Remedial Action Report
Jones Road Ground Water Plume Superfund Site
Harris County, Texas
EPA Identification No. TXN00605460

EPA Region 6 Remedial Action Contract 2
Contract: EP-W-06-004
Task Order: 0129-RARA-06NK

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U.S. Environmental Protection Agency
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LIST OF ACRONYMS AND ABBREVIATIONS

bgs	Below ground surface
CQAP	Construction Quality Assurance Plan
DCE	1,2-dichloroethene
EA	EA Engineering, Science, and Technology, Inc., PBC
EPA	U.S. Environmental Protection Agency
ft	Feet/foot
HSP	Health and Safety Plan
ISB	*In-situ* bioremediation
NPL	National Priority List
PCE	Tetrachloroethene; perchloroethylene
PPE	Personal protective equipment
PRB	Permeable reactive barrier
QA	Quality assurance
QC	Quality control
RA	Remedial Action
ROD	Record of Decision
ROW	Right-of-Way
SAP	Sampling and Analysis Plan
SHSO	Site Health and Safety Officer
Site	Jones Road Ground Water Plume Superfund Site
TCE	Trichloroethene; trichloroethylene
TCEQ	Texas Commission on Environmental Quality
TOM	Task Order Monitor
VOC	Volatile organic compound
WBZ	Water-Bearing Zone

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) has authorized EA Engineering, Science, and Technology, Inc., PBC (EA) under Remedial Action Contract (RAC) No. EP-W-06-004, Task Order No. 0129-RARA-06NK, to implement the focused Remedial Action (RA), i.e. *in situ* bioremediation (ISB) of the Shallow Water-Bearing Zone (WBZ), at the Jones Road Ground Water Plume Superfund Site (Site), which is located in the northwest portion of Harris County, Texas. EA executed this RA for the Site as defined in the September 2010 *Record of Decision* (ROD) (EPA 2010) and in accordance with the RA Work Plan dated August 2015 (EA 2015a).

1.1 REPORT ORGANIZATION

The organization of this RA Report was based on the EPA guidance document, *Close Out Procedures for National Priorities List Sites* (EPA 2011), and includes the following information:

- Section 1 – Organization of this RA Report, general site description and background, and the regulatory history, including information on the RA objectives and the selected remedy outlined in the ROD (EPA 2010).
- Section 2 – Construction activities conducted as part of the RA.
- Section 3 – Chronology of events.
- Section 4 – Performance standards and the quality control (QC) and quality assurance (QA) steps taken to verify that the requirements of the ROD were satisfied.
- Section 5 – Inspections performed and health and safety aspects of the work.
- Section 6 – Operational dates.
- Section 7 – Operations and maintenance.
- Section 8 – Contact information for the major design and remediation contractors, EPA Task Order Monitor (TOM) and Texas Commission on Environmental Quality (TCEQ) project manager.
- The references cited in this report follow Section 8. All figures and tables cited in this report immediately follow the body of the report. In support of this RA Report, Appendix A presents the Technical Memorandum on Results of Limited ISB.

1.2 SITE DESCRIPTION

The Site is located in the northwest portion of Harris County, Texas (Figure 1). The source of contamination is the former Bell Dry Cleaners facility, which was located within the Cypress

Shopping Center at 11600 Jones Road, approximately 0.5 miles north of the intersection of Jones Road and Farm-to-Market (FM) 1960, outside the city limits of northwest Houston, Texas. The Cypress Shopping Center was constructed in 1984, and the former Bell facility began dry cleaning operations sometime in 1988, using perchloroethylene (PCE), also known as tetrachloroethene. The former Bell facility continued operating through May 2002 when the dry cleaning operations were shut down. The hazardous substances present at the Site include PCE and related daughter products trichloroethylene (TCE), cis-1,2-dichloroethylene (DCE), and vinyl chloride.

The area around the Site includes residential, commercial, and light industrial development. Residential development has been active since the 1960s, effectively eliminating wildlife habitat from the area. Jones Road is the principal north-south corridor through the area, and FM 1960 (approximately one-half mile to the south) provides a southwest-northeast transportation corridor. Commercial development is dominant along Jones Road with residential and limited commercial development along the side streets. Cypress Creek is located approximately 1 mile to the northwest of the Site, and White Oak Bayou is located approximately 3,500 feet (ft) to the south.

1.3 SITE BACKGROUND

The Site has undergone numerous investigations beginning in 1994 and continuing through 2008; it was proposed to the National Priorities List (NPL) on 30 April 2003, and was finalized to the NPL on 29 September 2003. From August 2003 through May 2008, the TCEQ's state-lead contractor performed a remedial investigation (RI) and feasibility study at the Site, which characterized the nature and extent of constituents of concern present in environmental media. During the RI, 19 monitoring wells were installed across the area of the Site (Figure 2). Soil, ground water, and vapor intrusion samples were collected for analysis, and a bench-scale treatability study was completed to evaluate the application of *in situ* chemical oxidation and bioremediation treatment technologies. Routine quarterly ground water sampling was also performed.

Homes in the area have private water supply wells, and some wells are shared between multiple homes. From January through November 2008, EPA conducted a time-critical removal action that included the installation of a water line and connections to homes and businesses at the Site. The water line service area is shown on Figure 1. Approximately 51 percent of the well owners agreed to discontinue use of their water wells and begin using water from the water line. The remaining 49 percent of the well owners declined to participate in the water line project and continue to use their private water supply wells. The White Oak Bend Municipal Utility District services the water line.

The ROD was signed on 23 September 2010, and sets forth the selected remedy. There is only one planned operable unit for the Site and the selected RA is intended to address all areas of concern. The selected remedy is Alternative 4, *In Situ* Enhancements to Pump and Treat (EPA 2010). The *in situ* treatments involve treating the soil and ground water without removing them. In June 2012, an ISB pilot test was executed at the site in order to refine the remedial design. Baseline sampling was conducted, followed by injection of EHC-L® into the deep WBZ and

shallow WBZ. Four post-injection sampling events were conducted at 1 month, 3 months, 6 months and 3 years after injection.

The hydraulic containment/pump and treat operation will involve pumping ground water from the subsurface in both the source area (less than 50 feet below ground surface [bgs]) and the deeper ground water zones at high enough rates to prevent further migration of contaminants in ground water. The pumped ground water w then be treated to remove volatile organic compounds (VOCs). The selected remedy also includes the implementation of institutional controls, including the implementation of a drilling restriction area (Figure 1).

1.4 ENVIRONMENTAL SETTINGS

The Site is located in northwest Harris County, on the Gulf Coast Plain. This physiographic province is characterized by nearly flat topography that gently slopes toward the Gulf of Mexico at approximately five feet per mile or less. Most of the coastal area is low-lying and drained by meandering bayous and sloughs.

Surface water drainage is managed primarily through open roadside bar ditches. Drainage generally flows into the ditches, then to drainage ways that flow south to White Oak Bayou. White Oak Bayou flows southeast into downtown Houston where it enters Buffalo Bayou. Buffalo Bayou flows through the Houston Ship Channel toward Galveston Bay and then to the Gulf of Mexico.

The local geology to approximately 400 ft bgs consists of clay, sand, and silt consistent with the fluvial depositional environment. The subsurface geology consists of Lissie Formation, which is underlain by the Willis Sand, which is underlain by the Goliad Formation and Fleming Formation. The principal water-bearing strata at the Site are the Chicot Aquifer, composed of the Lissie Formation and Willis Sand, and the Evangeline Aquifer comprised of the Goliad Sand and Upper Fleming Formation.

Beneath the Site, ground water is present within two intervals of the Chicot Aquifer: the shallow WBZ encountered at around 20 to 30 ft bgs, and the deep WBZ encountered around 110 ft bgs. A 50-ft interval of dewatered Chicot Aquifer now separates the perched shallow WBZ from the deep WBZ.

The shallow WBZ is comprised of a silty sand to sandy silt that is interbedded with sandy clay and clayey sand. The shallow aquifer is underlain by clay that is present from approximately 35 to 60 ft bgs. The ground water flow within the shallow aquifer is toward the south at a gradient of 0.02 ft/ft.

The deep WBZ is present in a poorly graded, very fine-grained sand that is interbedded with silty and sandy clay and clayey sand. The clay beds are generally less than 10 ft thick, but locally they retard the vertical movement of water. Therefore, the saturated sand beds commonly have different hydraulic heads within the vertical profile (Gabrysch 1984).

1.5 COMPLETED SCOPE

The completed scope described in this report includes the following tasks:

- Site preparation activities conducted:
  - Set up of temporary facility and staging area
  - Access agreements and coordination with property owners
  - Utility location

- RA field activities conducted:
  - Baseline ground water sampling
  - Injection of EHC-L® and bacteria at ISB injection points
  - Post-injection ground water sampling
  - Site restoration

Subsequent sections detail the tasks performed to complete the scope of work.

2.0 CONSTRUCTION ACTIVITIES

Construction activities included site preparation, mobilization, injection, site restoration, baseline and post-injection sampling. Attachment E of Appendix A includes field notes and Attachment F includes photographic documentation of field activities. Figure 14 of Appendix A shows the approximate locations of the injections. Section 3 summarizes the chronology of RA activities.

2.1 SITE PREPARATION

The following sections describe site preparation activities, the temporary facility and staging area, access agreements, and utility locates.

2.1.1 Temporary Facility and Staging Area

The Cypress Shopping Center parking lot was used as a temporary facility and staging area. An exclusion zone was set and maintained around the chemical staging, mixing and injection locations.

2.1.3 Access

Prior to initiating any work at the Site, an access agreement was obtained to all properties where work was conducted. EA staff coordinated with the property owners and identified the proposed ISB injection locations.

2.1.4 Existing Utility Locates

The project area includes roadway right-of-ways (ROWs) and private commercial properties where subsurface injections were conducted. Prior to commencing work, the subcontractor called 811 to obtain ROW and property perimeter location services. A private utility locator then

cleared all known and unknown lines using the most appropriate combination of techniques and facility-specific information regarding buried utilities and transmission pipelines. All utilities were located, visibly marked, and identified according to the type of utility.

2.2 REMEDIAL ACTION FIELD ACTIVITIES

The RA included the following tasks:

- Pre-injection sampling of ground water
- Injection of the ISB amendment
- Post-injection sampling

RA field activities began with the mobilization of EA to the Site on 30 November 2016 to perform pre-injection sampling needed to establish baseline conditions. Vista Geoscience mobilized to the site on 22 January 2016 to inject the ISB amendment. Injections were performed from 26 January to 1 February 2016. Site cleanup and demobilization occurred on 2 February 2016. Post-injection sampling was conducted approximately three months after initial injection. During this event, 15 monitoring wells were sampled over the period of 19-22 April 2016.

All work was performed in accordance with the RA Work Plan (EA 2015a), Sampling and Analysis Plan (SAP) (EA 2015b), Health and Safety Plan (HSP) (EA 2015c), and Site Management Plan (EA 2015d). Documentation of the RA field activities related to the pre-injection sampling, injection of the ISB amendment, and post-injection sampling are included in the *Technical Memorandum on Results of Limited ISB* in Appendix A.

2.2.1 Management of Investigation Derived Waste

Purge water generated during the ground water sampling events was properly containerized, profiled and disposed of as non-hazardous waste. Construction debris was properly disposed of.

2.3 DEVIATIONS

There were no deviations from the work plan.

2.4 EVALUATION OF INJECTION AND SAMPLING DATA

Evaluation of ground water sampling data is documented in the *Technical Memorandum on Results of Limited ISB* in Appendix A.

2.5 SITE RESTORATION

After injections were completed, boring locations were backfilled with bentonite and patched with concrete to match the existing surface. Any spilled product was vacuumed up and used for re-injection after being screened for solids and debris.

3.0 CHRONOLOGY OF EVENTS

This section presents the chronological order of events associated with the focused RA, and ISB of the Shallow WBZ. The relevant milestone activities are listed below.

Activity	Dates
Injection Pilot Test	5 June 2012 – 6 June 2015
Pre-injection sampling	30 November - 3 December 2015
ISB Injection Event	22 January – 2 February 2016
Post-injection sampling	19 – 22 April 2016

4.0 PERFORMANCE STANDARDS AND QUALITY CONTROL

The approved construction QA and construction QC plans and procedures are detailed in the Construction Quality Assurance Plan (CQAP) (EA 2015e). Construction activities carefully adhered to the plans and procedures identified in the CQAP.

QC requirements related to water sampling are identified in the SAP (EA 2015b). The objective of this portion of the RA was to inject EHC-L® and bacteria to biodegrade site contaminants with the potential to impact the underlying Lower Chicot drinking water source; principally PCE and degradation products TCE and DCE. Analytical data was analyzed in accordance with the measurement quality objectives outlined in the SAP (EA 2015b).

4.1 QUALITY CONTROL AND ASSURANCE ACTIVITIES

To ensure that the injection of the ISB amendment followed the work plan and was achieved on schedule, EA maintained a site manager onsite throughout all activities associated with this RA.

4.2 DATA VALIDATION

The analytical data associated with samples collected in November 2015 and April 2016 were validated. The validation reports are included in Attachment B of Appendix A.

4.3 DOCUMENTATION

Field activities and sampling tasks were documented at the time of execution as discussed below.

4.3.1 Field Documentation

Bound field logbooks were maintained by the EA site manager and team members to provide a daily record of significant events and observations. Logs for field batch-mixing, injection quantities, and injection timeframes were maintained during the injection event. In addition, water level gauging and baseline sampling activities (purging quantities, parameter stabilization, low-flow sampling, etc.) at all wells were recorded on field data sheets.

Populated data sheets and field logbook entries are provided in Attachment C and E of Appendix A, respectively.

4.3.2 Photographic Record

A project photographic record was kept as part of the RA ISB field activities. Attachment F of Appendix A provides photographic documentation of injection activities. The EA site manager and field staff used digital cameras to create the photographic record.

5.0 INSPECTIONS

This section addresses activities and issues associated with completing the limited ISB RA at the Site. Section 5.1 discusses the pre-final and final inspection and Section 5.2 discusses site health and safety.

5.1 PRE-FINAL AND FINAL INSPECTION

No pre-final or final inspection was conducted.

5.2 HEALTH AND SAFETY

Site-specific health and safety procedures were implemented during the limited ISB RA at the Site in accordance with the HSP (EA 2015c). These procedures were designed to protect the health and safety of workers and visitors while present at the Site and were enforced by EA's site

health and safety officer (SHSO) during the limited ISB RA activities. The following sections discuss levels of protection, hazard evaluation and control, health and safety meetings, and health and safety incidents.

5.2.1 Levels of Protection

The personal protective equipment (PPE) requirements were set at Level D, consisting of coveralls or work clothes, safety-toed boots, hard hat (as needed), safety glasses, high-visibility reflective vest, hearing protection (as needed), leather gloves (as needed), and nitrile gloves (as needed) for all site activities.

5.2.2 Health and Safety Training

The SHSO and the site field personnel were trained, as required, to meet the requirements of the U.S. Department of Labor, Occupational Safety and Health Administration Standard, 29 Code of Federal Regulations 1926.65, *Hazardous Waste Operations and Emergency Response* and qualify as hazardous waste site workers. Onsite management and supervisors who were directly responsible for hazardous waste site workers received at least an additional 8 hours of specialized supervisor training.

5.2.3 Health and Safety Meetings

All personnel on-site, including EA and subcontractor employees, attended mandatory daily health and safety meetings, which were conducted by the EA SHSO or a designated alternate. Protocol and emergency response procedures established in the HSP (EA 2015c) were discussed prior to construction activities and all personnel were required to read the HSP and sign the compliance agreement. Daily safety meetings usually began with a brief synopsis of planned activities and identification of any physical, chemical, or biological hazards associated with those activities. Other topics discussed each morning included PPE requirements, emergency procedures, proper communication skills to be used to prevent accidents, emergency contacts, location of emergency telephone numbers, first aid kits, and the route to the nearest hospital. All participants at the daily health and safety meetings were required to sign the attendance log kept by EA's SHSO.

5.2.4 Health and Safety Incidents

No health and safety incidents occurred.

6.0 OPERATIONAL DATES FOR LIMITED ISB REMEDY

The limited ISB remedy became operational immediately after injection was completed to establish the permeable reactive barrier (PRB). A PRB is a subsurface wall of reactive material that treats groundwater as it passes through. Treatment commenced immediately following

injection, and therefore the PRBs were operational at that point. Optimal treatment within the PRB is expected to occur once the bacteria culture population reaches maximum size.

Injection	**Operational Date**
Injection	1 February 2016

7.0 OPERATION AND MAINTENANCE OF ISB REMEDY

There is no scheduled operation and maintenance required as part of the ISB RA activities; however, sampling of site wells is necessary following injection to monitor ground water conditions and to assess progress of the remedy. Maintenance of the ground water pH will be assessed to ensure optimal conditions for bacterial growth.

8.0 CONTACT INFORMATION

The EPA TOM was:

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Remediation Division (MC-136)
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EPA used the following contractor for oversight and implementation of the limited ISB RA:

EA Engineering, Science, and Technology, Inc., PBC
405 S. Highway 121, Building C, Suite 100
Lewisville, TX 75067
972-315-3922

Contract No.: EP-W-06-004
Task Order No.: 0129-RARA-06NK

The EA Project Manager was:

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EA used the following subcontractor for the limited ISB RA:

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281-310-5560

REFERENCES

EA Engineering, Science, and Technology, Inc., PBC (EA). 2015a. *Remedial Action Work Plan for Jones Road Ground Water Plume Superfund Site, Houston, Harris County, Texas*. August.

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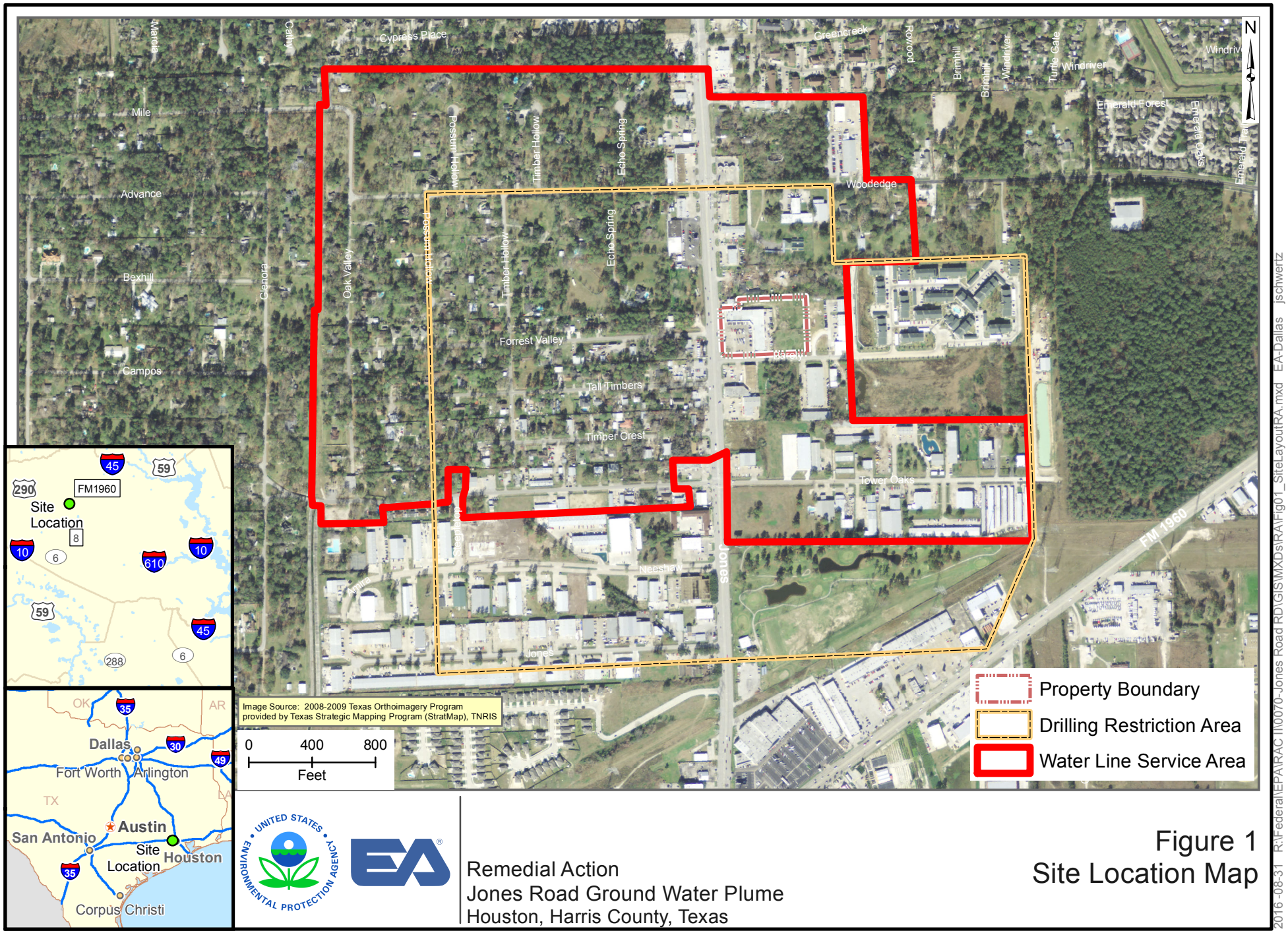
Figures



Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 1
Site Location Map

2016-08-31 R:\Federal\EPA\RAC III\0070-Jones Road RD\GIS\MXDs\RAI\Fig01_SiteLayoutRA.mxd EA-Dallas jschwertz

N

0 300 600
Feet

Monitoring Well
Shallow Monitoring Well
Observation Well
Property Boundary

Image Source: 2008-2009 Texas Orthoimagery Program provided by Texas Strategic Mapping Program (StratMap), TNRIS

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 2
Well Location Map

2016-08-31 R:\Federal\EPA\RAC II\0070-Jones Road RD\GIS\MXDs\RA\Figxx_SiteLayout201202.mxd EA-Dallas jschwertz

Appendix A

Technical Memorandum on Results of Limited ISB

Technical Memorandum on Results of Limited ISB
Jones Road Ground Water Plume Superfund Site
Harris County, Texas
EPA Identification No. TXD000605460

Remedial Action Contract 2 Full Service
Contract: EP-W-06-004
Task Order: 0129-RARA-06NK

Prepared for

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ACRONYMS AND ABBREVIATIONS

bgs	Below ground surface
CLP	Contract Laboratory Program
CVOC	Chlorinated volatile organic compounds
DCE	Dichloroethylene
DO	Dissolved oxygen
EA	EA Engineering, Science, and Technology, Inc., PBC
EPA	U.S. Environmental Protection Agency
ft	Feet (foot)
FM	Farm to Market
ISB	*In situ* bioremediation
MCL	Maximum Contaminant Level
µg/L	Microgram per liter
mg/L	Milligram per liter
MNA	Monitored natural attenuation
mV	Millivolt
ORP	Oxygen reduction potential
PCE	Tetrachloroethylene; Perchloroethylene
pH	Log of concentration of hydrogen ions, an index of acidity
psi	Pounds per square inch
RA	Remedial Action
RDC	Reductive dechlorination
RL	Reporting limit
Site	Jones Road Ground Water Plume Superfund site
SM	Standard Method
TCE	Trichloroethylene
TOC	Total organic carbon
VC	Vinyl chloride
VOC	Volatile Organic Compound
WBZ	Water-bearing zone

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA), under a Remedial Action Contract, has authorized EA Engineering, Science, and Technology, Inc., PBC (EA) No. EP-W-06-004, Task Order No. 0129-RARA-06NK to implement a focused Remedial Action (RA). The RA involves *in-situ bioremediation* (ISB) of the Shallow Water-Bearing Zone (WBZ) present at the Jones Road Ground Water Plume Superfund Site (Site) located in the northwest portion of Harris County, Texas.

EA executed this RA for the Site as defined in the September 2010 Record of Decision (EPA 2010) and in accordance with the RA Work Plan dated August 2015 (EA 2015). This technical memorandum summarizes the results of the baseline monitoring event, and compares them to the post-injection monitoring event results.

1.1 SITE DESCRIPTION

The Site is located in northwestern Harris County, Texas (Figure 1). The source of site contamination is the former Bell Dry Cleaners facility, located within the Cypress Shopping Center at 11600 Jones Road, approximately one-half mile north of the intersection of Jones Road and Farm to Market (FM) 1960, outside the city limits of northwest Houston, Texas. The Cypress Shopping Center was constructed in 1984, and the former Bell facility began dry cleaning operations sometime in 1988, using tetrachloroethylene, also known as perchloroethylene (PCE). The former Bell facility continued operating through May 2002 when the dry cleaning operations were shut down. The hazardous substances present at the Site include PCE, and related daughter products trichloroethylene (TCE), 1,2-dichloroethylene (DCE), and vinyl chloride (VC).

The area around the Site is characterized by residential, commercial, and light industrial development. Residential development has been active since the 1960s, effectively eliminating wildlife habitat from the area. Jones Road is the principal north-south corridor through the area, and FM 1960 (approximately one-half mile to the south) provides a southwest-northeast corridor. Commercial development is dominant along Jones Road with residential and limited commercial development along the side streets. Cypress Creek is located approximately one mile to the northwest of the subject area, and White Oak Bayou is located approximately 3,500 feet (ft) to the south.

1.2 GEOLOGY AND HYDROLOGY

The site is located within the West Gulf Coast Plain, which is part of the Coastal Plain physiographic province. The subsurface geology at the Site consists of Lissie Formation, which is underlain by the Willis Sand, which is underlain by the Goliad Formation and Fleming Formation. The principal water-bearing strata at the Site are the Chicot Aquifer, composed of

the Lissie Formation and Willis Sand, and the Evangeline Aquifer comprised of the Goliad Sand and the Upper Fleming Formation. The Chicot Aquifer is above the Evangeline Aquifer.

Water is encountered at two intervals within the Chicot Aquifer beneath the site: the shallow WBZ encountered at around 20 to 30 feet below ground surface (bgs), and the deep WBZ, encountered around 110 ft bgs. A 50-foot interval of dewatered Chicot Aquifer separates the bottom of the Lissie Clay, that perches the shallow WBZ from the deep WBZ.

The shallow WBZ is comprised of a silty sand to sandy silt that is interbedded with sandy clay and clayey sand. The shallow aquifer is underlain by clay that is present from approximately 35 to 60 feet bgs. The ground water flow within the shallow aquifer is toward the south at a gradient of 0.02 foot per foot.

The deep WBZ is present in a poorly graded, very fine-grained sand that is interbedded with silty and sandy clay and clayey sand. The clay beds are generally less than 10 feet thick, but locally they retard the vertical movement of water. Every sand bed, therefore, has a different hydraulic head (Gabrysch 1984).

1.3 FOCUSED ISB GOALS

The focused ISB was implemented by injecting an amendment to biodegrade those Site contaminants with the potential to impact the underlying Lower Chicot drinking water source; principally PCE related to dry cleaning and degradation products TCE and DCE. The ISB was conducted by injecting the amendment EHC-L®, a commercially-available product designated to promote reductive dechlorination (RDC). The efficacy of RDC via injection of ground water amendment was evaluated by determining:

- The relative difficulty of distributing EHC-L® into the impacted shallow WBZ of the Chicot Aquifer (i.e., the hydraulic consideration);
- The ability of the EHC-L® to create appropriate anaerobic conditions to facilitate enhanced reductive dechlorination;
- The ability of the EHC-L® to degrade PCE, TCE, and DCE through VC to the end products, ethene or ethane;
- The rate at which degradation occurs; and
- The amount of deleterious byproducts (e.g., VC accumulation and increased metals concentrations) generated.

2.0 CHRONOLOGY OF EVENTS

The ISB pilot test was in conducted three phases: (1) baseline sampling, (2) injection of EHC-L® into the shallow WBZ, and (3) post-injection sampling.

2.1 BASELINE SAMPLING

Baseline sampling was conducted between 30 November – 3 December 2015.

2.2 INJECTION OF EHC-L®

Injection of EHC-L® into the shallow WBZ was conducted over a 7-day period, 26 January 2016 – 1 February 2016.

2.3 POST-INJECTION SAMPLING

A post-injection sampling event was conducted approximately 3 months after the injection between 19 – 22 April 2016.

3.0 OVERVIEW OF BIODEGRADATION OF CHLORINATED SOLVENTS

This section describes the chlorinated solvent biodegradation process, including RDC, enhanced monitored natural attenuation (MNA) through biostimulation, and bioaugmentation for enhanced MNA.

3.1 REDUCTIVE DECHLORINATION

Biodegradation reactions can occur under a wide range of environmental conditions. The dominant biodegradation mechanism in most ground water environments is RDC, which is evidenced by the presence of PCE daughter products: TCE, DCE, and VC.

Chlorinated solvents such as PCE, TCE, trichloroethane, and carbon tetrachloride are biodegraded by reductive processes. Naturally occurring, subsurface microorganisms possess the ability to biodegrade chlorinated volatile organic compounds (CVOCs) (e.g., PCE) to non-chlorinated, environmentally acceptable end products (e.g., ethene); carbon dioxide; water; and chloride (Major *et al:*. 1991 and 1995; Edwards and Cox 1997; AFCEE 2004).

RDC occurs under anaerobic conditions and involves the sequential replacement of chlorine atoms on the alkene molecule with hydrogen atoms. Although thermodynamically favorable, most of the reactions involved in chlorinated aliphatic hydrocarbon reduction and oxidation do not proceed abiotically.

Under reducing conditions, PCE serves as an electron acceptor and is dechlorinated to TCE, DCE, VC, and ethene. For this type of reaction to be thermodynamically favorable, the redox potential of the ground water must be very low (i.e., negative oxidation-reduction potential [ORP]), thereby excluding the presence of dissolved oxygen (DO). PCE is the most susceptible to reductive dechlorination because it is the most oxidized (i.e., chlorinated). Conversely, VC is the least susceptible to reductive dechlorination because it is the least oxidized (i.e., chlorinated) of these compounds. As a result, the rate of reductive dechlorination decreases as the degree of chlorination decreases (Vogel and McCarty 1985; Bouwer 1994).

RDC has been demonstrated under nitrate- and iron-reducing conditions, but the most rapid biodegradation rates, affecting the widest range of chlorinated aliphatic hydrocarbons, occur under sulfate-reducing and methanogenic conditions (Bouwer 1994). Because chlorinated aliphatic hydrocarbon compounds are used as electron acceptors during reductive dechlorination, there must be an appropriate source of carbon to act as an electron donor for microbial growth in order for this process to occur (Bouwer 1994).

3.2 ENHANCED ATTENUATION THROUGH BIOSTIMULATION

An adequate supply of electron donors is required to promote the complete reductive dechlorination of chloroethenes. Potential carbon sources include natural organic matter, fuel hydrocarbons, or other anthropogenic organic compounds. At sites where the existing supply of electron donors in ground water is scarce, a remedy can be designed to deliver electron donors to the subsurface (a process referred to as biostimulation). Simple organic carbon compounds such as alcohols (e.g., methanol, ethanol); organic acids (provided by lactate and acetate); sugars (provided by molasses); or edible oils (e.g., soybean, canola, or olive oil) can serve as electron donors for the dechlorination reaction.

Soluble electron donors such as organic acids and alcohols are often employed in remedial systems, for sites of moderate-to-high hydraulic conductivity, where rapid treatment is required. Low-solubility electron donors, such as emulsified soybean oil and oleate, are often used at sites where hydraulic conductivity is low and/or slower treatment is acceptable. The selection of an appropriate electron donor for a given site is a function of a variety of site-specific conditions, including hydraulic conductivity of the impacted formation, objectives for cleanup timeframe, contaminant and ground water chemistry, potential for secondary impacts to drinking water quality, and cost.

Electron donor consumption is dependent on the target CVOC concentration and the ground water geochemistry (i.e., presence of naturally occurring electron acceptors such as oxygen, nitrate, and sulfate that will consume the donor). For sites that initially have aerobic conditions, the addition of an electron donor will first stimulate the growth of native aerobic bacteria, which consumes available oxygen. As subsurface conditions become increasingly anoxic and reducing, the aerobic microbial populations decline while anaerobic microbial populations increase and begin to actively utilize available electron acceptors (i.e., nitrate, sulfate, ferric iron [Fe(III)], manganese [Mn(IV)], and organic carbon) in order of greatest to least energy yield.

An ORP of less than -100 millivolts (mV) and a DO concentration less than 0.5 milligrams per liter (mg/L), in combination with a decline in nitrate and sulfate concentrations, are indications that suitable subsurface conditions exist for RDC. The mass of amendment required for biostimulation is determined using the stoichiometric demand exerted by the known quantities of electron acceptors, either naturally occurring or in contaminants. The quantity of electron acceptors is calculated in electron equivalents, and then a safety factor is applied to quantify the amount of electron donor to be added during the biostimulation period.

4.0 ISB FIELD ACTIVITIES

The ISB was conducted in the shallow WBZ using EHC-L®. EHC-L® is a cold-water soluble, food-grade formulation with a base composition of controlled-release organic carbon lecithin and an organo-iron compound that is specially designed for injection. It is applied through wells or hydraulic injection networks for the treatment of a wide range of groundwater contaminants. Manufacturer's information regarding EHC-L® is provided in Attachment A. Specifics regarding the ISB and field activities follows.

4.1 BASELINE SAMPLING

Prior to injecting EHC-L®, pre-injection sampling was conducted at 14 monitoring wells from 30 November 2015 – 3 December 2015. Each monitoring well was gauged using an oil/water interface probe prior to purging to document the depth of ground water from top of the well casing. The depth to water values are shown in Table 1. Field parameters including DO, pH, ORP, temperature, conductivity, and turbidity were measured in the field. The field geochemistry results are shown in Table 2. Pre-injection ground water samples were collected using the low-flow sampling technique.

Samples were analyzed for dissolved metals by Contract Laboratory Program (CLP) ILMO5.3, volatile organic compounds (VOCs) by CLP OLM04.2, total organic carbon (TOC) by Standard Method (SM) 5310D-2000, dissolved gases by EPA Method RSK-175, ammonia by EPA Method 350.1, orthophosphate by SM4500 PE-1999, and nitrate-nitrite nitrogen by EPA Method 353.2.

Ground water samples were submitted to EPA Region 6 Laboratory for analysis of dissolved metals and VOCs. Ground water samples were submitted to the Test America Laboratories, Inc. located in Houston, TX for analysis of TOC, dissolved gasses, ammonia, orthophosphate, and nitrate-nitrite nitrogen. The pre-injection sampling results are provided in Tables 3 through 5 and shown on Figures 2 through 13. Analytical laboratory reports are included in Attachment B. Sampling field forms are included in Attachment C.

4.2 INJECTION PROCESS

On 22 January 2016, Vista GeoScience mobilized to the Site to begin pre-injection activities. EHC-L® injections occurred 25 January – 1 February 2016. Site cleanup and demobilization occurred 2 February 2016.

Each batch mixture of EHC-L® and water was mixed on-site by Vista Geoscience per manufacturer instructions (Attachment A). The Vista GeoScience injection report describes the preparation of the injection solutions (Attachment D).

The injection locations were separated into two different areas, A and B, as shown on Figure 14. Injection group A was closest to the source area, where concentrations of contaminants of concern were higher. Each area had a different ratio of the EHC-L® product to water and

different injection intervals. Fluids were injected via a 1.5-inch custom retractable injection tool using direct push technology and injections were monitored using digital flow and pressure gauges. Each location was started individually and with increased pressure in 5 pounds per square inch (psi) increments. Injection logs in the Vista GeoScience injection report (Attachment D) include individual flows, volumes and notes. A total of 6,489 gallons of EHC-L®, 3,344 pounds of EHC-L Dry Mix, 4,798 pounds of potassium bicarbonate, 108 liters of the inoculum, dehalococcoides (DHC), and 40,948 gallons of water was injection into 63 locations.

During the injection, field data was collected by Vista GeoScience and EA. Vista GeoScience completed the injection logs and are included in Attachment D. EA kept field notes regarding the injection process and events and are included in Attachment E. Photographic documentation is included in Attachment F. State of Texas injection well reports are included in Attachment G.

4.3 POST-INJECTION SAMPLING

Post-injection sampling was conducted at approximately three months after the injection. During this event, 15 monitoring wells were sampled from 19 - 22 April 2016. Each monitoring well was gauged using an oil/water interface probe prior to purging to document the depth of ground water from the top of the well casing. The depth to water values are shown in Table 1. DO, pH, ORP, temperature, conductivity, and turbidity were measured in the field. The field geochemistry results are shown in Table 2. Pre-injection ground water samples were collected using the low-flow sampling technique.

Samples were analyzed for dissolved metals by EPA Method 6020A, mercury by EPA Method 7470A, VOCs by EPA Method 8260B, TOC by SM 5310D-2000, dissolved gases by EPA Method RSK-175, ammonia by EPA Method 350.1, orthophosphate by SM4500 PE-1999, and nitrate-nitrite nitrogen by EPA Method 353.2.

Ground water samples were submitted to the Test America Laboratories, Inc. located in Pittsburgh, PA for analysis of dissolved metals and mercury. Ground water samples were submitted to the Test America Laboratories, Inc. located in Houston, TX for analysis of VOCs, TOC, dissolved gasses, ammonia, orthophosphate, and nitrate-nitrite nitrogen. The post-injection sampling results are provided in Tables 3 through 5 and presented on Figures 2 through 13. Analytical laboratory reports are included in Attachment B. Sampling field forms are included in Attachment C.

5.0 ISB RESULTS

The ISB was evaluated by: (1) observing flow rates and pressure during injection and (2) comparing pre- and post-injection ground water analytical results. These data were used to evaluate the influence of the EHC-L®.

5.1 INJECTION PRESSURE AND FLOW RATE

The target injection intervals were four-foot thick zones, so Vista utilized a 1.5" custom retractable injection tool with a four foot stainless wire wrapped screen. The target injection intervals are included in Attachment D. The injection rate ranged from 5-7 gallons per minute of EHC-L® mixture at 10 – 80 psi gauge pressure on the injection line. Injection mechanics are summarized in Table 6.

5.2 *IN SITU* BIOREMEDIATION INDICATORS

ISB indicators including field parameter measurements and laboratory analytical data were used to determine if subsurface conditions were favorable for RDC. The field parameter measurements, including ORP, DO and pH, are summarized in Table 2, and ORP, DO, and pH trends are shown in Figures 15 through 17, respectively. Analytical results for monitored natural attenuation parameters are summarized in Table 4.

Analytical results for dissolved metals are summarized in Table 3 and shown on Figures 11 through 13. Initial dissolved metal trends are shown in Figures 18 through 20. Methane and TOC results are shown on Figures 9 and 10, respectively. Methane and TOC trends are shown in Figures 21 and 22, respectively. Analytical results for chlorinated ethenes are summarized in Table 5 and shown on Figures 2 through 8. Chlorinated ethene trends are shown in Figures 23 through 29 and molar concentrations of chlorinated ethenes for wells with detections are presented in Figures 30 through 35.

6.0 PERFORMANCE EVALUATION

This section provides an assessment of performance of EHC-L® in the shallow WBZ based on the results of ground water sampling in November-December 2015 (baseline, before injection) and April 2016 (3 months after injection). The injection was intended to condition the aquifer by creating an environment conducive to RDC. Therefore, the assessment consisted of evaluating TOC levels, evaluating geochemical conditions to see if they would support RDC, assessing evidence that RDC is occurring, and determining whether the RDC process is complete, with contaminants degraded to ethene and ethane.

To evaluate if conditions were favorable for RDC, the TOC, ORP, DO, and pH levels were considered. The EPA protocol for evaluating natural attenuation of chlorinated solvents in ground water (EPA 1998) was used, with TOC values modified for ISB. The following criteria were used:

- For the purpose of performance assessment, TOC concentrations above 20 mg/L were considered favorable for RDC. TOC concentrations below 20 mg/L were considered low, between 20 mg/L and 200 mg/L moderate, and above 200 mg/L high.

- ORP values below 50 mV were considered slightly reducing and indicative of conditions where RDC may occur. ORP values below -100 mV were considered reductive and indicative of conditions where RDC is likely to occur.
- DO concentrations below 0.5 mg/L were considered favorable for RDC. RDC was considered possible at DO concentration levels between 0.5 and 1.0 mg/L. RDC was considered unlikely to occur at DO concentration levels above 1.0 mg/L.
- pH values between 5 and 9 were all considered to be within the acceptable range for RDC.

The occurrence of RDC was evaluated based on evidence of degradation of PCE, TCE, DCE, and VC. To examine evidence of a complete RDC process, the presence and magnitude of ethene, ethane and methane were evaluated, as discussed in the paragraphs below.

6.1 EVALUATION OF ENHANCED RDC IN SHALLOW WBZ

In order to evaluate the progress of enhanced RDC at the Site, 14 wells were sampled prior to injection to establish a baseline, and 15 wells were sampled approximately 3 months after injection for comparison. Results are presented in Tables 2 through 5 and shown in Figures 2 through 35. A summary of the results is discussed in the following sections.

6.1.1 Geochemical Field Parameter Trends

The baseline TOC measurements in each of the wells but MW-08 were below concentrations considered favorable for RDC with concentrations of ranging from 0.796 mg/L to 19.3 mg/L. MW-08 had a moderately favorable TOC concentration of 35.8 mg/L. Three months post-injection, four wells (MW-01, MW-02, MW-04, MW-06) had TOC concentrations considered favorable for RDC. TOC concentrations are presented in Table 4 and Figure 10. TOC concentration trends are presented in Figure 22.

Three months post-injection, 6 wells had an ORP measurement of less than 50 mV (within the range at which RDC may occur). ORP concentrations are presented in Table 2 and ORP concentration trends are presented in Figure 15.

No baseline DO measurements were below 0.5 mg/L, the range considered favorable to RDC, although 7 wells had measurements in which RDC is considered possible. Post-injection sampling indicated that DO measurements in 9 wells were reduced to less than 0.5 mg/L and into the range considered favorable for RDC. DO concentrations are presented in Table 2 and DO concentration trends are presented in Figure 16.

A comparison on the baseline and post-injection sampling events show that pH levels have remained stable and within the acceptable range of 5 to 9. The pH range observed in the pre-injection sampling event was 6.40 – 7.19. The pH range in the post-injection sampling event was 6.11 – 7.20. pH concentrations are presented in Table 2 and pH concentrations trends are presented in Figure 17.

The favorability for RDC based on the field measurements described above is presented in Table 7.

6.1.2 Reduction of PCE Concentrations

The baseline concentration of PCE ranged from 14,500 micrograms per liter (µg/L) to below the laboratory reporting limit (RL) in the 14 wells sampled. PCE concentrations decreased after injection. Concentrations observed during the post-injection sampling ranged from 4,140 µg/L to below the laboratory RL. A concentration of 8.20 µg/L was observed in well MW-09 in the pre-injection sampling results, which reduced to0.411 µg/L in the post-injection sampling results, below the Maximum Contaminant Level (MCL) of 5 µg/L. PCE concentrations in wells MW-04, MW-05, MW-07, MW-08, MW-23, MW-24 and MW-25 were below the MCL for both the pre- and post-injection sampling events. PCE concentrations are presented in Table 5 and Figures 2, 23 and 30 - 35.

6.1.3 Formation of Daughter Products

The formation and subsequent dechlorination of PCE daughter products provides evidence that RDC is occurring.

The concentrations of TCE decreased after injection. The baseline concentration of TCE ranged from 1,990 µg/L to non-detect in the 14 wells sampled. Concentrations observed in the post-injection sampling results ranged from 977 µg/L to below the laboratory RL. In wells MW-01, MW-02, MW-03, MW-06, MW-20 and MW-22, the TCE concentrations reduced from 1,990 µg/L, 210 µg/L, 16.2 µg/L, 393 µg/L, 1,850 µg/L and 957 µg/L in baseline samples to 20.2 µg/L, 3.08 µg/L, 2.03 µg/L, 1.49 µg/L, 977 µg/L and 225 µg/L in post-injection samples. TCE concentrations are presented in Table 5 and Figures 3, 24, and 30 - 35.

During RDC, all three isomers of DCE (cis-1,2-DCE, trans-1,2-DCE and 1,1-DCE) can be produced; however, cis-1,2-DCE is the more commonly produced isomer (EPA 1998). The concentrations of cis-1,2-DCE generally increased. The concentrations of trans-1,2-DCE decreased after injection with the exception of MW-22. Cis-1,2-DCE and trans-1,2-DCE concentrations are presented in Table 5 and Figures 4-5, 25-26 and 30-35.

As with DCE, the majority of the VC concentrations increased after injection. VC concentrations are presented in Table 5 and Figures 6, 27, and 30-35.

The presence of ethene, ethane, and methane in MW-01, MW-02, MW-06, MW-20 and MW-22 indicate the RDC process reached completion in some wells, but the relatively low concentrations indicate it occurred in a limited manner. Concentrations are presented in Tables 4 and 5 and Figures 7-9, 21, 28-29, and 30-35.

6.1.4 Formation of Deleterious Byproducts

After injection, dissolved concentrations of iron, manganese and arsenic each increased in wells MW-01, MW-02, MW-06, MW-7 and MW-24. The MCLs for iron, manganese and arsenic are 300 µg/L, 50 µg/L and 10 µg/L, respectively.

Baseline sample results indicate that 5 wells had dissolved iron concentrations above the MCL of 300 µg/L. Three months after injection, the iron concentrations in 4 wells exceeded the MCL. The dissolved iron concentrations three months after injection ranged from below the laboratory RL to 40,900 µg/L.

The dissolved manganese concentration in 6 wells during the baseline event were measured above the MCL. The overall trend 3 months post-injection indicates increasing dissolved manganese concentrations with some wells showing decreasing trends.

Baseline sample results indicate dissolved arsenic concentration in each of the wells except MW-01 and MW-04 to be below the MCL. Three months after injection, the dissolved arsenic concentrations had increased in all of the wells and 6 wells had concentrations that were above the MCL.

Dissolved metal concentrations are presented in Table 3 and dissolved arsenic, iron, and manganese are presented in Figures 11-13 and 18-20.

7.0 SUMMARY AND CONCLUSIONS

The limited ISB results show reducing concentrations of chlorinated compounds in the shallow WBZ. The concentrations of PCE and TCE exhibited decreasing trends; however, cis-1,2-DCE and VC were generally found to have increased from pre- to post-injection, as expected. Additional post-injection sampling and analysis is recommended to establish DCE and VC concentration trends and to determine if a focused ISB is necessary to promote further RDC. In addition, there was considerable dissolution of dissolved iron, manganese, and arsenic in the shallow WBZ. Additional post-injection sampling and analysis would verify if the dissolution process eventually reverses, or whether the increase in dissolved arsenic concentrations remain a significant concern.

No further post-injection sampling is currently planned, but if samples were collected in coming months they might indicate continued decreases of DCE and VC concentrations and continued promotion of RDC. However, if VC accumulation were found to persist it might mean additional action would be needed to drive the RDC process to completion in a timely manner.

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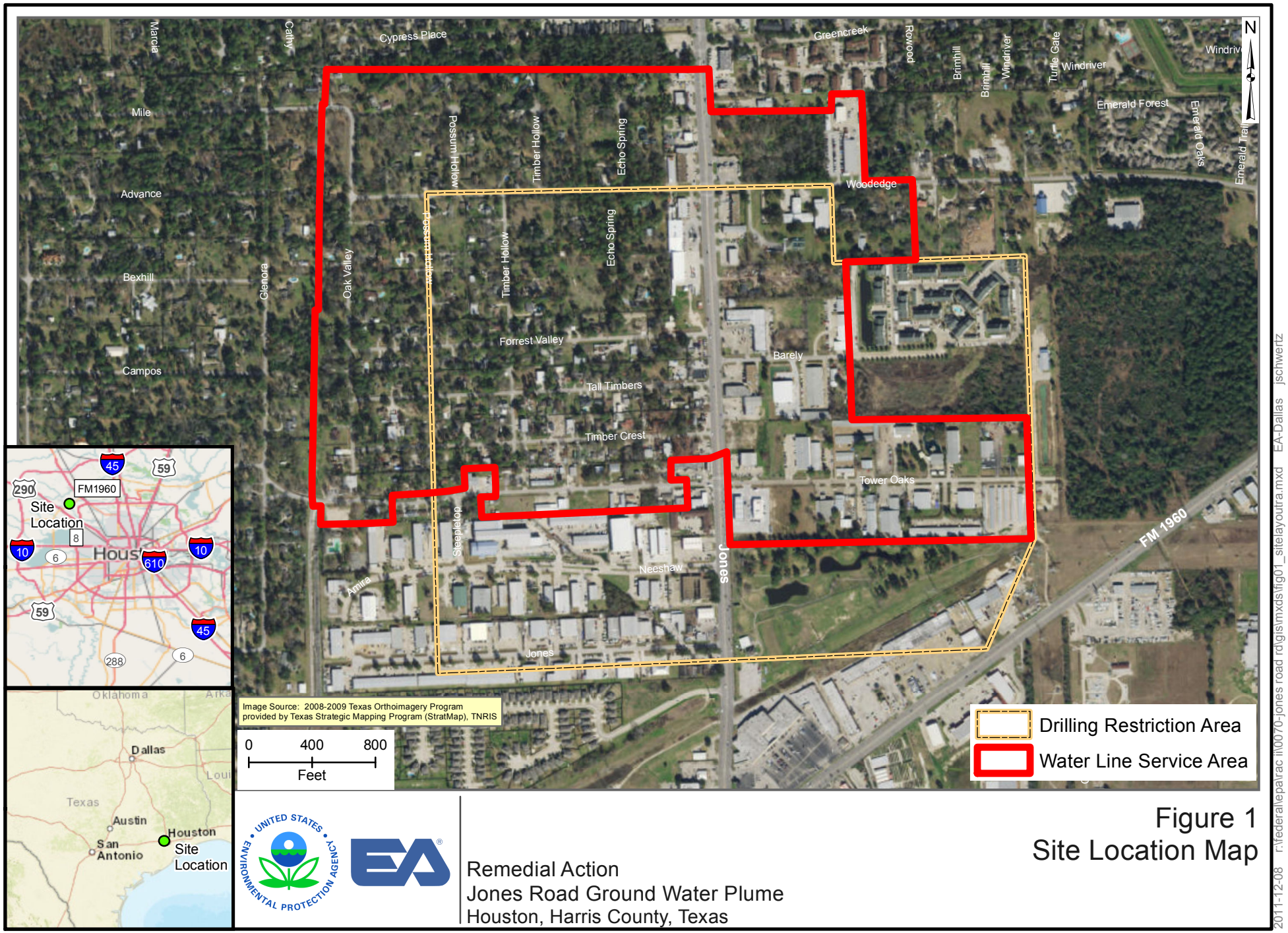
FIGURES



Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 1
Site Location Map

2011-12-08 r:\federal\epa\rac iii\0070-jones road rd\gis\mxd\sfig01_sitelayoutra.mxd EA-Dallas jschwertz

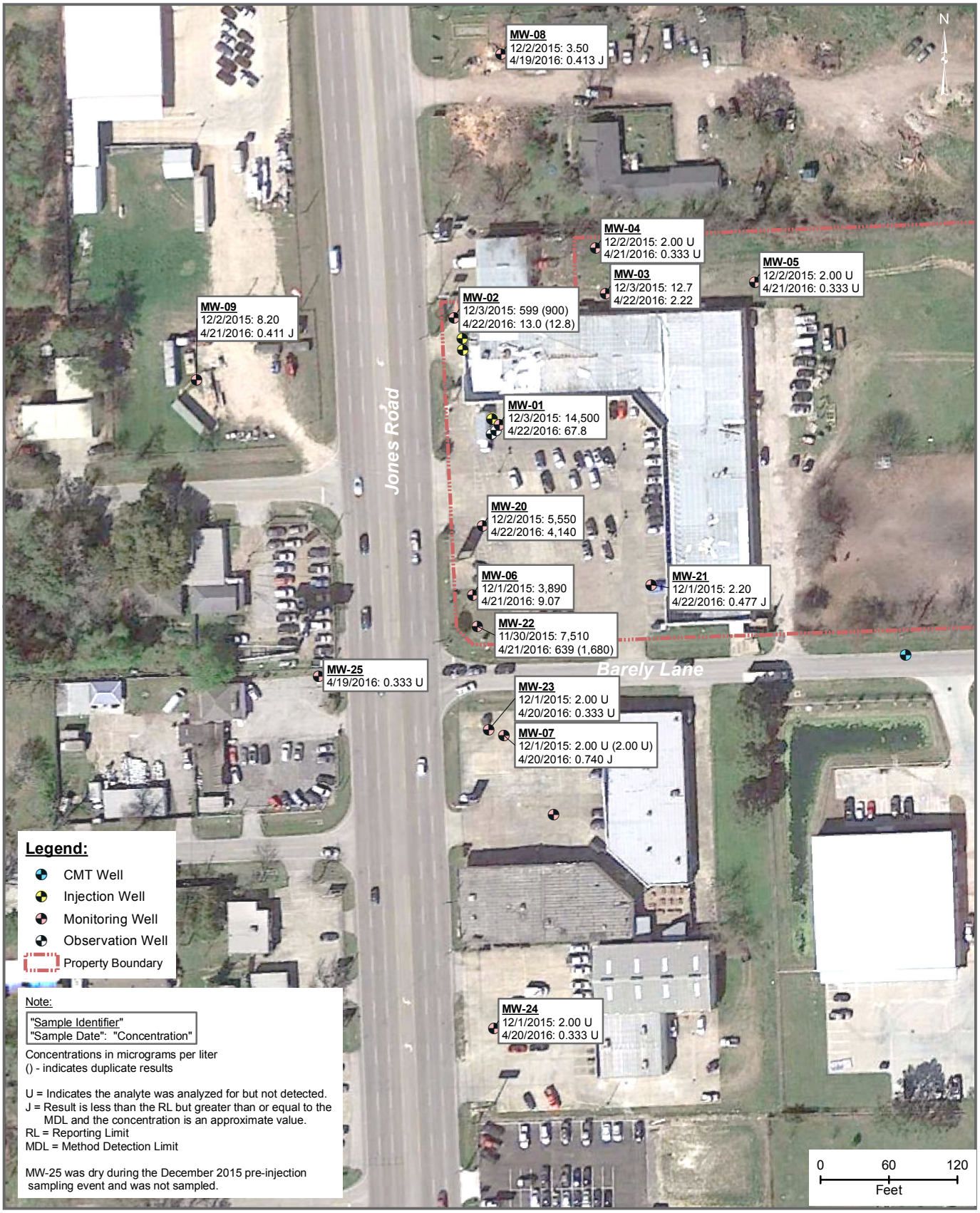


Image Source: GoogleEarth Pro, 2016

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 2
Tetrachloroethene Results

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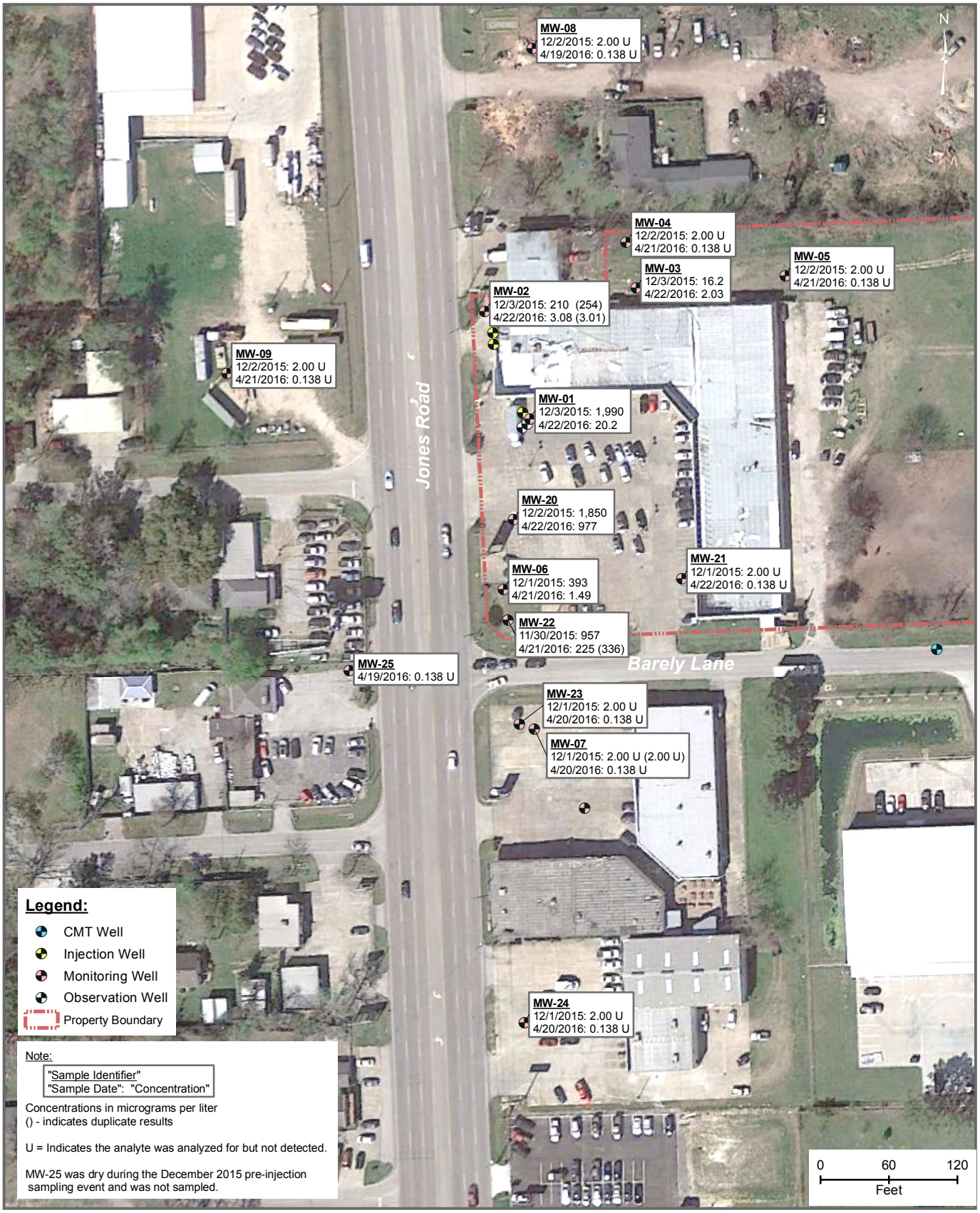

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Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 3
Trichloroethene Results

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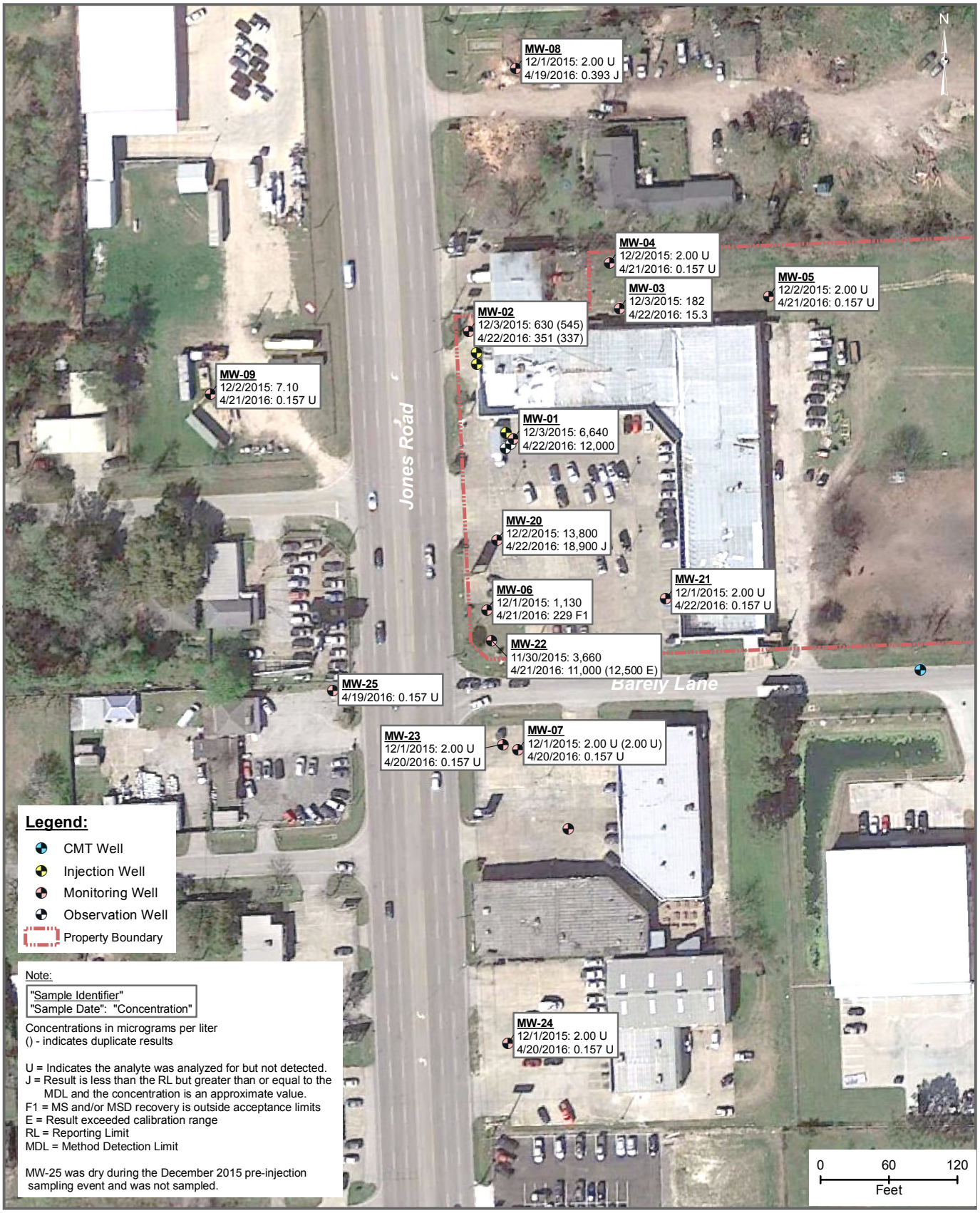

