/L	0.00001	0.0001	mg/L	0.00001	11.48%
Boron†	-33.8	-0.0074	mg/L	0.00048	-0.0074	mg/L	0.00048	6.44%
Cadmium†	-6.8	-0.0001	mg/L	0.00013	-0.0001	mg/L	0.00013	116.28%
Calcium†	502.1	0.0235	mg/L	0.00282	0.0235	mg/L	0.00282	12.01%
Chromium†	104.6	0.0014	mg/L	0.00012	0.0014	mg/L	0.00012	8.54%
Cobalt†	23.7	0.0005	mg/L	0.00026	0.0005	mg/L	0.00026	54.94%
Copper†	-368.9	-0.0015	mg/L	0.00063	-0.0015	mg/L	0.00063	43.74%
Iron†	542.0	0.0325	mg/L	0.00116	0.0325	mg/L	0.00116	3.57%
Lead†	-20.9	-0.0029	mg/L	0.00112	-0.0029	mg/L	0.00112	38.15%
Lithium†	525.4	0.0017	mg/L	0.00141	0.0017	mg/L	0.00141	83.62%
Magnesium†	11.4	0.0052	mg/L	0.00609	0.0052	mg/L	0.00609	117.48%
Manganese†	660.2	0.0009	mg/L	0.00001	0.0009	mg/L	0.00001	1.47%
Molybdenum†	-2.3	-0.0002	mg/L	0.00020	-0.0002	mg/L	0.00020	90.39%
Nickel†	162.0	0.0050	mg/L	0.00024	0.0050	mg/L	0.00024	4.76%
Potassium†	31.5	0.0098	mg/L	0.01530	0.0098	mg/L	0.01530	156.05%
Selenium†	-4.5	-0.0050	mg/L	0.00453	-0.0050	mg/L	0.00453	90.14%
Silicon†	454.4	0.0955	mg/L	0.00197	0.0955	mg/L	0.00197	2.06%
Silver†	34.9	0.0002	mg/L	0.00057	0.0002	mg/L	0.00057	271.88%
Sodium†	183.9	0.0159	mg/L	0.00864	0.0159	mg/L	0.00864	54.27%
Strontium†	78.6	0.0001	mg/L	0.00004	0.0001	mg/L	0.00004	33.36%
Thallium†	0.8	0.0004	mg/L	0.00612	0.0004	mg/L	0.00612	>999.9%
Tin†	-5.0	-0.0012	mg/L	0.00106	-0.0012	mg/L	0.00106	88.33%
Titanium†	629.9	0.0009	mg/L	0.00017	0.0009	mg/L	0.00017	18.93%
Vanadium†	28.6	0.0002	mg/L	0.00019	0.0002	mg/L	0.00019	91.09%
Zinc†	514.0	0.0057	mg/L	0.00007	0.0057	mg/L	0.00007	1.24%

Sequence No.: 66
Sample ID: MP928-S1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 88
Date Collected: 2/25/2008 4:59:53 PM
Data Type: Reprocessed on 2/26/2009 10:24:18 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP928-S1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1580261.5	104.12	%	0.739				0.71%
Aluminum†	1066.2	0.4938	mg/L	0.01125	0.4938	mg/L	0.01125	2.28%
Antimony†	1363.9	0.5271	mg/L	0.00280	0.5271	mg/L	0.00280	0.53%
Arsenic 188†	885.7	0.5167	mg/L	0.00346	0.5167	mg/L	0.00346	0.67%
Arsenic†	755.3	0.5172	mg/L	0.00041	0.5172	mg/L	0.00041	0.08%
Barium †	180286.3	0.4820	mg/L	0.00906	0.4820	mg/L	0.00906	1.88%
Beryllium†	1299860.1	0.4960	mg/L	0.00092	0.4960	mg/L	0.00092	0.19%
Boron†	2265.8	0.4968	mg/L	0.01043	0.4968	mg/L	0.01043	2.10%
Cadmium†	29112.3	0.5033	mg/L	0.00704	0.5033	mg/L	0.00704	1.40%
Calcium†	11098.9	0.5192	mg/L	0.01495	0.5192	mg/L	0.01495	2.88%
Chromium†	39989.9	0.5271	mg/L	0.00761	0.5271	mg/L	0.00761	1.44%
Cobalt†	25343.3	0.5138	mg/L	0.00841	0.5138	mg/L	0.00841	1.64%
Copper†	127874.8	0.5035	mg/L	0.00921	0.5035	mg/L	0.00921	1.83%
Iron†	8846.9	0.5302	mg/L	0.01219	0.5302	mg/L	0.01219	2.30%
Lead†	3672.7	0.5219	mg/L	0.00345	0.5219	mg/L	0.00345	0.66%
Lithium†	156479.5	0.4896	mg/L	0.00065	0.4896	mg/L	0.00065	0.13%
Magnesium†	1182.4	0.5366	mg/L	0.03036	0.5366	mg/L	0.03036	5.66%
Manganese†	357035.3	0.5121	mg/L	0.00145	0.5121	mg/L	0.00145	0.28%
Molybdenum†	5189.4	0.5118	mg/L	0.00294	0.5118	mg/L	0.00294	0.57%
Nickel†	16981.8	0.5199	mg/L	0.00836	0.5199	mg/L	0.00836	1.61%
Potassium†	15955.6	4.9745	mg/L	0.04442	4.9745	mg/L	0.04442	0.89%
Selenium†	426.8	0.4813	mg/L	0.00246	0.4813	mg/L	0.00246	0.51%
Silicon†	2792.8	0.5868	mg/L	0.01157	0.5868	mg/L	0.01157	1.97%
Silver†	41055.8	0.2458	mg/L	0.00347	0.2458	mg/L	0.00347	1.41%
Sodium†	5661.6	0.4889	mg/L	0.01260	0.4889	mg/L	0.01260	2.58%
Strontium†	288835.2	0.4953	mg/L	0.00612	0.4953	mg/L	0.00612	1.24%
Thallium†	899.6	0.4911	mg/L	0.00518	0.4911	mg/L	0.00518	1.05%
Tin†	-6.9	-0.0002	mg/L	0.00028	-0.0002	mg/L	0.00028	121.39%
Titanium†	355267.7	0.5138	mg/L	0.00163	0.5138	mg/L	0.00163	0.32%
Vanadium†	69994.5	0.5172	mg/L	0.00903	0.5172	mg/L	0.00903	1.75%
Zinc†	45947.4	0.5104	mg/L	0.00801	0.5104	mg/L	0.00801	1.57%

8.1 8

Inst QC: MA536

==========

Sequence No.: 67
Sample ID: MP920-B2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 88
Date Collected: 2/25/2009 5:03:57 PM
Data Type: Reprocessed on 2/26/2009 10:24:18 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP920-B2

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1554003.1	102.39	%	0.650				0.63%
Aluminum†	1017.3	0.4710	mg/L	0.01927	0.4710	mg/L	0.01927	4.09%
Antimony†	1336.8	0.5166	mg/L	0.00565	0.5166	mg/L	0.00565	1.09%
Arsenic 188†	849.4	0.4957	mg/L	0.00800	0.4957	mg/L	0.00800	1.61%
Arsenic†	742.5	0.5086	mg/L	0.00853	0.5086	mg/L	0.00853	1.68%
Barium †	176471.3	0.4718	mg/L	0.00297	0.4718	mg/L	0.00297	0.63%
Beryllium†	1281809.0	0.4892	mg/L	0.00126	0.4892	mg/L	0.00126	0.26%
Boron†	2245.9	0.4925	mg/L	0.00679	0.4925	mg/L	0.00679	1.38%
Cadmium†	28723.9	0.4966	mg/L	0.00338	0.4966	mg/L	0.00338	0.68%
Calcium†	10532.0	0.4926	mg/L	0.00530	0.4926	mg/L	0.00530	1.08%
Chromium†	39488.8	0.5205	mg/L	0.00119	0.5205	mg/L	0.00119	0.23%
Cobalt†	24933.1	0.5055	mg/L	0.00093	0.5055	mg/L	0.00093	0.18%
Copper†	126774.3	0.4992	mg/L	0.00397	0.4992	mg/L	0.00397	0.79%
Iron†	8761.9	0.5251	mg/L	0.00469	0.5251	mg/L	0.00469	0.89%
Lead†	3610.1	0.5130	mg/L	0.00620	0.5130	mg/L	0.00620	1.21%
Lithium†	154512.2	0.4834	mg/L	0.00268	0.4834	mg/L	0.00268	0.56%
Magnesium†	1147.9	0.5210	mg/L	0.00956	0.5210	mg/L	0.00956	1.84%
Manganese†	353028.0	0.5064	mg/L	0.00098	0.5064	mg/L	0.00098	0.19%
Molybdenum†	5151.1	0.5081	mg/L	0.00251	0.5081	mg/L	0.00251	0.49%
Nickel†	16656.4	0.5100	mg/L	0.00109	0.5100	mg/L	0.00109	0.21%
Potassium†	15600.7	4.8639	mg/L	0.05132	4.8639	mg/L	0.05132	1.06%
Selenium†	424.4	0.4786	mg/L	0.00885	0.4786	mg/L	0.00885	1.85%
Silicon†	2682.3	0.5636	mg/L	0.00748	0.5636	mg/L	0.00748	1.33%
Silver†	40854.1	0.2446	mg/L	0.00170	0.2446	mg/L	0.00170	0.69%
Sodium†	5550.1	0.4793	mg/L	0.00186	0.4793	mg/L	0.00186	0.39%
Strontium†	279731.8	0.4796	mg/L	0.00415	0.4796	mg/L	0.00415	0.86%
Thallium†	888.6	0.4851	mg/L	0.00353	0.4851	mg/L	0.00353	0.73%
Tin†	-2.9	0.0007	mg/L	0.00098	0.0007	mg/L	0.00098	133.50%
Titanium†	350726.6	0.5072	mg/L	0.00116	0.5072	mg/L	0.00116	0.23%
Vanadium†	69234.5	0.5115	mg/L	0.00145	0.5115	mg/L	0.00145	0.28%
Zinc†	45163.6	0.5017	mg/L	0.00259	0.5017	mg/L	0.00259	0.52%

8.1 8

Sequence No.: 68
Sample ID: C4383-3F
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 90
Date Collected: 2/25/2009 5:08:00 PM
Data Type: Reprocessed on 2/26/2009 10:24:20 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4383-3F

Analyte	Mean Corrected Intensity	Conc.	Calib Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1473252.9	97.073	%	0.9443				0.97%
Aluminum†	-44.6	-0.0222	mg/L	0.01543	-0.0222	mg/L	0.01543	69.52%
Antimony†	8.3	0.0036	mg/L	0.00114	0.0036	mg/L	0.00114	31.75%
Arsenic 188†	-3.6	-0.0005	mg/L	0.00454	-0.0005	mg/L	0.00454	840.02%
Arsenic†	11.5	0.0061	mg/L	0.00773	0.0061	mg/L	0.00773	125.86%
Barium †	62238.3	0.1664	mg/L	0.00244	0.1664	mg/L	0.00244	1.47%
Beryllium†	-284.5	-0.0001	mg/L	0.00004	-0.0001	mg/L	0.00004	35.30%
Boron†	18284.2	4.0120	mg/L	0.09776	4.0120	mg/L	0.09776	2.44%
Cadmium†	19.2	0.0003	mg/L	0.00016	0.0003	mg/L	0.00016	47.89%
Calcium†	2732364.4	128.03	mg/L	1.193	128.03	mg/L	1.193	0.93%
Chromium†	140.8	0.0015	mg/L	0.00011	0.0015	mg/L	0.00011	7.58%
Cobalt†	9.0	0.0002	mg/L	0.00022	0.0002	mg/L	0.00022	123.33%
Copper†	974.9	0.0032	mg/L	0.00036	0.0032	mg/L	0.00036	11.40%
Iron†	3195.2	0.1815	mg/L	0.00263	0.1815	mg/L	0.00263	1.45%
Lead†	14.4	0.0020	mg/L	0.00178	0.0020	mg/L	0.00178	88.26%
Lithium†	-50527.9	0.1137	mg/L	0.00453	0.1137	mg/L	0.00453	3.99%
Magnesium†	167415.4	75.640	mg/L	0.8539	75.640	mg/L	0.8539	1.13%
Manganese†	719384.5	1.0306	mg/L	0.00380	1.0306	mg/L	0.00380	0.37%
Molybdenum†	60.2	0.0059	mg/L	0.00011	0.0059	mg/L	0.00011	1.88%
Nickel†	39.4	0.0012	mg/L	0.00030	0.0012	mg/L	0.00030	24.48%
Potassium†	3990.7	1.2441	mg/L	0.05769	1.2441	mg/L	0.05769	4.64%
Selenium†	-1.2	-0.0033	mg/L	0.01498	-0.0033	mg/L	0.01498	458.71%
Silicon†	79730.9	16.745	mg/L	0.1466	16.745	mg/L	0.1466	0.88%
Silver†	38.5	0.0002	mg/L	0.00086	0.0002	mg/L	0.00086	360.27%
Sodium†	2228760.1	193.02	mg/L	1.967	193.02	mg/L	1.967	1.02%
Strontium†	749456.4	1.2813	mg/L	0.01287	1.2813	mg/L	0.01287	1.00%
Thallium†	-0.3	-0.0006	mg/L	0.00555	-0.0006	mg/L	0.00555	919.05%
Tin†	-68.3	-0.0165	mg/L	0.00167	-0.0165	mg/L	0.00167	10.14%
Titanium†	78.1	0.0001	mg/L	0.00006	0.0001	mg/L	0.00006	57.25%
Vanadium†	445.1	0.0033	mg/L	0.00074	0.0033	mg/L	0.00074	22.46%
Zinc†	254.6	0.0002	mg/L	0.00010	0.0002	mg/L	0.00010	42.04%

Sequence No.: 69
Sample ID: MP928-SD1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 5X

Autosampler Location: 91
Date Collected: 2/25/2009 5:12:06 PM
Data Type: Reprocessed on 2/26/2009 10:24:22 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP928-SD1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1513394.5	99.718	%	0.4896				0.49%
Aluminum†	-53.9	-0.0255	mg/L	0.02311	-0.1273	mg/L	0.11553	90.76%
Antimony†	-10.4	-0.0040	mg/L	0.00091	-0.0201	mg/L	0.00454	22.63%
Arsenic 188†	8.9	0.0055	mg/L	0.00108	0.0275	mg/L	0.00538	19.58%
Arsenic†	3.3	0.0019	mg/L	0.01011	0.0097	mg/L	0.05057	519.94%
Barium †	12028.0	0.0322	mg/L	0.00047	0.1608	mg/L	0.00234	1.46%
Beryllium†	-93.9	0.0000	mg/L	0.00005	-0.0002	mg/L	0.00024	136.69%
Boron†	3501.2	0.7683	mg/L	0.02248	3.8413	mg/L	0.11240	2.93%
Cadmium†	-1.5	0.0000	mg/L	0.00016	-0.0001	mg/L	0.00079	607.96%
Calcium†	532535.6	24.952	mg/L	0.2879	124.76	mg/L	1.439	1.15%
Chromium†	22.5	0.0002	mg/L	0.00005	0.0011	mg/L	0.00026	23.92%
Cobalt†	5.0	0.0001	mg/L	0.00010	0.0005	mg/L	0.00048	94.45%
Copper†	158.2	0.0005	mg/L	0.00013	0.0025	mg/L	0.00067	27.12%
Iron†	623.6	0.0354	mg/L	0.00225	0.1771	mg/L	0.01123	6.34%
Lead†	-21.5	-0.0030	mg/L	0.00184	-0.0151	mg/L	0.00919	60.89%
Lithium†	-7557.7	0.0293	mg/L	0.00071	0.1465	mg/L	0.00354	2.41%
Magnesium†	31608.9	14.281	mg/L	0.2197	71.406	mg/L	1.0985	1.54%
Manganese†	144255.4	0.2067	mg/L	0.00457	1.0333	mg/L	0.02285	2.21%
Molybdenum†	6.7	0.0007	mg/L	0.00025	0.0033	mg/L	0.00123	37.19%
Nickel†	15.1	0.0005	mg/L	0.00072	0.0023	mg/L	0.00359	154.69%
Potassium†	808.1	0.2519	mg/L	0.02185	1.2596	mg/L	0.10925	8.67%
Selenium†	0.5	0.0002	mg/L	0.00996	0.0010	mg/L	0.04981	>999.9%
Silicon†	15004.1	3.1510	mg/L	0.03426	15.755	mg/L	0.1713	1.09%
Silver†	-32.3	-0.0002	mg/L	0.00045	-0.0010	mg/L	0.00224	234.03%
Sodium†	430749.8	37.305	mg/L	0.3990	186.53	mg/L	1.995	1.07%
Strontium†	145661.5	0.2490	mg/L	0.00341	1.2452	mg/L	0.01703	1.37%
Thallium†	-2.4	-0.0014	mg/L	0.00181	-0.0070	mg/L	0.00903	128.92%
Tin†	-33.0	-0.0080	mg/L	0.00090	-0.0399	mg/L	0.00451	11.31%
Titanium†	196.0	0.0003	mg/L	0.00021	0.0014	mg/L	0.00105	73.88%
Vanadium†	82.0	0.0006	mg/L	0.00005	0.0030	mg/L	0.00025	8.13%
Zinc†	2464.1	0.0270	mg/L	0.00032	0.1352	mg/L	0.00162	1.20%

8.1 B

Sequence No.: 70
Sample ID: CCV
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/25/2009 5:16:08 PM
Data Type: Reprocessed on 2/26/2009 10:24:23 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1552943.7	102.32	%	0.757				0.74%
Aluminum†	2008.9	0.9268	mg/L	0.01619	0.9268	mg/L	0.01619	1.75%
QC value within limits for Aluminum Recovery = 92.68%								
Antimony†	2474.4	0.9562	mg/L	0.00726	0.9562	mg/L	0.00726	0.76%
QC value within limits for Antimony Recovery = 95.62%								
Arsenic 188†	1655.2	0.9666	mg/L	0.01297	0.9666	mg/L	0.01297	1.34%
QC value within limits for Arsenic 188 Recovery = 96.66%								
Arsenic†	1405.8	0.9627	mg/L	0.00883	0.9627	mg/L	0.00883	0.92%
QC value within limits for Arsenic Recovery = 96.27%								
Barium †	348311.1	0.9311	mg/L	0.01349	0.9311	mg/L	0.01349	1.45%
QC value within limits for Barium Recovery = 93.11%								
Beryllium†	2457740.6	0.9378	mg/L	0.00236	0.9378	mg/L	0.00236	0.25%
QC value within limits for Beryllium Recovery = 93.78%								
Boron†	4439.7	0.9764	mg/L	0.01124	0.9764	mg/L	0.01124	1.15%
QC value within limits for Boron Recovery = 97.64%								
Cadmium†	54524.3	0.9425	mg/L	0.01358	0.9425	mg/L	0.01358	1.44%
QC value within limits for Cadmium Recovery = 94.25%								
Calcium†	19846.1	0.9216	mg/L	0.01222	0.9216	mg/L	0.01222	1.33%
QC value within limits for Calcium Recovery = 92.16%								
Chromium†	73205.9	0.9650	mg/L	0.01381	0.9650	mg/L	0.01381	1.43%
QC value within limits for Chromium Recovery = 96.50%								
Cobalt†	46268.5	0.9378	mg/L	0.01593	0.9378	mg/L	0.01593	1.70%
QC value within limits for Cobalt Recovery = 93.78%								
Copper†	239677.8	0.9437	mg/L	0.01030	0.9437	mg/L	0.01030	1.09%
QC value within limits for Copper Recovery = 94.37%								
Iron†	164314.1	9.8480	mg/L	0.16863	9.8480	mg/L	0.16863	1.71%
QC value within limits for Iron Recovery = 98.48%								
Lead†	6847.2	0.9725	mg/L	0.01040	0.9725	mg/L	0.01040	1.07%
QC value within limits for Lead Recovery = 97.25%								
Lithium†	297373.9	0.9304	mg/L	0.00859	0.9304	mg/L	0.00859	0.92%
QC value within limits for Lithium Recovery = 93.04%								
Magnesium†	2136.8	0.9712	mg/L	0.02546	0.9712	mg/L	0.02546	2.62%
QC value within limits for Magnesium Recovery = 97.12%								
Manganese†	657689.1	0.9434	mg/L	0.00321	0.9434	mg/L	0.00321	0.34%
QC value within limits for Manganese Recovery = 94.34%								
Molybdenum†	9541.4	0.9414	mg/L	0.01072	0.9414	mg/L	0.01072	1.14%
QC value within limits for Molybdenum Recovery = 94.14%								
Nickel†	30885.6	0.9456	mg/L	0.01014	0.9456	mg/L	0.01014	1.07%
QC value within limits for Nickel Recovery = 94.56%								
Potassium†	30466.0	9.4984	mg/L	0.13881	9.4984	mg/L	0.13881	1.46%
QC value within limits for Potassium Recovery = 94.98%								
Selenium†	850.6	0.9626	mg/L	0.00796	0.9626	mg/L	0.00796	0.83%
QC value within limits for Selenium Recovery = 96.26%								
Silicon†	2721.1	0.5721	mg/L	0.00662	0.5721	mg/L	0.00662	1.16%
QC value greater than the upper limit for Silicon Recovery = 114.41%								
Silver†	157284.9	0.9411	mg/L	0.01203	0.9411	mg/L	0.01203	1.28%
QC value within limits for Silver Recovery = 94.11%								
Sodium†	11016.4	0.9514	mg/L	0.01671	0.9514	mg/L	0.01671	1.76%
QC value within limits for Sodium Recovery = 95.14%								
Strontium†	540249.6	0.9263	mg/L	0.01624	0.9263	mg/L	0.01624	1.75%
QC value within limits for Strontium Recovery = 92.63%								
Thallium†	1720.8	0.9395	mg/L	0.01078	0.9395	mg/L	0.01078	1.15%
QC value within limits for Thallium Recovery = 93.95%								
Tin†	3887.9	0.9426	mg/L	0.00779	0.9426	mg/L	0.00779	0.83%
QC value within limits for Tin Recovery = 94.26%								
Titanium†	658386.8	0.9521	mg/L	0.00277	0.9521	mg/L	0.00277	0.29%
QC value within limits for Titanium Recovery = 95.21%								
Vanadium†	128652.2	0.9506	mg/L	0.01489	0.9506	mg/L	0.01489	1.57%
QC value within limits for Vanadium Recovery = 95.06%								
Zinc†	86242.6	0.9573	mg/L	0.01605	0.9573	mg/L	0.01605	1.68%
QC value within limits for Zinc Recovery = 95.73%								

QC Failed. Continue with analysis.

Sequence No.: 71
Sample ID: CCB
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/25/2009 5:24:41 PM
Data Type: Reprocessed on 2/26/2009 10:24:24 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Yttrium	1580737.7	104.15	%	0.400				0.38%
Aluminum†	3.9	0.0018	mg/L	0.00493	0.0018	mg/L	0.00493	270.89%
QC value within limits for Aluminum Recovery = 3.64%								
Antimony†	6.1	0.0024	mg/L	0.00374	0.0024	mg/L	0.00374	154.93%
QC value within limits for Antimony Recovery = 24.13%								
Arsenic 188†	4.4	0.0026	mg/L	0.00176	0.0026	mg/L	0.00176	68.31%
QC value within limits for Arsenic 188 Recovery = 25.71%								
Arsenic†	-0.5	-0.0003	mg/L	0.00255	-0.0003	mg/L	0.00255	754.16%
QC value within limits for Arsenic Recovery = -3.38%								
Barium †	-228.5	-0.0006	mg/L	0.00021	-0.0006	mg/L	0.00021	33.65%
QC value within limits for Barium Recovery = -12.22%								
Beryllium†	35.7	0.0000	mg/L	0.00001	0.0000	mg/L	0.00001	74.16%
QC value within limits for Beryllium Recovery = 0.28%								
Boron†	40.6	0.0089	mg/L	0.00013	0.0089	mg/L	0.00013	1.51%
QC value within limits for Boron Recovery = 89.03%								
Cadmium†	-1.5	0.0000	mg/L	0.00004	0.0000	mg/L	0.00004	152.65%
QC value within limits for Cadmium Recovery = -1.31%								
Calcium†	-78.9	-0.0037	mg/L	0.00056	-0.0037	mg/L	0.00056	15.17%
QC value within limits for Calcium Recovery = -7.40%								
Chromium†	-22.7	-0.0003	mg/L	0.00013	-0.0003	mg/L	0.00013	43.90%
QC value within limits for Chromium Recovery = -5.99%								
Cobalt†	3.4	0.0001	mg/L	0.00030	0.0001	mg/L	0.00030	432.54%
QC value within limits for Cobalt Recovery = 1.37%								
Copper†	-237.5	-0.0009	mg/L	0.00047	-0.0009	mg/L	0.00047	49.79%
QC value within limits for Copper Recovery = -18.70%								
Iron†	25.2	0.0015	mg/L	0.00061	0.0015	mg/L	0.00061	40.48%
QC value within limits for Iron Recovery = 3.03%								
Lead†	-11.1	-0.0016	mg/L	0.00218	-0.0016	mg/L	0.00218	139.77%
QC value within limits for Lead Recovery = -31.21%								
Lithium†	472.8	0.0015	mg/L	0.00055	0.0015	mg/L	0.00055	37.51%
QC value within limits for Lithium Recovery = 14.68%								
Magnesium†	-2.8	-0.0013	mg/L	0.00252	-0.0013	mg/L	0.00252	200.47%
QC value within limits for Magnesium Recovery = -2.51%								
Manganese†	4.3	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	310.46%
QC value within limits for Manganese Recovery = 0.12%								
Molybdenum†	3.7	0.0004	mg/L	0.00060	0.0004	mg/L	0.00060	165.40%
QC value within limits for Molybdenum Recovery = 7.21%								
Nickel†	8.2	0.0003	mg/L	0.00059	0.0003	mg/L	0.00059	234.59%
QC value within limits for Nickel Recovery = 5.03%								
Potassium†	92.3	0.0288	mg/L	0.02827	0.0288	mg/L	0.02827	98.25%
QC value within limits for Potassium Recovery = 5.75%								
Selenium†	-0.4	-0.0004	mg/L	0.00293	-0.0004	mg/L	0.00293	732.16%
QC value within limits for Selenium Recovery = -2.00%								
Silicon†	49.8	0.0105	mg/L	0.00291	0.0105	mg/L	0.00291	27.84%
QC value within limits for Silicon Recovery = 20.93%								
Silver†	63.2	0.0004	mg/L	0.00046	0.0004	mg/L	0.00046	122.62%
QC value within limits for Silver Recovery = 7.56%								
Sodium†	-16.8	-0.0015	mg/L	0.00959	-0.0015	mg/L	0.00959	657.38%
QC value within limits for Sodium Recovery = -1.46%								
Strontium†	-5.5	0.0000	mg/L	0.00006	0.0000	mg/L	0.00006	662.61%
QC value within limits for Strontium Recovery = -0.19%								
Thallium†	0.9	0.0005	mg/L	0.00373	0.0005	mg/L	0.00373	773.22%
QC value within limits for Thallium Recovery = 2.41%								
Tin†	-0.3	-0.0001	mg/L	0.00108	-0.0001	mg/L	0.00108	>999.9%
QC value within limits for Tin Recovery = -0.13%								
Titanium†	60.2	0.0001	mg/L	0.00013	0.0001	mg/L	0.00013	152.11%
QC value within limits for Titanium Recovery = 4.36%								
Vanadium†	45.1	0.0003	mg/L	0.00030	0.0003	mg/L	0.00030	90.96%
QC value within limits for Vanadium Recovery = 6.63%								
Zinc†	-36.5	-0.0004	mg/L	0.00007	-0.0004	mg/L	0.00007	17.69%
QC value within limits for Zinc Recovery = -4.10%								

8.1
8

All analyte(s) passed QC.

8.1

8

Sequence No.: 72
Sample ID: MP928-MB1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 87
Date Collected: 2/23/2009 5:27:33 PM
Data Type: Reprocessed on 2/26/2009 10:24:26 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP928-MB1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1557821.1	102.64	%	0.300				0.29%
Aluminum†	16.0	0.0075	mg/L	0.01215	0.0075	mg/L	0.01215	163.09%
Antimony†	-17.0	-0.0067	mg/L	0.00214	-0.0067	mg/L	0.00214	32.09%
Arsenic 188†	-4.8	-0.0028	mg/L	0.00399	-0.0028	mg/L	0.00399	143.63%
Arsenic†	1.9	0.0012	mg/L	0.01099	0.0012	mg/L	0.01099	879.41%
Barium †	-117.5	-0.0003	mg/L	0.00029	-0.0003	mg/L	0.00029	91.39%
Beryllium†	-123.3	0.0000	mg/L	0.00001	0.0000	mg/L	0.00001	22.67%
Boron†	-4.5	-0.0010	mg/L	0.00227	-0.0010	mg/L	0.00227	232.83%
Cadmium†	4.3	0.0001	mg/L	0.00011	0.0001	mg/L	0.00011	145.80%
Calcium†	-37.0	-0.0017	mg/L	0.00181	-0.0017	mg/L	0.00181	104.20%
Chromium†	1.5	0.0000	mg/L	0.00018	0.0000	mg/L	0.00018	929.19%
Cobalt†	-18.6	-0.0004	mg/L	0.00005	-0.0004	mg/L	0.00005	13.40%
Copper†	-249.1	-0.0010	mg/L	0.00054	-0.0010	mg/L	0.00054	55.54%
Iron†	22.3	0.0013	mg/L	0.00035	0.0013	mg/L	0.00035	26.20%
Lead†	-28.0	-0.0039	mg/L	0.00089	-0.0039	mg/L	0.00089	22.58%
Lithium†	529.6	0.0016	mg/L	0.00071	0.0016	mg/L	0.00071	42.89%
Magnesium†	-10.2	-0.0046	mg/L	0.00697	-0.0046	mg/L	0.00697	150.81%
Manganese†	13.2	0.0000	mg/L	0.00001	0.0000	mg/L	0.00001	75.04%
Molybdenum†	-5.1	-0.0005	mg/L	0.00045	-0.0005	mg/L	0.00045	90.31%
Nickel†	19.2	0.0006	mg/L	0.00053	0.0006	mg/L	0.00053	89.57%
Potassium†	-16.9	-0.0053	mg/L	0.05167	-0.0053	mg/L	0.05167	981.25%
Selenium†	-6.1	-0.0068	mg/L	0.00257	-0.0068	mg/L	0.00257	37.54%
Silicon†	61.5	0.0129	mg/L	0.00240	0.0129	mg/L	0.00240	18.52%
Silver†	101.6	0.0006	mg/L	0.00077	0.0006	mg/L	0.00077	126.33%
Sodium†	80.9	0.0070	mg/L	0.00923	0.0070	mg/L	0.00923	131.72%
Strontium†	-19.6	0.0000	mg/L	0.00008	0.0000	mg/L	0.00008	225.44%
Thallium†	-1.4	-0.0008	mg/L	0.00411	-0.0008	mg/L	0.00411	546.60%
Tin†	1.6	0.0004	mg/L	0.00074	0.0004	mg/L	0.00074	193.61%
Titanium†	35.6	0.0001	mg/L	0.00008	0.0001	mg/L	0.00008	150.22%
Vanadium†	37.3	0.0003	mg/L	0.00004	0.0003	mg/L	0.00004	13.26%
Zinc†	8.4	0.0001	mg/L	0.00022	0.0001	mg/L	0.00022	249.50%

Sequence No.: 73
Sample ID: MP928-S1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 92
Date Collected: 2/25/2009 5:30:42 PM
Data Type: Reprocessed on 2/26/2009 10:24:27 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MP928-S1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1477314.3	97.340	%	1.5499				1.59%
Aluminum†	998.4	0.4610	mg/L	0.01841	0.4610	mg/L	0.01841	3.99%
Antimony†	1401.8	0.5427	mg/L	0.00451	0.5427	mg/L	0.00451	0.83%
Arsenic 188†	890.1	0.5207	mg/L	0.00331	0.5207	mg/L	0.00331	0.64%
Arsenic†	768.0	0.5239	mg/L	0.00317	0.5239	mg/L	0.00317	0.60%
Barium †	240913.2	0.6441	mg/L	0.01344	0.6441	mg/L	0.01344	2.09%
Beryllium†	1291580.5	0.4929	mg/L	0.00122	0.4929	mg/L	0.00122	0.25%
Boron†	20201.9	4.4325	mg/L	0.09593	4.4325	mg/L	0.09593	2.16%
Cadmium†	28963.8	0.5006	mg/L	0.00375	0.5006	mg/L	0.00375	0.75%
Calcium†	2710363.2	126.99	mg/L	2.309	126.99	mg/L	2.309	1.82%
Chromium†	37995.3	0.5005	mg/L	0.00324	0.5005	mg/L	0.00324	0.65%
Cobalt†	23412.0	0.4746	mg/L	0.00390	0.4746	mg/L	0.00390	0.82%
Copper†	134892.6	0.5305	mg/L	0.00170	0.5305	mg/L	0.00170	0.32%
Iron†	11482.2	0.6783	mg/L	0.01293	0.6783	mg/L	0.01293	1.91%
Lead†	3499.1	0.4971	mg/L	0.00298	0.4971	mg/L	0.00298	0.60%
Lithium†	114891.7	0.6279	mg/L	0.00202	0.6279	mg/L	0.00202	0.32%
Magnesium†	167391.4	75.632	mg/L	1.2633	75.632	mg/L	1.2633	1.67%
Manganese†	1057474.8	1.5155	mg/L	0.00582	1.5155	mg/L	0.00582	0.38%
Molybdenum†	5198.2	0.5127	mg/L	0.00345	0.5127	mg/L	0.00345	0.67%
Nickel†	15518.0	0.4751	mg/L	0.00365	0.4751	mg/L	0.00365	0.77%
Potassium†	20443.8	6.3736	mg/L	0.14721	6.3736	mg/L	0.14721	2.31%
Selenium†	443.9	0.4986	mg/L	0.00701	0.4986	mg/L	0.00701	1.40%
Silicon†	81591.4	17.136	mg/L	0.3337	17.136	mg/L	0.3337	1.95%
Silver†	41503.8	0.2485	mg/L	0.00036	0.2485	mg/L	0.00036	0.15%
Sodium†	2218022.0	192.09	mg/L	3.712	192.09	mg/L	3.712	1.93%
Strontium†	1024914.7	1.7537	mg/L	0.03497	1.7537	mg/L	0.03497	1.99%
Thallium†	863.3	0.4710	mg/L	0.00786	0.4710	mg/L	0.00786	1.67%
Tin†	-74.5	-0.0166	mg/L	0.00056	-0.0166	mg/L	0.00056	3.37%
Titanium†	353500.2	0.5112	mg/L	0.00109	0.5112	mg/L	0.00109	0.21%
Vanadium†	68596.6	0.5068	mg/L	0.00262	0.5068	mg/L	0.00262	0.52%
Zinc†	45140.2	0.4990	mg/L	0.00051	0.4990	mg/L	0.00051	0.10%

8.1 8

Sequence No.: 74
Sample ID: C4393-4F
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 94
Date Collected: 2/25/2009 5:38:55 PM
Data Type: Reprocessed on 2/26/2009 10:24:28 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4393-4F

Analyte	Mean Corrected Intensity	Conc.	Calib Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1479340.9	97.474	%	1.4927				1.53%
Aluminum†	-22.4	-0.0134	mg/L	0.01017	-0.0134	mg/L	0.01017	75.88%
Antimony†	5.6	0.0022	mg/L	0.00571	0.0022	mg/L	0.00571	258.24%
Arsenic 188†	2.2	0.0030	mg/L	0.00341	0.0030	mg/L	0.00341	114.16%
Arsenic†	12.1	0.0066	mg/L	0.00441	0.0066	mg/L	0.00441	66.98%
Barium †	10732.0	0.0287	mg/L	0.00091	0.0287	mg/L	0.00091	3.17%
Beryllium†	-235.5	-0.0001	mg/L	0.00006	-0.0001	mg/L	0.00006	62.68%
Boron†	17054.8	3.7422	mg/L	0.10311	3.7422	mg/L	0.10311	2.76%
Cadmium†	9.8	0.0002	mg/L	0.00011	0.0002	mg/L	0.00011	67.73%
Calcium†	2477839.3	116.10	mg/L	2.039	116.10	mg/L	2.039	1.76%
Chromium†	3985.0	0.0516	mg/L	0.00069	0.0516	mg/L	0.00069	1.33%
Cobalt†	-12.9	-0.0003	mg/L	0.00011	-0.0003	mg/L	0.00011	42.96%
Copper†	2401.1	0.0088	mg/L	0.00066	0.0088	mg/L	0.00066	7.49%
Iron†	83.2	-0.0041	mg/L	0.00403	-0.0041	mg/L	0.00403	98.98%
Lead†	10.8	0.0015	mg/L	0.00484	0.0015	mg/L	0.00484	318.99%
Lithium†	-42261.3	0.1142	mg/L	0.00509	0.1142	mg/L	0.00509	4.45%
Magnesium†	155679.8	70.339	mg/L	1.1492	70.339	mg/L	1.1492	1.63%
Manganese†	1697353.5	2.4335	mg/L	0.00604	2.4335	mg/L	0.00604	0.25%
Molybdenum†	14.3	0.0014	mg/L	0.00101	0.0014	mg/L	0.00101	71.52%
Nickel†	77.1	0.0024	mg/L	0.00035	0.0024	mg/L	0.00035	14.90%
Potassium†	657306.7	204.91	mg/L	4.249	204.91	mg/L	4.249	2.07%
Selenium†	12.5	0.0094	mg/L	0.00474	0.0094	mg/L	0.00474	50.70%
Silicon†	77546.9	16.287	mg/L	0.2815	16.287	mg/L	0.2815	1.73%
Silver†	14.8	0.0001	mg/L	0.00027	0.0001	mg/L	0.00027	304.38%
Sodium†	2429857.1	210.44	mg/L	4.534	210.44	mg/L	4.534	2.15%
Strontium†	715364.3	1.2232	mg/L	0.02817	1.2232	mg/L	0.02817	2.30%
Thallium†	-4.8	-0.0037	mg/L	0.00608	-0.0037	mg/L	0.00608	164.88%
Tin†	-69.0	-0.0167	mg/L	0.00105	-0.0167	mg/L	0.00105	6.30%
Titanium†	125.7	0.0002	mg/L	0.00011	0.0002	mg/L	0.00011	67.88%
Vanadium†	218.6	0.0017	mg/L	0.00021	0.0017	mg/L	0.00021	11.80%
Zinc†	542.0	0.0036	mg/L	0.00030	0.0036	mg/L	0.00030	8.17%

Sequence No.: 75
Sample ID: MF928-S2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 93
Date Collected: 2/25/2009 5:34:46 PM
Data Type: Reprocessed on 2/26/2009 10:24:39 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: MF928-S2