Image Source: GoogleEarth Pro, 2016

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 4
cis-1,2-Dichloroethene Results

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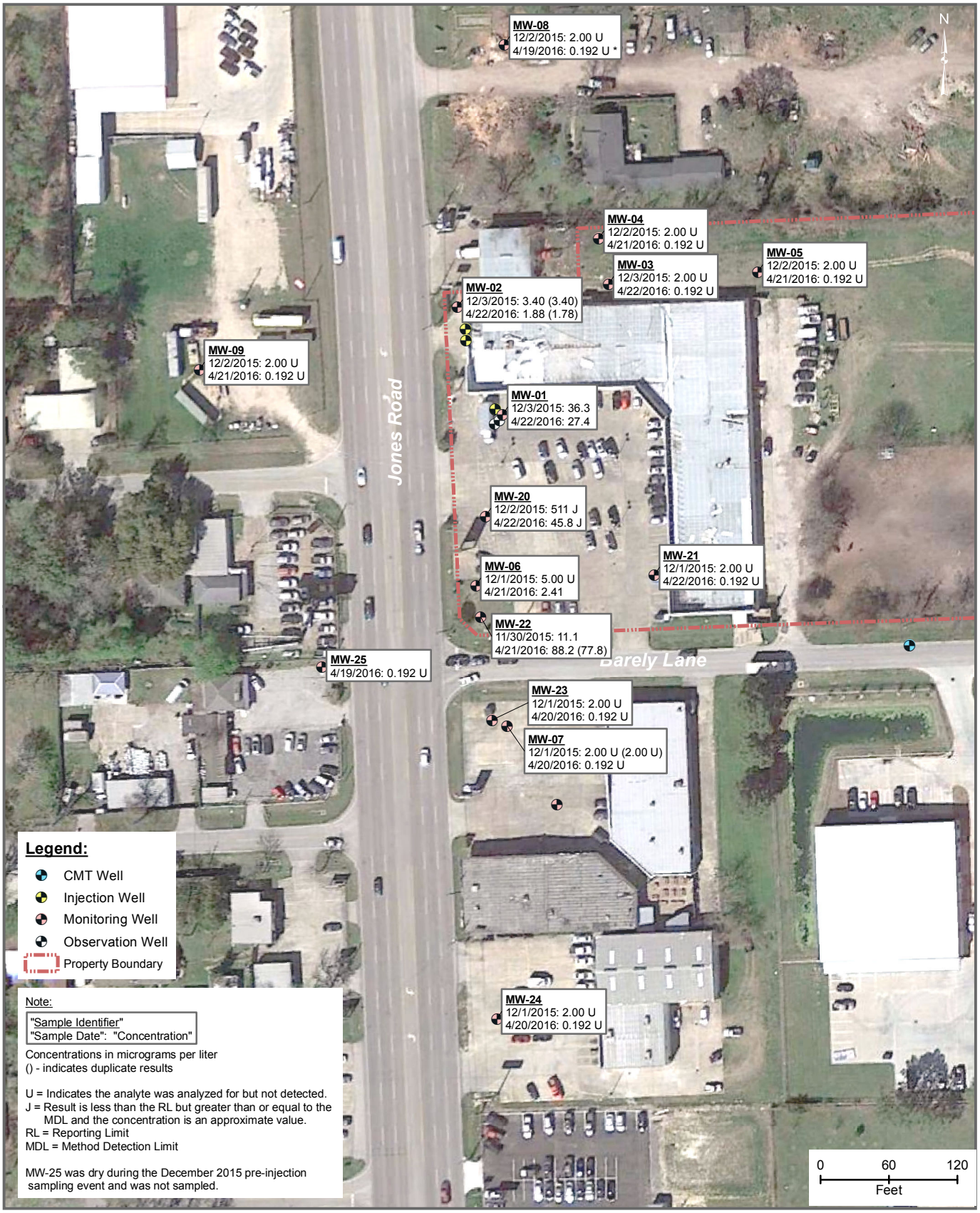

Image Source: GoogleEarth Pro, 2016

Figure 5
trans-1,2-Dichloroethene Results

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

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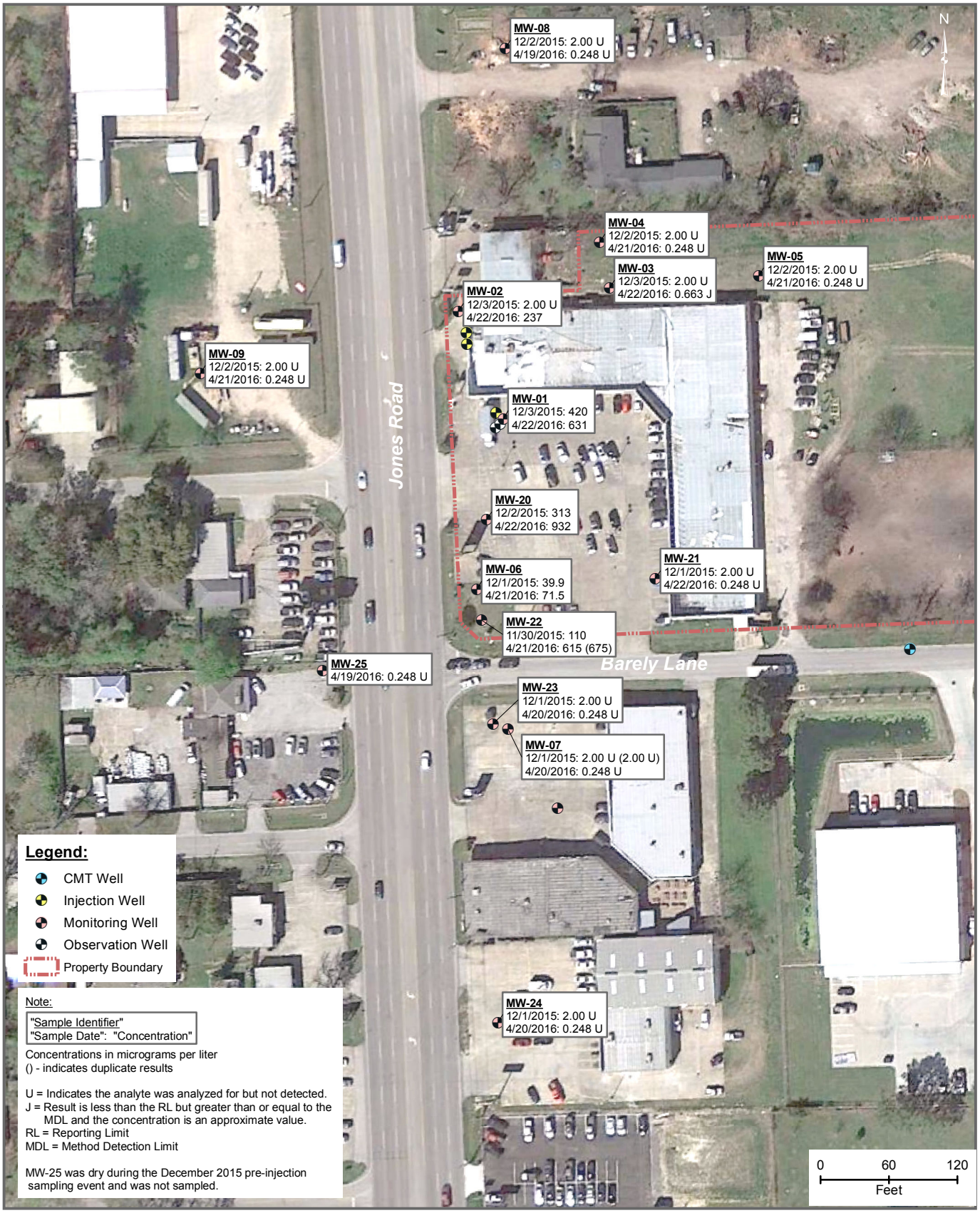

Image Source: GoogleEarth Pro, 2016

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 6
Vinyl Chloride Results

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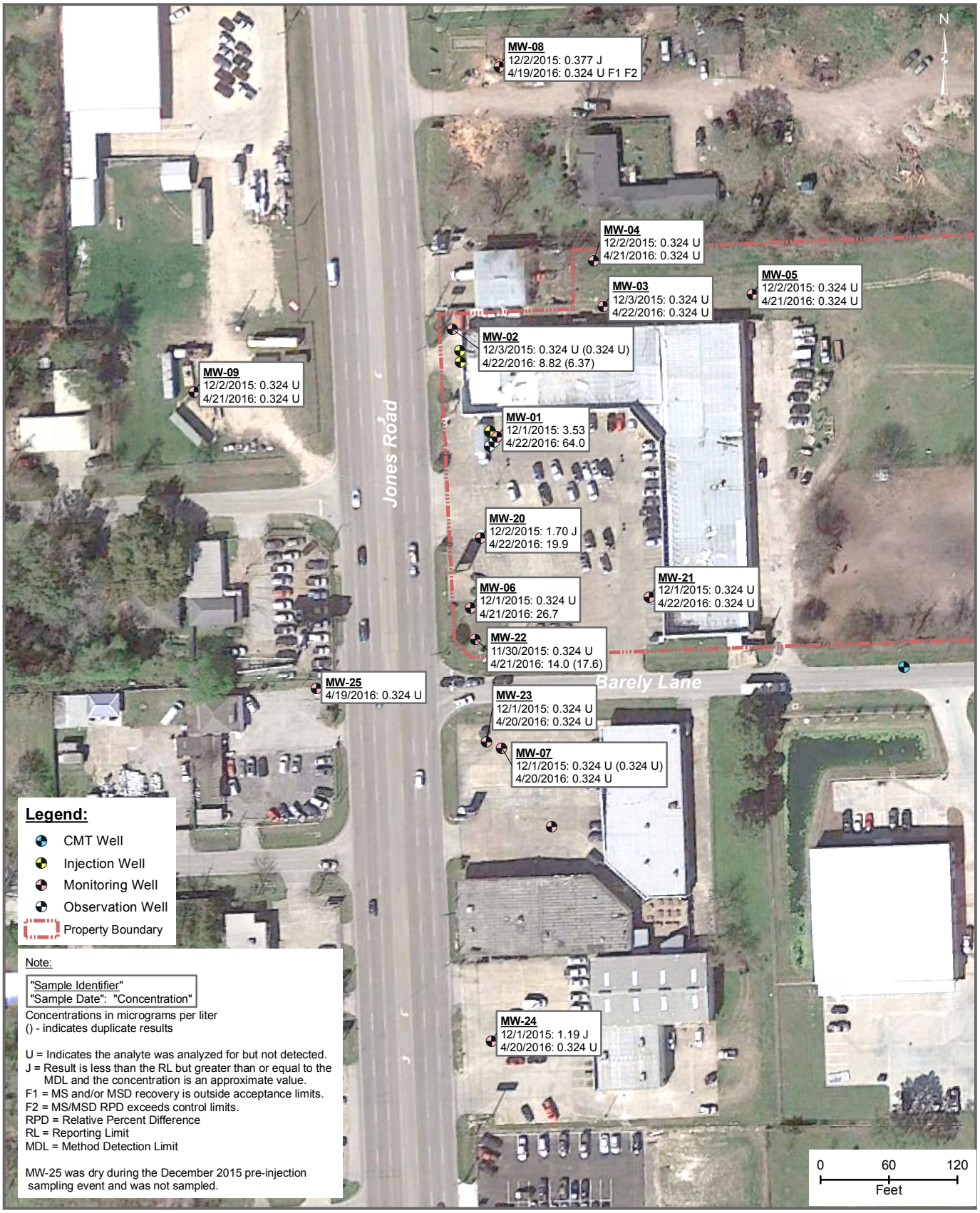

Image Source: GoogleEarth Pro, 2016

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 7
Ethene Results

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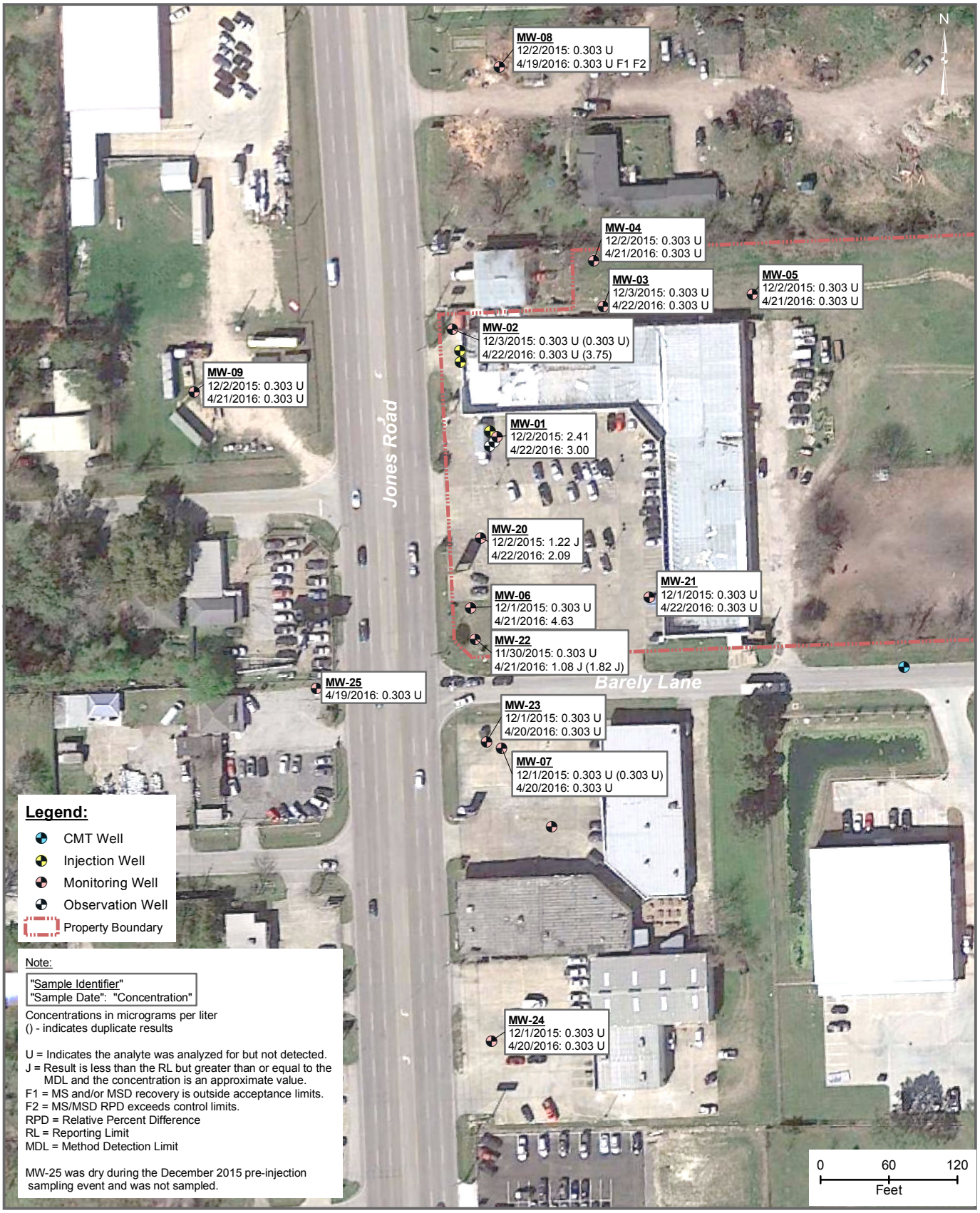

Image Source: GoogleEarth Pro, 2016

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 8
Ethane Results

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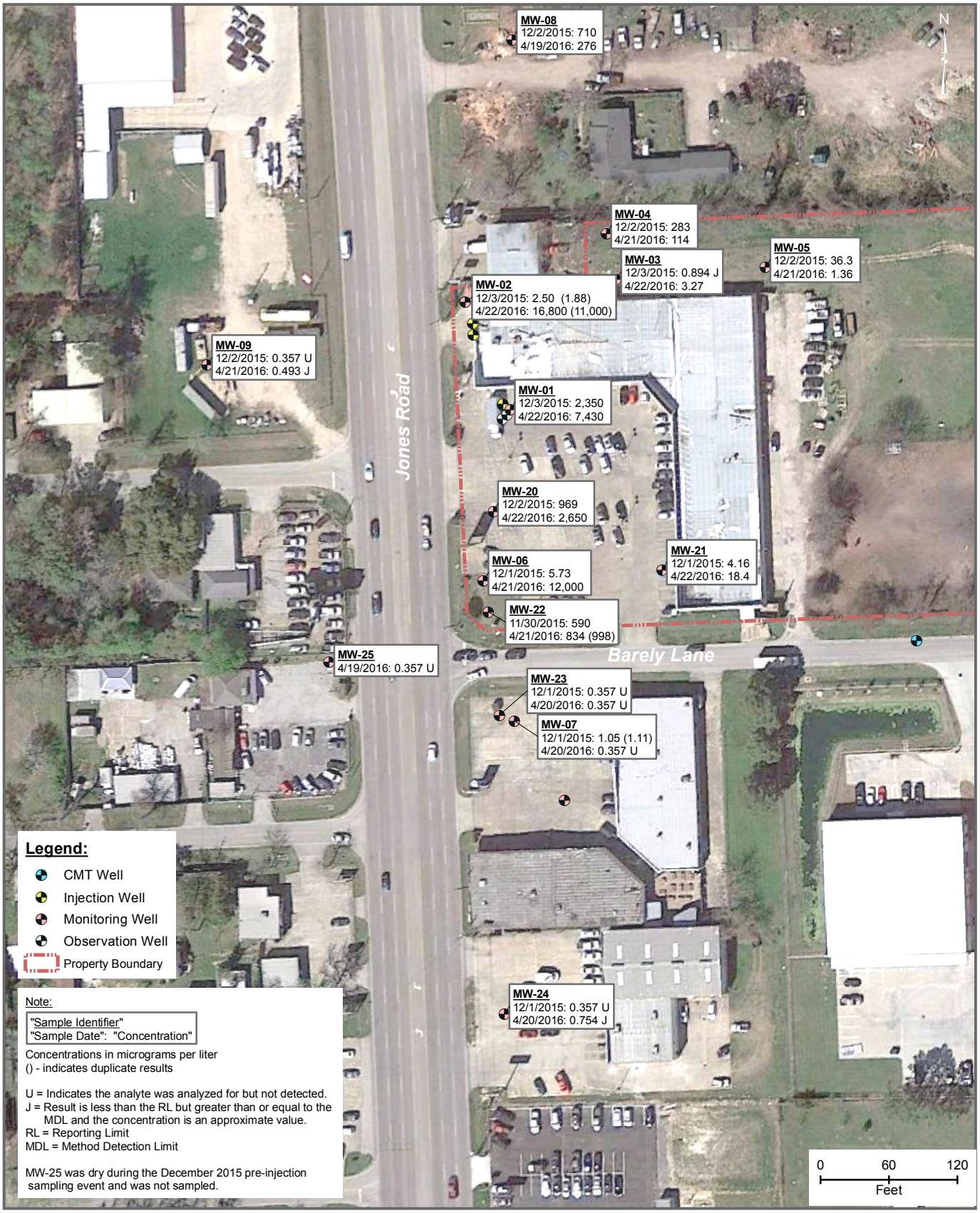


Image Source: GoogleEarth Pro, 2016

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 9
Methane Results

2016 -08-16 C:\DATA\Federal\EPA\RAC II\0070-Jones Road RD\GIS\MXDs\201606\JonesMeth201606.mxd EA-Dallas jschwertz

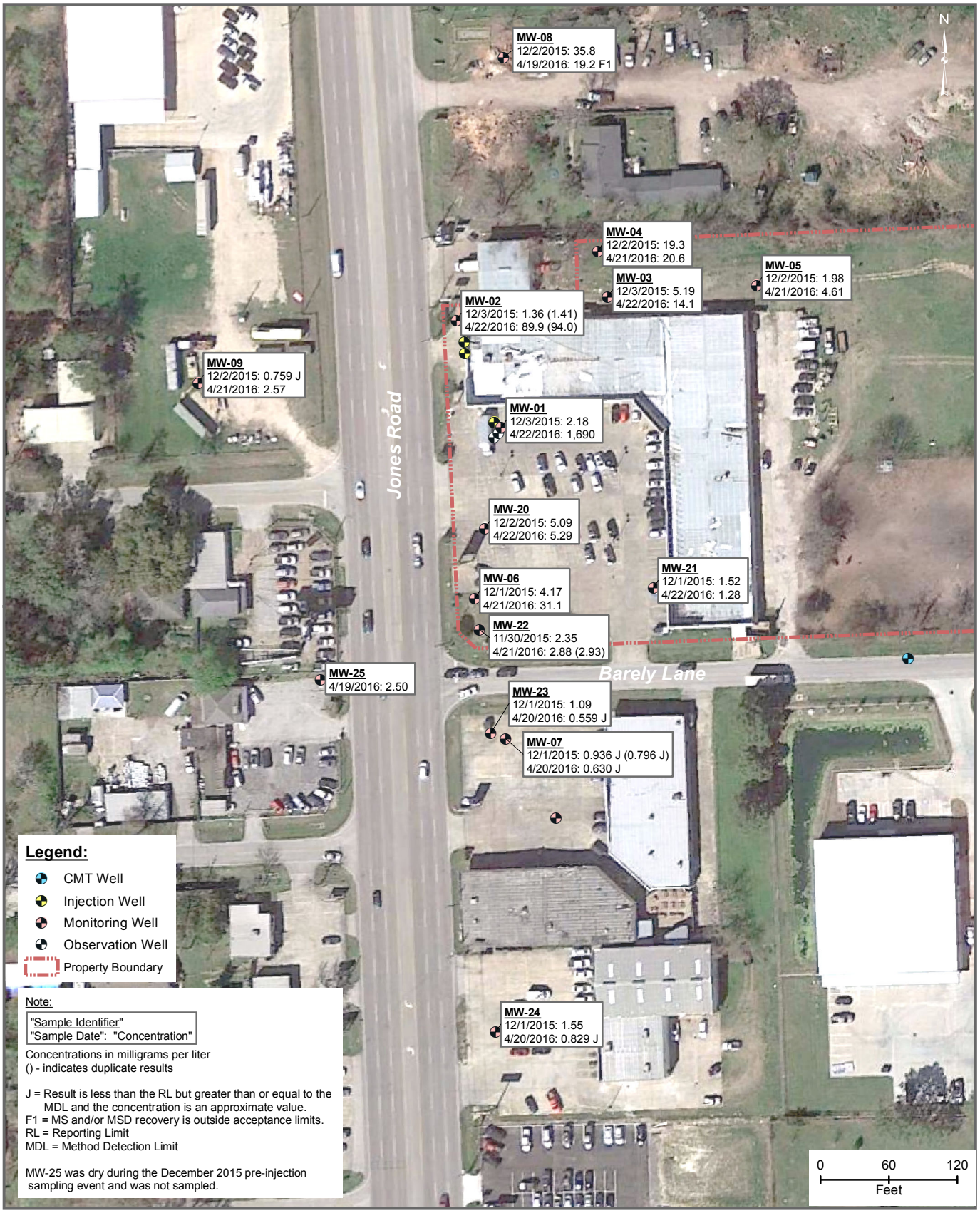


Image Source: GoogleEarth Pro, 2016

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 10
Total Organic Carbon Results

2016 -08-17 C:\DATA\Federal\EPA\RAC II\0070-Jones Road RD\GIS\MXDs\201606\JonesTOC201606.mxd EA-Dallas jschwertz

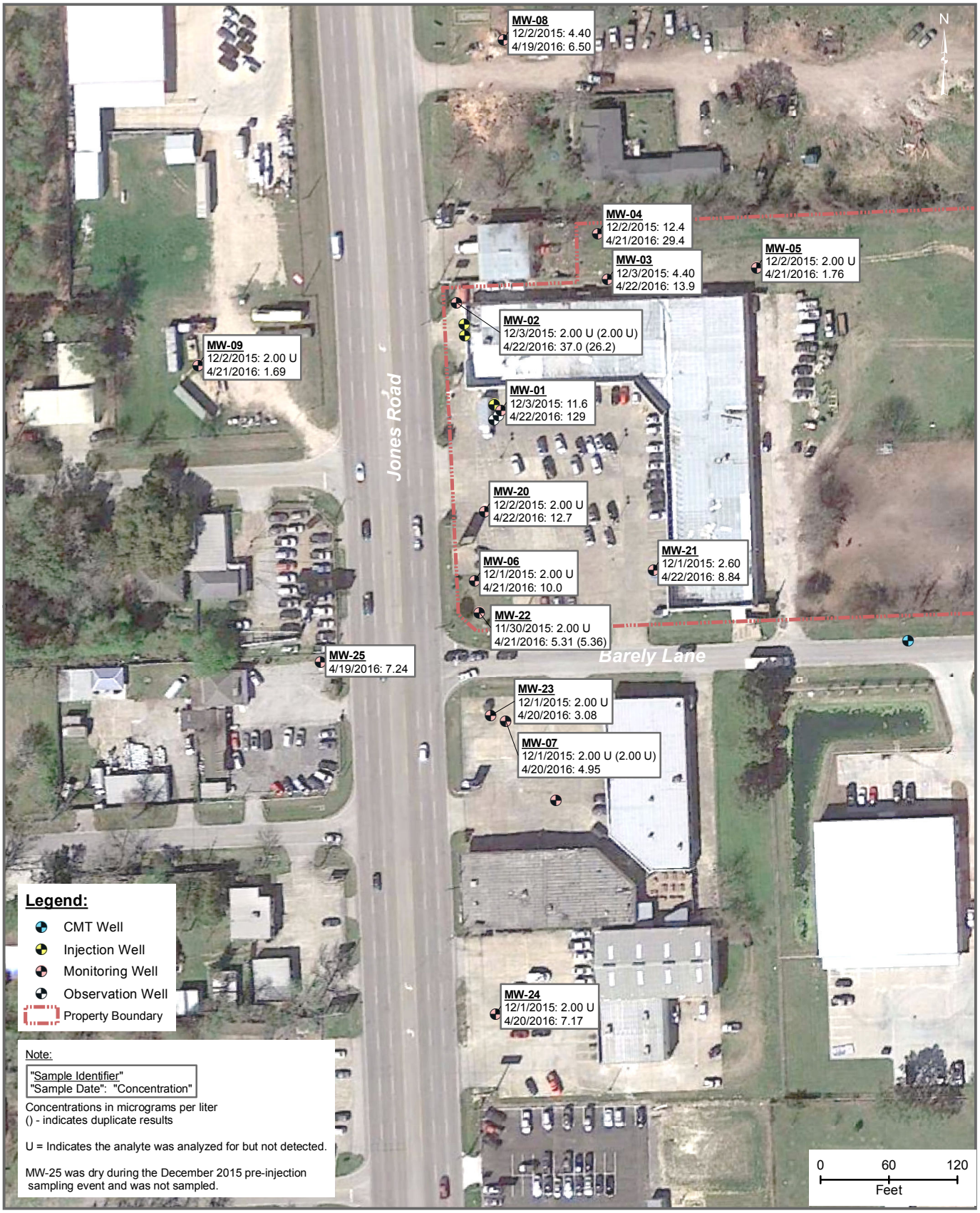


Image Source: GoogleEarth Pro, 2016

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 11
Dissolved Arsenic Results

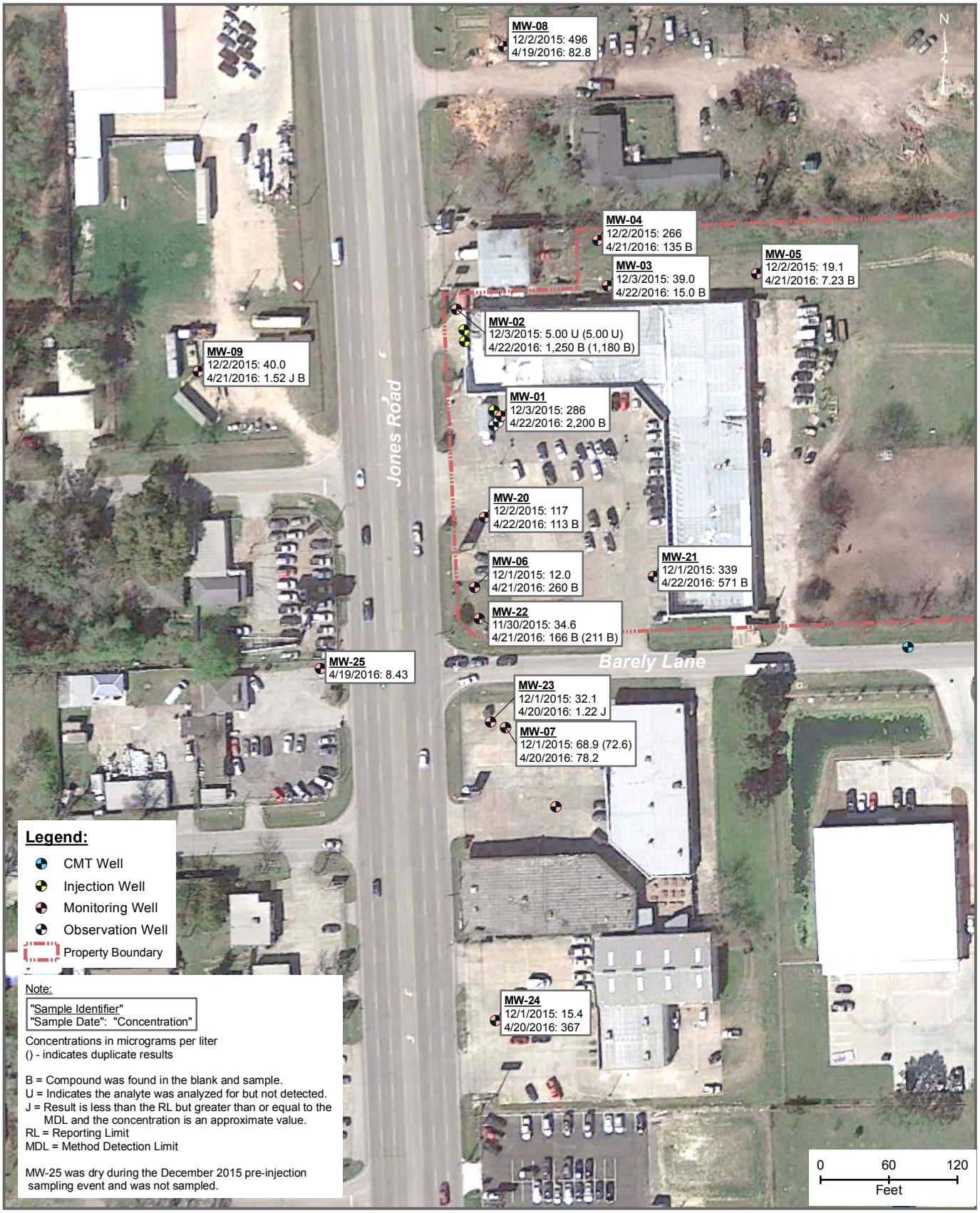
2016 -08-16 C:\DATA\Federal\EPA\RAC II\0070-Jones Road RD\GIS\MXDs\201606\JonesAs201606.mxd EA-Dallas jschwertz

Image Source: GoogleEarth Pro, 2016

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 12
Dissolved Iron Results

2016 -06-22 C:\DATA\Federal\EPA\RAC II\0070-Jones Road RD\GIS\MXDs\201606\Jonesfe201606.mxd EA-Dallas jschwertz



Legend:

- CMT Well
- Injection Well
- Monitoring Well
- Observation Well
- Property Boundary

Note:

"Sample Identifier"
"Sample Date": "Concentration"

Concentrations in micrograms per liter
() - indicates duplicate results

B = Compound was found in the blank and sample.
U = Indicates the analyte was analyzed for but not detected.
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
RL = Reporting Limit
MDL = Method Detection Limit

MW-25 was dry during the December 2015 pre-injection sampling event and was not sampled.

Image Source: GoogleEarth Pro, 2016

Remedial Action
Jones Road Ground Water Plume
Houston, Harris County, Texas

Figure 13
Dissolved Manganese Results

2016 -08-16 C:\DATA\Federal\EPA\RAC II\0070-Jones Road RD\GIS\MXDs\201606\JonesMn201606.mxd EA-Dallas jschwertz

FIGURE 15
PRE AND POST INJECTION ORP TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

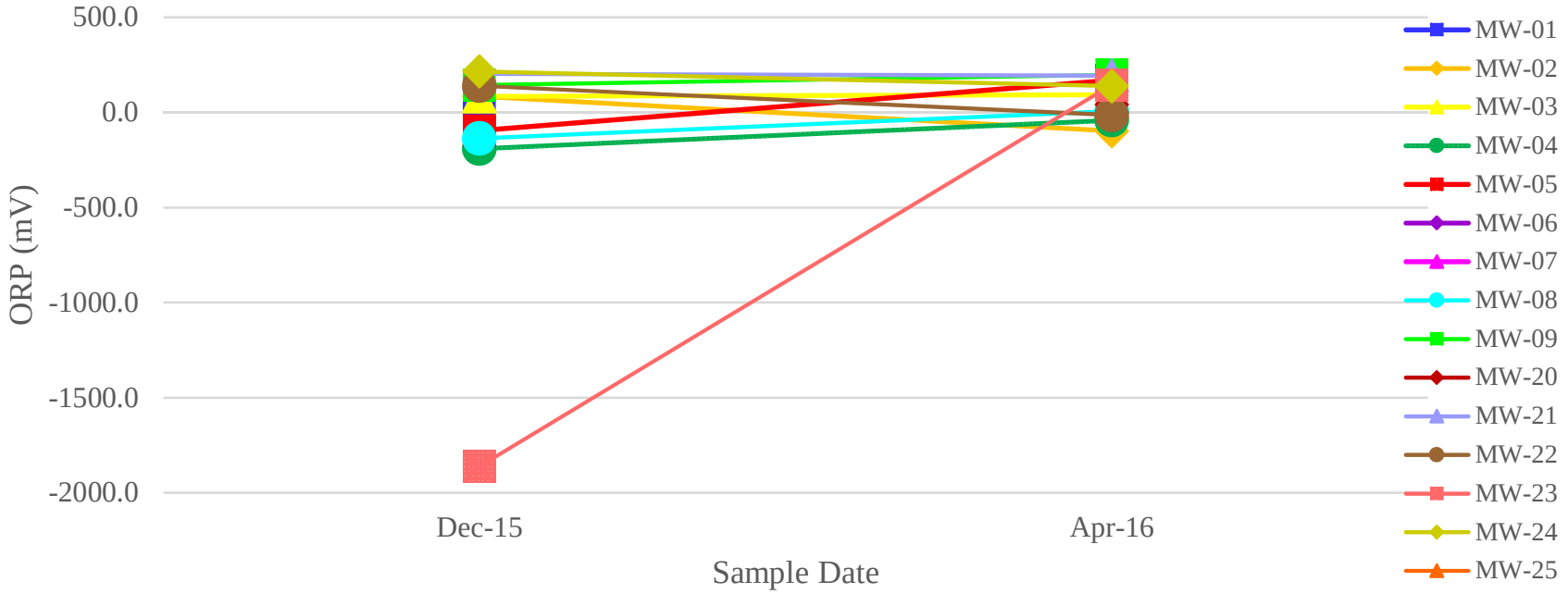


FIGURE 16
PRE AND POST INJECTION DO CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

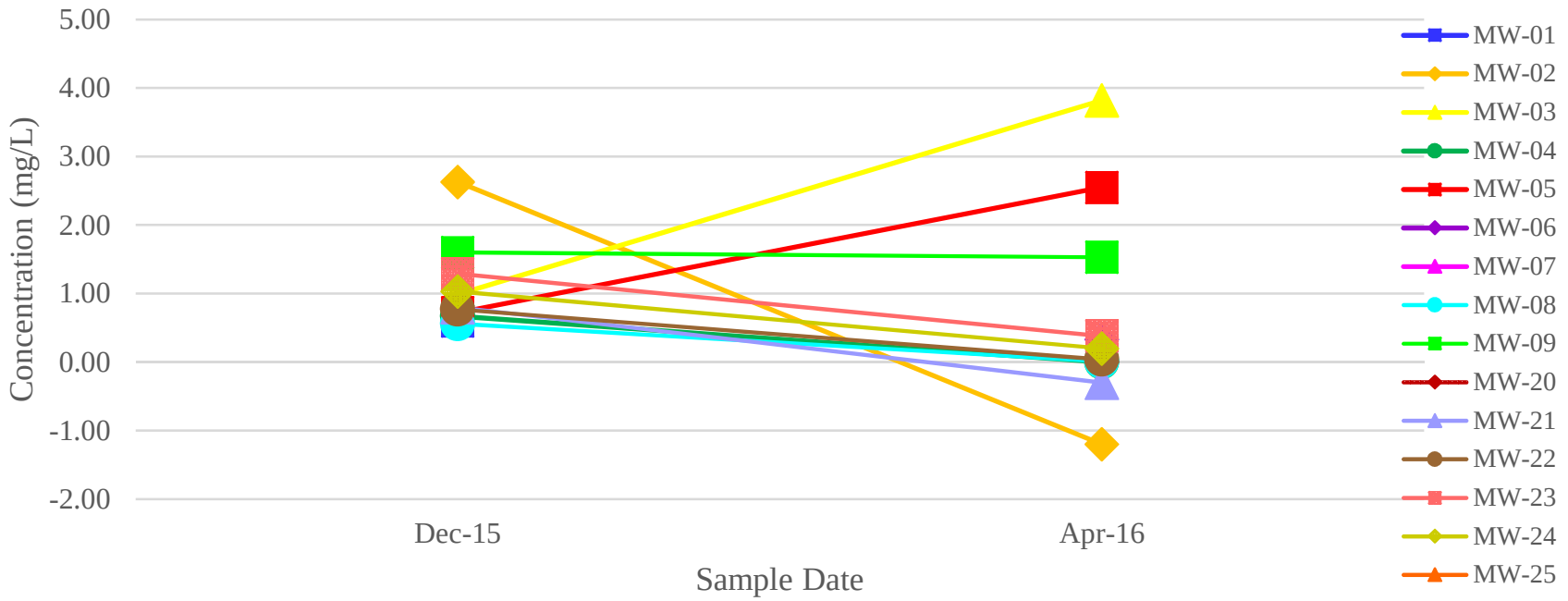


FIGURE 17
PRE AND POST INJECTION PH CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

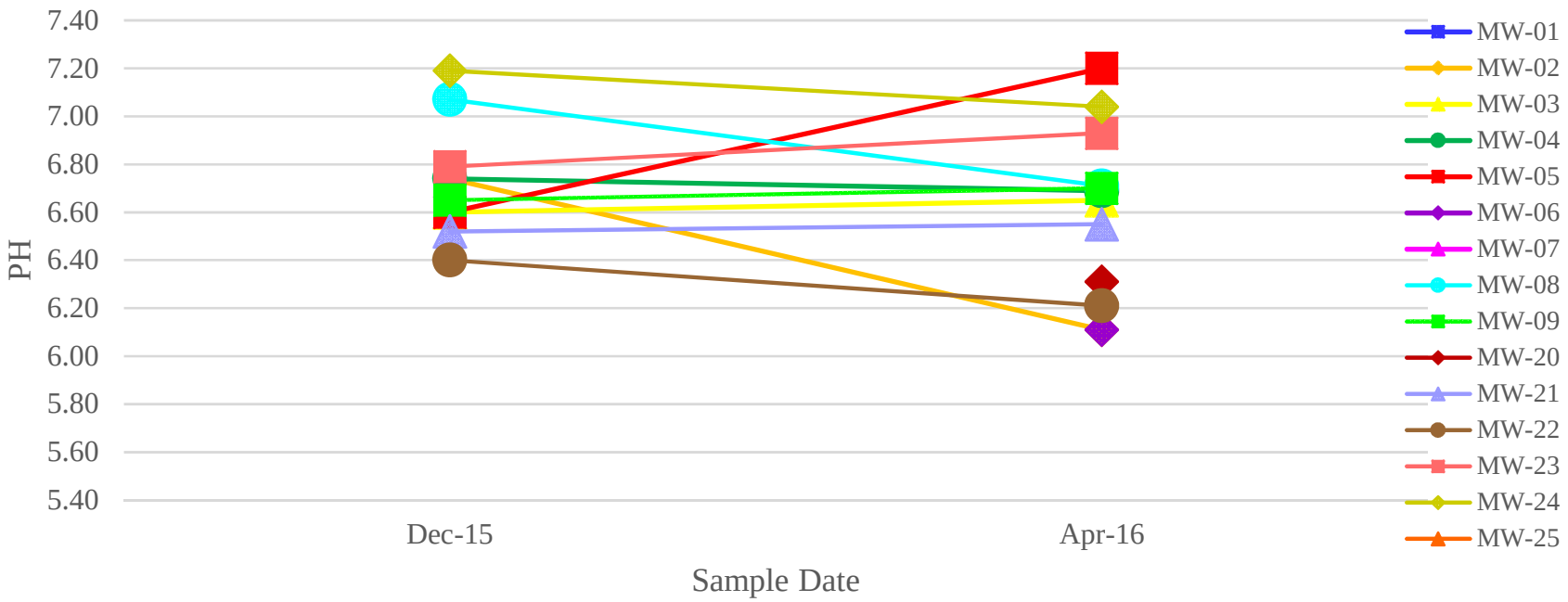


FIGURE 18
PRE AND POST INJECTION DISSOLVED ARSENIC CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

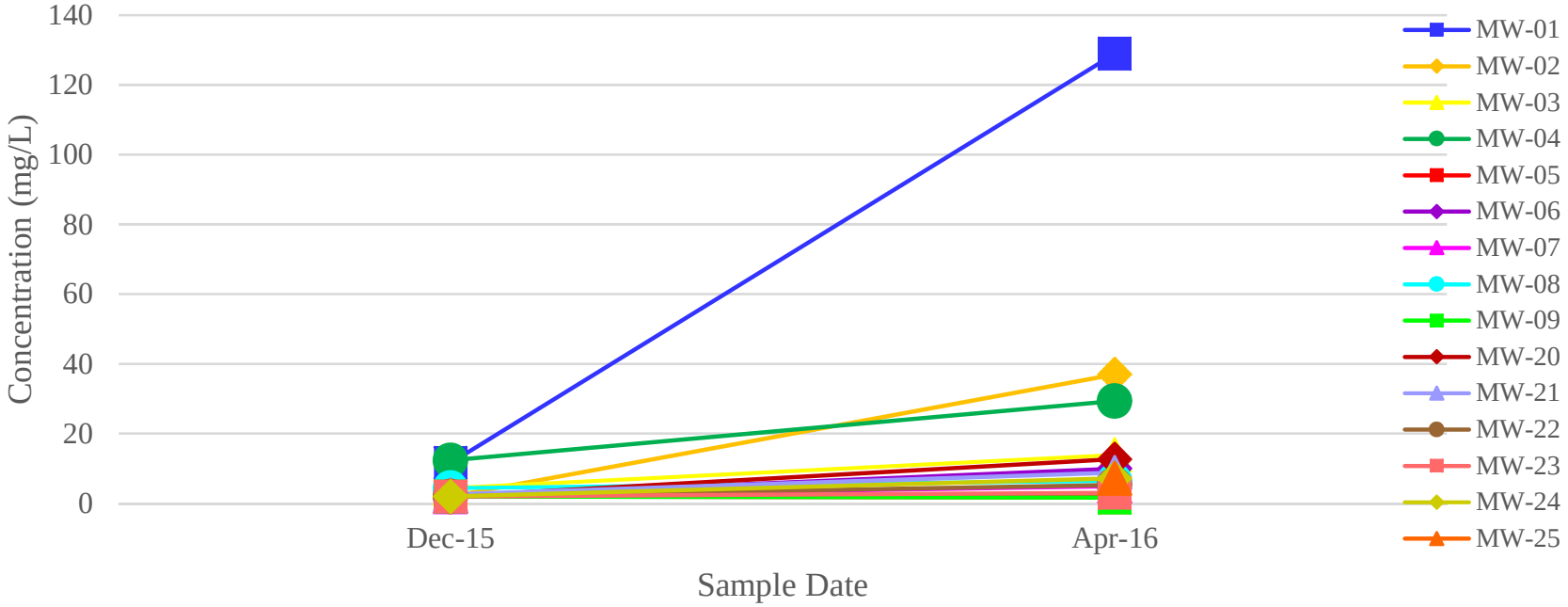


FIGURE 19
PRE AND POST INJECTION DISSOLVED IRON CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

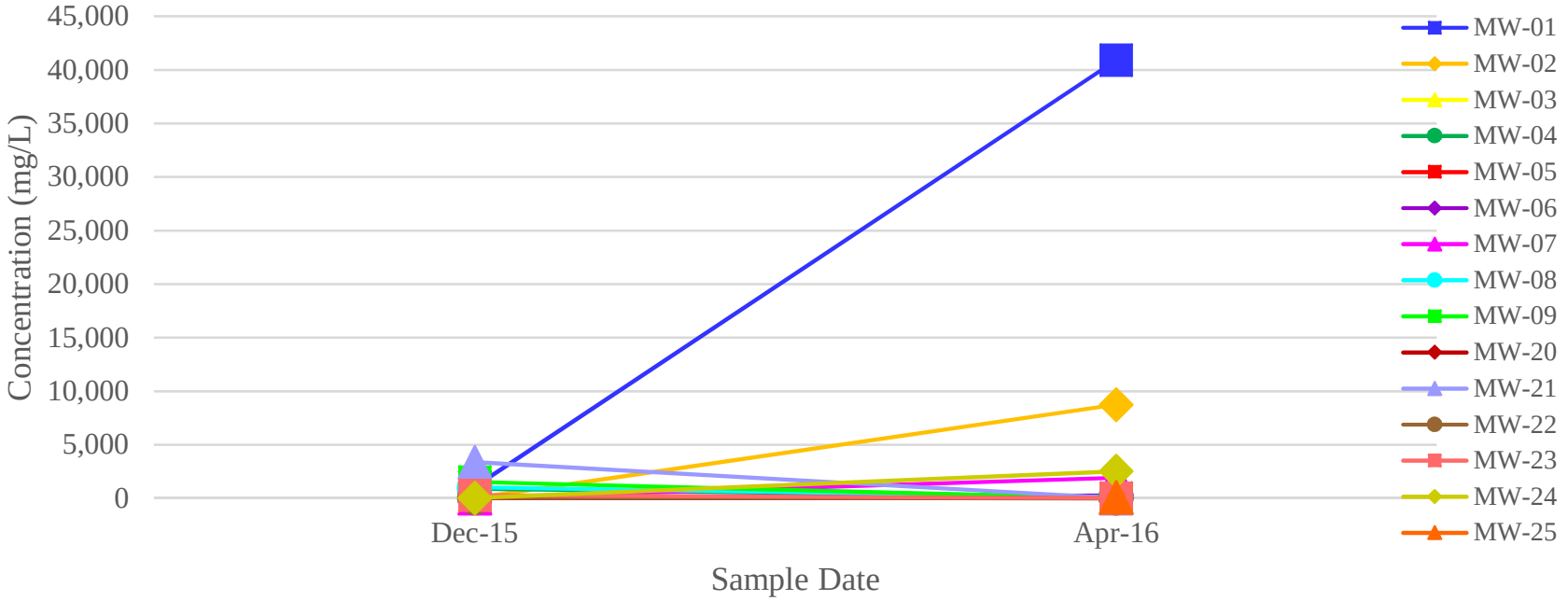


FIGURE 20
PRE AND POST INJECTION DISSOLVED MANGANESE CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

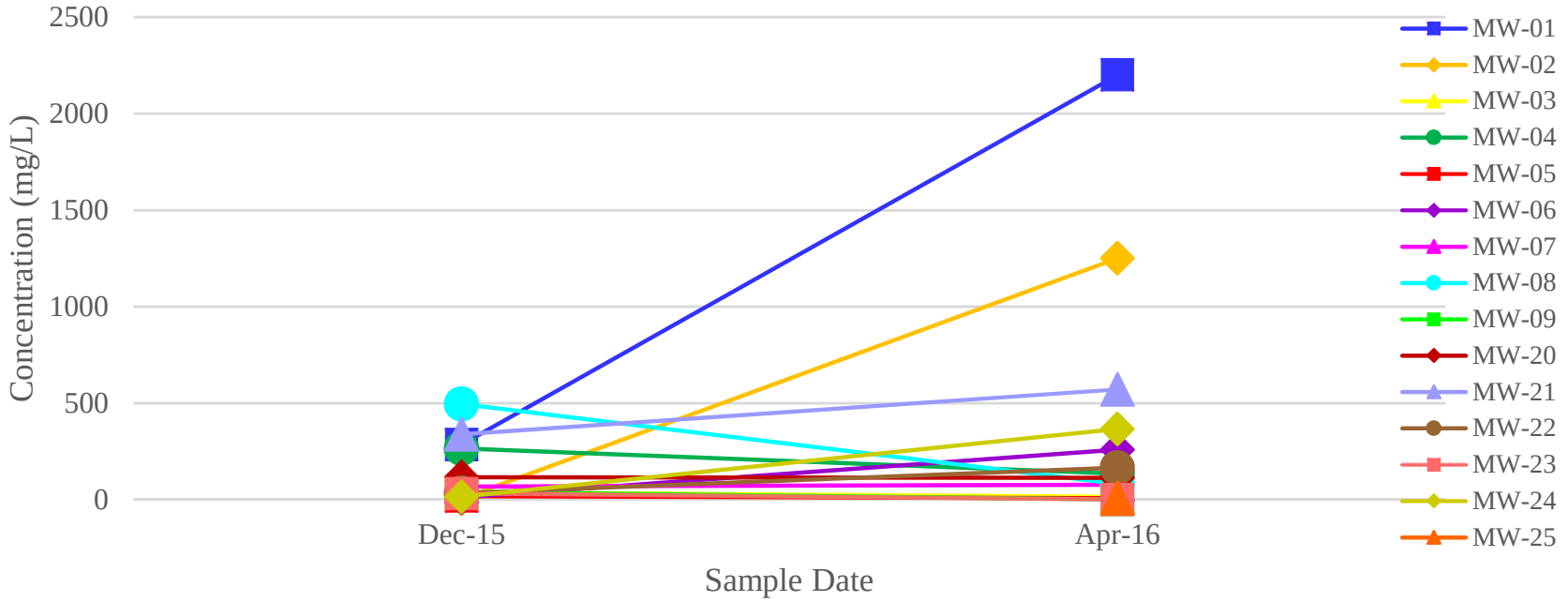


FIGURE 21
PRE AND POST INJECTION METHANE CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

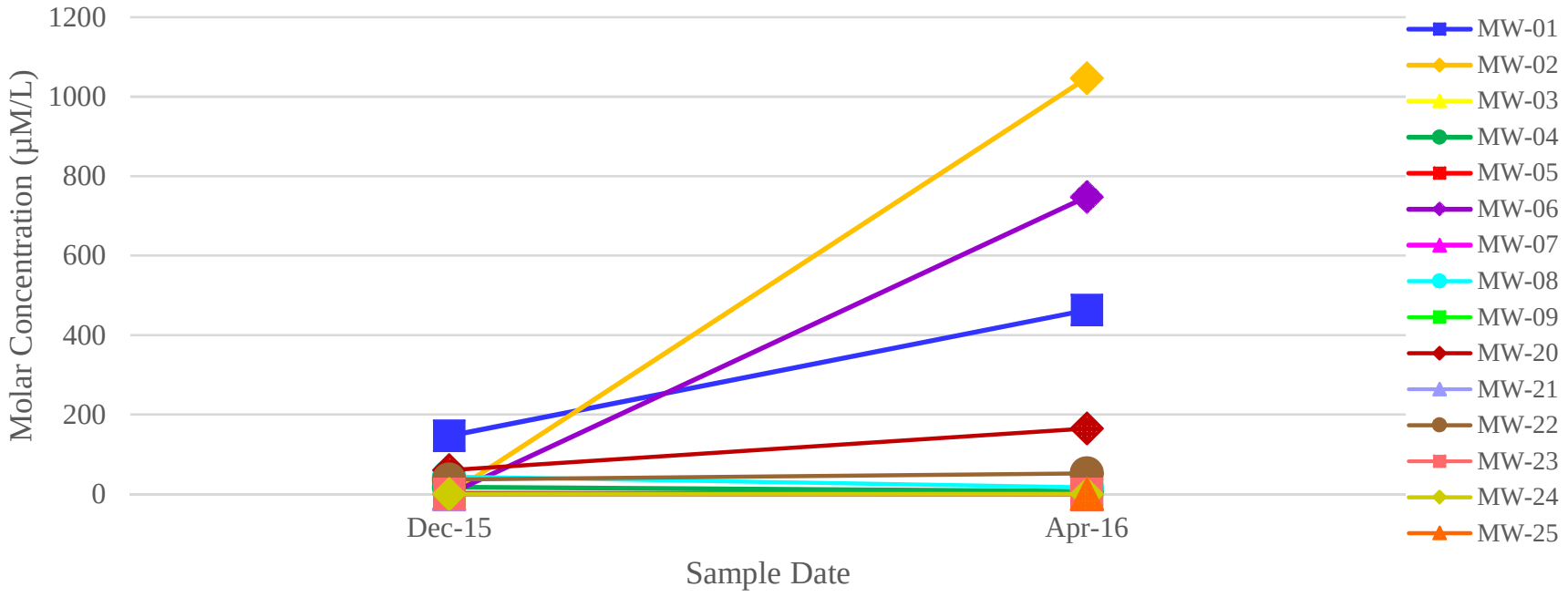


FIGURE 22
PRE AND POST INJECTION TOC CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

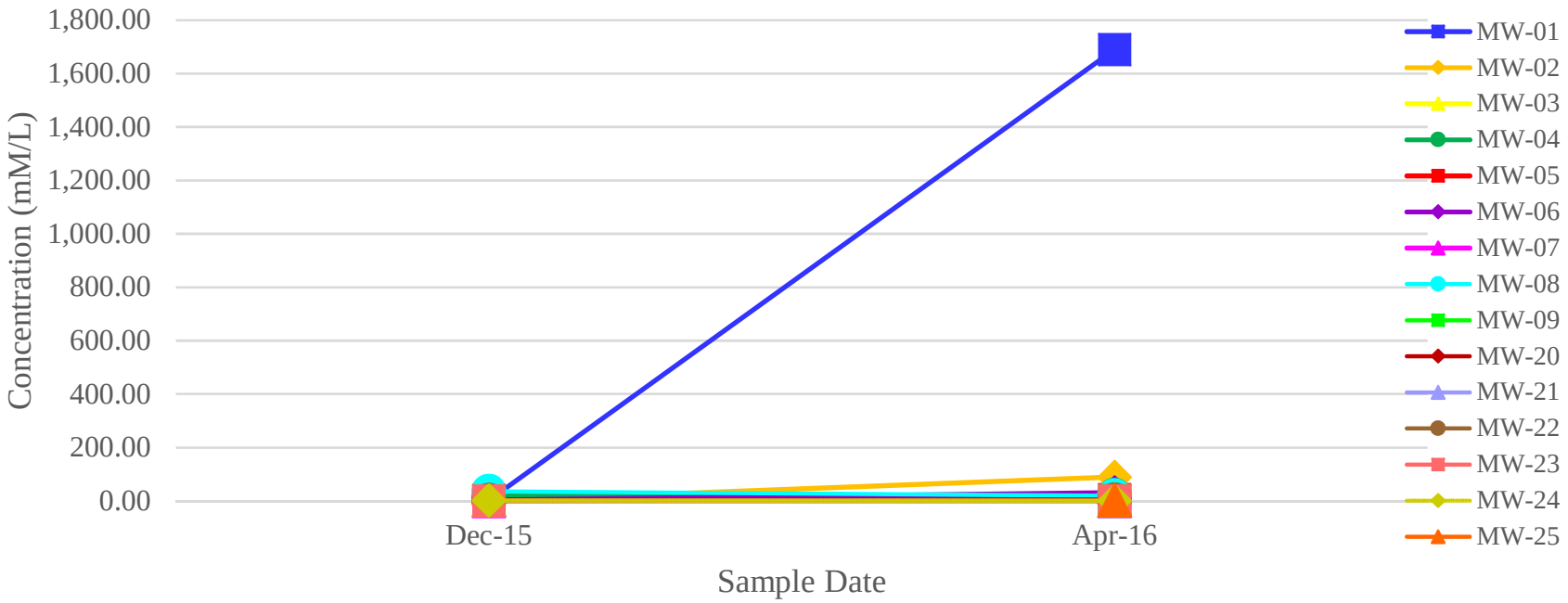


FIGURE 23
PRE AND POST INJECTION PCE CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

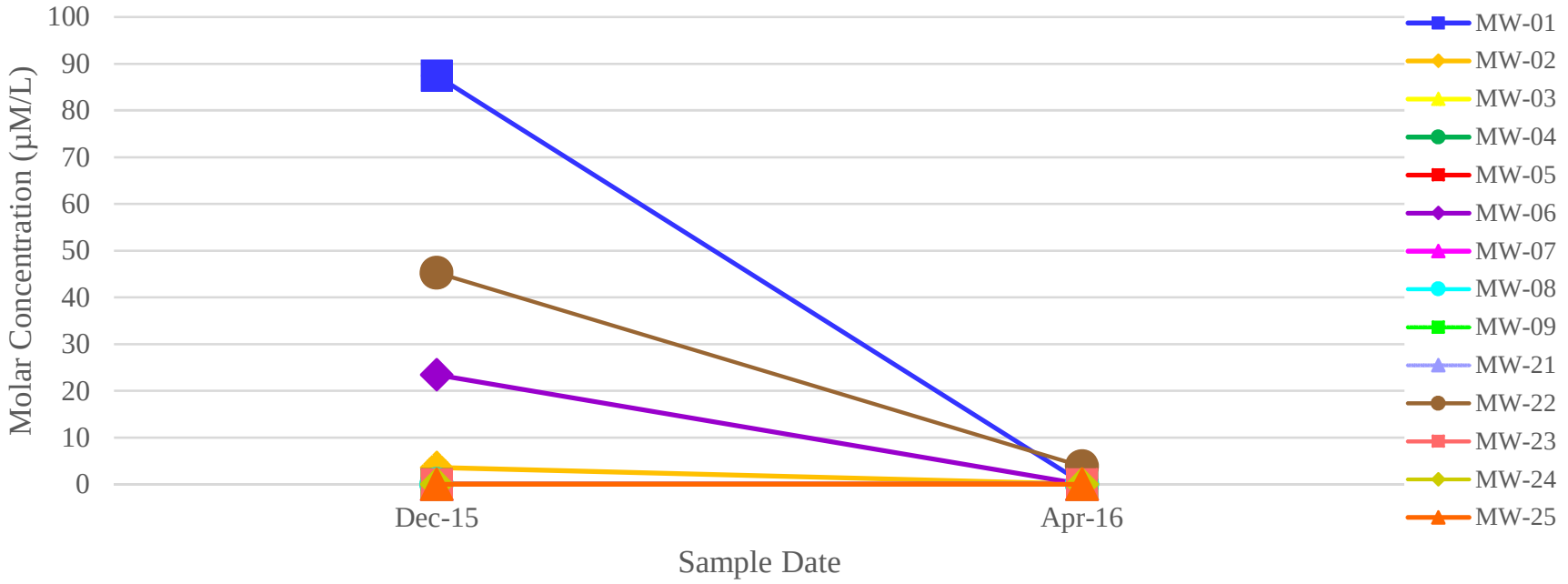


FIGURE 24
PRE AND POST INJECTION TCE CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

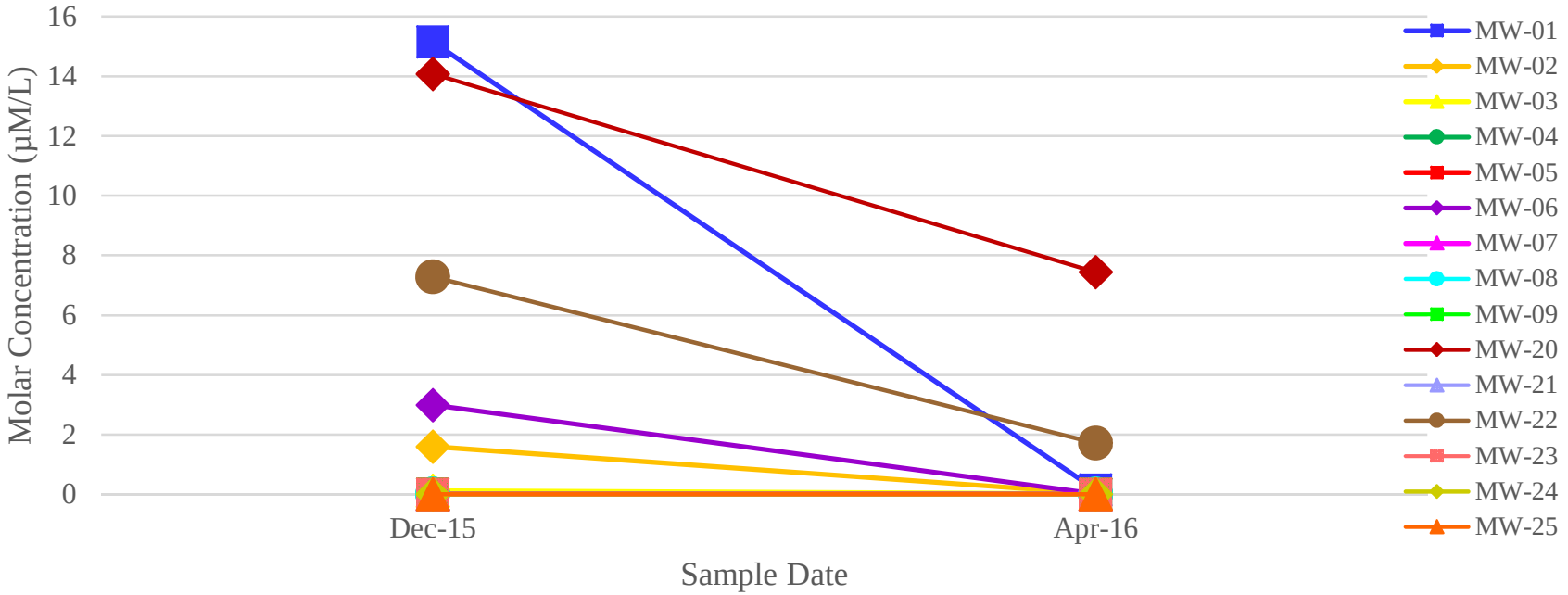


FIGURE 25
PRE AND POST INJECTION CIS-1,2-DCE CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

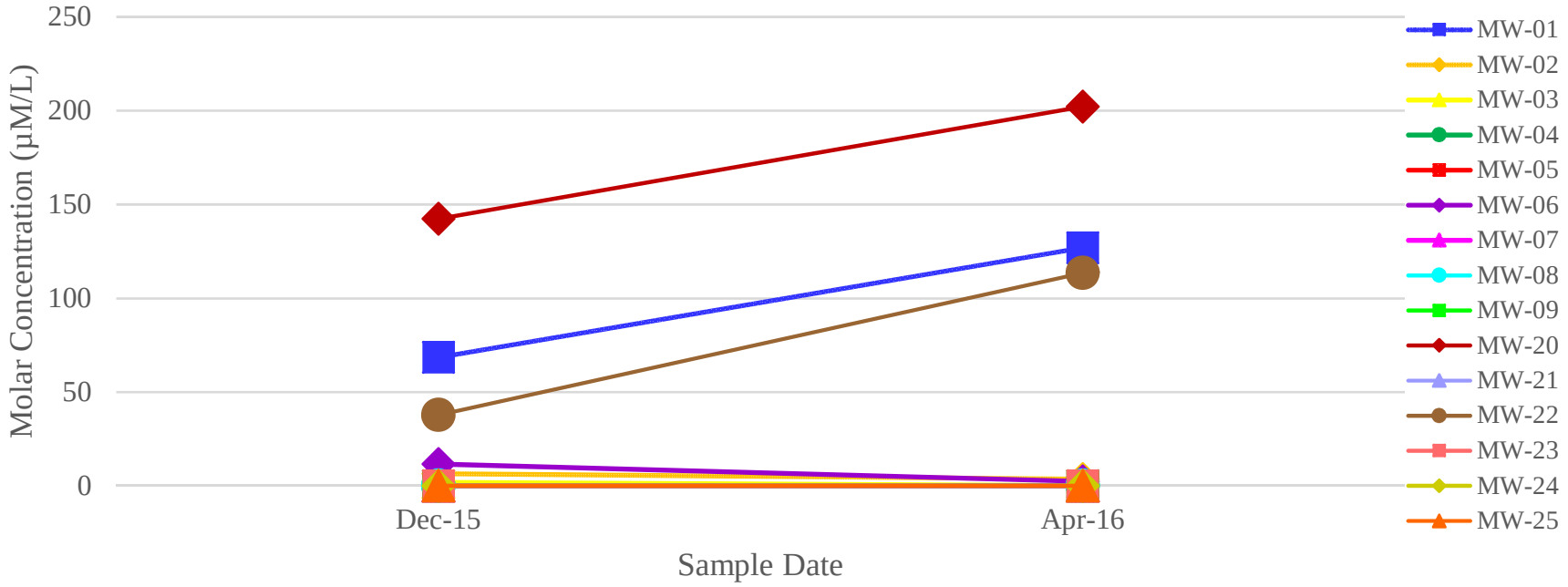


FIGURE 26
PRE AND POST INJECTION TRANS-1,2-DCE CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

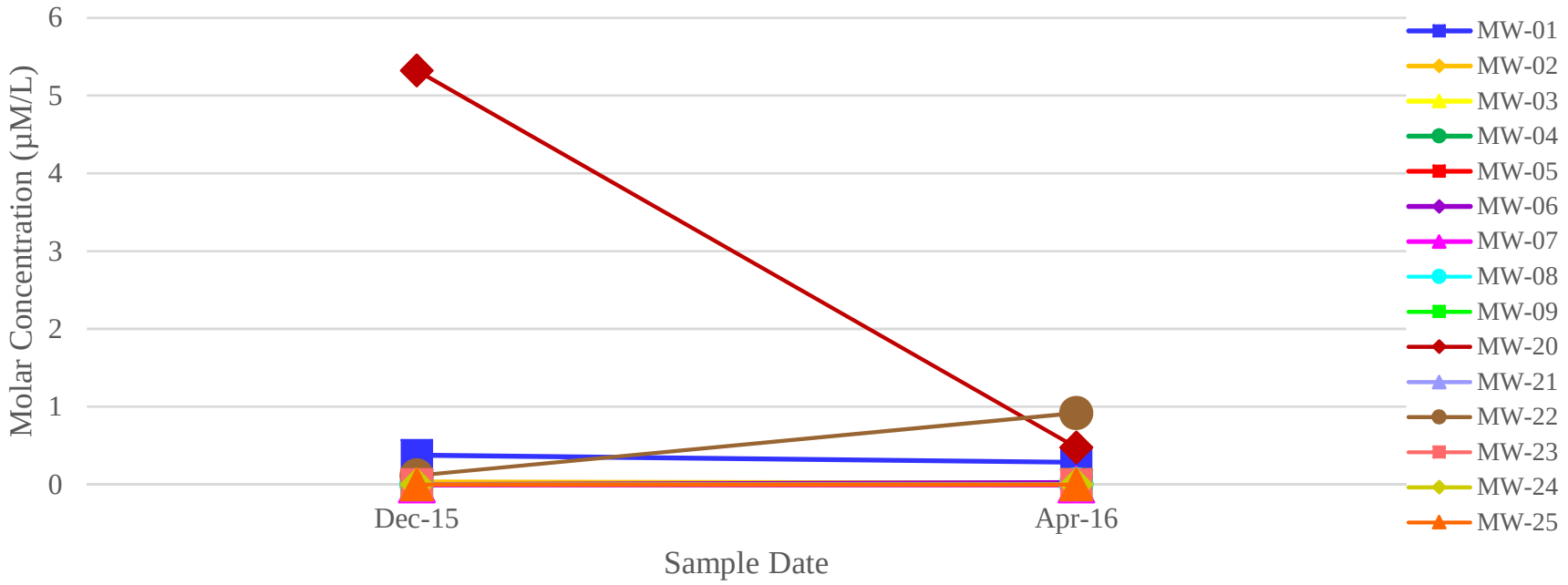


FIGURE 27
PRE AND POST INJECTION VINYL CHLORIDE CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

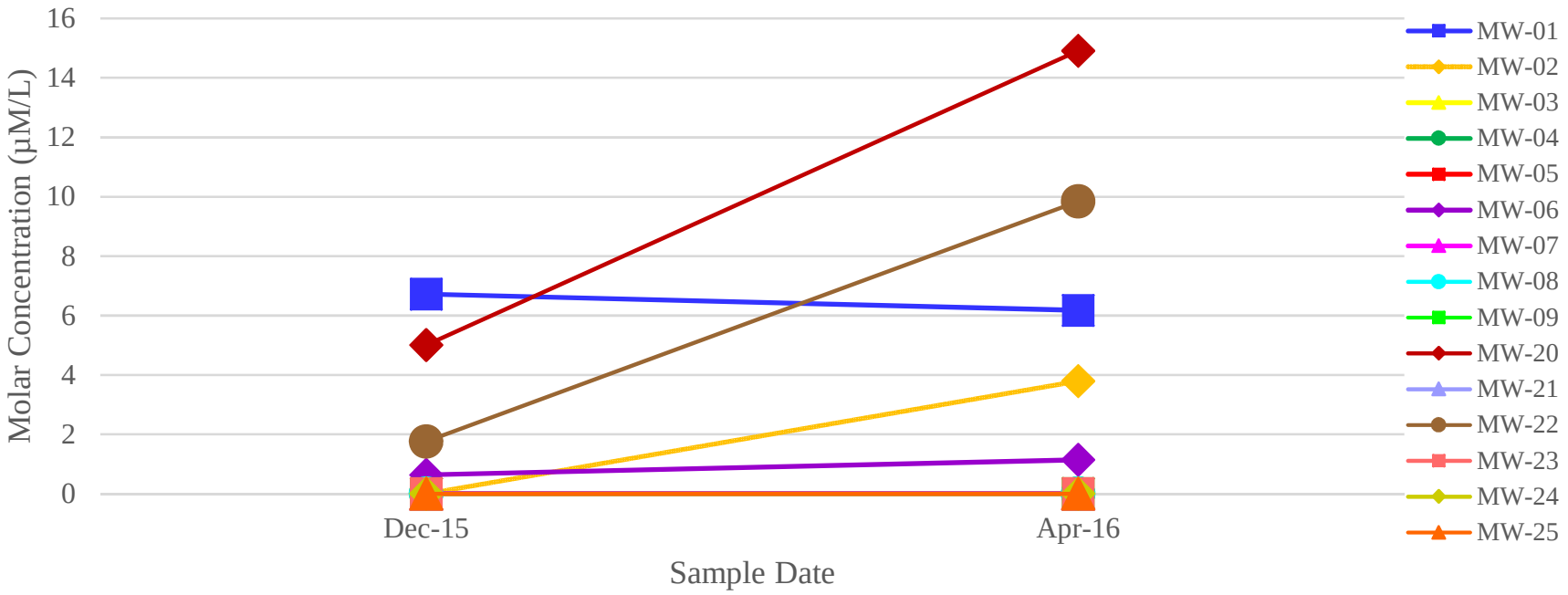


FIGURE 28
PRE AND POST INJECTION ETHENE CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

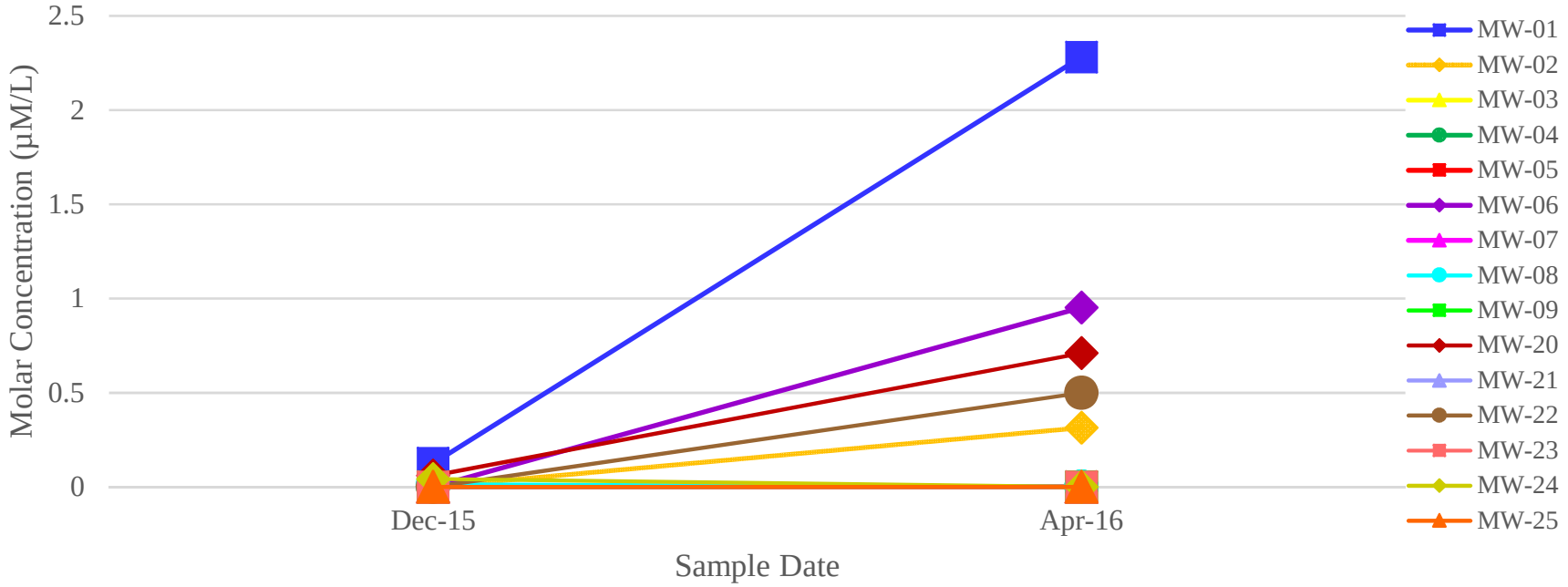


FIGURE 29
PRE AND POST INJECTION ETHANE CONCENTRATION TRENDS
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRIS COUNTY, TEXAS

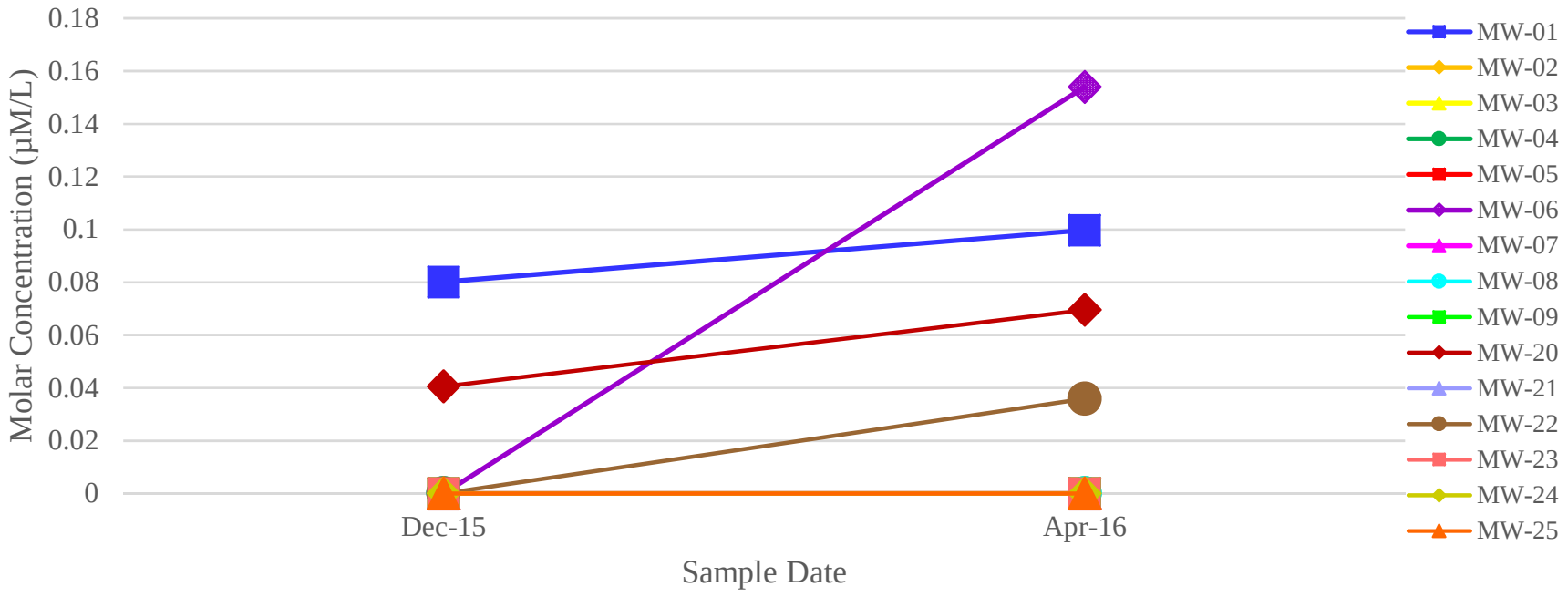


FIGURE 30
MOLAR CONCENTRATIONS OF CHLORINATED ETHENES IN MW-01
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRISON COUNTY, TEXAS

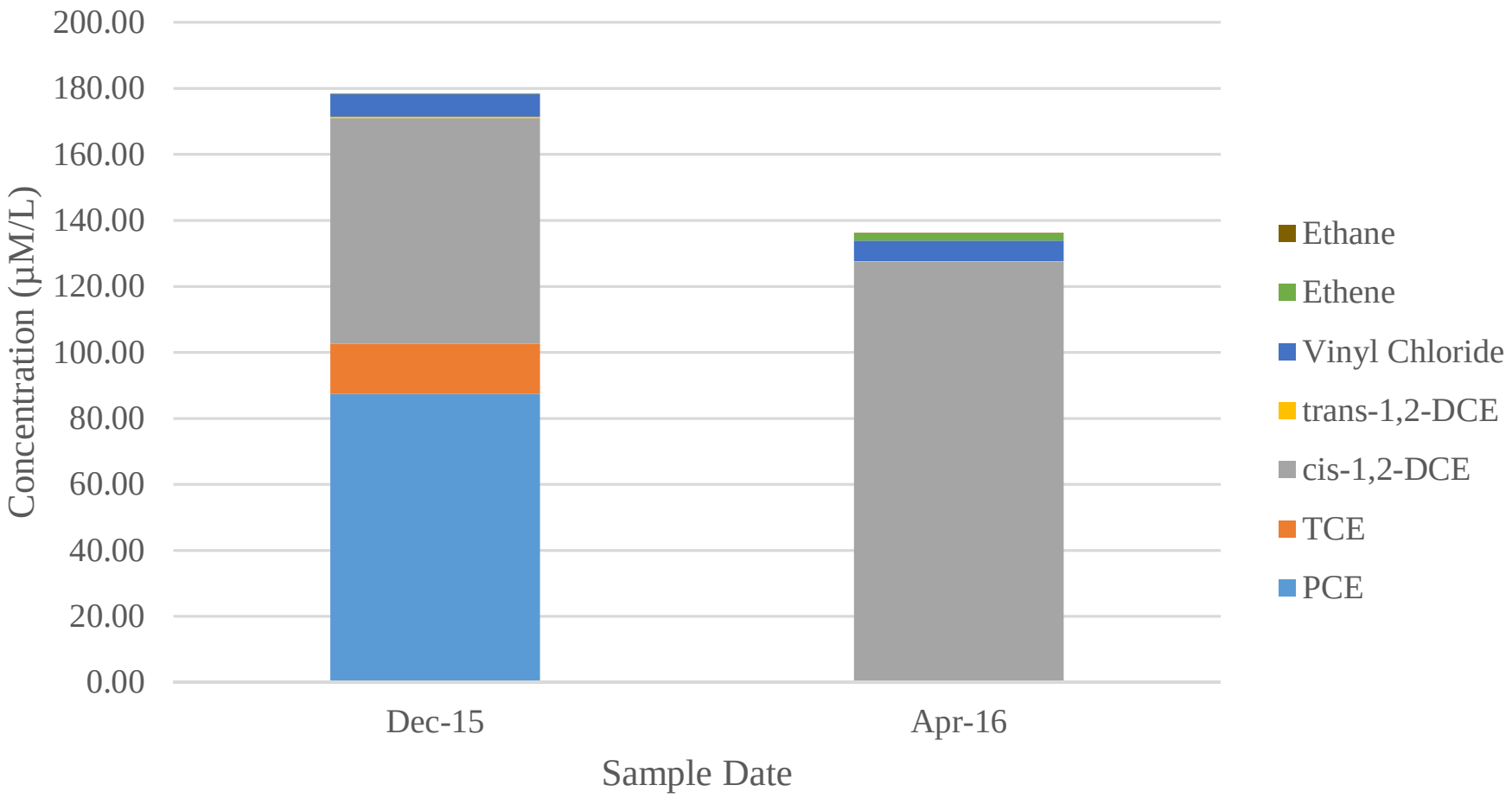


FIGURE 31
MOLAR CONCENTRATIONS OF CHLORINATED ETHENES IN MW-02
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRISON COUNTY, TEXAS

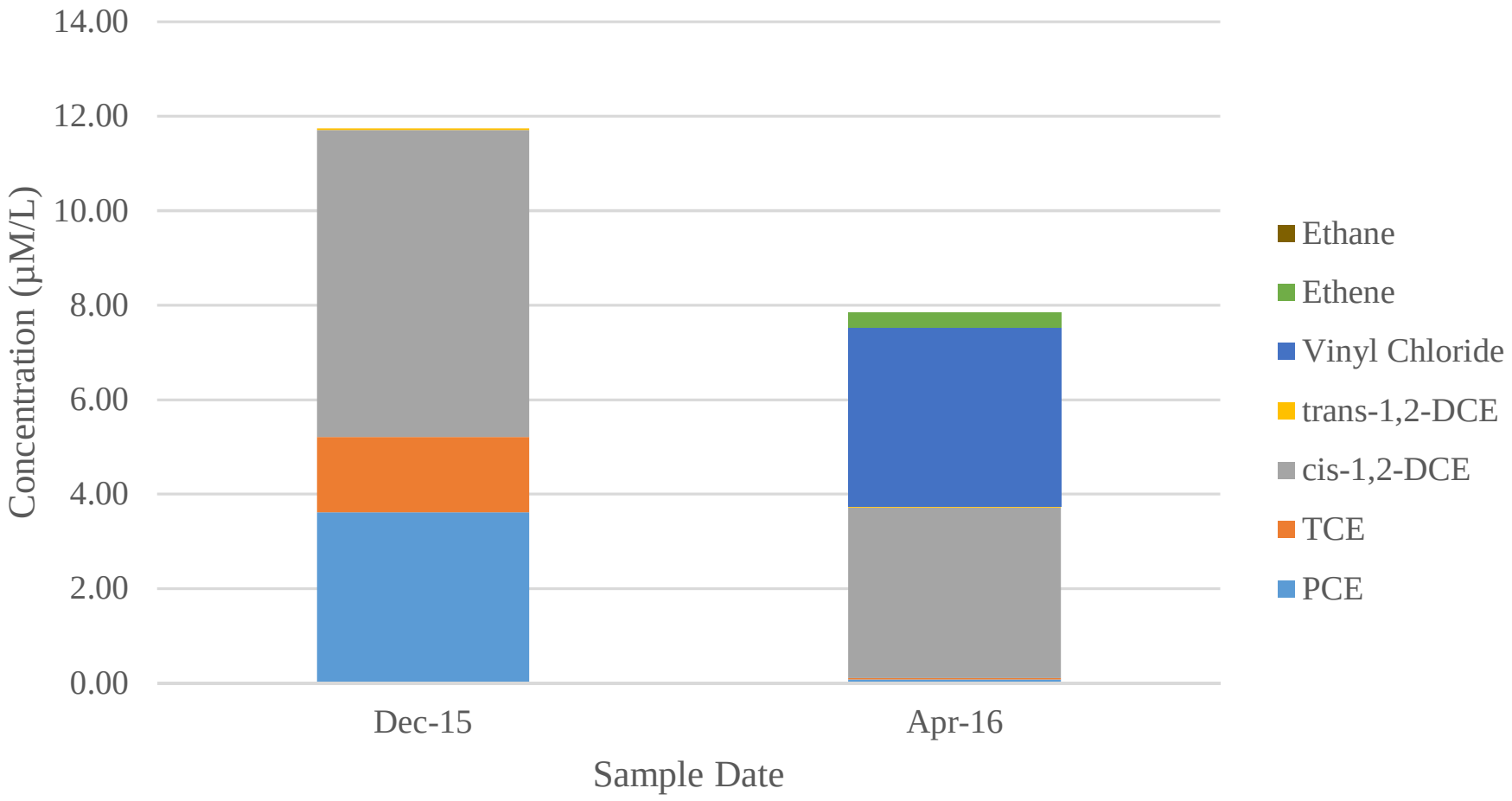


FIGURE 32
MOLAR CONCENTRATIONS OF CHLORINATED ETHENES IN MW-03
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRISON COUNTY, TEXAS

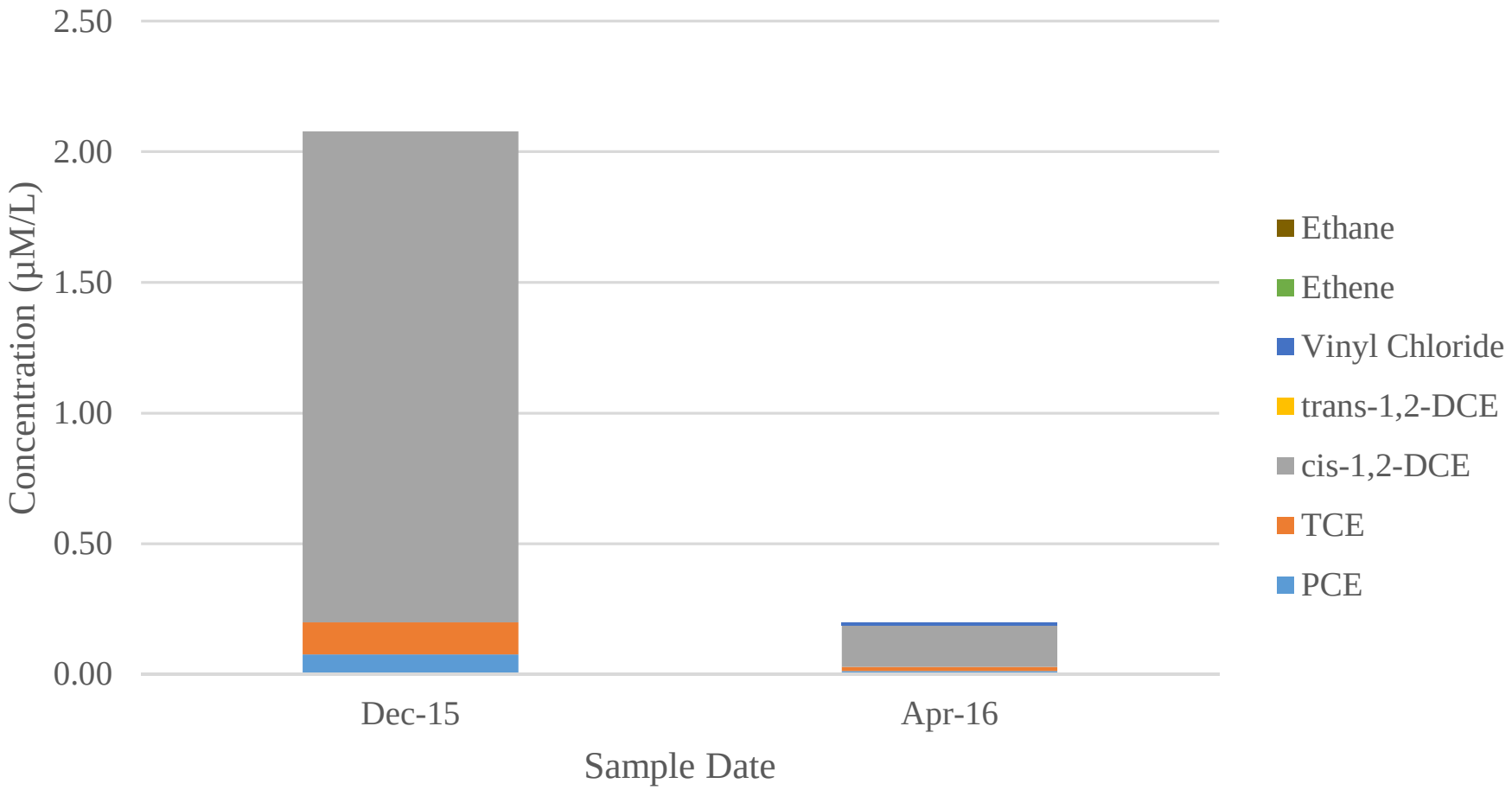


FIGURE 33
MOLAR CONCENTRATIONS OF CHLORINATED ETHENES IN MW-06
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRISON COUNTY, TEXAS

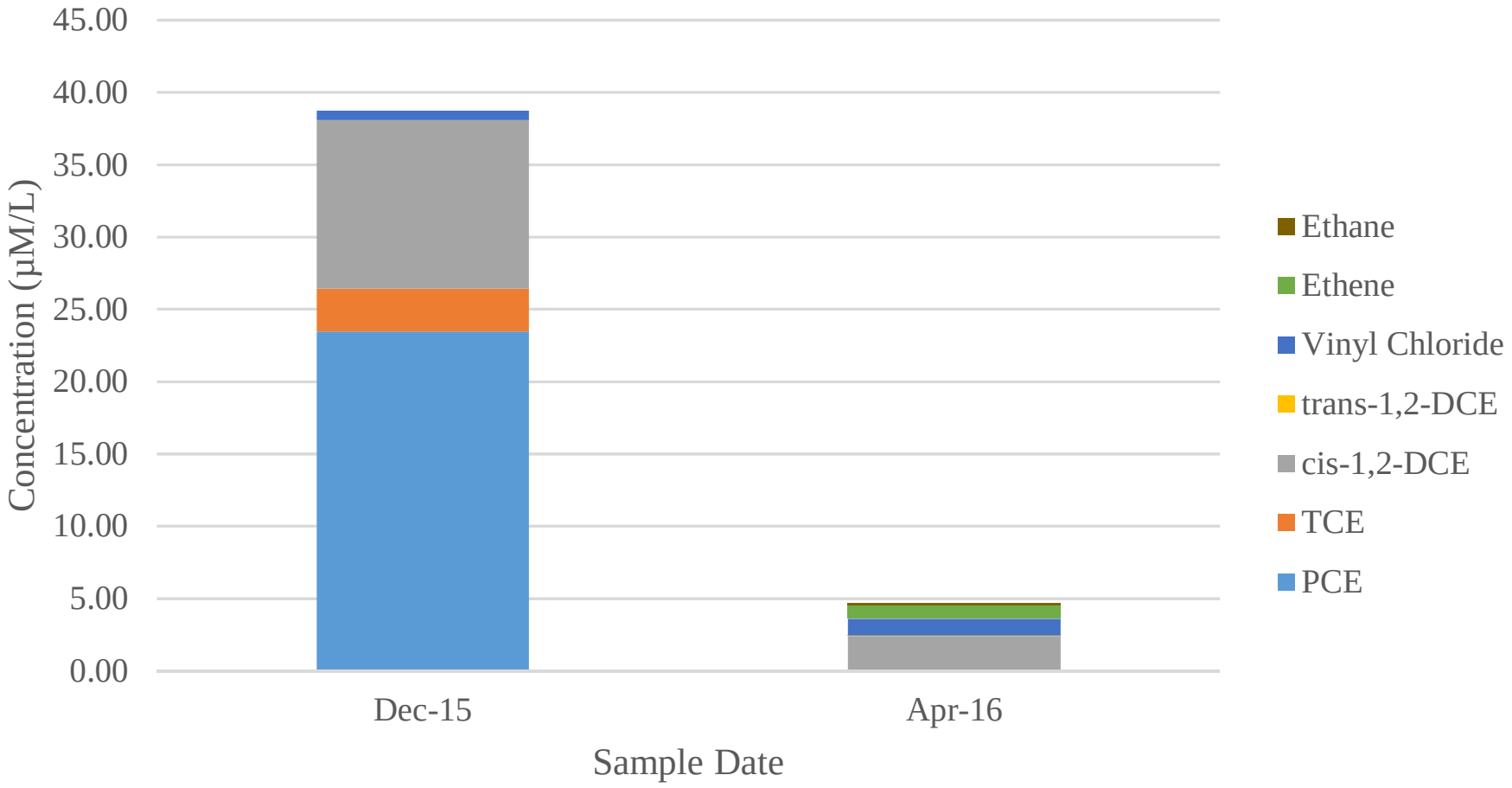


FIGURE 34
MOLAR CONCENTRATIONS OF CHLORINATED ETHENES IN MW-20
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRISON COUNTY, TEXAS

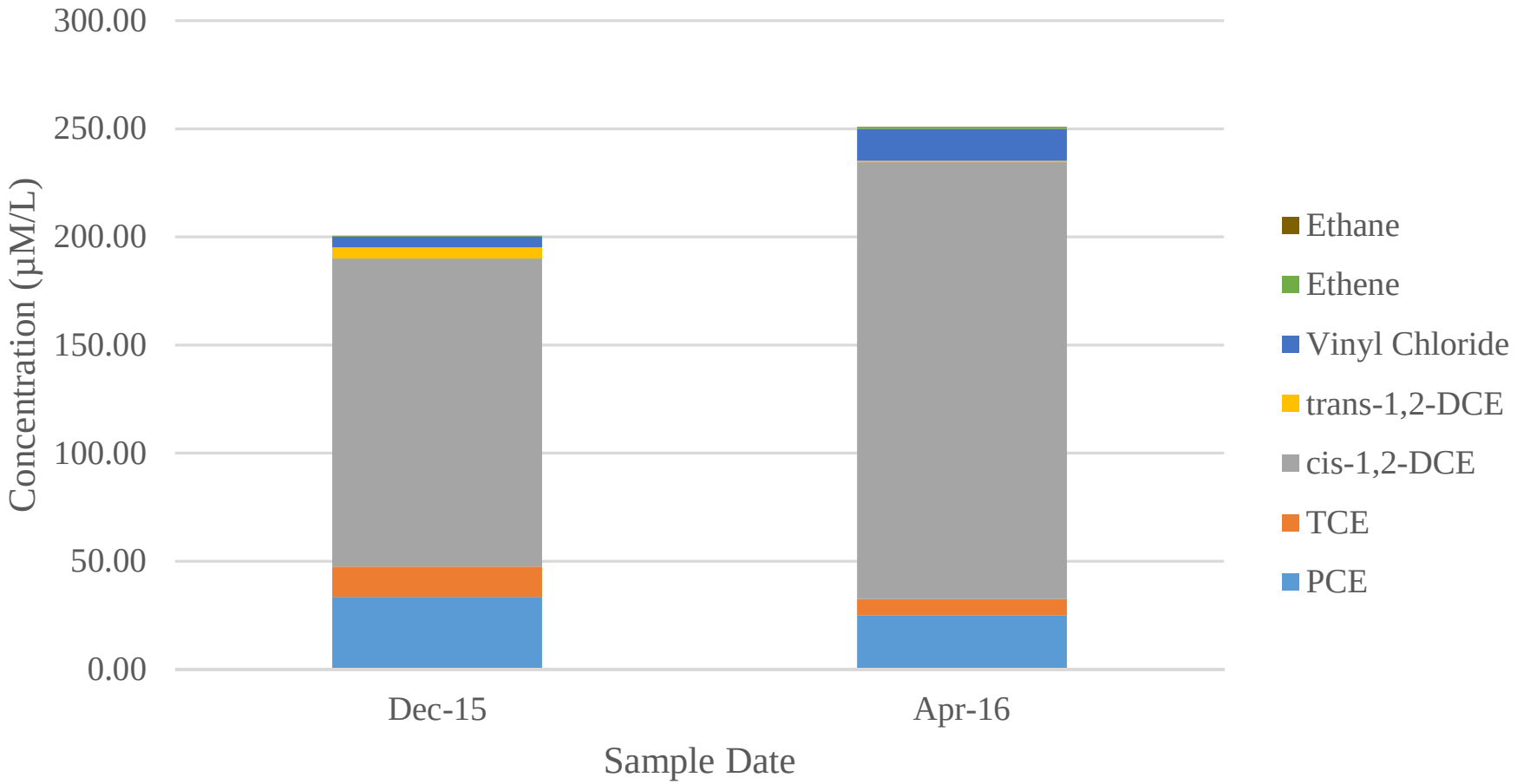
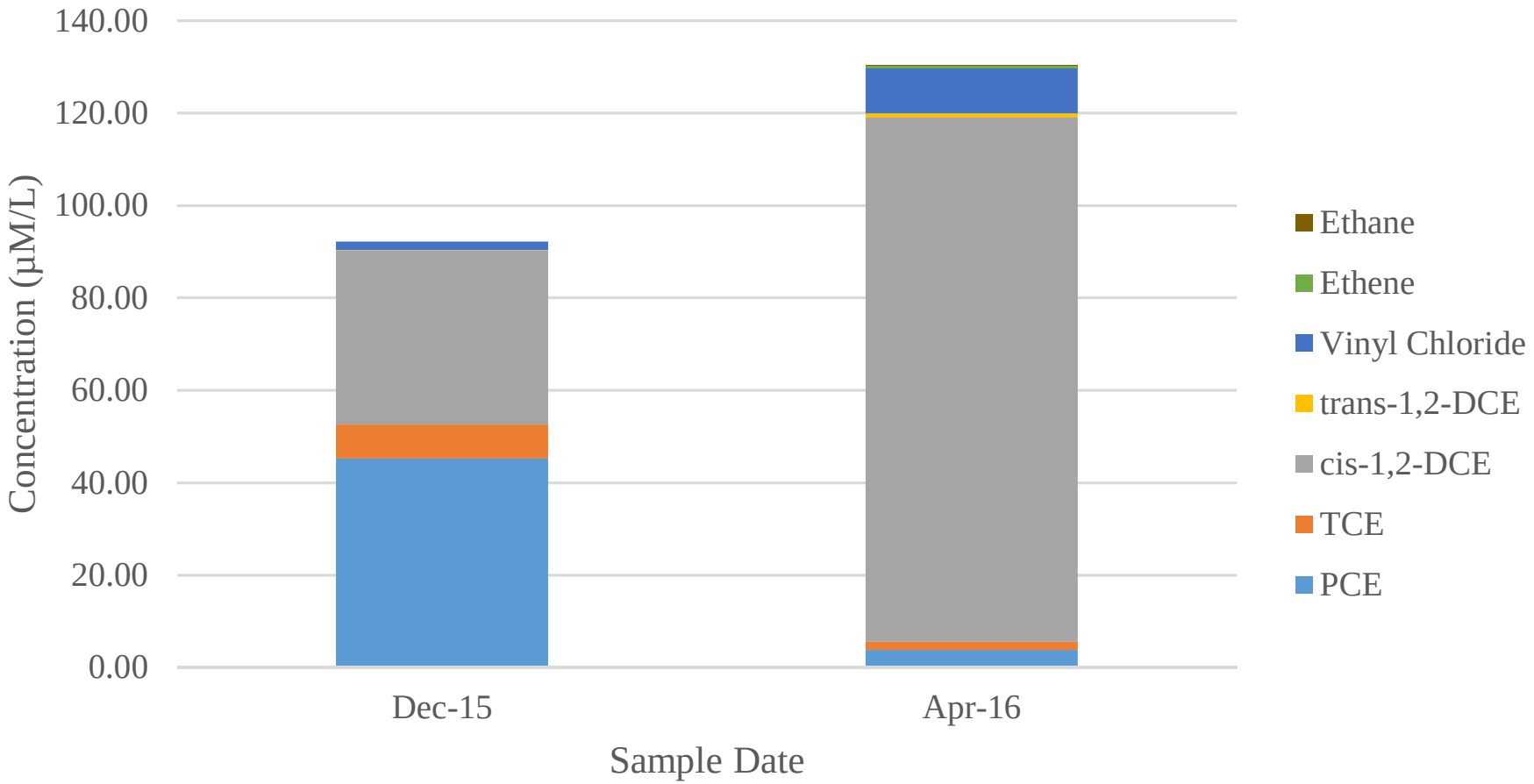


FIGURE 35
MOLAR CONCENTRATIONS OF CHLORINATED ETHENES IN MW-22
JONES ROAD GROUND WATER PLUME SUPERFUND SITE, HARRISON COUNTY, TEXAS



TABLES

TABLE 1. GAUGING DATA

Well	Northing	Easting	Top of Casing Elevation (ft amsl)	Total Depth[1] (ft bgs)	Screen Interval (ft bgs)	Date Gauged	Depth To Water (ft btoc)	Ground Water Elevation (ft amsl)
MW-01	13905889.22	3050076.23	124.08	35	2.5-35	11/23/2015	25.16	98.92
						4/19/2016	21.40	102.68
MW-02	13905983.41	3050036.75	124.40	35	2.5-35	11/23/2015	23.21	101.19
						4/19/2016	19.01	105.39
MW-03	13906003.82	3050169.30	123.83	35	2.5-35	11/23/2015	22.21	101.62
						4/19/2016	17.01	106.82
MW-04	13906043.95	3050160.69	124.18	35	2-35	11/23/2015	21.39	102.79
						4/19/2016	13.10	111.08
MW-05	13906012.39	3050268.19	124.58	35	2-35	11/23/2015	22.32	102.26
						4/19/2016	16.80	107.78
MW-06	13905739.50	3050053.00	124.09	35	2-35	11/23/2015	34.01	90.08
						4/19/2016	32.27	91.82
MW-07	13905616.50	3050080.20	124.16	35	20-35	11/23/2015	28.68	95.48
						4/19/2016	27.45	96.71
MW-08	13906214.00	3050078.00	124.82	36.5	20.5-35.5	11/23/2015	20.14	104.68
						4/19/2016	15.25	109.57
MW-09	13905928.70	3049810.50	127.23	35	20-35	11/23/2015	27.28	99.95
						4/19/2016	24.40	102.83
MW-20	13905800.50	3050061.56	124.50	32	25-30	11/23/2015	27.92	96.58
						4/19/2016	26.50	98.00
MW-21	13905748.87	3050209.53	124.16	32	25.3	11/23/2015	27.61	96.55
						4/19/2016	25.38	98.78
MW-22	13905712.04	3050057.03	124.73	55	48-53	11/23/2015	49.52	75.21
						4/19/2016	48.19	76.54
MW-23	13905621.51	3050066.96	124.60	55	48-53	11/23/2015	46.67	77.93
						4/19/2016	45.31	79.29
MW-24	13905359.53	3050071.34	124.37	55	48-53	11/23/2015	20.37	104.00
						4/19/2016	16.39	107.98
MW-25	13905668.39	3049917.71	124.38	30	23-28	11/23/2015	29.41	94.97
						4/19/2016	28.15	96.23

NOTES:

[1] Total depth for wells MW-1 through MW-19 is the total depth of the borehole, which may or may not correspond to the total depth of the well. Total depth for all other wells represents total depth of the well.

amsl = Above mean sea level.

bgs = Below ground surface.

btoc = Below top of casing.

ft = Feet.

TABLE 2. GROUND WATER FIELD GEOCHEMISTRY RESULTS

Sample Location/Well ID	Sample Date	pH	DO (mg/L)	ORP (mV)	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)
MW-01	3-Dec-15	6.60	0.60	21.6	25.5	934	58.9
	22-Apr-16	Not Enough Water To Take Readings					
MW-02	3-Dec-15	6.74	2.63	83.7	23.7	878	104
	22-Apr-16	6.11	-1.2	-98.2	25.2	680	53.0
MW-03	3-Dec-15	6.60	0.99	84.2	21.2	1014	49.9
	22-Apr-16	6.65	3.82	92.1	22.2	940	62.0
MW-04	2-Dec-15	6.74	0.67	-191.6	21.8	1478	74.7
	21-Apr-16	6.69	0.00	-42.0	20.6	980	45.2
MW-05	2-Dec-15	6.60	0.72	-95.7	22.7	1075	148
	21-Apr-16	7.20	2.55	168.4	22.1	376	52.3
MW-06	1-Dec-15	Not Enough Water To Take Readings					
	21-Apr-16	6.11	0.33	-0.4	25.4	580	189
MW-07	1-Dec-15	Casing Damaged; Could Not Accommodate A Pump					
	20-Apr-16	Casing Damaged; Could Not Accommodate A Pump					
MW-08	2-Dec-15	7.07	0.56	-137.5	23.4	493.7	109
	19-Apr-16	6.71	0.01	6.2	24.0	780	4.0
MW-09	2-Dec-15	6.65	1.60	143.6	22.1	712	184
	21-Apr-16	6.70	1.53	196.7	23.0	740	68.7
MW-20	2-Dec-15	Not Enough Water To Take Readings					
	22-Apr-16	6.31	0.00	40.8	27.5	1120	77.6

Sample Location/Well ID	Sample Date	pH	DO (mg/L)	ORP (mV)	Temperature (°C)	Conductivity (µS/cm)	Turbidity (NTU)
MW-21	1-Dec-15	6.52	0.80	202.1	26.2	1154	--
	22-Apr-16	6.55	-0.3	193.0	25.5	990	9.87
MW-22	30-Nov-15	6.40	0.77	139.0	24.6	1091	--
	21-Apr-16	6.21	0.04	-14.7	25.9	1180	158
MW-23	1-Dec-15	6.79	1.29	-1860.7	23.2	634	158
	20-Apr-16	6.93	0.38	144.0	25.6	630	--
MW-24	1-Dec-15	7.19	1.03	214.6	23.3	521	33.8
	20-Apr-16	7.04	0.20	137.9	24.3	540	79.4
MW-25	NS	Not Sampled; Dry Well					
	19-Apr-16	Not Enough Water To Take Readings					

NOTES:
°C = Degrees Celsius.
µS/cm = Micro-Siemens per centimeter.
mg/L = Milligrams per liter.
mV = Millivolts.
NS = Not Sampled.
NTU = Nephlometric Turbidity Units.

TABLE 3. GROUND WATER ANALYTICAL RESULTS FOR DISSOLVED METALS

Sample Location/Well ID	Sample Date	Iron (µg/L)	Manganese (µg/L)	Arsenic (µg/L)	Calcium (µg/L)	Sodium (µg/L)	Magnesium (µg/L)	Aluminum (µg/L)	Cadmium (µg/L)	Barium (µg/L)
MW-01	3-Dec-15	1,060	286	11.6	122,000	53,800	12,300	<100 U	< 5.00 U	727
	22-Apr-16	40,900	2,200 B	129	208,000	147,000	37,500	<2.57 U	<0.114 U	47.3
MW-02	3-Dec-15	< 25.0 U	< 5.00 U	<2.00 U	96,200	82,700	10,000	<100 U	< 5.00 U	708
	22-Apr-16	8,740	1,250 B	37.0	52,300	53,400	7,420	9.38 J	<0.114 U	21.7
MW-02-DUP	3-Dec-15	<25.0 U	<5.00 U	<2.00 U	96,900	82,900	10,000	<100 U	<5.00 U	713
	22-Apr-16	7,100	1,180 B	26.2	47,800	53,900	6,890	6.13 J	<0.114 U	20.1
MW-03	3-Dec-15	140	39.0	4.40	145,000	81,700	18,000	101	<5.00 U	495
	22-Apr-16	87.2	15.0 B	13.9	133,000	60,300	15,100	39.1	0.61 J	348
MW-04	2-Dec-15	885	266	12.4	163,000	129,000	19,700	<100 U	<5.00 U	328
	21-Apr-16	104	135 B	29.4	130,000	82,100	13,500	4.15 J	<0.114 U	319
MW-05	2-Dec-15	<25.0 U	19.1	<2.00 U	139,000	72,800	18,800	<100 U	<5.00 U	431
	21-Apr-16	15.0 J	7.23 B	1.76	54,400	19,900	7,250	16.2 J	<0.114 U	240
MW-06	1-Dec-15	120	12.0	<2.00 U	126,000	79,600	11,800	<100 U	<5.00 U	888
	21-Apr-16	265	260 B	10.0	79,900	37,400	7,110	12.3 J	<0.114 U	273
MW-07	1-Dec-15	<25.0 U	68.9	<2.00 U	126,000	18,200	10,300	<100 U	<5.00 U	1,230
	20-Apr-16	1,910	78.2	4.95	101,000 B	22,100	10,800	1,620	<0.114 U	739
MW-07-DUP	1-Dec-15	<25.0 U	72.6	<2.00 U	132,000	19,200	10,800	<100 U	<5.00 U	1,290
MW-08	2-Dec-15	1,020	496	4.40	79,500	16,600	8,120	<100 U	<5.00 U	183
	19-Apr-16	121 F1	82.8	6.50	124,000 B	42,900	14,200	16.7 J	<0.114 U	814
MW-09	2-Dec-15	1,520	40.0	<2.00 U	115,000	35,300	10,000	1,820	<5.00 U	673
	21-Apr-16	<6.09 U	1.52 J B	1.69	109,000	42,200	10,600	13.1 J	<0.114 U	596
MW-20	2-Dec-15	67.8	117	<2.00 U	144,000	69,600	15,200	<100 U	<5.00 U	1070
	22-Apr-16	<6.09 U	113 B	12.7	136,000	54,600	14,300	<2.57 U	<0.114 U	1,030
MW-21	1-Dec-15	3,380	339	2.60	159,000	60,800	16,600	2,060	<5.00 U	1,290
	22-Apr-16	15.6 J	571 B	8.84	130,000	43,700	13,200	11.1 J	<0.114 U	1,070
MW-22	30-Nov-15	55.2	34.6	<2.00 U	137,000	75,300	13,800	<100 U	<5.00 U	1,110
	21-Apr-16	<6.09 U	166 B	5.31	147,000	75,000	16,200	<2.57 U	<0.114 U	1,160
MW-22-DUP	21-Apr-16	<6.09 U	211 B	5.36	146,000	75,800	16,300	<2.57 U	<0.114 U	1,140
MW-23	1-Dec-15	278	32.1	<2.00 U	103,000	22,200	10,600	317	<5.00 U	768
	20-Apr-16	15.3 J	1.22 J	3.08	80,000 B	26,600	9,750	14.5 J	<0.114 U	381
MW-24	1-Dec-15	<25.0 U	15.4	<2.00 U	24,200	32,900	4,400	<100 U	<5.00 U	188
	20-Apr-16	2,510	367	7.17	121,000 B	19,000	10,900	1,820	<0.114 U	1,080
MW-25	NS	--	--	--	--	--	--	--	--	--
	19-Apr-16	91.4	8.43	7.24	94,400 B	60,000	5,460	64.8	<0.114 U	731

NOTES:
MW-25 was dry during the pre-injection sampling event and was not sampled.
B = Compound was found in the blank and sample.
F1 = MS and/or MSD Recovery is outside acceptance limits.
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
µg/L = Micrograms per liter.
NS = Not Sampled.
U = Indicates the analyte was analyzed for but not detected.

TABLE 4. GROUND WATER ANALYTICAL RESULTS FOR MONITORED NATURAL ATTENUATION PARAMETERS

Sample Location/Well ID	Sample Date	Methane (µg/L)		Nitrate Nitrite as N (mg/L)		Total Organic Carbon (mg/L)		Orthophosphate (mg/L)		Ammonia (mg/L)	
MW-01	3-Dec-15	2,350		1.36	F1	2.18		<0.0104	U	<0.0675	U
	22-Apr-16	7,430		<0.017	U	1,690		16.8	H	7.35	
MW-02	3-Dec-15	2.50		8.12		1.36		0.025	J	<0.0675	U
	22-Apr-16	16,800		<0.017	U	89.9		5.32	H	0.517	
MW-02-DUP	3-Dec-15	1.88		6.47		1.41		0.032	J	<0.0675	U
	22-Apr-16	11,000		<0.017	U	94.0		4.01	H	0.555	
MW-03	3-Dec-15	0.894	J	10.1		5.19		0.281		<0.0675	U
	22-Apr-16	3.27		2.42		14.1		0.314	H	<0.0675	U
MW-04	2-Dec-15	283		0.0301	J	19.3		0.781		1.00	
	21-Apr-16	114		<0.017	U	20.6		0.501		<0.0675	U
MW-05	2-Dec-15	36.3		5.48		1.98		<0.0104	U	<0.0675	U
	21-Apr-16	1.36		1.21		4.61		0.064		<0.0675	U
MW-06	1-Dec-15	5.73		1.88		4.17		0.105	J	<0.0675	U
	21-Apr-16	12,000		<0.017	U	31.1		0.347		<0.0675	U
MW-07	1-Dec-15	1.05		0.371		0.936	J	0.023	J	<0.0675	U
	20-Apr-16	<0.357	U	1.93		0.630	J	<0.0519	U	<0.0675	U
MW-07-DUP	1-Dec-15	1.11		0.382		0.796	J	0.0250	J	<0.0675	U
MW-08	2-Dec-15	710		<0.017	U F1	35.8		0.253		0.294	
	19-Apr-16	276		0.781		19.2	F1	0.0273	J	<0.0675	U
MW-09	2-Dec-15	<0.357	U	1.57		0.759	J	<0.0104	U	<0.0675	U
	21-Apr-16	0.493	J	1.67		2.57		0.0238	J	<0.0675	U
MW-20	2-Dec-15	969		0.235		5.09		<0.0519	U	<0.0675	U
	22-Apr-16	2,650		<0.017	U	5.29		0.015	J H	<0.0675	U
MW-21	1-Dec-15	4.16		16.2		1.52		0.450	J	<0.0675	U
	22-Apr-16	18.4		2.74		1.28		0.0255	J H	<0.0675	U

Sample Location/Well ID	Sample Date	Methane (µg/L)		Nitrate Nitrite as N (mg/L)		Total Organic Carbon (mg/L)		Orthophosphate (mg/L)		Ammonia (mg/L)	
MW-22	30-Nov-15	590		1.15	F1	2.35		0.300	J	<0.0675	U
	21-Apr-16	834		<0.017	U	2.88		<0.0104	U	<0.0675	U
MW-22-DUP	21-Apr-16	998		0.018	J	2.93		<0.0104	U	<0.0675	U
MW-23	1-Dec-15	<0.357	U	1.01		1.09		<0.0104	U	<0.0675	U
	20-Apr-16	<0.357	U	0.485		0.559	J	<0.0519	U	<0.0675	U
MW-24	1-Dec-15	<0.357	U	0.468	F1 F2	1.55		<0.0104	U	<0.0675	U
	20-Apr-16	0.754	J	0.67		0.829	J	<0.0519	U	<0.0675	U
MW-25	NS	--		--		--		--		--	
	19-Apr-16	<0.357	U	0.309		2.50		0.0465	J	<0.0675	U

NOTES:
F1 = MS and/or MSD Recovery is outside acceptance limits.
F2 = MS/MSD RPD exceeds control limits.
H = Sample was prepped or analyzed beyond the specified holding time.
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
MDL = Method Detection Limit
MS/MSD = Matrix Spike/Matrix Spike Duplicate
µg/L = Micrograms per liter.
mg/L = Milligrams per liter.
MW-25 was dry during the pre-injection sampling event and was not sampled.
NS = Not Sampled.
RL = Reporting Limit.
U = Indicates the analyte was analyzed for but not detected.

TABLE 5. GROUND WATER ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS

Sample Location/Well ID	Sample Date	PCE			TCE			cis-1,2-DCE			trans-1,2-DCE			Vinyl Chloride			Ethene			Ethane		
		(µg/L)		(µM/L)	(µg/L)		(µM/L)	(µg/L)		(µM/L)	(µg/L)		(µM/L)	(µg/L)		(µM/L)	(µg/L)		(µM/L)	(µg/L)		(µM/L)
MW-01	3-Dec-15	14,500		87.4	1,990		15.1	6,640		68.5	36.3		0.378	420		6.72	3.53		0.126	2.41		0.080
	22-Apr-16	61.3		0.370	20.2		0.154	12,300		127	27.4		0.286	386		6.18	64.0		2.28	3.00		0.100
MW-02	3-Dec-15	599		3.61	210		1.60	630		6.50	3.40		0.035	<2.00	U	---	<0.324	U	---	<0.303	U	---
	22-Apr-16	13.0		0.078	3.08		0.023	351		3.62	1.88		0.020	237		3.79	8.82		0.314	<0.303	U	---
MW-02-DUP	3-Dec-15	900		5.43	254		1.93	545		5.62	3.40		0.035	<2.00	U	---	<0.324	U	---	<0.303	U	---
	22-Apr-16	12.8		0.077	3.01		0.023	337		3.48	1.78		0.019	270		4.32	6.37		0.227	3.75		0.125
MW-03	3-Dec-15	12.7		0.077	16.2		0.123	182		1.88	<2.00	U	---	<2.00	U	---	<0.324	U	---	<0.303	U	---
	22-Apr-16	2.22		0.013	2.03		0.015	15.3		0.158	<0.192	U	---	0.663	J	0.011	<0.324	U	---	<0.303	U	---
MW-04	2-Dec-15	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<0.324	U	---	<0.303	U	---
	21-Apr-16	<0.333	U	---	<0.138	U	---	<0.157	U	---	<0.192	U	---	<0.248	U	---	<0.324	U	---	<0.303	U	---
MW-05	2-Dec-15	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<0.324	U	---	<0.303	U	---
	21-Apr-16	<0.333	U	---	<0.138	U	---	<0.157	U	---	<0.192	U	---	<0.248	U	---	<0.324	U	---	<0.303	U	---
MW-06	1-Dec-15	3,890		23.5	393		2.99	1,130		11.7	<5.00	U	---	39.9		0.638	<0.324	U	---	<0.303	U	---
	21-Apr-16	9.07		0.055	1.49		0.011	229	F1	2.36	2.41		0.025	71.5		1.14	26.7		0.952	4.63		0.154
MW-07	1-Dec-15	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<0.324	U	---	<0.303	U	---
	20-Apr-16	0.740	J	0.004	<0.138	U	---	<0.157	U	---	<0.192	U	---	<0.248	U	---	<0.324	U	---	<0.303	U	---
MW-07-DUP	1-Dec-15	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<0.324	U	---	<0.303	U	---
MW-08	2-Dec-15	3.50		0.021	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	0.377	J	0.013	<0.303	U	---
	19-Apr-16	0.413	J	0.002	<0.138	U	---	0.393	J	0.004	0.192	U*	0.002	<0.248	U	---	<0.324	U F1 F2	---	<0.303	U F1 F2	---
MW-09	2-Dec-15	8.20		0.049	<2.00	U	---	7.10		0.073	<2.00	U	---	<2.00	U	---	<0.324	U	---	<0.303	U	---
	21-Apr-16	0.411	J	0.002	<0.138	U	---	<0.157	U	---	<0.192	U	---	<0.248	U	---	<0.324	U	---	<0.303	U	---
MW-20	2-Dec-15	5,550		33.5	1,850		14.1	13,800		142.3	511	J	5.33	313		5.01	1.70	J	0.061	1.22	J	0.041
	22-Apr-16	4,140		25.0	977		7.44	19600	J	202	45.8	J	0.477	932		14.9	19.9		0.709	2.09		0.070
MW-21	1-Dec-15	2.20		0.013	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<0.324	U	---	<0.303	U	---
	22-Apr-16	0.477	J	0.003	<0.138	U	---	<0.157	U	---	<0.192	U	---	<0.248	U	---	<0.324	U	---	<0.303	U	---
MW-22	30-Nov-15	7,510		45.3	957		7.28	3,660		37.8	11.1		0.116	110		1.76	<0.324	U	---	<0.303	U	---
	21-Apr-16	639		3.85	225		1.71	11,000		113	88.2		0.919	615		9.84	14.0		0.499	1.08	J	0.036
MW-22-DUP	21-Apr-16	1,680		10.1	336		2.56	12,500	E	129	77.8		0.811	675		10.8	17.6		0.627	1.82	J	0.061
MW-23	1-Dec-15	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<0.324	U	---	<0.303	U	---
	20-Apr-16	<0.333	U	---	<0.138	U	---	<0.157	U	---	<0.192	U	---	<0.248	U	---	<0.324	U	---	<0.303	U	---
MW-24	1-Dec-15	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	<2.00	U	---	1.19	J	0.042	<0.303	U	---
	20-Apr-16	<0.333	U	---	<0.138	U	---	<0.157	U	---	<0.192	U	---	<0.248	U	---	<0.324	U	---	<0.303	U	---
MW-25	NS																					0.000
	19-Apr-16	<0.333	U	---	<0.138	U	---	<0.157	U	---	<0.192	U	---	<0.248	U	---	0.324	U	0.012	<0.303	U	---

NOTES:
* = Exceeds acceptable limits.
DCE = Dichloroethene.
E = Result exceeded calibration range.
F1 = MS and/or MSD Recovery is outside acceptance limits.
F2 = MS/MSD RPD exceeds control limits.
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
MDL = Method Detection Limit.
µg/L = Micrograms per liter.
µM/L = Micromoles per liter.
MW-25 was dry during the pre-injection sampling event and was not sampled.
MS/MSD = Matrix Spike/Matrix Spike Duplicate.
NS = Not Sampled.
PCE = Tetrachloroethene.
RPD = Relative Percent Difference.
RL = Reporting Limit.
TCE = Trichloroethene.
U = Indicates the analyte was analyzed for but not detected.