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1452957.8	95.735	%	1.3465				1.41%
Aluminum†	1103.3	0.5100	mg/L	0.02863	0.5100	mg/L	0.02863	5.61%
Antimony†	1412.0	0.5467	mg/L	0.00719	0.5467	mg/L	0.00719	1.32%
Arsenic 188†	901.3	0.5272	mg/L	0.00961	0.5272	mg/L	0.00961	1.82%
Arsenic†	790.9	0.5393	mg/L	0.01120	0.5393	mg/L	0.01120	2.08%
Barium †	241022.1	0.6444	mg/L	0.01652	0.6444	mg/L	0.01652	2.56%
Beryllium†	1286933.8	0.4911	mg/L	0.00131	0.4911	mg/L	0.00131	0.27%
Boron†	19987.3	4.3854	mg/L	0.09506	4.3854	mg/L	0.09506	2.17%
Cadmium†	29324.4	0.5068	mg/L	0.00699	0.5068	mg/L	0.00699	1.38%
Calcium†	2610938.0	122.34	mg/L	2.702	122.34	mg/L	2.702	2.21%
Chromium†	38082.7	0.5016	mg/L	0.00072	0.5016	mg/L	0.00072	0.14%
Cobalt†	23745.5	0.4814	mg/L	0.00628	0.4814	mg/L	0.00628	1.30%
Copper†	133982.8	0.5269	mg/L	0.00117	0.5269	mg/L	0.00117	0.22%
Iron†	11554.7	0.6830	mg/L	0.01665	0.6830	mg/L	0.01665	2.44%
Lead†	3548.7	0.5041	mg/L	0.00768	0.5041	mg/L	0.00768	1.52%
Lithium†	115315.2	0.6194	mg/L	0.00662	0.6194	mg/L	0.00662	1.07%
Magnesium†	161001.6	72.745	mg/L	1.6158	72.745	mg/L	1.6158	2.22%
Manganese†	1030653.7	1.4771	mg/L	0.00422	1.4771	mg/L	0.00422	0.29%
Molybdenum†	5270.0	0.5198	mg/L	0.00590	0.5198	mg/L	0.00590	1.14%
Nickel†	15743.8	0.4820	mg/L	0.00620	0.4820	mg/L	0.00620	1.29%
Potassium†	20780.0	6.4784	mg/L	0.13844	6.4784	mg/L	0.13844	2.14%
Selenium†	454.0	0.5101	mg/L	0.00822	0.5101	mg/L	0.00822	1.61%
Silicon†	78755.6	16.540	mg/L	0.3825	16.540	mg/L	0.3825	2.31%
Silver†	41755.6	0.2500	mg/L	0.00038	0.2500	mg/L	0.00038	0.15%
Sodium†	2143623.8	185.65	mg/L	4.342	185.65	mg/L	4.342	2.34%
Strontium†	1004608.5	1.7190	mg/L	0.04076	1.7190	mg/L	0.04076	2.37%
Thallium†	867.6	0.4734	mg/L	0.00433	0.4734	mg/L	0.00433	0.91%
Tin†	-85.1	-0.0191	mg/L	0.00338	-0.0191	mg/L	0.00338	17.69%
Titanium†	353677.2	0.5115	mg/L	0.00021	0.5115	mg/L	0.00021	0.04%
Vanadium†	68481.5	0.5059	mg/L	0.00061	0.5059	mg/L	0.00061	0.12%
Zinc†	44508.8	0.4920	mg/L	0.00149	0.4920	mg/L	0.00149	0.30%

Sequence No.: 76
Sample ID: C4383-5F
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 95
Date Collected: 2/25/2009 5:43:02 PM
Data Type: Reprocessed on 2/26/2009 10:24:30 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4383-5F

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1485198.0	97.860	%	0.7277				0.74%
Aluminum†	30.1	0.0111	mg/L	0.01650	0.0111	mg/L	0.01650	149.25%
Antimony†	7.4	0.0030	mg/L	0.00236	0.0030	mg/L	0.00236	78.50%
Arsenic 188†	6.3	0.0053	mg/L	0.00508	0.0053	mg/L	0.00508	94.93%
Arsenic†	3.6	0.0009	mg/L	0.01293	0.0009	mg/L	0.01293	>999.9%
Barium †	11686.3	0.0312	mg/L	0.00035	0.0312	mg/L	0.00035	1.12%
Beryllium†	-381.4	-0.0001	mg/L	0.00002	-0.0001	mg/L	0.00002	15.72%
Boron†	16937.2	3.7164	mg/L	0.00530	3.7164	mg/L	0.00530	0.14%
Cadmium†	26.9	0.0005	mg/L	0.00016	0.0005	mg/L	0.00016	33.56%
Calcium†	2494990.7	116.90	mg/L	0.909	116.90	mg/L	0.909	0.78%
Chromium†	3581.9	0.0463	mg/L	0.00006	0.0463	mg/L	0.00006	0.14%
Cobalt†	-1.4	0.0000	mg/L	0.00038	0.0000	mg/L	0.00038	>999.9%
Copper†	2605.6	0.0096	mg/L	0.00063	0.0096	mg/L	0.00063	6.55%
Iron†	287.2	0.0081	mg/L	0.00078	0.0081	mg/L	0.00078	9.62%
Lead†	20.5	0.0029	mg/L	0.00134	0.0029	mg/L	0.00134	46.57%
Lithium†	-42806.1	0.1142	mg/L	0.00308	0.1142	mg/L	0.00308	2.70%
Magnesium†	157922.5	71.353	mg/L	0.5916	71.353	mg/L	0.5916	0.83%
Manganese†	1707298.6	2.4477	mg/L	0.00638	2.4477	mg/L	0.00638	0.26%
Molybdenum†	-0.2	0.0000	mg/L	0.00106	0.0000	mg/L	0.00106	>999.9%
Nickel†	106.5	0.0033	mg/L	0.00018	0.0033	mg/L	0.00018	5.49%
Potassium†	603449.5	188.12	mg/L	1.167	188.12	mg/L	1.167	0.62%
Selenium†	12.3	0.0092	mg/L	0.00478	0.0092	mg/L	0.00478	51.88%
Silicon†	77894.5	16.360	mg/L	0.1007	16.360	mg/L	0.1007	0.62%
Silver†	18.0	0.0001	mg/L	0.00058	0.0001	mg/L	0.00058	527.95%
Sodium†	2462399.5	213.25	mg/L	1.441	213.25	mg/L	1.441	0.68%
Strontium†	711364.0	1.2163	mg/L	0.00893	1.2163	mg/L	0.00893	0.73%
Thallium†	-7.5	-0.0052	mg/L	0.00052	-0.0052	mg/L	0.00052	10.05%
Tin†	-71.0	-0.0172	mg/L	0.00103	-0.0172	mg/L	0.00103	6.01%
Titanium†	139.9	0.0002	mg/L	0.00025	0.0002	mg/L	0.00025	133.35%
Vanadium†	216.5	0.0017	mg/L	0.00012	0.0017	mg/L	0.00012	6.97%
Zinc†	794.6	0.0064	mg/L	0.00022	0.0064	mg/L	0.00022	3.40%

Sequence No.: 77
Sample ID: C4383-6F
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 96
Date Collected: 2/25/2009 5:47:07 PM
Data Type: Reprocessed on 2/26/2009 10:24:31 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4383-6F

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1511174.3	99.571	%	0.1880				0.19%
Aluminum†	-30.7	-0.0144	mg/L	0.01346	-0.0144	mg/L	0.01346	93.20%
Antimony†	-3.9	-0.0016	mg/L	0.00770	-0.0016	mg/L	0.00770	493.93%
Arsenic 188†	1.8	0.0026	mg/L	0.00307	0.0026	mg/L	0.00307	117.06%
Arsenic†	12.8	0.0070	mg/L	0.00492	0.0070	mg/L	0.00492	70.12%
Barium †	37931.1	0.1014	mg/L	0.00070	0.1014	mg/L	0.00070	0.69%
Beryllium†	-351.1	-0.0001	mg/L	0.00006	-0.0001	mg/L	0.00006	41.50%
Boron†	18784.4	4.1217	mg/L	0.06756	4.1217	mg/L	0.06756	1.64%
Cadmium†	8.4	0.0001	mg/L	0.00010	0.0001	mg/L	0.00010	67.40%
Calcium†	2714210.2	127.18	mg/L	1.178	127.18	mg/L	1.178	0.93%
Chromium†	230.6	0.0030	mg/L	0.00029	0.0030	mg/L	0.00029	9.54%
Cobalt†	-13.8	-0.0003	mg/L	0.00031	-0.0003	mg/L	0.00031	110.99%
Copper†	1181.4	0.0040	mg/L	0.00045	0.0040	mg/L	0.00045	11.25%
Iron†	454.7	0.0173	mg/L	0.00165	0.0173	mg/L	0.00165	9.52%
Lead†	1.6	0.0002	mg/L	0.00181	0.0002	mg/L	0.00181	801.04%
Lithium†	-49105.1	0.1163	mg/L	0.00218	0.1163	mg/L	0.00218	1.87%
Magnesium†	169797.7	76.715	mg/L	0.8200	76.715	mg/L	0.8200	1.07%
Manganese†	28977.2	0.0402	mg/L	0.00086	0.0402	mg/L	0.00086	2.13%
Molybdenum†	-3.8	-0.0004	mg/L	0.00088	-0.0004	mg/L	0.00088	235.40%
Nickel†	21.0	0.0006	mg/L	0.00040	0.0006	mg/L	0.00040	62.42%
Potassium†	6117.6	1.9071	mg/L	0.03151	1.9071	mg/L	0.03151	1.65%
Selenium†	5.7	0.0063	mg/L	0.00508	0.0063	mg/L	0.00508	80.37%
Silicon†	76632.9	16.093	mg/L	0.1595	16.093	mg/L	0.1595	0.99%
Silver†	62.0	0.0004	mg/L	0.00051	0.0004	mg/L	0.00051	134.93%
Sodium†	2190103.5	189.68	mg/L	1.233	189.68	mg/L	1.233	0.65%
Strontium†	711296.6	1.2159	mg/L	0.00825	1.2159	mg/L	0.00825	0.68%
Thallium†	-3.7	-0.0021	mg/L	0.00179	-0.0021	mg/L	0.00179	86.98%
Tin†	-74.5	-0.0180	mg/L	0.00096	-0.0180	mg/L	0.00096	5.33%
Titanium†	145.2	0.0002	mg/L	0.00010	0.0002	mg/L	0.00010	48.99%
Vanadium†	600.5	0.0044	mg/L	0.00041	0.0044	mg/L	0.00041	9.13%
Zinc†	787.2	0.0062	mg/L	0.00020	0.0062	mg/L	0.00020	3.25%

8.1 8

Sequence No.: 78
Sample ID: C4383-7f
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 97
Data Collected: 2/25/2009 5:51:10 PM
Data Type: Reprocessed on 2/26/2009 10:24:33 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4383-7f

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1513545.7	99.728	%	0.2778				0.28%
Aluminum†	-27.4	-0.0129	mg/L	0.03095	-0.0129	mg/L	0.03095	239.08%
Antimony†	0.5	0.0001	mg/L	0.00253	0.0001	mg/L	0.00253	>999.9%
Arsenic 188†	-2.7	0.0000	mg/L	0.00207	0.0000	mg/L	0.00207	>999.9%
Arsenic†	8.7	0.0044	mg/L	0.00659	0.0044	mg/L	0.00659	151.23%
Barium †	53728.0	0.1436	mg/L	0.00207	0.1436	mg/L	0.00207	1.44%
Beryllium†	-285.5	-0.0001	mg/L	0.00003	-0.0001	mg/L	0.00003	24.65%
Boron†	18570.5	4.0748	mg/L	0.05282	4.0748	mg/L	0.05282	1.30%
Cadmium†	15.1	0.0003	mg/L	0.00011	0.0003	mg/L	0.00011	41.23%
Calcium†	2564130.8	120.14	mg/L	2.336	120.14	mg/L	2.336	1.94%
Chromium†	536.4	0.0070	mg/L	0.00016	0.0070	mg/L	0.00016	2.27%
Cobalt†	4.1	0.0001	mg/L	0.00037	0.0001	mg/L	0.00037	443.32%
Copper†	1317.2	0.0045	mg/L	0.00064	0.0045	mg/L	0.00064	14.16%
Iron†	142.9	-0.0008	mg/L	0.00131	-0.0008	mg/L	0.00131	161.61%
Lead†	10.1	0.0014	mg/L	0.00163	0.0014	mg/L	0.00163	115.42%
Lithium†	-46299.5	0.1102	mg/L	0.00576	0.1102	mg/L	0.00576	5.23%
Magnesium†	160002.1	72.289	mg/L	1.5003	72.289	mg/L	1.5003	2.08%
Manganese†	60058.2	0.0848	mg/L	0.00032	0.0848	mg/L	0.00032	0.38%
Molybdenum†	14.4	0.0014	mg/L	0.00048	0.0014	mg/L	0.00048	33.75%
Nickel†	40.6	0.0012	mg/L	0.00052	0.0012	mg/L	0.00052	41.90%
Potassium†	95491.3	29.768	mg/L	0.4973	29.768	mg/L	0.4973	1.67%
Selenium†	4.5	0.0049	mg/L	0.00870	0.0049	mg/L	0.00870	177.17%
Silicon†	74426.5	15.630	mg/L	0.2880	15.630	mg/L	0.2880	1.84%
Silver†	2.7	0.0000	mg/L	0.00023	0.0000	mg/L	0.00023	>999.9%
Sodium†	2181410.8	188.92	mg/L	3.239	188.92	mg/L	3.239	1.71%
Strontium†	739209.1	1.2640	mg/L	0.02148	1.2640	mg/L	0.02148	1.70%
Thallium†	-12.8	-0.0070	mg/L	0.00212	-0.0070	mg/L	0.00212	30.25%
Tin†	-67.1	-0.0162	mg/L	0.00118	-0.0162	mg/L	0.00118	7.26%
Titanium†	186.8	0.0003	mg/L	0.00007	0.0003	mg/L	0.00007	27.84%
Vanadium†	570.4	0.0042	mg/L	0.00042	0.0042	mg/L	0.00042	9.83%
Zinc†	730.5	0.0057	mg/L	0.00008	0.0057	mg/L	0.00008	1.36%

8.1 8

Sequence No.: 79
Sample ID: C4348-07
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 98
Date Collected: 2/26/2009 5:55:16 PM
Data Type: Reprocessed on 2/26/2009 10:24:34 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4348-07

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1469047.5	96.796	%	1.2083				1.25%
Aluminum†	-18.6	-0.0107	mg/L	0.00526	-0.0107	mg/L	0.00526	49.37%
Antimony†	-3.4	-0.0008	mg/L	0.00384	-0.0008	mg/L	0.00384	499.34%
Arsenic 188†	-0.7	0.0015	mg/L	0.00215	0.0015	mg/L	0.00215	145.78%
Arsenic†	1.4	-0.0007	mg/L	0.00218	-0.0007	mg/L	0.00218	293.23%
Barium †	71949.9	0.1924	mg/L	0.00163	0.1924	mg/L	0.00163	0.85%
Beryllium†	-443.2	-0.0002	mg/L	0.00007	-0.0002	mg/L	0.00007	40.28%
Boron†	19311.1	4.2373	mg/L	0.04563	4.2373	mg/L	0.04563	1.08%
Cadmium†	26.3	0.0005	mg/L	0.00024	0.0005	mg/L	0.00024	52.62%
Calcium†	3366568.3	157.74	mg/L	1.205	157.74	mg/L	1.205	0.76%
Chromium†	164.0	0.0016	mg/L	0.00025	0.0016	mg/L	0.00025	16.09%
Cobalt†	13.9	0.0003	mg/L	0.00020	0.0003	mg/L	0.00020	70.53%
Copper†	1246.7	0.0041	mg/L	0.00023	0.0041	mg/L	0.00023	5.63%
Iron†	185.6	-0.0012	mg/L	0.00087	-0.0012	mg/L	0.00087	73.55%
Lead†	8.6	0.0012	mg/L	0.00270	0.0012	mg/L	0.00270	222.97%
Lithium†	-65998.8	0.1284	mg/L	0.00575	0.1284	mg/L	0.00575	4.48%
Magnesium†	203471.7	91.933	mg/L	0.5896	91.933	mg/L	0.5896	0.64%
Manganese†	1094463.2	1.5683	mg/L	0.00017	1.5683	mg/L	0.00017	0.01%
Molybdenum†	14.9	0.0015	mg/L	0.00109	0.0015	mg/L	0.00109	73.87%
Nickel†	76.9	0.0024	mg/L	0.00072	0.0024	mg/L	0.00072	30.45%
Potassium†	4985.3	1.5541	mg/L	0.02789	1.5541	mg/L	0.02789	1.79%
Selenium†	17.1	0.0162	mg/L	0.01484	0.0162	mg/L	0.01484	91.51%
Silicon†	79606.4	16.715	mg/L	0.1426	16.715	mg/L	0.1426	0.85%
Silver†	-5.4	0.0000	mg/L	0.00079	0.0000	mg/L	0.00079	>999.9%
Sodium†	2485013.8	215.21	mg/L	1.365	215.21	mg/L	1.365	0.63%
Strontium†	941257.2	1.6093	mg/L	0.00703	1.6093	mg/L	0.00703	0.44%
Thallium†	-3.0	-0.0023	mg/L	0.00330	-0.0023	mg/L	0.00330	140.31%
Tin†	-85.2	-0.0206	mg/L	0.00036	-0.0206	mg/L	0.00036	1.74%
Titanium†	37.7	0.0001	mg/L	0.00011	0.0001	mg/L	0.00011	208.01%
Vanadium†	1505.7	0.0111	mg/L	0.00051	0.0111	mg/L	0.00051	4.60%
Zinc†	1373.2	0.0122	mg/L	0.00018	0.0122	mg/L	0.00018	1.51%

8.1 8

Sequence No.: 80
Sample ID: C4400-1F
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 99
Date Collected: 2/25/2009 5:59:24 PM
Data Type: Reprocessed on 2/26/2009 10:24:35 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4400-1F

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1293465.4	85.226	%	1.5520				1.82%
Aluminum†	19.9	-0.0061	mg/L	0.02595	-0.0061	mg/L	0.02595	426.90%
Antimony†	0.9	0.0031	mg/L	0.00193	0.0031	mg/L	0.00193	62.45%
Arsenic 188†	13.5	0.0201	mg/L	0.00307	0.0201	mg/L	0.00307	15.23%
Arsenic†	13.5	-0.0020	mg/L	0.00950	-0.0020	mg/L	0.00950	473.34%
Barium †	396886.3	1.0609	mg/L	0.01942	1.0609	mg/L	0.01942	1.83%
Beryllium†	-834.1	-0.0003	mg/L	0.00002	-0.0003	mg/L	0.00002	6.89%
Boron†	6569.3	1.4456	mg/L	0.05468	1.4456	mg/L	0.05468	3.78%
Cadmium†	13.5	0.0002	mg/L	0.00004	0.0002	mg/L	0.00004	15.48%
Calcium†	12651790.3	592.81	mg/L	19.522	592.81	mg/L	19.522	3.29%
Chromium†	441.2	0.0027	mg/L	0.00011	0.0027	mg/L	0.00011	4.24%
Cobalt†	-18.1	-0.0006	mg/L	0.00007	-0.0006	mg/L	0.00007	11.53%
Copper†	1954.8	0.0030	mg/L	0.00055	0.0030	mg/L	0.00055	18.26%
Iron†	218264.5	13.035	mg/L	0.3256	13.035	mg/L	0.3256	2.50%
Lead†	18.5	0.0021	mg/L	0.00387	0.0021	mg/L	0.00387	184.76%
Lithium†	-348719.2	0.1682	mg/L	0.02711	0.1682	mg/L	0.02711	16.12%
Magnesium†	1176303.1	531.54	mg/L	15.586	531.54	mg/L	15.586	2.93%
Manganese†	5589415.5	8.0082	mg/L	0.11892	8.0082	mg/L	0.11892	1.49%
Molybdenum†	106.3	0.0110	mg/L	0.00121	0.0110	mg/L	0.00121	11.03%
Nickel†	82.5	0.0025	mg/L	0.00040	0.0025	mg/L	0.00040	15.95%
Potassium†	262918.6	81.961	mg/L	2.2230	81.961	mg/L	2.2230	2.71%
Selenium†	8.4	-0.0009	mg/L	0.00740	-0.0009	mg/L	0.00740	819.64%
Silicon†	83347.6	17.434	mg/L	0.5576	17.434	mg/L	0.5576	3.20%
Silver†	97.2	0.0010	mg/L	0.00022	0.0010	mg/L	0.00022	21.69%
Sodium†	Saturated2							
Strontium†	3641397.6	6.2265	mg/L	0.21240	6.2265	mg/L	0.21240	3.41%
Thallium†	2.3	-0.0023	mg/L	0.00316	-0.0023	mg/L	0.00316	137.91%
Tin†	-117.6	-0.0281	mg/L	0.00106	-0.0281	mg/L	0.00106	3.79%
Titanium†	-426.8	-0.0006	mg/L	0.00030	-0.0006	mg/L	0.00030	48.76%
Vanadium†	211.7	0.0017	mg/L	0.00050	0.0017	mg/L	0.00050	29.33%
Zinc†	977.8	-0.0084	mg/L	0.00076	-0.0084	mg/L	0.00076	9.08%

Sequence No.: 81
Sample ID: BLANKCONF
Analyst:
Logged in Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/25/2009 6:03:44 PM
Data Type: Reprocessed on 2/26/2009 10:24:36 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BLANKCONF

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1625896.8	107.13	%	0.767				0.72%
Aluminum†	-40.1	-0.0187	mg/L	0.00541	-0.0187	mg/L	0.00541	28.88%
Antimony†	-22.5	-0.0088	mg/L	0.00292	-0.0088	mg/L	0.00292	33.10%
Arsenic 188†	1.7	0.0010	mg/L	0.00273	0.0010	mg/L	0.00273	280.59%
Arsenic†	-2.8	-0.0019	mg/L	0.00436	-0.0019	mg/L	0.00436	232.82%
Barium †	-106.3	-0.0003	mg/L	0.00021	-0.0003	mg/L	0.00021	74.30%
Beryllium†	5.2	0.0000	mg/L	0.00005	0.0000	mg/L	0.00005	>999.9%
Boron†	163.3	0.0358	mg/L	0.00139	0.0358	mg/L	0.00139	3.87%
Cadmium†	-7.1	-0.0001	mg/L	0.00014	-0.0001	mg/L	0.00014	116.81%
Calcium†	401.0	0.0188	mg/L	0.00739	0.0188	mg/L	0.00739	39.38%
Chromium†	-26.7	-0.0004	mg/L	0.00021	-0.0004	mg/L	0.00021	59.99%
Cobalt†	3.8	0.0001	mg/L	0.00008	0.0001	mg/L	0.00008	101.86%
Copper†	-261.0	-0.0010	mg/L	0.00010	-0.0010	mg/L	0.00010	9.47%
Iron†	13.6	0.0008	mg/L	0.00045	0.0008	mg/L	0.00045	55.25%
Lead†	-9.0	-0.0013	mg/L	0.00357	-0.0013	mg/L	0.00357	282.69%
Lithium†	706.2	0.0022	mg/L	0.00083	0.0022	mg/L	0.00083	37.01%
Magnesium†	94.6	0.0427	mg/L	0.01029	0.0427	mg/L	0.01029	24.09%
Manganese†	323.1	0.0005	mg/L	0.00005	0.0005	mg/L	0.00005	11.09%
Molybdenum†	-15.0	-0.0015	mg/L	0.00030	-0.0015	mg/L	0.00030	20.06%
Nickel†	17.2	0.0005	mg/L	0.00025	0.0005	mg/L	0.00025	48.24%
Potassium†	588.2	0.1834	mg/L	0.03385	0.1834	mg/L	0.03385	18.46%
Selenium†	-0.5	-0.0005	mg/L	0.00229	-0.0005	mg/L	0.00229	432.05%
Silicon†	37.9	0.0080	mg/L	0.00159	0.0080	mg/L	0.00159	19.93%
Silver†	28.1	0.0002	mg/L	0.00023	0.0002	mg/L	0.00023	135.21%
Sodium†	4337.5	0.3757	mg/L	0.02412	0.3757	mg/L	0.02412	6.42%
Strontium†	329.5	0.0006	mg/L	0.00011	0.0006	mg/L	0.00011	20.25%
Thallium†	8.8	0.0048	mg/L	0.00301	0.0048	mg/L	0.00301	62.57%
Tin†	-3.5	-0.0008	mg/L	0.00176	-0.0008	mg/L	0.00176	207.91%
Titanium†	-27.0	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	41.07%
Vanadium†	10.9	0.0001	mg/L	0.00009	0.0001	mg/L	0.00009	117.18%
Zinc†	15.7	0.0002	mg/L	0.00007	0.0002	mg/L	0.00007	43.63%

8.1 8

Sequence No.: 82
Sample ID: CCV
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/25/2009 6:16:45 PM
Data Type: Reprocessed on 2/26/2009 10:24:37 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1585973.5	104.50	%	2.065				1.98%
Aluminum†	2013.5	0.9290	mg/L	0.02765	0.9290	mg/L	0.02765	2.98%
QC value within limits for Aluminum Recovery = 92.90%								
Antimony†	2549.0	0.9853	mg/L	0.02494	0.9853	mg/L	0.02494	2.53%
QC value within limits for Antimony Recovery = 98.53%								
Arsenic 188†	1711.4	0.9992	mg/L	0.02147	0.9992	mg/L	0.02147	2.15%
QC value within limits for Arsenic 188 Recovery = 99.92%								
Arsenic†	1444.4	0.9887	mg/L	0.02777	0.9887	mg/L	0.02777	2.81%
QC value within limits for Arsenic Recovery = 98.87%								
Barium †	337115.5	0.9011	mg/L	0.02515	0.9011	mg/L	0.02515	2.79%
QC value within limits for Barium Recovery = 90.11%								
Beryllium†	2518159.7	0.9609	mg/L	0.00273	0.9609	mg/L	0.00273	0.28%
QC value within limits for Beryllium Recovery = 96.09%								
Boron†	4660.6	1.0248	mg/L	0.02356	1.0248	mg/L	0.02356	2.30%
QC value within limits for Boron Recovery = 102.48%								
Cadmium†	55409.3	0.9578	mg/L	0.03409	0.9578	mg/L	0.03409	3.56%
QC value within limits for Cadmium Recovery = 95.78%								
Calcium†	20660.0	0.9598	mg/L	0.02662	0.9598	mg/L	0.02662	2.77%
QC value within limits for Calcium Recovery = 95.98%								
Chromium†	73972.4	0.9751	mg/L	0.03286	0.9751	mg/L	0.03286	3.37%
QC value within limits for Chromium Recovery = 97.51%								
Cobalt†	47225.9	0.9572	mg/L	0.03374	0.9572	mg/L	0.03374	3.52%
QC value within limits for Cobalt Recovery = 95.72%								
Copper†	241020.4	0.9490	mg/L	0.03750	0.9490	mg/L	0.03750	3.95%
QC value within limits for Copper Recovery = 94.90%								
Iron†	162718.4	9.7523	mg/L	0.24918	9.7523	mg/L	0.24918	2.56%
QC value within limits for Iron Recovery = 97.52%								
Lead†	7060.2	1.0027	mg/L	0.01961	1.0027	mg/L	0.01961	1.96%
QC value within limits for Lead Recovery = 100.27%								
Lithium†	302087.0	0.9452	mg/L	0.00609	0.9452	mg/L	0.00609	0.64%
QC value within limits for Lithium Recovery = 94.52%								
Magnesium†	2206.5	1.0028	mg/L	0.03746	1.0028	mg/L	0.03746	3.74%
QC value within limits for Magnesium Recovery = 100.28%								
Manganese†	673172.7	0.9657	mg/L	0.00292	0.9657	mg/L	0.00292	0.30%
QC value within limits for Manganese Recovery = 96.57%								
Molybdenum†	9755.7	0.9626	mg/L	0.02033	0.9626	mg/L	0.02033	2.11%
QC value within limits for Molybdenum Recovery = 96.26%								
Nickel†	31742.9	0.9719	mg/L	0.02173	0.9719	mg/L	0.02173	2.24%
QC value within limits for Nickel Recovery = 97.19%								
Potassium†	30470.0	9.4996	mg/L	0.25498	9.4996	mg/L	0.25498	2.68%
QC value within limits for Potassium Recovery = 95.00%								
Selenium†	882.1	0.9980	mg/L	0.02545	0.9980	mg/L	0.02545	2.55%
QC value within limits for Selenium Recovery = 99.80%								
Silicon†	2683.5	0.5642	mg/L	0.01192	0.5642	mg/L	0.01192	2.11%
QC value greater than the upper limit for Silicon Recovery = 112.83%								
Silver†	158608.6	0.9491	mg/L	0.03317	0.9491	mg/L	0.03317	3.49%
QC value within limits for Silver Recovery = 94.91%								
Sodium†	11088.9	0.9577	mg/L	0.02322	0.9577	mg/L	0.02322	2.42%
QC value within limits for Sodium Recovery = 95.77%								
Strontium†	528407.5	0.9060	mg/L	0.02110	0.9060	mg/L	0.02110	2.33%
QC value within limits for Strontium Recovery = 90.60%								
Thallium†	1753.4	0.9573	mg/L	0.02237	0.9573	mg/L	0.02237	2.34%
QC value within limits for Thallium Recovery = 95.73%								
Tin†	4027.5	0.9763	mg/L	0.02062	0.9763	mg/L	0.02062	2.11%
QC value within limits for Tin Recovery = 97.63%								
Titanium†	670163.2	0.9692	mg/L	0.00202	0.9692	mg/L	0.00202	0.21%
QC value within limits for Titanium Recovery = 96.92%								
Vanadium†	129781.3	0.9590	mg/L	0.03207	0.9590	mg/L	0.03207	3.34%
QC value within limits for Vanadium Recovery = 95.90%								
Zinc†	88004.4	0.9768	mg/L	0.03769	0.9768	mg/L	0.03769	3.86%
QC value within limits for Zinc Recovery = 97.68%								

8.1 8

QC Failed. Continue with analysis.

Sequence No.: 03
Sample ID: CCB
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/25/2009 6:29:29 PM
Data Type: Reprocessed on 2/26/2009 10:24:39 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB

Analyte	Mean Corrected Intensity	Conc.	Calib Units	Std.Dev.	Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1560541.7	102.82	%	0.582				0.57%
Aluminum†	-2.6	-0.0012	mg/L	0.00727	-0.0012	mg/L	0.00727	609.64%
QC value within limits for Aluminum Recovery = -2.39%								
Antimony†	1.0	0.0004	mg/L	0.00176	0.0004	mg/L	0.00176	452.20%
QC value within limits for Antimony Recovery = 3.88%								
Arsenic 188†	0.7	0.0004	mg/L	0.00478	0.0004	mg/L	0.00478	>999.9%
QC value within limits for Arsenic 188 Recovery = 4.07%								
Arsenic†	10.4	0.0070	mg/L	0.00271	0.0070	mg/L	0.00271	39.03%
QC value within limits for Arsenic Recovery = 69.55%								
Barium †	-112.0	-0.0003	mg/L	0.00015	-0.0003	mg/L	0.00015	48.47%
QC value within limits for Barium Recovery = -5.99%								
Beryllium†	118.0	0.0000	mg/L	0.00007	0.0000	mg/L	0.00007	162.84%
QC value within limits for Beryllium Recovery = 0.90%								
Boron†	95.0	0.0208	mg/L	0.00157	0.0208	mg/L	0.00157	7.52%
QC value greater than the upper limit for Boron Recovery = 208.42%								
Cadmium†	-12.4	-0.0002	mg/L	0.00006	-0.0002	mg/L	0.00006	30.24%
QC value within limits for Cadmium Recovery = -10.70%								
Calcium†	28.5	0.0013	mg/L	0.00067	0.0013	mg/L	0.00067	49.99%
QC value within limits for Calcium Recovery = 2.67%								
Chromium†	28.2	0.0004	mg/L	0.00025	0.0004	mg/L	0.00025	67.39%
QC value within limits for Chromium Recovery = 7.43%								
Cobalt†	-2.9	-0.0001	mg/L	0.00038	-0.0001	mg/L	0.00038	644.46%
QC value within limits for Cobalt Recovery = -1.19%								
Copper†	-213.8	-0.0008	mg/L	0.00062	-0.0008	mg/L	0.00062	73.22%
QC value within limits for Copper Recovery = -16.82%								
Iron†	8.6	0.0005	mg/L	0.00099	0.0005	mg/L	0.00099	190.55%
QC value within limits for Iron Recovery = 1.04%								
Lead†	-9.4	-0.0013	mg/L	0.00237	-0.0013	mg/L	0.00237	178.47%
QC value within limits for Lead Recovery = -26.50%								
Lithium†	358.5	0.0011	mg/L	0.00060	0.0011	mg/L	0.00060	53.44%
QC value within limits for Lithium Recovery = 11.22%								
Magnesium†	-9.9	-0.0045	mg/L	0.00591	-0.0045	mg/L	0.00591	131.64%
QC value within limits for Magnesium Recovery = -8.98%								
Manganese†	18.5	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	73.43%
QC value within limits for Manganese Recovery = 0.53%								
Molybdenum†	13.5	0.0013	mg/L	0.00028	0.0013	mg/L	0.00028	21.31%
QC value within limits for Molybdenum Recovery = 26.61%								
Nickel†	1.1	0.0000	mg/L	0.00046	0.0000	mg/L	0.00046	>999.9%
QC value within limits for Nickel Recovery = 0.68%								
Potassium†	182.7	0.0569	mg/L	0.03147	0.0569	mg/L	0.03147	55.27%
QC value within limits for Potassium Recovery = 11.39%								
Selenium†	-2.9	-0.0033	mg/L	0.00195	-0.0033	mg/L	0.00195	59.79%
QC value within limits for Selenium Recovery = -16.33%								
Silicon†	14.9	0.0031	mg/L	0.00298	0.0031	mg/L	0.00298	95.00%
QC value within limits for Silicon Recovery = 6.27%								
Silver†	-33.6	-0.0002	mg/L	0.00068	-0.0002	mg/L	0.00068	339.68%
QC value within limits for Silver Recovery = -4.02%								
Sodium†	332.9	0.0288	mg/L	0.00017	0.0288	mg/L	0.00017	0.57%
QC value within limits for Sodium Recovery = 28.83%								
Strontium†	40.3	0.0001	mg/L	0.00016	0.0001	mg/L	0.00016	234.60%
QC value within limits for Strontium Recovery = 1.38%								
Thallium†	-2.4	-0.0013	mg/L	0.00620	-0.0013	mg/L	0.00620	475.51%
QC value within limits for Thallium Recovery = -6.51%								
Tin†	-12.3	-0.0030	mg/L	0.00068	-0.0030	mg/L	0.00068	22.71%
QC value within limits for Tin Recovery = -5.96%								
Titanium†	68.0	0.0001	mg/L	0.00017	0.0001	mg/L	0.00017	171.44%
QC value within limits for Titanium Recovery = 4.92%								
Vanadium†	14.6	0.0001	mg/L	0.00009	0.0001	mg/L	0.00009	83.23%
QC value within limits for Vanadium Recovery = 2.18%								
Zinc†	-53.4	-0.0006	mg/L	0.00007	-0.0006	mg/L	0.00007	11.54%
QC value within limits for Zinc Recovery = -5.96%								

8.1 B

QC Failed. Continue with analysis.