TABLE 6 - SUMMARY OF INJECTION MECHANICS

Well Identification	Date of Injection	Start Time	End Time	Batch Number	Volume of EHC®-L mixture (gal)	Volume of Water (gal)	Total Volume Injected (gal)	Injection Rate (gpm)	Injection Pressure (psi)
P-01	1/29/2016	15:18	16:35		100	400	505	7	70
P-02	1/30/2016	10:04	11:16		100	400	505	7	70
P-03	1/29/2016	13:50	15:07		100	400	505	7	70
P-04	1/29/2016	16:05	17:17		100	400	505	7	80
P-05	1/29/2016	13:13	14:25		100	400	505	7	80
P-06	1/29/2016	8:30	8:33		4	16	20	7	70
		8:40	8:44		10	40	50	5	50
P-07	1/29/2016	9:53	12:14		186	745	940	7	75
P-08	1/29/2016	13:20	14:15		65	259	327	7	75
		14:15	14:54		35	141	178	5	65
P-09	1/29/2016	8:20	9:31		100	400	505	7	65
P-10	1/29/2016	13:45	14:15		37	148	187	7	80
		14:15	15:26		63	252	318	5	75
P-11	1/29/2016	14:35	15:56		100	400	505	7	75
P-12	1/29/2016	15:45	16:58		100	400	505	7	75
P-13	1/30/2016	9:25	10:43		100	400	505	7	75
P-14	1/28/2016	8:45	9:59	A	100	400	505	7	95
P-15	1/28/2016	10:10	11:30		100	400	505	7	75
P-16	1/28/2016	13:00	13:02		0	0	0	0	0
		16:20	17:38		100	400	505	7	60
P-17	1/28/2016	8:45	10:03		100	400	505	7	65
P-18	1/28/2016	12:40	13:52		100	400	505	7	75
P-19	1/29/2016	8:15	9:28		100	400	505	7	70
P-20	1/28/2016	10:08	11:23		100	400	505.0	7	60
P-21	1/30/2016	9:22	10:35		100	400	505	7	95
P-22	1/30/2016	10:06	11:18		100	400	505	7	70
P-23	1/28/2016	9:36	10:03		39	156	197	7	70
		10:03	11:13		61	244	308	5	65
P-24	1/28/2016	16:10	17:28		100	400	505	7	70
P-25	1/28/2016	13:41	14:50		100	400	505	7	65
P-26	1/29/2016	9:00	10:21		100	400	505	7	65
P-27	1/29/2016	8:25	9:35		100	400	505	7	70
P-28	1/28/2016	9:27	10:43		100	400	505	7	80
P-29	1/27/2016	15:30	17:45		100	850	955	7	65
P-30	1/30/2016	12:45	15:15		100	850	955	7	75
P-31	1/27/2016	14:50	17:06		100	850	955	7	60
P-32	1/30/2016	13:15	15:42		100	850	955	7	80
P-33	1/27/2016	10:10	12:15		100	850	955	7	60
P-34	1/27/2016	10:40	12:53	B	100	850	955	7	70
P-35	1/30/2016	12:43	15:11		100	850	955	7	90

Well Identification	Date of Injection	Start Time	End Time	Batch Number	Volume of EHC®-L mixture (gal)	Volume of Water (gal)	Total Volume Injected (gal)	Injection Rate (gpm)	Injection Pressure (psi)
P-36	1/30/2016	13:09	15:35		100	850	955	7	70
P-37	1/31/2016	8:35	10:58		100	850	955	7	80
P-38	1/31/2016	8:00	10:25		100	850	955	7	70
P-39	1/26/2016	15:45	18:17		100	850	955	5.5	80
P-40	2/1/2016	8:05	10:31		100	850	955	7	70
P-41	1/26/2016	15:29	17:45		100	850	955	7	50
P-42	1/31/2016	12:15	14:28		100	850	955	7	65
P-43	1/26/2016	15:00	17:22		100	850	955	7	10
P-44	2/1/2016	12:50	15:16		163	850	1033	7	70
		15:30	17:30		--	--	840	7	70
P-45	2/1/2016	12:45	15:11		163	850	1033	7	65
		15:30	17:00		--	--	630	7	65
P-46	2/1/2016	8:15	10:42		100	850	955	7	70
P-47	1/31/2016	11:50	14:09		100	850	955	7	70
P-48	1/27/2016	14:00	16:22		100	850	955	7	50
P-49	2/1/2016	8:10	10:37		100	850	955	7	75
P-50	2/1/2016	12:40	15:06		163	850	1033	7	60
		15:30	17:00		--	--	630	7	60
P-51	1/31/2016	12:17	14:30		100	850	955	7	65
P-52	1/27/2016	9:35	11:52	B	100	850	955	7	65
P-53	1/26/2016	10:40	11:30		31	267	300	5	50
		11:30	13:12		69	583	655	6.5	55
P-54	2/1/2016	8:00	10:26		100	850	955	7	65
P-55	1/26/2016	9:30	11:30		70	596	670	5	55
		11:30	12:18		30	254	285	7	70
P-56	1/31/2016	8:30	10:53		100	850	955	7	70
P-57	1/26/2016	14:36	17:16		100	850	955	7	60
P-58	1/31/2016	11:45	14:06		100	850	955	7	75
P-59	1/27/2016	13:53	16:15		100	850	955	7	80
P-60	1/27/2016	9:30	11:47		100	850	955	7	80
P-61	1/26/2016	11:00	11:30		16	134	150	5	55
		11:30	13:37		84	716	805	6.5	60
P-62	1/31/2016	7:57	10:22		100	850	955	7	70
P-63	1/26/2016	9:40	11:30		66	561	630	5	55
		11:30	12:24		34	289	325	7	65

NOTES:
gal = Gallons.
gpm = Gallons per minute.
psi = Pounds per square inch.

TABLE 7. FIELD MEASUREMENT INDICATORS FOR REDUCTIVE DECHLORINATION

Sample Location/Well ID	Sample Date	pH	Dissolved Oxygen	ORP	Temperature	Methane	Nitrate Nitrite as N	Total Organic Carbon
Favorable for RDC:		5 < pH < 9	< 0.5 mg/L	< -100 mV	> 20 °C	< 0.5 µg/L	< 1 mg/L	> 20 mg/L
MW-01	3-Dec-15	↑	↗	↗	↑	↓	↓	↓
	22-Apr-16	---	---	---	---	↓	↑	↑
MW-02	3-Dec-15	↑	↓	↓	↑	↓	↓	↓
	22-Apr-16	↑	↑	↗	↑	↓	↑	↑
MW-02-DUP	3-Dec-15	---	---	---	---	↓	↓	↓
	22-Apr-16	---	---	---	---	↓	↑	↑
MW-03	3-Dec-15	↑	↗	↓	↑	↓	↓	↓
	22-Apr-16	↑	↓	↓	↑	↓	↓	↓
MW-04	2-Dec-15	↑	↗	↑	↑	↓	↑	↓
	21-Apr-16	↑	↑	↗	↑	↓	↑	↑
MW-05	2-Dec-15	↑	↗	↗	↑	↓	↓	↓
	21-Apr-16	↑	↓	↓	↑	↓	↓	↓
MW-06	1-Dec-15	---	---	---	---	↓	↓	↓
	21-Apr-16	↑	↑	↗	↑	↓	↑	↑
MW-07	1-Dec-15	---	---	---	---	↓	↑	↓
	20-Apr-16	---	---	---	---	↑	↓	↓
MW-07-DUP	1-Dec-15	---	---	---	---	↓	↑	↓
MW-08	2-Dec-15	↑	↗	↑	↑	↓	↑	↑
	19-Apr-16	↑	↑	↗	↑	↓	↑	↓
MW-09	2-Dec-15	↑	↓	↓	↑	↑	↓	↓
	21-Apr-16	↑	↓	↓	↑	↑	↓	↓
MW-20	2-Dec-15	---	---	---	---	↓	↑	↓
	22-Apr-16	↑	↑	↗	↑	↓	↑	↓
MW-21	1-Dec-15	↑	↗	↓	↑	↓	↓	↓
	22-Apr-16	↑	↑	↓	↑	↓	↓	↓
MW-22	30-Nov-15	↑	↗	↓	↑	↓	↓	↓
	21-Apr-16	↑	↑	↗	↑	↓	↑	↓
MW-22-DUP	21-Apr-16	---	---	---	---	↓	↑	↓
MW-23	1-Dec-15	↑	↓	↑	↑	↑	↓	↓
	20-Apr-16	↑	↑	↓	↑	↑	↑	↓
MW-24	1-Dec-15	↑	↓	↓	↑	↑	↑	↓
	20-Apr-16	↑	↑	↓	↑	↓	↑	↓
MW-25	NS	---	---	---	---	--	--	--
	19-Apr-16	---	---	---	---	↑	↑	↓

NOTES:
↑ = Favorable for RDC.
↓ = Not Favorable for RDC.
↗ = Moderately Favorable for RDC (DO: 0.5 to 1.0, ORP: -100 to 50).
°C = Degrees Celsius.
µS/cm = Microseimens per centimeter.
µg/L = Micrograms per liter.
mg/L = Milligrams per liter.
mV = Millivolts.
ORP = Oxidation Reduction Potential.
RDC = Reductive Dechlorination.

ATTACHMENT A

EHC-L® MANUFACTURER'S INFORMATION

EHC® Liquid Amendment

Introduction

EHC® Liquid amendment is a cold-water soluble formulation specially designed to be emplaced via existing wells and/or hydraulic injection networks for the treatment of a wide range of groundwater contaminants. EHC Liquid is delivered as two components that are mixed together on site. The first component, a 25% liquid emulsion of food-grade lecithin, is provided in 55-USG drums containing 50 USG of emulsion. The second component (powdered mix) is a food-grade organo-iron compound. The two components are proportioned so that 24.5 lbs of powdered mix is required for each 50 USG of liquid portion. This document provides standard operating procedures for preparation of diluted EHC Liquid for injection.

Packaging

Part 1
Liquid emulsion delivered in 55-USG drums, filled with 50 USG / 420 lbs per drum (190 L / 190 Kg)

Part 2
Water soluble powder with the organo-iron compound in 24.5 lb bags (11.1 Kg)

EHC Liquid Injection Volumes and Dilutions

Depending on the application method, between 10% and 100% of the effective porosity is normally targeted during EHC Liquid injection, with a higher percent pore fill normally targeted during low-flow injections into wells and injection networks. This is in contrast to applications via direct push technology where normally around 10 to 15% of effective porosity is targeted. To facilitate the desired injection volume, the components are diluted in the field. Table 1 shows examples of mixing recipes for a 55-USG drum of liquid component in US and metric.

Table 1: EHC Liquid dilutions and corresponding concentration

Dilution:	3-fold	5-fold	10-fold	25-fold
Volume of emulsion per drum (USG)	50			
Mass dry components (lbs)	24.5			
Volume water (USG)	100	200	450	1200
Resulting total volume (USG)	150	250	500	1250
Resulting EHC Liquid concentration (wt%)	10.5%	6.3%	3.2%	1.3%

Dilution:	3-fold	5-fold	10-fold	25-fold
Volume EHC Liquid emulsion per drum (L)	190			
Mass dry components (Kg)	11.1			
Volume water (L)	380	760	1710	4560
Resulting total volume (L)	570	950	1900	4750
Resulting EHC Liquid concentration (wt%)	10.5%	6.3%	3.2%	1.3%

General Mixing Procedures

Proportioning can be varied to accommodate mixing tank size. The general mixing procedure is:

1. Fill mixing tank with required amount of dilution water per the treatment design.
2. Transfer EHC Liquid portion Part 1 to mixing tank. Note that this material is pre-emulsified, has a viscosity of about 3,000 – 4,000 cPs and will require an appropriate pump for transfer from the drum. Alternatively, the emulsion may be transferred in pails by hand. A paddle mixer and/or recirculation pump is sufficient for mixing.
3. Add in powdered mix Part 2 and continue mixing. Ensure no solids remain on bottom of tank.

   If other additives are used (e.g., pH buffers), they may be added at this time.
4. Mixing time depends on equipment used (typically 5-10 min). Material is to be mixed until uniform.

Health and Safety

EHC Liquid is safe when handled properly in accordance with instructions for use, the advisory below and the MSDS. The EHC Liquid MSDS is posted on our web site at: www.environmental.fmc.com/resource-center

When working with EHC Liquid, the use of standard personal protective equipment, including safety glasses, chemically resistant boots and nitrile gloves is recommended. Dust mask may be required when in close contact with the EHC Liquid powder component (Part 2) under certain conditions. Additional safety equipment may be required for site operations.

The information contained herein is, to our knowledge, true and accurate. However, we make no warranty or representation, expressed or implied, and nothing contained herein should be construed as permission or recommendation to infringe any patent. Any and all intellectual property rights to this material are retained by FMC Corporation.

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Document 03-01-ESD-13

ATTACHMENT B

LABORATORY REPORTS

DATA VALIDATION REPORT
Jones Road Ground Water Plume Supplemental Remedial Investigation/Feasibility Study (RI/FS)
November and December 2015 Sampling Event

Site Name:	Jones Road Ground Water Plume Superfund Site Harris County, Texas
Laboratory:	TestAmerica Laboratories, Inc., West Sacramento, California
QA Reviewer:	Haddi Bayo, EA Engineering, Science, and Technology, Inc., PBC (EA), Dallas, Texas
SDG No.:	600-122428 600-122469 600-122477 600-122559 600-122630
Sample Nos.:	See Table 1.
Matrix:	Ground Water
QC Criteria Reviewed:	The review criteria listed in Section 2.0 were evaluated for samples listed in Table 1.
Data Report Date:	17 December 2015 600-122428 (600-122469, 600-122477, 600-122559, 600-122630)

1.0 INTRODUCTION

Ground water samples and associated QC samples were collected 30 November 2015 and 1-3 December 2015 at the Jones Road Ground Water Plume Superfund Site and shipped to TestAmerica Laboratories (TA), Greenwood Village, CO, for analysis. The samples were collected and analyzed for the method parameters in Table 1.

The analytical results for the ground water samples are included in Sample Delivery Groups 600-122428, 600-122469, 600-122477, 600-122559, and 600-122630. The data were validated in accordance with requirements specified in the following documents:

- *EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, (EPA 2014);*
- *Sampling and Analysis Plan for Supplemental Remedial Investigation/Feasibility Study,*

Jones Road Ground Water Plume Superfund Site, (EA 2015);

- *EPA SW-846 Test Methods.*

TABLE 1
SAMPLE CROSS-REFERENCE TABLE

Field Sample ID	Lab Sample ID	Matrix	Date Collected	Analyses Performed
MW-22	600-122428-1	WATER	12/3/2015	RSK_175 – LOW LEVEL 350.1 - LOW LEVEL 353.2_PRES - LOW LEVEL 4500_P_E_ORTHO - LOW LEVEL SM5310D - LOW LEVEL
MW-06	600-122469-1	WATER	12/1/2015	350.1 - LOW LEVEL
MW-07	600-122469-2	WATER	12/1/2015	350.1 - LOW LEVEL
MW-07 DUP	600-122469-3	WATER	12/1/2015	350.1 - LOW LEVEL
MW-21	600-122469-4	WATER	12/1/2015	350.1 - LOW LEVEL
MW-23	600-122469-5	WATER	12/1/2015	350.1 - LOW LEVEL
MW-24	600-122469-6	WATER	12/1/2015	350.1 - LOW LEVEL
MW-06	600-122477-1	WATER	12/1/2015	RSK_175 - LOW LEVEL
MW-07	600-122477-2	WATER	12/1/2015	RSK_175 - LOW LEVEL
MW-07-DUP	600-122477-3	WATER	12/1/2015	RSK_175 - LOW LEVEL
MW-21	600-122477-4	WATER	12/1/2015	RSK_175 - LOW LEVEL
MW-23	600-122477-5	WATER	12/1/2015	RSK_175 - LOW LEVEL
MW-24	600-122477-6	WATER	12/1/2015	RSK_175 - LOW LEVEL
MW-04	600-122559-1	WATER	12/2/2015	RSK_175 - LOW LEVEL
MW-05	600-122559-2	WATER	12/2/2015	RSK_175 - LOW LEVEL
MW-08	600-122559-3	WATER	12/2/2015	RSK_175 - LOW LEVEL
MW-09	600-122559-4	WATER	12/2/2015	RSK_175 - LOW LEVEL

Field Sample ID	Lab Sample ID	Matrix	Date Collected	Analyses Performed
MW-20	600-122559-5	WATER	12/2/2015	RSK_175 - LOW LEVEL
MW-01	600-122630-1	WATER	12/3/2015	RSK_175 - LOW LEVEL
MW-02	600-122630-2	WATER	12/3/2015	RSK_175 - LOW LEVEL
MW-02-DUP	600-122630-3	WATER	12/3/2015	RSK_175 - LOW LEVEL
MW-03	600-122630-4	WATER	12/3/2015	RSK_175 - LOW LEVEL

NOTES:

RSK-175: Method for the analysis of methane, ethane, and ethene.

2.0 DATA VALIDATION REQUIREMENTS

The items listed below were evaluated for the validation review, as applicable to the analytical method.

- Deliverables
- Holding times
- Calibration (initial and continuing)
- Blanks (method, instrument, field, and preparation blanks)
- Laboratory control sample (LCS)
- Laboratory matrix spikes and duplicates
- Field QC samples
- Compound quantitation and reported detection limits
- Overall assessment of data.

3.0 GLOSSARY OF DATA QUALIFIERS

The following definitions provide a brief explanation for data qualifiers used during the data review process. The definitions are consistent with EPA guidance (2008, 2010).

No Qualifier Indicates that the data are acceptable both qualitatively and quantitatively.

U The analyte was analyzed for, but was not detected at a level greater than or equal to the method detection limit for sample and method.

J	The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain QC criteria were not met, or the concentration of the analyte was below the quantitation limit.)
UJ	The analyte was analyzed for, but was not detected above the adjusted method detection limit or was detected in a blank sample at a similar concentration. The reported adjusted quantitation limit is approximate and may be inaccurate or imprecise.
R	The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.

4.0 DATA ASSESSMENT

One hundred percent of the analytical data in the sample delivery groups were reviewed for the criteria listed in Section 2.0. A discussion of the data is presented in this section.

4.1. Deliverables

The data packages and electronic deliverables for the three sample delivery groups (SDGs) are complete.

4.2. Chain of Custody and Sample Receipt

The samples were received by TA under appropriate chain of custody, in good condition and properly preserved.

4.3. Holding Times

The samples were extracted and analyzed within the method-specific holding time.

4.4. Calibrations

The percent relative standard deviation (%RSD) for the initial calibration was within the laboratory QC limit of 20 percent.

The continuing calibrations were analyzed at the proper frequency. The percent differences were within the laboratory QC limit of 20 percent for the target compounds.

4.5. Blanks

Methane, ethane, and ethene were not detected in the method blanks.

4.6. Laboratory Control Sample

The laboratory control samples (LCS) were prepared and analyzed as recommended by the analytical method and project requirements. The percent recoveries (%R) were within the method control limits for all methods and no data required qualification.

4.7. Field Duplicate

Two field duplicate samples were collected and analyzed for the November and December 2015 sampling event (MW-07 and MW-02). Field duplicate RPDs were within the 50 percent control criteria specified in the SAP.

4.8. Sample Quantitation and Reported Detection Limits

Project samples were analyzed at the appropriate concentrations to achieve the project-required reporting limits. Samples required dilution due to elevated concentrations of the analytes in the samples. The reporting limits were adjusted accordingly. Data results below the reporting limit and above the method detection limit were J-qualified as estimated values. Non-detect sample results were reported at the method detection limit with a U-qualifier.

4.9. OVERALL ASSESSMENT OF DATA

Project deliverables were reviewed for completeness and compliance with the SAP. Based on the data review, the completeness of deliverables is 100 percent. No data were qualified. The analytical data achieve greater than the 90 percent data completeness objective and the project DQOs. The November and December 2015 sample data are usable to support the Jones Road Ground Water Plume Supplemental RI/FS.

5.0 REFERENCES

EA Engineering, Science, and Technology, Inc. (EA). 2015. *Sampling and Analysis Plan for Supplemental Remedial Investigation/Feasibility Study, Jones Road Ground Water Plume Superfund Site*. October.

U.S. Environmental Protection Agency (EPA). 1983. *Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020*. March.

———. 2014. *U.S. EPA Contract Laboratory Program National Functional Guidelines for Organic Data Review*. EPA 540/R-08/01. OSWER. Washington, DC. June.

ANALYTICAL REPORT

Job Number: 600-122428-1

Job Description: Jones Road Groundwater Plume

For:
EA Engineering, Science, and Technology
5655 S. Yosemite St., Ste. 320
Greenwood Village, CO 80111

Attention: Pamela J Moss

Approved for release.
Kristy Ricke
Project Manager I
12/17/2015 11:17 AM

Kristy Ricke, Project Manager I
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12/17/2015

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Job Narrative
600-122428-1

Comments
No additional comments.

Receipt
The sample was received on 12/1/2015 1:03 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0º C.

GC Semi VOA
Method RSK-175: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 600-178145 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method RSK-175: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-22 (600-122428-1), (600-122753-I-2), (600-122753-I-2 MS) and (600-122753-I-2 MSD). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM 4500 P E: The following samples was diluted to bring the concentration of target analytes within the calibration range: (600-122364-B-1), (600-122364-B-1 MS) and (600-122364-B-1 MSD). Elevated reporting limits (RLs) are provided.

Method SM 4500 P E: The following sample was diluted due to turbidity: MW-22 (600-122428-1). Elevated reporting limits (RL) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Instrument ID: CHFID14 Analysis Batch Number: 164074

Lab Sample ID: IC 600-164074/1 Client Sample ID:

Date Analyzed: 06/08/15 10:52 Lab File ID: rsk060815_001.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.77	Split Peak	saccoj	06/08/15 12:47
Ethane	0.92	Split Peak	saccoj	06/08/15 12:47

RSK-175

SAMPLE SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
600-122428-1	MW-22	Water	11/30/2015 1358	12/01/2015 1303

EXECUTIVE SUMMARY - Detections

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
600-122428-1	**MW-22**					
Methane		0.590		0.200	mg/L	RSK-175
Nitrate Nitrite as N		1.15	F1	0.0500	mg/L	353.2
Orthophosphate		0.300	J	1.25	mg/L	4500 P E-1999
Total Organic Carbon		2.35		1.00	mg/L	5310 D-2000

METHOD SUMMARY

Client: EA Engineering, Science, and Technology | Job Number: 600-122428-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Dissolved Gases in Water	TAL HOU	RSK RSK-175	
Nitrogen, Ammonia	TAL HOU	MCAWW 350.1	
Distillation, Ammonia	TAL HOU		EPA 350.1
Nitrogen, Nitrate-Nitrite (Colorimetric, Automated, Cadmium Reduction)	TAL HOU	MCAWW 353.2	
Orthophosphate - SM Online, 2011	TAL HOU	SM-Online 4500 P E-1999	
Organic Carbon, Total (TOC)	TAL HOU	SM 5310 D-2000	

Lab References:

TAL HOU = TestAmerica Houston

Method References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM-Online = Standard Methods Online

METHOD / ANALYST SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Method	Analyst	Analyst ID
RSK RSK-175	Sacco, John P	JPS
MCAWW 350.1	Cemer, Sejfudin	SC1
MCAWW 353.2	Daniel, Kevin R	KRD
SM-Online 4500 P E-1999	Daniel, Kevin R	KRD
SM 5310 D-2000	Contreras, Enrique	EC1

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Client Sample ID: **MW-22**

Lab Sample ID: 600-122428-1

Client Matrix: Water

Date Sampled: 11/30/2015 1358

Date Received: 12/01/2015 1303

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-178145	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	1.0 mL
Analysis Date:	12/10/2015 1325			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Ethylene	0.000324	U	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Client Sample ID: **MW-22**

Lab Sample ID: 600-122428-1

Client Matrix: Water

Date Sampled: 11/30/2015 1358

Date Received: 12/01/2015 1303

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-178145	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	200			Final Weight/Volume:	
Analysis Date:	12/10/2015 1708			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Methane	0.590		0.0714	0.200

General Chemistry

Client Sample ID: **MW-22**

Lab Sample ID: 600-122428-1 Date Sampled: 11/30/2015 1358
Client Matrix: Water Date Received: 12/01/2015 1303

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-177670	Analysis Date: 12/03/2015 0816						
Prep Batch: 600-177647	Prep Date: 12/03/2015 0501						
Nitrate Nitrite as N	1.15	F1	mg/L	0.0170	0.0500	1.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1537						
Orthophosphate	0.300	J	mg/L	0.259	1.25	25	4500 P E-1999
Analysis Batch: 600-177771	Analysis Date: 12/02/2015 1300						
Total Organic Carbon	2.35		mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178131	Analysis Date: 12/10/2015 0004						

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Method Blank - Batch: 600-178145

Method: RSK-175
Preparation: N/A

Lab Sample ID:	MB 600-178145/2	Analysis Batch:	600-178145	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk121015_002.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/10/2015 0937	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.000357	U	0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Lab Control Sample - Batch: 600-178145

Method: RSK-175
Preparation: N/A

Lab Sample ID:	LCS 600-178145/3	Analysis Batch:	600-178145	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk121015_003.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/10/2015 0949	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ethane	0.00647	0.006247	97	70 - 130	
Methane	0.00344	0.004036	117	70 - 130	
Ethylene	0.00604	0.005992	99	70 - 130	

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178145

Method: RSK-175
Preparation: N/A

MS Lab Sample ID:	600-122753-I-2 MS	Analysis Batch:	600-178145	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk121015_019.d
Dilution:	500	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/10/2015 1414			Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	600-122753-I-2 MSD	Analysis Batch:	600-178145	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk121015_020.d
Dilution:	500	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/10/2015 1425			Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ethane	0	0	70 - 130	NC	30	U	U
Methane	-59	36	70 - 130	43	30		
Ethylene	0	0	70 - 130	NC	30	U	U

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178145

Method: RSK-175
Preparation: N/A

MS Lab Sample ID:	600-122753-I-2 MS	Units:	mg/L	MSD Lab Sample ID:	600-122753-I-2 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	500			Dilution:	500
Analysis Date:	12/10/2015 1414			Analysis Date:	12/10/2015 1425
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Ethane	0.152	U	3.23	3.23	0.152	U	0.152	U
Methane	3.99		1.72	1.72	2.983		4.615	
Ethylene	0.162	U	3.02	3.02	0.162	U	0.162	U

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Method Blank - Batch: 600-177647

Method: 350.1
Preparation: 350.1

Lab Sample ID:	MB 600-177647/1-A	Analysis Batch:	600-177670	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-177647	Lab File ID:	OM_12-3-2015_07-57-3
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/03/2015 0809	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	12/03/2015 0501				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Ammonia	0.0675	U	0.0675	0.200

Lab Control Sample - Batch: 600-177647

Method: 350.1
Preparation: 350.1

Lab Sample ID:	LCS 600-177647/2-A	Analysis Batch:	600-177670	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-177647	Lab File ID:	OM_12-3-2015_07-57-3
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/03/2015 0810	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	12/03/2015 0501				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	5.00	5.023	100	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177647

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122463-B-1-B MS	Analysis Batch:	600-177670	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-177647	Lab File ID:	OM_12-3-2015_07-57-3
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/03/2015 0813			Final Weight/Volume:	100 mL
Prep Date:	12/03/2015 0501				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122463-B-1-C MSD	Analysis Batch:	600-177670	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-177647	Lab File ID:	OM_12-3-2015_07-57-3
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/03/2015 0814			Final Weight/Volume:	100 mL
Prep Date:	12/03/2015 0501				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia	105	106	90 - 110	1	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177647

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122463-B-1-B MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/03/2015 0813		
Prep Date:	12/03/2015 0501		
Leach Date:	N/A		

MSD Lab Sample ID:	600-122463-B-1-C MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/03/2015 0814
Prep Date:	12/03/2015 0501
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Ammonia	0.888	5.00	5.00	6.136	6.176

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Method Blank - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 600-178421/10	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1524	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N	0.0170	U	0.0170	0.0500

Lab Control Sample - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 600-178421/11	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1525	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	1.00	1.012	101	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178421

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	600-122428-1	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1538			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122428-1	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1539			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrate Nitrite as N	50	61	80 - 120	6	20	F1	F1

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178421

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	600-122428-1	Units: mg/L	MSD Lab Sample ID:	600-122428-1	
Client Matrix:	Water		Client Matrix:	Water	
Dilution:	1.0		Dilution:	1.0	
Analysis Date:	12/14/2015 1538		Analysis Date:	12/14/2015 1539	
Prep Date:	N/A		Prep Date:	N/A	
Leach Date:	N/A		Leach Date:	N/A	

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Nitrate Nitrite as N	1.15	1.00	1.00	1.653	F1	1.757	F1

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Method Blank - Batch: 600-177771

Method: 4500 P E-1999
Preparation: N/A

Lab Sample ID:	MB 600-177771/3	Analysis Batch:	600-177771	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/02/2015 1300	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Orthophosphate	0.0104	U	0.0104	0.0500

Lab Control Sample - Batch: 600-177771

Method: 4500 P E-1999
Preparation: N/A

Lab Sample ID:	LCS 600-177771/4	Analysis Batch:	600-177771	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/02/2015 1300	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Orthophosphate	0.500	0.5260	105	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177771

Method: 4500 P E-1999
Preparation: N/A

MS Lab Sample ID:	600-122364-B-1 MS	Analysis Batch:	600-177771	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	25	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/02/2015 1300			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122364-B-1 MSD	Analysis Batch:	600-177771	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	25	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/02/2015 1300			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Orthophosphate	105	107	75 - 125	1	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177771

Method: 4500 P E-1999
Preparation: N/A

MS Lab Sample ID:	600-122364-B-1 MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	25		
Analysis Date:	12/02/2015 1300		
Prep Date:	N/A		
Leach Date:	N/A		

MSD Lab Sample ID:	600-122364-B-1 MSD
Client Matrix:	Water
Dilution:	25
Analysis Date:	12/02/2015 1300
Prep Date:	N/A
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Orthophosphate	7.98	12.5	12.5	21.15	21.38

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Method Blank - Batch: 600-178131

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	MB 600-178131/39	Analysis Batch:	600-178131	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb039.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/09/2015 2209	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Organic Carbon	0.437	U	0.437	1.00

Lab Control Sample - Batch: 600-178131

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	LCS 600-178131/40	Analysis Batch:	600-178131	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb040.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/09/2015 2219	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	10.0	9.582	96	85 - 115	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178131

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122468-A-2 MS	Analysis Batch:	600-178131	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb042.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/09/2015 2240			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122468-A-2 MSD	Analysis Batch:	600-178131	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb045.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/09/2015 2312			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon	104	106	80 - 120	1	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178131

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122468-A-2 MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/09/2015 2240		
Prep Date:	N/A		
Leach Date:	N/A		

MSD Lab Sample ID:	600-122468-A-2 MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/09/2015 2312
Prep Date:	N/A
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Total Organic Carbon	7.23	10.0	10.0	17.61	17.80

DATA REPORTING QUALIFIERS

Client: EA Engineering, Science, and Technology Job Number: 600-122428-1

Lab Section	Qualifier	Description
GC VOA		
	U	Indicates the analyte was analyzed for but not detected.
General Chemistry		
	U	Indicates the analyte was analyzed for but not detected.
	F1	MS and/or MSD Recovery is outside acceptance limits.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC VOA					
Analysis Batch:600-178145					
LCS 600-178145/3	Lab Control Sample	T	Water	RSK-175	
MB 600-178145/2	Method Blank	T	Water	RSK-175	
600-122428-1	MW-22	T	Water	RSK-175	
600-122753-I-2 MS	Matrix Spike	T	Water	RSK-175	
600-122753-I-2 MSD	Matrix Spike Duplicate	T	Water	RSK-175	

Report Basis
T = Total

General Chemistry					
Prep Batch: 600-177647					
LCS 600-177647/2-A	Lab Control Sample	T	Water	350.1	
MB 600-177647/1-A	Method Blank	T	Water	350.1	
600-122428-1	MW-22	T	Water	350.1	
600-122463-B-1-B MS	Matrix Spike	T	Water	350.1	
600-122463-B-1-C MSD	Matrix Spike Duplicate	T	Water	350.1	
Analysis Batch:600-177670					
LCS 600-177647/2-A	Lab Control Sample	T	Water	350.1	600-177647
MB 600-177647/1-A	Method Blank	T	Water	350.1	600-177647
600-122428-1	MW-22	T	Water	350.1	600-177647
600-122463-B-1-B MS	Matrix Spike	T	Water	350.1	600-177647
600-122463-B-1-C MSD	Matrix Spike Duplicate	T	Water	350.1	600-177647
Analysis Batch:600-177771					
LCS 600-177771/4	Lab Control Sample	T	Water	4500 P E-1999	
MB 600-177771/3	Method Blank	T	Water	4500 P E-1999	
600-122364-B-1 MS	Matrix Spike	T	Water	4500 P E-1999	
600-122364-B-1 MSD	Matrix Spike Duplicate	T	Water	4500 P E-1999	
600-122428-1	MW-22	T	Water	4500 P E-1999	
Analysis Batch:600-178131					
LCS 600-178131/40	Lab Control Sample	T	Water	5310 D-2000	
MB 600-178131/39	Method Blank	T	Water	5310 D-2000	
600-122428-1	MW-22	T	Water	5310 D-2000	
600-122468-A-2 MS	Matrix Spike	T	Water	5310 D-2000	
600-122468-A-2 MSD	Matrix Spike Duplicate	T	Water	5310 D-2000	
Analysis Batch:600-178421					
LCS 600-178421/11	Lab Control Sample	T	Water	353.2	
MB 600-178421/10	Method Blank	T	Water	353.2	
600-122428-1	MW-22	T	Water	353.2	
600-122428-1MS	Matrix Spike	T	Water	353.2	
600-122428-1MSD	Matrix Spike Duplicate	T	Water	353.2	

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					

Report Basis
T = Total

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Laboratory Chronicle

Lab ID: 600-122428-1 **Client ID: MW-22**

Sample Date/Time: 11/30/2015 13:58 Received Date/Time: 12/01/2015 13:03

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122428-G-1		600-178145		12/10/2015 13:25	1	TAL HOU	JPS
A:RSK-175	600-122428-G-1		600-178145		12/10/2015 17:08	200	TAL HOU	JPS
P:350.1	600-122428-C-1-A		600-177670	600-177647	12/03/2015 05:01	1	TAL HOU	SC1
A:350.1	600-122428-C-1-A		600-177670	600-177647	12/03/2015 08:16	1	TAL HOU	SC1
A:353.2	600-122428-D-1		600-178421		12/14/2015 15:37	1	TAL HOU	KRD
A:4500 P E-1999	600-122428-E-1		600-177771		12/02/2015 13:00	25	TAL HOU	KRD
A:5310 D-2000	600-122428-D-1		600-178131		12/10/2015 00:04	1	TAL HOU	EC1

Lab ID: 600-122428-1 MS **Client ID: MW-22**

Sample Date/Time: 11/30/2015 13:58 Received Date/Time: 12/01/2015 13:03

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:353.2	600-122428-D-1 MS		600-178421		12/14/2015 15:38	1	TAL HOU	KRD

Lab ID: 600-122428-1 MSD **Client ID: MW-22**

Sample Date/Time: 11/30/2015 13:58 Received Date/Time: 12/01/2015 13:03

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:353.2	600-122428-D-1 MSD		600-178421		12/14/2015 15:39	1	TAL HOU	KRD

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	MB 600-178145/2		600-178145		12/10/2015 09:37	1	TAL HOU	JPS
P:350.1	MB 600-177647/1-A		600-177670	600-177647	12/03/2015 05:01	1	TAL HOU	SC1
A:350.1	MB 600-177647/1-A		600-177670	600-177647	12/03/2015 08:09	1	TAL HOU	SC1
A:353.2	MB 600-178421/10		600-178421		12/14/2015 15:24	1	TAL HOU	KRD
A:4500 P E-1999	MB 600-177771/3		600-177771		12/02/2015 13:00	1	TAL HOU	KRD
A:5310 D-2000	MB 600-178131/39		600-178131		12/09/2015 22:09	1	TAL HOU	EC1

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Laboratory Chronicle

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	LCS 600-178145/3		600-178145		12/10/2015 09:49	1	TAL HOU	JPS
P:350.1	LCS 600-177647/2-A		600-177670	600-177647	12/03/2015 05:01	1	TAL HOU	SC1
A:350.1	LCS 600-177647/2-A		600-177670	600-177647	12/03/2015 08:10	1	TAL HOU	SC1
A:353.2	LCS 600-178421/11		600-178421		12/14/2015 15:25	1	TAL HOU	KRD
A:4500 P E-1999	LCS 600-177771/4		600-177771		12/02/2015 13:00	1	TAL HOU	KRD
A:5310 D-2000	LCS 600-178131/40		600-178131		12/09/2015 22:19	1	TAL HOU	EC1

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 12/07/2015 11:45 Received Date/Time: 12/08/2015 12:47

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122753-I-2 MS		600-178145		12/10/2015 14:14	500	TAL HOU	JPS
P:350.1	600-122463-B-1-B MS		600-177670	600-177647	12/03/2015 05:01	1	TAL HOU	SC1
A:350.1	600-122463-B-1-B MS		600-177670	600-177647	12/03/2015 08:13	1	TAL HOU	SC1
A:4500 P E-1999	600-122364-B-1 MS		600-177771		12/02/2015 13:00	25	TAL HOU	KRD
A:5310 D-2000	600-122468-A-2 MS		600-178131		12/09/2015 22:40	1	TAL HOU	EC1

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 12/07/2015 11:45 Received Date/Time: 12/08/2015 12:47

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122753-I-2 MSD		600-178145		12/10/2015 14:25	500	TAL HOU	JPS
P:350.1	600-122463-B-1-C MSD		600-177670	600-177647	12/03/2015 05:01	1	TAL HOU	SC1
A:350.1	600-122463-B-1-C MSD		600-177670	600-177647	12/03/2015 08:14	1	TAL HOU	SC1
A:4500 P E-1999	600-122364-B-1 MSD		600-177771		12/02/2015 13:00	25	TAL HOU	KRD
A:5310 D-2000	600-122468-A-2 MSD		600-178131		12/09/2015 23:12	1	TAL HOU	EC1

Lab References:
TAL HOU = TestAmerica Houston

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
NO3NO2CRVE1.0_00045	12/15/15	12/14/15	DI WATER, Lot N/A	100 mL	NO3NO2CRVEINT_00038	10 mL	Nitrate Nitrite as N	1 ppm
.NO3NO2CRVEINT_00038	12/15/15	12/14/15	DI WATER, Lot NA	100 mL	WETSICINO2_00018	1 mL	Nitrate Nitrite as N	10 mg/L
..WETSICINO2_00018	12/31/15	SPEX CERTIPREP, Lot 3-106NO2N-2Y			(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L
NO3NO2ICV/LCS_00038	12/15/15	12/14/15	DI WATER, Lot N/A	100 mL	NO3NO2ICVSRCE_00001	0.1 mL	Nitrate Nitrite as N	1 ppm
.NO3NO2ICVSRCE_00001	01/01/16	INORGANIC VENTURES, Lot H2-NOX02113			(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L
RSK-175 LCS_00017	09/24/16	09/17/13	Nitrogen, Lot 092914	1000000 mL	RSK-175_00014	1 uL	Ethane	9.7 ug/L
							Ethylene	9.05 ug/L
							Methane	5.16 ug/L
							Propane	14.18 ug/L
							Propene	13.58 ug/L
.RSK-175_00014	09/24/16	Coastal Specialty Gas, Lot UT002104			(Purchased Reagent)		Ethane	9.7 ppm v/v
							Ethylene	9.05 ppm v/v
							Methane	5.16 ppm v/v
							Propane	14.18 ppm v/v
							Propene	13.58 ppm v/v
TOCISCAL_00300	12/31/15	12/08/15	DI WATER, Lot NONE	500 mL	WETSTOCCAL_00018	5 mL	Total Organic Carbon	10 ppm
.WETSTOCCAL_00018	12/31/15	RICCA, Lot 1412B01			(Purchased Reagent)		Total Organic Carbon	1000 mg/L
TOCSLCS_00209	01/06/16	12/08/15	DI WATER, Lot NONE	1000 mL	WETSTOCICV_00033	10 mL	Total Organic Carbon	10 ppm
.WETSTOCICV_00033	02/26/17	LABCHEM, Lot E054-11			(Purchased Reagent)		Total Organic Carbon	1000 mg/L
WETSNH3CAL_00012	08/12/16	LABCHEM, Lot D223-16			(Purchased Reagent)		Ammonia	1000 mg/L
WETSNH3ICV_00020	01/31/16	RICCA, Lot 2408676			(Purchased Reagent)		Ammonia	1000 mg/L
							Ammonia, undistilled	1000 mg/L
							Nitrogen, Kjeldahl	1000 mg/L
WETSPHOSCS_00022	09/30/16	RICCA, Lot 2509F52			(Purchased Reagent)		Orthophosphate	50 mg/L
							Orthophosphorus as PO4	153.325 mg/L
WETSPHOSIS_00020	05/26/16	LABCHEM, Lot E140-24			(Purchased Reagent)		Orthophosphate	50 mg/L
							Orthophosphorus as PO4	153.325 mg/L
WETSTOCICV_00033	02/26/17	LABCHEM, Lot E054-11			(Purchased Reagent)		Total Organic Carbon	1000 mg/L

Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-122428-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Houston	Arkansas DEQ	State Program	6	15-045-0
TestAmerica Houston	Louisiana	NELAP	6	01967
TestAmerica Houston	Oklahoma	State Program	6	2015-050
TestAmerica Houston	Texas	NELAP	6	T104704223-15-18
TestAmerica Houston	USDA	Federal		P330-14-00192

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method RSK-175

Dissolved Gases (GC) by Method RSK_175

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk121015_003.d

Lab ID: LCS 600-178145/3 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Ethane	0.00647	0.006247	97	70-130	
Methane	0.00344	0.004036	117	70-130	
Ethylene	0.00604	0.005992	99	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk121015_019.d

Lab ID: 600-122753-I-2 MS Client ID:

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Ethane	3.23	0.152 U	0.152 U	0	70-130	
Methane	1.72	3.99	2.983	-59	70-130	
Ethylene	3.02	0.162 U	0.162 U	0	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk121015_020.d

Lab ID: 600-122753-I-2 MSD Client ID:

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Ethane	3.23	0.152 U	0	NC	30	70-130	
Methane	1.72	4.615	36	43	30	70-130	
Ethylene	3.02	0.162 U	0	NC	30	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Lab Sample ID: MB 600-178145/2

Matrix: Water Date Extracted:

Lab File ID:(1) rsk121015_002.d Lab File ID:(2)

Date Analyzed:(1) 12/10/2015 09:37 Date Analyzed:(2)

Instrument ID:(1) CHFID14 Instrument ID:(2)

GC Column:(1) RTX-5 ID: 0.53(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 600-178145/3	12/10/2015 09:49	
MW-22	600-122428-1	12/10/2015 13:25	
	600-122753-I-2 MS	12/10/2015 14:14	
	600-122753-I-2 MSD	12/10/2015 14:25	
MW-22	600-122428-1	12/10/2015 17:08	

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122428-1

SDG No.:

Client Sample ID: MW-22 | Lab Sample ID: 600-122428-1

Matrix: Water | Lab File ID: rsk121015_017.d

Analysis Method: RSK-175 | Date Collected: 11/30/2015 13:58

Sample wt/vol: 1(mL) | Date Analyzed: 12/10/2015 13:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 178145 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_017.d
Lims ID: 600-122428-G-1 Lab Sample ID: 600-122428-1
Client ID: MW-22
Sample Type: Client
Inject. Date: 10-Dec-2015 13:25:14 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009822-017
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 11-Dec-2015 08:58:19 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

First Level Reviewer: saccoj Date: 11-Dec-2015 08:58:19

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	2244152	493.9	E

QC Flag Legend

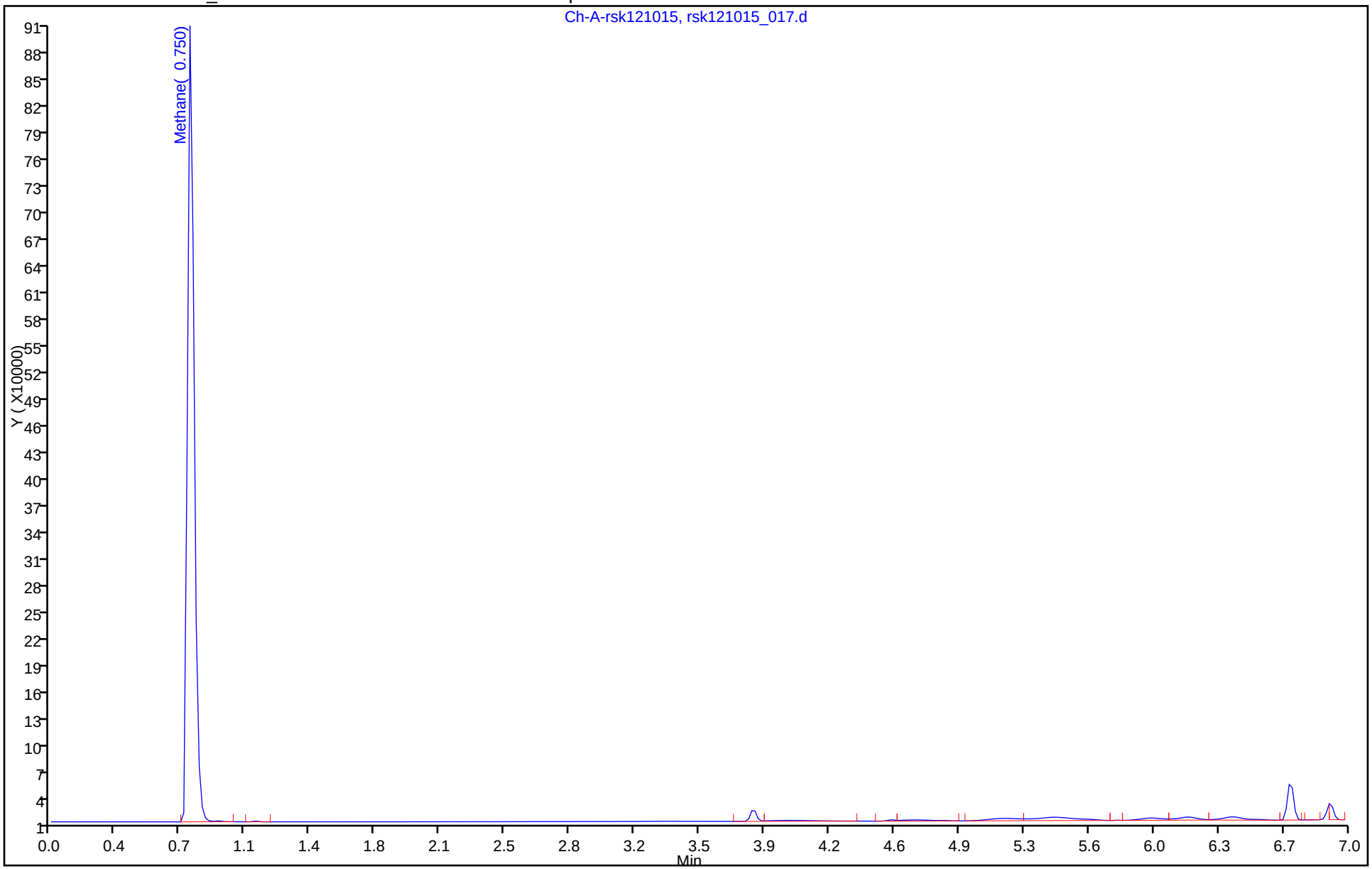
Processing Flags

E - Exceeded Maximum Amount

Report Date: 11-Dec-2015 08:59:06 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_017.d				
Injection Date:	10-Dec-2015 13:25:14	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122428-G-1	Lab Sample ID:	600-122428-1	Worklist Smp#:	17
Client ID:	MW-22				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122428-1

SDG No.:

Client Sample ID: MW-22 | Lab Sample ID: 600-122428-1

Matrix: Water | Lab File ID: rsk121015_032.d

Analysis Method: RSK-175 | Date Collected: 11/30/2015 13:58

Sample wt/vol: 1(mL) | Date Analyzed: 12/10/2015 17:08

Soil Aliquot Vol: | Dilution Factor: 200

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 178145 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.590		0.200	0.0714

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_032.d
Lims ID: 600-122428-G-1 Lab Sample ID: 600-122428-1
Client ID: MW-22
Sample Type: Client
Inject. Date: 10-Dec-2015 17:08:25 ALS Bottle#: 0 Worklist Smp#: 32
Injection Vol: 1.0 ul Dil. Factor: 200.0000
Sample Info: Name: 600-0009822-032
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 10-Dec-2015 17:33:36 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

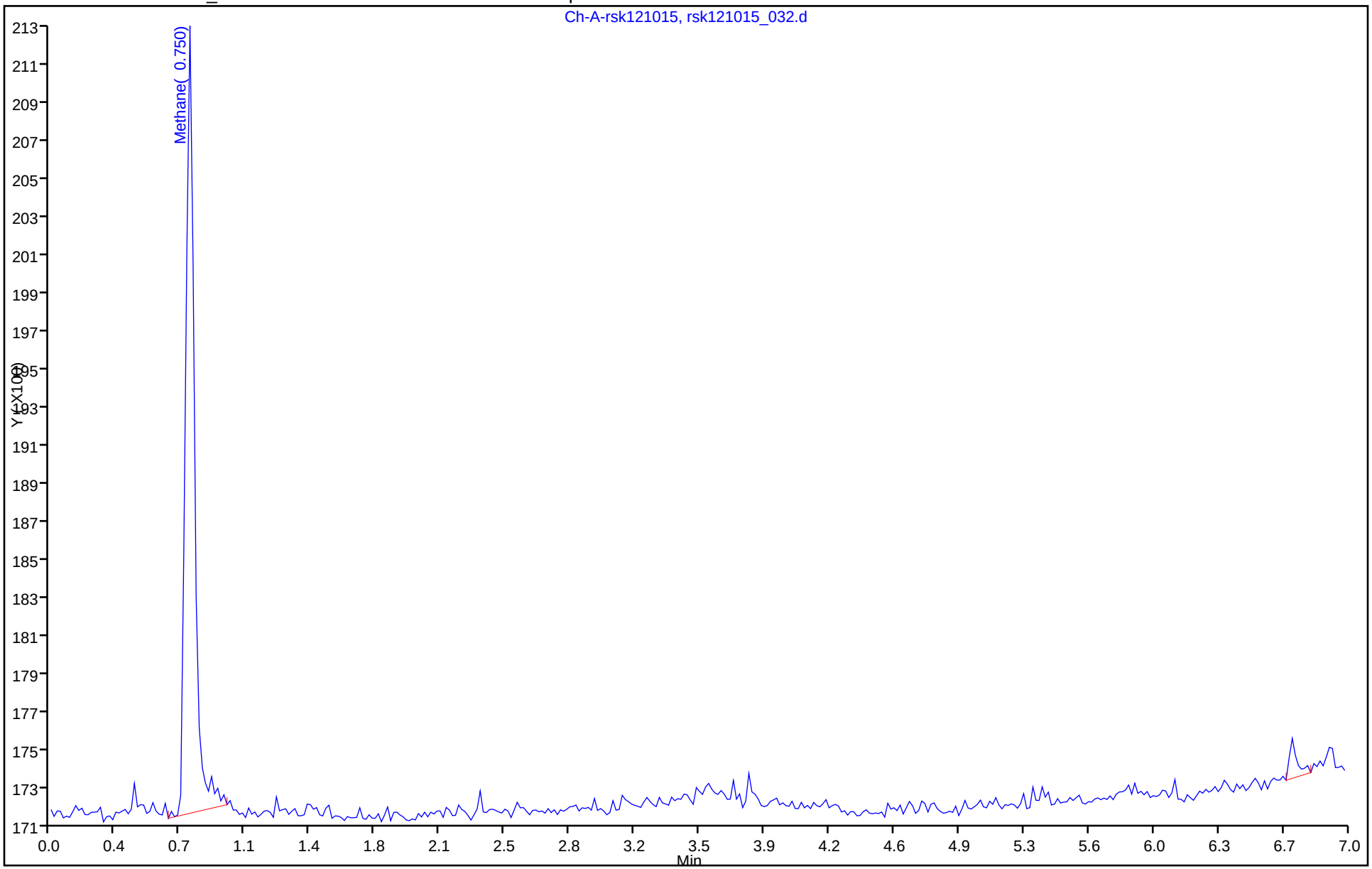
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	13411	2.95	

Report Date: 11-Dec-2015 08:21:40 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_032.d				
Injection Date:	10-Dec-2015 17:08:25	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122428-G-1	Lab Sample ID:	600-122428-1	Worklist Smp#:	32
Client ID:	MW-22				
Injection Vol:	1.0 ul	Dil. Factor:	200.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122428-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
Methane	0.767	0.750	0.750	0.750	0.750	0.750	0.767	+++++			0.667 - 0.867	0.755
Ethane	0.917	0.900	0.917	0.917	0.900	0.900	0.917	+++++			0.817 - 1.017	0.910
Ethylene	1.117	1.117	1.117	1.117	1.100	1.117	1.117	+++++			1.017 - 1.217	1.115
Propane	1.533	1.533	1.533	1.533	1.533	1.533	1.533	+++++			1.450 - 1.650	1.533
Propene	2.333	2.333	2.333	2.333	2.333	2.333	2.333	+++++			2.233 - 2.433	2.333

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-122428-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	5157.0 4139.3	4530.3 3909.5	4516.5 4383.3	5169.3 +++++	Ave		4543.58652				10.5		20.0			
Ethane	5039.2 3849.7	4016.6 3719.2	4166.9 4147.5	4765.4 +++++	Ave		4243.49323				11.4		20.0			
Ethylene	3506.1 2885.2	2911.0 2799.4	3076.7 3097.2	3564.3 +++++	Ave		3119.99115				9.7		20.0			
Propane	5009.5 4122.9	4298.1 4029.7	4490.6 4471.8	5173.0 +++++	Ave		4513.65823				9.6		20.0			
Propene	2978.6 2536.8	2531.0 2409.7	2638.6 2687.2	3043.2 +++++	Ave		2689.30952				8.8		20.0			

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-122428-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methane	Ave	5322 134473	15592 226156	23305 +++++	35556	71188	1.03 34.4	3.44 51.6	5.16 +++++	6.88	17.2
Ethane	Ave	9776 240482	25987 402269	40419 +++++	61617	124461	1.94 64.7	6.47 97.0	9.70 +++++	12.9	32.3
Ethylene	Ave	6346 168881	17572 280268	27844 +++++	42999	87028	1.81 60.3	6.04 90.5	9.05 +++++	12.1	30.2
Propane	Ave	14207 380899	40652 634043	63676 +++++	97780	194856	2.84 94.5	9.46 142	14.2 +++++	18.9	47.3
Propene	Ave	8090 218140	22925 364884	35832 +++++	55089	114822	2.72 90.5	9.06 136	13.6 +++++	18.1	45.3

Curve Type Legend:
Ave = Average

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Jun-2015 10:52:10 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0006703-001
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:32 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

First Level Reviewer: saccoj Date: 08-Jun-2015 12:47:46

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.767	0.767	0.000	5322	1.03	1.17	M
2 Ethane	0.917	0.917	0.000	9776	1.94	2.30	M
3 Ethylene	1.117	1.117	0.000	6346	1.81	2.03	
5 Propane	1.533	1.550	-0.017	14207	2.84	3.15	
1 Propene	2.333	2.333	0.000	8090	2.72	3.01	

QC Flag Legend

Review Flags
M - Manually Integrated

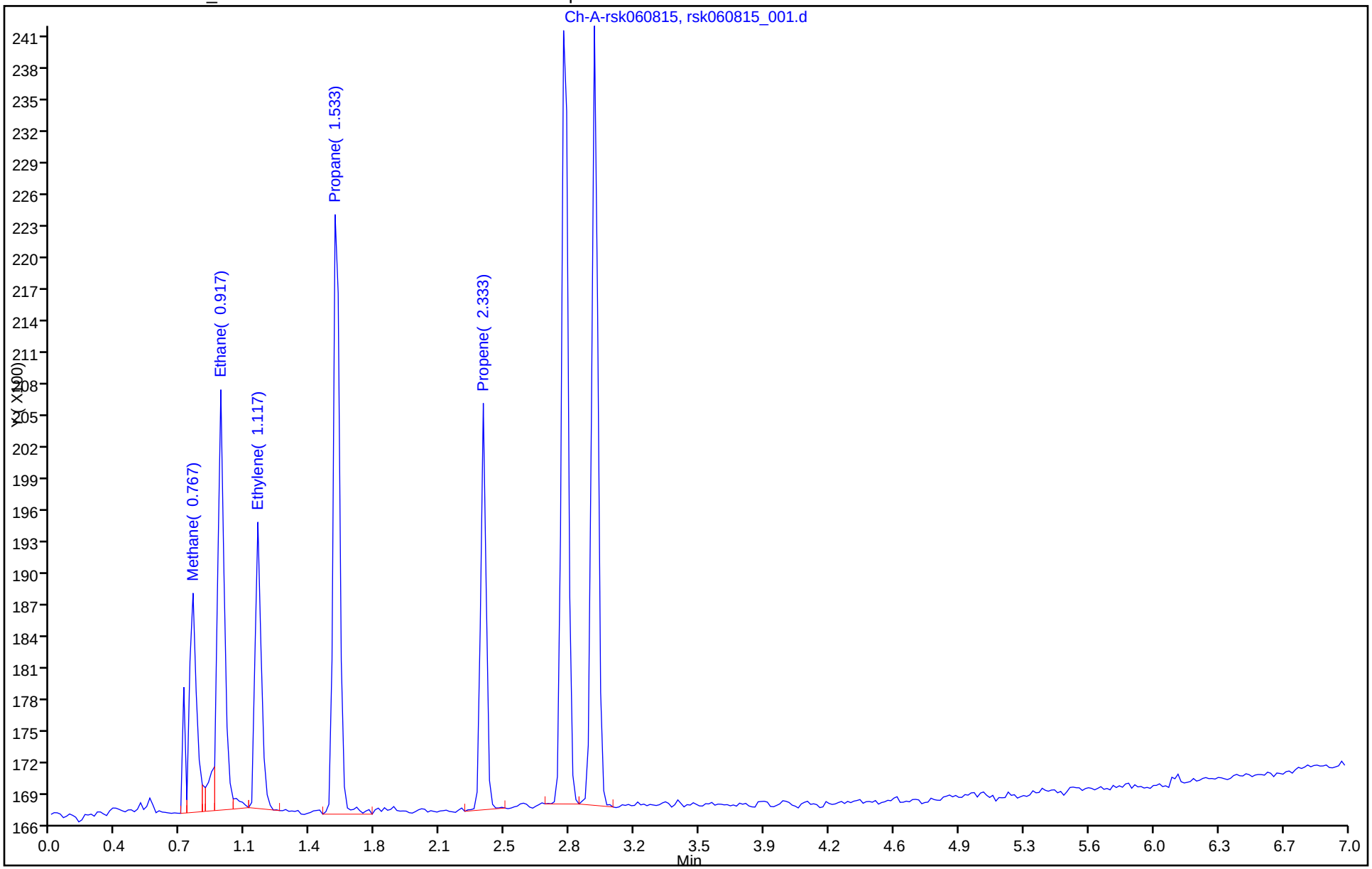
Reagents:

RSK-175 LCS_00017 Amount Added: 0.20 Units: mL

Report Date: 09-Jun-2015 08:49:32 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

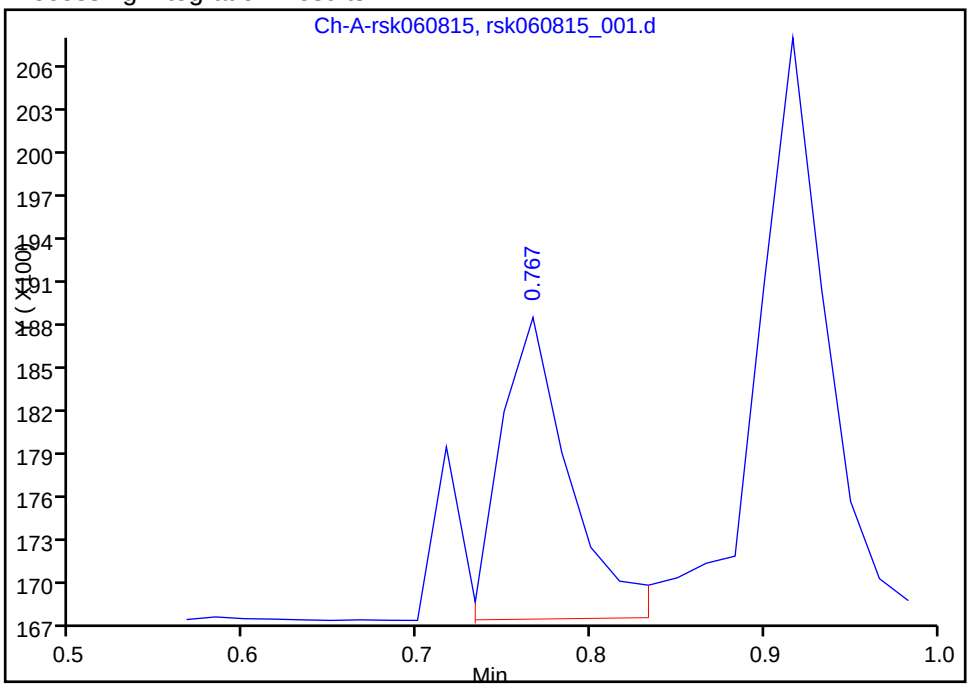
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14		
Lims ID:	IC				
Client ID:					
Operator ID:	saccoj	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

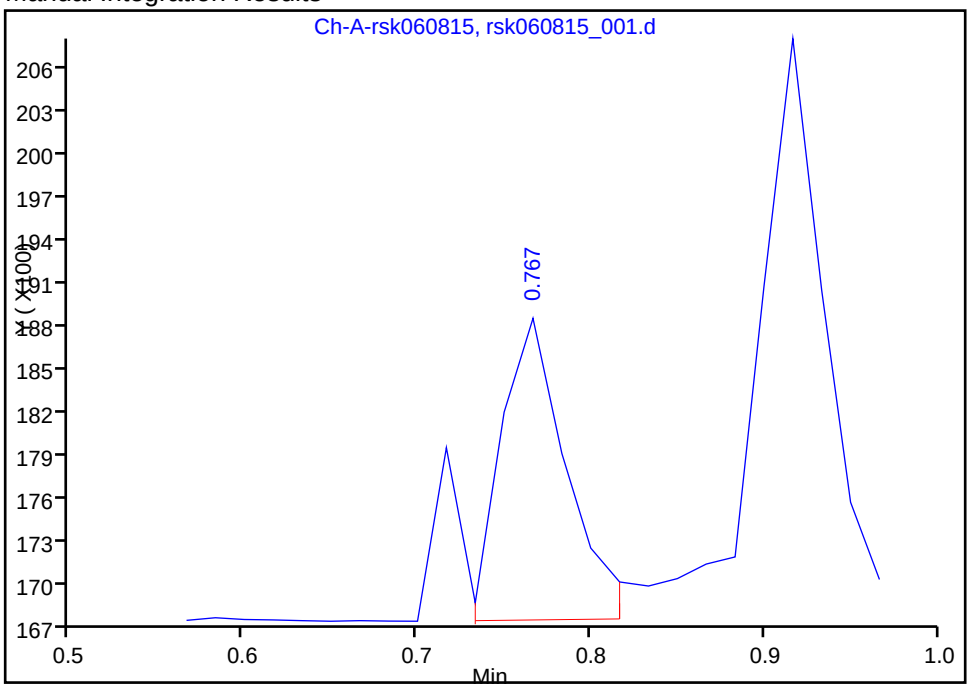
Processing Integration Results

RT: 0.77
Area: 5560
Amount: 1.258894
Amount Units: ug/l



Manual Integration Results

RT: 0.77
Area: 5322
Amount: 1.171321
Amount Units: ug/l



Reviewer: saccoj, 08-Jun-2015 12:47:46
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

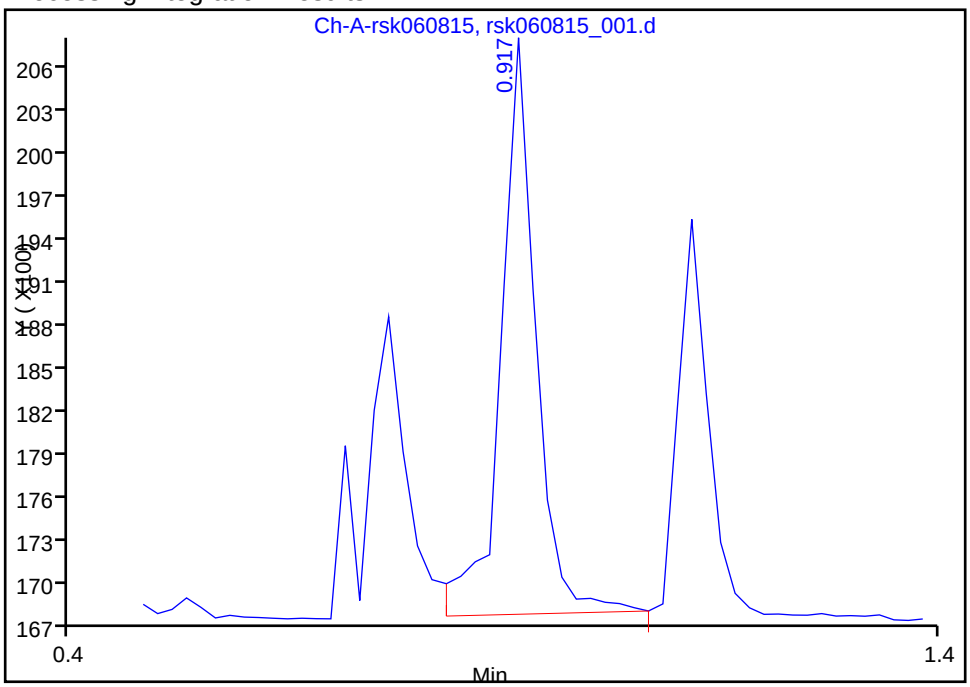
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14		
Lims ID:	IC				
Client ID:					
Operator ID:	saccoj	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

2 Ethane, CAS: 74-84-0

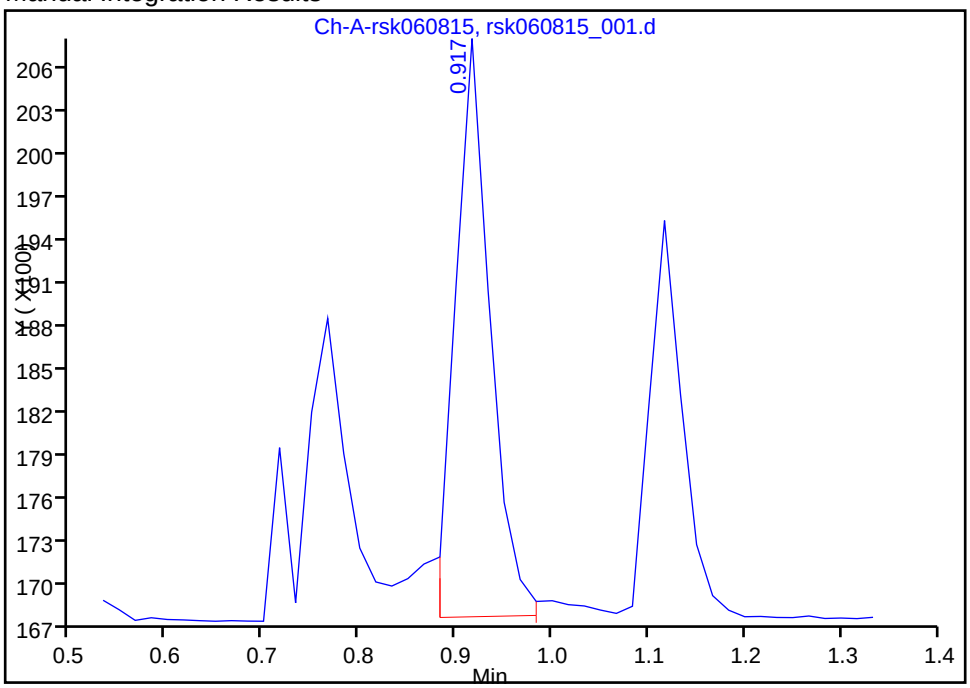
Processing Integration Results

RT: 0.92
Area: 11023
Amount: 2.639089
Amount Units: ug/l



Manual Integration Results

RT: 0.92
Area: 9776
Amount: 2.303762
Amount Units: ug/l



Reviewer: saccoj, 08-Jun-2015 12:47:46
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_002.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Jun-2015 11:03:33 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0006703-002
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:33 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

First Level Reviewer: saccoj Date: 08-Jun-2015 12:55:06

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.767	-0.017	15592	3.44	3.43	
2 Ethane	0.900	0.917	-0.017	25987	6.47	6.12	
3 Ethylene	1.117	1.117	0.000	17572	6.04	5.63	
5 Propane	1.533	1.550	-0.017	40652	9.46	9.01	
1 Propene	2.333	2.333	0.000	22925	9.06	8.52	

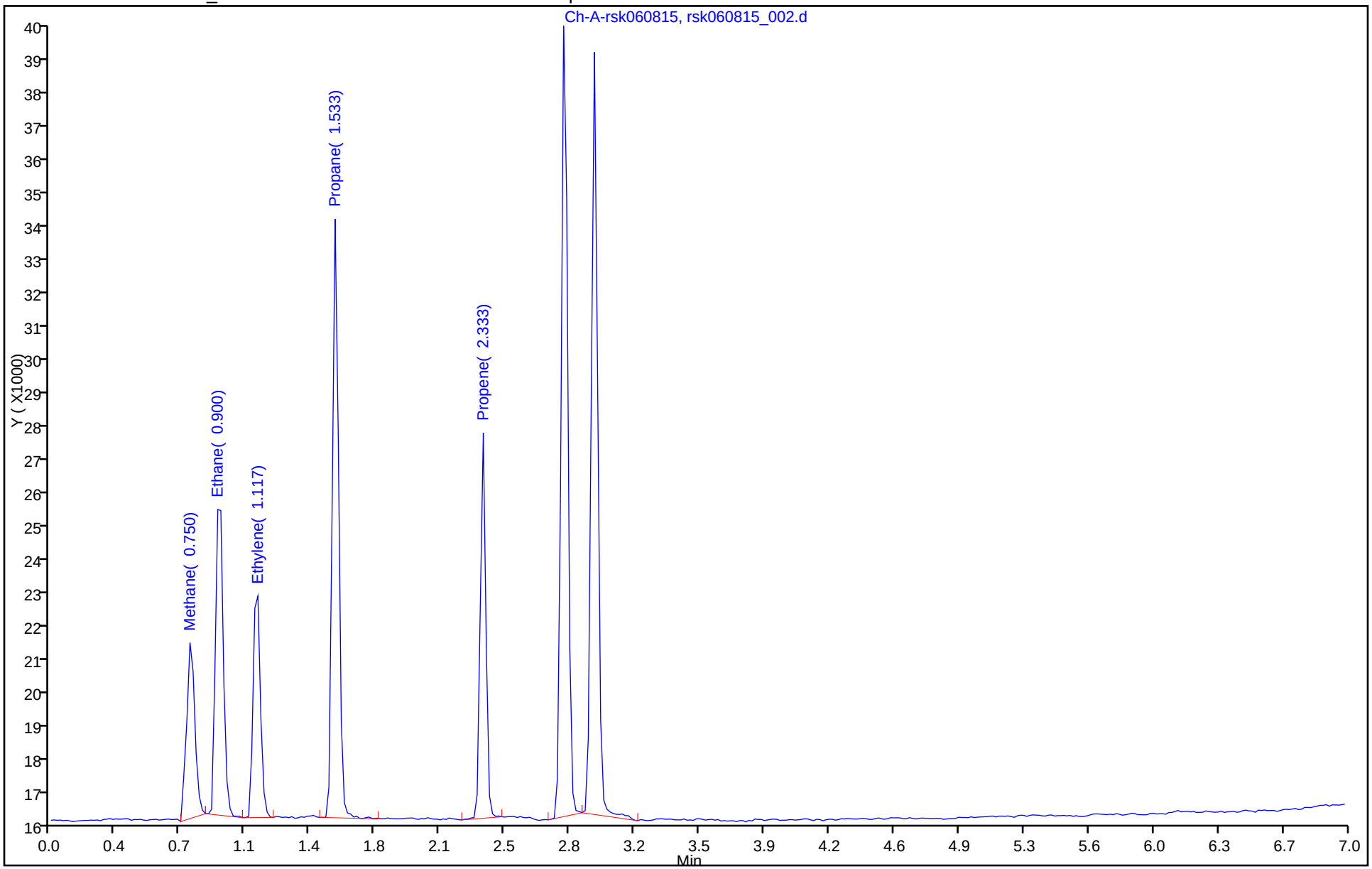
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 09-Jun-2015 08:49:33 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_002.d				
Injection Date:	08-Jun-2015 11:03:33	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_003.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	08-Jun-2015 11:15:05	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0006703-003				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:34	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	23305	5.16	5.13	
2 Ethane	0.917	0.917	0.000	40419	9.70	9.52	
3 Ethylene	1.117	1.117	0.000	27844	9.05	8.92	
5 Propane	1.533	1.533	0.000	63676	14.2	14.1	
1 Propene	2.333	2.333	0.000	35832	13.6	13.3	

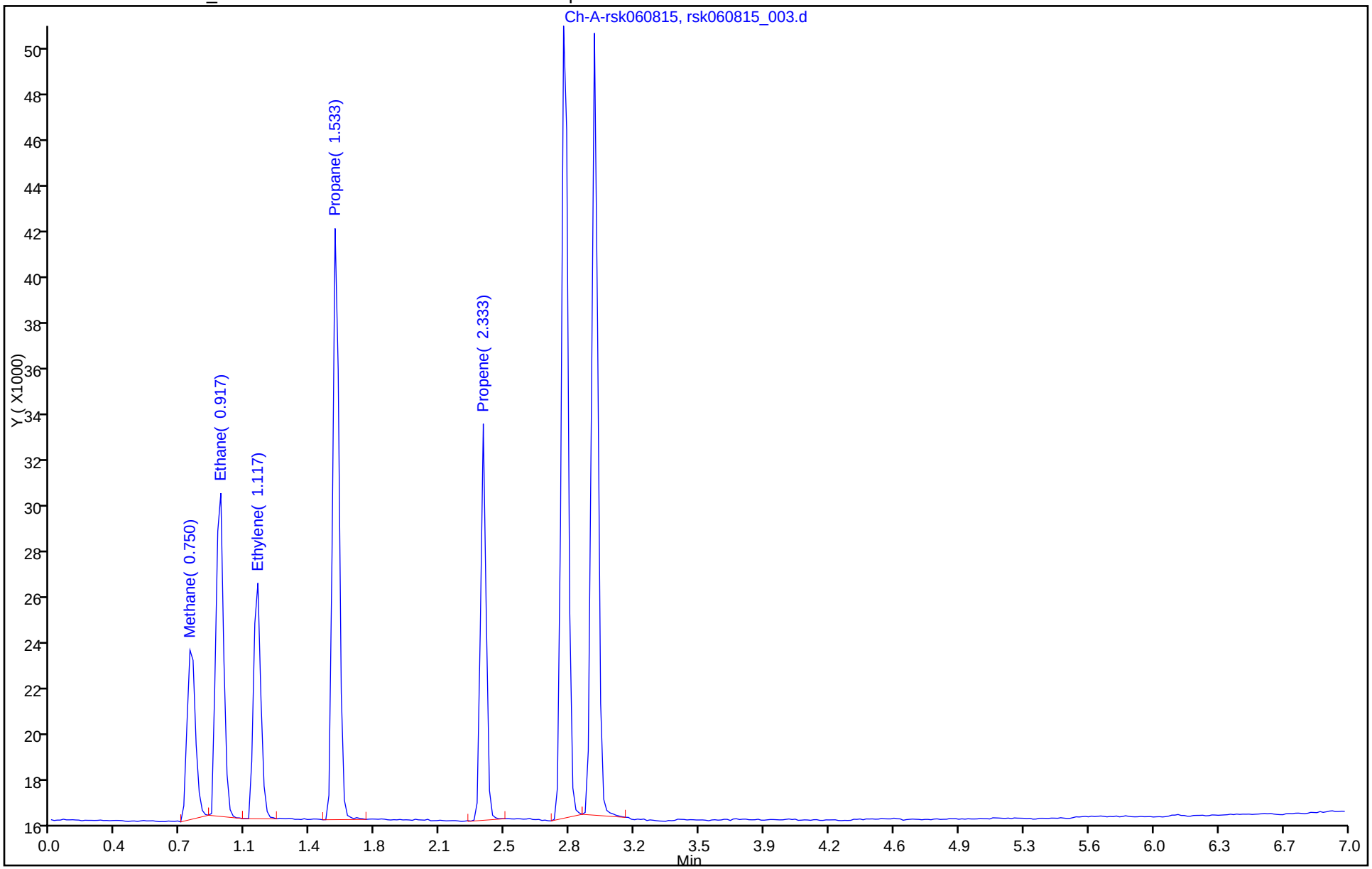
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 09-Jun-2015 08:49:35 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_003.d				
Injection Date:	08-Jun-2015 11:15:05	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_004.d				
Lims ID:	ICRT				
Client ID:					
Sample Type:	ICRT	Calib Level:	4		
Inject. Date:	08-Jun-2015 11:26:49	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0006703-004				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:36	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	35556	6.88	7.83	
2 Ethane	0.917	0.917	0.000	61617	12.9	14.5	
3 Ethylene	1.117	1.117	0.000	42999	12.1	13.8	
5 Propane	1.533	1.533	0.000	97780	18.9	21.7	
1 Propene	2.333	2.333	0.000	55089	18.1	20.5	

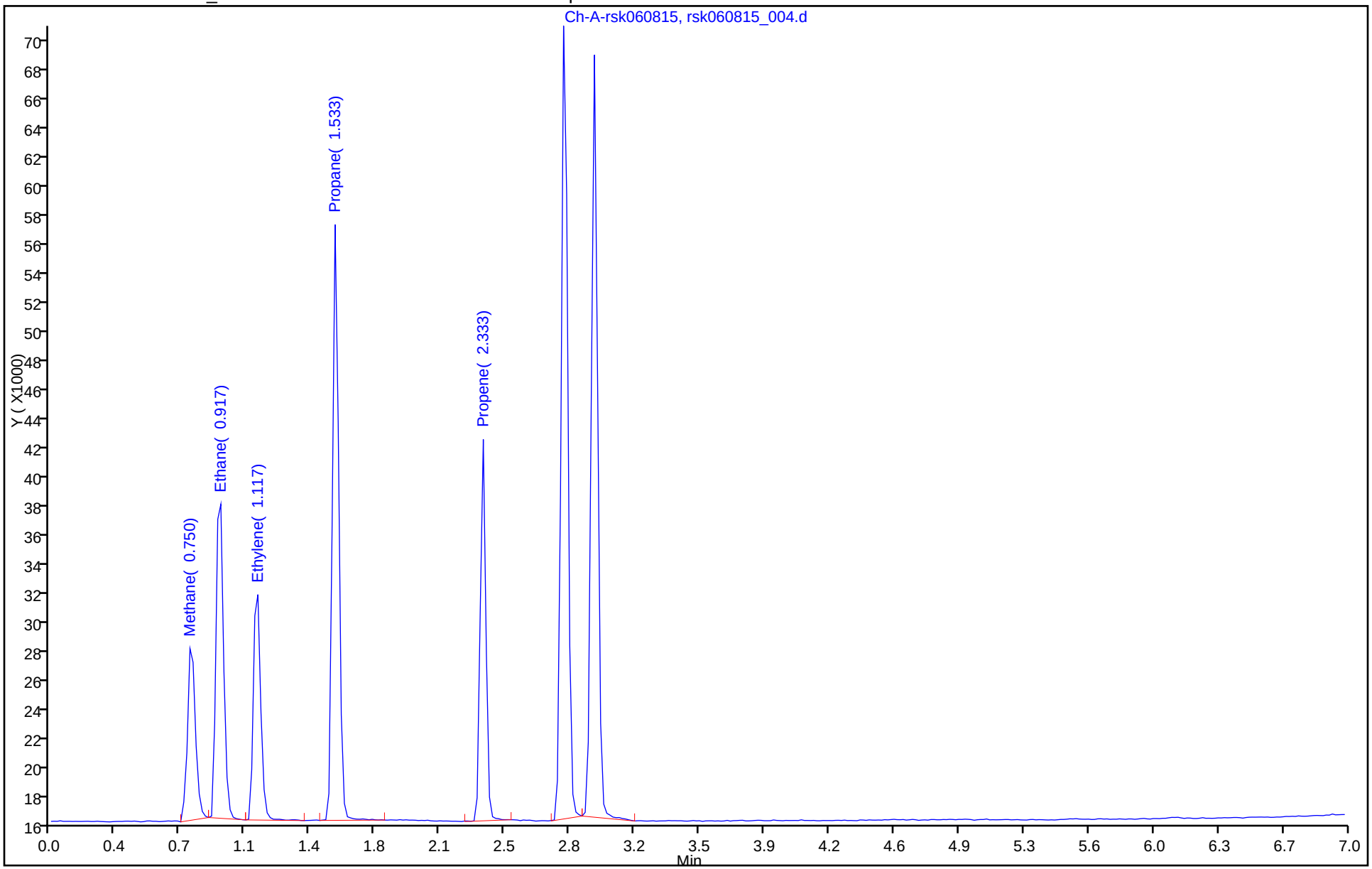
Reagents:

RSK-175 LCS_00017 Amount Added: 1.33 Units: mL

Report Date: 09-Jun-2015 08:49:36 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_004.d				
Injection Date:	08-Jun-2015 11:26:49	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	ICRT			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_005.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Jun-2015 11:38:11 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0006703-005
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:37 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	71188	17.2	15.7	
2 Ethane	0.900	0.917	-0.017	124461	32.3	29.3	
3 Ethylene	1.100	1.117	-0.017	87028	30.2	27.9	
5 Propane	1.533	1.533	0.000	194856	47.3	43.2	
1 Propene	2.333	2.333	0.000	114822	45.3	42.7	

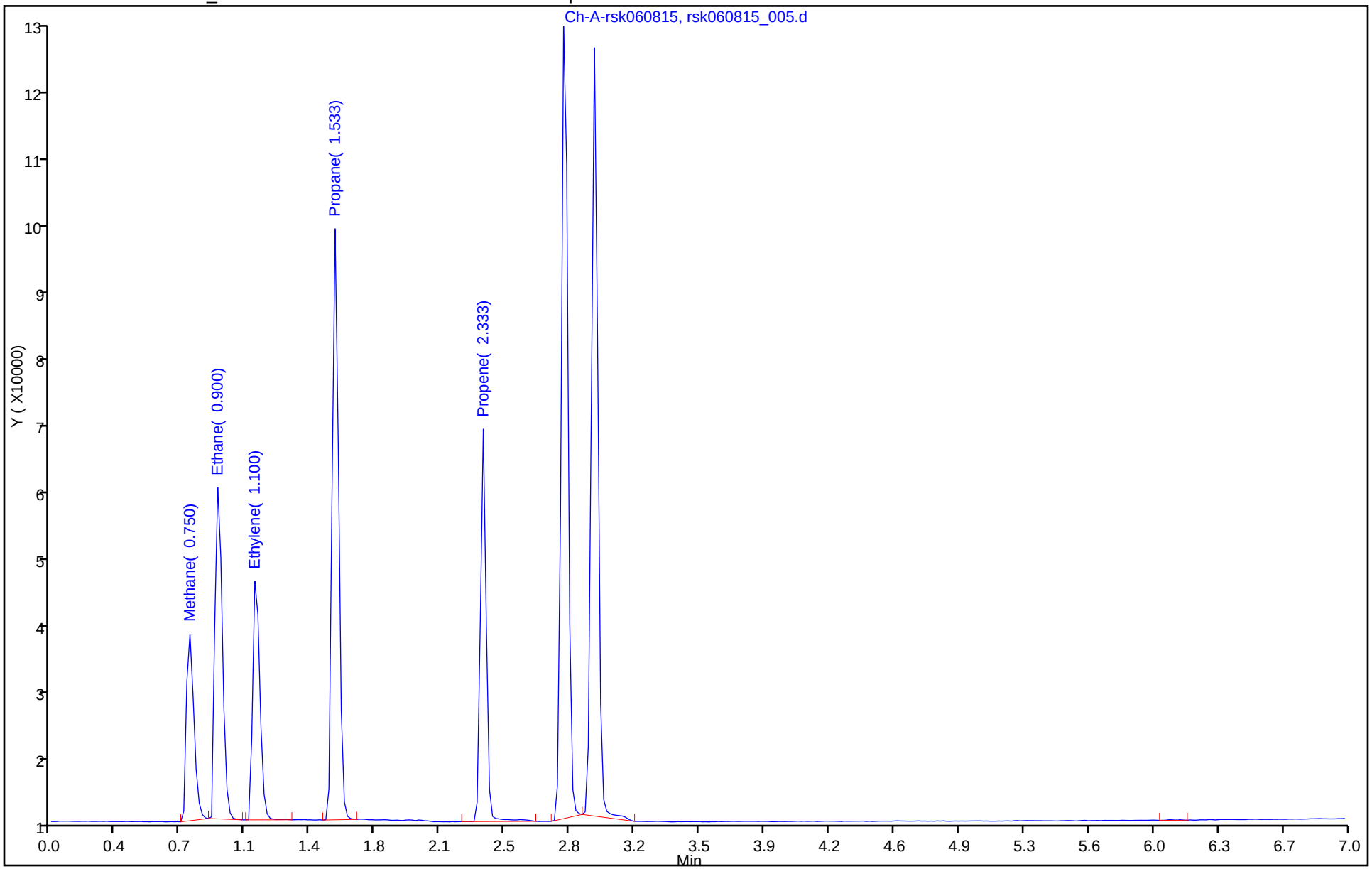
Reagents:

RSK-175 LCS_00017 Amount Added: 3.33 Units: mL

Report Date: 09-Jun-2015 08:49:38 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_005.d				
Injection Date:	08-Jun-2015 11:38:11	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_006.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	08-Jun-2015 11:50:00	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 600-0006703-006				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:39	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	134473	34.4	29.6	
2 Ethane	0.900	0.917	-0.017	240482	64.7	56.7	
3 Ethylene	1.117	1.117	0.000	168881	60.3	54.1	
5 Propane	1.533	1.533	0.000	380899	94.5	84.4	
1 Propene	2.333	2.333	0.000	218140	90.5	81.1	

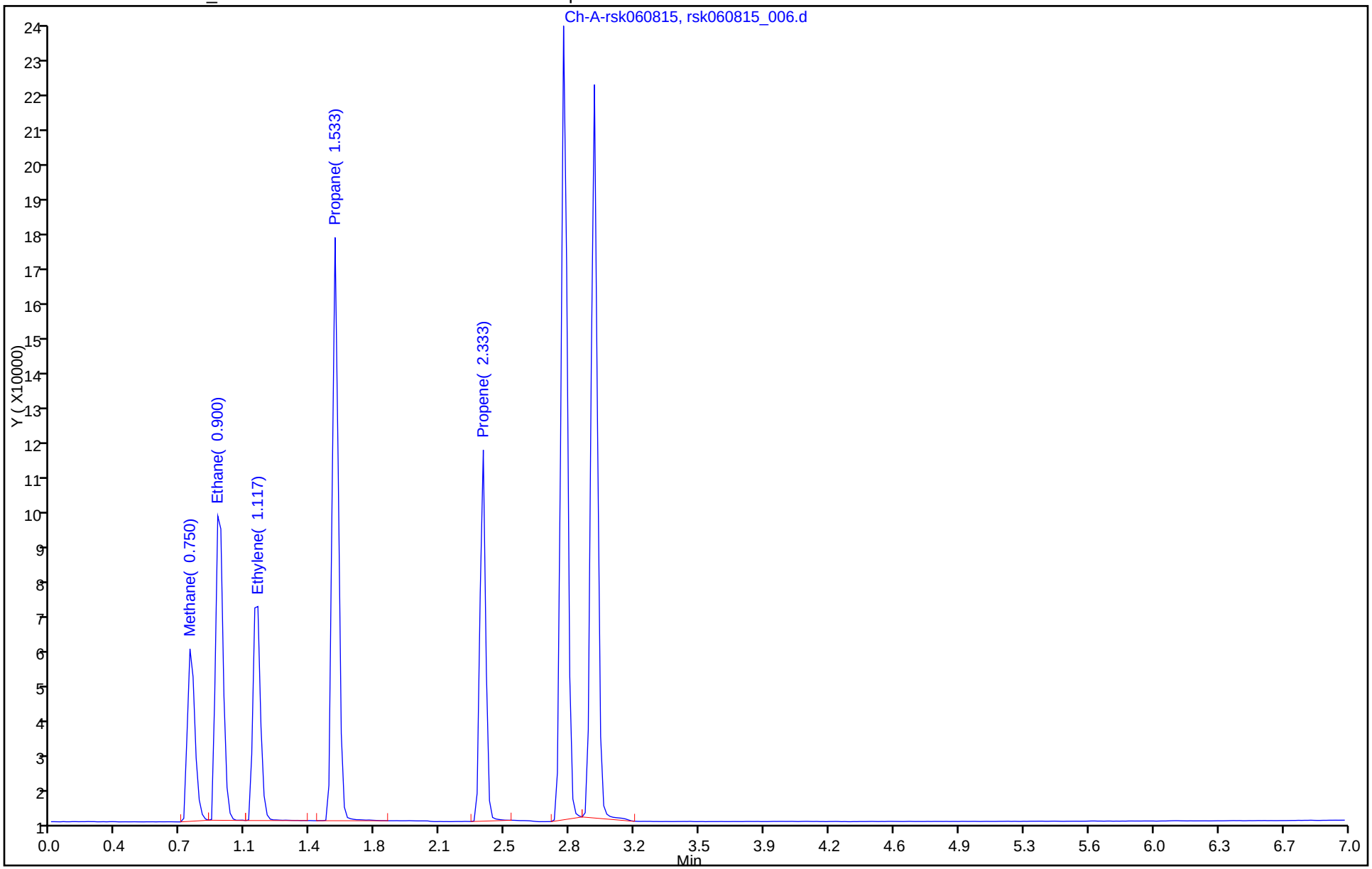
Reagents:

RSK-175 LCS_00017 Amount Added: 6.67 Units: mL

Report Date: 09-Jun-2015 08:49:39 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_006.d				
Injection Date:	08-Jun-2015 11:50:00	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_007.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	08-Jun-2015 12:01:45	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 002 Name: 600-0006703-007				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:40	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.767	0.750	0.017	226156	51.6	49.8	
2 Ethane	0.917	0.917	0.000	402269	97.0	94.8	
3 Ethylene	1.117	1.117	0.000	280268	90.5	89.8	
5 Propane	1.533	1.533	0.000	634043	141.8	140.5	
1 Propene	2.333	2.333	0.000	364884	135.8	135.7	

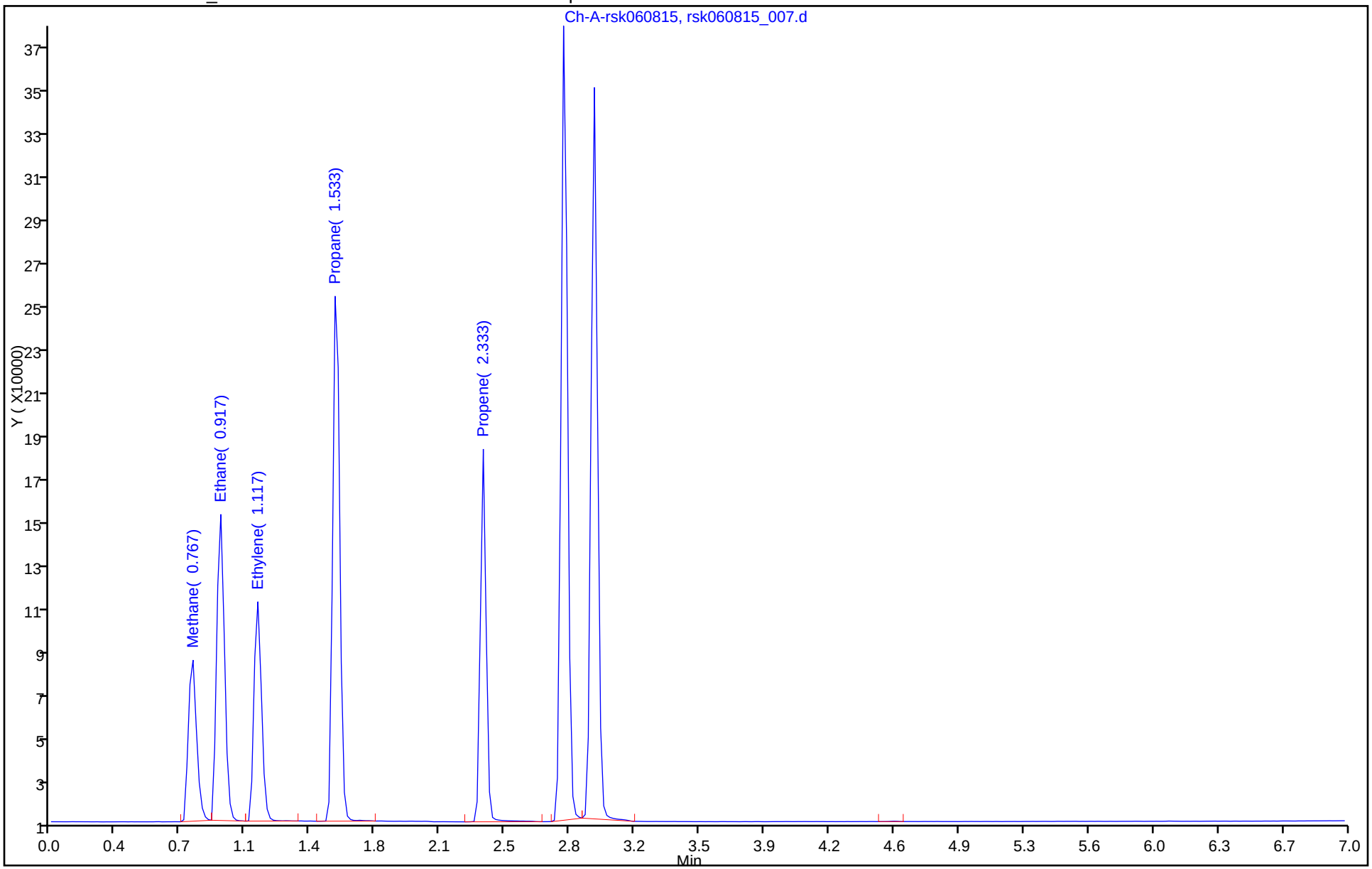
Reagents:

RSK-175 LCS_00017 Amount Added: 10.00 Units: mL

Report Date: 09-Jun-2015 08:49:40 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_007.d				
Injection Date:	08-Jun-2015 12:01:45	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	8		
Inject. Date:	08-Jun-2015 12:12:52	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 003 Name: 600-0006703-008				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:41	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

First Level Reviewer: saccoj Date: 08-Jun-2015 12:47:13

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	226803	68.8	49.9	
2 Ethane	0.900	0.917	-0.017	396667	129.3	93.5	
3 Ethylene	1.100	1.117	-0.017	276804	120.7	88.7	
5 Propane	1.533	1.533	0.000	624689	189.0	138.4	
1 Propene	2.333	2.333	0.000	354508	181.0	131.8	

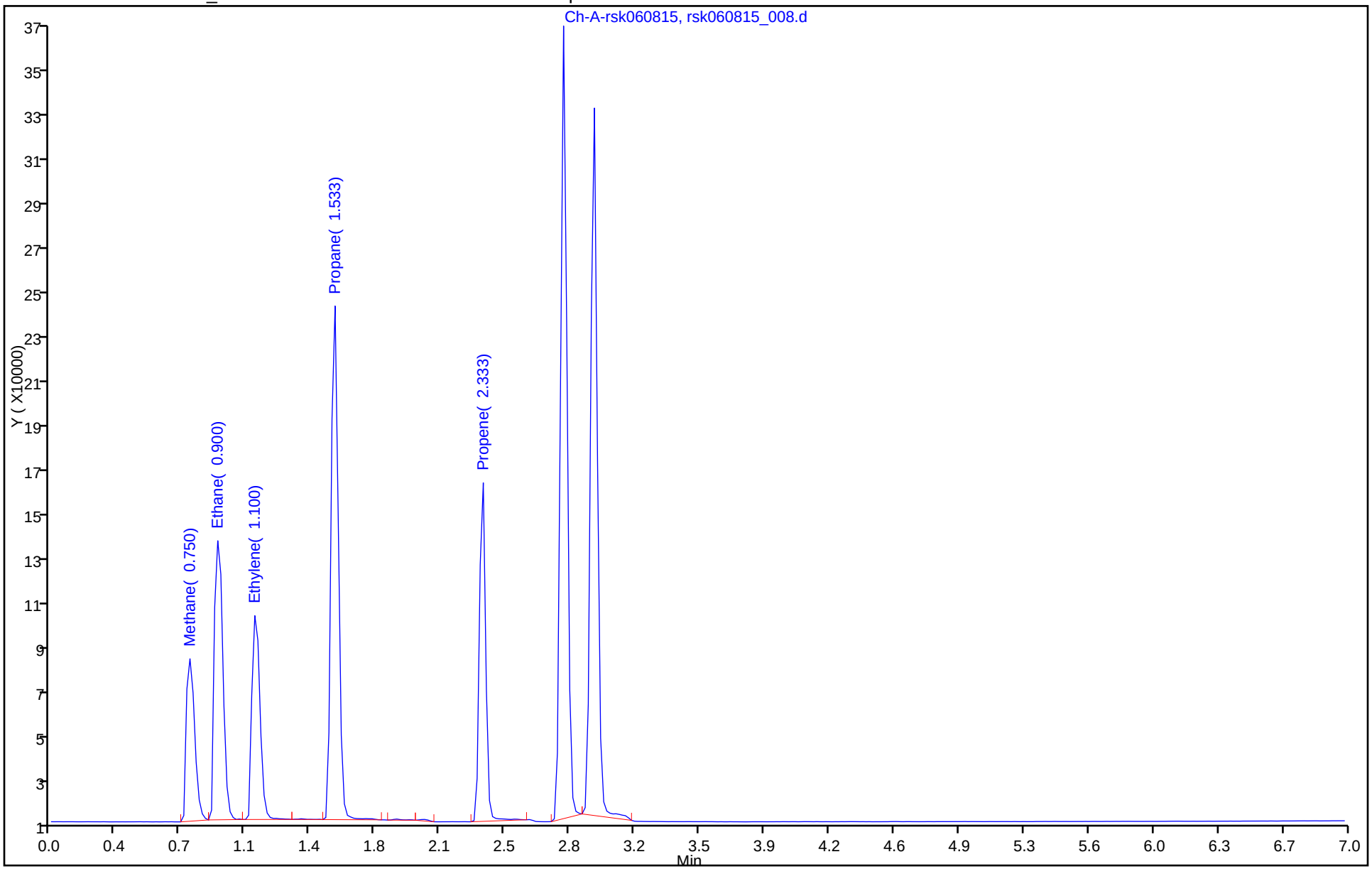
Reagents:

RSK-175 LCS_00017 Amount Added: 13.33 Units: mL

Report Date: 09-Jun-2015 08:49:41 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Injection Date:	08-Jun-2015 12:12:52	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Lab Sample ID: CCVRT 600-178145/1 Calibration Date: 12/10/2015 09:25

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk121015_001.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	5231		3.96	3.44	15.1	20.0
Ethane	Ave	4243	4040		6.16	6.47	-4.8	20.0
Ethylene	Ave	3120	3074		5.95	6.04	-1.5	20.0
Propane	Ave	4514	4141		8.68	9.46	-8.3	20.0
Propene	Ave	2689	2454		8.27	9.06	-8.7	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Lab Sample ID: CCVRT 600-178145/1 Calibration Date: 12/10/2015 09:25

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk121015_001.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.75	0.65	0.85
Ethane	0.90	0.80	1.00
Ethylene	1.12	1.02	1.22
Propane	1.53	1.43	1.63
Propene	2.35	2.25	2.45

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_001.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 10-Dec-2015 09:25:16 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009822-001
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 10-Dec-2015 16:32:10 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK015

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	18002	3.44	3.96	
2 Ethane	0.900	0.900	0.000	26138	6.47	6.16	
3 Ethylene	1.117	1.117	0.000	18556	6.04	5.95	
5 Propane	1.533	1.533	0.000	39163	9.46	8.68	
1 Propene	2.350	2.350	0.000	22228	9.06	8.27	

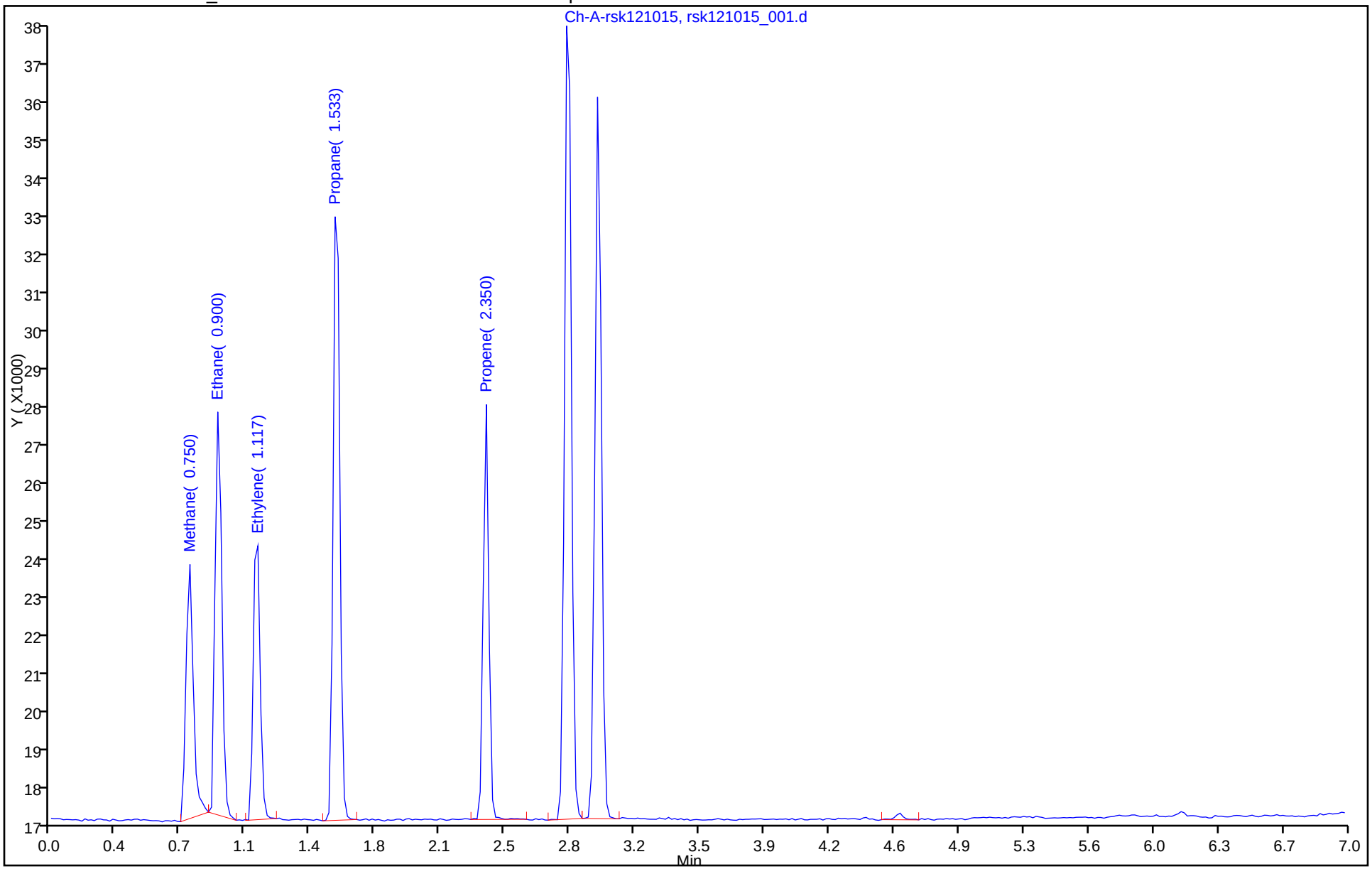
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 10-Dec-2015 16:32:10 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_001.d				
Injection Date:	10-Dec-2015 09:25:16	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Lab Sample ID: CCV 600-178145/12 Calibration Date: 12/10/2015 11:43

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk121015_012.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	5252		3.98	3.44	15.6	20.0
Ethane	Ave	4243	4185		6.38	6.47	-1.4	20.0
Ethylene	Ave	3120	3139		6.07	6.04	0.6	20.0
Propane	Ave	4514	4312		9.04	9.46	-4.5	20.0
Propene	Ave	2689	2455		8.27	9.06	-8.7	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Lab Sample ID: CCV 600-178145/12 Calibration Date: 12/10/2015 11:43

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk121015_012.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.33	2.23	2.43

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_012.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 10-Dec-2015 11:43:49 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 007 Name: 600-0009822-012
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 10-Dec-2015 16:32:27 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK015

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	18076	3.44	3.98	
2 Ethane	0.900	0.900	0.000	27076	6.47	6.38	
3 Ethylene	1.100	1.100	0.000	18947	6.04	6.07	
5 Propane	1.533	1.533	0.000	40779	9.46	9.03	
1 Propene	2.333	2.333	0.000	22235	9.06	8.27	

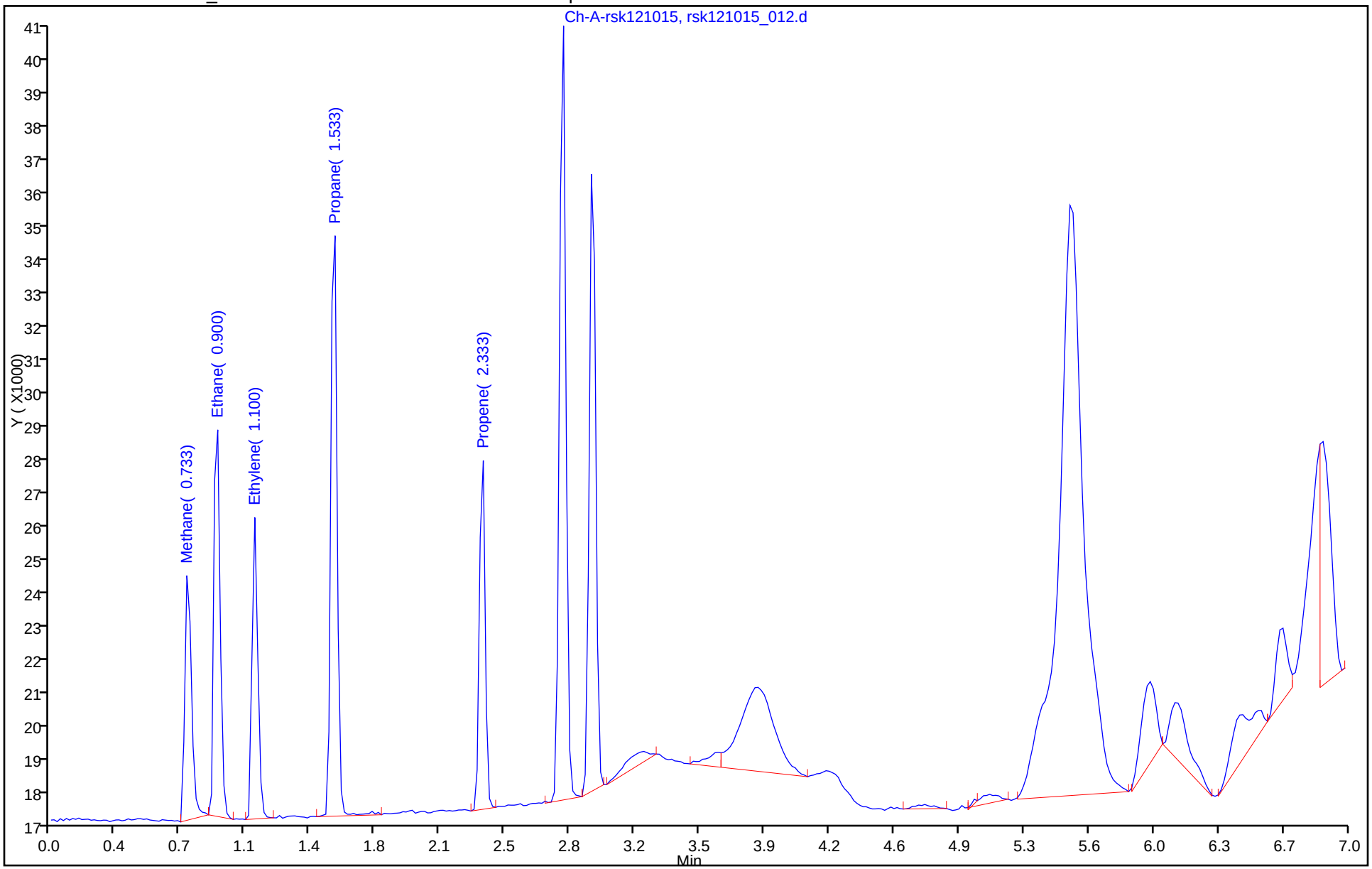
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 10-Dec-2015 16:32:28 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_012.d				
Injection Date:	10-Dec-2015 11:43:49	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Lab Sample ID: CCV 600-178145/24 Calibration Date: 12/10/2015 15:29

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk121015_024.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	5357		4.56	3.87	17.9	20.0
Ethane	Ave	4243	4156		7.13	7.28	-2.1	20.0
Ethylene	Ave	3120	3224		7.02	6.79	3.3	20.0
Propane	Ave	4514	4009		9.45	10.6	-11.2	20.0
Propene	Ave	2689	2353		8.91	10.2	-12.5	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Lab Sample ID: CCV 600-178145/24 Calibration Date: 12/10/2015 15:29

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk121015_024.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.75	0.65	0.85
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.52	1.42	1.62
Propene	2.32	2.22	2.42

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_024.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 10-Dec-2015 15:29:02 ALS Bottle#: 0 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 013 Name: 600-0009822-024
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 11-Dec-2015 14:56:14 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK012

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	20733	3.87	4.56	
2 Ethane	0.900	0.900	0.000	30235	7.28	7.13	
3 Ethylene	1.100	1.100	0.000	21886	6.79	7.01	
5 Propane	1.517	1.517	0.000	42639	10.6	9.45	
1 Propene	2.317	2.317	0.000	23967	10.2	8.91	

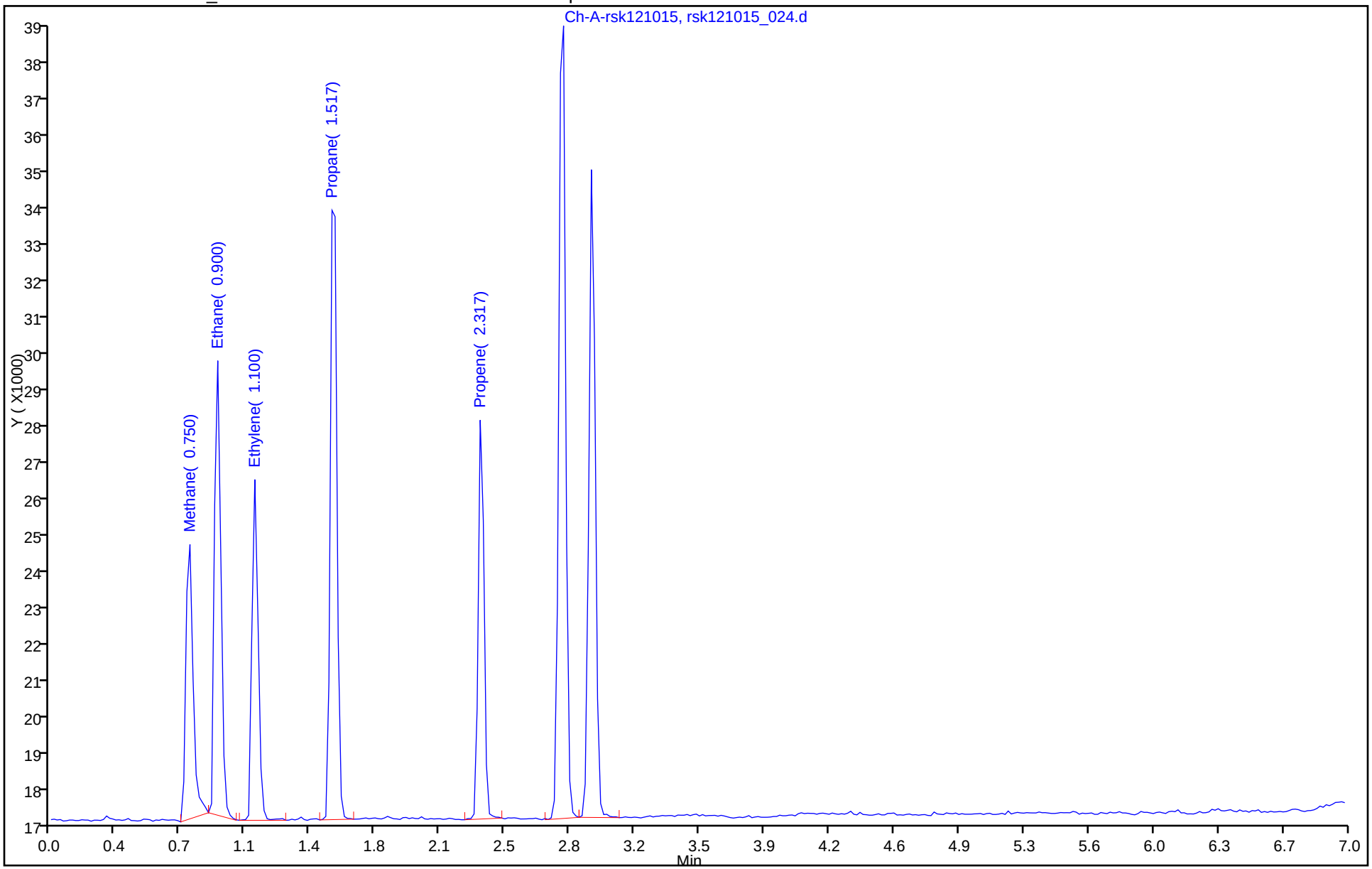
Reagents:

RSK-175 LCS_00017 Amount Added: 0.75 Units: mL

Report Date: 11-Dec-2015 14:56:15 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_024.d				
Injection Date:	10-Dec-2015 15:29:02	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	24
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Lab Sample ID: CCV 600-178145/33 Calibration Date: 12/10/2015 17:19

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk121015_033.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	5357		4.06	3.44	17.9	20.0
Ethane	Ave	4243	4049		6.17	6.47	-4.6	20.0
Ethylene	Ave	3120	3184		6.16	6.04	2.1	20.0
Propane	Ave	4514	3853		8.07	9.46	-14.6	20.0
Propene	Ave	2689	2314		7.79	9.06	-14.0	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Lab Sample ID: CCV 600-178145/33 Calibration Date: 12/10/2015 17:19

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk121015_033.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.33	2.23	2.43

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_033.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 10-Dec-2015 17:19:54 ALS Bottle#: 0 Worklist Smp#: 33
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009822-033
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 11-Dec-2015 08:21:41 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	18439	3.44	4.06	
2 Ethane	0.900	0.900	0.000	26199	6.47	6.17	
3 Ethylene	1.100	1.100	0.000	19220	6.04	6.16	
5 Propane	1.533	1.533	0.000	36444	9.46	8.07	
1 Propene	2.333	2.333	0.000	20960	9.06	7.79	

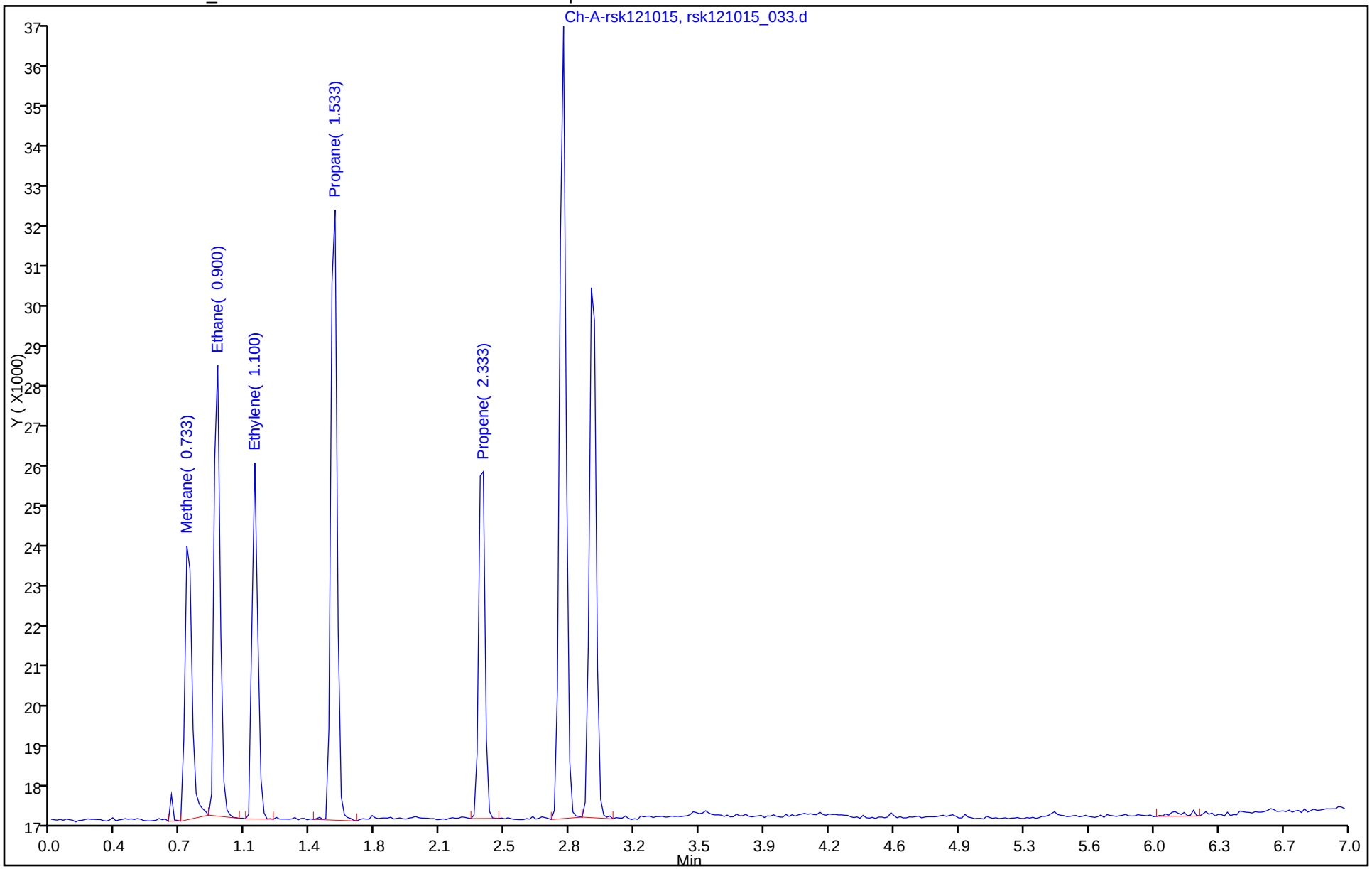
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 11-Dec-2015 08:21:44 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_033.d				
Injection Date:	10-Dec-2015 17:19:54	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	33
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122428-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-178145/2
Matrix: Water
Lab File ID: rsk121015_002.d
Analysis Method: RSK-175
Date Collected:
Sample wt/vol: 1(mL)
Date Analyzed: 12/10/2015 09:37
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 178145
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.000357	U	0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