Sequence No.: 84
Sample ID: C4408-2F
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 100
Date Collected: 2/25/2009 6:32:46 PM
Data Type: Reprocessed on 2/26/2009 10:24:40 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4408-2F

Analyte	Mean Corrected Intensity	Conc.	Calib Units	Std.Dev.	Cond.	Sample Units	Std.Dev.	RSD
Yttrium	1363442.9	89.837	%	0.8487				0.94%
Aluminum†	13.1	0.0049	mg/L	0.00904	0.0049	mg/L	0.00904	186.29%
Antimony†	1.0	0.0005	mg/L	0.00274	0.0005	mg/L	0.00274	543.17%
Arsenic 188†	32.7	0.0223	mg/L	0.00597	0.0223	mg/L	0.00597	26.81%
Arsenic†	35.1	0.0206	mg/L	0.00910	0.0206	mg/L	0.00910	44.24%
Barium †	73842.3	0.1974	mg/L	0.00584	0.1974	mg/L	0.00584	2.96%
Beryllium†	-849.3	-0.0003	mg/L	0.00004	-0.0003	mg/L	0.00004	13.01%
Boron†	9716.0	2.1323	mg/L	0.07479	2.1323	mg/L	0.07479	3.51%
Cadmium†	27.5	0.0005	mg/L	0.00036	0.0005	mg/L	0.00036	76.07%
Calcium†	1851958.5	86.768	mg/L	3.1750	86.768	mg/L	3.1750	3.66%
Chromium†	325.7	0.0041	mg/L	0.00009	0.0041	mg/L	0.00009	2.09%
Cobalt†	7.3	0.0001	mg/L	0.00019	0.0001	mg/L	0.00019	173.87%
Copper†	2224.8	0.0074	mg/L	0.00037	0.0074	mg/L	0.00037	4.97%
Iron†	24252.9	1.4468	mg/L	0.05586	1.4468	mg/L	0.05586	3.86%
Lead†	-2.1	-0.0003	mg/L	0.00304	-0.0003	mg/L	0.00304	872.06%
Lithium†	-46499.7	0.0388	mg/L	0.00545	0.0388	mg/L	0.00545	14.04%
Magnesium†	337892.0	152.68	mg/L	5.615	152.68	mg/L	5.615	3.68%
Manganese†	313188.6	0.4465	mg/L	0.00056	0.4465	mg/L	0.00056	0.12%
Molybdenum†	18.0	0.0018	mg/L	0.00117	0.0018	mg/L	0.00117	63.99%
Nickel†	160.2	0.0049	mg/L	0.00048	0.0049	mg/L	0.00048	9.80%
Potassium†	184895.6	57.638	mg/L	1.9227	57.638	mg/L	1.9227	3.34%
Selenium†	10.5	0.0116	mg/L	0.01351	0.0116	mg/L	0.01351	116.66%
Silicon†	68257.5	14.327	mg/L	0.5296	14.327	mg/L	0.5296	3.70%
Silver†	44.2	0.0003	mg/L	0.00066	0.0003	mg/L	0.00066	204.56%
Sodium†	Saturated2							
Strontium†	649956.0	1.1119	mg/L	0.03539	1.1119	mg/L	0.03539	3.18%
Thallium†	-9.8	-0.0055	mg/L	0.00302	-0.0055	mg/L	0.00302	54.69%
Tin†	-56.4	-0.0136	mg/L	0.00225	-0.0136	mg/L	0.00225	16.54%
Titanium†	2105.8	0.0030	mg/L	0.00020	0.0030	mg/L	0.00020	6.45%
Vanadium†	1717.6	0.0127	mg/L	0.00034	0.0127	mg/L	0.00034	2.70%
Zinc†	487.2	0.0001	mg/L	0.00017	0.0001	mg/L	0.00017	191.40%

8.1 8

Sequence No.: 85
Sample ID: C4408-3F
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 101
Date Collected: 2/25/2009 6:36:53 PM
Data Type: Reprocessed on 2/26/2009 10:24:41 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4408-3F

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1287235.3	84.816	%	0.4874				0.57%
Aluminum†	71.2	0.0171	mg/L	0.00970	0.0171	mg/L	0.00970	56.63%
Antimony†	10.8	0.0070	mg/L	0.00307	0.0070	mg/L	0.00307	43.81%
Arsenic 188†	2.6	0.0143	mg/L	0.00855	0.0143	mg/L	0.00855	59.90%
Arsenic†	19.0	0.0014	mg/L	0.00330	0.0014	mg/L	0.00330	240.31%
Barium †	409652.7	1.0950	mg/L	0.01106	1.0950	mg/L	0.01106	1.01%
Beryllium†	-995.1	-0.0004	mg/L	0.00004	-0.0004	mg/L	0.00004	10.15%
Boron†	6249.6	1.3759	mg/L	0.04516	1.3759	mg/L	0.04516	3.28%
Cadmium†	46.2	0.0008	mg/L	0.00017	0.0008	mg/L	0.00017	21.11%
Calcium†	12675873.9	593.93	mg/L	7.102	593.93	mg/L	7.102	1.20%
Chromium†	464.5	0.0030	mg/L	0.00008	0.0030	mg/L	0.00008	2.81%
Cobalt†	-12.0	-0.0005	mg/L	0.00014	-0.0005	mg/L	0.00014	25.35%
Copper†	2071.0	0.0033	mg/L	0.00059	0.0033	mg/L	0.00059	17.72%
Iron†	243182.2	14.529	mg/L	0.1421	14.529	mg/L	0.1421	0.98%
Lead†	14.1	0.0014	mg/L	0.00283	0.0014	mg/L	0.00283	199.12%
Lithium†	-354543.5	0.1524	mg/L	0.01264	0.1524	mg/L	0.01264	8.29%
Magnesium†	1213873.3	548.52	mg/L	4.368	548.52	mg/L	4.368	0.80%
Manganese†	5660750.3	8.1103	mg/L	0.00677	8.1103	mg/L	0.00677	0.08%
Molybdenum†	123.6	0.0128	mg/L	0.00095	0.0128	mg/L	0.00095	7.47%
Nickel†	86.4	0.0026	mg/L	0.00055	0.0026	mg/L	0.00055	20.92%
Potassium†	271526.7	84.644	mg/L	0.6690	84.644	mg/L	0.6690	0.79%
Selenium†	13.9	0.0057	mg/L	0.01072	0.0057	mg/L	0.01072	189.12%
Silicon†	84876.2	17.754	mg/L	0.4511	17.754	mg/L	0.4511	2.54%
Silver†	-35.7	0.0003	mg/L	0.00070	0.0003	mg/L	0.00070	249.33%
Sodium†	Saturated2							
Strontium†	3644815.4	6.2323	mg/L	0.06605	6.2323	mg/L	0.06605	1.06%
Thallium†	-14.5	-0.0115	mg/L	0.00489	-0.0115	mg/L	0.00489	42.61%
Tin†	-113.4	-0.0270	mg/L	0.00030	-0.0270	mg/L	0.00030	1.11%
Titanium†	-420.6	-0.0006	mg/L	0.00021	-0.0006	mg/L	0.00021	34.44%
Vanadium†	84.4	0.0008	mg/L	0.00075	0.0008	mg/L	0.00075	94.40%
Zinc†	1275.2	-0.0057	mg/L	0.00041	-0.0057	mg/L	0.00041	7.20%

8.1 8

Sequence No.: 86
Sample ID: BLANKCONT
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/25/2009 6:43:16 PM
Data Type: Reprocessed on 2/26/2009 10:24:42 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BLANKCONT

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1606309.5	105.84	%	0.899				0.85%
Aluminum†	-22.5	-0.0105	mg/L	0.00922	-0.0105	mg/L	0.00922	87.81%
Antimony†	-19.4	-0.0076	mg/L	0.00212	-0.0076	mg/L	0.00212	27.90%
Arsenic 188†	2.8	0.0016	mg/L	0.00360	0.0016	mg/L	0.00360	218.49%
Arsenic†	-4.9	-0.0033	mg/L	0.00292	-0.0033	mg/L	0.00292	89.68%
Barium †	-81.8	-0.0002	mg/L	0.00040	-0.0002	mg/L	0.00040	182.62%
Beryllium†	-115.2	0.0000	mg/L	0.00003	0.0000	mg/L	0.00003	74.03%
Boron†	6.4	0.0014	mg/L	0.00166	0.0014	mg/L	0.00166	118.76%
Cadmium†	-24.1	-0.0004	mg/L	0.00006	-0.0004	mg/L	0.00006	15.51%
Calcium†	-501.0	-0.0235	mg/L	0.00288	-0.0235	mg/L	0.00288	12.27%
Chromium†	-0.7	0.0000	mg/L	0.00032	0.0000	mg/L	0.00032	>999.9%
Cobalt†	8.7	0.0002	mg/L	0.00019	0.0002	mg/L	0.00019	104.92%
Copper†	-183.2	-0.0007	mg/L	0.00012	-0.0007	mg/L	0.00012	16.38%
Iron†	4.7	0.0003	mg/L	0.00047	0.0003	mg/L	0.00047	168.20%
Lead†	-16.8	-0.0024	mg/L	0.00193	-0.0024	mg/L	0.00193	81.47%
Lithium†	47.8	0.0001	mg/L	0.00031	0.0001	mg/L	0.00031	315.86%
Magnesium†	21.3	0.0096	mg/L	0.00113	0.0096	mg/L	0.00113	11.75%
Manganese†	122.3	0.0002	mg/L	0.00003	0.0002	mg/L	0.00003	19.91%
Molybdenum†	-4.7	-0.0005	mg/L	0.00068	-0.0005	mg/L	0.00068	146.47%
Nickel†	16.1	0.0005	mg/L	0.00082	0.0005	mg/L	0.00082	166.61%
Potassium†	663.9	0.2070	mg/L	0.02269	0.2070	mg/L	0.02269	10.96%
Selenium†	-8.5	-0.0096	mg/L	0.01398	-0.0096	mg/L	0.01398	145.32%
Silicon†	17.6	0.0037	mg/L	0.00039	0.0037	mg/L	0.00039	10.69%
Silver†	-6.8	0.0000	mg/L	0.00047	0.0000	mg/L	0.00047	>999.9%
Sodium†	2863.4	0.2480	mg/L	0.01103	0.2480	mg/L	0.01103	4.45%
Strontium†	33.0	0.0001	mg/L	0.00009	0.0001	mg/L	0.00009	154.30%
Thallium†	-1.6	-0.0009	mg/L	0.00184	-0.0009	mg/L	0.00184	212.16%
Tin†	-6.3	-0.0015	mg/L	0.00040	-0.0015	mg/L	0.00040	26.50%
Titanium†	6.5	0.0000	mg/L	0.00009	0.0000	mg/L	0.00009	978.06%
Vanadium†	37.2	0.0003	mg/L	0.00004	0.0003	mg/L	0.00004	15.30%
Zinc†	7.9	0.0001	mg/L	0.00025	0.0001	mg/L	0.00025	288.50%

Sequence No.: 87
Sample ID: BLANKCONT
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 7
Date Collected: 2/25/2009 6:53:55 PM
Data Type: Reprocessed on 2/26/2009 10:24:43 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: BLANKCONT

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1610386.7	106.11	%	0.847				0.80%
Aluminum†	-29.8	-0.0139	mg/L	0.00150	-0.0139	mg/L	0.00150	10.75%
Antimony†	-15.9	-0.0062	mg/L	0.00461	-0.0062	mg/L	0.00461	74.10%
Arsenic 188†	2.8	0.0016	mg/L	0.00255	0.0016	mg/L	0.00255	158.53%
Arsenic†	3.2	0.0022	mg/L	0.00246	0.0022	mg/L	0.00246	114.02%
Barium †	14.4	0.0000	mg/L	0.00020	0.0000	mg/L	0.00020	514.46%
Beryllium†	-36.2	0.0000	mg/L	0.00009	0.0000	mg/L	0.00009	611.52%
Boron†	-11.0	-0.0024	mg/L	0.00165	-0.0024	mg/L	0.00165	67.94%
Cadmium†	-12.9	-0.0002	mg/L	0.00012	-0.0002	mg/L	0.00012	55.17%
Calcium†	-626.0	-0.0293	mg/L	0.00071	-0.0293	mg/L	0.00071	2.44%
Chromium†	-21.2	-0.0003	mg/L	0.00020	-0.0003	mg/L	0.00020	71.77%
Cobalt†	6.3	0.0001	mg/L	0.00012	0.0001	mg/L	0.00012	92.89%
Copper†	-255.6	-0.0010	mg/L	0.00016	-0.0010	mg/L	0.00016	15.69%
Iron†	-9.1	-0.0005	mg/L	0.00088	-0.0005	mg/L	0.00088	163.25%
Lead†	-21.5	-0.0030	mg/L	0.00149	-0.0030	mg/L	0.00149	49.38%
Lithium†	114.0	0.0003	mg/L	0.00036	0.0003	mg/L	0.00036	122.87%
Magnesium†	-4.5	-0.0020	mg/L	0.00362	-0.0020	mg/L	0.00362	178.54%

Manganese†	103.1	0.0001 mg/L	0.00003	0.0001 mg/L	0.00003	20.08%
Molybdenum†	-13.3	-0.0013 mg/L	0.00015	-0.0013 mg/L	0.00015	11.81%
Nickel†	22.1	0.0007 mg/L	0.00059	0.0007 mg/L	0.00059	86.38%
Potassium†	398.3	0.1242 mg/L	0.00927	0.1242 mg/L	0.00927	7.46%
Selenium†	-4.4	-0.0050 mg/L	0.00377	-0.0050 mg/L	0.00377	75.43%
Silicon†	10.9	0.0023 mg/L	0.00111	0.0023 mg/L	0.00111	48.62%
Silver†	20.5	0.0001 mg/L	0.00020	0.0001 mg/L	0.00020	160.74%
Sodium†	1551.2	0.1343 mg/L	0.00386	0.1343 mg/L	0.00386	2.87%
Strontium†	-71.7	-0.0001 mg/L	0.00006	-0.0001 mg/L	0.00006	49.25%
Thallium†	4.6	0.0025 mg/L	0.00366	0.0025 mg/L	0.00366	146.05%
Tin†	-4.3	-0.0010 mg/L	0.00107	-0.0010 mg/L	0.00107	103.63%
Titanium†	-64.5	-0.0001 mg/L	0.00011	-0.0001 mg/L	0.00011	114.76%
Vanadium†	12.5	0.0001 mg/L	0.00030	0.0001 mg/L	0.00030	329.59%
Zinc†	15.1	0.0002 mg/L	0.00026	0.0002 mg/L	0.00026	156.02%

Sequence No.: 88
Sample ID: C4507-1F
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 102
Date Collected: 2/25/2009 6:58:12 PM
Data Type: Reprocessed on 2/26/2009 10:24:45 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4507-1F

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1606972.5	105.88	%	0.227				0.21%
Aluminum†	-1.0	-0.0006	mg/L	0.00847	-0.0006	mg/L	0.00847	>999.9%
Antimony†	-8.8	-0.0034	mg/L	0.00274	-0.0034	mg/L	0.00274	79.78%
Arsenic 188†	5.8	0.0035	mg/L	0.00378	0.0035	mg/L	0.00378	108.81%
Arsenic†	4.6	0.0030	mg/L	0.00367	0.0030	mg/L	0.00367	123.32%
Barium †	1441.1	0.0039	mg/L	0.00034	0.0039	mg/L	0.00034	8.70%
Beryllium†	10.0	0.0000	mg/L	0.00002	0.0000	mg/L	0.00002	319.10%
Boron†	486.3	0.1067	mg/L	0.00130	0.1067	mg/L	0.00130	1.22%
Cadmium†	-4.1	-0.0001	mg/L	0.00018	-0.0001	mg/L	0.00018	253.69%
Calcium†	214483.1	10.050	mg/L	0.2327	10.050	mg/L	0.2327	2.32%
Chromium†	58.0	0.0007	mg/L	0.00026	0.0007	mg/L	0.00026	34.97%
Cobalt†	-5.8	-0.0001	mg/L	0.00036	-0.0001	mg/L	0.00036	306.91%
Copper†	82.8	0.0003	mg/L	0.00051	0.0003	mg/L	0.00051	183.01%
Iron†	347.1	0.0200	mg/L	0.00087	0.0200	mg/L	0.00087	4.37%
Lead†	-1.2	-0.0002	mg/L	0.00086	-0.0002	mg/L	0.00086	498.42%
Lithium†	-1867.8	0.0155	mg/L	0.00028	0.0155	mg/L	0.00028	1.83%
Magnesium†	11397.8	5.1496	mg/L	0.03600	5.1496	mg/L	0.03600	0.70%
Manganese†	40364.3	0.0578	mg/L	0.00089	0.0578	mg/L	0.00089	1.54%
Molybdenum†	4.9	0.0005	mg/L	0.00011	0.0005	mg/L	0.00011	22.30%
Nickel†	23.9	0.0007	mg/L	0.00030	0.0007	mg/L	0.00030	41.67%
Potassium†	5978.0	1.8636	mg/L	0.04690	1.8636	mg/L	0.04690	2.52%
Selenium†	-2.3	-0.0027	mg/L	0.00324	-0.0027	mg/L	0.00324	118.71%
Silicon†	30138.6	6.3340	mg/L	0.11664	6.3340	mg/L	0.11664	1.84%
Silver†	120.6	0.0007	mg/L	0.00027	0.0007	mg/L	0.00027	37.71%
Sodium†	165014.8	14.291	mg/L	0.3036	14.291	mg/L	0.3036	2.12%
Strontium†	32639.6	0.0557	mg/L	0.00136	0.0557	mg/L	0.00136	2.44%
Thallium†	-2.4	-0.0013	mg/L	0.00299	-0.0013	mg/L	0.00299	227.34%
Tin†	-16.7	-0.0040	mg/L	0.00080	-0.0040	mg/L	0.00080	19.77%
Titanium†	344.2	0.0005	mg/L	0.00009	0.0005	mg/L	0.00009	18.10%
Vanadium†	134.1	0.0010	mg/L	0.00013	0.0010	mg/L	0.00013	12.98%
Zinc†	2346.4	0.0260	mg/L	0.00026	0.0260	mg/L	0.00026	1.01%

8.1 8

Sequence No.: 89
Sample ID: C4507-6r
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution: 1X

Autosampler Location: 103
Date Collected: 2/25/2009 7:02:34 PM
Date Type: Reprocessed on 2/26/2009 10:24:46 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: C4507-6r

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Units	Std.Dev.	RSD
Yttrium	1551934.6	102.26	%	0.782				0.76%
Aluminum†	9.2	0.0043	mg/L	0.00541	0.0043	mg/L	0.00541	126.16%
Antimony†	-11.9	-0.0047	mg/L	0.00478	-0.0047	mg/L	0.00478	102.08%
Arsenic 188†	4.1	0.0024	mg/L	0.00170	0.0024	mg/L	0.00170	69.28%
Arsenic†	1.3	0.0008	mg/L	0.00498	0.0008	mg/L	0.00498	646.42%
Barium †	1155.3	0.0031	mg/L	0.00049	0.0031	mg/L	0.00049	15.94%
Beryllium†	-128.3	0.0000	mg/L	0.00005	0.0000	mg/L	0.00005	106.65%
Boron†	212.9	0.0467	mg/L	0.00158	0.0467	mg/L	0.00158	3.39%
Cadmium†	-6.4	-0.0001	mg/L	0.00009	-0.0001	mg/L	0.00009	84.28%
Calcium†	227687.0	10.669	mg/L	0.0612	10.669	mg/L	0.0612	0.57%
Chromium†	62.8	0.0008	mg/L	0.00014	0.0008	mg/L	0.00014	17.19%
Cobalt†	-3.1	-0.0001	mg/L	0.00037	-0.0001	mg/L	0.00037	576.28%
Copper†	81.8	0.0003	mg/L	0.00092	0.0003	mg/L	0.00092	324.92%
Iron†	110.1	0.0058	mg/L	0.00049	0.0058	mg/L	0.00049	8.42%
Lead†	-0.8	-0.0001	mg/L	0.00133	-0.0001	mg/L	0.00133	>999.9%
Lithium†	-2829.6	0.0138	mg/L	0.00082	0.0138	mg/L	0.00082	5.95%
Magnesium†	9420.7	4.2561	mg/L	0.03951	4.2561	mg/L	0.03951	0.93%
Manganese†	10062.2	0.0144	mg/L	0.00032	0.0144	mg/L	0.00032	2.20%
Molybdenum†	-6.6	-0.0006	mg/L	0.00068	-0.0006	mg/L	0.00068	104.47%
Nickel†	17.9	0.0005	mg/L	0.00027	0.0005	mg/L	0.00027	48.97%
Potassium†	5237.9	1.6328	mg/L	0.04872	1.6328	mg/L	0.04872	2.98%
Selenium†	3.9	0.0044	mg/L	0.00589	0.0044	mg/L	0.00589	134.86%
Silicon†	27849.8	5.8529	mg/L	0.05531	5.8529	mg/L	0.05531	0.94%
Silver†	23.5	0.0001	mg/L	0.00027	0.0001	mg/L	0.00027	191.87%
Sodium†	165096.9	14.298	mg/L	0.0540	14.298	mg/L	0.0540	0.38%
Strontium†	47423.2	0.0810	mg/L	0.00028	0.0810	mg/L	0.00028	0.34%
Thallium†	-12.6	-0.0069	mg/L	0.00194	-0.0069	mg/L	0.00194	28.26%
Tin†	-19.5	-0.0047	mg/L	0.00194	-0.0047	mg/L	0.00194	41.11%
Titanium†	82.4	0.0001	mg/L	0.00010	0.0001	mg/L	0.00010	80.02%
Vanadium†	74.6	0.0006	mg/L	0.00022	0.0006	mg/L	0.00022	40.19%
Zinc†	1408.8	0.0156	mg/L	0.00040	0.0156	mg/L	0.00040	2.53%

Sequence No.: 90
Sample ID: C4370-2
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt: 1 g
Dilution: 2X

Autosampler Location: 104
Date Collected: 2/25/2009 7:06:55 PM
Data Type: Reprocessed on 2/26/2009 10:24:47 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: C4370-2

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1546962.2	101.93	%	1.018				1.00%
Aluminum†	16539.3	7.7237	mg/L	0.08093	1544.7	mg/kg	16.19	1.05%
Antimony†	294.5	0.0469	mg/L	0.00269	9.3726	mg/kg	0.53748	5.73%
Arsenic 188†	-28.9	0.0056	mg/L	0.00212	1.1183	mg/kg	0.42377	37.89%
Arsenic†	-13.7	-0.0131	mg/L	0.00082	-2.6114	mg/kg	0.16350	6.26%
Barium †	2721936.9	7.2770	mg/L	0.19337	1455.4	mg/kg	38.67	2.66%
Beryllium†	-412.3	0.0005	mg/L	0.00005	0.1057	mg/kg	0.01059	10.02%
Boron†	57.8	0.0155	mg/L	0.00170	3.0981	mg/kg	0.33980	10.97%
Cadmium†	99118.0	1.7071	mg/L	0.02612	341.42	mg/kg	5.224	1.53%
Calcium†	256903.2	12.034	mg/L	0.1006	2406.8	mg/kg	20.11	0.84%
Chromium†	315537.5	4.1594	mg/L	0.06671	831.87	mg/kg	13.342	1.60%
Cobalt†	6237.4	0.1267	mg/L	0.00186	25.336	mg/kg	0.3711	1.46%
Copper†	62939.1	0.2481	mg/L	0.00419	49.628	mg/kg	0.8383	1.69%
Iron†	47721.9	2.8592	mg/L	0.01534	571.85	mg/kg	3.069	0.54%
Lead†	933.4	0.1330	mg/L	0.00445	26.609	mg/kg	0.8893	3.34%
Lithium†	-182.7	0.0250	mg/L	0.00082	4.9902	mg/kg	0.16314	3.27%
Magnesium†	4052.5	1.8322	mg/L	0.02838	366.43	mg/kg	5.677	1.55%
Manganese†	59646.3	0.0856	mg/L	0.00130	17.110	mg/kg	0.2590	1.51%
Molybdenum†	1397.6	0.1378	mg/L	0.00191	27.561	mg/kg	0.3820	1.39%
Nickel†	2467.5	0.0754	mg/L	0.00061	15.070	mg/kg	0.1223	0.81%
Potassium†	505.8	0.1578	mg/L	0.02752	31.567	mg/kg	5.5041	17.44%
Selenium†	-1.9	-0.0006	mg/L	0.00257	-0.1130	mg/kg	0.51484	455.66%
Silicon†	5253.9	1.1037	mg/L	0.01417	220.74	mg/kg	2.835	1.28%
Silver†	812.6	0.0049	mg/L	0.00081	0.9900	mg/kg	0.16229	16.39%
Sodium†	21623.1	1.8725	mg/L	0.00145	374.49	mg/kg	0.291	0.08%
Strontium†	3867442.7	6.6312	mg/L	0.16326	1326.2	mg/kg	32.65	2.46%
Thallium†	-8.3	-0.0049	mg/L	0.00469	-0.9823	mg/kg	0.93834	95.53%
Tin†	961.7	0.2331	mg/L	0.00384	46.627	mg/kg	0.7676	1.65%
Titanium†	157129.0	0.2261	mg/L	0.00562	45.214	mg/kg	1.1234	2.48%
Vanadium†	-655.0	0.0052	mg/L	0.00041	1.0446	mg/kg	0.08202	7.85%
Zinc†	151881.5	1.6964	mg/L	0.02833	339.29	mg/kg	5.665	1.67%

8.1 8

Sequence No.: 91
Sample ID: C4370-3
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt: 1 g
Dilution: 2X

Autosampler Location: 105
Date Collected: 2/25/2009 7:11:19 PM
Data Type: Reprocessed on 2/26/2009 10:24:40 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: C4370-3

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1767077.3	116.43	%	2.240				1.92%
Aluminum†	22231.9	10.370	mg/L	0.2327	2074.0	mg/kg	46.54	2.24%
Antimony†	26.9	-0.0064	mg/L	0.00257	-1.2888	mg/kg	0.51481	39.95%
Arsenic 188†	31.6	0.0200	mg/L	0.00129	3.9997	mg/kg	0.25778	6.44%
Arsenic†	9.3	0.0077	mg/L	0.00375	1.5394	mg/kg	0.75089	48.78%
Barium †	147805.8	0.3947	mg/L	0.00240	78.949	mg/kg	0.4793	0.61%
Beryllium†	-33186.7	0.0236	mg/L	0.00057	4.7254	mg/kg	0.11335	2.40%
Boron†	1892.1	0.4242	mg/L	0.01789	84.844	mg/kg	3.5771	4.22%
Cadmium†	402811.5	6.9357	mg/L	0.03336	1387.1	mg/kg	6.67	0.48%
Calcium†	138947.4	6.4901	mg/L	0.15959	1298.0	mg/kg	31.92	2.46%
Chromium†	112515.7	1.4826	mg/L	0.05023	296.51	mg/kg	10.046	3.39%
Cobalt†	1692.3	0.0108	mg/L	0.00021	2.1581	mg/kg	0.04125	1.91%
Copper†	11631.8	0.0481	mg/L	0.00245	9.6178	mg/kg	0.48998	5.09%
Iron†	443348.2	26.571	mg/L	0.0647	5314.2	mg/kg	12.93	0.24%
Lead†	20.6	0.0108	mg/L	0.00194	2.1692	mg/kg	0.38852	17.91%
Lithium†	74074.5	0.2451	mg/L	0.00256	49.013	mg/kg	0.5124	1.05%
Magnesium†	2772.9	1.2799	mg/L	0.02196	255.99	mg/kg	4.391	1.72%
Manganese†	1140171.0	1.6357	mg/L	0.01054	327.14	mg/kg	2.109	0.64%
Molybdenum†	680.4	0.0681	mg/L	0.00144	13.621	mg/kg	0.2883	2.12%
Nickel†	25373.9	0.7767	mg/L	0.02850	155.35	mg/kg	5.699	3.67%
Potassium†	6357.2	1.9909	mg/L	0.04390	398.18	mg/kg	8.781	2.21%
Selenium†	-9.2	0.0044	mg/L	0.00770	0.8869	mg/kg	1.53963	173.59%
Silicon†	9974.4	2.0975	mg/L	0.04504	419.50	mg/kg	9.007	2.15%
Silver†	368.7	0.0032	mg/L	0.00037	0.6314	mg/kg	0.07322	11.60%
Sodium†	9563.9	0.8240	mg/L	0.01927	164.80	mg/kg	3.854	2.34%
Strontium†	788798.0	1.3524	mg/L	0.00832	270.47	mg/kg	1.664	0.62%
Thallium†	-152.3	0.0001	mg/L	0.00450	0.0229	mg/kg	0.90010	>999.9%
Tin†	908.1	0.2537	mg/L	0.00260	50.734	mg/kg	0.5191	1.02%
Titanium†	8311143.4	12.023	mg/L	0.2735	2404.5	mg/kg	54.70	2.28%
Vanadium†	10090.1	0.0680	mg/L	0.00271	13.603	mg/kg	0.5425	3.99%
Zinc†	4203.3	0.0455	mg/L	0.00081	9.0970	mg/kg	0.16193	1.78%

8.1 8

Sequence No.: 92
Sample ID: C4523-1
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt: 1.08 g
Dilution: 5X

Autosampler Location: 106
Date Collected: 2/25/2009 7:15:28 PM
Date Type: Reprocessed on 2/26/2009 10:24:49 AM

Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: C4523-1

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1892540.1	124.70	%	0.770				0.62%
Aluminum†	122495.8	57.122	mg/L	1.0955	26445	mg/kg	507.2	1.92%
Antimony†	27.9	-0.0070	mg/L	0.00199	-3.2376	mg/kg	0.92000	28.42%
Arsenic 188†	-12.2	0.0180	mg/L	0.00561	8.3236	mg/kg	2.59567	31.18%
Arsenic†	-4.1	0.0019	mg/L	0.00189	0.8709	mg/kg	0.87430	100.40%
Barium †	422105.1	1.1255	mg/L	0.00625	521.07	mg/kg	2.896	0.56%
Beryllium†	-3967.5	0.0009	mg/L	0.00013	0.4038	mg/kg	0.06065	15.02%
Boron†	-212.8	0.0146	mg/L	0.00667	6.7695	mg/kg	3.08729	45.61%
Cadmium†	585.1	0.0102	mg/L	0.00012	4.7326	mg/kg	0.05665	1.20%
Calcium†	260713.5	12.069	mg/L	0.2497	5587.7	mg/kg	115.59	2.07%
Chromium†	88753.2	1.1671	mg/L	0.03335	540.31	mg/kg	15.441	2.86%
Cobalt†	1561.6	0.0263	mg/L	0.00057	12.156	mg/kg	0.2658	2.19%
Copper†	55384.0	0.2181	mg/L	0.00908	100.99	mg/kg	4.202	4.16%
Iron†	3226464.3	193.37	mg/L	0.129	89525	mg/kg	60.0	0.07%
Lead†	280.4	0.0367	mg/L	0.00041	16.983	mg/kg	0.1904	1.12%
Lithium†	2088.2	0.0324	mg/L	0.00070	15.009	mg/kg	0.3240	2.16%
Magnesium†	23445.9	10.643	mg/L	0.2264	4927.4	mg/kg	104.83	2.13%
Manganese†	5162532.9	7.4071	mg/L	0.06580	3429.2	mg/kg	30.46	0.89%
Molybdenum†	654.3	0.0721	mg/L	0.00166	33.370	mg/kg	0.7665	2.30%
Nickel†	13240.5	0.4053	mg/L	0.01018	187.64	mg/kg	4.712	2.51%
Potassium†	2403.5	0.7499	mg/L	0.00683	347.16	mg/kg	3.163	0.91%
Selenium†	-78.9	-0.0255	mg/L	0.00900	-11.787	mg/kg	4.1660	35.35%
Silicon†	20155.7	4.2453	mg/L	0.07352	1965.4	mg/kg	34.04	1.73%
Silver†	-976.0	0.0007	mg/L	0.00111	0.3396	mg/kg	0.51592	151.93%
Sodium†	4275.1	0.3519	mg/L	0.00631	162.90	mg/kg	2.920	1.79%
Strontium†	32874.0	0.0560	mg/L	0.00139	25.931	mg/kg	0.6414	2.47%
Thallium†	-7.4	-0.0023	mg/L	0.00138	-1.0724	mg/kg	0.63675	59.38%
Tin†	784.0	0.1969	mg/L	0.00169	91.151	mg/kg	0.7813	0.86%
Titanium†	545772.7	0.7892	mg/L	0.00133	365.36	mg/kg	0.618	0.17%
Vanadium†	5613.3	0.0457	mg/L	0.00124	21.134	mg/kg	0.5724	2.71%
Zinc†	129255.5	1.4241	mg/L	0.04472	659.31	mg/kg	20.706	3.14%

8.1
8

Sequence No.: 93
Sample ID: CCV
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 3
Date Collected: 2/25/2009 7:19:36 PM
Data Type: Reprocessed on 2/26/2009 10:24:50 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCV

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1559388.8	102.75	%	1.219				1.19%
Aluminum†	2008.4	0.9265	mg/L	0.02882	0.9265	mg/L	0.02882	3.11%
QC value within limits for Aluminum Recovery = 92.65%								
Antimony†	2560.5	0.9898	mg/L	0.00575	0.9898	mg/L	0.00575	0.58%
QC value within limits for Antimony Recovery = 98.98%								
Arsenic 188†	1710.9	0.9990	mg/L	0.01644	0.9990	mg/L	0.01644	1.65%
QC value within limits for Arsenic 188 Recovery = 99.90%								
Arsenic†	1440.2	0.9862	mg/L	0.00243	0.9862	mg/L	0.00243	0.25%
QC value within limits for Arsenic Recovery = 98.62%								
Barium †	344491.2	0.9208	mg/L	0.01048	0.9208	mg/L	0.01048	1.14%
QC value within limits for Barium Recovery = 92.08%								
Beryllium†	2479290.9	0.9461	mg/L	0.00622	0.9461	mg/L	0.00622	0.66%
QC value within limits for Beryllium Recovery = 94.61%								
Boron†	4371.0	0.9612	mg/L	0.03441	0.9612	mg/L	0.03441	3.58%
QC value within limits for Boron Recovery = 96.12%								
Cadmium†	55834.5	0.9651	mg/L	0.00825	0.9651	mg/L	0.00825	0.85%
QC value within limits for Cadmium Recovery = 96.51%								
Calcium†	20145.8	0.9356	mg/L	0.03582	0.9356	mg/L	0.03582	3.83%
QC value within limits for Calcium Recovery = 93.56%								
Chromium†	74470.4	0.9817	mg/L	0.00798	0.9817	mg/L	0.00798	0.81%
QC value within limits for Chromium Recovery = 98.17%								
Cobalt†	47281.6	0.9584	mg/L	0.00758	0.9584	mg/L	0.00758	0.79%
QC value within limits for Cobalt Recovery = 95.84%								
Copper†	244249.4	0.9617	mg/L	0.01096	0.9617	mg/L	0.01096	1.14%
QC value within limits for Copper Recovery = 96.17%								
Iron†	164183.2	9.8401	mg/L	0.07843	9.8401	mg/L	0.07843	0.80%
QC value within limits for Iron Recovery = 98.40%								
Lead†	7083.8	1.0060	mg/L	0.01257	1.0060	mg/L	0.01257	1.25%
QC value within limits for Lead Recovery = 100.60%								
Lithium†	297214.4	0.9299	mg/L	0.00179	0.9299	mg/L	0.00179	0.19%
QC value within limits for Lithium Recovery = 92.99%								
Magnesium†	2146.6	0.9757	mg/L	0.04421	0.9757	mg/L	0.04421	4.53%
QC value within limits for Magnesium Recovery = 97.57%								
Manganese†	664272.3	0.9529	mg/L	0.00572	0.9529	mg/L	0.00572	0.60%
QC value within limits for Manganese Recovery = 95.29%								
Molybdenum†	9777.8	0.9648	mg/L	0.00770	0.9648	mg/L	0.00770	0.80%
QC value within limits for Molybdenum Recovery = 96.48%								
Nickel†	31756.8	0.9723	mg/L	0.01012	0.9723	mg/L	0.01012	1.04%
QC value within limits for Nickel Recovery = 97.23%								
Potassium†	30772.3	9.5939	mg/L	0.10501	9.5939	mg/L	0.10501	1.09%
QC value within limits for Potassium Recovery = 95.94%								
Selenium†	891.5	1.0087	mg/L	0.00641	1.0087	mg/L	0.00641	0.64%
QC value within limits for Selenium Recovery = 100.87%								
Silicon†	2631.3	0.5532	mg/L	0.02354	0.5532	mg/L	0.02354	4.26%
QC value greater than the upper limit for Silicon Recovery = 110.64%								
Silver†	160261.3	0.9589	mg/L	0.00794	0.9589	mg/L	0.00794	0.83%
QC value within limits for Silver Recovery = 95.89%								
Sodium†	10807.9	0.9334	mg/L	0.01498	0.9334	mg/L	0.01498	1.61%
QC value within limits for Sodium Recovery = 93.34%								
Strontium†	539003.2	0.9242	mg/L	0.00905	0.9242	mg/L	0.00905	0.98%
QC value within limits for Strontium Recovery = 92.42%								
Thallium†	1754.4	0.9577	mg/L	0.00891	0.9577	mg/L	0.00891	0.93%
QC value within limits for Thallium Recovery = 95.77%								
Tin†	4018.5	0.9741	mg/L	0.00896	0.9741	mg/L	0.00896	0.92%
QC value within limits for Tin Recovery = 97.41%								
Titanium†	662751.8	0.9585	mg/L	0.00373	0.9585	mg/L	0.00373	0.39%
QC value within limits for Titanium Recovery = 95.85%								
Vanadium†	130964.8	0.9677	mg/L	0.00658	0.9677	mg/L	0.00658	0.68%
QC value within limits for Vanadium Recovery = 96.77%								
Zinc†	88519.6	0.9826	mg/L	0.00683	0.9826	mg/L	0.00683	0.70%
QC value within limits for Zinc Recovery = 98.26%								

8.1
8

QC Failed. Continue with analysis.

Sequence No.: 94
Sample ID: CCB
Analyst:
Logged In Analyst (Original) : Metals
Initial Sample Wt:
Dilution:

Autosampler Location: 1
Date Collected: 2/25/2009 7:23:44 PM
Data Type: Reprocessed on 2/26/2009 10:24:52 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: CCB

Analyte	Mean Corrected Intensity	Calib Conc.	Calib Units	Std.Dev.	Sample Conc.	Sample Units	Std.Dev.	RSD
Yttrium	1603693.2	105.67	%	0.986				0.93%
Aluminum†	-4.5	-0.0021	mg/L	0.00594	-0.0021	mg/L	0.00594	279.50%
QC value within limits for Aluminum Recovery = -4.25%								
Antimony†	17.4	0.0068	mg/L	0.00140	0.0068	mg/L	0.00140	20.61%
QC value within limits for Antimony Recovery = 68.10%								
Arsenic 188†	-4.2	-0.0024	mg/L	0.00281	-0.0024	mg/L	0.00281	114.72%
QC value within limits for Arsenic 188 Recovery = -24.46%								
Arsenic†	7.4	0.0049	mg/L	0.00150	0.0049	mg/L	0.00150	30.35%
QC value within limits for Arsenic Recovery = 49.32%								
Barium †	-171.5	-0.0005	mg/L	0.00038	-0.0005	mg/L	0.00038	83.03%
QC value within limits for Barium Recovery = -9.17%								
Beryllium†	76.9	0.0000	mg/L	0.00006	0.0000	mg/L	0.00006	188.29%
QC value within limits for Beryllium Recovery = 0.60%								
Boron†	1.5	0.0003	mg/L	0.00510	0.0003	mg/L	0.00510	>999.9%
QC value within limits for Boron Recovery = 3.24%								
Cadmium†	3.3	0.0001	mg/L	0.00011	0.0001	mg/L	0.00011	199.74%
QC value within limits for Cadmium Recovery = 2.80%								
Calcium†	-43.0	-0.0020	mg/L	0.00164	-0.0020	mg/L	0.00164	81.40%
QC value within limits for Calcium Recovery = -4.04%								
Chromium†	29.2	0.0004	mg/L	0.00021	0.0004	mg/L	0.00021	55.01%
QC value within limits for Chromium Recovery = 7.70%								
Cobalt†	-4.9	-0.0001	mg/L	0.00014	-0.0001	mg/L	0.00014	139.08%
QC value within limits for Cobalt Recovery = -2.02%								
Copper†	-332.9	-0.0013	mg/L	0.00005	-0.0013	mg/L	0.00005	3.78%
QC value within limits for Copper Recovery = -26.20%								
Iron†	92.7	0.0056	mg/L	0.00120	0.0056	mg/L	0.00120	21.57%
QC value within limits for Iron Recovery = 11.11%								
Lead†	-15.7	-0.0022	mg/L	0.00110	-0.0022	mg/L	0.00110	50.00%
QC value within limits for Lead Recovery = -44.00%								
Lithium†	283.5	0.0009	mg/L	0.00018	0.0009	mg/L	0.00018	20.32%
QC value within limits for Lithium Recovery = 8.81%								
Magnesium†	-9.1	-0.0041	mg/L	0.00212	-0.0041	mg/L	0.00212	51.39%
QC value within limits for Magnesium Recovery = -8.26%								
Manganese†	37.8	0.0001	mg/L	0.00001	0.0001	mg/L	0.00001	17.93%
QC value within limits for Manganese Recovery = 1.09%								
Molybdenum†	32.8	0.0032	mg/L	0.00067	0.0032	mg/L	0.00067	20.54%
QC value within limits for Molybdenum Recovery = 64.75%								
Nickel†	9.0	0.0003	mg/L	0.00028	0.0003	mg/L	0.00028	100.69%
QC value within limits for Nickel Recovery = 5.53%								
Potassium†	152.7	0.0476	mg/L	0.04135	0.0476	mg/L	0.04135	86.88%
QC value within limits for Potassium Recovery = 9.52%								
Selenium†	-4.6	-0.0052	mg/L	0.00138	-0.0052	mg/L	0.00138	26.47%
QC value within limits for Selenium Recovery = -25.98%								
Silicon†	22.5	0.0047	mg/L	0.00164	0.0047	mg/L	0.00164	34.56%
QC value within limits for Silicon Recovery = 9.48%								
Silver†	-9.7	-0.0001	mg/L	0.00027	-0.0001	mg/L	0.00027	459.43%
QC value within limits for Silver Recovery = -1.15%								
Sodium†	292.2	0.0253	mg/L	0.00889	0.0253	mg/L	0.00889	35.13%
QC value within limits for Sodium Recovery = 25.31%								
Strontium†	-24.5	0.0000	mg/L	0.00013	0.0000	mg/L	0.00013	313.68%
QC value within limits for Strontium Recovery = -0.84%								
Thallium†	6.6	0.0036	mg/L	0.00223	0.0036	mg/L	0.00223	61.67%
QC value within limits for Thallium Recovery = 18.04%								
Tin†	-2.7	-0.0007	mg/L	0.00167	-0.0007	mg/L	0.00167	252.87%
QC value within limits for Tin Recovery = -1.32%								
Titanium†	207.8	0.0003	mg/L	0.00009	0.0003	mg/L	0.00009	31.45%
QC value within limits for Titanium Recovery = 15.03%								
Vanadium†	30.0	0.0002	mg/L	0.00023	0.0002	mg/L	0.00023	103.47%
QC value within limits for Vanadium Recovery = 4.44%								
Zinc†	-45.7	-0.0005	mg/L	0.00011	-0.0005	mg/L	0.00011	20.64%
QC value within limits for Zinc Recovery = -5.12%								

8.1 8

All analyte(s) passed QC.