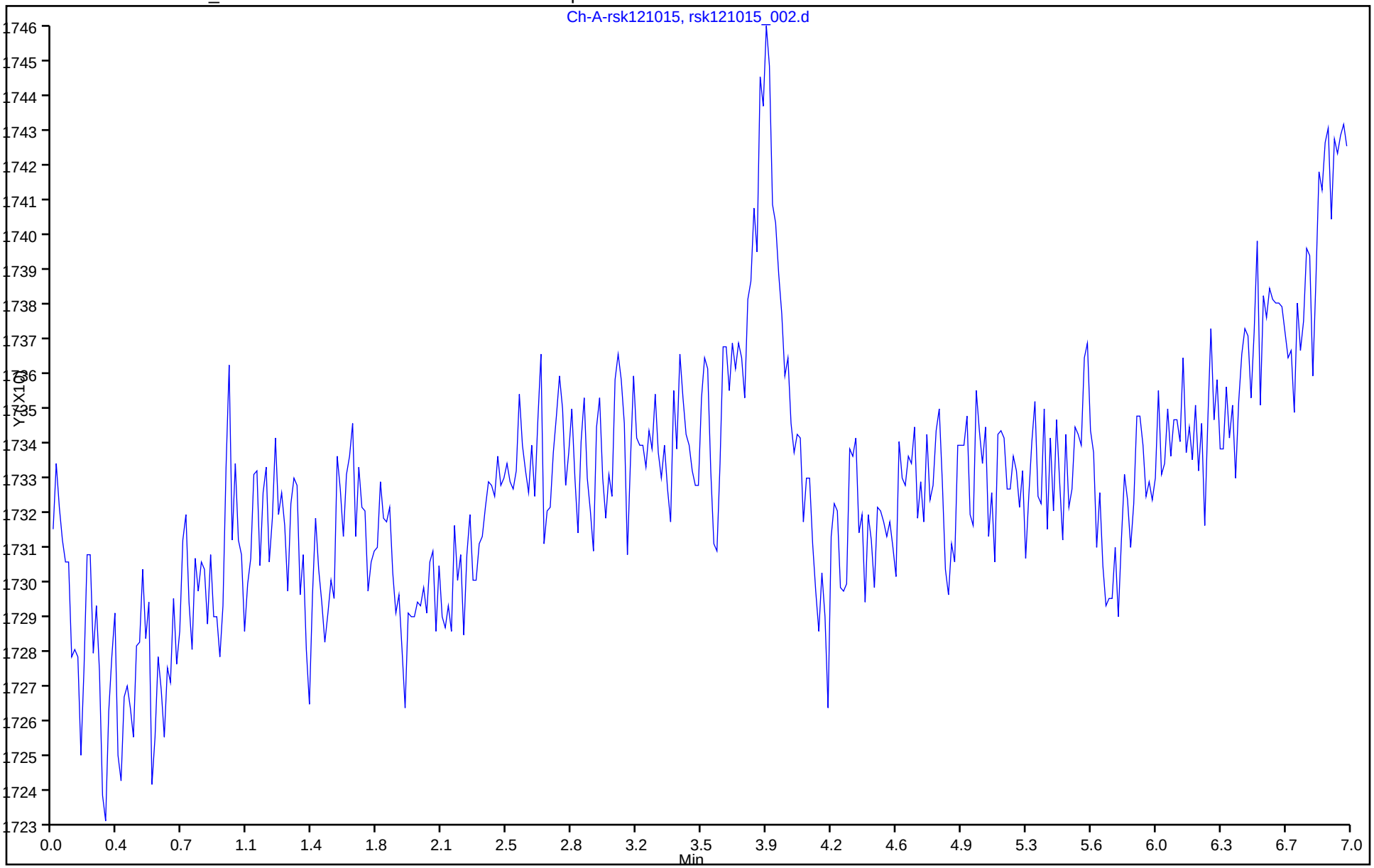
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_002.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	10-Dec-2015 09:37:39	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0009822-002				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	10-Dec-2015 16:32:10	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK015				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 10-Dec-2015 16:32:11 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_002.d				
Injection Date:	10-Dec-2015 09:37:39	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	MB			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122428-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-178145/3
Matrix: Water
Lab File ID: rsk121015_003.d
Analysis Method: RSK-175
Date Collected:
Sample wt/vol: 1(mL)
Date Analyzed: 12/10/2015 09:49
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 178145
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.006247		0.00200	0.000303
74-82-8	Methane	0.004036		0.00100	0.000357
74-85-1	Ethylene	0.005992		0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_003.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 10-Dec-2015 09:49:02 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009822-003
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 10-Dec-2015 16:32:10 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK015

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	18338	3.44	4.04	
2 Ethane	0.900	0.900	0.000	26508	6.47	6.25	
3 Ethylene	1.100	1.117	-0.017	18696	6.04	5.99	
5 Propane	1.533	1.533	0.000	38749	9.46	8.58	
1 Propene	2.350	2.350	0.000	22043	9.06	8.20	

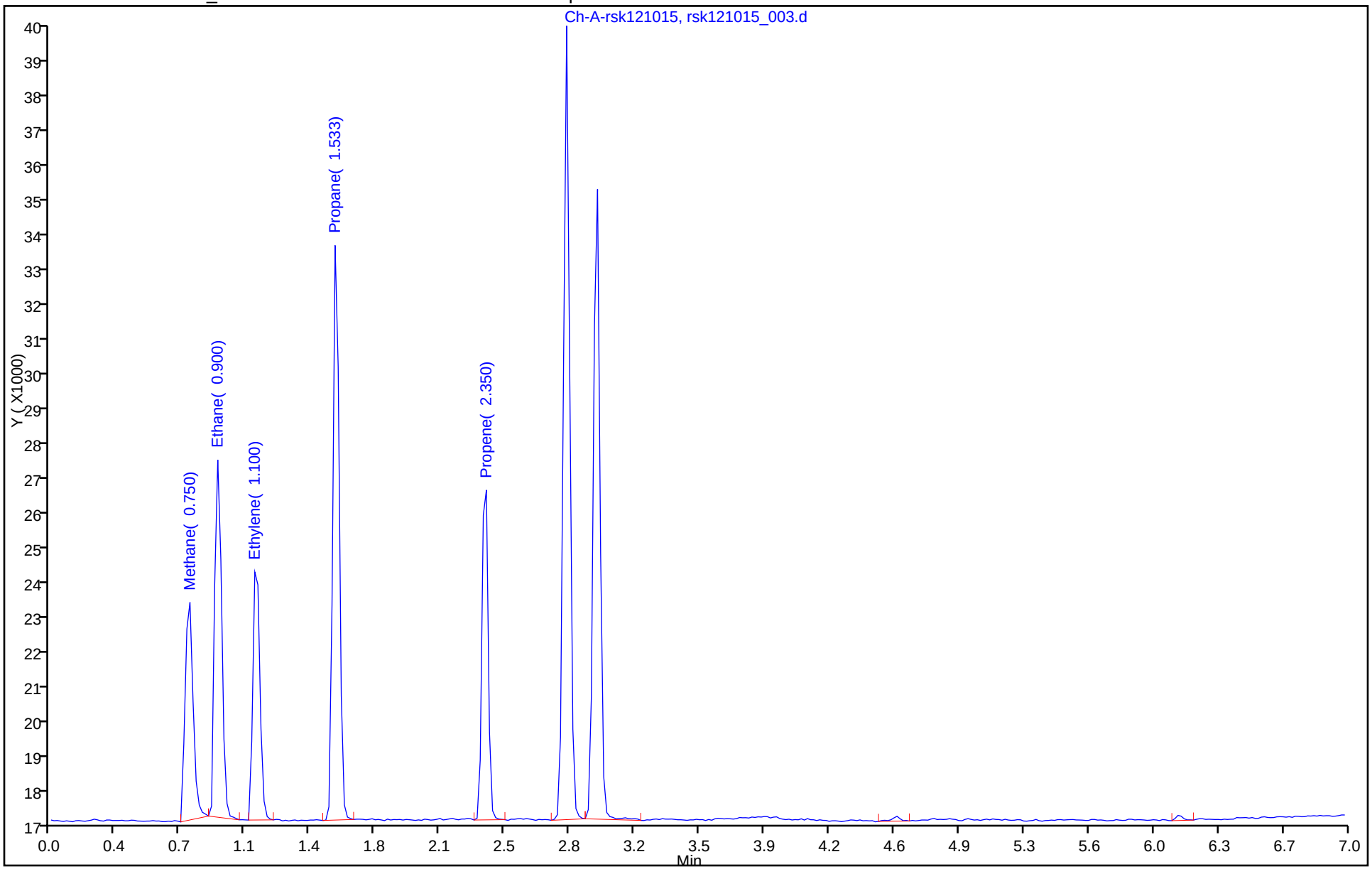
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 10-Dec-2015 16:32:13 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_003.d				
Injection Date:	10-Dec-2015 09:49:02	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	LCS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122428-1
SDG No.:
Client Sample ID:
Lab Sample ID: 600-122753-I-2 MS
Matrix: Water
Lab File ID: rsk121015_019.d
Analysis Method: RSK-175
Date Collected: 12/07/2015 11:45
Sample wt/vol: 1(mL)
Date Analyzed: 12/10/2015 14:14
Soil Aliquot Vol:
Dilution Factor: 500
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 178145
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.152	U	1.00	0.152
74-82-8	Methane	2.983		0.500	0.179
74-85-1	Ethylene	0.162	U	1.00	0.162

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_019.d
Lims ID: 600-122753-I-2 MS
Client ID: MW-01
Sample Type: MS
Inject. Date: 10-Dec-2015 14:14:20 ALS Bottle#: 0 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 500.0000
Sample Info: Name: 600-0009822-019
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 10-Dec-2015 16:32:27 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK015

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	27105	0.006883	5.97	

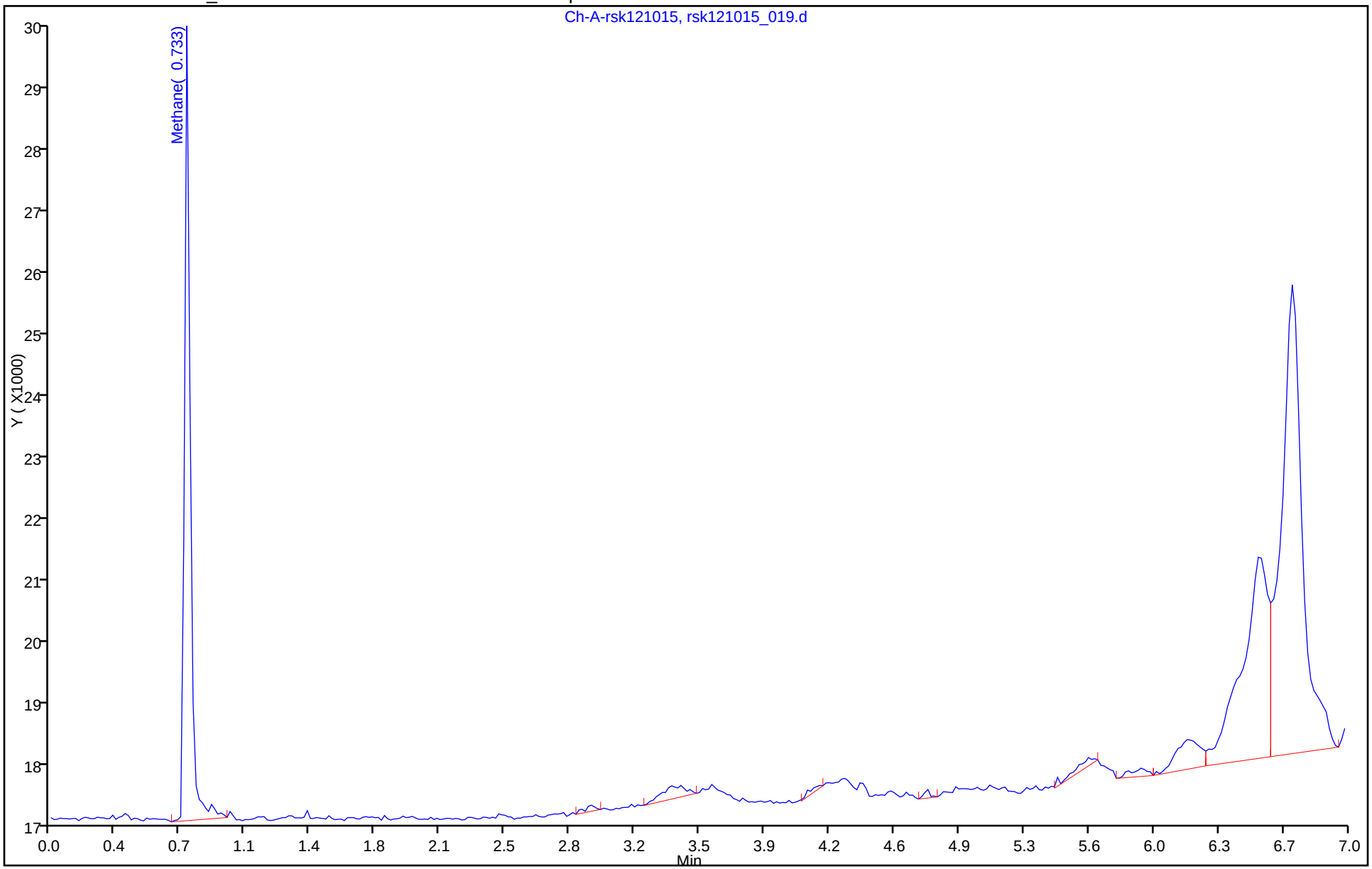
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 10-Dec-2015 16:32:40 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_019.d				
Injection Date:	10-Dec-2015 14:14:20	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122753-I-2 MS			Worklist Smp#:	19
Client ID:	MW-01				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122428-1
SDG No.:
Client Sample ID:
Lab Sample ID: 600-122753-I-2 MSD
Matrix: Water
Lab File ID: rsk121015_020.d
Analysis Method: RSK-175
Date Collected: 12/07/2015 11:45
Sample wt/vol: 1(mL)
Date Analyzed: 12/10/2015 14:25
Soil Aliquot Vol:
Dilution Factor: 500
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 178145
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.152	U	1.00	0.152
74-82-8	Methane	4.615		0.500	0.179
74-85-1	Ethylene	0.162	U	1.00	0.162

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_020.d
Lims ID: 600-122753-I-2 MSD
Client ID: MW-01
Sample Type: MSD
Inject. Date: 10-Dec-2015 14:25:44 ALS Bottle#: 0 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 500.0000
Sample Info: Name: 600-0009822-020
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 10-Dec-2015 16:32:27 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK015

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	41936	0.006883	9.23	

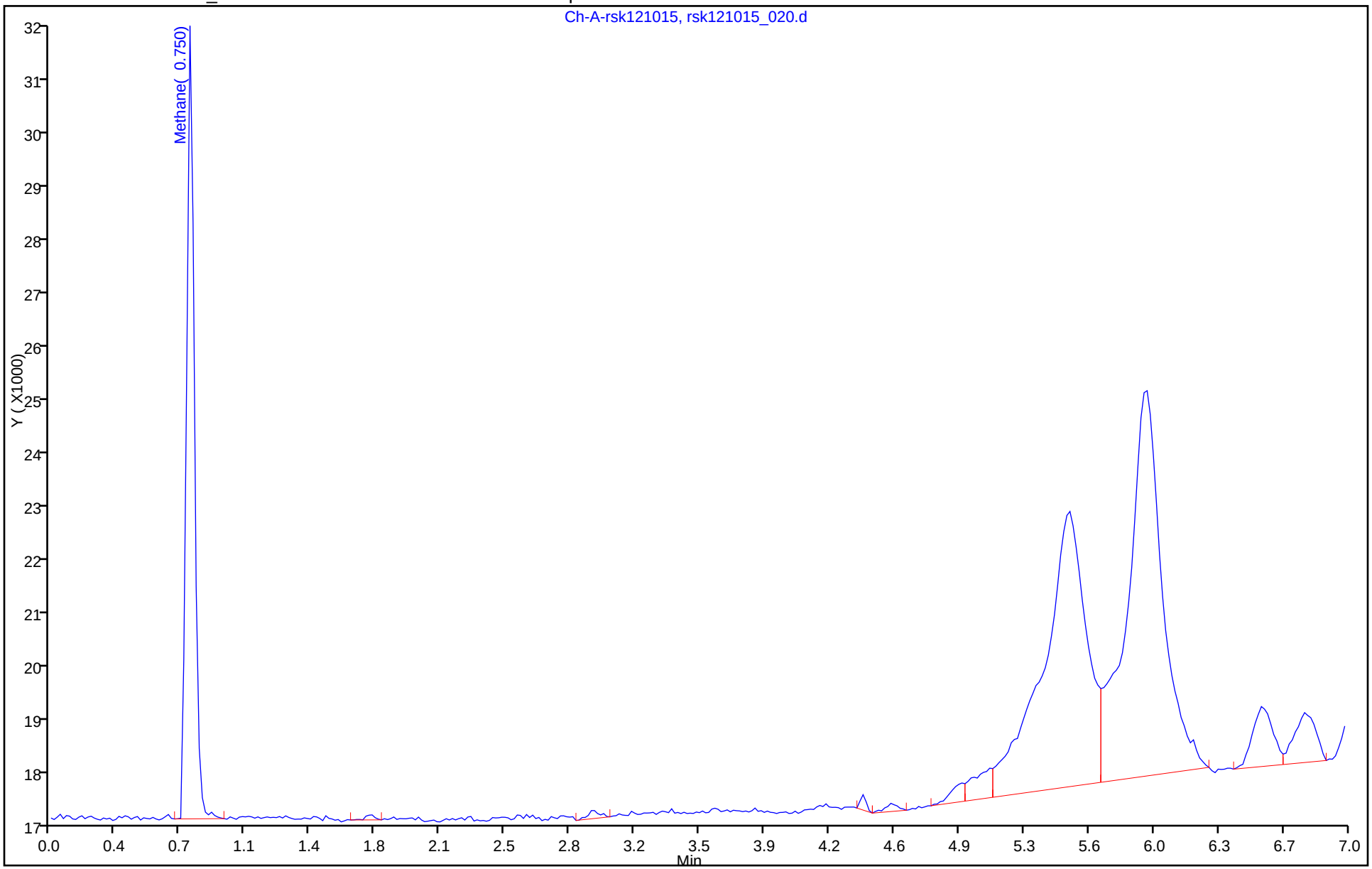
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 10-Dec-2015 16:32:40 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151210-9822.b\rsk121015_020.d				
Injection Date:	10-Dec-2015 14:25:44	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122753-I-2 MSD			Worklist Smp#:	20
Client ID:	MW-01				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Instrument ID: CHFID14 Start Date: 06/08/2015 10:52

Analysis Batch Number: 164074 End Date: 06/08/2015 18:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-164074/1		06/08/2015 10:52	1	rsk060815_001.d	RTX-5 0.53(mm)
IC 600-164074/2		06/08/2015 11:03	1	rsk060815_002.d	RTX-5 0.53(mm)
IC 600-164074/3		06/08/2015 11:15	1	rsk060815_003.d	RTX-5 0.53(mm)
ICRT 600-164074/4		06/08/2015 11:26	1	rsk060815_004.d	RTX-5 0.53(mm)
IC 600-164074/5		06/08/2015 11:38	1	rsk060815_005.d	RTX-5 0.53(mm)
IC 600-164074/6		06/08/2015 11:50	1	rsk060815_006.d	RTX-5 0.53(mm)
IC 600-164074/7		06/08/2015 12:01	1	rsk060815_007.d	RTX-5 0.53(mm)
IC 600-164074/8		06/08/2015 12:12	1	rsk060815_008.d	RTX-5 0.53(mm)
ZZZZZ		06/08/2015 12:57	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:22	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:36	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:47	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:02	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:18	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:41	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 15:56	100		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 16:50	100		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 17:27	100		RTX-5 0.53(mm)
CCV 600-164074/20		06/08/2015 17:38	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 17:51	1000		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 18:03	1000		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 18:17	1000		RTX-5 0.53(mm)
CCV 600-164074/24		06/08/2015 18:28	1		RTX-5 0.53(mm)

RSK-175

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Instrument ID: CHFID14 Start Date: 12/10/2015 09:25

Analysis Batch Number: 178145 End Date: 12/10/2015 17:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 600-178145/1		12/10/2015 09:25	1	rsk121015_001.d	RTX-5 0.53(mm)
MB 600-178145/2		12/10/2015 09:37	1	rsk121015_002.d	RTX-5 0.53(mm)
LCS 600-178145/3		12/10/2015 09:49	1	rsk121015_003.d	RTX-5 0.53(mm)
ZZZZZ		12/10/2015 10:03	1		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 10:15	1		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 10:27	1		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 10:38	1		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 10:51	1		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 11:05	1		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 11:16	1		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 11:32	1		RTX-5 0.53(mm)
CCV 600-178145/12		12/10/2015 11:43	1	rsk121015_012.d	RTX-5 0.53(mm)
ZZZZZ		12/10/2015 11:58	1		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 12:14	1		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 12:34	1		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 12:55	1		RTX-5 0.53(mm)
600-122428-1	MW-22	12/10/2015 13:25	1	rsk121015_017.d	RTX-5 0.53(mm)
ZZZZZ		12/10/2015 14:03	500		RTX-5 0.53(mm)
600-122753-I-2 MS		12/10/2015 14:14	500	rsk121015_019.d	RTX-5 0.53(mm)
600-122753-I-2 MSD		12/10/2015 14:25	500	rsk121015_020.d	RTX-5 0.53(mm)
ZZZZZ		12/10/2015 14:37	200		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 14:49	500		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 15:00	1000		RTX-5 0.53(mm)
CCV 600-178145/24		12/10/2015 15:29	1	rsk121015_024.d	RTX-5 0.53(mm)
ZZZZZ		12/10/2015 15:43	1000		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 15:58	1000		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 16:10	500		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 16:22	1000		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 16:33	200		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 16:45	500		RTX-5 0.53(mm)
ZZZZZ		12/10/2015 16:56	200		RTX-5 0.53(mm)
600-122428-1	MW-22	12/10/2015 17:08	200	rsk121015_032.d	RTX-5 0.53(mm)
CCV 600-178145/33		12/10/2015 17:19	1	rsk121015_033.d	RTX-5 0.53(mm)

RSK-175

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122428-1

SDG No.:

Project: Jones Road Groundwater Plume

Client Sample ID	Lab Sample ID
MW-22	600-122428-1

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-22
Lab Sample ID: 600-122428-1
Lab Name: TestAmerica Houston
Job No.: 600-122428-1
SDG ID.:
Matrix: Water
Date Sampled: 11/30/2015 13:58
Reporting Basis: WET
Date Received: 12/01/2015 13:03

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	1.15	0.0500	0.0170	mg/L		F1	1	353.2
14265-44-2	Orthophosphate	0.300	1.25	0.259	mg/L	J		25	4500 P E-1999
7440-44-0	Total Organic Carbon	2.35	1.00	0.437	mg/L			1	5310 D-2000

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Analyst: SC1 Batch Start Date: 12/03/2015

Reporting Units: mg/L Analytical Batch No.: 177670

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
9	ICV	08:07	Ammonia	5.237	5.00	105	90-110		WETSNH3ICV_00020
10	ICB	08:08	Ammonia	0.0675				U	
21	CCV	08:21	Ammonia	5.214	5.00	104	90-110		WETSNH3CAL_00012
22	CCB	08:22	Ammonia	0.0675				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Analyst: KRD Batch Start Date: 12/14/2015

Reporting Units: mg/L Analytical Batch No.: 178421

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	15:22	Nitrate Nitrite as N	0.9989	1.00	100	90-110		NO3NO2ICV/LCS_0003 8
8	ICB	15:22	Nitrate Nitrite as N	0.0170				U	
20	CCV	15:32	Nitrate Nitrite as N	1.024	1.00	102	90-110		NO3NO2CRVE1.0_0004 5
21	CCB	15:33	Nitrate Nitrite as N	0.0170				U	
32	CCV	15:41	Nitrate Nitrite as N	1.016	1.00	102	90-110		NO3NO2CRVE1.0_0004 5
33	CCB	15:42	Nitrate Nitrite as N	0.0170				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Analyst: KRD Batch Start Date: 12/02/2015

Reporting Units: mg/L Analytical Batch No.: 177771

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	13:00	Orthophosphate	0.5300	0.500	106	90-110		WETSPHOSIS_00020
2	ICB	13:00	Orthophosphate	0.0104				U	
13	CCV	13:00	Orthophosphate	0.5300	0.500	106	90-110		WETSPHOSCS_00022
14	CCB	13:00	Orthophosphate	0.0104				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Analyst: EC1 Batch Start Date: 12/09/2015

Reporting Units: mg/L Analytical Batch No.: 178131

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	16:34	Total Organic Carbon	9.456	10.0	95	85-115		TOCISCAL_00300
8	ICB	16:44	Total Organic Carbon	0.437				U	
31	CCV	20:45	Total Organic Carbon	9.746	10.0	97	85-115		TOCSLCS_00209
32	CCB	20:56	Total Organic Carbon	0.437				U	
43	CCV	22:51	Total Organic Carbon	9.642	10.0	96	85-115		TOCSLCS_00209
44	CCB	23:01	Total Organic Carbon	0.437				U	
55	CCV	00:56	Total Organic Carbon	9.726	10.0	97	85-115		TOCSLCS_00209
56	CCB	01:06	Total Organic Carbon	0.437				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 177670 Date: 12/03/2015 08:09 Prep Batch: 177647 Date: 12/03/2015 05:01							
350.1	MB 600-177647/1-A	Ammonia	0.0675	U	mg/L	0.200	1
Batch ID: 178421 Date: 12/14/2015 15:24							
353.2	MB 600-178421/10	Nitrate Nitrite as N	0.0170	U	mg/L	0.0500	1
Batch ID: 177771 Date: 12/02/2015 13:00							
4500 P E-1999	MB 600-177771/3	Orthophosphate	0.0104	U	mg/L	0.0500	1
Batch ID: 178131 Date: 12/09/2015 22:09							
5310 D-2000	MB 600-178131/39	Total Organic Carbon	0.437	U	mg/L	1.00	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 177670	Date: 12/03/2015 08:13		Prep Batch: 177647			Date: 12/03/2015 05:01					
350.1	600-122463-B-1-B	Ammonia	0.888		mg/L						
350.1	600-122463-B-1-B MS	Ammonia	6.136		mg/L	5.00	105	90-110			
Batch ID: 178421	Date: 12/14/2015 15:38										
353.2	600-122428-1	Nitrate Nitrite as N	1.15		mg/L						F1
353.2	600-122428-1 MS	Nitrate Nitrite as N	1.653		mg/L	1.00	50	80-120			F1
Batch ID: 177771	Date: 12/02/2015 13:00										
4500 P E-1999	600-122364-B-1	Orthophosphate	7.98		mg/L						
4500 P E-1999	600-122364-B-1 MS	Orthophosphate	21.15		mg/L	12.5	105	75-125			
Batch ID: 178131	Date: 12/09/2015 22:40										
5310 D-2000	600-122468-A-2	Total Organic Carbon	7.23		mg/L						
5310 D-2000	600-122468-A-2 MS	Total Organic Carbon	17.61		mg/L	10.0	104	80-120			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 177670	Date: 12/03/2015 08:14		Prep Batch: 177647			Date: 12/03/2015 05:01					
350.1	600-122463-B-1-C MSD	Ammonia	6.176		mg/L	5.00	106	90-110	1	20	
Batch ID: 178421	Date: 12/14/2015 15:39										
353.2	600-122428-1 MSD	Nitrate Nitrite as N	1.757		mg/L	1.00	61	80-120	6	20	F1
Batch ID: 177771	Date: 12/02/2015 13:00										
4500 P E-1999	600-122364-B-1 MSD	Orthophosphate	21.38		mg/L	12.5	107	75-125	1	20	
Batch ID: 178131	Date: 12/09/2015 23:12										
5310 D-2000	600-122468-A-2 MSD	Total Organic Carbon	17.80		mg/L	10.0	106	80-120	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 177670	Date: 12/03/2015 08:10		Prep Batch: 177647			Date: 12/03/2015 05:01					
						LCS Source: WETSNH3ICV_00020					
350.1	LCS 600-177647/2-A	Ammonia	5.023		mg/L	5.00	100	90-110			
Batch ID: 178421	Date: 12/14/2015 15:25										
						LCS Source: NO3NO2ICV/LCS_00038					
353.2	LCS 600-178421/11	Nitrate Nitrite as N	1.012		mg/L	1.00	101	90-110			
Batch ID: 177771	Date: 12/02/2015 13:00										
						LCS Source: WETSPHOSIS_00020					
4500 P E-1999	LCS 600-177771/4	Orthophosphate	0.5260		mg/L	0.500	105	90-110			
Batch ID: 178131	Date: 12/09/2015 22:19										
						LCS Source: TOCISCAL_00300					
5310 D-2000	LCS 600-178131/40	Total Organic Carbon	9.582		mg/L	10.0	96	85-115			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122428-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 MDL Date: 04/30/2014 10:41

Prep Method: 350.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ammonia		0.2	0.067487

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122428-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 XMDL Date: 04/30/2014 10:42

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ammonia		0.2	0.067487

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122428-1

SDG Number:

Matrix: Water Instrument ID: WC05

Method: 353.2 MDL Date: 07/09/2012 10:23

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Nitrate Nitrite as N		0.05	0.017

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122428-1

SDG Number:

Matrix: Water Instrument ID: WC05

Method: 353.2 XMDL Date: 05/05/2014 08:21

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate Nitrite as N		0.05	0.017

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122428-1

SDG Number:

Matrix: Water Instrument ID: WC10

Method: 4500 P E-1999 MDL Date: 05/05/2014 08:22

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Orthophosphate		0.05	0.010379

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122428-1

SDG Number:

Matrix: Water Instrument ID: WC10

Method: 4500 P E-1999 XMDL Date: 05/05/2014 08:22

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Orthophosphate		0.05	0.010379

FORM IX - IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122428-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 5310 D-2000 MDL Date: 07/10/2012 14:07

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Organic Carbon		1	0.437

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122428-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 5310 D-2000 XMDL Date: 07/10/2012 14:07

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Organic Carbon		1	0.437

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Prep Method: 350.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-177647/1-A	12/03/2015 05:01	177647		100	100
LCS 600-177647/2-A	12/03/2015 05:01	177647		100	100
600-122463-B-1-B MS	12/03/2015 05:01	177647		100	100
600-122463-B-1-C MSD	12/03/2015 05:01	177647		100	100
600-122428-1	12/03/2015 05:01	177647		100	100

FORM XII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Instrument ID: WC07 Method: 350.1

Start Date: 12/03/2015 07:58 End Date: 12/03/2015 08:58

Lab Sample ID	D/F	Type	Time	Analytes																			
				NH3																			
ZZZZZZ			07:58																				
ZZZZZZ			07:59																				
ZZZZZZ			08:00																				
ZZZZZZ			08:01																				
ZZZZZZ			08:02																				
ZZZZZZ			08:04																				
ZZZZZZ			08:05																				
ZZZZZZ			08:06																				
ICV 600-177670/9	1		08:07	X																			
ICB 600-177670/10	1		08:08	X																			
MB 600-177647/1-A	1	T	08:09	X																			
LCS 600-177647/2-A	1	T	08:10	X																			
ZZZZZZ			08:12																				
600-122463-B-1-B MS	1	T	08:13	X																			
600-122463-B-1-C MSD	1	T	08:14	X																			
ZZZZZZ			08:15																				
600-122428-1	1	T	08:16	X																			
ZZZZZZ			08:17																				
ZZZZZZ			08:18																				
ZZZZZZ			08:19																				
CCV 600-177670/21	1		08:21	X																			
CCB 600-177670/22	1		08:22	X																			
ZZZZZZ			08:23																				
ZZZZZZ			08:24																				
ZZZZZZ			08:25																				
ZZZZZZ			08:26																				
ZZZZZZ			08:27																				
ZZZZZZ			08:29																				
ZZZZZZ			08:30																				
ZZZZZZ			08:31																				
ZZZZZZ			08:32																				
ZZZZZZ			08:33																				
CCV 600-177670/33			08:34																				
CCB 600-177670/34			08:35																				
ZZZZZZ			08:36																				
ZZZZZZ			08:38																				
ZZZZZZ			08:39																				
ZZZZZZ			08:40																				
ZZZZZZ			08:41																				
ZZZZZZ			08:42																				
ZZZZZZ			08:43																				
ZZZZZZ			08:44																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Instrument ID: WC07 Method: 350.1

Start Date: 12/03/2015 07:58 End Date: 12/03/2015 08:58

Lab Sample ID	D/F	Type	Time	Analytes																			
				NH3																			
ZZZZZZ			08:45																				
ZZZZZZ			08:47																				
CCV 600-177670/45			08:48																				
CCB 600-177670/46			08:49																				
ZZZZZZ			08:50																				
ZZZZZZ			08:51																				
ZZZZZZ			08:52																				
ZZZZZZ			08:53																				
ZZZZZZ			08:54																				
ZZZZZZ			08:56																				
CCV 600-177670/53			08:57																				
CCB 600-177670/54			08:58																				

Prep Types

T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Lab Sample ID	D/F	Type	Time	Analytes																			
				NNO32																			
ZZZZZZ			15:17																				
STD 600-178421/2 IC			15:18	X																			
STD 600-178421/3 IC			15:18	X																			
STD 600-178421/4 IC			15:19	X																			
STD 600-178421/5 IC			15:20	X																			
STD 600-178421/6 IC			15:21	X																			
ICV 600-178421/7	1		15:22	X																			
ICB 600-178421/8	1		15:22	X																			
ZZZZZZ			15:23																				
MB 600-178421/10	1	T	15:24	X																			
LCS 600-178421/11	1	T	15:25	X																			
ZZZZZZ			15:26																				
ZZZZZZ			15:26																				
ZZZZZZ			15:27																				
ZZZZZZ			15:28																				
ZZZZZZ			15:29																				
ZZZZZZ			15:30																				
ZZZZZZ			15:30																				
ZZZZZZ			15:31																				
CCV 600-178421/20	1		15:32	X																			
CCB 600-178421/21	1		15:33	X																			
ZZZZZZ			15:33																				
ZZZZZZ			15:34																				
ZZZZZZ			15:35																				
ZZZZZZ			15:36																				
ZZZZZZ			15:37																				
600-122428-1	1	T	15:37	X																			
600-122428-1 MS	1	T	15:38	X																			
600-122428-1 MSD	1	T	15:39	X																			
ZZZZZZ			15:40																				
ZZZZZZ			15:41																				
CCV 600-178421/32	1		15:41	X																			
CCB 600-178421/33	1		15:42	X																			
ZZZZZZ			15:43																				
ZZZZZZ			15:44																				
ZZZZZZ			15:44																				
ZZZZZZ			15:45																				
ZZZZZZ			15:46																				
ZZZZZZ			15:47																				
ZZZZZZ			15:48																				
ZZZZZZ			15:48																				
ZZZZZZ			15:49																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Lab Sample ID	D/F	Type	Time	Analytes																			
				NNO32																			
ZZZZZZ			15:50																				
CCV 600-178421/44			15:51																				
CCB 600-178421/45			15:52																				
ZZZZZZ			15:52																				
ZZZZZZ			15:53																				
ZZZZZZ			15:54																				
ZZZZZZ			15:55																				
ZZZZZZ			15:56																				
ZZZZZZ			15:56																				
ZZZZZZ			15:57																				
ZZZZZZ			15:58																				
ZZZZZZ			15:59																				
ZZZZZZ			15:59																				
ZZZZZZ			16:00																				
ZZZZZZ			16:01																				
CCV 600-178421/58			16:02																				
CCB 600-178421/59			16:03																				
ZZZZZZ			16:03																				
ZZZZZZ			16:04																				
ZZZZZZ			16:05																				
ZZZZZZ			16:06																				
ZZZZZZ			16:07																				
ZZZZZZ			16:07																				
ZZZZZZ			16:08																				
ZZZZZZ			16:09																				
ZZZZZZ			16:10																				
ZZZZZZ			16:10																				
CCV 600-178421/70			16:11																				
CCB 600-178421/71			16:12																				
ZZZZZZ			16:13																				
ZZZZZZ			16:14																				
ZZZZZZ			16:14																				
ZZZZZZ			16:15																				
ZZZZZZ			16:16																				
ZZZZZZ			16:17																				
ZZZZZZ			16:18																				
ZZZZZZ			16:18																				
ZZZZZZ			16:19																				
CCV 600-178421/81			16:20																				
CCB 600-178421/82			16:21																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Prep Types
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Instrument ID: WC10 Method: 4500 P E-1999

Start Date: 12/02/2015 13:00 End Date: 12/04/2015 10:17

Lab Sample ID	D/F	Type	Time	Analytes																			
				PO4																			
ICV 600-177771/1	1		13:00	X																			
ICB 600-177771/2	1		13:00	X																			
MB 600-177771/3	1	T	13:00	X																			
LCS 600-177771/4	1	T	13:00	X																			
ZZZZZZ			13:00																				
600-122364-B-1 MS	25	T	13:00	X																			
600-122364-B-1 MSD	25	T	13:00	X																			
ZZZZZZ			13:00																				
600-122428-1	25	T	13:00	X																			
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
CCV 600-177771/13	1		13:00	X																			
CCB 600-177771/14	1		13:00	X																			
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
CCV 600-177771/21			10:17																				
CCB 600-177771/22			10:17																				

Prep Types
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Instrument ID: WC01 Method: 5310 D-2000

Start Date: 12/09/2015 15:31 End Date: 12/10/2015 03:53

Lab Sample ID	D/F	Type	Time	Analytes																			
				TOC																			
RINSE 600-178131/1			15:31																				
RINSE 600-178131/2			15:41																				
ZZZZZZ			15:52																				
ZZZZZZ			16:02																				
ZZZZZZ			16:13																				
ZZZZZZ			16:23																				
ICV 600-178131/7	1		16:34	X																			
ICB 600-178131/8	1		16:44	X																			
ZZZZZZ			16:55																				
ZZZZZZ			17:05																				
ZZZZZZ			17:16																				
ZZZZZZ			17:26																				
ZZZZZZ			17:37																				
ZZZZZZ			17:47																				
ZZZZZZ			17:58																				
ZZZZZZ			18:08																				
ZZZZZZ			18:19																				
ZZZZZZ			18:29																				
CCV 600-178131/19			18:39																				
CCB 600-178131/20			18:50																				
ZZZZZZ			19:00																				
ZZZZZZ			19:11																				
ZZZZZZ			19:21																				
ZZZZZZ			19:32																				
ZZZZZZ			19:42																				
ZZZZZZ			19:53																				
ZZZZZZ			20:03																				
ZZZZZZ			20:14																				
ZZZZZZ			20:24																				
ZZZZZZ			20:35																				
CCV 600-178131/31	1		20:45	X																			
CCB 600-178131/32	1		20:56	X																			
ZZZZZZ			21:06																				
ZZZZZZ			21:17																				
ZZZZZZ			21:27																				
ZZZZZZ			21:38																				
ZZZZZZ			21:48																				
ZZZZZZ			21:58																				
MB 600-178131/39	1	T	22:09	X																			
LCS 600-178131/40	1	T	22:19	X																			
ZZZZZZ			22:30																				
600-122468-A-2 MS	1	T	22:40	X																			

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Instrument ID: WC01 Method: 5310 D-2000

Start Date: 12/09/2015 15:31 End Date: 12/10/2015 03:53

Lab Sample ID	D/F	Type	Time	Analytes																			
				TOC																			
CCV 600-178131/43	1		22:51	X																			
CCB 600-178131/44	1		23:01	X																			
600-122468-A-2 MSD	1	T	23:12	X																			
ZZZZZZ			23:22																				
ZZZZZZ			23:32																				
ZZZZZZ			23:43																				
ZZZZZZ			23:53																				
600-122428-1	1	T	00:04	X																			
ZZZZZZ			00:14																				
ZZZZZZ			00:25																				
ZZZZZZ			00:35																				
ZZZZZZ			00:45																				
CCV 600-178131/55	1		00:56	X																			
CCB 600-178131/56	1		01:06	X																			
ZZZZZZ			01:17																				
ZZZZZZ			01:27																				
ZZZZZZ			01:38																				
ZZZZZZ			01:48																				
ZZZZZZ			01:58																				
ZZZZZZ			02:09																				
ZZZZZZ			02:19																				
ZZZZZZ			02:30																				
ZZZZZZ			02:40																				
ZZZZZZ			02:51																				
CCV 600-178131/67			03:01																				
CCB 600-178131/68			03:12																				
ZZZZZZ			03:22																				
ZZZZZZ			03:32																				
CCV 600-178131/71			03:43																				
CCB 600-178131/72			03:53																				

Prep Types

T = Total/NA

B. #177647/177670

Author: houston_wetchem_inst

Date : 12/3/2015

Original Run Filename: OM_12-3-2015_07-57-38AM.OMN created 12/3/2015 7:57:38 AM
Original Run Author's Signature: [houston_wetchem_inst]
Current Run Filename: OM_12-3-2015_07-57-38AM.OMN last modified 12/3/2015 9:00:03 AM
Current Run Author's Signature: [houston_wetchem_inst]
Description: AMMONIA 350.1

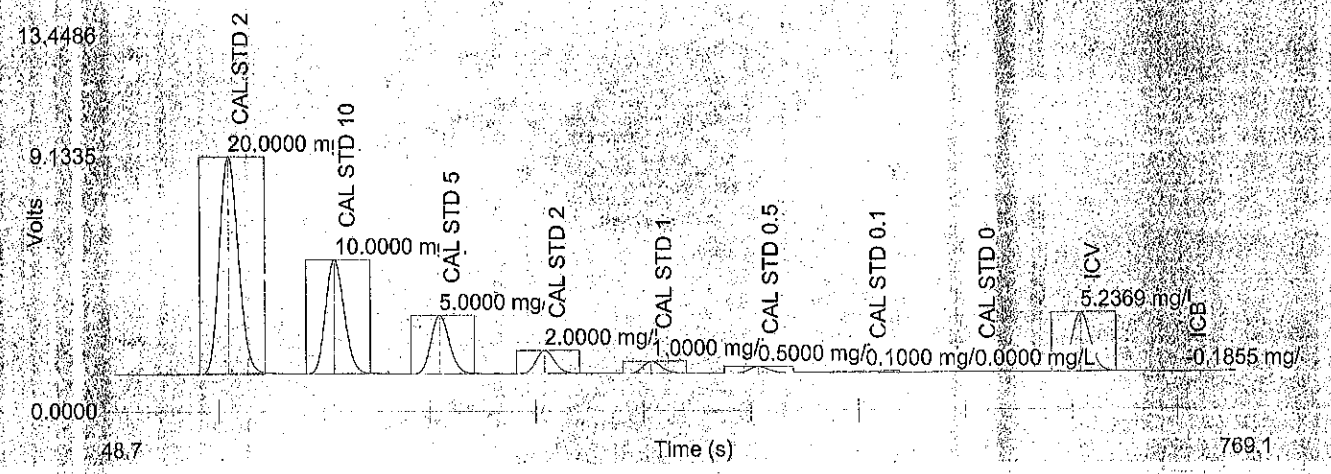
Sample	Rep.	Cup No.	Channel 1 AMMONIA (mg/L)
CAL STD 20	1	S1	20.0000
CAL STD 10	1	S2	10.0000
CAL STD 5	1	S3	5.0000
CAL STD 2	1	S4	2.0000
CAL STD 1	1	S5	1.0000
CAL STD 0.5	1	S6	0.5000
CAL STD 0.1	1	S7	0.1000
CAL STD 0	1	S8	0.0000
ICV	1	1	5.2369
Calibration: Table/Fig. 1			
ICB	1	2	-0.1855
MB 600-177647/1-A	1	3	-0.1752
LCS 600-177647/2-A	1	4	5.0229
600-122463-B-1-A	1	5	0.8883
600-122463-B-1-B MS	1	6	6.1361
600-122463-B-1-C MSD	1	7	6.1757
600-122885-B-1-A	1	8	0.0926
600-122428-C-1-A	1	9	-0.0968
600-122467-D-1-A	1	10	0.8240
600-122474-A-1-A	1	11	13.9238
600-122364-C-1-B	1	12	7.6973
ccv	1	13	5.2139
ccb	1	14	-0.1839
600-122285-C-1-D	1	15	4.8313
600-122286-C-1-D	1	16	5.1231
600-122294-B-3-A	1	17	0.1043
600-122415-D-1-B	1	18	-0.0118
600-122445-E-1-A	1	19	0.0746
600-122445-E-1-B MS	1	20	5.1968
600-122445-E-1-C MSD	1	21	5.1571
600-122320-B-6-B	1	22	0.2003
600-122305-A-1-A	1	23	0.1430
600-122363-B-1-A	1	24	0.0364
ccv	1	25	5.1687
ccb	1	26	-0.1872
600-122363-A-10-A	1	27	0.1370
600-122363-A-24-A	1	28	0.0426
mb	1	29	-0.1799
lcs	1	30	4.9961
600-122444-C-2	1	31	-0.1114
600-122444-C-2ms	1	32	5.1743
600-122444-C-2msd	1	33	5.1743
600-122441-C-1	1	34	-0.1431
600-122449-C-1	1	35	-0.1357
600-122442-C-2	1	36	-0.1215
ccv	1	37	5.1517
ccb	1	38	-0.1827
600-122460-C-2	1	39	-0.1353
600-122461-C-2	1	40	-0.0930
600-122460-C-3@5	1	41	7.8812
600-122441-C-2@5	1	42	5.5695
600-122442-C-3@5	1	43	8.4512
600-122449-C-2@5	1	44	7.4021
ccv	1	45	5.1589
ccb	1	46	-0.1886

12/3/15

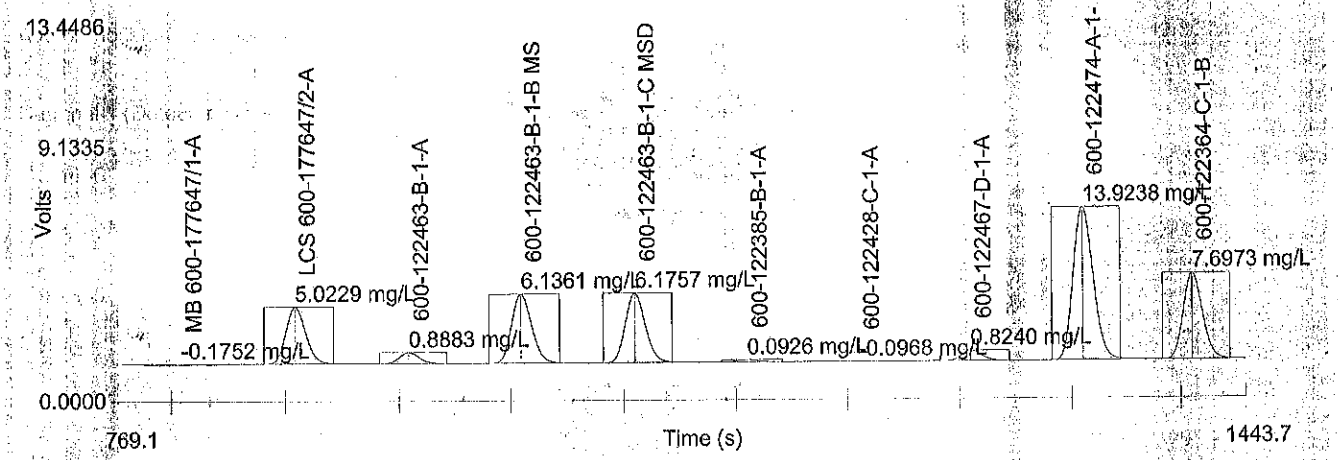
Author: houston_wetchem_inst

Date : 12/3/2015

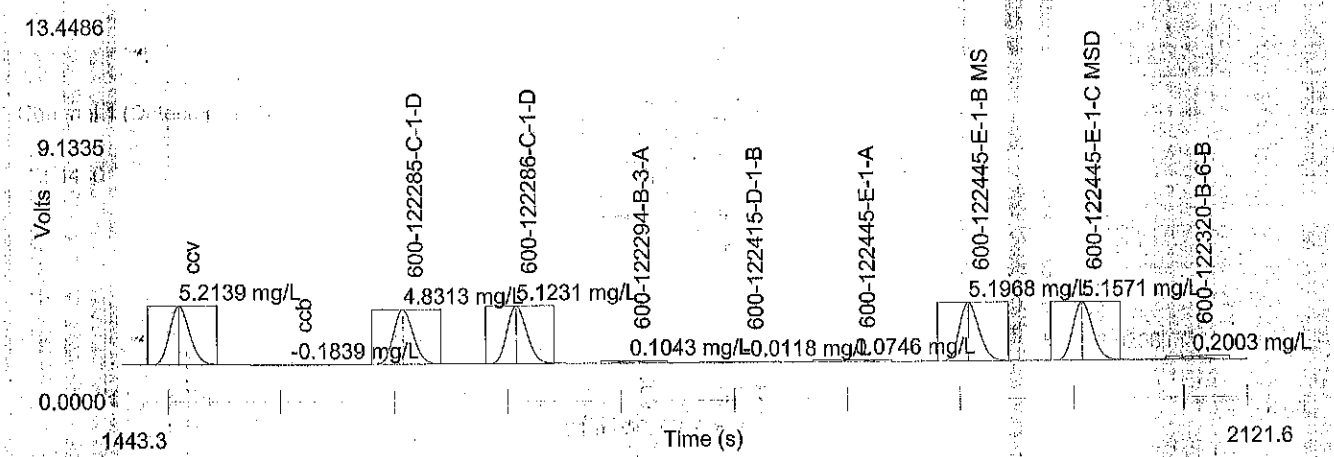
Channel 1 (Detector 1) : Set 1 of 6



Channel 1 (Detector 1) : Set 2 of 6



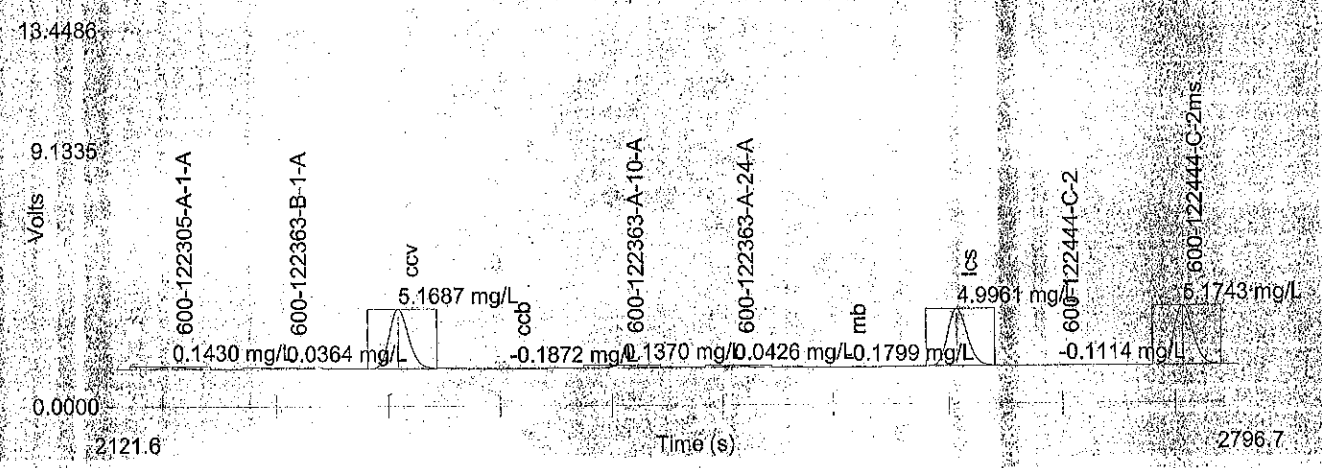
Channel 1 (Detector 1) : Set 3 of 6



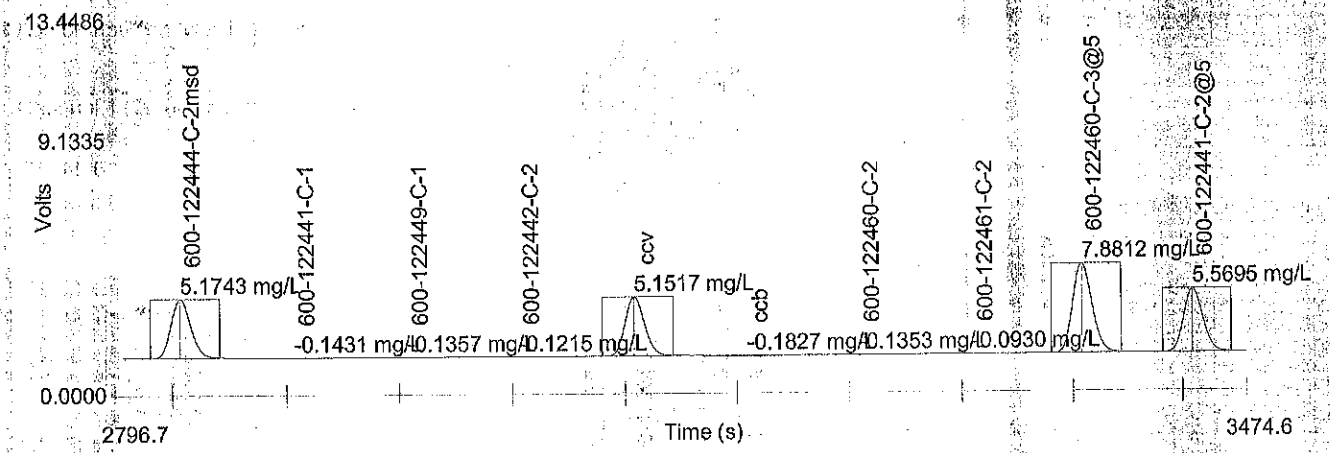
Author: houston_wetchem_inst

Date : 12/3/2015

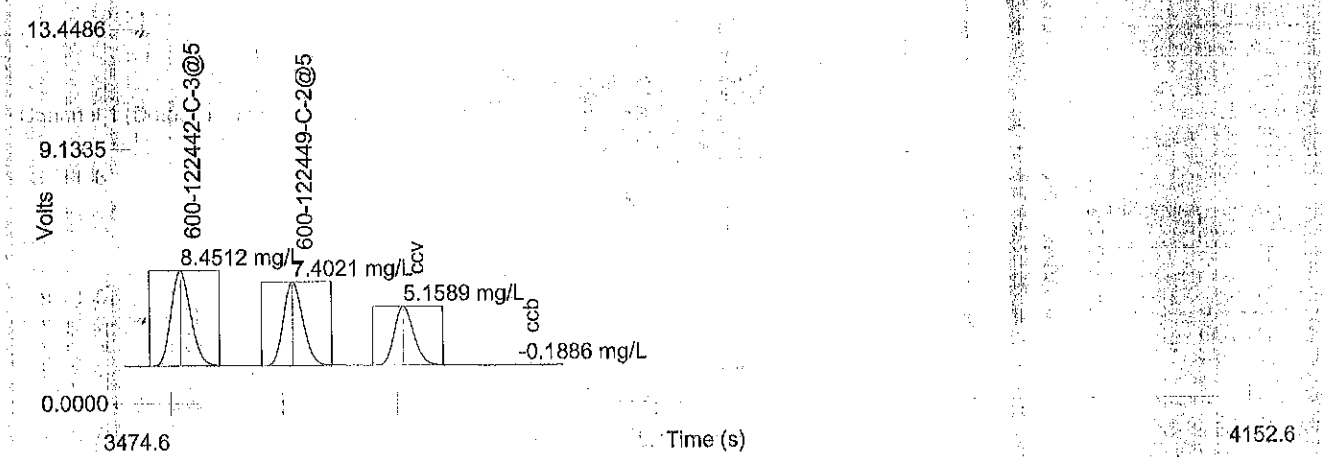
Channel 1 (Detector 1) : Set 4 of 6



Channel 1 (Detector 1) : Set 5 of 6



Channel 1 (Detector 1) : Set 6 of 6



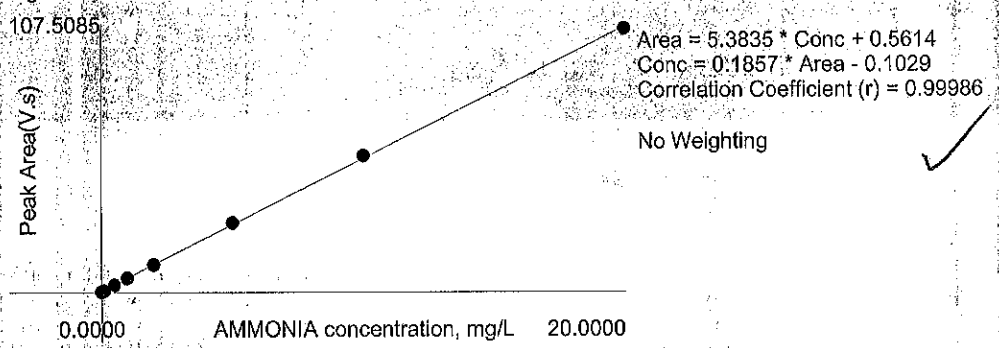
Author: houston_wetchem_inst

Date : 12/3/2015

Table 1: AMMONIA

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	20.0000	1	107.5085	7.7599	0.7	12/3/2015	8:00:08 AM
2	10.0000	1	55.5018	4.0814	-2.0	12/3/2015	8:01:15 AM
3	5.0000	1	28.2683	2.0896	-2.9	12/3/2015	8:02:22 AM
4	2.0000	1	11.1815	0.8239	1.3	12/3/2015	8:03:30 AM
5	1.0000	1	5.8171	0.4293	2.1	12/3/2015	8:04:38 AM
6	0.5000	1	3.0475	0.2241	6.3	12/3/2015	8:05:47 AM
7	0.1000	1	0.6906	0.0502	37.2	12/3/2015	8:06:56 AM
8	0.0000	1	0.2774	0.0204		12/3/2015	8:08:05 AM

Figure 1: AMMONIA



TestAmerica *Houston*

TestAmerica

Colorimetric Lachat Data Review Checklist

#177647

LIMS Batch Number: 177670	Filename: 64.12.3.2015. -07.57.38	Instrument ID (circle one): WC07 WC19 WC05
Date/Analyst/1st Reviewer: 12.03.2015. /AC	Method (circle): 353.2, 420, 350.1, 351.2	QC Type (circle): Standard QAPP Other
Matrix (circle): Non-potable Water · Solid Leachate		Circle One: Total Soluble

Review Items	NA	Yes	No	2nd Rev	If No, why is data reportable?
A. Calibration/Instrument Run QC					
1. Number of Points: At least 5 standards + blank		✓		✓	
2. Linearity and Intercept: r ≥ 0.995 |x-intercept| < RL or < ½ RL (special projects)		✓		✓	
3. ICV, second source: run before samples 90-110% recovery		✓		✓	
4. CCV: 10% frequency & closing 90-110% recovery		✓		✓	If no, list details:
5. Cadmium Column Efficiency Check (353.2): 90 - 110% NO2 recovery		✓		✓	If no, list details:
6. ICB/CCB: run before samples, 10% frequency, & closing Result < RL Result < ½ RL (special project)		✓		✓	If no, list details:
B. Client Sample and QC Sample Results					
7. Samples with results > linear range diluted and reanalyzed?		✓		✓	Comments:
8. On-instrument response of diluted sample is >10X MB on-instrument response		✓		✓	Comments:
C. Preparation/Matrix QC					
9. Method Blank: one per preparation batch Result < RL Result < ½ RL (special project) *If no, list blank ID & explain:*		✓		✓	☐ No analyte > RL in associated samples ☐ Sample results >10x blank ☐ Insufficient sample for reanalysis
10. LCS: one per preparation batch 90-110% recovery *If no, list LCS ID & explain:*		✓		✓	☐ Insufficient sample for reanalysis ☐ LCS %R > QC limits & samples < RL
11. MS/MSD or MS/Dup frequency: A pair per 10 samples (routine) A pair per batch (_____) 90-110% recovery *If no, list QC ID & explain:*		✓		✓	☐ Insufficient sample

KD 12/14/15 #178421

Author: Houston_wetchem_inst

Date : 12/14/2015

Original Run Filename: OM_12-14-2015_03-16-38PM.OMN created 12/14/2015 3:16:38 PM
Original Run Author's Signature: [Houston_wetchem_inst]
Current Run Filename: OM_12-14-2015_03-16-38PM.OMN last modified 12/14/2015 4:22:18 PM
Current Run Author's Signature: [Houston_wetchem_inst]
Description: NO2+NO3