NOTE: The remaining raw data for this batch is not relevant to this job. As such it has been omitted.

Northern California
ACCUTEST
Laboratories

Aqueous Digestion Prep Log for ICP-AES_SW846 3010A

Nitric Acid Ref. Code: MT0930
Hydrochloric Acid (1:1) Ref. Code: CGL 0215
Digestion Tube: ABALS303
Block # 1 Position: 22 Thermometer 3 Temp: 95 °C (95°C)

Batch ID: MP928
Analyst: MF
Date Prepared: 2/23/09

Field Sample #	Laboratory Order ID	Sample Volume (mL)	1st HNO3 (mL)	2nd HNO3 (mL)	1:1 HCl (mL)	Final Volume (mL)	Comments
QC	MP928 -MB1	50	1.5	1.5	5	50	
QC	MP928 -B1	50					
QC	MP928 -B2	50					
1	C4383-3F	50					
QC	-S1	50					
QC	-S2	50					
2	C4383-4F	50					
3	-5F	50					
4	-6F	50					
5	-7F	50					
6	-8F	50					
7	C4408-1F	50					
8	-2F	50					
9	-3F	50					
10	C4507-1F	50					
11	-6F	50					
12							
13							
14							
15							
16							
17							
18							
19							
20							
QC	MP928 -SD1						C4383-8F (SA)

MF 2/25/09

COMMENTS:

Spiking Standard	Conc. mg/L	Vol. Spiked	Reference Code	Expiration Date
QC-7	100	0.250	MT0908	9/16/10
QC-21	100	0.250	MT0[illegible]	1/26/10

Reviewed By: _____ Date _____

Page 014

8.2.1 8

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN1285	5.0	[illegible]	mg/l	250	245	[illegible]	75-125%
Chemical Oxygen Demand	GP559/GN1313	10	[illegible]	mg/l	50	52.0	[illegible]	90-110%
Chloride	GP543/GN1276	0.50	[illegible]	mg/l	5	4.77	[illegible]	90-110%
Nitrogen, Ammonia	GP561/GN1315	1.0	[illegible]	mg/l	8.22	8.4	[illegible]	75-125%
Nitrogen, Nitrate	GP543/GN1276	0.10	[illegible]	mg/l	5	4.89	[illegible]	90-110%
Nitrogen, Nitrite	GP543/GN1276	0.10	[illegible]	mg/l	5	4.91	[illegible]	90-110%
Solids, Total Dissolved	GN1307	10	[illegible]	mg/l				
Sulfate	GP543/GN1276	0.50	[illegible]	mg/l	5	4.81	[illegible]	90-110%

Associated Samples:
Batch GN1285: C4507-1, C4507-6
Batch GN1307: C4507-1, C4507-6
Batch GP543: C4507-1, C4507-6
Batch GP559: C4507-10, C4507-2, C4507-5, C4507-7
Batch GP561: C4507-1, C4507-6
(*) Outside of QC limits

9.1

9

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Alkalinity, Total as CaCO3	GN1285	mg/l	250	260	[illegible]	
Chemical Oxygen Demand	GP559/GN1313	mg/l	50	49.0	[illegible]	25%
Chloride	GP543/GN1276	mg/l	5	4.79	[illegible]	25%
Nitrogen, Ammonia	GP561/GN1315	mg/l	8.22	8.4	[illegible]	25%
Nitrogen, Nitrate	GP543/GN1276	mg/l	5	4.79	[illegible]	25%
Nitrogen, Nitrite	GP543/GN1276	mg/l	5	4.98	[illegible]	25%
Sulfate	GP543/GN1276	mg/l	5	4.82	[illegible]	25%

Associated Samples:
Batch GN1285: C4507-1, C4507-6
Batch GP543: C4507-1, C4507-6
Batch GP559: C4507-10, C4507-2, C4507-5, C4507-7
Batch GP561: C4507-1, C4507-6
(*) Outside of QC limits

9.2
9

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN1285	C4507-6	mg/l	30.0	31.0	[illegible]	0-25%
Solids, Total Dissolved	GN1307	C4507-1	mg/l	91.0	88.0	[illegible]	0-%
pH	GN1278	C4507-1	su	7.00	6.92	[illegible]	0-25%

Associated Samples:
Batch GN1278: C4507-1, C4507-6
Batch GN1285: C4507-1, C4507-6
Batch GN1307: C4507-1, C4507-6
(*) Outside of QC limits

9.3
9

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chemical Oxygen Demand	GP559/GN1313	C4533-3	mg/l	52.0	50	100	96.0	90-110%
Chloride	GP543/GN1276	C4522-1	mg/l	72.5	100	158	106.2	80-120%
Chloride	GP543/GN1276	C4522-1	mg/l	51.8	100	158	106.2	80-120%
Nitrogen, Ammonia	GP561/GN1315	C4507-1	mg/l	0.0	5.00	5.2	104.0	75-125%
Nitrogen, Nitrate	GP543/GN1276	C4522-1	mg/l	0.069	4	4.0	99.3	80-120%
Nitrogen, Nitrite	GP543/GN1276	C4522-1	mg/l	0.0	4	4.7	117.5	80-120%
Sulfate	GP543/GN1276	C4522-1	mg/l	163	100	270	107.0	80-120%

Associated Samples:
Batch GP543: C4507-1, C4507-6
Batch GP559: C4507-10, C4507-2, C4507-5, C4507-7
Batch GP561: C4507-1, C4507-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

9.4
9

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chemical Oxygen Demand	GP559/GN1313	C4533-3	mg/l	52.0	50	101	1.0	25%
Chloride	GP543/GN1276	C4522-1	mg/l	72.5	100	159	0.6	
Chloride	GP543/GN1276	C4522-1	mg/l	51.8	100	159	0.6	
Nitrogen, Ammonia	GP561/GN1315	C4507-1	mg/l	0.0	5.00	5.25	1.7	
Nitrogen, Nitrate	GP543/GN1276	C4522-1	mg/l	0.069	4	3.9	2.6	
Nitrogen, Nitrite	GP543/GN1276	C4522-1	mg/l	0.0	4	4.7	0.0	
Sulfate	GP543/GN1276	C4522-1	mg/l	163	100	271	0.4	

Associated Samples:
Batch GP543: C4507-1, C4507-6
Batch GP559: C4507-10, C4507-2, C4507-5, C4507-7
Batch GP561: C4507-1, C4507-6
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

9.5
9

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: AS14A090220.TXT Date Analyzed: 02/20/09 Methods: EPA 300/SW846 9056A
Analyst: HD Run ID: GN1276
Parameters: Chloride

Time	Sample Description	Dilution Factor	PS Recov	Comments
15:46	ZZZZZZ	1		
16:04	GN1276-STD1	1		STD1
16:21	GN1276-STD2	1		STD2
16:39	GN1276-STD3	1		STD3
16:56	GN1276-STD4	1		STD4
15:35	GN1276-CCV1	1		
15:52	GN1276-CCB1	1		
16:10	GP543-MB1	1		
16:27	GP543-B1	1		
16:45	GP543-B2	1		
17:02	C4522-1	1		(sample used for QC only; not part of login C4507)
17:20	ZZZZZZ	1		
17:37	ZZZZZZ	1		
17:55	ZZZZZZ	1		
18:12	ZZZZZZ	1		
18:30	GN1276-CCV2	1		
18:47	GN1276-CCB2	1		
19:05	GP543-S1	1		
19:22	GP543-S2	1		
19:40	C4522-1	25		(sample used for QC only; not part of login C4507)
19:57	GP543-S1	25		
20:15	GP543-S2	25		
20:32	ZZZZZZ	5		
20:50	ZZZZZZ	10		
21:07	ZZZZZZ	2.5		
21:25	GN1276-CCV3	1		
21:43	GN1276-CCB3	1		
22:00	ZZZZZZ	1		
22:18	C4507-1	5		
22:35	ZZZZZZ	1		
22:53	C4507-6	5		
23:10	GN1276-CCV4	1		
23:28	GN1276-CCB4	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: C4507
Account: ECCMAM - ECC Boston
Project: P2180/B1017 - Pleasant Hill, CA

File ID: AS14A090220.TXT Date Analyzed: 02/20/09 Methods: EPA 300/SW846 9056A
Run ID: GN1276 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN1276-CCV1	Chloride	4.9	0.50	0.034	5	98.0	90-110
GN1276-CCB1	Chloride	0.034 U	0.50	0.034			
GN1276-CCV2	Chloride	5.1	0.50	0.034	5	102.0	90-110
GN1276-CCB2	Chloride	0.034 U	0.50	0.034			
GN1276-CCV3	Chloride	5.1	0.50	0.034	5	102.0	90-110
GN1276-CCB3	Chloride	0.034 U	0.50	0.034			
GN1276-CCV4	Chloride	5.1	0.50	0.034	5	102.0	90-110
GN1276-CCB4	Chloride	0.034 U	0.50	0.034			

(!) Outside of QC limits

9.6

9

ACCUTEST Laboratories
C4507

General Chemistry

Raw Data

Sequence: AS14A090220
Operator: Chemistry

Printed: 2/23/2009 1:19:19 PM

Title: Temporary sequence for manual data acquisition
Datasource: WETCHEM_local
Location: ANION\2009\Jan2009
Timebase: ANION
#Samples: 33

Created: 2/20/2009 3:34:22 PM by Chemistry
Last Update: 2/23/2009 1:10:37 PM by Chemistry

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
1	BLANKconf	Blank	3	50.0	ANION2	Anion300	Finished	2/11/2009 3:46:48 PM	1.0000	GN1276
2	STD1	Standard	4	50.0	ANION2	Anion300	Finished	2/11/2009 4:04:19 PM	1.0000	
3	STD2	Standard	5	50.0	ANION2	Anion300	Finished	2/11/2009 4:21:51 PM	1.0000	
4	STD3	Standard	6	50.0	ANION2	Anion300	Finished	2/11/2009 4:39:22 PM	1.0000	
5	STD4	Standard	7	50.0	ANION2	Anion300	Finished	2/11/2009 4:56:53 PM	1.0000	
6	CCV	Unknown	1	50.0	ANION2	Anion300	Finished	2/20/2009 3:35:05 PM	1.0000	STD3
7	CCB	Unknown	2	50.0	ANION2	Anion300	Finished	2/20/2009 3:52:36 PM	1.0000	
8	GP543-MB1	Unknown	3	50.0	ANION2	Anion300	Finished	2/20/2009 4:10:07 PM	1.0000	
9	GP543-B1	Unknown	4	50.0	ANION2	Anion300	Finished	2/20/2009 4:27:38 PM	1.0000	
10	GP543-B2	Unknown	5	50.0	ANION2	Anion300	Finished	2/20/2009 4:45:10 PM	1.0000	
11	C4522-1	Unknown	6	50.0	ANION2	Anion300	Finished	2/20/2009 5:02:41 PM	1.0000	NO2,NO3
12	C4522-2	Unknown	7	50.0	ANION2	Anion300	Finished	2/20/2009 5:20:13 PM	1.0000	NO2,NO3
13	C4522-3	Unknown	8	50.0	ANION2	Anion300	Finished	2/20/2009 5:37:45 PM	1.0000	NO2,NO3
14	C4522-4	Unknown	9	50.0	ANION2	Anion300	Finished	2/20/2009 5:55:16 PM	1.0000	NO2,NO3
15	C4522-5	Unknown	10	50.0	ANION2	Anion300	Finished	2/20/2009 6:12:47 PM	1.0000	NO2,NO3,SO4
16	CCV	Unknown	11	50.0	ANION2	Anion300	Finished	2/20/2009 6:30:18 PM	1.0000	STD3
17	CCB	Unknown	12	50.0	ANION2	Anion300	Finished	2/20/2009 6:47:49 PM	1.0000	
18	GP543-S1	Unknown	13	50.0	ANION2	Anion300	Finished	2/20/2009 7:05:21 PM	1.0000	C4522-1
19	GP543-S2	Unknown	14	50.0	ANION2	Anion300	Finished	2/20/2009 7:22:52 PM	1.0000	C4522-1
20	C4522-1	Unknown	15	50.0	ANION2	Anion300	Finished	2/20/2009 7:40:23 PM	25.0000	SO4
21	GP543-S1	Unknown	16	50.0	ANION2	Anion300	Finished	2/20/2009 7:57:54 PM	25.0000	C4522-1
22	GP543-S2	Unknown	17	50.0	ANION2	Anion300	Finished	2/20/2009 8:15:25 PM	25.0000	C4522-1
23	C4522-2	Unknown	18	50.0	ANION2	Anion300	Finished	2/20/2009 8:32:56 PM	5.0000	SO4
24	C4522-3	Unknown	19	50.0	ANION2	Anion300	Finished	2/20/2009 8:50:28 PM	10.0000	SO4
25	C4522-4	Unknown	20	50.0	ANION2	Anion300	Finished	2/20/2009 9:07:58 PM	2.5000	SO4
26	CCV	Unknown	21	50.0	ANION2	Anion300	Finished	2/20/2009 9:25:29 PM	1.0000	STD3
27	CCB	Unknown	22	50.0	ANION2	Anion300	Finished	2/20/2009 9:43:00 PM	1.0000	
28	C4507-1conf	Unknown	23	50.0	ANION2	Anion300	Finished	2/20/2009 10:00:33 PM	1.0000	
29	C4507-1	Unknown	24	50.0	ANION2	Anion300	Finished	2/20/2009 10:18:04 PM	5.0000	

kNet © Dionex Corporation, Version 6.30 SP1 Build 587

Sequence: AS14A090220
Operator: Chemistry

Printed: 2/23/2009 1:19:19 PM

Title: Temporary sequence for manual data acquisition
Datasource: WETCHEM_local
Location: ANION\2009\Jan2009
Timebase: ANION
#Samples: 33

Created: 2/20/2009 3:34:22 PM by Chemistry
Last Update: 2/23/2009 1:10:37 PM by Chemistry

No.	Name	Type	Pos.	Inj. Vol.	Program	Method	Status	Inj. Date/Time	Dil. Factor	Comment
30	C4507-6conf	Unknown	25	50.0	ANION2	Anion300	Finished	2/20/2009 10:35:36 PM	1.0000	
31	C4507-6	Unknown	26	50.0	ANION2	Anion300	Finished	2/20/2009 10:53:07 PM	5.0000	
32	CCV	Unknown	27	50.0	ANION2	Anion300	Finished	2/20/2009 11:10:37 PM	1.0000	STD3
33	CCB	Unknown	28	50.0	ANION2	Anion300	Finished	2/20/2009 11:28:08 PM	1.0000	

ACCUTEST Laboratories C4507

kNet © Dionex Corporation, Version 6.30 SP1 Build 587

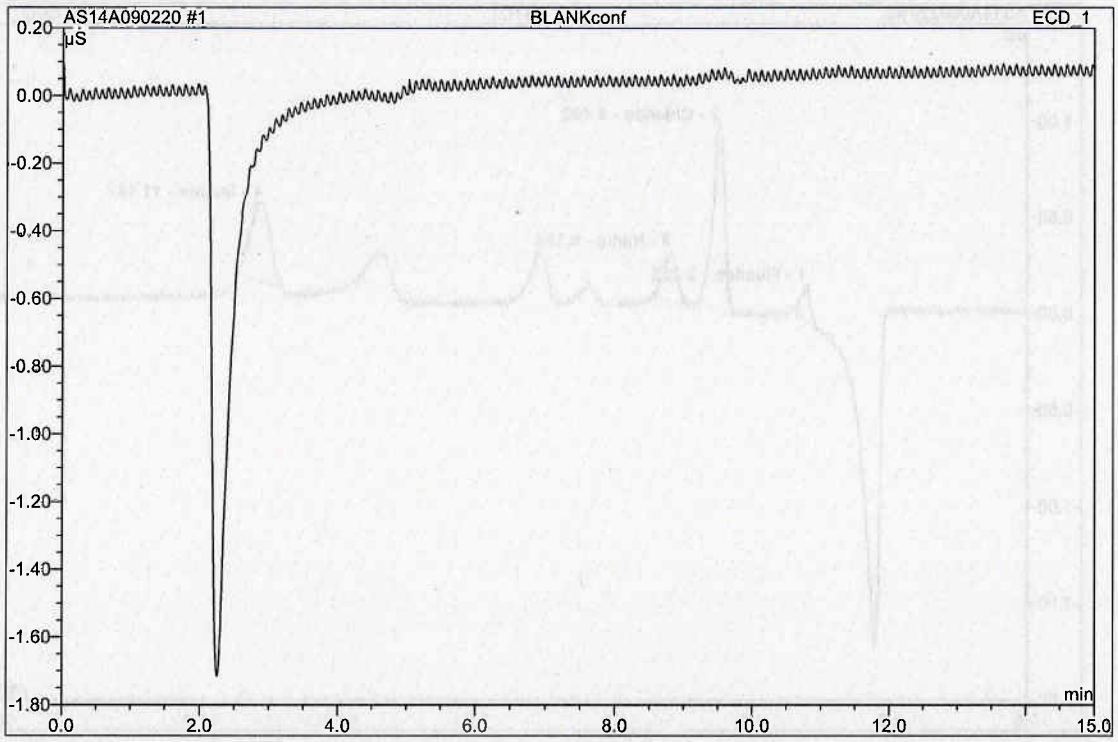
Operator:Chemistry Timebase:ANION Sequence:AS14A090220

Page 1-1
2/23/2009 1:06 PM

1 BLANKconf

GN1276

Sample Name:	**BLANKconf**	*Injection Volume:*	**50.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**blank**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/11/2009 15:46	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

10.1

10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

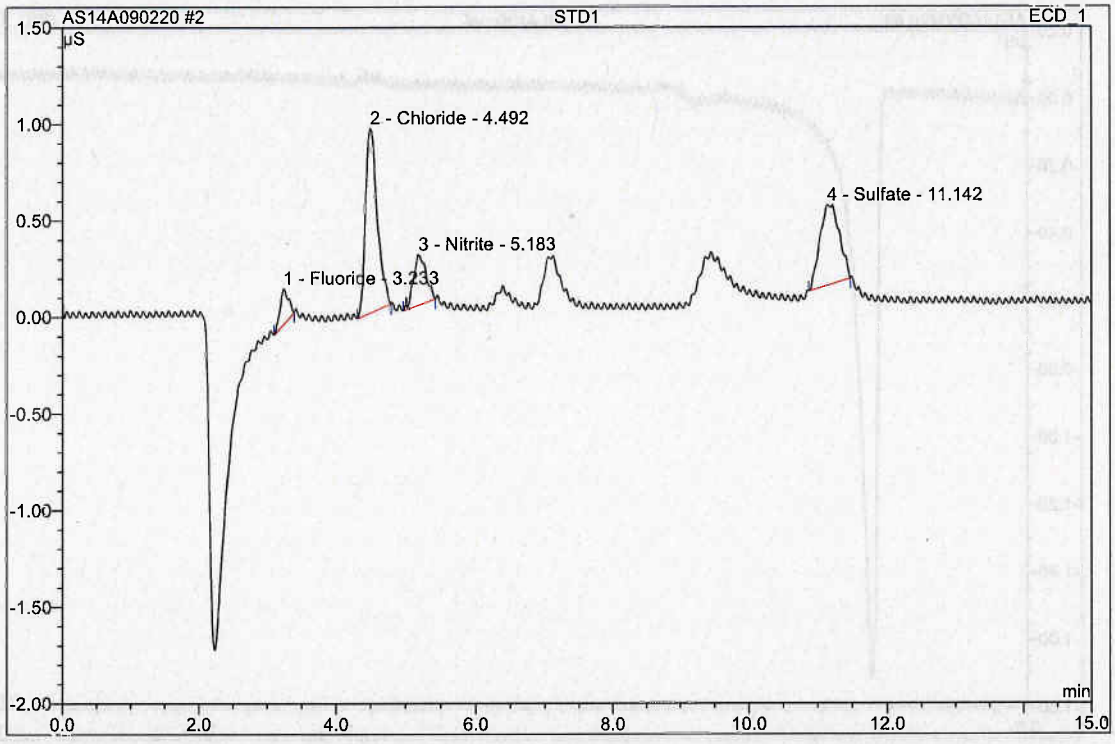
ACCUTEST Laboratories C4507

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:05 PM

2 STD1

Sample Name:	**STD1**	*Injection Volume:*	**50.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/11/2009 16:04	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.23	Fluoride	0.185	0.024924525	6.20	0.050	BMB
2	4.49	Chloride	0.956	0.189103616	47.06	0.564	BMB
3	5.18	Nitrite	0.261	0.053515183	13.32	0.073	BMB
4	11.14	Sulfate	0.414	0.134276291	33.42	0.554	BMB
Total:			1.816	0.402	100.00	1.242	

10.1 10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

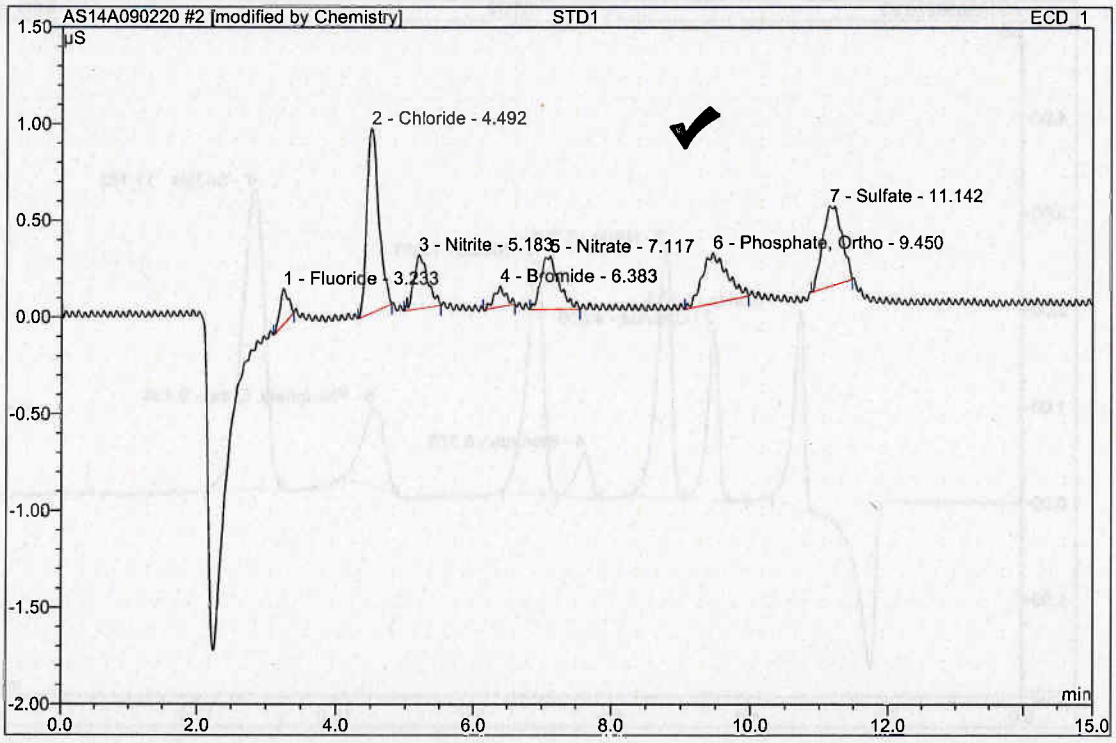
ACCUTEST Laboratories C4507

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:04 PM

2 STD1

Sample Name:	**STD1**	*Injection Volume:*	**50.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/11/2009 16:04	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.23	Fluoride	0.185	0.024924525	3.99	0.050	BMB
2	4.49	Chloride	0.956	0.189103616	30.27	0.564	BMB
3	5.18	Nitrite	0.278	0.064883117	10.39	0.089	BMB*
4	6.38	Bromide	0.105	0.019855225	3.18	0.158	BMB*
5	7.12	Nitrate	0.273	0.083964375	13.44	0.094	BMB*
6	9.45	Phosphate, Orth	0.261	0.107620316	17.23	0.360	BMB*
7	11.14	Sulfate	0.414	0.134276291	21.50	0.554	BMB
Total:			2.472	0.625	100.00	1.869	

10.1

10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

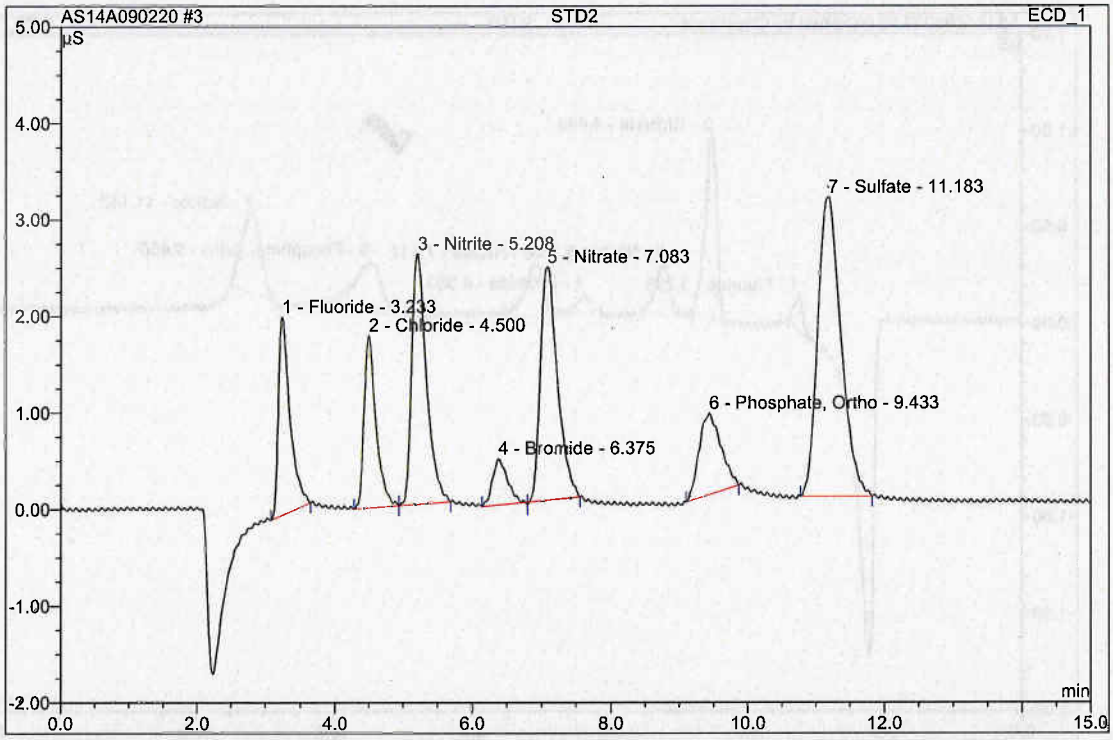
ACCUTEST Laboratories C4507

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:06 PM

3 STD2

Sample Name:	**STD2**	*Injection Volume:*	**50.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/11/2009 16:21	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.23	Fluoride	2.053	0.396337257	10.62	0.797	BMB
2	4.50	Chloride	1.785	0.361795841	9.70	1.079	BM
3	5.21	Nitrite	2.592	0.630320707	16.89	0.862	MB
4	6.38	Bromide	0.478	0.117246975	3.14	0.932	BM
5	7.08	Nitrate	2.413	0.692894190	18.57	0.778	MB
6	9.43	Phosphate, Orth	0.843	0.307235483	8.23	1.027	BMB
7	11.18	Sulfate	3.099	1.225144414	32.84	5.056	BMB
Total:			13.262	3.731	100.00	10.532	

10.1 10

ANION_01292009/Integration

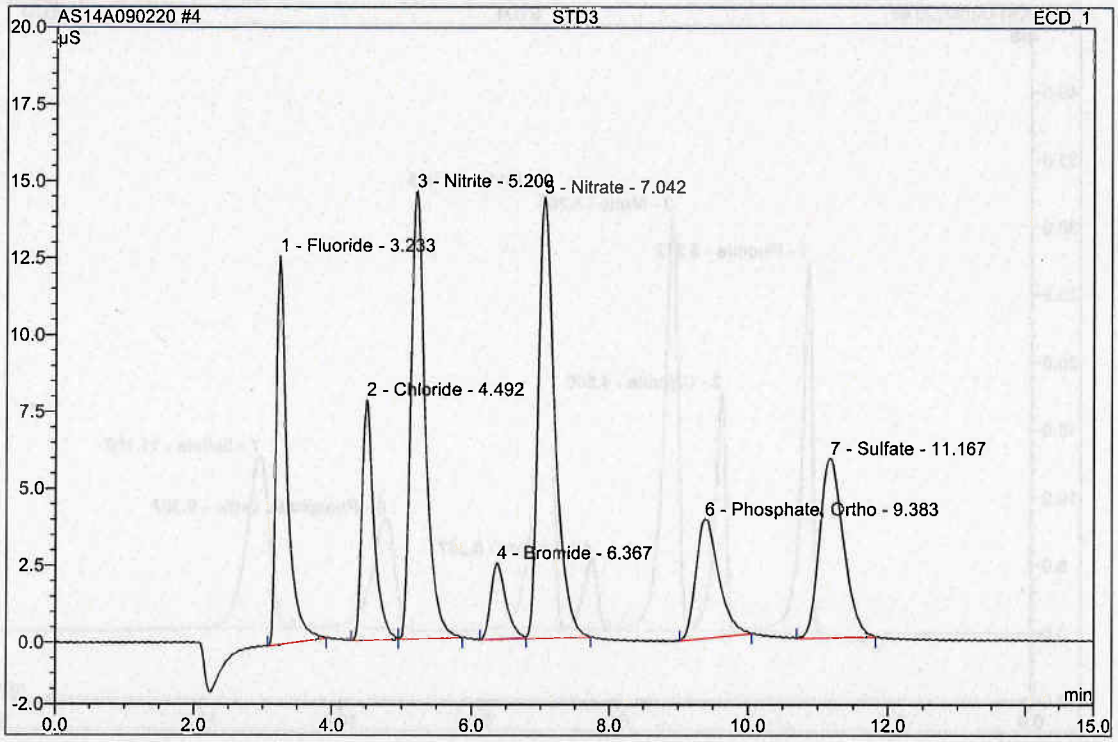
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:06 PM

4 STD3

Sample Name:	**STD3**	*Injection Volume:*	**50.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/11/2009 16:39	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.23	Fluoride	12.640	2.372873911	14.93	4.773	BMB
2	4.49	Chloride	7.808	1.552651638	9.77	4.631	BM
3	5.20	Nitrite	14.550	3.489095908	21.96	4.774	MB
4	6.37	Bromide	2.457	0.613505882	3.86	4.878	Ru
5	7.04	Nitrate	14.329	4.102876165	25.82	4.609	BMB
6	9.38	Phosphate, Orth	3.857	1.477898680	9.30	4.939	BMB
7	11.17	Sulfate	5.815	2.280207828	14.35	9.410	BMB
Total:			61.456	15.889	100.00	38.015	

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

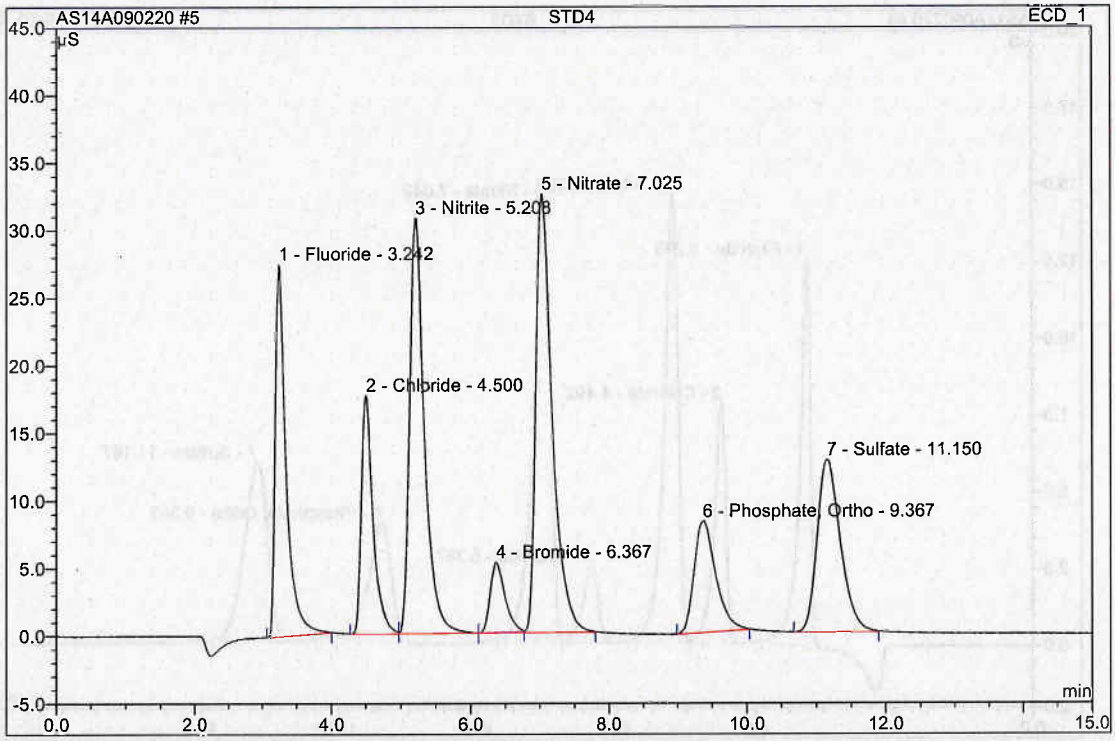
ACCUTEST. Laboratories C4507

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:07 PM

5 STD4

Sample Name:	**STD4**	*Injection Volume:*	**50.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/11/2009 16:56	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.24	Fluoride	27.536	5.037561346	14.76	10.134	BMB
2	4.50	Chloride	17.627	3.410618850	9.99	10.173	BM
3	5.21	Nitrite	30.710	7.401206106	21.69	10.127	M
4	6.37	Bromide	5.172	1.266444247	3.71	10.069	Ru
5	7.03	Nitrate	32.431	9.095838244	26.65	10.218	MB
6	9.37	Phosphate, Orth	8.217	2.999565659	8.79	10.025	BMB
7	11.15	Sulfate	12.729	4.913902663	14.40	20.279	BMB
Total:			134.422	34.125	100.00	81.025	

10.1

10

ANION_01292009/Integration

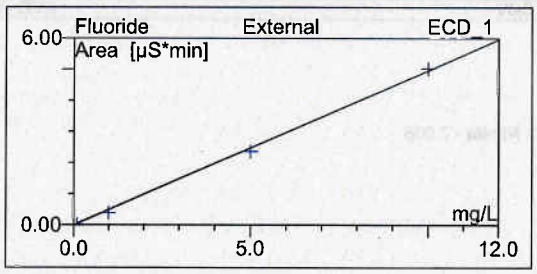
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

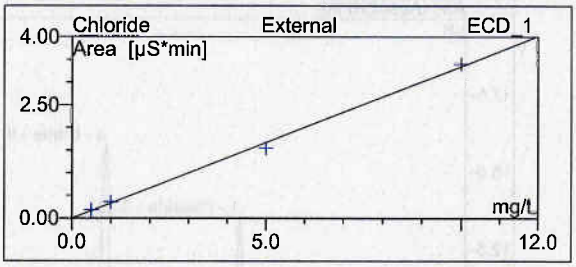
ACCUTEST Laboratories C4507

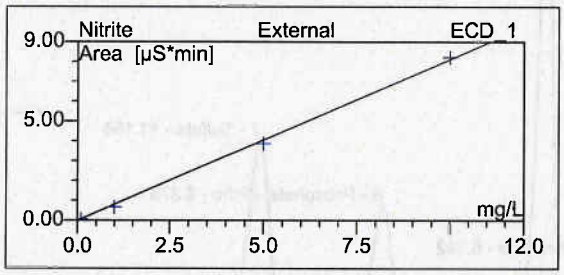
Operator:Chemistry Timebase:ANION Sequence:AS14A090220

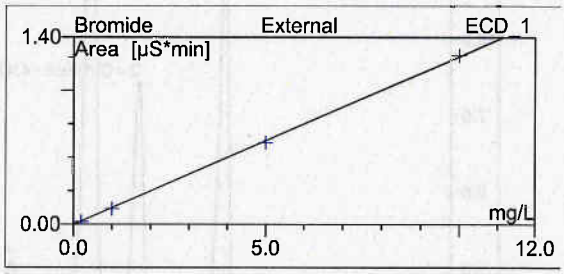
5 STD4

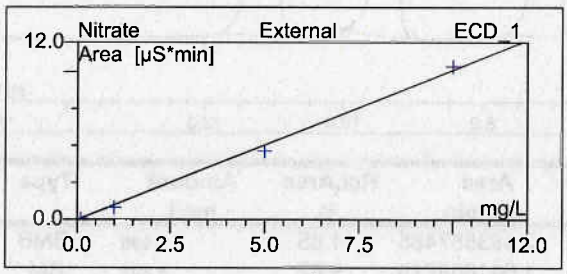
Sample Name:	**STD4**	*Injection Volume:*	**50.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**standard**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	**2/11/2009 16:56**	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**

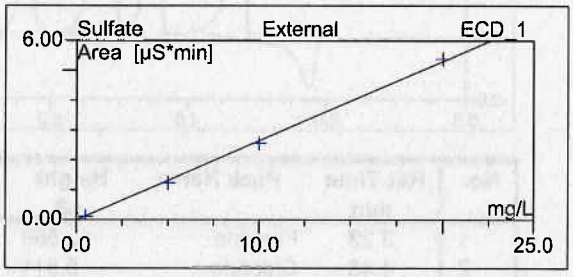












No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. %	Offset	Slope	Curve
1	3.24	Fluoride	Lin	4	99.9598	0.0000	0.497093982	0.0000
2	4.50	Chloride	Lin	4	99.8512	0.0000	0.335253817	0.0000
3	5.21	Nitrite	Lin	4	99.9569	0.0000	0.730849533	0.0000
4	6.37	Bromide	Lin	4	99.9902	0.0000	0.125779038	0.0000
5	7.03	Nitrate	Lin	4	99.8708	0.0000	0.890199618	0.0000
6	9.37	Phosphate, Ortho	Lin	4	99.9842	0.0000	0.299221751	0.0000
7	11.15	Sulfate	Lin	4	99.9049	0.0000	0.242309361	0.0000
Average:					99.9311	0.0000	0.4458	0.0000

ANION_01292009/Calibration(Batch)

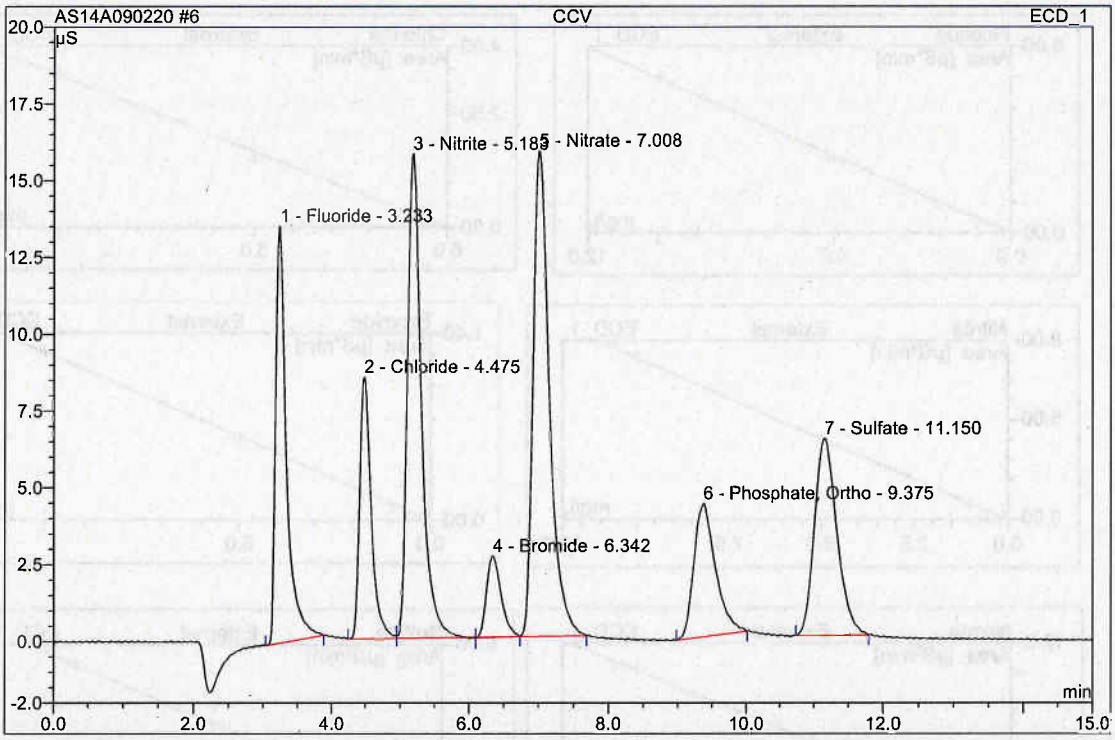
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

6 CCV

STD3

Sample Name:	**CCV**	*Injection Volume:*	**50.0**
Vial Number:	**1**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 15:35	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.23	Fluoride	13.569	2.483557485	14.85	4.996	BMB
2	4.48	Chloride	8.511	1.641809713	9.82	4.897	BM
3	5.18	Nitrite	15.759	3.658920932	21.88	5.006	M
4	6.34	Bromide	2.653	0.642352215	3.84	5.107	Ru
5	7.01	Nitrate	15.800	4.301457931	25.73	4.832	MB
6	9.38	Phosphate, Orth	4.334	1.582025779	9.46	5.287	BMB
7	11.15	Sulfate	6.402	2.409385144	14.41	9.943	BMB
Total:			67.026	16.720	100.00	40.069	

10.1 10

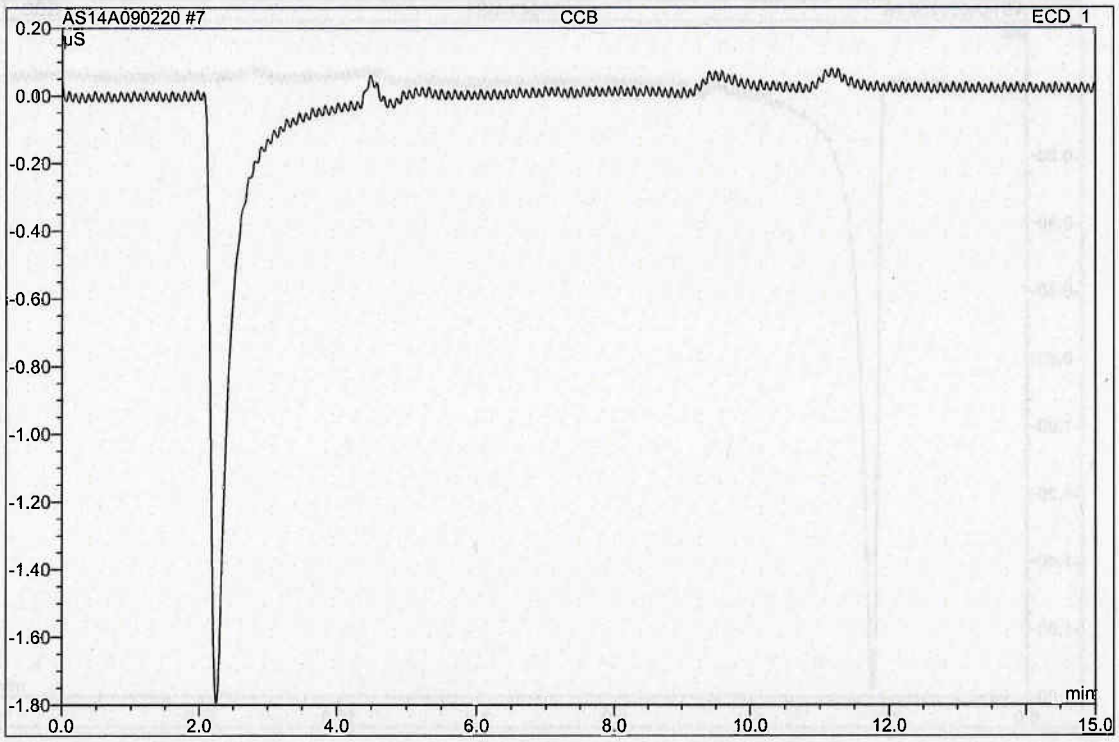
ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

7 CCB

Sample Name:	**CCB**	*Injection Volume:*	**50.0**
Vial Number:	**2**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 15:52	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

10.1

10

ANION_01292009/Integration

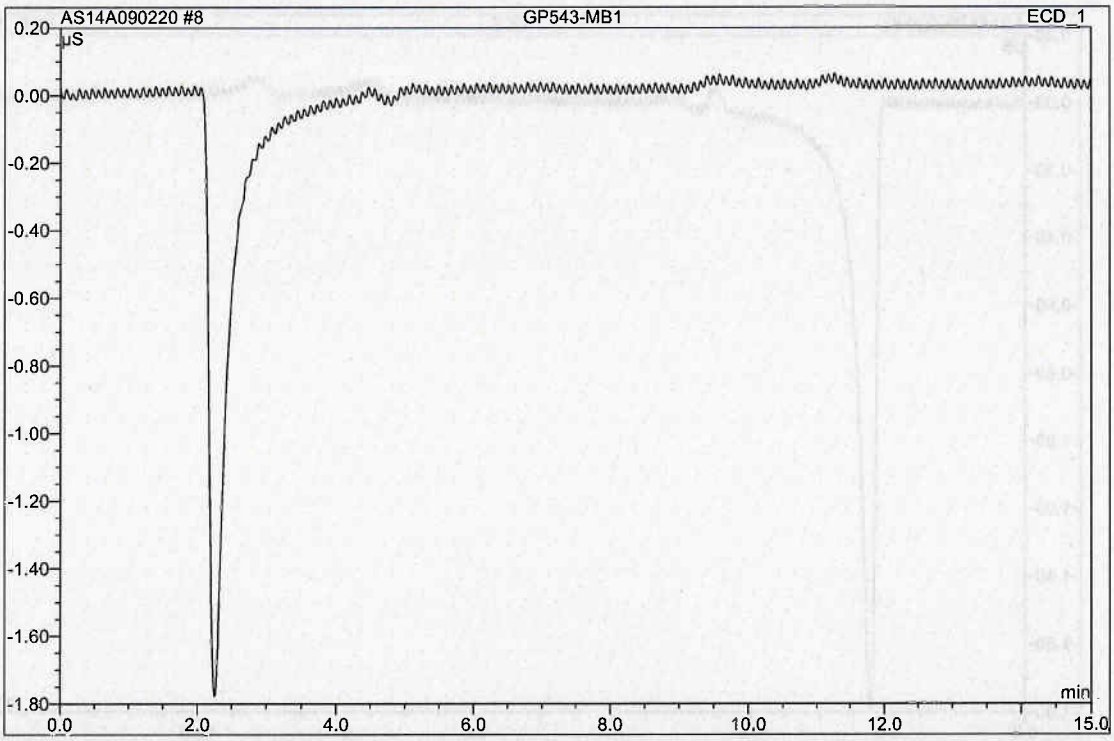
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

ACCUTEST Laboratories C4507

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

8 GP543-MB1

Sample Name:	**GP543-MB1**	*Injection Volume:*	**50.0**
Vial Number:	**3**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 16:10	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

10.1

10

ANION_01292009/Integration

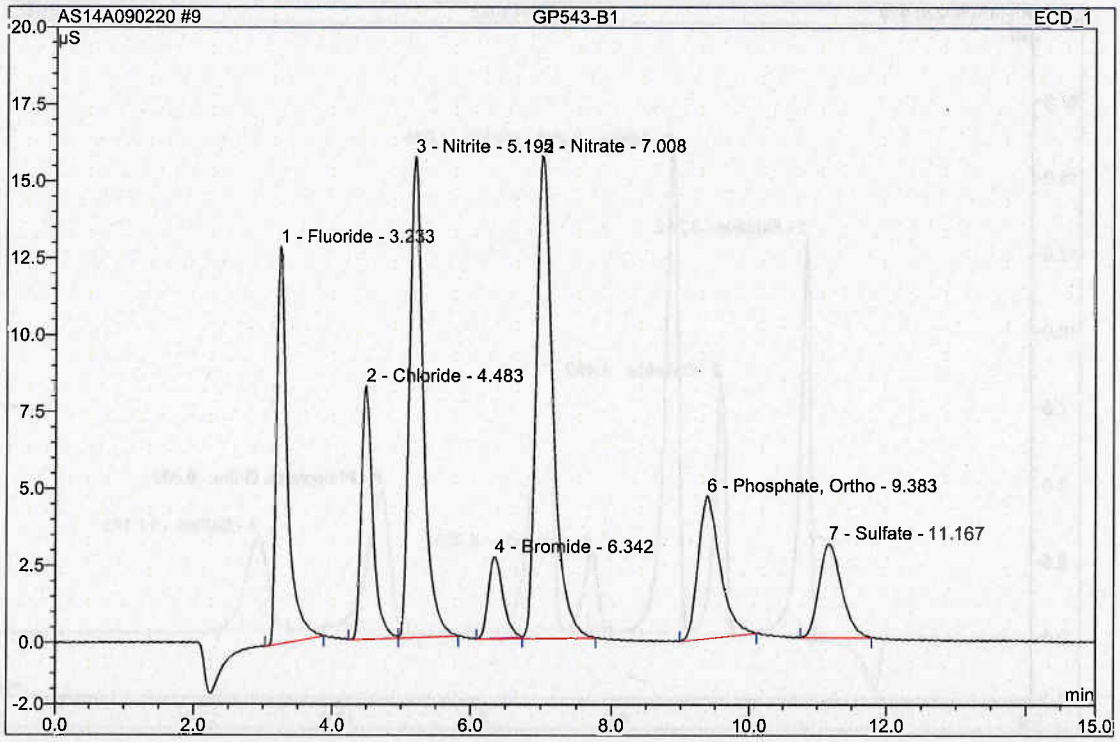
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

ACCUTEST Laboratories C4507

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

9 GP543-B1

Sample Name:	**GP543-B1**	*Injection Volume:*	**50.0**
Vial Number:	**4**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 16:27	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.23	Fluoride	12.916	2.371804177	15.37	4.771	BMB
2	4.48	Chloride	8.228	1.598924088	10.36	4.769	BM
3	5.19	Nitrite	15.635	3.589405116	23.26	4.911	MB
4	6.34	Bromide	2.645	0.641528765	4.16	5.100	Ru
5	7.01	Nitrate	15.681	4.348887581	28.18	4.885	BMB
6	9.38	Phosphate, Orth	4.631	1.713267779	11.10	5.726	BMB
7	11.17	Sulfate	3.063	1.166595055	7.56	4.814	BMB
Total:			62.798	15.430	100.00	34.978	

10.1 10

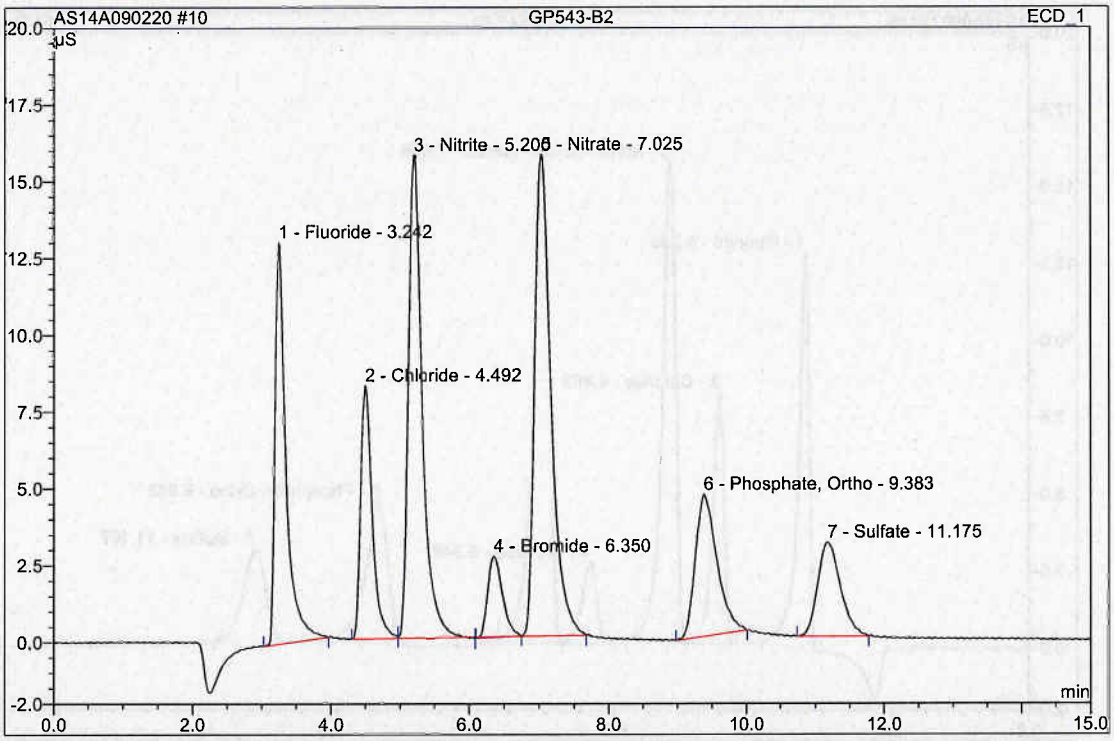
ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

10 GP543-B2

Sample Name:	**GP543-B2**	*Injection Volume:*	**50.0**
Vial Number:	**5**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 16:45	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.24	Fluoride	13.076	2.413075594	15.67	4.854	BMB
2	4.49	Chloride	8.242	1.604518038	10.42	4.786	BM
3	5.20	Nitrite	15.715	3.639243024	23.63	4.979	M
4	6.35	Bromide	2.644	0.642702648	4.17	5.110	Ru
5	7.03	Nitrate	15.672	4.267735939	27.71	4.794	MB
6	9.38	Phosphate, Orth	4.613	1.666873687	10.82	5.571	BMB
7	11.18	Sulfate	3.063	1.167826930	7.58	4.820	BMB
Total:			63.025	15.402	100.00	34.914	

10.1 10

ANION_01292009/Integration

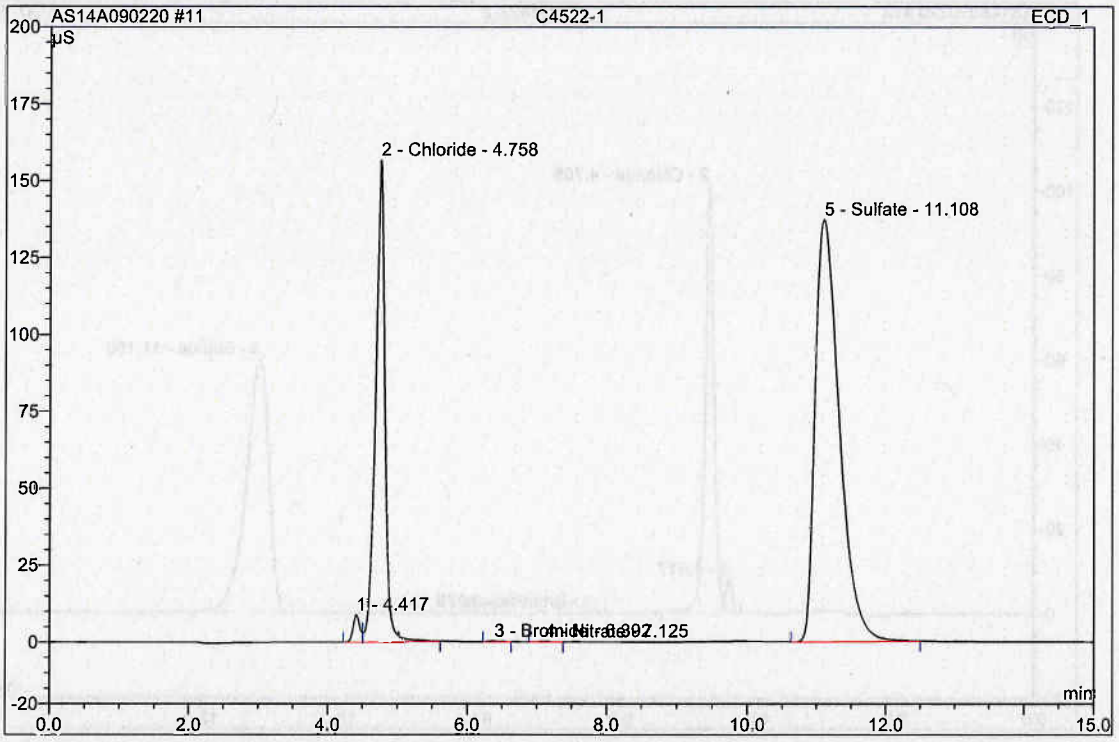
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

11 C4522-1

NO2,NO3

Sample Name:	**C4522-1**	*Injection Volume:*	**50.0**
Vial Number:	**6**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 17:02	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.42	n.a.	8.992	0.979653023	1.20	n.a.	BM
2	4.76	Chloride	156.639	24.311169514	29.89	72.516	MB
3	6.39	Bromide	0.274	0.053974217	0.07	0.429	BMB
4	7.13	Nitrate	0.254	0.061746033	0.08	0.069	BMB
5	11.11	Sulfate	137.212	55.925146825	68.76	230.801	BMB
Total:			303.371	81.332	100.00	303.815	

10.1

10

ANION_01292009/Integration

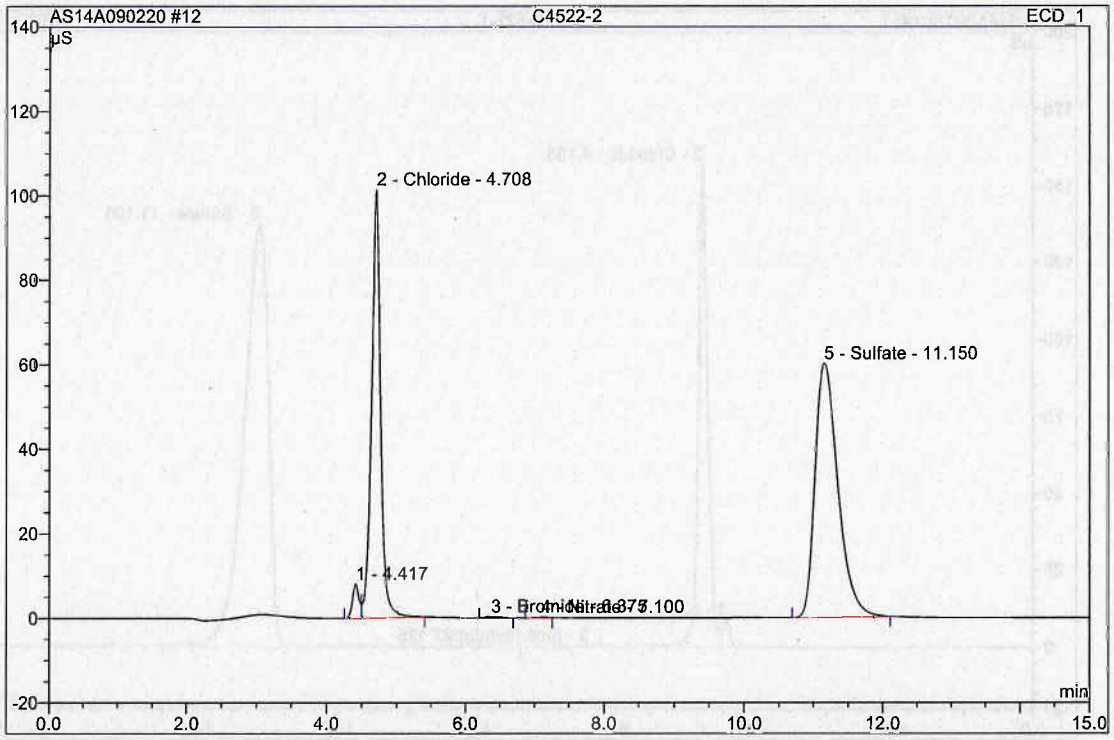
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

12 C4522-2

NO2,NO3

Sample Name:	**C4522-2**	*Injection Volume:*	**50.0**
Vial Number:	**7**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 17:20	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.42	n.a.	8.070	0.872488131	2.24	n.a.	BM
2	4.71	Chloride	101.297	15.023331945	38.50	44.812	MB
3	6.38	Bromide	0.293	0.064045733	0.16	0.509	BMB
4	7.10	Nitrate	0.161	0.032818967	0.08	0.037	BMB
5	11.15	Sulfate	60.058	23.028589450	59.02	95.038	BMB
Total:			169.878	39.021	100.00	140.396	

10.1

10

ANION_01292009/Integration

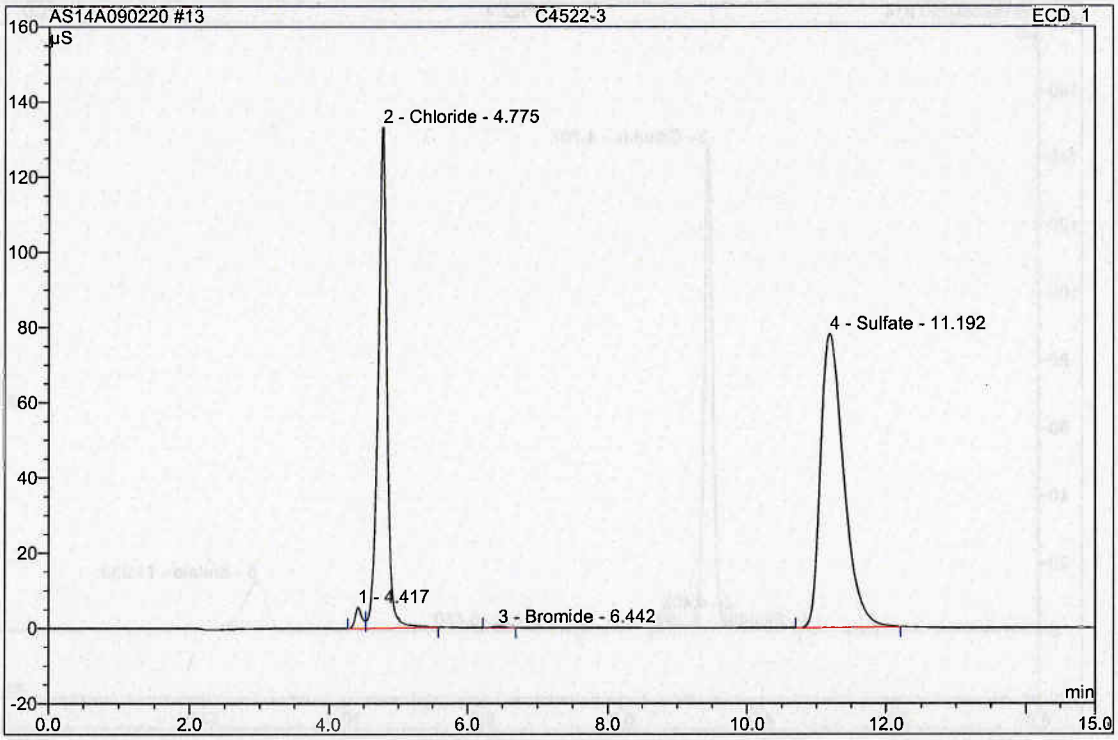
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

13 C4522-3

NO2,NO3

Sample Name:	**C4522-3**	*Injection Volume:*	**50.0**
Vial Number:	**8**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 17:37	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.42	n.a.	5.681	0.644769332	1.28	n.a.	BM
2	4.78	Chloride	133.240	19.425350918	38.48	57.942	MB
3	6.44	Bromide	0.257	0.056415083	0.11	0.449	BMB
4	11.19	Sulfate	78.148	30.356248707	60.13	125.279	BMB
Total:			217.327	50.483	100.00	183.670	

10.1 10

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

ACCUTEST. Laboratories
C4507

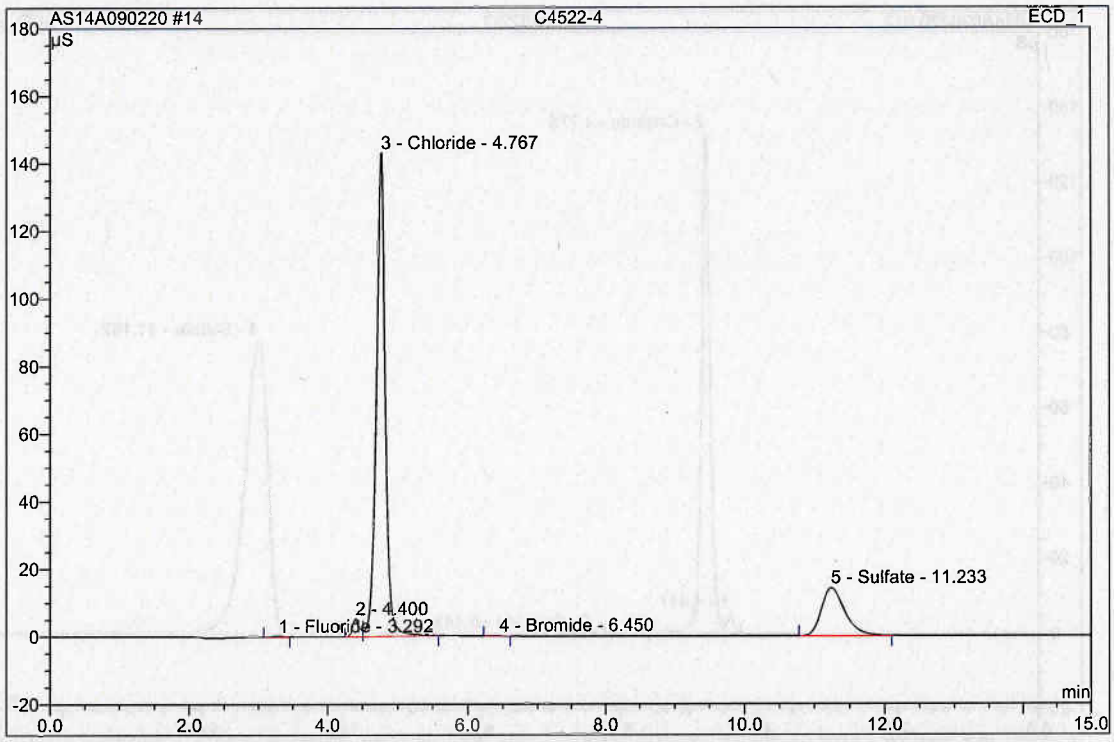
Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:11 PM

14 C4522-4

NO2,NO3

Sample Name:	**C4522-4**	*Injection Volume:*	**50.0**
Vial Number:	**9**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 17:55	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.29	Fluoride	0.233	0.047859383	0.18	0.096	BMB
2	4.40	n.a.	5.231	0.583286724	2.17	n.a.	BM
3	4.77	Chloride	142.998	20.819774156	77.29	62.102	MB
4	6.45	Bromide	0.150	0.029352267	0.11	0.233	BMB
5	11.23	Sulfate	14.171	5.457117936	20.26	22.521	BMB
Total:			162.783	26.937	100.00	84.952	

10.1

10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

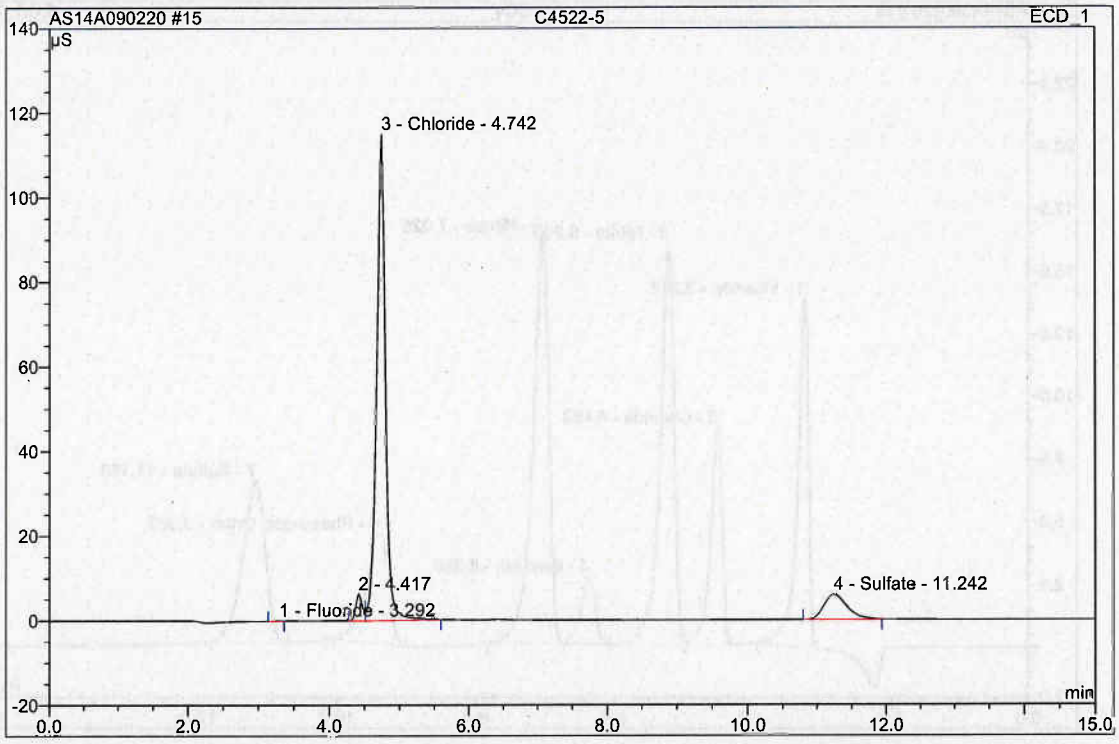
ACCUTEST Laboratories C4507

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

15 C4522-5

NO2,NO3,SO4

Sample Name:	**C4522-5**	*Injection Volume:*	**50.0**
Vial Number:	**10**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 18:12	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.29	Fluoride	0.080	0.011120250	0.06	0.022	BMB
2	4.42	n.a.	6.249	0.692583265	3.50	n.a.	BM
3	4.74	Chloride	114.976	16.779114999	84.86	50.049	MB
4	11.24	Sulfate	5.939	2.288961786	11.58	9.446	BMB
Total:			127.244	19.772	100.00	59.518	

10.1

10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

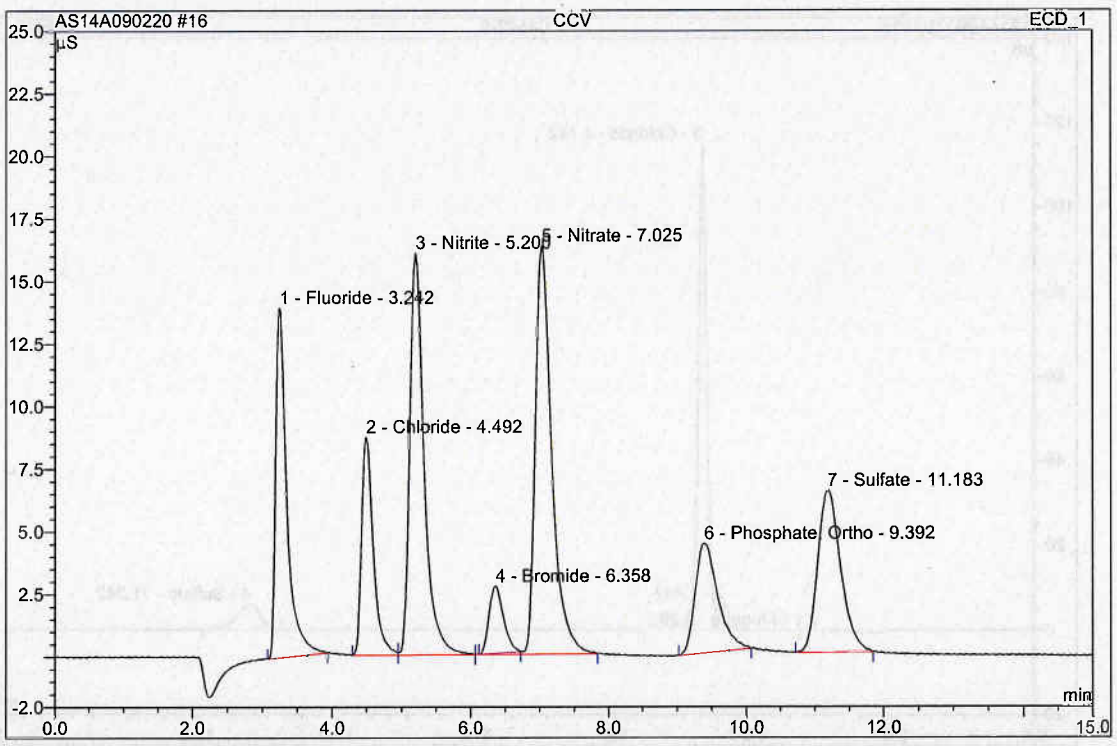
ACCUTEST Laboratories
C4507

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

16 CCV

STD3

Sample Name:	**CCV**	*Injection Volume:*	**50.0**
Vial Number:	**11**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 18:30	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.24	Fluoride	13.962	2.596737527	14.90	5.224	BMB
2	4.49	Chloride	8.691	1.695031612	9.72	5.056	BM
3	5.20	Nitrite	16.039	3.799209049	21.79	5.198	M
4	6.36	Bromide	2.678	0.642086590	3.68	5.105	Ru
5	7.03	Nitrate	16.302	4.554139205	26.12	5.116	MB
6	9.39	Phosphate, Orth	4.372	1.661549104	9.53	5.553	BMB
7	11.18	Sulfate	6.463	2.484339044	14.25	10.253	BMB
Total:			68.508	17.433	100.00	41.505	

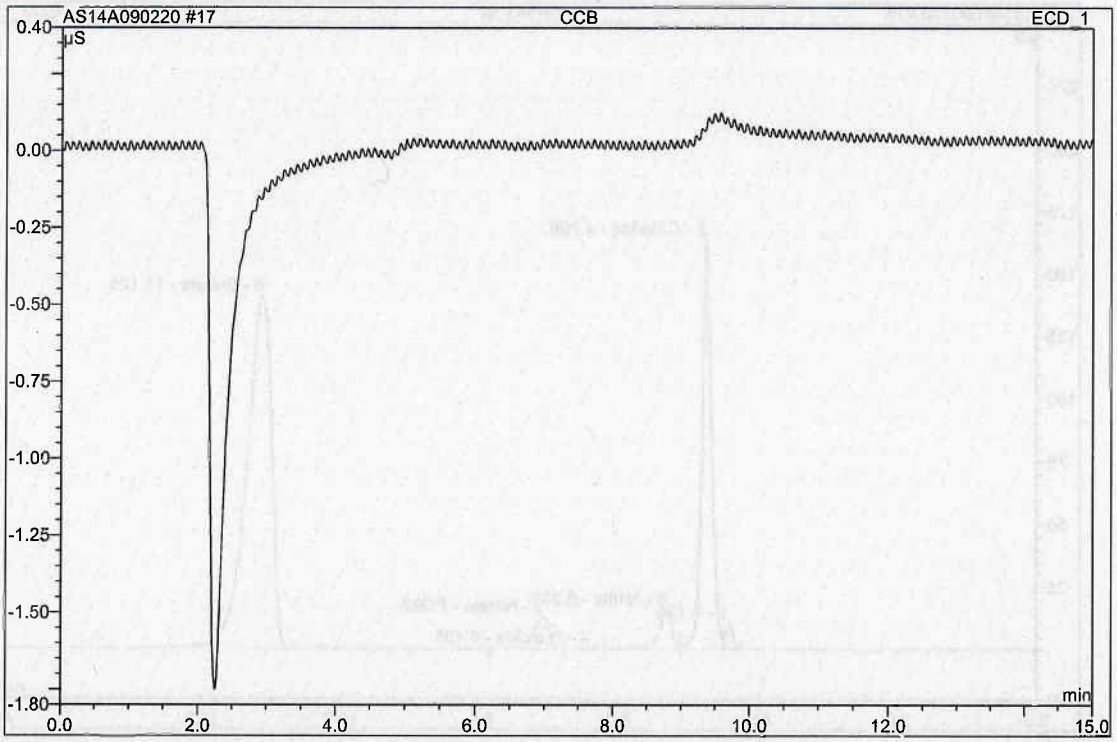
ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