12/14/15

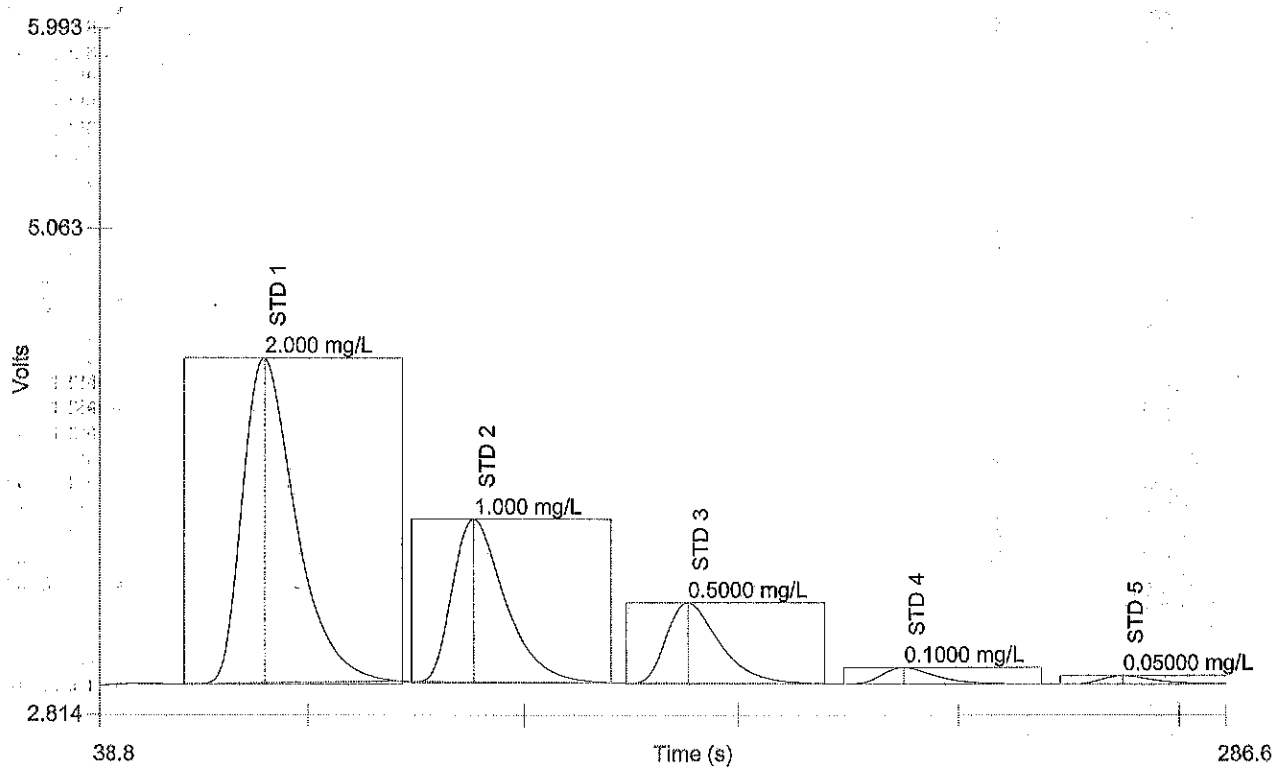
Sample	Rep.	Cup No.	Channel 1 Nitrate + Nitrite (mg/L)
STD 1	1	S1	2.000
STD 2	1	S2	1.000
STD 3	1	S3	0.5000
STD 4	1	S4	0.1000
STD 5	1	S5	0.05000
STD 6	1	S6	0.000
ICV	1	1	0.9989
		Calibration:	Table/Fig. 1
ICB	1	2	-0.01518
RS	1	3	0.9839
MB	1	4	-0.01305
LCS	1	5	1.012
600-122366-B-1	1	6	0.2508
600-122366-B-1 MS	1	7	1.030
600-122366-B-1 MSD	1	8	0.7513
600-122366-B-2	1	9	0.1335
600-122366-B-3	1	10	0.1424
600-122305-A-1@10	1	11	0.5782
600-122320-G6	1	12	0.7229
600-122421-D-1	1	13	0.03061
CCV	1	14	1.024
CCB	1	15	-0.01459
600-122421-D-2	1	16	0.02955
600-122421-D-3	1	17	0.03482
600-122425-D-1	1	18	0.04776
600-122425-D-2	1	19	0.03824
600-122425-D-3	1	20	1.513
600-122428-D-1	1	21	1.151
600-122428-D-1 MS	1	22	1.653
600-122428-D-1 MSD	1	23	1.757
600-122630-B-2@5	1	24	1.623
600-122559-A-1	1	25	0.03010
CCV	1	26	1.016
CCB	1	27	-0.01544
600-122469-A-1	1	28	1.877
600-122642-B-8@100	1	29	0.4952
600-122702-B-6	1	30	0.5678
600-122630-B-3@20	1	31	0.3235
600-122559-A-2@20	1	32	0.2741
600-122469-A-2	1	33	0.3713
600-122559-A-3	1	34	-0.01230
600-122559-A-3 MS	1	35	0.6293
600-122559-A-3 MSD	1	36	0.6101
600-122670-A-1@10	1	37	0.5672
CCV	1	38	1.018
CCB	1	39	-0.01799
MB	1	40	-0.002478
LCS	1	41	0.9994
600-122642-B-9@20	1	42	0.6064
600-122469-A-3	1	43	0.3817
600-122642-B-11@50	1	44	0.3981
600-122642-B-12	1	45	0.6786
600-122630-B-4@5	1	46	2.759
600-122559-A-4	1	47	1.573
600-122469-A-4@10	1	48	2.464
600-122723-B-1	1	49	0.2679
600-122723-B-1 MS	1	50	1.002
600-122723-B-1 MSD	1	51	0.9263

Author: Houston_wetchem_inst

Date : 12/14/2015

CCV	1	52	1.008
CCB	1	53	-0.0002758
600-122642-C-15@50	1	54	0.6227
600-122642-B-4@100	1	55	0.4945
600-122559-A-5	1	56	0.2345
600-122469-A-5	1	57	1.005
600-122642-B-5@250	1	58	0.1363
600-122723-A-2	1	59	0.1415
600-122642-B-3@250	1	60	0.2318
600-122630-B-1	1	61	1.355
600-122630-B-1 MS	1	62	1.875
600-122630-B-1 MSD	1	63	2.022
CCV	1	64	1.001
CCB	1	65	-0.02033
MB	1	66	-0.0003762
LCS	1	67	1.004
600-122469-A-6	1	68	0.4678
600-122469-A-6 MS	1	69	1.078
600-122469-A-6 MSD	1	70	0.8305
600-122642-B-6@250	1	71	0.1829
560-58240-A-2@5	1	72	0.5599
600-122630-B-4@20	1	73	0.5053
600-122469-A-4@20	1	74	0.8093
CCV	1	75	1.011
CCB	1	76	-0.0002758

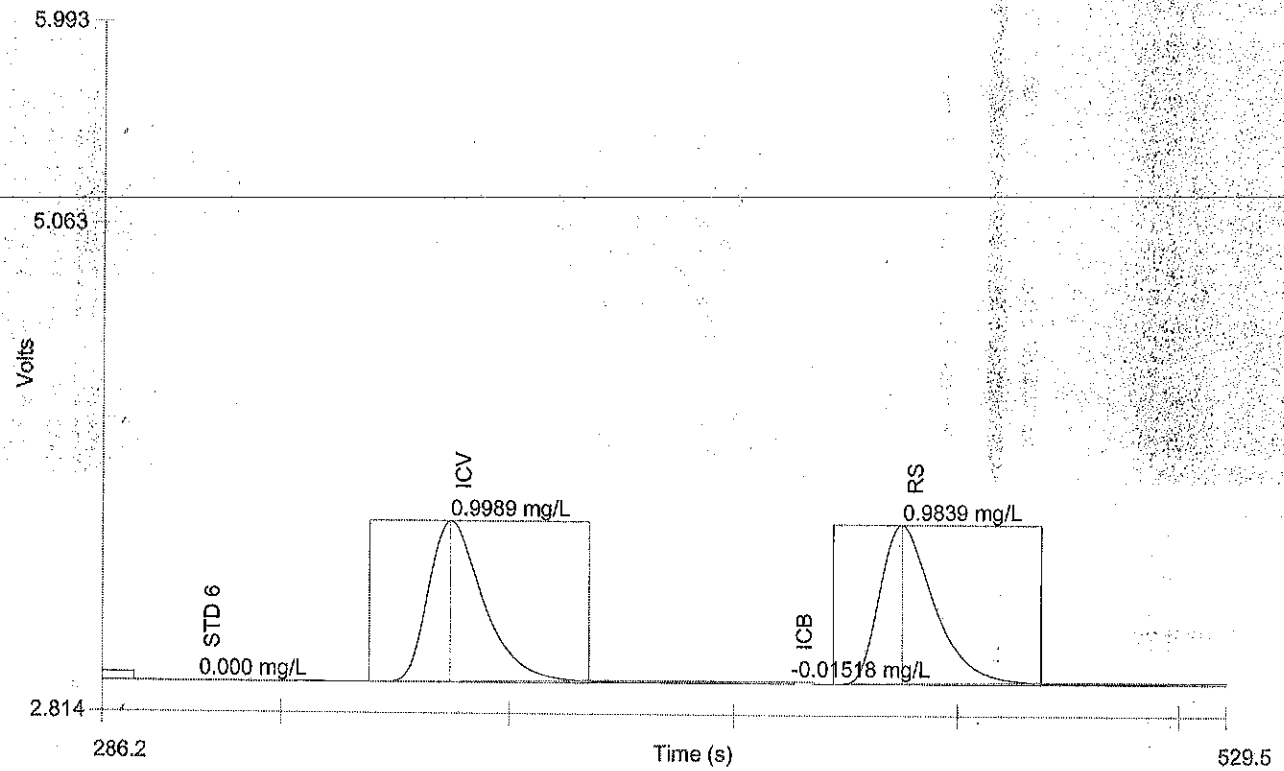
Channel 1 (NO3+NO2) : Set 1 of 17



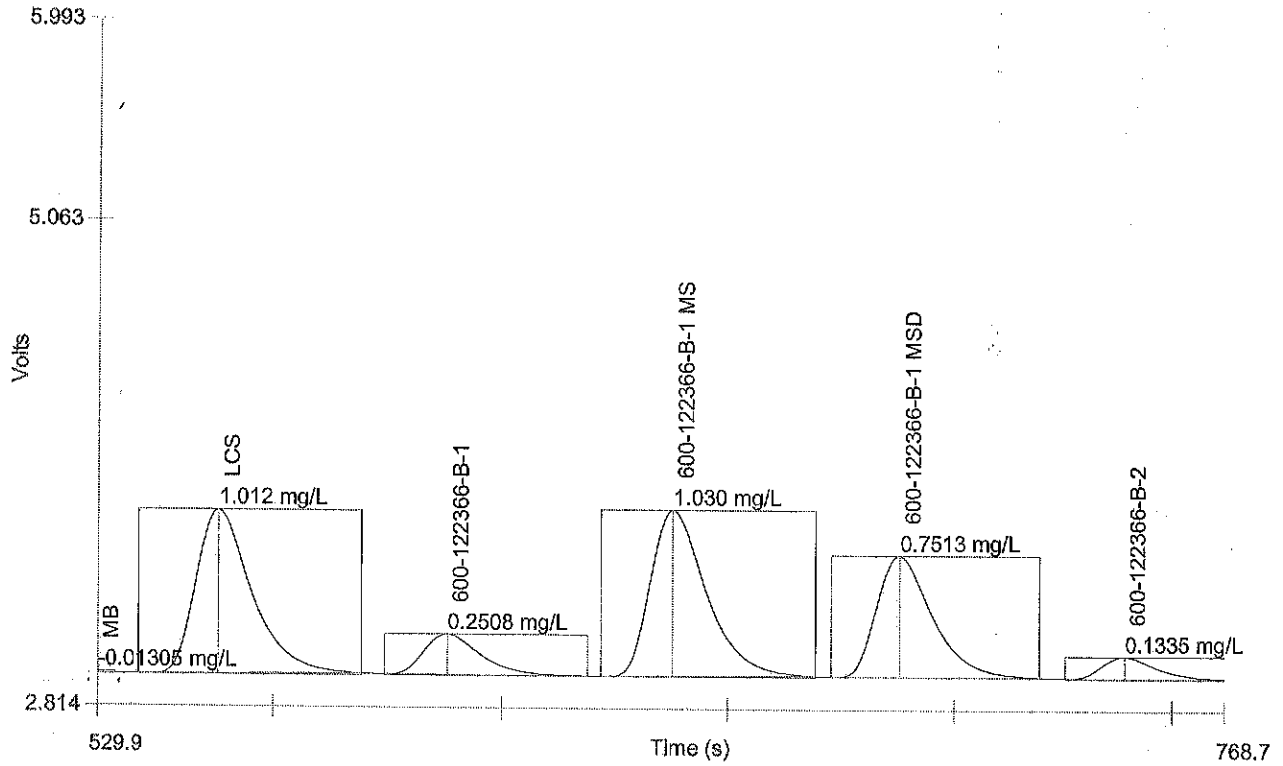
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 2 of 17



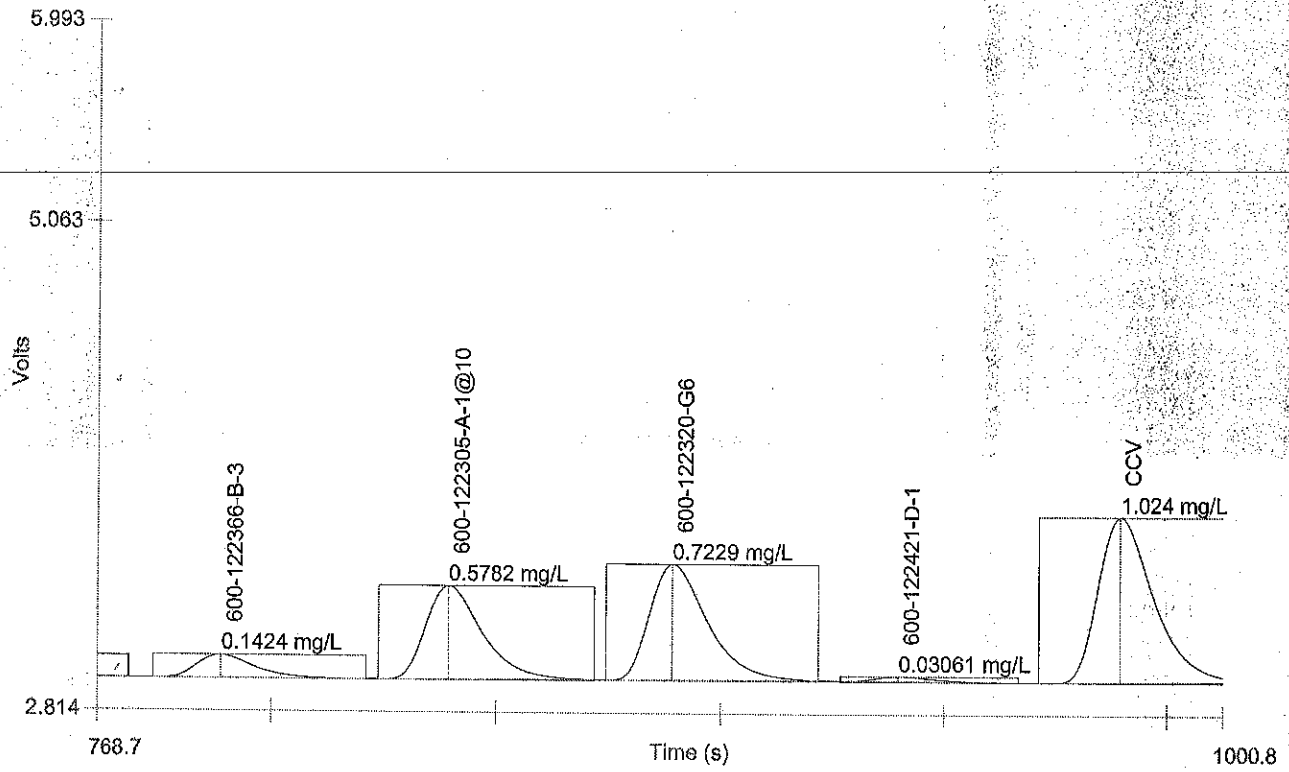
Channel 1 (NO3+NO2) : Set 3 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

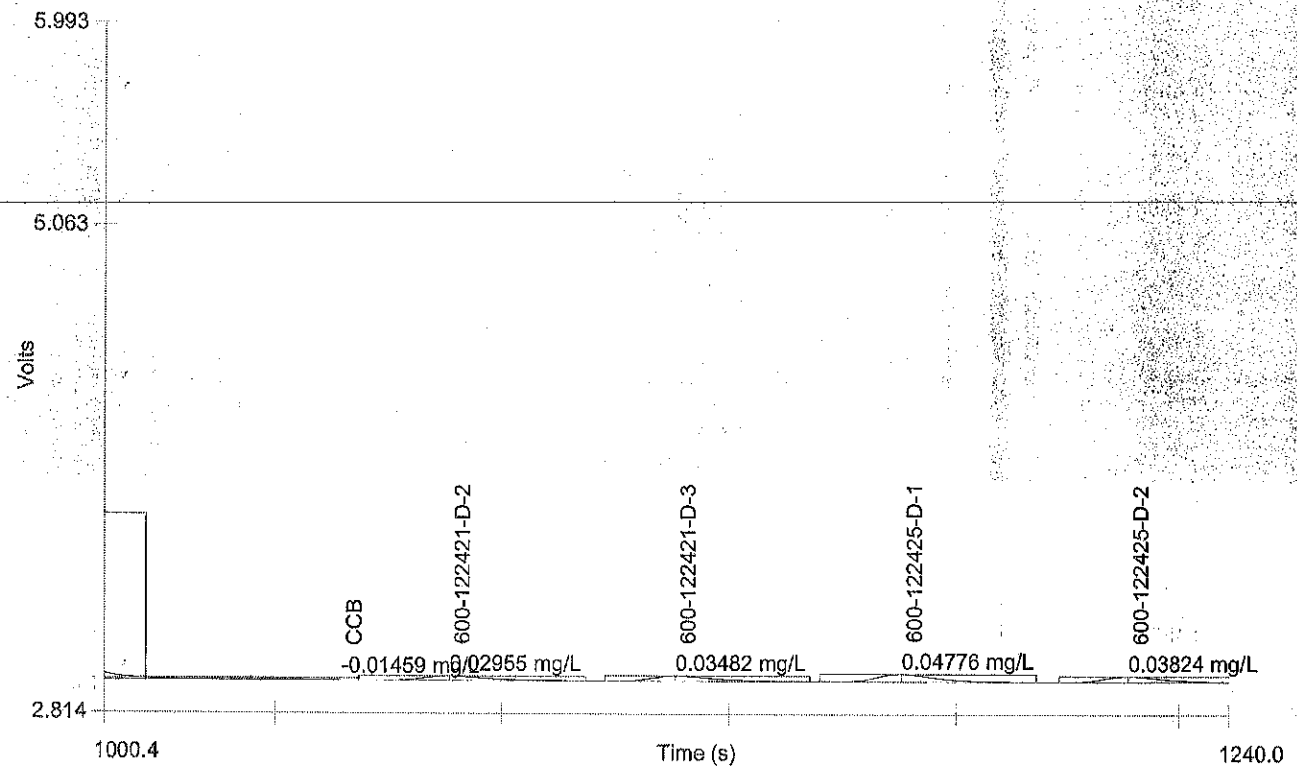
Channel 1 (NO3+NO2) : Set 4 of 17



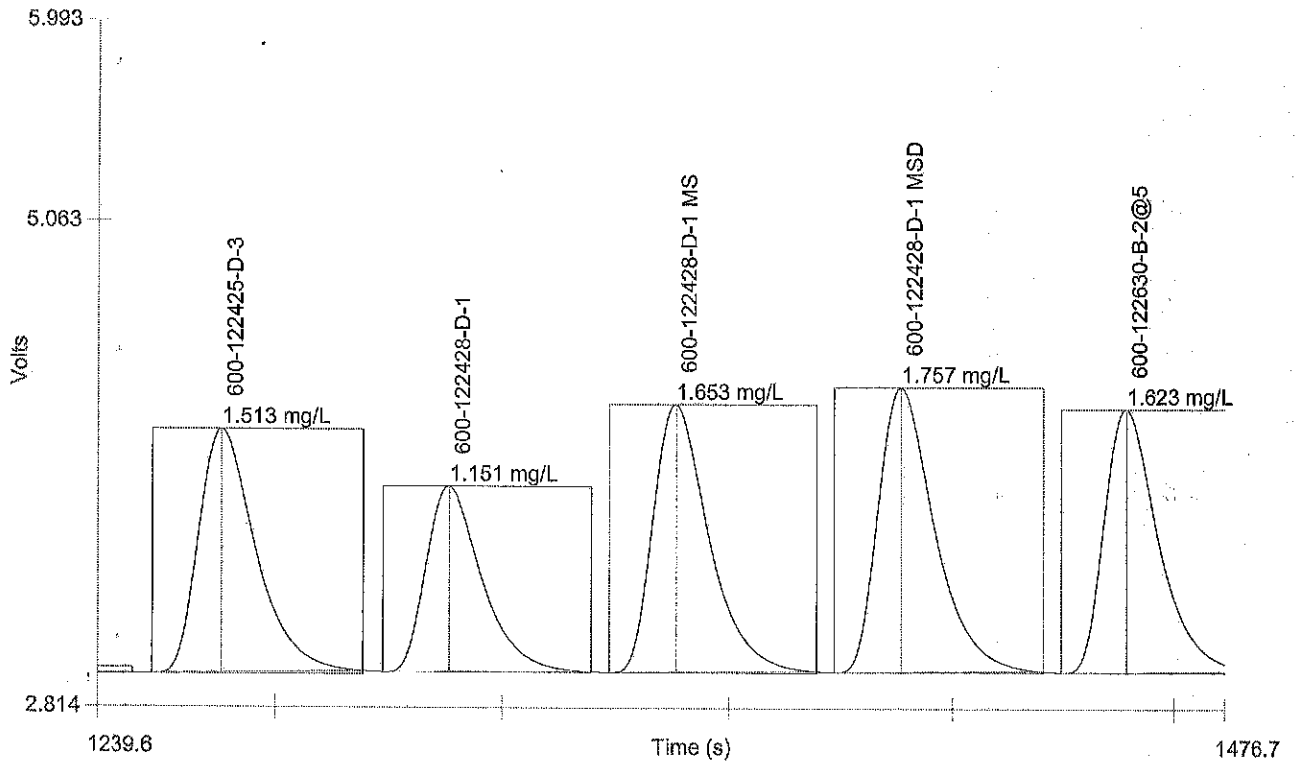
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 5 of 17



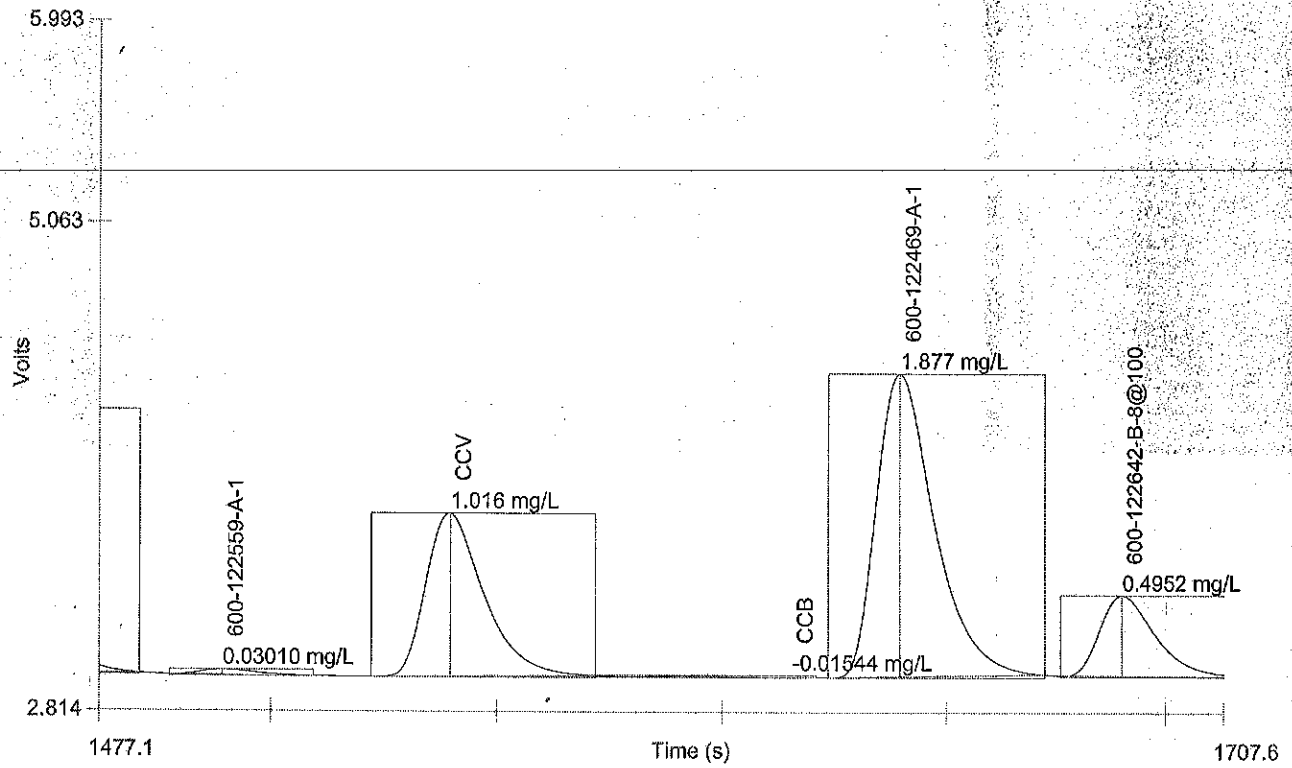
Channel 1 (NO3+NO2) : Set 6 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

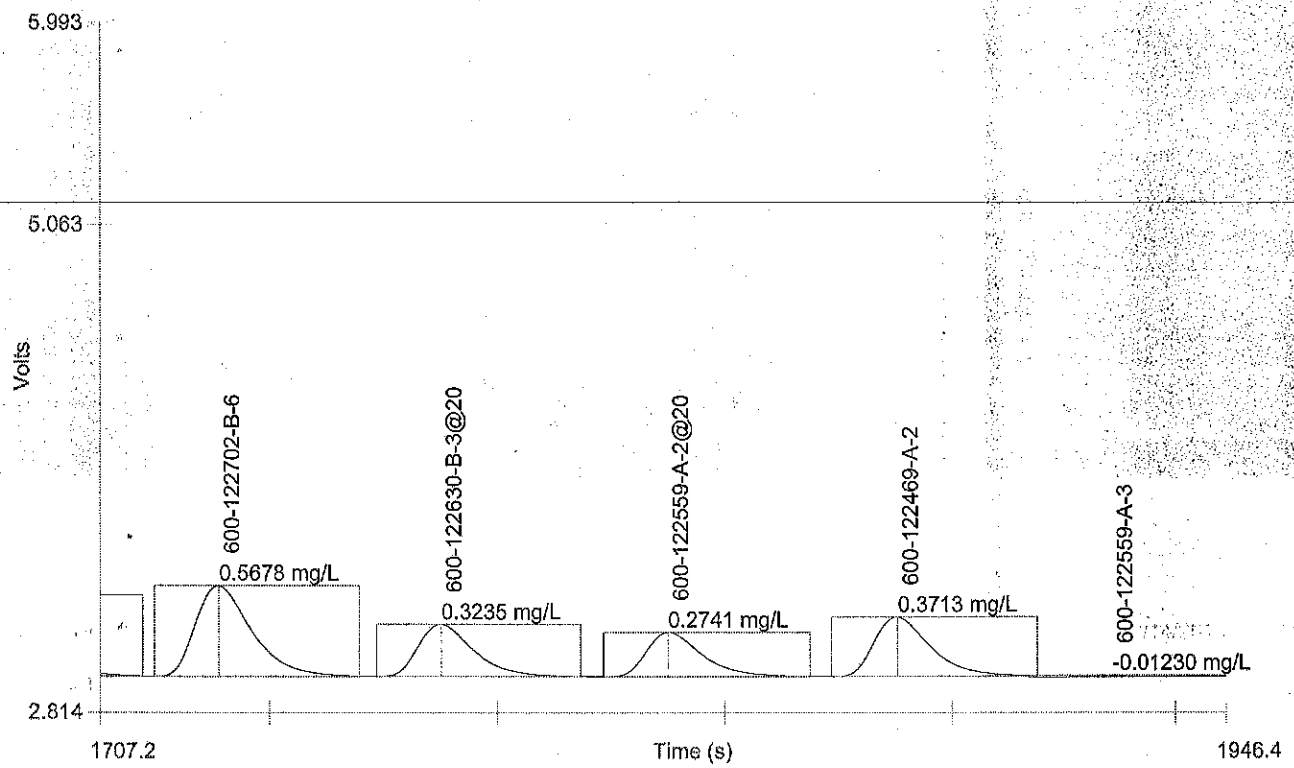
Channel 1 (NO3+NO2) : Set 7 of 17



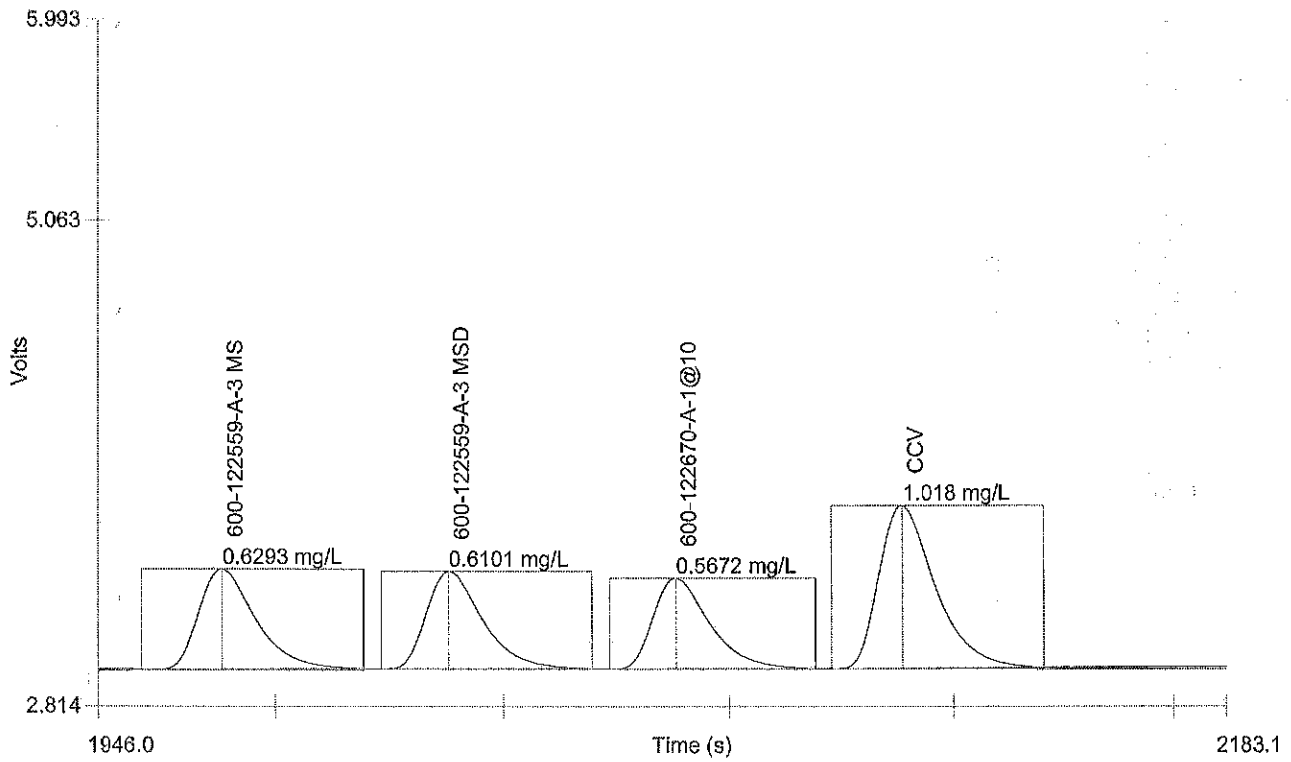
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 8 of 17



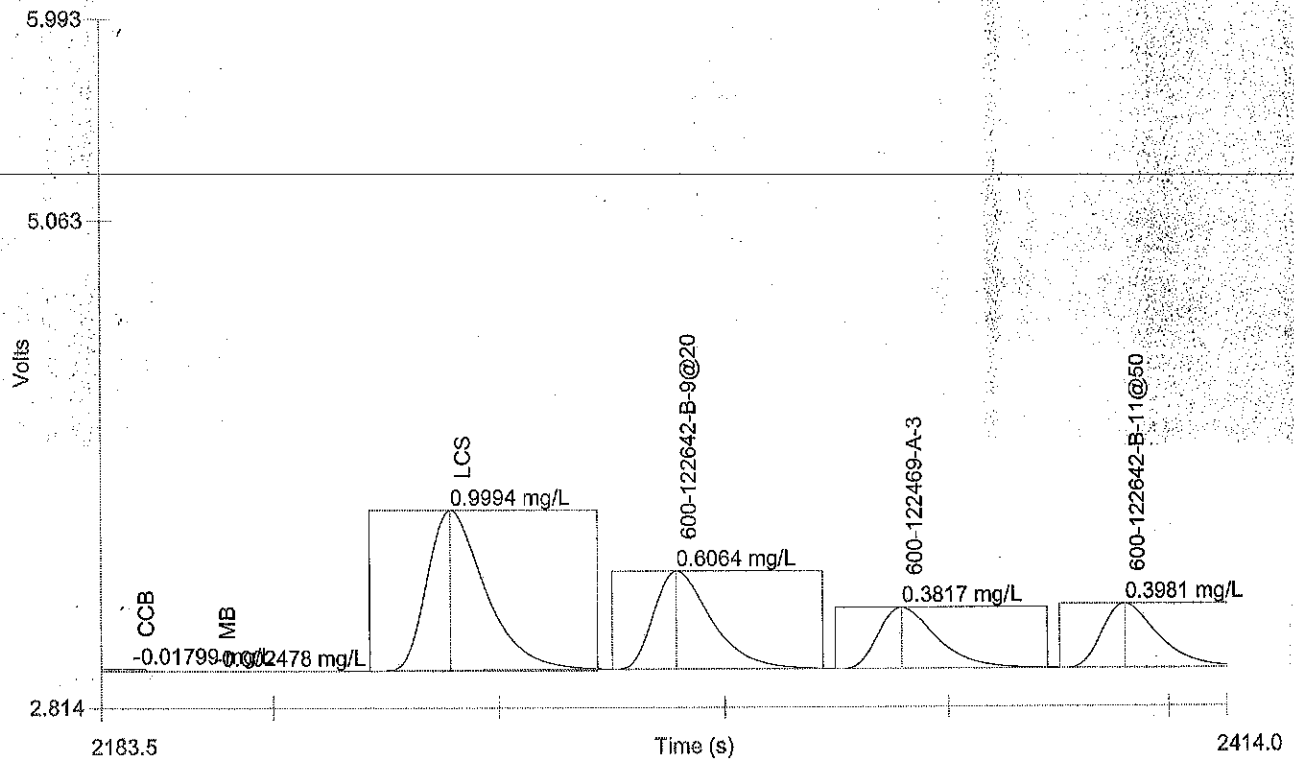
Channel 1 (NO3+NO2) : Set 9 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

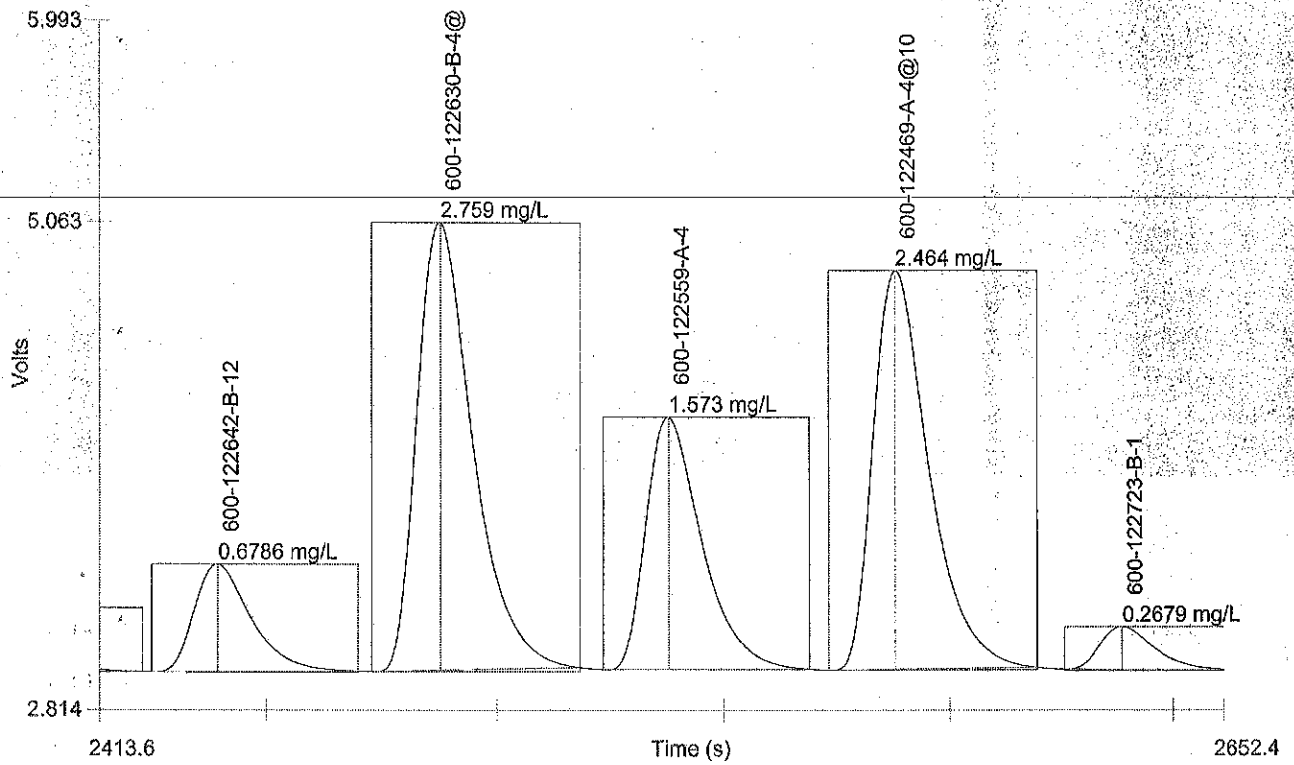
Channel 1 (NO3+NO2) : Set 10 of 17



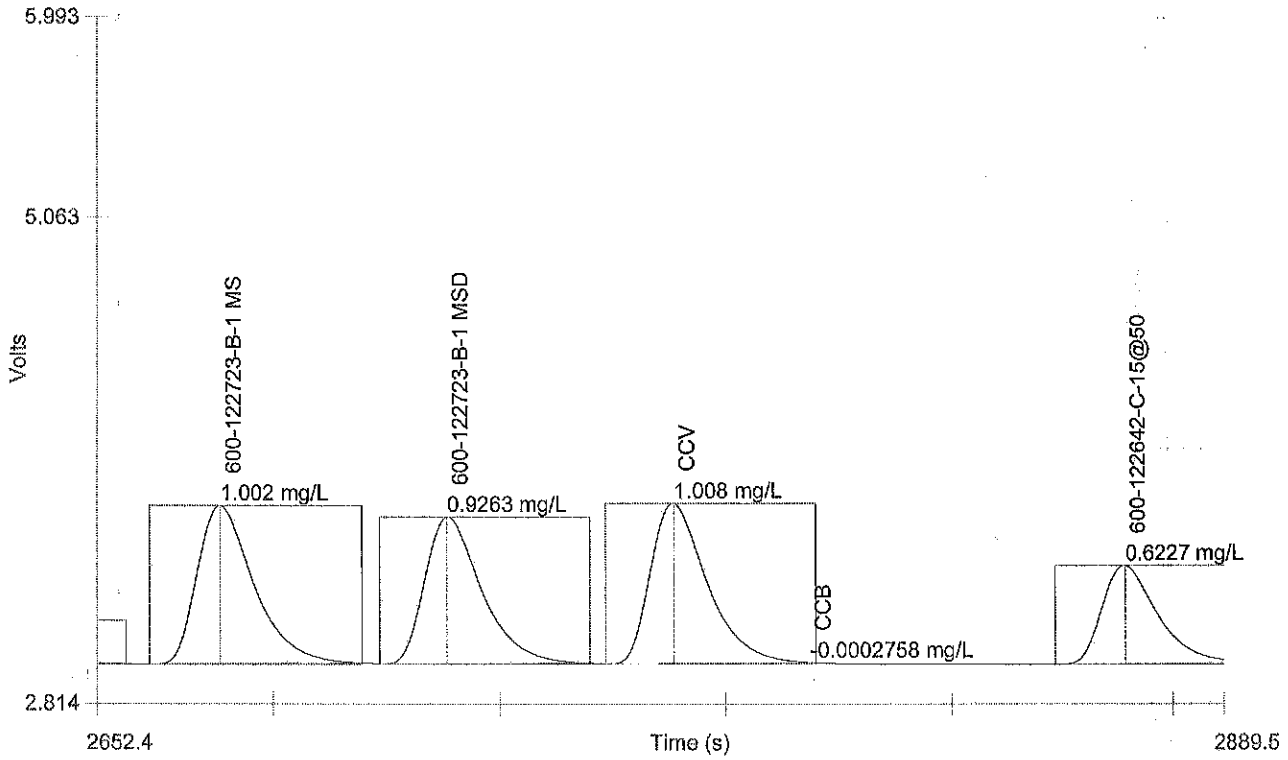
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 11 of 17



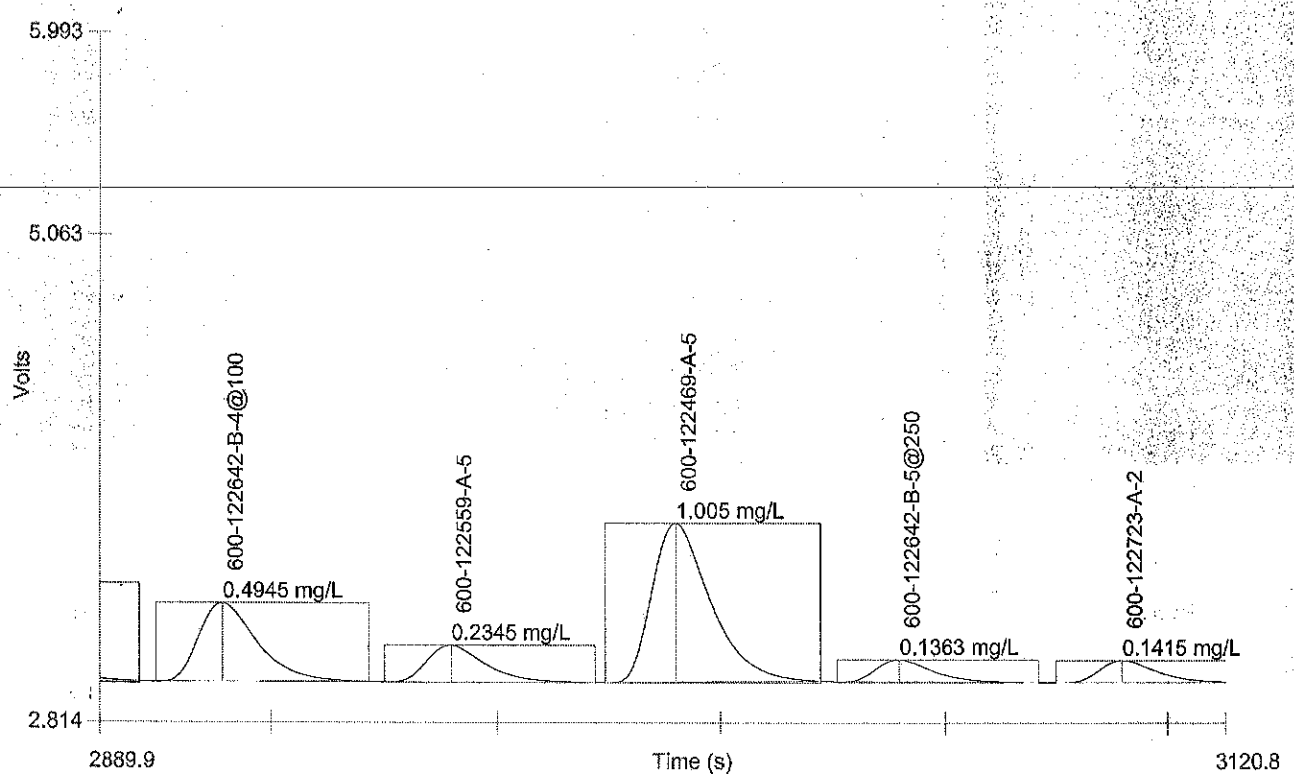
Channel 1 (NO3+NO2) : Set 12 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

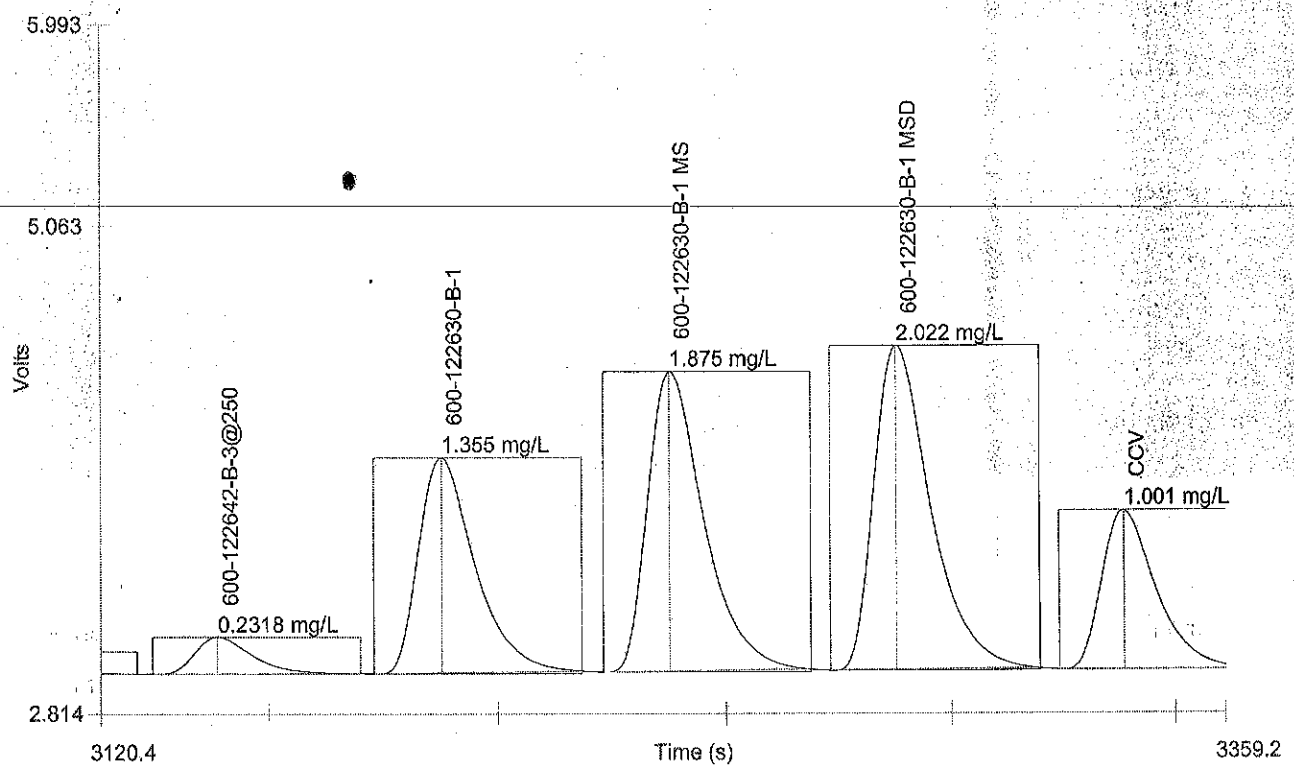
Channel 1 (NO3+NO2) : Set 13 of 17



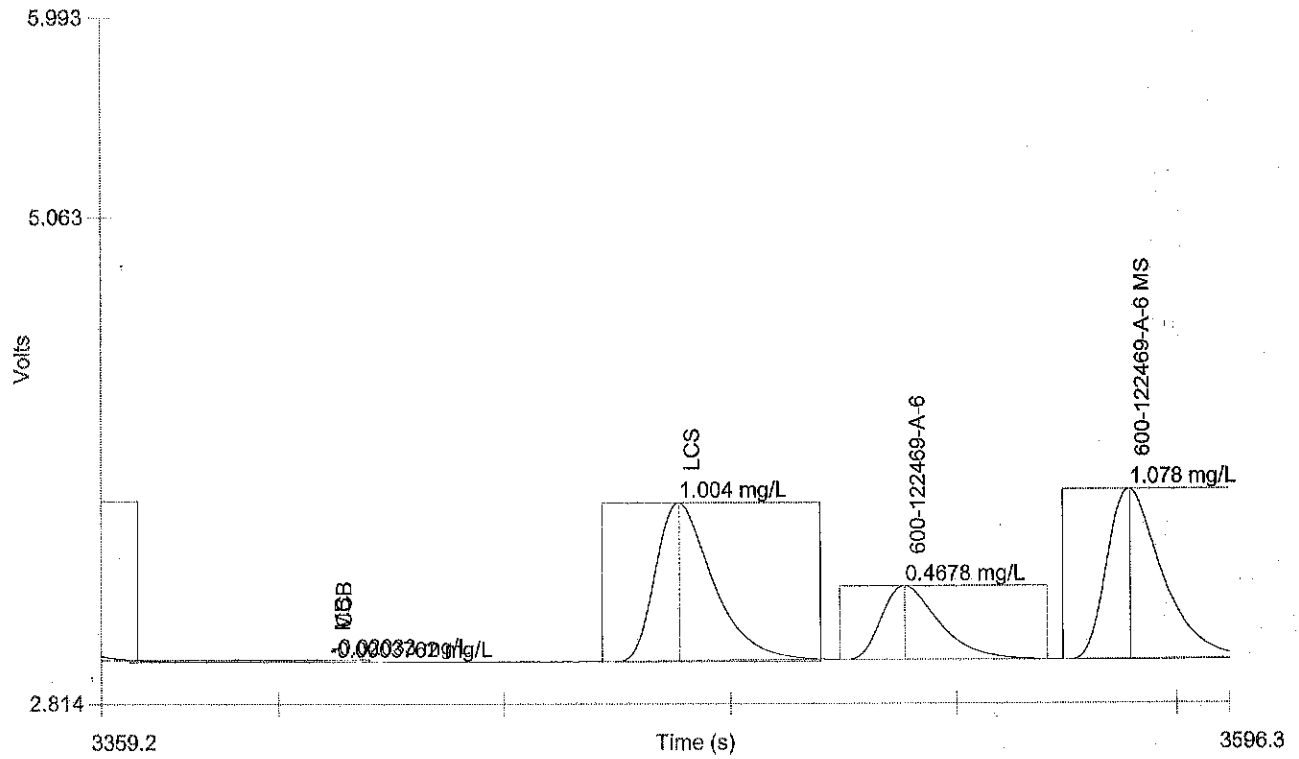
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 14 of 17



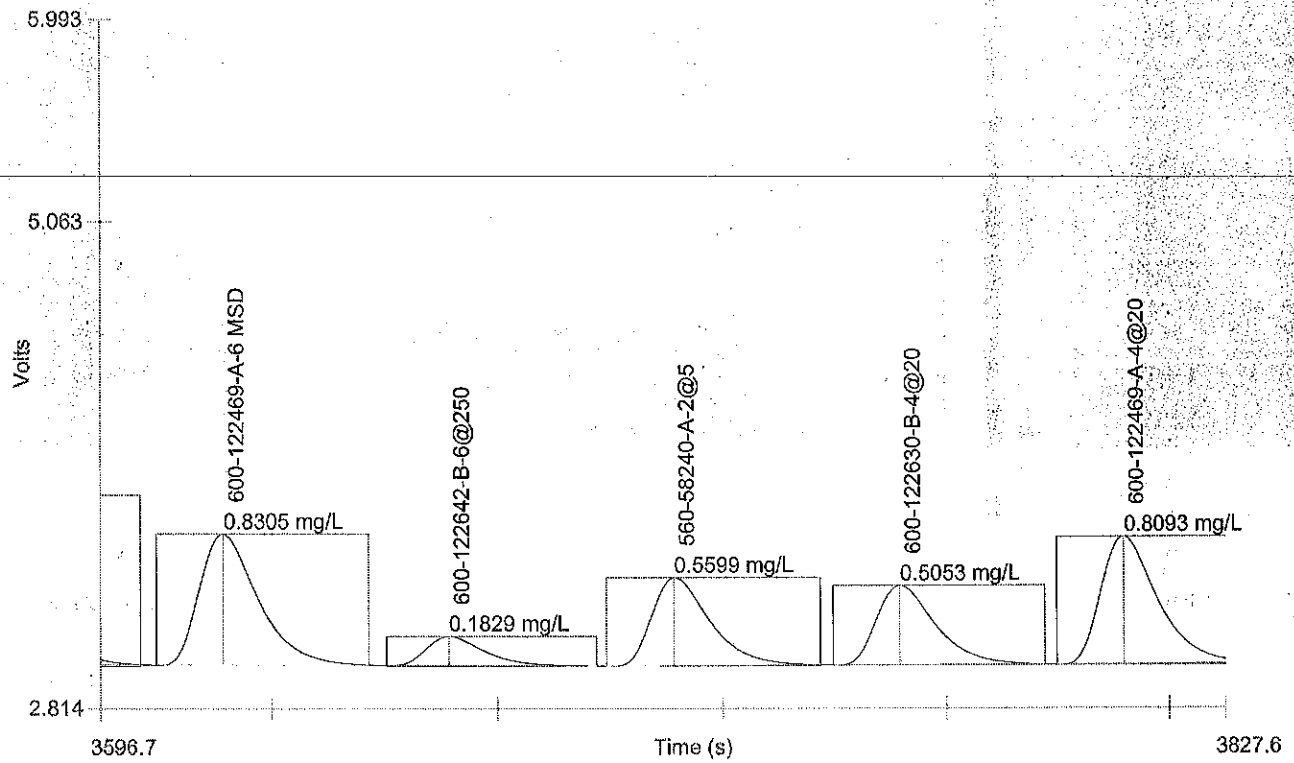
Channel 1 (NO3+NO2) : Set 15 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 16 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 17 of 17

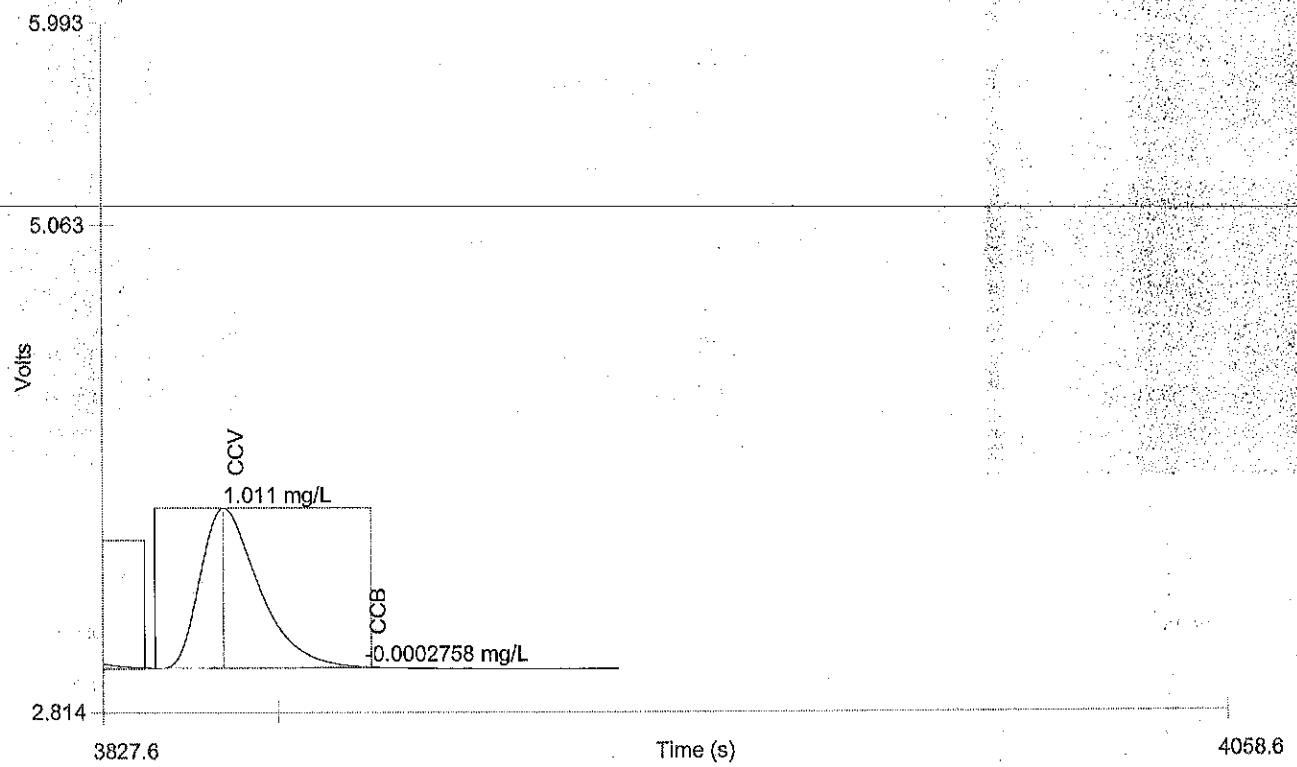
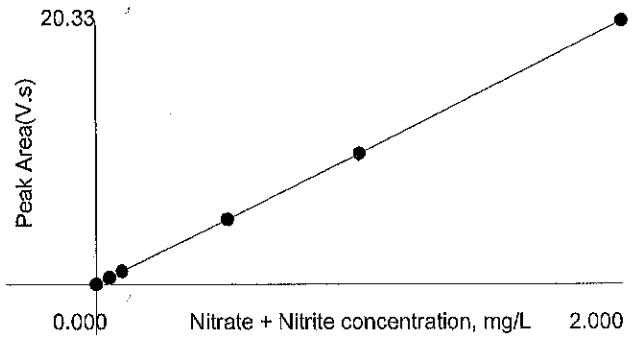


Table 1: Nitrate + Nitrite

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	2.000	1	20.33	1.506	-0.0	12/14/2015	3:18:28 PM
2	1.000	1	10.09	0.7544	-0.0	12/14/2015	3:19:14 PM
3	0.5000	1	5.024	0.3747	0.1	12/14/2015	3:20:01 PM
4	0.1000	1	1.006	0.07632	-0.1	12/14/2015	3:20:49 PM
5	0.05000	1	0.5196	0.03880	-3.2	12/14/2015	3:21:37 PM
6	0.000	1	-0.01170	-0.0005946		12/14/2015	3:22:26 PM

Figure 1: Nitrate + Nitrite



Area = 0.07684 * Conc^2 + 10.01 * Conc + 0.002920
Conc = - 7.323e-5 * Area^2 + 0.09987 * Area - 0.0002758
Correlation Coefficient (r) = 1.00000

No Weighting

TESTAMERICA HOUSTON
Orthophosphate by Colorimetry

Date/Time: 12/2/15 1300 Analyst: KO Balance ID: N/A Batch # 177771
Instrument ID: WC10 1° ID (Cal./CCV): 2009863 2° ID (LCS/ICV/MS): 1897352

Sample ID	Sample Vol. (mL or g)	ABS (880 nm)	Bkgd ABS	Final ABS (ABS - Bkgd ABS)	DF	Phosphorous (mg/L or mg/kg)	Comments
CS0 0.00 mg/L							
CS1 0.01 mg/L							
CS2 0.05 mg/L							
CS3 0.10 mg/L							
CS4 0.25 mg/L		KO 12/4/15					
CS5 0.50 mg/L						KO 12/4/15	
CS6 1.00 mg/L							
ICV	5 +Sol	0.462	0.000	0.462	1.0	0.530	TV = 0.5 mg/L
ICB	5	0.000	0.000	0.000		0.000	
MB	5	0.000	0.000	0.000		0.000	
LCS	5 +Sol	0.458	0.000	0.458		0.526	TV = 0.5 mg/L
1000 1223641B1	5	0.280	0.000	0.280	25.0	0.319	
MS B1	5 +Sol	0.734	0.000	0.734	25.0	0.846	TV = 0.5 mL
MSD B1	5 +Sol	0.742	0.000	0.742	25.0	0.855	TV = 0.5 mL
1000 1224 01A1	5	0.256	0.000 0.000	0.256	5X	0.291	
1224 28B1	5 KO 12/4/15	~~0.040~~ 0.017	~~0.017~~ 0.001	0.016	~~5X~~ 25X	0.012	~~TURBID~~ TURBID
1224 38A1	5	0.295	0.000	0.295	25.0	0.336	
1224 69B1	5 KO 12/4/15	~~0.050~~ 0.040	~~0.025~~ 0.017	0.023	~~5X~~ 25X	0.021	TURBID
B2	5	0.050	0.025	0.025	~~5X~~ 1.0	0.023	~~TURBID~~
CCV	5 +Sol	0.462	0.000	0.462	1.0	0.530	TV = 0.5 mg/L
CCB	5	0.000	0.000	0.000		0.000	
1000 1224 69 B3	5	0.057	0.030	0.027		0.025	
LCS B3	5 +Sol	0.516	0.030	0.486		0.558	TV = 0.5 mL
MSD B3	5 +Sol	0.528	0.030	0.498		0.572	TV = 0.5 mL
1000 1224 69 B4	5	0.091	0.071	0.020	25X	0.018	TURBID
B5	5	0.025	0.017	0.008	1.0	0.003	TURBID
B6	5	~~0.0116~~	0.074	0.000	1.0	0.000	
						KO 12/4/15	
CCV	5 +Sol	0.468	0.000	0.468	1.0	0.537	TV = 0.5 mL
CCB	5	0.000	0.000	0.000		0.000	

5N H2SO4 ID: 2033361 SbK titrate ID: 1083499 Color Solution ID: 2058423
Ascorbic Acid ID: 2058266 Ammonium Molybdate ID: 2048489

Reviewed By: [signature] Date: 12/4/15

****
** EC 12-9-15 178131 SEQUENCE **
****

TOC Unit: 1010
120915A Wed Dec 09 15:00:08 2015

Pm 12/10/15

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	no rinse	Sample	1	5.000	0	1.00	No	
2	RINSE	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
3	BLK	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
4	1	0-25ppm(pam)	Std. 2	1	5.000	0	1.00	No	
5	10	0-25ppm(pam)	Std. 3	1	5.000	0	1.00	No	
6	25	0-25ppm(pam)	Std. 4	1	5.000	0	1.00	No	
7	ICV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
8	ICB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
9	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
10	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
11	600-122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
12	ms 122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
13	msd 122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
14	122371-B-1@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
15	122371-B-2@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
16	122371-B-3@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
17	122371-B-4@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
18	122371-B-5@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
19	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
20	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
21	122371-B-6@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
22	122468-D-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
23	122610-D-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
24	122632-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
25	600-122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
26	ms 122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
27	msd 122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
28	122696-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
29	122697-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
30	122701-B-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
31	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
32	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
33	600-122610-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
34	600-122610-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
35	600-122610-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
36	600-122610-B-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
37	600-122688-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
38	600-122421-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
39	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
40	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
41	600-122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
42	ms 122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
43	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
44	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