17 CCB

Sample Name:	**CCB**	*Injection Volume:*	**50.0**
Vial Number:	**12**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 18:47	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

10.1

10

ANION_01292009/Integration

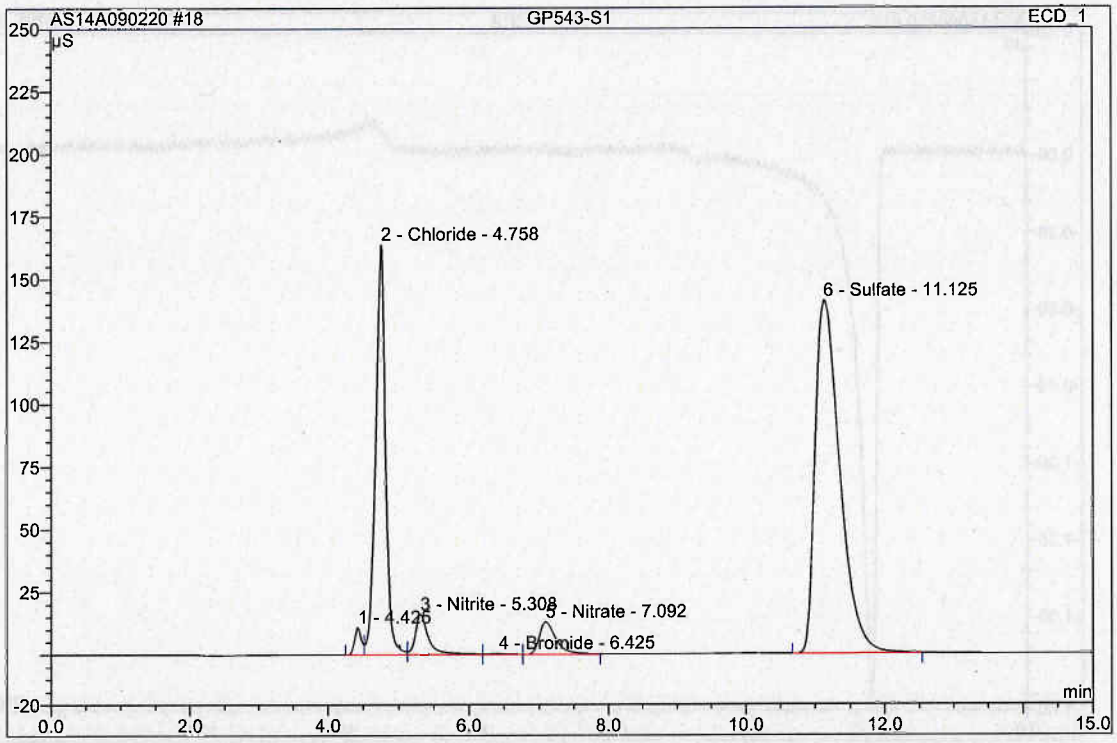
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

18 GP543-S1

C4522-1

Sample Name:	**GP543-S1**	*Injection Volume:*	**50.0**
Vial Number:	**13**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 19:05	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.43	n.a.	10.909	1.215302714	1.32	n.a.	BM
2	4.76	Chloride	163.741	26.004418401	28.25	77.566	M
3	5.31	Nitrite	16.112	3.419489108	3.71	4.679	M
4	6.43	Bromide	0.382	0.108108900	0.12	0.860	M
5	7.09	Nitrate	12.919	3.525909908	3.83	3.961	MB
6	11.13	Sulfate	140.976	57.788914762	62.77	238.492	BMB
Total:			345.038	92.062	100.00	325.558	

ANION_01292009/Integration

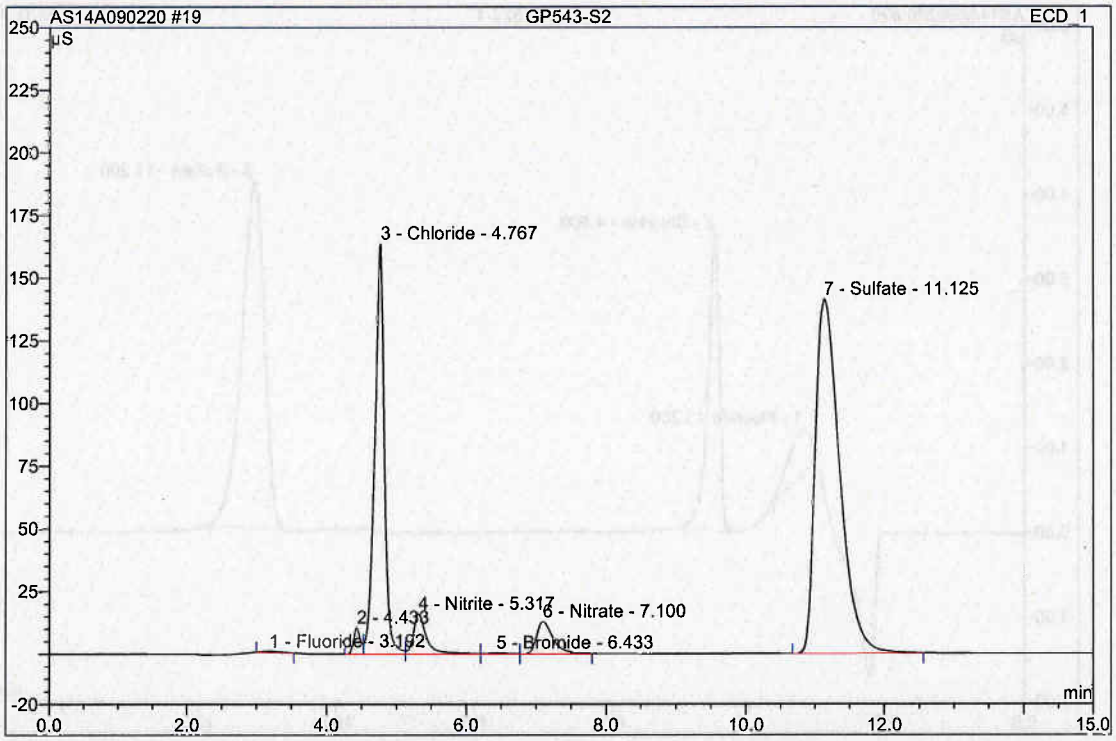
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

19 GP543-S2

C4522-1

Sample Name:	**GP543-S2**	*Injection Volume:*	**50.0**
Vial Number:	**14**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 19:22	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.19	Fluoride	0.384	0.124975241	0.14	0.251	BMB
2	4.43	n.a.	10.549	1.170916689	1.27	n.a.	BM
3	4.77	Chloride	163.812	26.070182568	28.24	77.763	M
4	5.32	Nitrite	16.123	3.419886875	3.71	4.679	M
5	6.43	Bromide	0.369	0.096791725	0.10	0.770	M
6	7.10	Nitrate	12.915	3.482502450	3.77	3.912	MB
7	11.13	Sulfate	141.369	57.936911512	62.77	239.103	BMB
Total:			345.521	92.302	100.00	326.478	

10.1 10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

ACCUTEST. Laboratories C4507

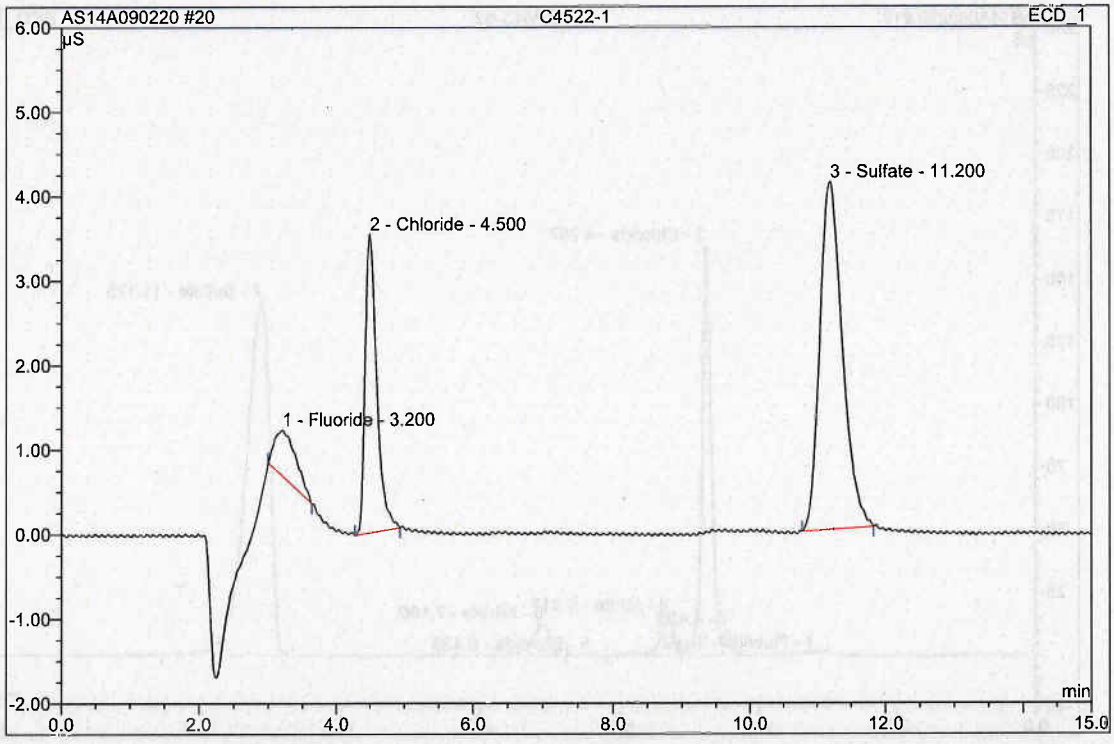
Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:16 PM

20 C4522-1

SO4

Sample Name:	**C4522-1**	*Injection Volume:*	**50.0**
Vial Number:	**15**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**25.0000**
Recording Time:	2/20/2009 19:40	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.20	Fluoride	0.535	0.202643833	8.17	10.191	BMB
2	4.50	Chloride	3.526	0.695045682	28.03	51.830	BMB
3	11.20	Sulfate	4.111	1.582019396	63.80	163.223	BMB
Total:			8.172	2.480	100.00	225.244	

10.1

10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

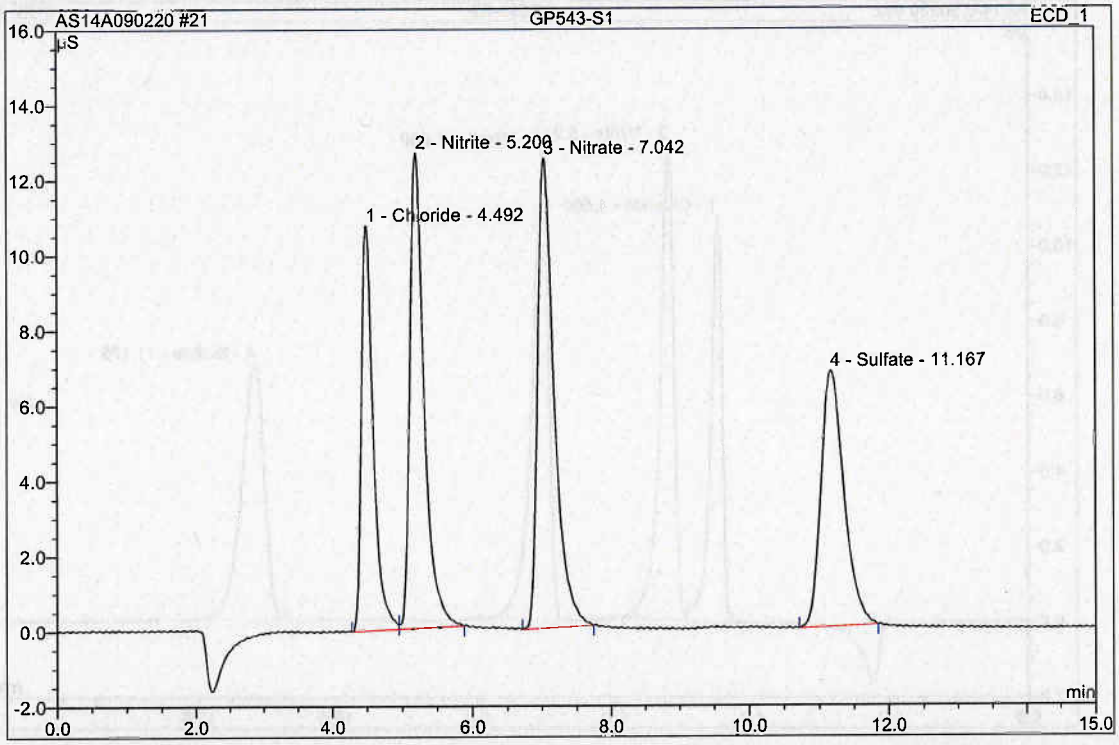
ACCUTEST Laboratories C4507

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

21 GP543-S1

C4522-1

Sample Name:	**GP543-S1**	*Injection Volume:*	**50.0**
Vial Number:	**16**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**25.0000**
Recording Time:	2/20/2009 19:57	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.49	Chloride	10.776	2.121014178	18.93	158.165	BM
2	5.20	Nitrite	12.644	2.974968859	26.55	101.764	MB
3	7.04	Nitrate	12.491	3.494397208	31.18	98.135	BMB
4	11.17	Sulfate	6.795	2.616260177	23.35	269.930	BMB
Total:			42.707	11.207	100.00	627.994	

10.1 10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

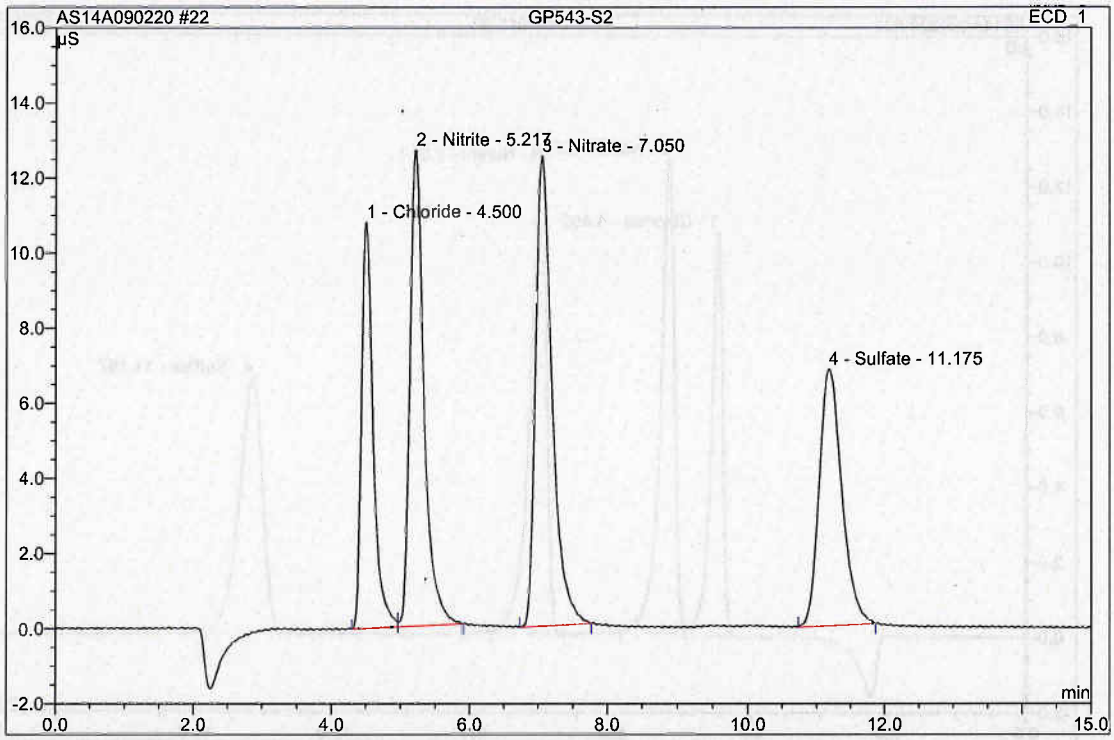
Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:16 PM

22 GP543-S2

C4522-1

Sample Name:	**GP543-S2**	*Injection Volume:*	**50.0**
Vial Number:	**17**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**25.0000**
Recording Time:	2/20/2009 20:15	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.50	Chloride	10.816	2.127111186	18.93	158.619	BM
2	5.22	Nitrite	12.673	2.983151784	26.55	102.044	MB
3	7.05	Nitrate	12.523	3.498603341	31.14	98.253	BMB
4	11.18	Sulfate	6.828	2.626836802	23.38	271.021	BMB
Total:			42.840	11.236	100.00	629.938	

10.1 10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

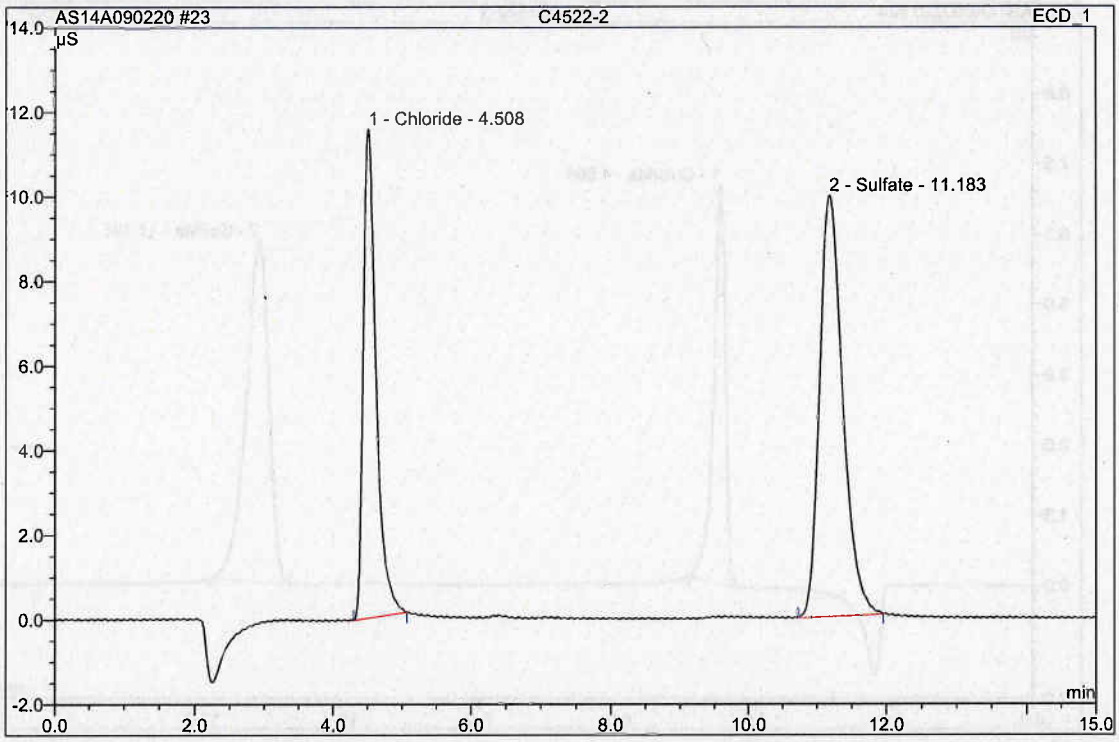
ACCUTEST. Laboratories C4507

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

23 C4522-2

SO4

Sample Name:	**C4522-2**	*Injection Volume:*	**50.0**
Vial Number:	**18**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**5.0000**
Recording Time:	2/20/2009 20:32	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.51	Chloride	11.554	2.502251210	39.51	37.319	BMB
2	11.18	Sulfate	9.943	3.831732749	60.49	79.067	BMB
Total:			21.497	6.334	100.00	116.386	

10.1

10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

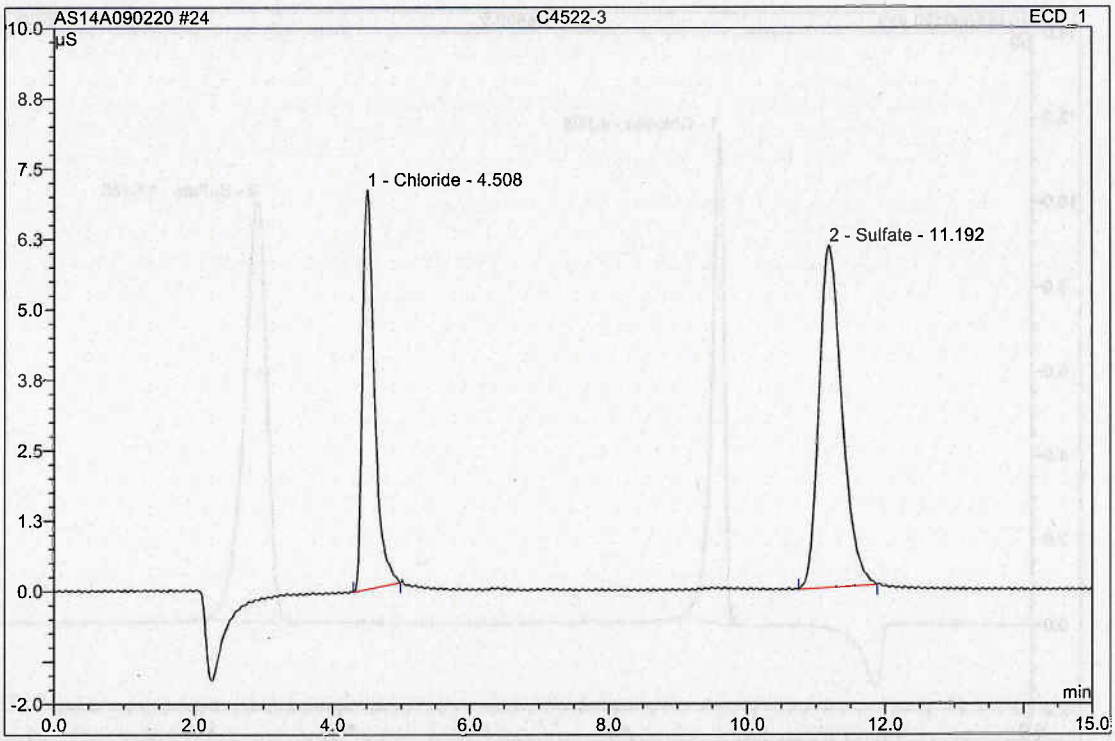
Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:16 PM

24 C4522-3

SO4

Sample Name:	**C4522-3**	*Injection Volume:*	**50.0**
Vial Number:	**19**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**10.0000**
Recording Time:	2/20/2009 20:50	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.51	Chloride	7.084	1.444420721	38.14	43.084	BMB
2	11.19	Sulfate	6.063	2.342376144	61.86	96.669	BMB
Total:			13.148	3.787	100.00	139.753	

10.1

10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

ACCUTEST Laboratories
C4507

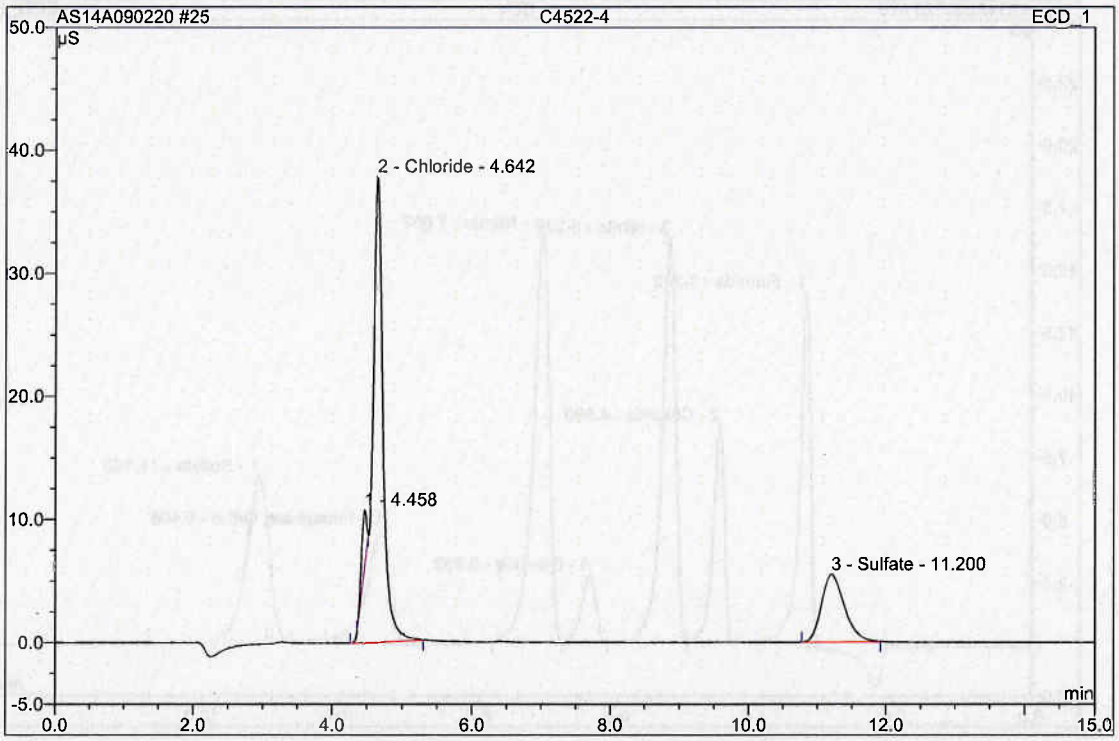
Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:17 PM

25 C4522-4

SO4

Sample Name:	**C4522-4**	*Injection Volume:*	**50.0**
Vial Number:	**20**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**2.5000**
Recording Time:	2/20/2009 21:07	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.46	n.a.	4.935	0.405226432	4.27	n.a.	Ru
2	4.64	Chloride	37.799	6.962694441	73.28	51.921	BMB
3	11.20	Sulfate	5.511	2.133212011	22.45	22.009	BMB
Total:			48.246	9.501	100.00	73.930	

10.1

10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

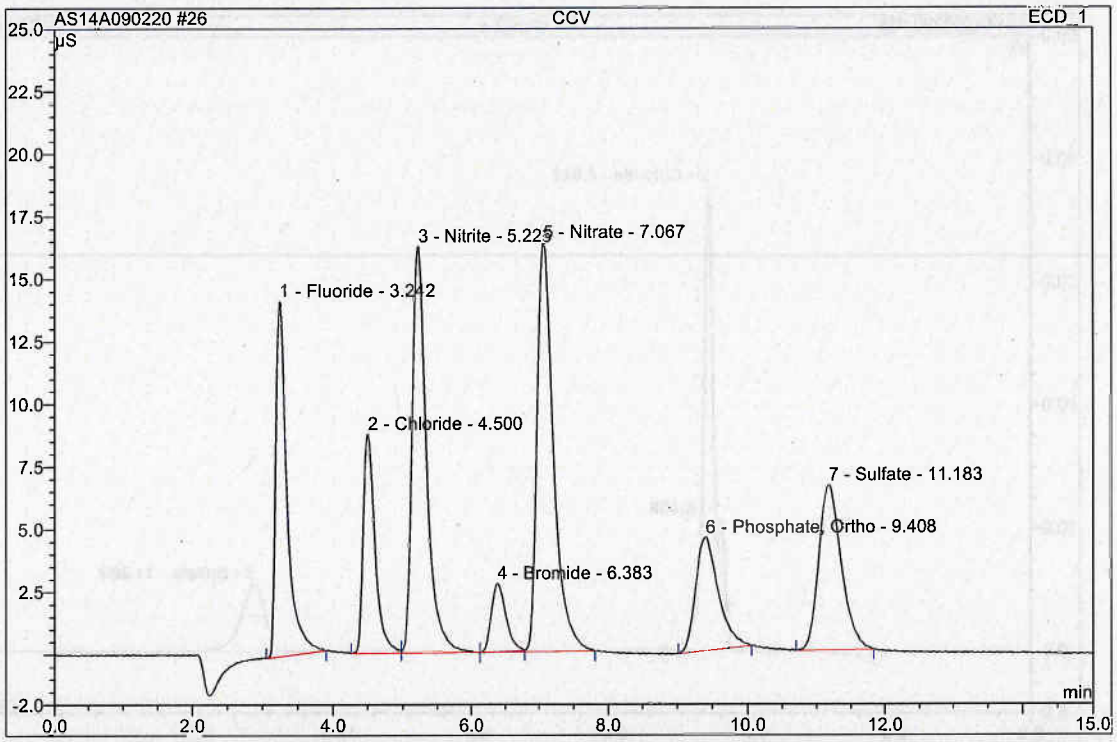
Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:17 PM

26 CCV

STD3

Sample Name:	**CCV**	*Injection Volume:*	**50.0**
Vial Number:	**21**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 21:25	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.24	Fluoride	14.192	2.640039268	14.94	5.311	BMB
2	4.50	Chloride	8.756	1.714782679	9.70	5.115	BM
3	5.23	Nitrite	16.222	3.853345582	21.80	5.272	M
4	6.38	Bromide	2.722	0.667538532	3.78	5.307	Ru
5	7.07	Nitrate	16.332	4.581836697	25.92	5.147	MB
6	9.41	Phosphate, Orth	4.537	1.699560179	9.62	5.680	BMB
7	11.18	Sulfate	6.588	2.518419369	14.25	10.393	BMB
Total:			69.349	17.676	100.00	42.226	

10.1

10

ANION_01292009/Integration

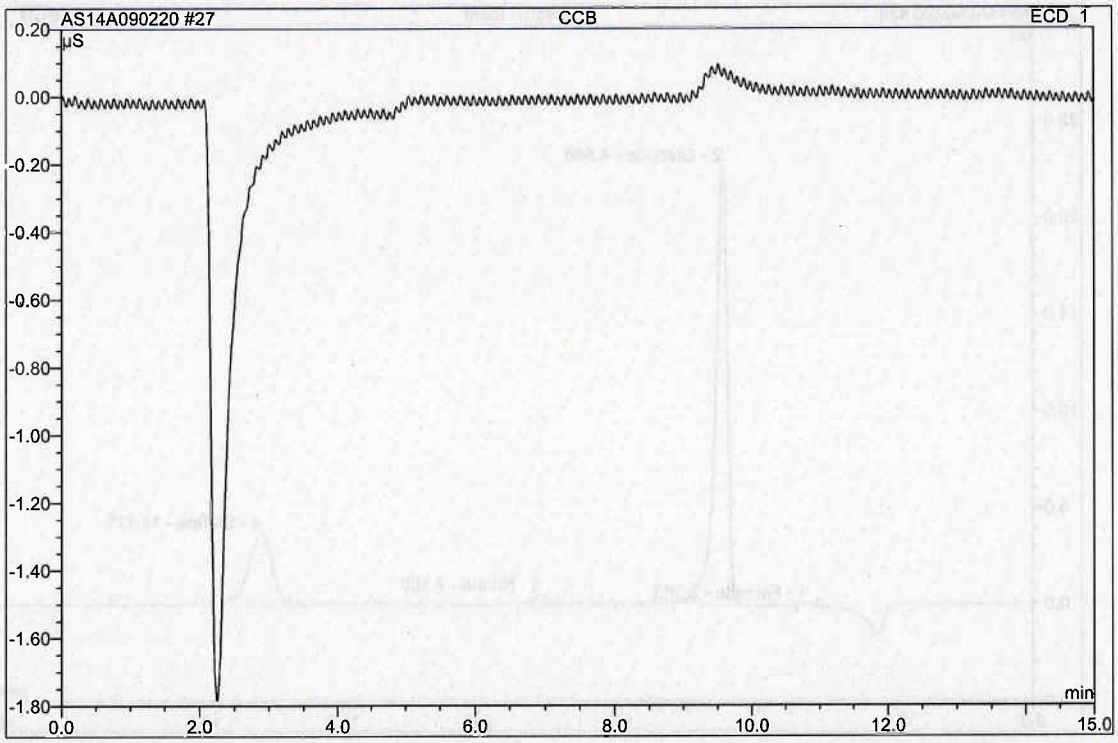
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

ACCUTEST Laboratories C4507

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

27 CCB

Sample Name:	**CCB**	*Injection Volume:*	**50.0**
Vial Number:	**22**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 21:43	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

10.1

10

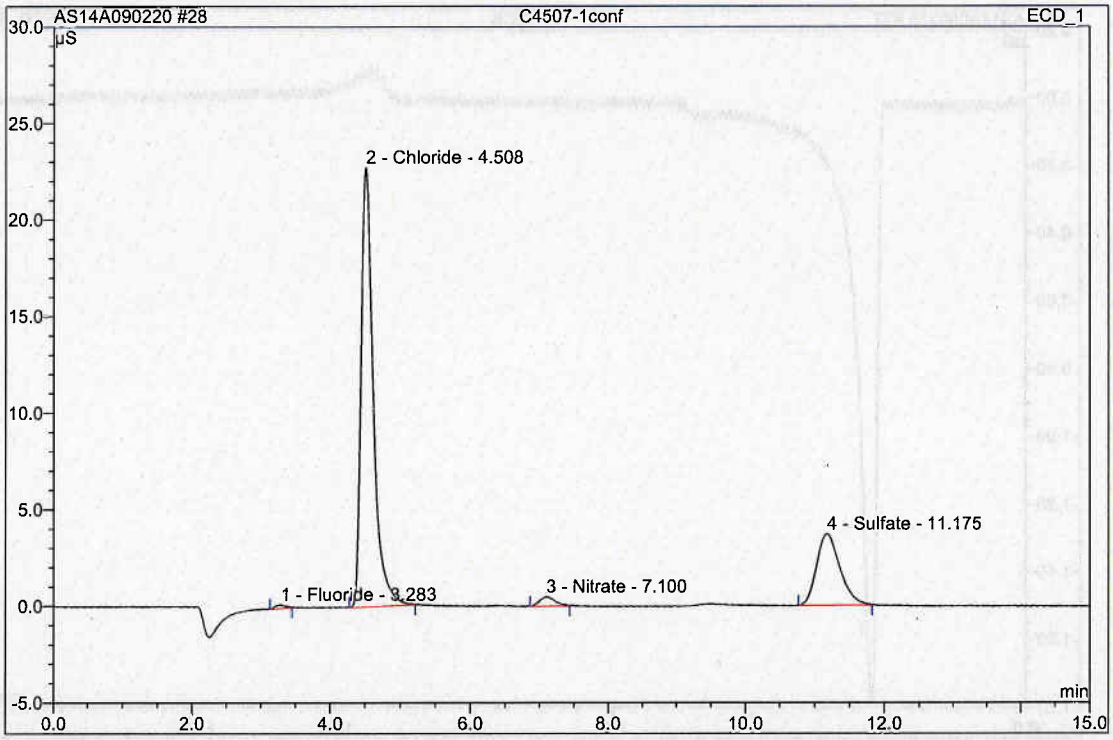
ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

28 C4507-1conf

Sample Name:	**C4507-1conf**	*Injection Volume:*	**50.0**
Vial Number:	**23**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 22:00	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.28	Fluoride	0.177	0.029871000	0.49	0.060	BMB
2	4.51	Chloride	22.736	4.554974188	74.29	13.587	BMB
3	7.10	Nitrate	0.482	0.124185916	2.03	0.140	BMB
4	11.18	Sulfate	3.684	1.422424713	23.20	5.870	BMB
Total:			27.079	6.131	100.00	19.657	

10.1 10

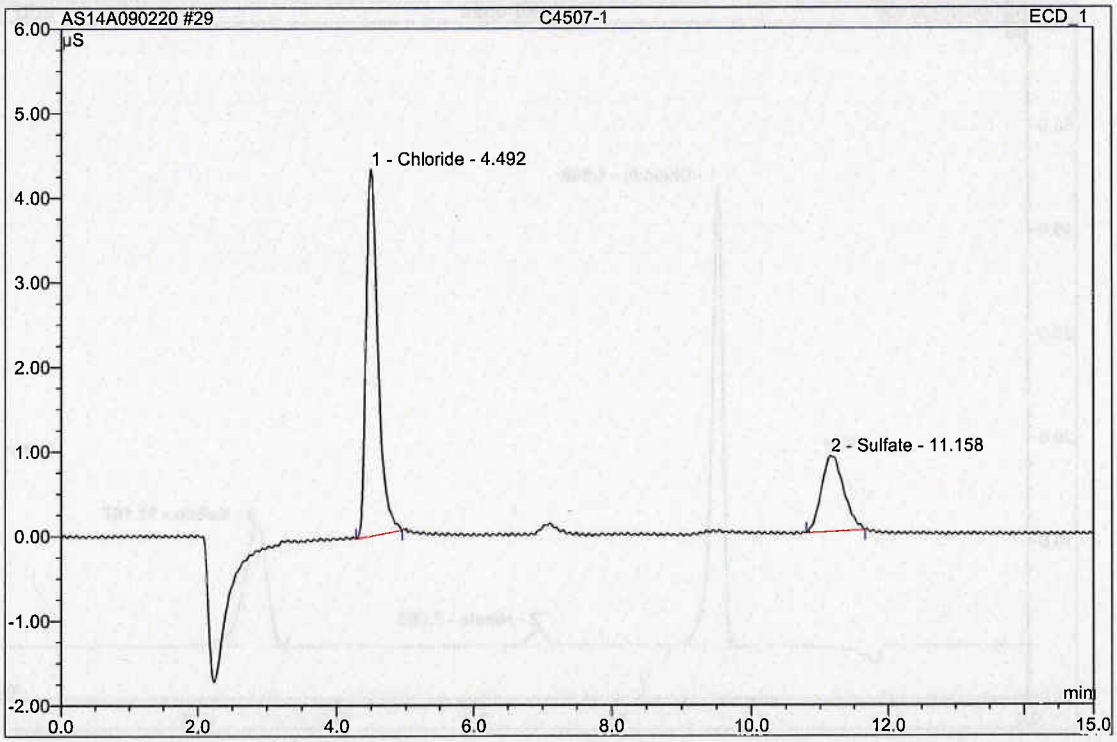
ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

29 C4507-1

Sample Name:	**C4507-1**	*Injection Volume:*	**50.0**
Vial Number:	**24**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**5.0000**
Recording Time:	2/20/2009 22:18	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.49	Chloride	4.333	0.857204740	71.77	12.784	BMB
2	11.16	Sulfate	0.888	0.337193666	28.23	6.958	BMB
Total:			5.221	1.194	100.00	19.742	

10.1 10

ANION_01292009/Integration

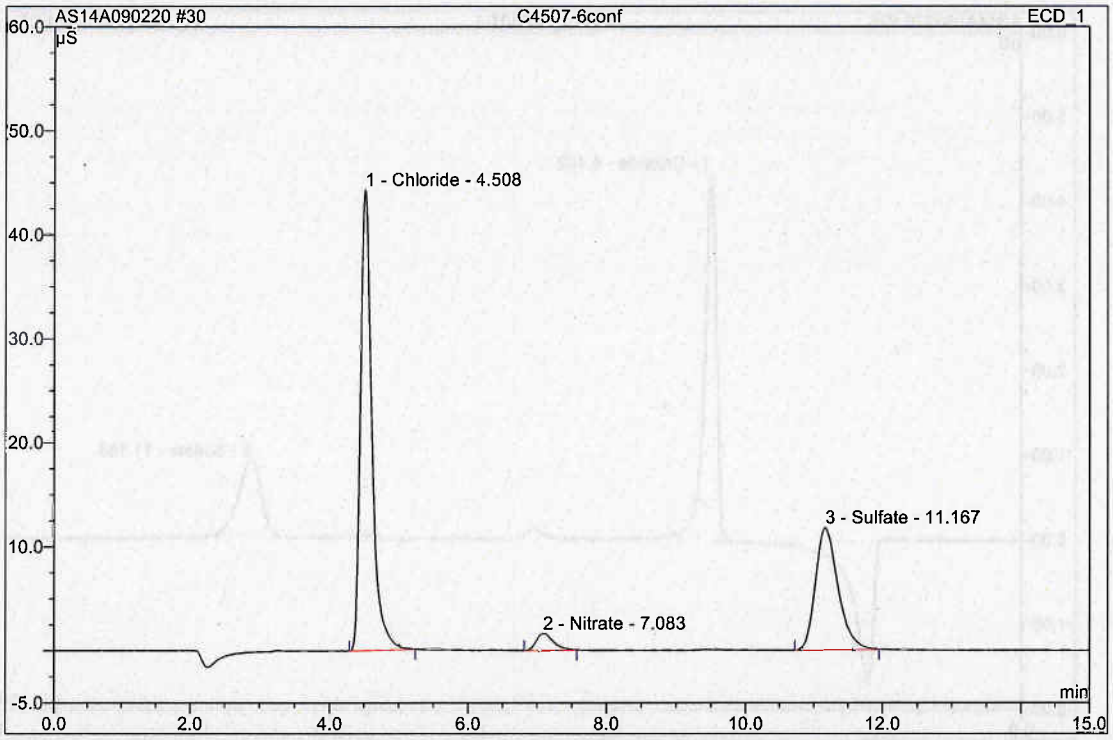
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

2/23/2009 1:18 PM

30 C4507-6conf

Sample Name:	**C4507-6conf**	*Injection Volume:*	**50.0**
Vial Number:	**25**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 22:35	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.51	Chloride	44.283	8.466572412	63.04	25.254	BMB
2	7.08	Nitrate	1.636	0.466283849	3.47	0.524	BMB
3	11.17	Sulfate	11.747	4.498386239	33.49	18.565	BMB
Total:			57.667	13.431	100.00	44.343	

10.1

10

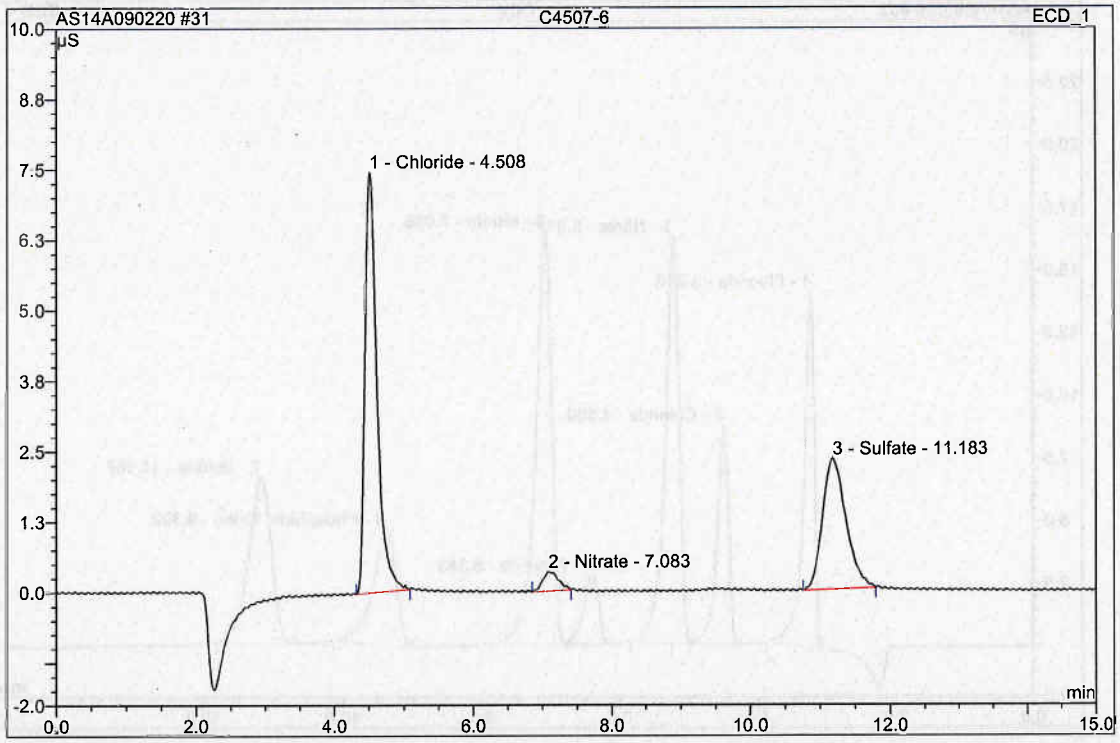
ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

31 C4507-6

Sample Name:	**C4507-6**	*Injection Volume:*	**50.0**
Vial Number:	**26**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**5.0000**
Recording Time:	2/20/2009 22:53	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	4.51	Chloride	7.454	1.486054980	60.18	22.163	BMB
2	7.08	Nitrate	0.336	0.089806416	3.64	0.504	BMB
3	11.18	Sulfate	2.306	0.893418864	36.18	18.436	BMB
Total:			10.096	2.469	100.00	41.103	

10.1 10

ANION_01292009/Integration

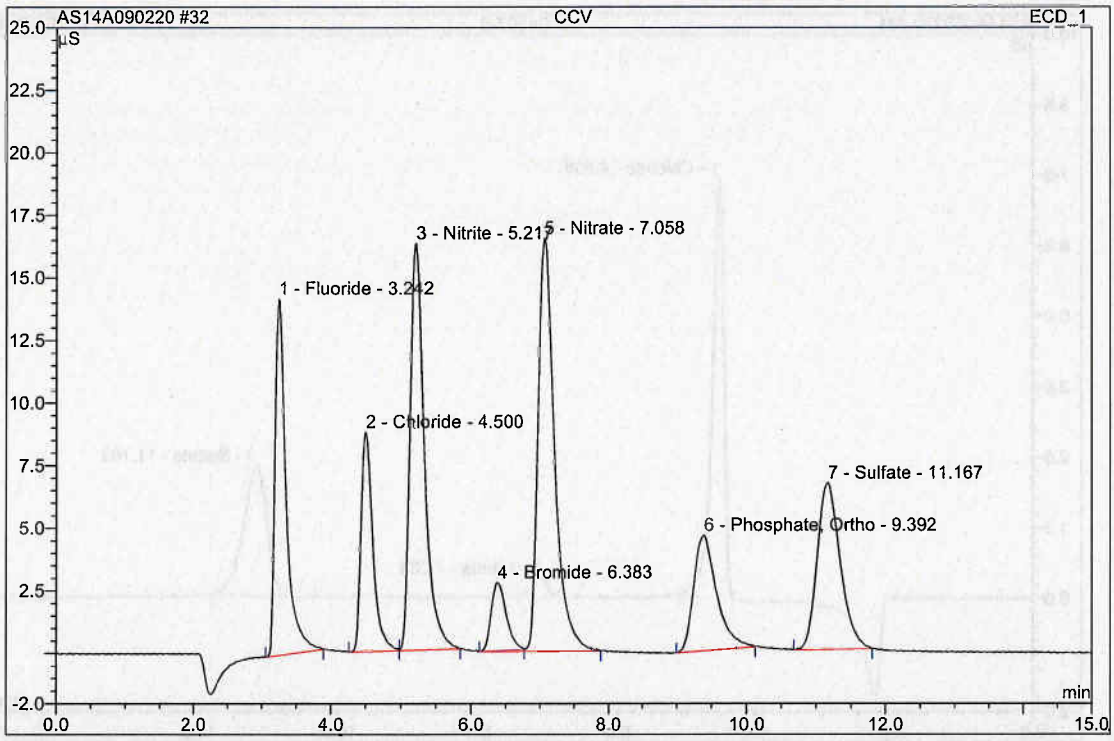
Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

32 CCV

STD3

Sample Name:	**CCV**	*Injection Volume:*	**50.0**
Vial Number:	**27**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 23:10	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
1	3.24	Fluoride	14.239	2.656269043	14.92	5.344	BMB
2	4.50	Chloride	8.755	1.715035929	9.64	5.116	BM
3	5.22	Nitrite	16.241	3.803188865	21.37	5.204	MB
4	6.38	Bromide	2.716	0.669750882	3.76	5.325	Ru
5	7.06	Nitrate	16.488	4.656107088	26.16	5.230	BMB
6	9.39	Phosphate, Orth	4.616	1.758963796	9.88	5.878	BMB
7	11.17	Sulfate	6.639	2.539970210	14.27	10.482	BMB
Total:			69.693	17.799	100.00	42.579	

10.1 10

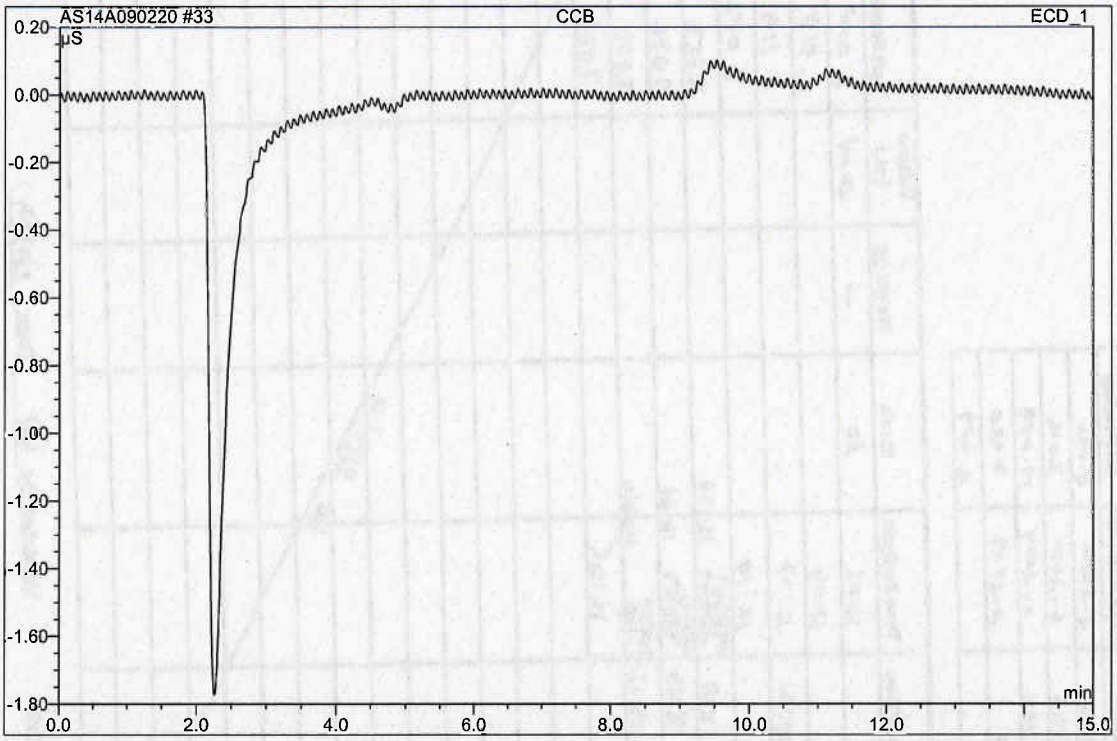
ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

Operator:Chemistry Timebase:ANION Sequence:AS14A090220

33 CCB

Sample Name:	**CCB**	*Injection Volume:*	**50.0**
Vial Number:	**28**	*Channel:*	**ECD_1**
Sample Type:	**unknown**	*Wavelength:*	**n.a.**
Control Program:	**ANION2**	*Bandwidth:*	**n.a.**
Quantif. Method:	**Anion300**	*Dilution Factor:*	**1.0000**
Recording Time:	2/20/2009 23:28	*Sample Weight:*	**1.0000**
Run Time (min):	**15.00**	*Sample Amount:*	**1.0000**



No.	Ret.Time min	Peak Name	Height µS	Area µS*min	Rel.Area %	Amount mg/L	Type
Total:			0.000	0.000	0.00	0.000	

10.1

10

ANION_01292009/Integration

Chromeleon (c) Dionex 1996-2001
Version 6.30 SP1 Build 587

ACCUTEST

pH Measurement (Electrometric)

Method SM 4500-H+B_EPA9040B_EPA9045D

Standards	Source Code	Expiration Date	pH Reading
pH Buffer 4	ID 0849 133	5-2010	4.006
pH Buffer 7	ID 08149136	6-2010	7.006
pH Buffer 10	ID 0827 69 139	1-2009	10.044
pH Buffer 7 (BCN) (6.90 -7.10)	ID 2494	10-2009	7.030
MB (DI water)			4.609

GN: 1293
Analysis Date: 2-20-09
Analyst: cB
Instrument ID: Meter 1
Slope (92-102%): 100.4

No	Laboratory ID	Sampling Date/Time	Time Analysis	Matrix	Weight (g)	Volume (mL)	pH Reading	QC Batch	Comment
	C4507-1	2-19-09	12:01	AQ	–	50 ml	7.000	13.5°C	
	D1		12:04				6.918	13.5°C	1,1,2,2,PD
	6	18:30	12:07				6.119	13.6°C	
	MB7		12:14				7.056	21.0°C	
	C4510-1	2-20-09 13:10	16:34				7.853	21.0°C	
	C4520-1	13:33	16:41				8.076	22.1°C	
	C4510-2	13:32	16:44				7.859	22.5°C	
	MB7		16:45				7.028		

V:\Laboratory\Forms\Inorganic\pH logsheet.xls

Validated By: [illegible] Date: [illegible]

Page: 81

V:\Laboratory\Forms\Inorganic\pH logsheet.xls

Validated By: _____ Date: _____

Page: 81

Northern California ACCUTEST LABORATORIES

Alkalinity Analysis
SM 2320B

Instrument: Meter 1
Slope: 98.1

Batch ID: GN1285
Analyst: RL
Date: 02-23-09

Standard	Source Code	Expiration Date	Volume (ml) H2SO4	Conc. of CaCO3	mL of CaCO3	Actual conc of H2SO4
0.02N H2SO4	[illegible]	[illegible]	[illegible]	0.02	[illegible]	0.02
0.100N H2SO4	[illegible]	[illegible]	10.2 ml	0.02	[illegible]	0.098

[illegible] x 0.02 N / 10 ml = 0.02

[illegible] x 0.02 N / 10.2 ml = 0.098

[illegible] 03-02-09

No.	Laboratory ID	Sample Volume (mL)	Initial pH	Titrant to pH 8.3 (P) (N) Conc of H2SO4	Titrant to pH 8.3 (P) Volume (mL)	Titrant to pH 4.5 (T) (N) Conc of H2SO4	Titrant to pH 4.5 (T) Volume (mL)	Total Alkalinity (mg/L)	Bicarbonate Alkalinity (HCO3)	Carbonate Alkalinity (CO3)	Hydroxide Alkalinity (OH)	Carbon Dioxide (CO2)	Comments
	pH 7	[illegible] ml	7.007			—	—	—					
	GN1285-[illegible]	[illegible] ml	5.134			0.02	0.1 ml	2.0					98%
	GN1285-[illegible]	[illegible] ml	[illegible]			0.098	2.5 ml	245					103.88%
	GN1285-[illegible]	[illegible] ml	[illegible]			0.098	2.65 ml	259.7					
	GN1193-1	[illegible] ml	7.[illegible]				0.5 ml	49.0					
	GN1197-1	[illegible] ml	7.[illegible]				0.65 ml	63.7					
	GN1197-6	[illegible] ml	[illegible]				0.33 ml	32.34					
	GN1195-[illegible]	[illegible] ml	[illegible]				0.33 ml	32.34					
	pH 7	[illegible] ml	7.019			—	—	—					
	GN1192-4	[illegible] ml	2.09			0.02	2.0 ml	39.0					
	GN1197-1	[illegible] ml	2.[illegible]			0.02	3.15 ml	61.8					
	GN1197-[illegible]	[illegible] ml	[illegible]			0.02	1.50 ml	30.0					
	pH 7	[illegible] ml	[illegible]			0.02	1.55 ml	31.0					
	pH 7	[illegible] ml	7.056			—	—	—					

* All pH measurements on Meter 1 are automatically compensated for sample temperature (ATC)

Calibration Standards	Source Code	Expiration Date	pH Reading
pH Buffer 4	[illegible]	[illegible]	4.006
pH Buffer 7	[illegible]	[illegible]	7.002
pH Buffer 10	[illegible]	[illegible]	10.[illegible]
pH Buffer 7 (2nd Source) Range: 6.9 - 7.1	[illegible]	[illegible]	6.99[illegible]

Result of Titration	OH Alkalinity	CO3 Alkalinity	HCO3 Alkalinity
P = 0	0	0	T
P < ½T	0	2P	T - 2P
P = ½T	0	2P	0
P > ½T	2P - T	2(T-P)	0
P = T	T	0	0

Alkalinity, mg/L = Vol of Titrant (T) (ml) x N (H2SO4) x 50000 / Sample Vol (mL)

Validate By: RD

Date: 2/23/09

Page: 034

ACCUTEST

Test: Total Dissolved Solids
Method: SM 2540C

Product: TDS
Units: mg/l
RL: 10.0

GN Batch ID: 1367
Analyst: RL
Date: 02-25-09

**Note: Filters are dried for a minimum of 1.5 hrs and dessicated for a minimum 12 hours to ensure constant tare weight.

QC Summary:
Filtration Date: 02-23-09
Filtration Time: 16:00
MB ID: Result: RDL: < RDL:
Dup ID: Samp Result: Dup Result: % RPD:

Acceptable Temp. Range = 178 to 182 deg. C

Date:	02-25-09	02-25-09				02-26-09	02-26-09						
Time (Start/Finish):	11:30	14:00	3 hrs			12:00	12:00	3 hrs					
Temp (Start/Finish):	180.2					180°C	180°C						

Bottle #	Dish #	Sample ID	Volume Filtered in ml	Tare Weight in g	Weight after drying at 180 deg. C in g	Redry?	Redry # 2 Weight in g (a)	Redry?	Redry # 3 Weight in g (a)	Constant Weight in g (a)	TDS in mg/l (Calculated)	Final TDS in mg/l
	096	GN1307-1481	100 ml	57.6517	57.6516		57.6518		J/U	0.0001	1	1
	005	TDS STD 1000	100 ml	64.0967	64.1987		64.1983			0.1016	1016	1016 = 101.6%
	021	CA5507-1	100 ml	67.0210	67.0302		67.0301			0.0041	91	91
	004	GN1307-D1	100 ml	57.0318	57.0407		57.0406			0.0088	88	88
	017	CA5507-6	100 ml	57.6499	57.6596		57.6597			0.0094	94	94
	002	CA5505-1	100 ml	62.3460	62.8974		62.8972			0.5512	5512	5120

HD 2/27/09

(a) Redries are not required for samples with <DL of TDS after the initial weighing.
Note: Constant weight is a change of <4% of the sample weight or 0.5 mg, whichever is less.

Analyst: RL Date: 02-25-09 QC Reviewer: HD Date: 2/27/09

(44)

Comments:

10.2.3 10

Chemical Oxygen Demand (COD)

EPA 410.4 / HACH 8000 / Std. Methods (18th Ed.) 5220D

GP559

Batch #: EN1313
Matrix: AQ
Analysis Date: 02-27-09
Analyst: RL
Corr. Coeff. N/A
Hach Progam # 430

Standards	mg/L	ABS	Source Code	Exp. Date
0	0		0009002	01-2010
10	10			
100	99			
150	148			
ICV/LCS/LCSD	50		619-1054	02-09-09
MS/MSD	50		0009002	01-2010
Digestion Solution Tube			1409119161	11-2013

0.5 ml vinegar / 4 ml DI H2O = 50.0

→ 0.5 ml × 1000 ppm / 10 ml sample = 50.0

Prep Date. 02-27-09

	Sample ID	Volume (mL)	ABS	Initial Conc. (mg/L)	Dilution Factor	Final Conc. (mg/L)	% Recovery	Comments
	ICV/LCS 0227-09	2ml	N/A	49	1X	49	98%	
	ICB			0		0		
	MB1			0		0		
	B1			52		52	104%	
	B2			49		49	98%	
1	C4507-2			16		16		
2	-5			12		12		
3	-7			9		9		
4	-10			9		9		
5	C4533-1			126		126		
6	-2			85		85		
7	-3			52		52		
8	CCV			99		99	99%	
9	CCB			0		0		
10	GP559-S1			100		100	96%	C4533-3
	GP559-S2			101		101	98%	C4533-3
	C4526-1			84	10X	840		
	CCV			99	1X	99	99%	
	CCB			0	1X	0		

Review By: HM

Date: 3/2/09

Page: 028

10.2.4 10

ACCUTEST

Determination Ammonia as N by Ion Selective Electrode

SM 4500-NH3 B (Distillation), 4500-NH3 F (ISE)

Instrument ID = Meter 2

Standards	Source Code	Expiration Date
Cal Std (1000mg/L)	L19-130 D	2-4-09
Std 1 - 0.1 mg/L		
Std 2 - 1.0 mg/L		
Std 3 - 10 mg/L		
QC Std (100mg/L)	[illegible]	7-2009
ISA Reagents	L19-149 B	2-5-2010

GN1315

Matrix: AQ
Batch:
Analysis Date: 2-27-09
Analyst: ED
Slope: -57.7

Date distilled 2-26-09 B/Dr - 5ml x 1000/500ml: ED 3-4-09 8.22 mg

No.	Laboratory ID	Distillation: Sample Weight (g)	Sample Volume (ml)	Borate Buffer Solution (ml)	6.0M NaOH (ml)	Distill Volume (ml)	Final Volume (ml)	NH3-N determination, ISE: Sample Vol. used (ml)	pH Adjusting ISA added	Initial Reading mg/L	DF	Final Con. mg/L as NH3-N	Comments
	ICV	1g	1L					50ml	1ml	1.04	1x	1.04	
	CCB									0.000		0.000	
	LCS Std - NH3		100	20ml	20ml	100ml	500ml			0.000		0.000	
	LCS Std - Br									8.39		8.39	102.12
	LCS Std - Br									8.42		8.42	102.47 / 0.102.47
	CCV07 - 1									0.108		0.108	
	LCS Std - Cl									5.16		5.16	101.88
	LCS Std - Cl									5.25		5.25	101.52 / 1.733
	CCV07 - 6									0.235		0.235	
	CCV07 - 7									73.3	1x	73.3	
RR	1 1									8.36	10x	83.6	
	CCV									0.992	1x	0.992	
	CCB									0.000	1x	0.000	

Distillation Reagents	Source Code	Expiration Date
Indicating Boric Acid	—	—
Borate Buffer	L19-131 E	3-19-09
6 M NaOH	L19-146 E	11-1-09
0.0N H2SO4	L19-121 F	2-17-10

B/Dr : 5ml x 822 g/500ml : 8.22 mg

Cl/Br2 - 25ml x 1000/500ml : 5 mg

Checking Electrode Operation	mg/L	mV / Reading
First Potential Reading (mV)		96.3
Second potential Reading (mV)		10.4
Slope (Range -54 to -60mV)	Slope -->	-56.7

Validate By: _____ Date: _____ Page: 48

ACCUTEST

APPENDIX D

HiPOx COMMISSIONING CHECK LIST

CUSTOMER PRE-STARTUP CHECKLIST - HiPOx

The installation tasks listed below need to be completed by the Customer before Applied Process Technology, Inc., (Applied) personnel can commission and startup the HiPOx advanced oxidation system. Applied requests that the Customer complete the installation tasks, initial and sign the form, and **fax it to the Applied Service Coordinator at 925-977-1818**. If any of the listed tasks have not been satisfactorily completed prior to Applied's arrival at the site for equipment startup, the Customer may incur additional charges in order for Applied to complete the tasks or to reschedule the site visit. Applied requests a minimum of ten (10) business days advance notice for rescheduling startups.

Customer: _____ **Site Address:** _____

Contact Name: _____ **Phone Number(s):** _____

Requested Startup Date: _____ **Delivery Date:** _____

Pre-Startup Task	Initial when Complete
1. All permits and regulatory agency approvals required to allow installation, start-up and operation of the HiPOx system and to allow discharge of properly treated water are in place.	
2. The equipment pad, site security, fencing, enclosure, weather protection, up-stream/down-stream equipment, and/or associated equipment are in place and operational as specified. Temporary water storage required for startup, if any, is in place.	
3. The HiPOx equipment is placed, anchored and level in its final location.	
4. All plumbing connections to the HiPOx unit are installed and tested to verify there are no leaks. Including: - Feed water (influent) connection. - Product water (effluent) connection to break tank, drain, or downstream equipment.	
5. Oxygen dewars, LOX bulk tank, or PSA are in place and connected to the HiPOx system.	
6. A 55-gallon drum or bulk tank of technical grade hydrogen peroxide (at specified strength) is on-site and stored in secondary containment. DO NOT FILL THE HIPOX ON-BOARD HYDROGEN PEROXIDE TANK UNTIL AN APPLIED REPRESENTATIVE ARRIVES. *Note: An Applied representative will fill the HiPOx on-board hydrogen peroxide tank upon arrival to the site.*	
7. Proper electrical power service is connected to the HiPOx unit main disconnect and power is available.	
8. Control Wire connections are complete and landed on the HiPOx and customer ends. Only the connections required by the customer must be complete. Basic control interface connections are: - Input to HiPOx (customer dry contacts): - Remote Alarm Acknowledge - Remote Start/Stop - Forward Permissive - Output from HiPOx (HiPOx dry contacts): - Shutdown Contacts - Alarm Contacts - Run Contacts - Fill/Source Pump Contacts	
9. Changes to the customer control system wiring and/or programming are complete, if required.	
10. Influent water at the design flow rate and quality are available for processing.	
11. All required safety measures are in place.	
12. A telephone line is connected or available for connection to the HiPOx unit *(indicate NA if dial-out modem is not part of the system).*	

The above information is correct as reported.

Signature: _____ **Date:** _____

Applied Process Technology, Inc., 3333 Vincent Road, Suite 222, Pleasant Hill, CA 94523 Tel: (925) 977-1811 Fax: (925) 977-1818 www.aptwater.com

APPENDIX E

BRUNSWICK SEWER DISTRICT CORRESPONDENCE

Brunswick Sewer District
10 PINE TREE ROAD
BRUNSWICK, MAINE 04011
TELEPHONE (207) 729-0148 bsd@brunswicksewer.org FAX (207) 729-0149

04 September 2009

Environmental Department
Naval Air Station Brunswick
437 Huey Drive
Brunswick, Maine 04011

Attn: Mr. Walter A. Lach
Environmental Protection Specialist

Re: Extraction Well EW-05B Activation
Effluent Discharge to the Municipal Sanitary Sewer System

Subject: Authorization to Discharge

Dear Mr. Lach:

Based on the recommendation of our consultant following their review of the data provided to us in TABLE 1 – CONSERVATIVE ESTIMATE OF TREATED EFFLUENT AT 50-60 GPM FROM EXTRACTION WELLS EW-01; EW-02; EW-04; AND EW-05B GROUND-WATER EXTRACTION AND TREATMENT SYSTEM (BUILDING 50) NAVAL AIR STATION, BRUNSWICK, MAINE, attached herein and made part of this authorization, the Brunswick Sewer District is granting authorization to proceed with the proposed effluent discharge from the Ground-Water Extraction and Treatment System (GWETS) to the municipal sanitary sewer system per the:

- Quantity requested: 50-60 GPM;
- Time frame requested: 24 hours per day, for 2-3 weeks;
- And within the Discharge Limits indicated in Table 1.

This authorization to discharge is conditioned upon:

1. The District receiving confirmation, prior to commencement of discharge, that the following metals of concern do not exceed the District's effluent toxicity discharge limit as established by MeDEP, which limits have been provided to the US Navy's consultant ECC for review and report: aluminum, copper, mercury, silver, and selenium.

2. The District to be furnished timely all testing results derived from the HiPOx confirmatory samples collected during the HiPOx pilot testing conducted during the term of this authorization. It is our understanding that the sampling schedule will be daily for the first week, then weekly thereafter.

Yours,
BRUNSWICK SEWER DISTRICT

Leonard Blanchette
Assistant General Manager

Copy: Gregory H. Thulen, Treatment Operations Supervisor, Brunswick Sewer District

Encl. (1)

O:\CurrentF\USNavy\Grndwtr.Rem\EW-05B 2009\NASB\Discharge Authorization090409.doc

TABLE 1

CONSERVATIVE ESTIMATE OF TREATED EFFLUENT WITH EXTRACTION WELLS EW-01; EW-02A; EW-04; AND EW-05B GROUND-WATER EXTRACTION AND TREATMENT SYSTEM (BUILDING 50) NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter[a]	Method	Anticipated Range	Discharge Limit [b]	MEG (ppb)	MCL (ppb)
TREATMENT PLANT EFFLUENT					
Arsenic, Total	EPA6010B	1 - 3	50	10	10
Chromium, Total	EPA6010B	0.25 - 2	10	40	100
Cyanide, Total	EPA9010	0	34	140	200
Nickel, Total	EPA6010B	0.25 - 2	78	140	100*
Lead, Total	EPA6010B	0	15	10	15
Zinc, Total	EPA6010B	3 - 8	200	2,000	2,000*
Iron, Total	EPA6010B	2 - 8	NA	NA	NA
Manganese, Total	EPA6010B	0 - 2	NA	500	NA
1,1,1-Trichloroethane	EPA8260B	0	750	200	200
1,1-Dichloroethane	EPA8260B	0	94	70	NA
1,1-Dichloroethene	EPA8260B	0	7	0.6	7
cis-1,2-Dichloroethene	EPA8260B	0	70[c]	70	70
trans-1,2-Dichloroethene	EPA8260B	0	--	140	100
Methylene chloride	EPA8260B	0	5	NA	NA
Tetrachloroethene	EPA8260B	0	5	7	5
Trichloroethene	EPA8260B	0	5	32	5
Vinyl chloride	EPA8260B	0	2	0.2	2
1,4-Dioxane	EPA8260B/SIM	**20 - 50**	NA	32	NA

(a) Results reported in µg/L.
(b) Maximum effluent discharge limit established by Brunswick Sewer District Draft Permit (Dec. 1994).
(c) Combined 1, 2-dichloroethane (*cis* and *trans*) not to exceed 70 µg/L.
* - EPA Health Advisory
NOTE: EPA = U.S. Environmental Protection Agency.
NA = Discharge limit applicable to treatment plant effluent only.
SIM = Selective Ion Monitoring

Brunswick Sewer District
10 Pine Tree Road
Brunswick, Maine 04011

TELEPHONE (207) 729-0148 FAX (207) 729-0149

RE Letter Regarding Discharge to BSD - Metals Concentrations-bsd-2

From: Leonard Blanchette
Sent: Friday, September 25, 2009 4:33 PM
To: 'Lach, Walter A CIV NAS Brunswick, N45'
Cc: Gregory H. Thulen
Subject: RE: Letter Regarding Discharge to BSD - Metals Concentrations

Good Afternoon Walter:

My review of the results indicates that all of the results are well below our effluent toxicity limits as established by MDEP. As such, you may discharge per our authorization dated 04 September 2009.

Sincerely,

Leonard Blanchette
Assistant General Manager
Brunswick Sewer District
10 Pine Tree Road
Brunswick, Maine 04011
(T) 207-729-0148 Ext 15
(F) 207-729-0149
(C) 207-841-6509
AGM@brunswicksewer.org

APPENDIX F

RESPONSE TO COMMENTS

AND

REGULATOR CONCURRENCE

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE, NORTHEAST
4911 SOUTH BROAD STREET
PHILADELPHIA, PA 19112-1303

5090
BPMO NE/TB
Ser 09-245
September 22, 2009

Mr. Michael J. Daly
Remedial Project Manager
Federal Facilities Superfund Section
U.S. Environmental Protection Agency (EPA)
1 Congress Street, Suite 1100 (HBT)
Boston, MA 02114-2023

Ms. Claudia Sait
Remedial Project Manager
Maine Department of Environmental Protection (MEDEP)
Bureau of Remediation and Waste Management
17 State House Station
Augusta, ME 04333-0017

Dear Mr. Daly and Ms. Sait:

Enclosed you will find the Navy Responses to Regulator Comments (RTCs) on the Draft HiPOx Pilot Study Work Plan for the Groundwater Extraction and Treatment System, Naval Air Station (NAS) Brunswick, Maine. These RTCs are provided for your review and concurrence.

If you have any questions or comments, please contact the Navy's Remedial Project Manager, Todd Bober at (215) 897-4911.

Sincerely,

Paul F. Burgio
BRAC Environmental Coordinator
By direction of BRAC PMO

Enclosure:
Navy Responses to RTCs on the Draft HiPOx Pilot Study Work Plan for the Groundwater Extraction and Treatment System, NAS Brunswick, Maine

Copy to:
MEDEP (C. Evans)
Gannet-Fleming (D. McTigue)
NASB (L. Joy, M. Fagan)
Lepage Environmental (C. Lepage)
NAVFAC MIDLANT (T. Bober)
NAVFAC ATLANTIC (J. Wright, B. Capito)
TtNUS (L. Klink, C. Race, J. Orient)
ECC (A. Easterday, G. Calderone, C. Guido)

Copy to: (w/o encl)
BRAC PMO NE (P. Burgio)
NAVFAC ATLANTIC (D. Barclift)
BACSE (E. Benedikt, C. Warren)
CO NASB (CAPT Fitzgerald)
RAB Brunswick Representative (S. Johnson)
RAB Harpswell Representative (D. Chipman)
RAB Topsham Representative (S. Libby)
MRRA (V. Boundy)

RESPONSE TO COMMENTS
U.S. ENVIRONMENTAL PROTECTION AGENCY
DRAFT HiPOx PILOT STUDY WORK PLAN FOR THE GROUNDWATER EXTRACTION AND TREATMENT SYSTEM
NAVAL AIR STATION BRUNSWICK, MAINE

Commentor: Michael Daly, Remedial Project Manager	
Comment Issue Date: 25 August 2009	**Navy Response Date: 22 September 2009**

The U.S. Environmental Protection Agency has reviewed the subject document and comments are below:

GENERAL COMMENTS:

1. Successful implementation of this pilot study to bring Eastern Plume extraction well EW-5B online along with the advanced oxidation system to treat influent 1,4-dioxane and CVOC ground water contamination relies on the Navy's ability to discharge untreated and treated Eastern Plume ground water to the Brunswick POTW for treatment. A revised pilot study strategy will need to prepared should the Brunswick sewer district reject the Navy's request to discharge extracted ground water to their treatment works. EPA is supportive of the Navy's approach in trying to establish a more realistic revised "steady state" GWETS flow rate and CVOC/1,4-dioxane concentration in order to optimize O_3 and H_2O_2 dosing rates to the advanced oxidation treatment unit. EPA also strongly supports the Navy's efforts through this pilot study to simplify and improve the energy efficiency of the GWETS by evaluating the elimination of the air stripping unit operation once the advanced oxidation unit becomes operational.

   Response: Comment noted. The Brunswick Sewer District has conditionally approved the Navy's request to discharge plant effluent to their treatment facility for this pilot test. The Navy appreciates EPA's comment regarding our efforts to optimize the NAS Brunswick GWETS and promote energy efficient remediation.

2. Although not part of the scope of the work plan, the Navy/ECC will need to update the O&M Plan for the GWETS system to account for the addition of the HiPOx unit and the optimized extraction well scheme.

   Response: After the HiPOx Pilot Test Report is issued, the GWETS Operations and Maintenance manual will be updated to reflect the changes to the plant.

SPECIFIC COMMENTS:

3a. **Section 4.2 – HiPOx System Prove-out & Section 4.3 – Pilot Test Procedures:** It is EPA's understanding that EW-5B will be turned on 7-10 days ahead of the start of the pilot test in order to establish a steady state operational pumping rate and CVOC/1,4-dioxane concentration. This operational flow rate/contaminant concentration for EW-5B will then be combined with extracted ground water from operating EWs-1, 2A, & 4. This combined flow/contaminant loading rate will be the basis for HiPOx system prove-out and pilot testing. This element of the pilot study, although not detailed in this work plan, will also require the Navy to discharge untreated EW-5B water to the Brunswick Sewer District, subject to their approval. EPA further understands that EW-5B start-up testing and operations will be detailed in a separate technical memo that will be forthcoming.

Response: The Navy has issued a technical memorandum entitled "Extraction Well EW-5B Activation" on 11 September 2009 to the US EPA and MEDEP. In addition, the Navy has received conditionally approval from the Brunswick Sewer District to discharge effluent to the Sewer District for the Pilot Test including the start up of EW-5B prior to installation of HiPOx HCU unit. The Brunswick Sewer District's correspondence dated 4 September 2009 will be attached to the final work plan.

3b. While these two sections describe the frequency and types of analytical sampling that will be conducted on influent, intermediate treatment processes, and effluent water to demonstrate achievement of treatment system goals and meet regulatory compliance requirements for activities specified in this work plan, EPA requests that a table be generated along with this work plan that provides details of the sampling program (i.e., type of sample, frequency, lab turn-around requirements for samples) needed to evaluate GWETS performance and meet regulatory compliance requirements.

Response: The HiPOx Pilot Test sample summary table will be provided in the final work plan and is included in the response to comment for your review.

3c. Although not completely clear on this point in the work plan, the Navy intends to begin sending GWETS effluent to the infiltration gallery after the 1-week GWETS prove-out (with the HiPOx unit online) is completed. The work plan does not specify when analytical lab results from the 1-week system prove-out sampling will become available in order to determine if the treated effluent is of adequate quality to discharge to the infiltration gallery. EPA assumes the Navy will specify a 24-48hr turnaround lab analysis of these samples and provide the data quickly to the project team for timely review and discussion. An optimistic expectation of this prove-out phase is that regulator approval can be granted to the Navy to switch the discharge of treated effluent from the sanitary sewer to the infiltration gallery

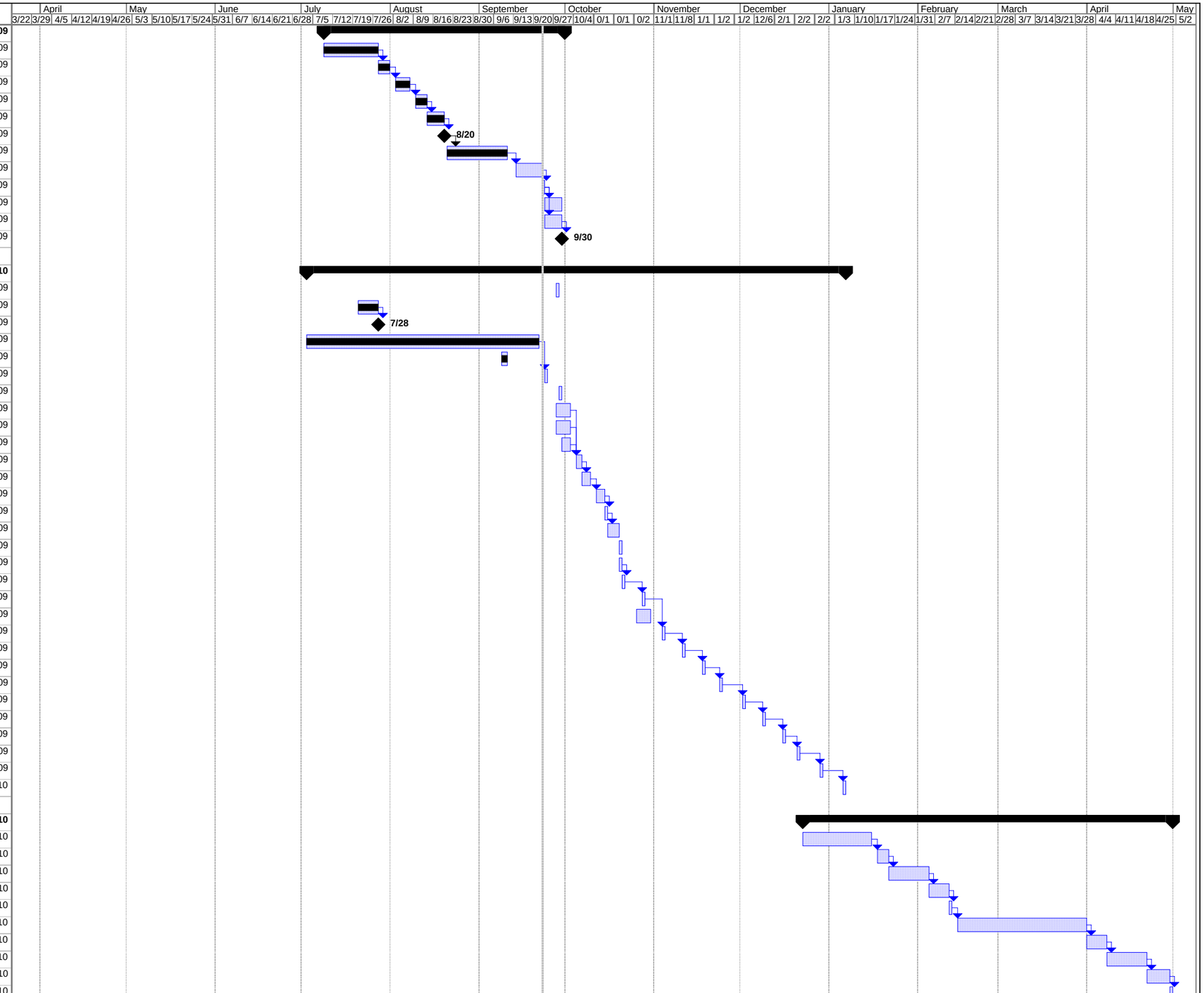
immediately upon completion of the prove-out phase, providing the prove-out effluent data sets are favorable. EPA is willing to provide the Navy with timely review of sampling data so that a timely and cost effective decision can be made for handling GWETS effluent upon completion on the GWETS system prove-out phase.

Response: During the 3 day test run period (currently scheduled for 7 October through 9 October 2009), analytical samples will be collected as presented in the sample summary table. These daily samples will be submitted to an analytical laboratory for a 3 day turn around time. Once each day's analytical data is received from the laboratory by the Navy, it will be forwarded that same day to the MEDEP and EPA Remedial Project Managers for their review and information. All sample data is expected to be received by close of business on 14 October 2009. The Navy intends to convene a conference call on 16 October 2009 (Friday) with the regulators to review the analytical data from the 3 day text run and seek approval to cease discharge to the Brunswick Sewer District and re-direct the plant effluent to the on-site infiltration gallery.

ATTACHMENTS

1. **HiPOx Pilot Study Schedule, 23 September 2009**
2. **HiPOx Pilot Study Laboratory Sample Summary Table**
3. **Brunswick Sewer District Conditional Approval Letter**

ID	Task Name	Duration	Start	Finish
1	**Pilot Study Work Plan**	**60 days**	**Thu 7/9/09**	**Wed 9/30/09**
2	Generate Work Plan	13 days	Thu 7/9/09	Mon 7/27/09
3	H&S review of draft work plan	4 days	Tue 7/28/09	Fri 7/31/09
4	Internal Draft for Navy Review	5 days	Mon 8/3/09	Fri 8/7/09
5	Navy review and comment revised WP	4 days	Mon 8/10/09	Thu 8/13/09
6	Address Navy Comments and Revise Work Plan	4 days	Fri 8/14/09	Wed 8/19/09
7	Issue Draft Work Plan to Regulators	1 day	Thu 8/20/09	Thu 8/20/09
8	Regulatory Review and Comments	15 days	Fri 8/21/09	Thu 9/10/09
9	Prepare Response to Comments	7 days	Mon 9/14/09	Tue 9/22/09
10	Issue RTCs for regulatory review	1 day	Wed 9/23/09	Wed 9/23/09
11	Regulator Review RTCs & Concurrence	4 days	Thu 9/24/09	Tue 9/29/09
12	Prepare Final Work Plan	4 days	Thu 9/24/09	Tue 9/29/09
13	Issue Final Work Plan	1 day	Wed 9/30/09	Wed 9/30/09
14				
15	**Execute Pilot Study**	**134 days?**	**Fri 7/3/09**	**Wed 1/6/10**
16	Kick-off Meeting for Pilot Study	1 day	Mon 9/28/09	Mon 9/28/09
17	HiPOx Design Drawings Review	5 days	Tue 7/21/09	Mon 7/27/09
18	Navy Approval of HiPOx Unit Drawings	1 day?	Tue 7/28/09	Tue 7/28/09
19	Order and Build HiPOX Unit	57 days	Fri 7/3/09	Mon 9/21/09
20	Install Concrete Pad for HiPOX Unit	2 days	Wed 9/9/09	Thu 9/10/09
21	Receive and Sercure HiPOX Unit	1 day	Thu 9/24/09	Thu 9/24/09
22	Extraction Well EW-5B Start Up	1 day?	Tue 9/29/09	Tue 9/29/09
23	Mechanical	5 days	Mon 9/28/09	Fri 10/2/09
24	Electrical	5 days	Mon 9/28/09	Fri 10/2/09
25	SCADA	3 days	Wed 9/30/09	Fri 10/2/09
26	APT calibration of HiPOX Unit	2 days	Mon 10/5/09	Tue 10/6/09
27	Test Run of HiPOX Unit - 3 Days	3 days	Wed 10/7/09	Fri 10/9/09
28	Laboratory analysis of Test Run samples	3 days	Mon 10/12/09	Wed 10/14/09
29	Transmit Test Run Data to Stakeholders	1 day	Thu 10/15/09	Thu 10/15/09
30	Stakeholder Review of Test Run Data	2 days	Fri 10/16/09	Mon 10/19/09
31	Navy Approval to Operate HiPOX	1 day	Tue 10/20/09	Tue 10/20/09
32	Cease discharge to BSD	1 day?	Tue 10/20/09	Tue 10/20/09
33	Week 1 Sample and Analysis Influent & Effluent	1 day	Wed 10/21/09	Wed 10/21/09
34	Week 2 Sample and Analysis Influent & Effluent	1 day	Wed 10/28/09	Wed 10/28/09
35	Air Stripper Shut Down Test	5 days	Mon 10/26/09	Fri 10/30/09
36	Week 3 Sample and Analysis Influent & Effluent	1 day	Wed 11/4/09	Wed 11/4/09
37	Week 4 Sample and Analysis Influent & Effluent	1 day	Wed 11/11/09	Wed 11/11/09
38	Week 5 Sample and Analysis Influent & Effluent	1 day	Wed 11/18/09	Wed 11/18/09
39	Week 6 Sample and Analysis Influent & Effluent	1 day	Tue 11/24/09	Tue 11/24/09
40	Week 7 Sample and Analysis Influent & Effluent	1 day	Wed 12/2/09	Wed 12/2/09
41	Week 8 Sample and Analysis Influent & Effluent	1 day	Wed 12/9/09	Wed 12/9/09
42	Week 9 Sample and Analysis Influent & Effluent	1 day	Wed 12/16/09	Wed 12/16/09
43	Week 10 Sample and Analysis Influent & Effluent	1 day	Mon 12/21/09	Mon 12/21/09
44	Week 11 Sample and Analysis Influent & Effluent	1 day	Tue 12/29/09	Tue 12/29/09
45	Week 12 Sample and Analysis Influent & Effluent	1 day	Wed 1/6/10	Wed 1/6/10
46				
47	**Pilot Study Completion Report**	**93 days**	**Wed 12/23/09**	**Fri 4/30/10**
48	Generate Completion Report	18 days	Wed 12/23/09	Fri 1/15/10
49	H&S review of Completion Report	4 days	Mon 1/18/10	Thu 1/21/10
50	Internal Draft for Navy Review	10 days	Fri 1/22/10	Thu 2/4/10
51	Address Navy Comments and Revise Report	5 days	Fri 2/5/10	Thu 2/11/10
52	Issue Draft Report to Regulators	1 day	Fri 2/12/10	Fri 2/12/10
53	Regulatory Review and Comments	33 days	Mon 2/15/10	Wed 3/31/10
54	Prepare Response to Comments	5 days	Thu 4/1/10	Wed 4/7/10
55	Regulator Review RTCs & Concurrence	10 days	Thu 4/8/10	Wed 4/21/10
56	Prepare Final Report	6 days	Thu 4/22/10	Thu 4/29/10
57	Issue Final Report	1 day	Fri 4/30/10	Fri 4/30/10



Project: dioxane pilot study REVISED
Date: Wed 9/23/09

Task | Progress | Summary | External Tasks | Deadline
Split | Milestone | Project Summary | External Milestone

Table 1
HiPOx Pilot Study
Analytical Summary
30 September 2009

Task	Sample Location	Sample Frequency	Laboratory Analysis		QA/QC Samples			Total Laboratory Analysis		
			VOCs (8260B)	1,4-dioxane (8260B SIMs)	Trip Blank	Duplicate	MS/MSD	VOC	1,4-Dioxane	Total
1										
3-Day Prove Out	Influent	2 sample/day x 3 days	6	6	0	0	0	6	6	12
	After HiPOx	2 sample/day x 3 days	6	6	0	0	0	6	6	12
	Effluent	2 sample/day x 3 days	6	6	3	3	3	18	18	36
2	Influent	1 sample/week x 12 wks	12	12	0	0	0	12	12	24
12 Week Pilot Period	After HiPOx	1 sample/week x 12 wks	12	12	0	0	0	12	12	24
	Effluent	1 sample/week x 12 wks	12	12	12	12	1	38	38	76
3	Influent to GAC	1 sample on First Day	1	1	0	0	0	1	1	2
Liquid-Phase GAC	Mid-Point GAC	1 sample on First Day	1	1	0	0	0	1	1	2
During Week 2 of	Plant Effluent*	1 sample/day x 4 days	4	4	0	0	0	4	4	8
Pilot Test										
								98	98	196

Notes:
1) Trip and Duplicate samples require separate analyses for VOC and 1,4-dioxane.
2) MS/MSD includes two analyses, costs reflected in totals.
* During the liquid-phase GAC testing, plant effluent samples will be collected every day for 5 days, only 4 samples are shown because 1 is included with weekly sampling.
3) The 3-Day Prove Out Samples will be submitted for 3 day turn around time with the analytical laboratory.

Brunswick Sewer District
10 PINE TREE ROAD
BRUNSWICK, MAINE 04011
TELEPHONE (207) 729-0148 bsd@brunswicksewer.org FAX (207) 729-0149

04 September 2009

Environmental Department
Naval Air Station Brunswick
437 Huey Drive
Brunswick, Maine 04011

Attn: Mr. Walter A. Lach
Environmental Protection Specialist

Re: Extraction Well EW-05B Activation
Effluent Discharge to the Municipal Sanitary Sewer System

Subject: Authorization to Discharge

Dear Mr. Lach:

Based on the recommendation of our consultant following their review of the data provided to us in TABLE 1 – CONSERVATIVE ESTIMATE OF TREATED EFFLUENT AT 50-60 GPM FROM EXTRACTION WELLS EW-01; EW-02; EW-04; AND EW-05B GROUND-WATER EXTRACTION AND TREATMENT SYSTEM (BUILDING 50) NAVAL AIR STATION, BRUNSWICK, MAINE, attached herein and made part of this authorization, the Brunswick Sewer District is granting authorization to proceed with the proposed effluent discharge from the Ground-Water Extraction and Treatment System (GWETS) to the municipal sanitary sewer system per the:

- Quantity requested: 50-60 GPM;
- Time frame requested: 24 hours per day, for 2-3 weeks;
- And within the Discharge Limits indicated in Table 1.

This authorization to discharge is conditioned upon:

1. The District receiving confirmation, prior to commencement of discharge, that the following metals of concern do not exceed the District's effluent toxicity discharge limit as established by MeDEP, which limits have been provided to the US Navy's consultant ECC for review and report: aluminum, copper, mercury, silver, and selenium.

2. The District to be furnished timely all testing results derived from the HiPOx confirmatory samples collected during the HiPOx pilot testing conducted during the term of this authorization. It is our understanding that the sampling schedule will be daily for the first week, then weekly thereafter.

Yours,
BRUNSWICK SEWER DISTRICT

Leonard Blanchette
Assistant General Manager

Copy: Gregory H. Thulen, Treatment Operations Supervisor, Brunswick Sewer District

Encl. (1)

O:\CurrentF\USNavy\Grndwtr.Rem\EW-05B 2009\NASB\Discharge Authorization090409.doc

TABLE 1

CONSERVATIVE ESTIMATE OF TREATED EFFLUENT WITH EXTRACTION WELLS EW-01; EW-02A; EW-04; AND EW-05B GROUND-WATER EXTRACTION AND TREATMENT SYSTEM (BUILDING 50) NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter[a]	Method	Anticipated Range	Discharge Limit [b]	MEG (ppb)	MCL (ppb)
TREATMENT PLANT EFFLUENT					
Arsenic, Total	EPA6010B	1 - 3	50	10	10
Chromium, Total	EPA6010B	0.25 - 2	10	40	100
Cyanide, Total	EPA9010	0	34	140	200
Nickel, Total	EPA6010B	0.25 - 2	78	140	100*
Lead, Total	EPA6010B	0	15	10	15
Zinc, Total	EPA6010B	3 - 8	200	2,000	2,000*
Iron, Total	EPA6010B	2 - 8	NA	NA	NA
Manganese, Total	EPA6010B	0 - 2	NA	500	NA
1,1,1-Trichloroethane	EPA8260B	0	750	200	200
1,1-Dichloroethane	EPA8260B	0	94	70	NA
1,1-Dichloroethene	EPA8260B	0	7	0.6	7
cis-1,2-Dichloroethene	EPA8260B	0	70[c]	70	70
trans-1,2-Dichloroethene	EPA8260B	0	--	140	100
Methylene chloride	EPA8260B	0	5	NA	NA
Tetrachloroethene	EPA8260B	0	5	7	5
Trichloroethene	EPA8260B	0	5	32	5
Vinyl chloride	EPA8260B	0	2	0.2	2
1,4-Dioxane	EPA8260B/SIM	**20 - 50**	NA	32	NA

(a) Results reported in µg/L.
(b) Maximum effluent discharge limit established by Brunswick Sewer District Draft Permit (Dec. 1994).
(c) Combined 1, 2-dichloroethane (*cis* and *trans*) not to exceed 70 µg/L.
* - EPA Health Advisory
NOTE: EPA = U.S. Environmental Protection Agency.
NA = Discharge limit applicable to treatment plant effluent only.
SIM = Selective Ion Monitoring

RESPONSE TO COMMENTS
MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
DRAFT HiPOx PILOT STUDY WORKPLAN FOR THE GROUNDWATER EXTRACTION AND TREATMENT SYSTEM, NAVAL AIR STATION BRUNSWICK, MAINE

Commentor: Claudia Sait, Remedial Project Manager	
Comment Issue Date: 10 September 2009	**Navy Response Date: 22 September 2009**

Pursuant to Section VI of the Naval Air Station, Brunswick, Maine Federal Facility Agreement (Oct 1990), as amended, the Maine Department of Environmental Protection (MEDEP) has reviewed the draft "HiPOx Study Workplan for the Groundwater Extraction and Treatment System", dated August 2009, prepared by ECC. Based on that review MEDEP has the following comments and issues.

GENERAL COMMENTS:

1. MEDEP has reviewed the Draft HiPOx Pilot Study Work Plan and has no reservations over the work proposed. The bench scale testing suggests that the HiPOx technology should successfully treat 1,4-dioxane at concentration expected in the Eastern Plume extraction system. The pilot study will enable the Naval Air Station, Brunswick to determine the optimal equipment configuration and dosing rates for full-scale operation, as well as evaluate whether the stripper can be removed from the treatment train. (No response required.)

   Response: Comment noted.

2. The pretreatment for metals removal is not proposed, and the existing equipment to accomplish this has been taken offline, apparently without adversely affecting the stripper or GAC treatment equipment. In MEDEP's experience, even low concentrations of dissolved iron or manganese in groundwater precipitate readily upon aeration and cause serious maintenance headaches. How has the Ground Water Treatment System plant avoided this problem?

   Response: Yes, we have had the same experience with low concentrations of iron and manganese. This is evidenced by the need to clean the GWETS air stripper 2 to 3 times per year to remove accumulated iron from the aeration trays. The plant also utilizes the green sand and bag filters to remove precipitated metals.

   The GWETS metals removal equipment is off-line, since this equipment was only required for the treatment of inorganics from extraction wells EW-06 and EW-07 at Sites 1&3 Landfill. These extraction wells were deactivated on 19 November 1997; therefore, the treatment for metals was no longer required.

3. To keep up with the progress of the work, MEDEP would like to be provided with brief weekly updates on the progress of the installation, pilot testing and prove out.

Response: Brief weekly email updates will be provided to all project stakeholders. We will begin these weekly updates at the end of the week of 25 September 2009.

4. Please add documentation from the Brunswick Sewer District agreeing to accept the prove-out water to the final work plan.

   Response: The Brunswick Sewer District's correspondence will be included as an attachment to the final work plan.

5. In the final pilot test report please include schematic drawings of the plant components showing active and inactive components and the flow of water and waste through the system.

   Response: The HiPOx Pilot Test Report will include these figures. In addition, please see response to comment No. 6 and these figures will also be included in the report.

SPECIFIC COMMENTS:

6. Sections 1.2.2 and 1.2.3 reference Figures 1-4 and 1-5, neither of which is included in the Work Plan. It appears Figure 3-1 shows the same schematic drawing. Please correct, as necessary.

   Response: Figures 1-3, 1-5, and 1-6 (GWETS flow chart figures) were not included in the draft work plan. In addition, Figure 1-3 was misidentified in the draft work plan and should have been referenced as Figure 1-4. The figure call outs in the work plan will be corrected in the final version. Flow chart figures 1-3, 1-5, and 1-6 are attached to this response to comment document for your review.

ATTACHMENTS

1. **Brunswick Sewer District Conditional Approval Letter**
2. **Work Plan Figures 1-3, 1-5, and 1-6**

Brunswick Sewer District
10 PINE TREE ROAD
BRUNSWICK, MAINE 04011
TELEPHONE (207) 729-0148 bsd@brunswicksewer.org FAX (207) 729-0149

04 September 2009

Environmental Department
Naval Air Station Brunswick
437 Huey Drive
Brunswick, Maine 04011

Attn: Mr. Walter A. Lach
Environmental Protection Specialist

Re: Extraction Well EW-05B Activation
Effluent Discharge to the Municipal Sanitary Sewer System

Subject: Authorization to Discharge

Dear Mr. Lach:

Based on the recommendation of our consultant following their review of the data provided to us in TABLE 1 – CONSERVATIVE ESTIMATE OF TREATED EFFLUENT AT 50-60 GPM FROM EXTRACTION WELLS EW-01; EW-02; EW-04; AND EW-05B GROUND-WATER EXTRACTION AND TREATMENT SYSTEM (BUILDING 50) NAVAL AIR STATION, BRUNSWICK, MAINE, attached herein and made part of this authorization, the Brunswick Sewer District is granting authorization to proceed with the proposed effluent discharge from the Ground-Water Extraction and Treatment System (GWETS) to the municipal sanitary sewer system per the:

- Quantity requested: 50-60 GPM;
- Time frame requested: 24 hours per day, for 2-3 weeks;
- And within the Discharge Limits indicated in Table 1.

This authorization to discharge is conditioned upon:

1. The District receiving confirmation, prior to commencement of discharge, that the following metals of concern do not exceed the District's effluent toxicity discharge limit as established by MeDEP, which limits have been provided to the US Navy's consultant ECC for review and report: aluminum, copper, mercury, silver, and selenium.

2. The District to be furnished timely all testing results derived from the HiPOx confirmatory samples collected during the HiPOx pilot testing conducted during the term of this authorization. It is our understanding that the sampling schedule will be daily for the first week, then weekly thereafter.

Yours,
BRUNSWICK SEWER DISTRICT

Leonard Blanchette
Assistant General Manager

Copy: Gregory H. Thulen, Treatment Operations Supervisor, Brunswick Sewer District

Encl. (1)

O:\CurrentF\USNavy\Grndwtr.Rem\EW-05B 2009\NASB\Discharge Authorization090409.doc

TABLE 1

CONSERVATIVE ESTIMATE OF TREATED EFFLUENT WITH EXTRACTION WELLS EW-01; EW-02A; EW-04; AND EW-05B GROUND-WATER EXTRACTION AND TREATMENT SYSTEM (BUILDING 50) NAVAL AIR STATION, BRUNSWICK, MAINE

Parameter[a]	Method	Anticipated Range	Discharge Limit [b]	MEG (ppb)	MCL (ppb)
TREATMENT PLANT EFFLUENT					
Arsenic, Total	EPA6010B	1 - 3	50	10	10
Chromium, Total	EPA6010B	0.25 - 2	10	40	100
Cyanide, Total	EPA9010	0	34	140	200
Nickel, Total	EPA6010B	0.25 - 2	78	140	100*
Lead, Total	EPA6010B	0	15	10	15
Zinc, Total	EPA6010B	3 - 8	200	2,000	2,000*
Iron, Total	EPA6010B	2 - 8	NA	NA	NA
Manganese, Total	EPA6010B	0 - 2	NA	500	NA
1,1,1-Trichloroethane	EPA8260B	0	750	200	200
1,1-Dichloroethane	EPA8260B	0	94	70	NA
1,1-Dichloroethene	EPA8260B	0	7	0.6	7
cis-1,2-Dichloroethene	EPA8260B	0	70[c]	70	70
trans-1,2-Dichloroethene	EPA8260B	0	--	140	100
Methylene chloride	EPA8260B	0	5	NA	NA
Tetrachloroethene	EPA8260B	0	5	7	5
Trichloroethene	EPA8260B	0	5	32	5
Vinyl chloride	EPA8260B	0	2	0.2	2
1,4-Dioxane	EPA8260B/SIM	**20 - 50**	NA	32	NA

(a) Results reported in µg/L.
(b) Maximum effluent discharge limit established by Brunswick Sewer District Draft Permit (Dec. 1994).
(c) Combined 1, 2-dichloroethane (*cis* and *trans*) not to exceed 70 µg/L.
* - EPA Health Advisory
NOTE: EPA = U.S. Environmental Protection Agency.
NA = Discharge limit applicable to treatment plant effluent only.
SIM = Selective Ion Monitoring

FIGURE 1-3
GWETS with Air-Stripper and GAC

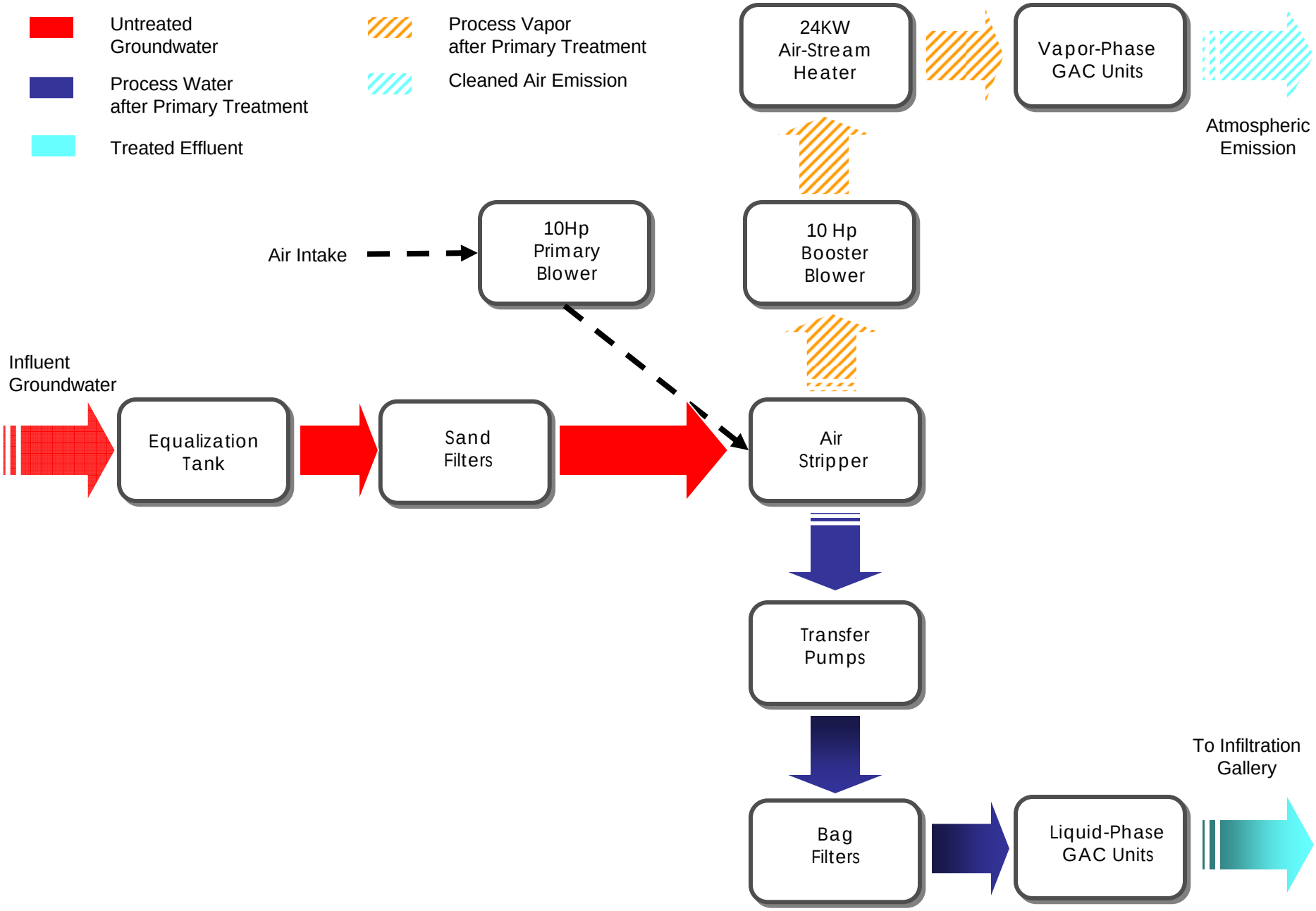


FIGURE 1-5
GWETS with HiPOx and Air-Stripper

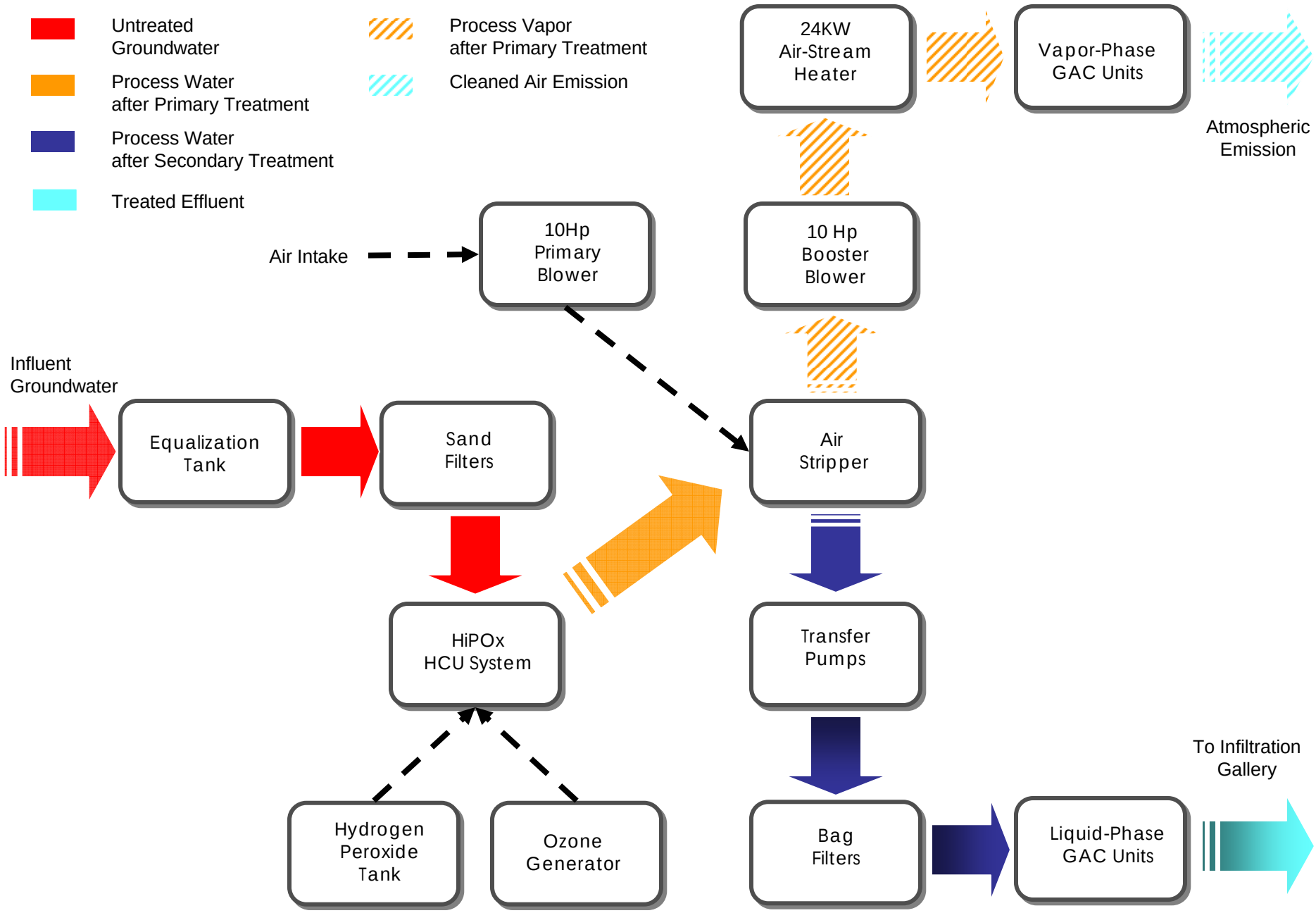
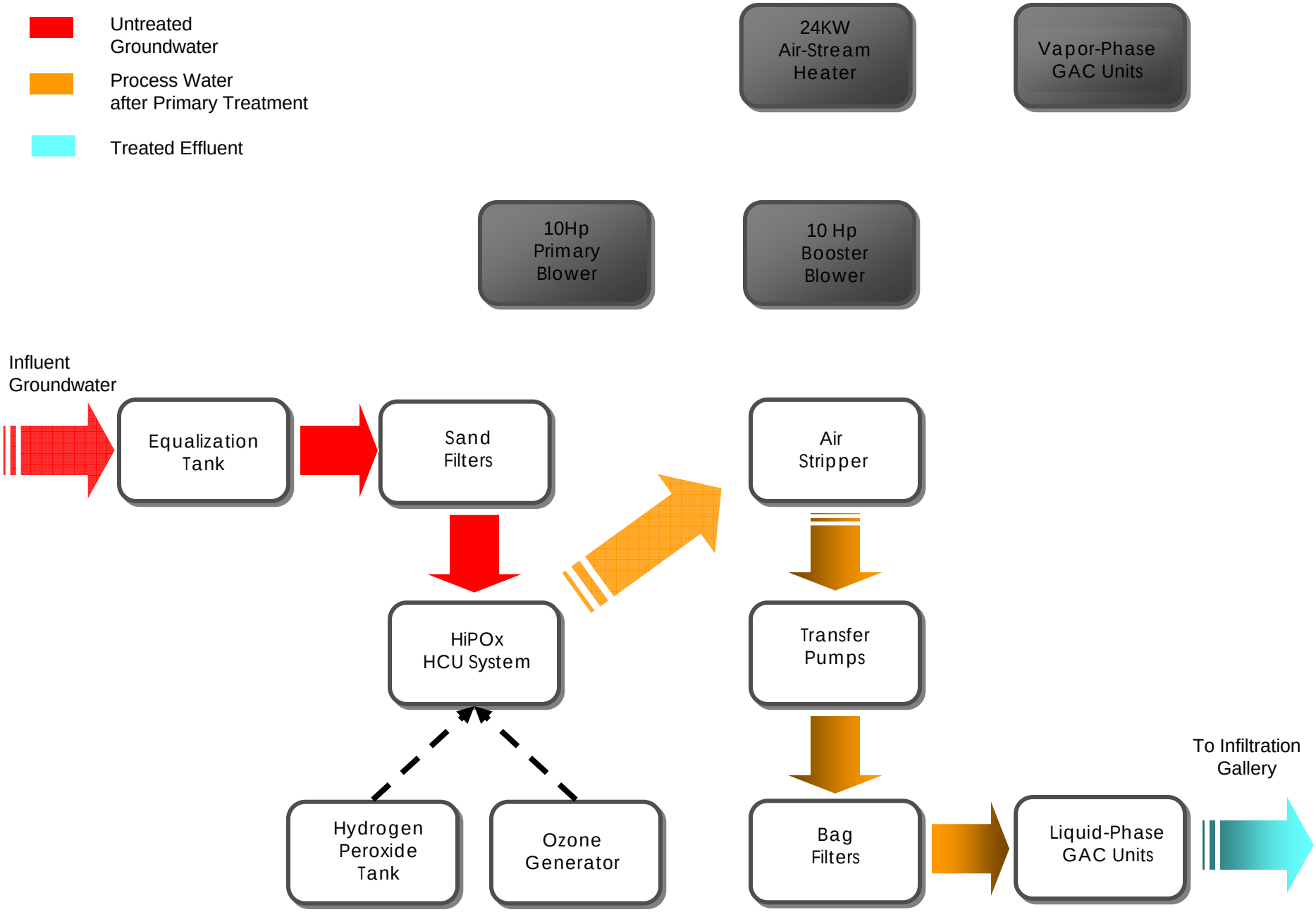


FIGURE 1-6
GWETS with HiPOx and Liquid-Phase GAC



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI
GOVERNOR

DAVID P. LITTELL
COMMISSIONER

September 28, 2009

Mr. Todd Bober
Department of Navy
Base Realignment and Closure
Program Management Office-Northeast
4911 South Broad Street
Philadelphia, PA 19112-1303

Re: HiPOx Pilot Study Work Plan
Naval Air Station, Brunswick, Maine

Dear Mr. Bober:

Pursuant to Section VI of the Naval Air Station, Brunswick, Maine Federal Facility Agreement (Oct 1990), as amended, the Maine Department of Environmental Protection (MEDEP) has reviewed the Navy's responses dated September 22, 2009, to MEDEP's comments, dated September 10, 2009, for draft "HiPOx Pilot Study Work Plan for the Groundwater Extraction and Treatment System", dated August 2009, prepared by ECC. Based on that review, MEDEP has no further comments provided that regulator comments, the Navy's responses including attachments, and this letter are included in the final workplan.

Please contact me at (207) 287-7713 or claudia.b.sait@maine.gov, if you have any questions or comments.

Respectfully,

Claudia Sait

Claudia Sait
Project Manager-Federal Facilities
Bureau of Remediation & Waste Management

Cf: Hard Copy:

File
Ed Benedikt

Electronic Copy

Chris Evans-MEDEP
Paul Burgio –BRAC PMO
Al Easterday-ECC
Carol Warren
Gina Calderone-ECC
Suzanne Johnson-BASCE
Carolyn Lepage-Lepage Environmental
Jeff Orient-TtNUS
Mike Fagan-BNAS
Mike Daly-EPA
David Chipman
Catherine Guido-ECC
Vicki Boundy-MMRA
Scott Libby

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826
RAY BLDG., 28 TYSON DR.

BANGOR
106 HOGAN ROAD
BANGOR, ME 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, ME 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, ME 04769-2094
(207) 764-0477 FAX: (207) 764-1507

web site: www.maine.gov/dep

printed on recycled paper

CONCURRENCE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ON THE DRAFT HiPOx PILOT STUDY WORK PLAN
GROUNDWATER EXTRACTION AND TREATMENT SYSTEM

From: <Daly.Mike@epamail.epa.gov>
To: "Catherine Guido" <CGuido@ecc.net>
CC: <paul.burgio@navy.mil>, <todd.bober@navy.mil>, "Al Easterday" <AEasterda...
Date: 9/28/2009 9:23 AM
Subject: Re: HiPOx Study Work Plan RTCs - For Regulator Concurrence

Hi Catherine,

The RTCs & attachments look great. EPA has no further issues.

Thanks Again!

Mike