****
** SEQUENCE **
****

TOC Unit: 1010
120915A Wed Dec 09 15:00:08 2015

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
45	msd 122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
46	600-122421-D-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
47	600-122425-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
48	600-122425-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
49	600-122425-D-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
50	600-122428-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
51	600-122676-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
52	600-122676-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
53	600-122676-B-7	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
54	600-122676-B-8	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
55	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
56	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
57	600-122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
58	ms 122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
59	msd 122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
60	600-122676-B-9	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
61	600-122695-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
62	600-122477-A-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
63	600-122436-E-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
64	600-122436-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
65	600-122477-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
66	600-122477-A-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
67	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
68	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
69	600-122477-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
70	600-122477-A-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
71	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
72	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

```
*****************************************************************
**                OI Analytical Model 1010 TOC                 **
**                          RUN SETUP                          **
*****************************************************************

TOC Unit: 1010
Operator:   Unknown
Data Path:  C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\120915A
WinTOC Version:  5.2                        Firmware Version:   5.2
WinTOC Revision:  rev 242                     Firmware Revision:  rev 365
```

```
*****************************************************************
**                        CONFIGURATION                        **
*****************************************************************

TOC Unit: 1010
Analysis Mode:  TIC/TOC     Spl Intro:  Autosampler 88
Remote Start :  OFF

Loop Size:  5 mL        Actual Volume  1mL   5mL   10mL   25mL
                        -------------  ----  ----  -----  -----
                         Loop A (uL):  1009  4970  10000  25000
                         Loop B (uL):  1008  4980  10000  25000

Tray Type:              88 Vial  Vial Option:        Preacidification
Needle Depth:           97 %     Preacid Volume (uL):              500
Wash Needle Depth:      94 %     Preacid Purge Time (min:sec):   2:00

            TIC    TOC    TC
Blank      ----   ----   ----            Linearization Coeff:  60000
 Average:    58    723      0
```

Sample Transfer Times (sec)

	Initial Fill			Loop Fill			Sample Inject
	Non-AS	AS	AS w/Sep	Non-AS	AS	AS w/Sep	(all)
1mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5mL:	9.1	9.1	6.8	5.1	6.1	4.2	9.3
10mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25mL:	0.0	0.0	0.0	n/a	n/a	n/a	0.0

```
Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range:   0.000 ppmC,  Max Signal Range:   0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00
       Conc. Alarm Setpoints (ppm C)
          Low        |     High
       -----------   | -----------
TIC:      0.000           0.000
TOC:      0.000           0.000
TC:       0.000           0.000
```

```
*****************************************************************
**                        CALIBRATION                          **
*****************************************************************

TOC Unit: 1010
CAL111015  Wed Dec 09 09:00:22 2015
```

Std. #	Used	Conc. (ppm)	Volume (mL)
1	Yes	0.000	5.000
2	Yes	1.000	5.000
3	Yes	10.000	5.000
4	Yes	25.000	5.000
5	No	0.000	5.000

```
RF (ugC/k-cts):     1.182
R-Squared:         0.9960
Offset (cts):        3161
Offset (ugC):      -3.737
Calibration Mode:    TOC
Allow Editing:      No
```

Rep	Std. 1	Std. 2	Std. 3	Std. 4	Std. 5
1	-	9861	41597	109548	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-

(* = unused)

****
** METHODS **
****

TOC Unit: 1010
NO RINSE Fri Jan 03 11:50:47 2014

Acid Volume: 200 uL
Oxidant Volume: 1000 uL
Auto-Repeat Time: 00:00:00 (hr:min:sec)
Rinse Volume (mL): 25
Rinses Per Rep: 0
Rinses Per Sample: 0

	TIC	TOC	TC
React: (min:sec):	00:01	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

0-25PPM(PAM) Sat Oct 31 15:28:13 2015

Acid Volume: 200 uL
Oxidant Volume: 1000 uL
Auto-Repeat Time: 00:00:00 (hr:min:sec)
Rinse Volume (mL): 20
Rinses Per Rep: 0
Rinses Per Sample: 1

	TIC	TOC	TC
React: (min:sec):	00:01	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

****
** SEQUENCE **
****

TOC Unit: 1010
120915A Wed Dec 09 15:00:08 2015

Start Pos/Vial #: 1, Stop Pos/Vial #: 72

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	no rinse	Sample	1	5.000	0	1.00	No	
2	RINSE	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
3	BLK	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
4	1	0-25ppm(pam)	Std. 2	1	5.000	0	1.00	No	
5	10	0-25ppm(pam)	Std. 3	1	5.000	0	1.00	No	
6	25	0-25ppm(pam)	Std. 4	1	5.000	0	1.00	No	
7	ICV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
8	ICB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
9	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
10	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
11	600-122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
12	ms 122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
13	msd 122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
14	122371-B-1@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
15	122371-B-2@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
16	122371-B-3@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
17	122371-B-4@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
18	122371-B-5@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
19	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

20	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
21	122371-B-6@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
22	122468-D-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
23	122610-D-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
24	122632-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
25	600-122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
26	ms 122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
27	msd 122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
28	122696-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
29	122697-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
30	122701-B-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
31	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
32	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
33	600-122610-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
34	600-122610-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
35	600-122610-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
36	600-122610-B-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
37	600-122688-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
38	600-122421-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
39	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
40	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
41	600-122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
42	ms 122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
43	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
44	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
45	msd 122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
46	600-122421-D-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
47	600-122425-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
48	600-122425-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
49	600-122425-D-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
50	600-122428-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
51	600-122676-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
52	600-122676-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
53	600-122676-B-7	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
54	600-122676-B-8	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
55	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
56	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
57	600-122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
58	ms 122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
59	msd 122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
60	600-122676-B-9	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
61	600-122695-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
62	600-122477-A-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
63	600-122436-E-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
64	600-122436-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
65	600-122477-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
66	600-122477-A-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
67	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
68	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
69	600-122477-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
70	600-122477-A-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
71	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
72	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No

Pos#	Path for Trend Data file
1	C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\TREND\2.CSV
2	C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\TREND\2.CSV

****
** RESULTS - 120915A **
****

TOC Unit: 1010

Pos/ Vial	Run Type	Rep #	Run Date	Run Time	TICArea (cts)	TICMass (ugC)	TICConc (ppm)	TOCArea (cts)	TOCMass (ugC)	TOCConc (ppm)	TCA (c

** Spl Name: RINSE Data File: gb001

Remarks: <none>

1	Spl	1 09Dec2015 15:31	103	0.053	0.011	2712	2.351	0.473

** Spl Name: RINSE Data File: gb002
Remarks: <none>

2	Spl	1 09Dec2015 15:41	118	0.071	0.014	1378	0.774	0.156

** Spl Name: BLK Data File: gb003
Remarks: <none>

3	Spl	1 09Dec2015 15:52	127	0.082	0.016	987	0.312	0.063

** Std2 Name: 1 Data File: gb004
Remarks: <none>

4	Std2	1 09Dec2015 16:02	-	-	-	9133	4.975	1.000

** Calibration:
RF (ugC/k-cts): 1.175
R-Squared: 0.9966
Offset (cts): 2624
Offset (ugC): -3.084

** Std3 Name: 10 Data File: gb005
Remarks: <none>

5	Std3	1 09Dec2015 16:13	-	-	-	41532	49.750	10.000

** Calibration:
RF (ugC/k-cts): 1.175
R-Squared: 0.9966
Offset (cts): 2593
Offset (ugC): -3.047

** Std4 Name: 25 Data File: gb006
Remarks: <none>

6	Std4	1 09Dec2015 16:23	-	-	-	110053	124.375	25.000

** Calibration:
RF (ugC/k-cts): 1.169
R-Squared: 0.9964
Offset (cts): 2481
Offset (ugC): -2.900

** Spl Name: ICV Data File: gb007
Remarks: <none>

7	Spl	1 09Dec2015 16:34	162	0.122	0.024	40983	47.044	9.456

** Spl Name: ICB Data File: gb008
Remarks: <none>

8	Spl	1 09Dec2015 16:44	134	0.089	0.018	693	0.000	0.000

** Spl Name: MB Data File: gb009
Remarks: <none>

9	Spl	1 09Dec2015 16:55	162	0.122	0.024	612	0.000	0.000

** Spl Name: LCS Data File: gb010
Remarks: <none>

10	Spl	1 09Dec2015 17:05	150	0.108	0.022	41135	47.222	9.492

** Spl Name: 600-122421-D-1 Data File: gb011
Remarks: <none>

11	Spl	1 09Dec2015 17:16	10947	12.724	2.558	21651	24.454	4.916

** Spl Name: ms 122421-D-1 Data File: gb012

Remarks: <none>

12	Spl	1 09Dec2015 17:26	10767	12.514	2.515	61323	70.811	14.233

** Spl Name: msd 122421-D-1 Data File: gb013
Remarks: <none>

13	Spl	1 09Dec2015 17:37	9964	11.575	2.327	61311	70.797	14.231

** Spl Name: 122371-B-1@10 Data File: gb014
Remarks: <none>

14	Spl	1 09Dec2015 17:47	471	0.483	0.097	24725	28.046	5.637

** Spl Name: 122371-B-2@10 Data File: gb015
Remarks: <none>

15	Spl	1 09Dec2015 17:58	481	0.494	0.099	25041	28.416	5.712

** Spl Name: 122371-B-3@10 Data File: gb016
Remarks: <none>

16	Spl	1 09Dec2015 18:08	556	0.582	0.117	30038	34.255	6.885

** Spl Name: 122371-B-4@10 Data File: gb017
Remarks: <none>

17	Spl	1 09Dec2015 18:19	611	0.646	0.130	35782	40.967	8.234

** Spl Name: 122371-B-5@10 Data File: gb018
Remarks: <none>

18	Spl	1 09Dec2015 18:29	582	0.612	0.123	36216	41.474	8.336

** Spl Name: CCV Data File: gb019
Remarks: <none>

19	Spl	1 09Dec2015 18:39	124	0.077	0.015	43112	49.532	9.956

** Spl Name: CCB Data File: gb020
Remarks: <none>

20	Spl	1 09Dec2015 18:50	284	0.264	0.053	865	0.166	0.033

** Spl Name: 122371-B-6@10 Data File: gb021
Remarks: <none>

21	Spl	1 09Dec2015 19:00	542	0.566	0.114	33026	37.746	7.587

** Spl Name: 122468-D-4@4 Data File: gb022
Remarks: <none>

22	Spl	1 09Dec2015 19:11	1608	1.811	0.364	28210	32.119	6.456

** Spl Name: 122610-D-1@2 Data File: gb023
Remarks: <none>

23	Spl	1 09Dec2015 19:21	3168	3.634	0.730	49924	57.492	11.556

** Spl Name: 122632-C-1@2 Data File: gb024
Remarks: <none>

24	Spl	1 09Dec2015 19:32	1732	1.956	0.393	14930	16.601	3.337

** Spl Name: 600-122675-D-1 Data File: gb025
Remarks: <none>

25	Spl	1 09Dec2015 19:42	6063	7.017	1.410	45169	51.935	10.439

** Spl Name: ms 122675-D-1 Data File: gb026

Remarks: <none>

26	Spl	1 09Dec2015 19:53	6195	7.171	1.441	91569	106.154	21.337
** Spl	Name: msd 122675-D-1				Data File: gb027			
	Remarks: <none>							
27	Spl	1 09Dec2015 20:03	5747	6.648	1.336	90642	105.071	21.120
** Spl	Name: 122696-C-1@2				Data File: gb028			
	Remarks: <none>							
28	Spl	1 09Dec2015 20:14	4276	4.929	0.991	54295	62.599	12.583
** Spl	Name: 122697-C-1@2				Data File: gb029			
	Remarks: <none>							
29	Spl	1 09Dec2015 20:24	9587	11.135	2.238	41339	47.460	9.540
** Spl	Name: 122701-B-1@2				Data File: gb030			
	Remarks: <none>							
30	Spl	1 09Dec2015 20:35	2905	3.327	0.669	14929	16.600	3.337
** Spl	Name: CCV				Data File: gb031			
	Remarks: <none>							
31	Spl	1 09Dec2015 20:45	210	0.178	0.036	42216	48.485	9.746
** Spl	Name: CCB				Data File: gb032			
	Remarks: <none>							
32	Spl	1 09Dec2015 20:56	166	0.126	0.025	730	0.008	0.002
** Spl	Name: 600-122610-B-4				Data File: gb033			
	Remarks: <none>							
33	Spl	1 09Dec2015 21:06	6512	7.542	1.516	39622	45.454	9.136
** Spl	Name: 600-122610-B-5				Data File: gb034			
	Remarks: <none>							
34	Spl	1 09Dec2015 21:17	2517	2.873	0.578	42476	48.789	9.807
** Spl	Name: 600-122610-B-6				Data File: gb035			
	Remarks: <none>							
35	Spl	1 09Dec2015 21:27	5232	6.046	1.215	33231	37.986	7.635
** Spl	Name: 600-122610-B-3				Data File: gb036			
	Remarks: <none>							
36	Spl	1 09Dec2015 21:38	2251	2.563	0.515	43075	49.489	9.947
** Spl	Name: 600-122688-C-1				Data File: gb037			
	Remarks: <none>							
37	Spl	1 09Dec2015 21:48	5236	6.051	1.216	48230	55.512	11.158
** Spl	Name: 600-122421-D-2				Data File: gb038			
	Remarks: <none>							
38	Spl	1 09Dec2015 21:58	10857	12.619	2.536	13129	14.496	2.914
** Spl	Name: MB				Data File: gb039			
	Remarks: <none>							
39	Spl	1 09Dec2015 22:09	243	0.216	0.043	1145	0.493	0.099
** Spl	Name: LCS				Data File: gb040			

Remarks: <none>

40	Spl	1 09Dec2015 22:19	182	0.145	0.029	41521	47.673	9.582

** Spl Name: 600-122468-A-2 Data File: gb041
Remarks: <none>

41	Spl	1 09Dec2015 22:30	1201	1.336	0.269	31484	35.944	7.225

** Spl Name: ms 122468-A-2 Data File: gb042
Remarks: <none>

42	Spl	1 09Dec2015 22:40	1181	1.312	0.264	75701	87.612	17.611

** Spl Name: CCV Data File: gb043
Remarks: <none>

43	Spl	1 09Dec2015 22:51	183	0.146	0.029	41773	47.967	9.642

** Spl Name: CCB Data File: gb044
Remarks: <none>

44	Spl	1 09Dec2015 23:01	208	0.175	0.035	714	0.000	0.000

** Spl Name: msd 122468-A-2 Data File: gb045
Remarks: <none>

45	Spl	1 09Dec2015 23:12	1002	1.103	0.222	76523	88.573	17.803

** Spl Name: 600-122421-D-3 Data File: gb046
Remarks: <none>

46	Spl	1 09Dec2015 23:22	8103	9.401	1.890	6566	6.828	1.372

** Spl Name: 600-122425-D-1 Data File: gb047
Remarks: <none>

47	Spl	1 09Dec2015 23:32	8875	10.303	2.071	4830	4.799	0.965

** Spl Name: 600-122425-D-2 Data File: gb048
Remarks: <none>

48	Spl	1 09Dec2015 23:43	4326	4.987	1.002	15098	16.797	3.376

** Spl Name: 600-122425-D-3 Data File: gb049
Remarks: <none>

49	Spl	1 09Dec2015 23:53	6641	7.692	1.546	21560	24.348	4.894

** Spl Name: 600-122428-D-1 Data File: gb050
Remarks: <none>

50	Spl	1 10Dec2015 00:04	19576	22.807	4.584	10738	11.703	2.352

** Spl Name: 600-122676-B-5 Data File: gb051
Remarks: <none>

51	Spl	1 10Dec2015 00:14	1846	2.089	0.420	42620	48.957	9.841

** Spl Name: 600-122676-B-6 Data File: gb052
Remarks: <none>

52	Spl	1 10Dec2015 00:25	1705	1.925	0.387	41437	47.575	9.563

** Spl Name: 600-122676-B-7 Data File: gb053
Remarks: <none>

53	Spl	1 10Dec2015 00:35	3005	3.444	0.692	33882	38.746	7.788

** Spl Name: 600-122676-B-8 Data File: gb054

Remarks: <none>

54	Spl	1 10Dec2015 00:45	2350	2.678	0.538	49285	56.745	11.406

** Spl Name: CCV Data File: gb055
Remarks: <none>

55	Spl	1 10Dec2015 00:56	158	0.117	0.023	42133	48.388	9.726

** Spl Name: CCB Data File: gb056
Remarks: <none>

56	Spl	1 10Dec2015 01:06	220	0.189	0.038	764	0.048	0.010

** Spl Name: 600-122468-B-5 Data File: gb057
Remarks: <none>

57	Spl	1 10Dec2015 01:17	639	0.679	0.137	31538	36.007	7.238

** Spl Name: ms 122468-B-5 Data File: gb058
Remarks: <none>

58	Spl	1 10Dec2015 01:27	671	0.716	0.144	76786	88.880	17.865

** Spl Name: msd 122468-B-5 Data File: gb059
Remarks: <none>

59	Spl	1 10Dec2015 01:38	727	0.782	0.157	76508	88.555	17.800

** Spl Name: 600-122676-B-9 Data File: gb060
Remarks: <none>

60	Spl	1 10Dec2015 01:48	6540	7.574	1.523	69135	79.940	16.068

** Spl Name: 600-122695-B-1 Data File: gb061
Remarks: <none>

61	Spl	1 10Dec2015 01:58	3132	3.592	0.722	23060	26.101	5.246

** Spl Name: 600-122477-A-1 Data File: gb062
Remarks: <none>

62	Spl	1 10Dec2015 02:09	25783	30.060	6.042	18485	20.755	4.172

** Spl Name: 600-122436-E-1 Data File: gb063
Remarks: <none>

63	Spl	1 10Dec2015 02:19	19492	22.709	4.565	144268	167.733	33.715

A-Linear range exceeded (130ugC). 10Dec2015 02:19

** Spl Name: 600-122436-D-2 Data File: gb064
Remarks: <none>

64	Spl	1 10Dec2015 02:30	1626	1.832	0.368	2338	1.887	0.379

** Spl Name: 600-122477-A-2 Data File: gb065
Remarks: <none>

65	Spl	1 10Dec2015 02:40	21598	25.170	5.059	4710	4.659	0.936

** Spl Name: 600-122477-A-3 Data File: gb066
Remarks: <none>

66	Spl	1 10Dec2015 02:51	21824	25.434	5.112	4110	3.958	0.795

** Spl Name: CCV Data File: gb067
Remarks: <none>

67	Spl	1	10Dec2015 03:01	130	0.084	0.017	42247	48.521	9.753
** Spl		Name: CCB Remarks: <none>				Data File: gb068			
68	Spl	1	10Dec2015 03:12	205	0.172	0.034	613	0.000	0.000
** Spl		Name: 600-122477-A-4 Remarks: <none>				Data File: gb069			
69	Spl	1	10Dec2015 03:22	34606	40.369	8.115	7185	7.551	1.518
** Spl		Name: 600-122477-A-5 Remarks: <none>				Data File: gb070			
70	Spl	1	10Dec2015 03:32	16463	19.169	3.853	5348	5.404	1.086
** Spl		Name: CCV Remarks: <none>				Data File: gb071			
71	Spl	1	10Dec2015 03:43	132	0.086	0.017	41489	47.635	9.575
** Spl		Name: CCB Remarks: <none>				Data File: gb072			
72	Spl	1	10Dec2015 03:53	224	0.194	0.039	612	0.000	0.000

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Batch Number: 177647 Batch Start Date: 12/03/15 05:01 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	WETSNH3ICV 00020		
MB 600-177647/1		350.1, 350.1		100 mL	100 mL	<2 SU			
LCS 600-177647/2		350.1, 350.1		100 mL	100 mL	<2 SU	0.5 mL		
600-122463-B-1 MS		350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-122463-B-1 MSD		350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-122428-C-1	MW-22	350.1, 350.1	T	100 mL	100 mL	<2 SU			

Batch Notes	
Pipette ID	WC47,WC53,WC63

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Batch Number: 177670 Batch Start Date: 12/03/15 07:58 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	CalcMsg	WETSNH3CAL 00012	WETSNH3ICV 00020
ICV 600-177670/9		350.1		5 mL	5 mL	<2 SU	OK		0.025 mL
ICB 600-177670/10		350.1		5 mL	5 mL	<2 SU	OK		
MB 600-177647/1-A		350.1		5 mL	5 mL	<2 SU	OK		
LCS 600-177647/2-A		350.1		5 mL	5 mL	<2 SU	OK		
600-122463-B-1-B MS		350.1	T	5 mL	5 mL	<2 SU	OK		
600-122463-B-1-C MSD		350.1	T	5 mL	5 mL	<2 SU	OK		
600-122428-C-1-A	MW-22	350.1	T	5 mL	5 mL	<2 SU	OK		
CCV 600-177670/21		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-177670/22		350.1		5 mL	5 mL	<2 SU	OK		

Batch Notes	
Pipette ID	WC47,WC53,WC63
Perform Calculation (0=No, 1=Yes)	1

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Batch Number: 178421 Batch Start Date: 12/14/15 15:17 Batch Analyst: Daniel, Kevin R

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	NO3NO2CRVE1.0 00045	NO3NO2ICV/LCS 00038		
ICV 600-178421/7		353.2		5 mL	5 mL		5 mL		
ICB 600-178421/8		353.2		5 mL	5 mL				
MB 600-178421/10		353.2		5 mL	5 mL				
LCS 600-178421/11		353.2		5 mL	5 mL		5 mL		
CCV 600-178421/20		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/21		353.2		5 mL	5 mL				
600-122428-D-1	MW-22	353.2	T	5 mL	5 mL				
600-122428-D-1 MS	MW-22	353.2	T	5 mL	5 mL		5 mL		
600-122428-D-1 MSD	MW-22	353.2	T	5 mL	5 mL		5 mL		
CCV 600-178421/32		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/33		353.2		5 mL	5 mL				

Batch Notes	
Pipette ID	wc62 wc45a wc40

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Batch Number: 177771 Batch Start Date: 12/02/15 13:00 Batch Analyst: Daniel, Kevin R

Batch Method: 4500 P E-1999 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WETSPHOSCS 00022	WETSPHOSIS 00020		
ICV 600-177771/1		4500 P E-1999		5 mL	5 mL		50 uL		
ICB 600-177771/2		4500 P E-1999		5 mL	5 mL				
MB 600-177771/3		4500 P E-1999		5 mL	5 mL				
LCS 600-177771/4		4500 P E-1999		5 mL	5 mL		50 uL		
600-122364-B-1 MS		4500 P E-1999	T	5 mL	5 mL		50 uL		
600-122364-B-1 MSD		4500 P E-1999	T	5 mL	5 mL		50 uL		
600-122428-E-1	MW-22	4500 P E-1999	T	5 mL	5 mL				
CCV 600-177771/13		4500 P E-1999		5 mL	5 mL	50 uL			
CCB 600-177771/14		4500 P E-1999		5 mL	5 mL				

Batch Notes	
Ammonium Molybdate Reagent ID Number	2048489
Ascorbic Acid Reagent ID Number	2058266
Potassium Antimonyl Tartrate Reagent ID	1883499
Pipette ID	wc62 wc45a
Sulfuric Acid Reagent ID Number	2033361

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122428-1

SDG No.:

Batch Number: 178131 Batch Start Date: 12/09/15 15:31 Batch Analyst: Contreras, Enrique

Batch Method: 5310 D-2000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TOCISCAL 00300	TOCSLCS 00209	WETSTOCICV 00033			
ICV 600-178131/7		5310 D-2000		12 mL					
CCV 600-178131/31		5310 D-2000			12 mL				
LCS 600-178131/40		5310 D-2000		12 mL					
600-122468-A-2 MS		5310 D-2000	T			0.12 mL			
CCV 600-178131/43		5310 D-2000			12 mL				
600-122468-A-2 MSD		5310 D-2000	T			0.12 mL			
CCV 600-178131/55		5310 D-2000			12 mL				

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

Test America (LAB COPY)
DateShipped: 11/30/2015
CarrierName: FedEx
AirbillNo: 775083672488

CHAIN OF CUSTODY RECORD

No: 6-113015-165620-0003
Lab: Test America
Lab Contact: Kristy Ricke
Lab Phone: 713-690-4444

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
MW-22	MW-22	Ground Water/ Duane Thomas	Grab	RSK-175, Nitrate Nitrite as N and Ammonia, TOC (EPA 415.2), Ortho-phosphate (EPA 365.1)	1112 (Ice to 4C & HCl), 1113 (Ice to 4C & H2SO4), 1114 (Ice to 4C & H2SO4), 1115 (Ice to 4C) (10)	MW-22	11/30/2015 13:58	

600-122428 Chain of Custody

Sample(s) to be used for Lab QC: MW-22 Tag 1112, MW-22 Tag 1113, MW-22 Tag 1114, MW-22 Tag 1115	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	EA Engineers	11/30/15 1800		12-1-15 13:03	

TestAmerica Houston

Loc: 600
122428

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Checklist

Date/Time Received: '15 DEC 1 13:03

JOB NUMBER: _____ CLIENT: EA

UNPACKED BY: _____ CARRIER/DRIVER: Fedex SD

Custody Seal Present: ☐ YES ☐ NO Number of Coolers Received: _____

Cooler ID	Temp Blank	Trip Blank	Observed Temp (℃)	Therm ID	Them CF	Corrected Temp (℃)
BW	Y / N	Y / N	1.3	550	-0.3	1.0
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☐ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO Acid preserved are<pH 2: ☐ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		

COMMENTS:
TRK# 7750 8367 2488

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 600-122428-1

Login Number: 122428
List Number: 1
Creator: Jackson, Falynn E

List Source: TestAmerica Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

ANALYTICAL REPORT

Job Number: 600-122469-1

Job Description: Jones Road Groundwater Plume

For:
EA Engineering, Science, and Technology
5655 S. Yosemite St., Ste. 320
Greenwood Village, CO 80111

Attention: Pamela J Moss

Approved for release.
Kristy Ricke
Project Manager I
12/17/2015 11:31 AM

Kristy Ricke, Project Manager I
6310 Rothway Street, Houston, TX, 77040
(615)301-5764
kristy.ricke@testamericainc.com
12/17/2015

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Job Narrative
600-122469-1

Comments
No additional comments.

Receipt
The samples were received on 12/2/2015 11:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5º C.

General Chemistry
Method 353.2: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-21 (600-122469-4). Elevated reporting limits (RLs) are provided.

Method SM 4500 P E: The following samples were diluted to bring the concentration of target analytes within the calibration range: (600-122364-B-1), (600-122364-B-1 MS) and (600-122364-B-1 MSD). Elevated reporting limits (RLs) are provided.

Method SM 4500 P E: The following samples was diluted due to turbidity: MW-06 (600-122469-1) and MW-21 (600-122469-4). Elevated reporting limits (RL) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SAMPLE SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
600-122469-1	MW-06	Water	12/01/2015 1130	12/02/2015 1140
600-122469-2	MW-07	Water	12/01/2015 1215	12/02/2015 1140
600-122469-3	MW-07 DUP	Water	12/01/2015 1215	12/02/2015 1140
600-122469-4	MW-21	Water	12/01/2015 1335	12/02/2015 1140
600-122469-5	MW-23	Water	12/01/2015 0845	12/02/2015 1140
600-122469-6	MW-24	Water	12/01/2015 1010	12/02/2015 1140

EXECUTIVE SUMMARY - Detections

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
600-122469-1	**MW-06**					
Nitrate Nitrite as N		1.88		0.0500	mg/L	353.2
Orthophosphate		0.105	J	0.250	mg/L	4500 P E-1999
600-122469-2	**MW-07**					
Nitrate Nitrite as N		0.371		0.0500	mg/L	353.2
Orthophosphate		0.0230	J	0.0500	mg/L	4500 P E-1999
600-122469-3	**MW-07 DUP**					
Nitrate Nitrite as N		0.382		0.0500	mg/L	353.2
Orthophosphate		0.0250	J	0.0500	mg/L	4500 P E-1999
600-122469-4	**MW-21**					
Nitrate Nitrite as N		16.2		1.00	mg/L	353.2
Orthophosphate		0.450	J	1.25	mg/L	4500 P E-1999
600-122469-5	**MW-23**					
Nitrate Nitrite as N		1.01		0.0500	mg/L	353.2
600-122469-6	**MW-24**					
Nitrate Nitrite as N		0.468	F1 F2	0.0500	mg/L	353.2

METHOD SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Nitrogen, Ammonia	TAL HOU	MCAWW 350.1	
Distillation, Ammonia	TAL HOU		EPA 350.1
Nitrogen, Nitrate-Nitrite (Colorimetric, Automated, Cadmium Reduction)	TAL HOU	MCAWW 353.2	
Orthophosphate - SM Online, 2011	TAL HOU	SM-Online 4500 P E-1999	

Lab References:

TAL HOU = TestAmerica Houston

Method References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM-Online = Standard Methods Online

METHOD / ANALYST SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Method	Analyst	Analyst ID
MCAWW 350.1	Cemer, Sejfudin	SC1
MCAWW 353.2	Daniel, Kevin R	KRD
SM-Online 4500 P E-1999	Daniel, Kevin R	KRD

General Chemistry

Client Sample ID: **MW-06**

Lab Sample ID: 600-122469-1 Date Sampled: 12/01/2015 1130
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-177964	Analysis Date: 12/08/2015 0839						
Prep Batch: 600-177944	Prep Date: 12/08/2015 0506						
Nitrate Nitrite as N	1.88		mg/L	0.0170	0.0500	1.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1543						
Orthophosphate	0.105	J	mg/L	0.0519	0.250	5.0	4500 P E-1999
Analysis Batch: 600-177771	Analysis Date: 12/02/2015 1300						

General Chemistry

Client Sample ID: **MW-07**

Lab Sample ID: 600-122469-2 Date Sampled: 12/01/2015 1215
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-177964	Analysis Date: 12/08/2015 0840						
Prep Batch: 600-177944	Prep Date: 12/08/2015 0506						
Nitrate Nitrite as N	0.371		mg/L	0.0170	0.0500	1.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1547						
Orthophosphate	0.0230	J	mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177771	Analysis Date: 12/02/2015 1300						

General Chemistry

Client Sample ID: **MW-07 DUP**

Lab Sample ID: 600-122469-3 Date Sampled: 12/01/2015 1215
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-177964	Analysis Date: 12/08/2015 0844						
Prep Batch: 600-177944	Prep Date: 12/08/2015 0506						
Nitrate Nitrite as N	0.382		mg/L	0.0170	0.0500	1.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1555						
Orthophosphate	0.0250	J	mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177771	Analysis Date: 12/02/2015 1300						

General Chemistry

Client Sample ID: **MW-21**

Lab Sample ID: 600-122469-4 Date Sampled: 12/01/2015 1335
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-177964	Analysis Date: 12/08/2015 0845						
Prep Batch: 600-177944	Prep Date: 12/08/2015 0506						
Nitrate Nitrite as N	16.2		mg/L	0.340	1.00	20	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1619						
Orthophosphate	0.450	J	mg/L	0.259	1.25	25	4500 P E-1999
Analysis Batch: 600-177771	Analysis Date: 12/02/2015 1300						

General Chemistry

Client Sample ID: **MW-23**

Lab Sample ID: 600-122469-5 Date Sampled: 12/01/2015 0845
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-177964	Analysis Date: 12/08/2015 0846						
Prep Batch: 600-177944	Prep Date: 12/08/2015 0506						
Nitrate Nitrite as N	1.01		mg/L	0.0170	0.0500	1.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1606						
Orthophosphate	0.0104	U	mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177771	Analysis Date: 12/02/2015 1300						

General Chemistry

Client Sample ID: **MW-24**

Lab Sample ID: 600-122469-6 Date Sampled: 12/01/2015 1010
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-177964	Analysis Date: 12/08/2015 0847						
Prep Batch: 600-177944	Prep Date: 12/08/2015 0506						
Nitrate Nitrite as N	0.468	F1 F2	mg/L	0.0170	0.0500	1.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1614						
Orthophosphate	0.0104	U	mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177771	Analysis Date: 12/02/2015 1300						

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Method Blank - Batch: 600-177944

Method: 350.1
Preparation: 350.1

Lab Sample ID:	MB 600-177944/1-A	Analysis Batch:	600-177964	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-177944	Lab File ID:	OM_12-8-2015_08-04-4
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/08/2015 0817	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	12/08/2015 0506				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Ammonia	0.0675	U	0.0675	0.200

Lab Control Sample - Batch: 600-177944

Method: 350.1
Preparation: 350.1

Lab Sample ID:	LCS 600-177944/2-A	Analysis Batch:	600-177964	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-177944	Lab File ID:	OM_12-8-2015_08-04-4
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/08/2015 0818	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	12/08/2015 0506				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	5.00	4.942	99	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177944

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122706-C-1-B MS	Analysis Batch:	600-177964	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-177944	Lab File ID:	OM_12-8-2015_08-04-4
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/08/2015 0836			Final Weight/Volume:	100 mL
Prep Date:	12/08/2015 0506				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122706-C-1-C MSD	Analysis Batch:	600-177964	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-177944	Lab File ID:	OM_12-8-2015_08-04-4
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/08/2015 0837			Final Weight/Volume:	100 mL
Prep Date:	12/08/2015 0506				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia	98	101	90 - 110	3	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177944

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122706-C-1-B MS	Units:	mg/L
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/08/2015 0836		
Prep Date:	12/08/2015 0506		
Leach Date:	N/A		

MSD Lab Sample ID:	600-122706-C-1-C MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/08/2015 0837
Prep Date:	12/08/2015 0506
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Ammonia	0.655	5.00	5.00	5.545	5.695

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Method Blank - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 600-178421/10	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1524	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N	0.0170	U	0.0170	0.0500

Method Blank - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 600-178421/46	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1552	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N	0.0170	U	0.0170	0.0500

Method Blank - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 600-178421/72	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1613	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N	0.0170	U	0.0170	0.0500

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Lab Control Sample - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 600-178421/11	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1525	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	1.00	1.012	101	90 - 110	

Lab Control Sample - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 600-178421/47	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1553	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	1.00	0.9994	100	90 - 110	

Lab Control Sample - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 600-178421/73	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1614	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	1.00	1.004	100	90 - 110	

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178421

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	600-122469-6	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1615			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122469-6	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1616			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrate Nitrite as N	61	36	80 - 120	26	20	F1	F1 F2

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178421

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	600-122469-6	Units:	mg/L	MSD Lab Sample ID:	600-122469-6
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/14/2015 1615			Analysis Date:	12/14/2015 1616
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Nitrate Nitrite as N	0.468	1.00	1.00	1.078	F1	0.8305	F1 F2

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Method Blank - Batch: 600-177771

Method: 4500 P E-1999
Preparation: N/A

Lab Sample ID:	MB 600-177771/3	Analysis Batch:	600-177771	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/02/2015 1300	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Orthophosphate	0.0104	U	0.0104	0.0500

Lab Control Sample - Batch: 600-177771

Method: 4500 P E-1999
Preparation: N/A

Lab Sample ID:	LCS 600-177771/4	Analysis Batch:	600-177771	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/02/2015 1300	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Orthophosphate	0.500	0.5260	105	90 - 110	
Orthophosphorus as PO4	1.53	1.613	105	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177771

Method: 4500 P E-1999
Preparation: N/A

MS Lab Sample ID:	600-122469-3	Analysis Batch:	600-177771	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/02/2015 1300			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122469-3	Analysis Batch:	600-177771	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/02/2015 1300			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Orthophosphate	107	109	75 - 125	2	20		
Orthophosphorus as PO4	107	109	75 - 125	2	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177771

Method: 4500 P E-1999
Preparation: N/A

MS Lab Sample ID:	600-122469-3	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/02/2015 1300		
Prep Date:	N/A		
Leach Date:	N/A		

MSD Lab Sample ID:	600-122469-3
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/02/2015 1300
Prep Date:	N/A
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Orthophosphate	0.0250	J	0.500	0.500	0.5580	0.5720
Orthophosphorus as PO4	0.0767	J	1.53	1.53	1.711	1.754

DATA REPORTING QUALIFIERS

Client: EA Engineering, Science, and Technology Job Number: 600-122469-1

Lab Section	Qualifier	Description
General Chemistry		
	U	Indicates the analyte was analyzed for but not detected.
	F1	MS and/or MSD Recovery is outside acceptance limits.
	F2	MS/MSD RPD exceeds control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:600-177771					
LCS 600-177771/4	Lab Control Sample	T	Water	4500 P E-1999	
MB 600-177771/3	Method Blank	T	Water	4500 P E-1999	
600-122469-1	MW-06	T	Water	4500 P E-1999	
600-122469-2	MW-07	T	Water	4500 P E-1999	
600-122469-3	MW-07 DUP	T	Water	4500 P E-1999	
600-122469-3MS	Matrix Spike	T	Water	4500 P E-1999	
600-122469-3MSD	Matrix Spike Duplicate	T	Water	4500 P E-1999	
600-122469-4	MW-21	T	Water	4500 P E-1999	
600-122469-5	MW-23	T	Water	4500 P E-1999	
600-122469-6	MW-24	T	Water	4500 P E-1999	
Prep Batch: 600-177944					
LCS 600-177944/2-A	Lab Control Sample	T	Water	350.1	
MB 600-177944/1-A	Method Blank	T	Water	350.1	
600-122469-1	MW-06	T	Water	350.1	
600-122469-2	MW-07	T	Water	350.1	
600-122469-3	MW-07 DUP	T	Water	350.1	
600-122469-4	MW-21	T	Water	350.1	
600-122469-5	MW-23	T	Water	350.1	
600-122469-6	MW-24	T	Water	350.1	
600-122706-C-1-B MS	Matrix Spike	T	Water	350.1	
600-122706-C-1-C MSD	Matrix Spike Duplicate	T	Water	350.1	
Analysis Batch:600-177964					
LCS 600-177944/2-A	Lab Control Sample	T	Water	350.1	600-177944
MB 600-177944/1-A	Method Blank	T	Water	350.1	600-177944
600-122469-1	MW-06	T	Water	350.1	600-177944
600-122469-2	MW-07	T	Water	350.1	600-177944
600-122469-3	MW-07 DUP	T	Water	350.1	600-177944
600-122469-4	MW-21	T	Water	350.1	600-177944
600-122469-5	MW-23	T	Water	350.1	600-177944
600-122469-6	MW-24	T	Water	350.1	600-177944
600-122706-C-1-B MS	Matrix Spike	T	Water	350.1	600-177944
600-122706-C-1-C MSD	Matrix Spike Duplicate	T	Water	350.1	600-177944

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:600-178421					
LCS 600-178421/11	Lab Control Sample	T	Water	353.2	
LCS 600-178421/47	Lab Control Sample	T	Water	353.2	
LCS 600-178421/73	Lab Control Sample	T	Water	353.2	
MB 600-178421/10	Method Blank	T	Water	353.2	
MB 600-178421/46	Method Blank	T	Water	353.2	
MB 600-178421/72	Method Blank	T	Water	353.2	
600-122469-1	MW-06	T	Water	353.2	
600-122469-2	MW-07	T	Water	353.2	
600-122469-3	MW-07 DUP	T	Water	353.2	
600-122469-4	MW-21	T	Water	353.2	
600-122469-5	MW-23	T	Water	353.2	
600-122469-6	MW-24	T	Water	353.2	
600-122469-6MS	Matrix Spike	T	Water	353.2	
600-122469-6MSD	Matrix Spike Duplicate	T	Water	353.2	

Report Basis
T = Total

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Laboratory Chronicle

Lab ID: 600-122469-1 **Client ID: MW-06**

Sample Date/Time: 12/01/2015 11:30 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122469-A-1-A		600-177964	600-177944	12/08/2015 05:06	1	TAL HOU	SC1
A:350.1	600-122469-A-1-A		600-177964	600-177944	12/08/2015 08:39	1	TAL HOU	SC1
A:353.2	600-122469-A-1		600-178421		12/14/2015 15:43	1	TAL HOU	KRD
A:4500 P E-1999	600-122469-B-1		600-177771		12/02/2015 13:00	5	TAL HOU	KRD

Lab ID: 600-122469-2 **Client ID: MW-07**

Sample Date/Time: 12/01/2015 12:15 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122469-A-2-A		600-177964	600-177944	12/08/2015 05:06	1	TAL HOU	SC1
A:350.1	600-122469-A-2-A		600-177964	600-177944	12/08/2015 08:40	1	TAL HOU	SC1
A:353.2	600-122469-A-2		600-178421		12/14/2015 15:47	1	TAL HOU	KRD
A:4500 P E-1999	600-122469-B-2		600-177771		12/02/2015 13:00	1	TAL HOU	KRD

Lab ID: 600-122469-3 **Client ID: MW-07 DUP**

Sample Date/Time: 12/01/2015 12:15 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122469-A-3-A		600-177964	600-177944	12/08/2015 05:06	1	TAL HOU	SC1
A:350.1	600-122469-A-3-A		600-177964	600-177944	12/08/2015 08:44	1	TAL HOU	SC1
A:353.2	600-122469-A-3		600-178421		12/14/2015 15:55	1	TAL HOU	KRD
A:4500 P E-1999	600-122469-B-3		600-177771		12/02/2015 13:00	1	TAL HOU	KRD

Lab ID: 600-122469-3 MS **Client ID: MW-07 DUP**

Sample Date/Time: 12/01/2015 12:15 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:4500 P E-1999	600-122469-B-3 MS		600-177771		12/02/2015 13:00	1	TAL HOU	KRD

Lab ID: 600-122469-3 MSD **Client ID: MW-07 DUP**

Sample Date/Time: 12/01/2015 12:15 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:4500 P E-1999	600-122469-B-3 MSD		600-177771		12/02/2015 13:00	1	TAL HOU	KRD

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Laboratory Chronicle

Lab ID: 600-122469-4 **Client ID: MW-21**

Sample Date/Time: 12/01/2015 13:35 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122469-A-4-A		600-177964	600-177944	12/08/2015 05:06	1	TAL HOU	SC1
A:350.1	600-122469-A-4-A		600-177964	600-177944	12/08/2015 08:45	1	TAL HOU	SC1
A:353.2	600-122469-A-4 ^20		600-178421		12/14/2015 16:19	20	TAL HOU	KRD
A:4500 P E-1999	600-122469-B-4		600-177771		12/02/2015 13:00	25	TAL HOU	KRD

Lab ID: 600-122469-5 **Client ID: MW-23**

Sample Date/Time: 12/01/2015 08:45 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122469-A-5-A		600-177964	600-177944	12/08/2015 05:06	1	TAL HOU	SC1
A:350.1	600-122469-A-5-A		600-177964	600-177944	12/08/2015 08:46	1	TAL HOU	SC1
A:353.2	600-122469-A-5		600-178421		12/14/2015 16:06	1	TAL HOU	KRD
A:4500 P E-1999	600-122469-B-5		600-177771		12/02/2015 13:00	1	TAL HOU	KRD

Lab ID: 600-122469-6 **Client ID: MW-24**

Sample Date/Time: 12/01/2015 10:10 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122469-A-6-A		600-177964	600-177944	12/08/2015 05:06	1	TAL HOU	SC1
A:350.1	600-122469-A-6-A		600-177964	600-177944	12/08/2015 08:47	1	TAL HOU	SC1
A:353.2	600-122469-A-6		600-178421		12/14/2015 16:14	1	TAL HOU	KRD
A:4500 P E-1999	600-122469-B-6		600-177771		12/02/2015 13:00	1	TAL HOU	KRD

Lab ID: 600-122469-6 MS **Client ID: MW-24**

Sample Date/Time: 12/01/2015 10:10 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:353.2	600-122469-A-6 MS		600-178421		12/14/2015 16:15	1	TAL HOU	KRD

Lab ID: 600-122469-6 MSD **Client ID: MW-24**

Sample Date/Time: 12/01/2015 10:10 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:353.2	600-122469-A-6 MSD		600-178421		12/14/2015 16:16	1	TAL HOU	KRD

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Laboratory Chronicle

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	MB 600-177944/1-A		600-177964	600-177944	12/08/2015 05:06	1	TAL HOU	SC1
A:350.1	MB 600-177944/1-A		600-177964	600-177944	12/08/2015 08:17	1	TAL HOU	SC1
A:353.2	MB 600-178421/10		600-178421		12/14/2015 15:24	1	TAL HOU	KRD
A:353.2	MB 600-178421/46		600-178421		12/14/2015 15:52	1	TAL HOU	KRD
A:353.2	MB 600-178421/72		600-178421		12/14/2015 16:13	1	TAL HOU	KRD
A:4500 P E-1999	MB 600-177771/3		600-177771		12/02/2015 13:00	1	TAL HOU	KRD

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	LCS 600-177944/2-A		600-177964	600-177944	12/08/2015 05:06	1	TAL HOU	SC1
A:350.1	LCS 600-177944/2-A		600-177964	600-177944	12/08/2015 08:18	1	TAL HOU	SC1
A:353.2	LCS 600-178421/11		600-178421		12/14/2015 15:25	1	TAL HOU	KRD
A:353.2	LCS 600-178421/47		600-178421		12/14/2015 15:53	1	TAL HOU	KRD
A:353.2	LCS 600-178421/73		600-178421		12/14/2015 16:14	1	TAL HOU	KRD
A:4500 P E-1999	LCS 600-177771/4		600-177771		12/02/2015 13:00	1	TAL HOU	KRD

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 12/06/2015 23:00 Received Date/Time: 12/07/2015 14:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122706-C-1-B MS		600-177964	600-177944	12/08/2015 05:06	1	TAL HOU	SC1
A:350.1	600-122706-C-1-B MS		600-177964	600-177944	12/08/2015 08:36	1	TAL HOU	SC1

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 12/06/2015 23:00 Received Date/Time: 12/07/2015 14:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122706-C-1-C MSD		600-177964	600-177944	12/08/2015 05:06	1	TAL HOU	SC1
A:350.1	600-122706-C-1-C MSD		600-177964	600-177944	12/08/2015 08:37	1	TAL HOU	SC1

Lab References:

TAL HOU = TestAmerica Houston

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
NO3NO2CRVE1.0_00045	12/15/15	12/14/15	DI WATER, Lot N/A	100 mL	NO3NO2CRVEINT_00038	10 mL	Nitrate Nitrite as N	1 ppm
.NO3NO2CRVEINT_00038	12/15/15	12/14/15	DI WATER, Lot NA	100 mL	WETSICINO2_00018	1 mL	Nitrate Nitrite as N	10 mg/L
..WETSICINO2_00018	12/31/15	SPEX CERTIPREP, Lot 3-106NO2N-2Y			(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L
NO3NO2ICV/LCS_00038	12/15/15	12/14/15	DI WATER, Lot N/A	100 mL	NO3NO2ICVSRCE_00001	0.1 mL	Nitrate Nitrite as N	1 ppm
.NO3NO2ICVSRCE_00001	01/01/16	INORGANIC VENTURES, Lot H2-NOX02113			(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L
WETSNH3CAL_00012	08/12/16	LABCHEM, Lot D223-16			(Purchased Reagent)		Ammonia	1000 mg/L
WETSNH3ICV_00020	01/31/16	RICCA, Lot 2408676			(Purchased Reagent)		Ammonia	1000 mg/L
							Ammonia, undistilled	1000 mg/L
							Nitrogen, Kjeldahl	1000 mg/L
WETSPHOSCS_00022	09/30/16	RICCA, Lot 2509F52			(Purchased Reagent)		Orthophosphate	50 mg/L
							Orthophosphorus as PO4	153.325 mg/L
WETSPHOSIS_00020	05/26/16	LABCHEM, Lot E140-24			(Purchased Reagent)		Orthophosphate	50 mg/L
							Orthophosphorus as PO4	153.325 mg/L

Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-122469-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Houston	Arkansas DEQ	State Program	6	15-045-0
TestAmerica Houston	Louisiana	NELAP	6	01967
TestAmerica Houston	Oklahoma	State Program	6	2015-050
TestAmerica Houston	Texas	NELAP	6	T104704223-15-18
TestAmerica Houston	USDA	Federal		P330-14-00192

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122469-1

SDG No.:

Project: Jones Road Groundwater Plume

Client Sample ID	Lab Sample ID
MW-06	600-122469-1
MW-07	600-122469-2
MW-07 DUP	600-122469-3
MW-21	600-122469-4
MW-23	600-122469-5
MW-24	600-122469-6

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-06
Lab Sample ID: 600-122469-1
Lab Name: TestAmerica Houston
Job No.: 600-122469-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 11:30
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	1.88	0.0500	0.0170	mg/L			1	353.2
14265-44-2	Orthophosphate	0.105	0.250	0.0519	mg/L	J		5	4500 P E-1999

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-07
Lab Sample ID: 600-122469-2
Lab Name: TestAmerica Houston
Job No.: 600-122469-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 12:15
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	0.371	0.0500	0.0170	mg/L			1	353.2
14265-44-2	Orthophosphate	0.0230	0.0500	0.0104	mg/L	J		1	4500 P E-1999

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-07 DUP
Lab Sample ID: 600-122469-3
Lab Name: TestAmerica Houston
Job No.: 600-122469-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 12:15
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	0.382	0.0500	0.0170	mg/L			1	353.2
14265-44-2	Orthophosphate	0.0250	0.0500	0.0104	mg/L	J		1	4500 P E-1999

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-21
Lab Sample ID: 600-122469-4
Lab Name: TestAmerica Houston
Job No.: 600-122469-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 13:35
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	16.2	1.00	0.340	mg/L			20	353.2
14265-44-2	Orthophosphate	0.450	1.25	0.259	mg/L	J		25	4500 P E-1999

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-23
Lab Sample ID: 600-122469-5
Lab Name: TestAmerica Houston
Job No.: 600-122469-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 08:45
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	1.01	0.0500	0.0170	mg/L			1	353.2
14265-44-2	Orthophosphate	0.0104	0.0500	0.0104	mg/L	U		1	4500 P E-1999

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-24
Lab Sample ID: 600-122469-6
Lab Name: TestAmerica Houston
Job No.: 600-122469-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 10:10
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	0.468	0.0500	0.0170	mg/L		F1 F2	1	353.2
14265-44-2	Orthophosphate	0.0104	0.0500	0.0104	mg/L	U		1	4500 P E-1999

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Analyst: SC1 Batch Start Date: 12/08/2015

Reporting Units: mg/L Analytical Batch No.: 177964

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
9	ICV	08:14	Ammonia	5.090	5.00	102	90-110		WETSNH3ICV_00020
10	ICB	08:15	Ammonia	0.0675				U	
21	CCV	08:28	Ammonia	5.072	5.00	101	90-110		WETSNH3CAL_00012
22	CCB	08:29	Ammonia	0.0675				U	
33	CCV	08:41	Ammonia	5.134	5.00	103	90-110		WETSNH3CAL_00012
34	CCB	08:42	Ammonia	0.0675				U	
45	CCV	08:55	Ammonia	5.114	5.00	102	90-110		WETSNH3CAL_00012
46	CCB	08:56	Ammonia	0.0675				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Analyst: KRD Batch Start Date: 12/14/2015

Reporting Units: mg/L Analytical Batch No.: 178421

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	15:22	Nitrate Nitrite as N	0.9989	1.00	100	90-110		NO3NO2ICV/LCS_0003 8
8	ICB	15:22	Nitrate Nitrite as N	0.0170				U	
20	CCV	15:32	Nitrate Nitrite as N	1.024	1.00	102	90-110		NO3NO2CRVE1.0_0004 5
21	CCB	15:33	Nitrate Nitrite as N	0.0170				U	
32	CCV	15:41	Nitrate Nitrite as N	1.016	1.00	102	90-110		NO3NO2CRVE1.0_0004 5
33	CCB	15:42	Nitrate Nitrite as N	0.0170				U	
44	CCV	15:51	Nitrate Nitrite as N	1.018	1.00	102	90-110		NO3NO2CRVE1.0_0004 5
45	CCB	15:52	Nitrate Nitrite as N	0.0170				U	
58	CCV	16:02	Nitrate Nitrite as N	1.008	1.00	101	90-110		NO3NO2CRVE1.0_0004 5
59	CCB	16:03	Nitrate Nitrite as N	0.0170				U	
70	CCV	16:11	Nitrate Nitrite as N	1.001	1.00	100	90-110		NO3NO2CRVE1.0_0004 5
71	CCB	16:12	Nitrate Nitrite as N	0.0170				U	
81	CCV	16:20	Nitrate Nitrite as N	1.011	1.00	101	90-110		NO3NO2CRVE1.0_0004 5
82	CCB	16:21	Nitrate Nitrite as N	0.0170				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Analyst: KRD Batch Start Date: 12/02/2015

Reporting Units: mg/L Analytical Batch No.: 177771

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	13:00	Orthophosphate	0.5300	0.500	106	90-110		WETSPHOSIS_00020
2	ICB	13:00	Orthophosphate	0.0104				U	
13	CCV	13:00	Orthophosphate	0.5300	0.500	106	90-110		WETSPHOSCS_00022
14	CCB	13:00	Orthophosphate	0.0104				U	
21	CCV	10:17	Orthophosphate	0.5370	0.500	107	90-110		WETSPHOSCS_00022
22	CCB	10:17	Orthophosphate	0.0104				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 177964 Date: 12/08/2015 08:17 Prep Batch: 177944 Date: 12/08/2015 05:06							
350.1	MB 600-177944/1-A	Ammonia	0.0675	U	mg/L	0.200	1
Batch ID: 178421 Date: 12/14/2015 15:24							
353.2	MB 600-178421/10	Nitrate Nitrite as N	0.0170	U	mg/L	0.0500	1
Batch ID: 178421 Date: 12/14/2015 15:52							
353.2	MB 600-178421/46	Nitrate Nitrite as N	0.0170	U	mg/L	0.0500	1
Batch ID: 178421 Date: 12/14/2015 16:13							
353.2	MB 600-178421/72	Nitrate Nitrite as N	0.0170	U	mg/L	0.0500	1
Batch ID: 177771 Date: 12/02/2015 13:00							
4500 P E-1999	MB 600-177771/3	Orthophosphate	0.0104	U	mg/L	0.0500	1
4500 P E-1999	MB 600-177771/3	Orthophosphorus as PO4	0.0318	U	mg/L	0.153	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 177964	Date: 12/08/2015 08:36		Prep Batch: 177944			Date: 12/08/2015 05:06					
350.1	600-122706-C-1-B	Ammonia	0.655		mg/L						
350.1	600-122706-C-1-B MS	Ammonia	5.545		mg/L	5.00	98	90-110			
Batch ID: 178421	Date: 12/14/2015 16:15										
353.2	600-122469-6	Nitrate Nitrite as N	0.468		mg/L						F1 F2
353.2	600-122469-6 MS	Nitrate Nitrite as N	1.078		mg/L	1.00	61	80-120			F1
Batch ID: 177771	Date: 12/02/2015 13:00										
4500 P E-1999	600-122469-3	Orthophosphate	0.0250	J	mg/L						
4500 P E-1999	600-122469-3 MS	Orthophosphate	0.5580		mg/L	0.500	107	75-125			
4500 P E-1999	600-122469-3	Orthophosphorus as PO4	0.0767	J	mg/L						
4500 P E-1999	600-122469-3 MS	Orthophosphorus as PO4	1.711		mg/L	1.53	107	75-125			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 177964	Date: 12/08/2015 08:37		Prep Batch: 177944			Date: 12/08/2015 05:06					
350.1	600-122706-C-1-C MSD	Ammonia	5.695		mg/L	5.00	101	90-110	3	20	
Batch ID: 178421	Date: 12/14/2015 16:16										
353.2	600-122469-6 MSD	Nitrate Nitrite as N	0.8305		mg/L	1.00	36	80-120	26	20	F1 F2
Batch ID: 177771	Date: 12/02/2015 13:00										
4500 P E-1999	600-122469-3 MSD	Orthophosphate	0.5720		mg/L	0.500	109	75-125	2	20	
4500 P E-1999	600-122469-3 MSD	Orthophosphorus as PO4	1.754		mg/L	1.53	109	75-125	2	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 177964	Date: 12/08/2015 08:18		Prep Batch: 177944			Date: 12/08/2015 05:06					
						LCS Source: WETSNH3ICV_00020					
350.1	LCS 600-177944/2-A	Ammonia	4.942		mg/L	5.00	99	90-110			
Batch ID: 178421	Date: 12/14/2015 15:25										
						LCS Source: NO3NO2ICV/LCS_00038					
353.2	LCS 600-178421/11	Nitrate Nitrite as N	1.012		mg/L	1.00	101	90-110			
Batch ID: 178421	Date: 12/14/2015 15:53										
						LCS Source: NO3NO2ICV/LCS_00038					
353.2	LCS 600-178421/47	Nitrate Nitrite as N	0.9994		mg/L	1.00	100	90-110			
Batch ID: 178421	Date: 12/14/2015 16:14										
						LCS Source: NO3NO2ICV/LCS_00038					
353.2	LCS 600-178421/73	Nitrate Nitrite as N	1.004		mg/L	1.00	100	90-110			
Batch ID: 177771	Date: 12/02/2015 13:00										
						LCS Source: WETSPHOSIS_00020					
4500 P E-1999	LCS 600-177771/4	Orthophosphate	0.5260		mg/L	0.500	105	90-110			
4500 P E-1999	LCS 600-177771/4	Orthophosphorus as PO4	1.613		mg/L	1.53	105	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122469-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 MDL Date: 04/30/2014 10:41

Prep Method: 350.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ammonia		0.2	0.067487

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122469-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 XMDL Date: 04/30/2014 10:42

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ammonia		0.2	0.067487

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122469-1

SDG Number:

Matrix: Water Instrument ID: WC05

Method: 353.2 MDL Date: 07/09/2012 10:23

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Nitrate Nitrite as N		0.05	0.017

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122469-1

SDG Number:

Matrix: Water Instrument ID: WC05

Method: 353.2 XMDL Date: 05/05/2014 08:21

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate Nitrite as N		0.05	0.017

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122469-1

SDG Number:

Matrix: Water Instrument ID: WC10

Method: 4500 P E-1999 MDL Date: 05/05/2014 08:22

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Orthophosphate		0.05	0.010379

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122469-1

SDG Number:

Matrix: Water Instrument ID: WC10

Method: 4500 P E-1999 XMDL Date: 05/05/2014 08:22

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Orthophosphate		0.05	0.010379

FORM IX - IN

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Prep Method: 350.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-177944/1-A	12/08/2015 05:06	177944		100	100
LCS 600-177944/2-A	12/08/2015 05:06	177944		100	100
600-122706-C-1-B MS	12/08/2015 05:06	177944		100	100
600-122706-C-1-C MSD	12/08/2015 05:06	177944		100	100
600-122469-1	12/08/2015 05:06	177944		100	100
600-122469-2	12/08/2015 05:06	177944		100	100
600-122469-3	12/08/2015 05:06	177944		100	100
600-122469-4	12/08/2015 05:06	177944		100	100
600-122469-5	12/08/2015 05:06	177944		100	100
600-122469-6	12/08/2015 05:06	177944		100	100

FORM XII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Instrument ID: WC07 Method: 350.1

Start Date: 12/08/2015 08:05 End Date: 12/08/2015 09:07

Lab Sample ID	D/F	Type	Time	Analytes																			
				NH3																			
ZZZZZZ			08:05																				
ZZZZZZ			08:06																				
ZZZZZZ			08:07																				
ZZZZZZ			08:08																				
ZZZZZZ			08:10																				
ZZZZZZ			08:11																				
ZZZZZZ			08:12																				
ZZZZZZ			08:13																				
ICV 600-177964/9	1		08:14	X																			
ICB 600-177964/10	1		08:15	X																			
MB 600-177944/1-A	1	T	08:17	X																			
LCS 600-177944/2-A	1	T	08:18	X																			
ZZZZZZ			08:19																				
ZZZZZZ			08:20																				
ZZZZZZ			08:21																				
ZZZZZZ			08:22																				
ZZZZZZ			08:23																				
ZZZZZZ			08:24																				
ZZZZZZ			08:26																				
ZZZZZZ			08:27																				
CCV 600-177964/21	1		08:28	X																			
CCB 600-177964/22	1		08:29	X																			
ZZZZZZ			08:30																				
ZZZZZZ			08:31																				
ZZZZZZ			08:32																				
ZZZZZZ			08:33																				
ZZZZZZ			08:35																				
600-122706-C-1-B MS	1	T	08:36	X																			
600-122706-C-1-C MSD	1	T	08:37	X																			
ZZZZZZ			08:38																				
600-122469-1	1	T	08:39	X																			
600-122469-2	1	T	08:40	X																			
CCV 600-177964/33	1		08:41	X																			
CCB 600-177964/34	1		08:42	X																			
600-122469-3	1	T	08:44	X																			
600-122469-4	1	T	08:45	X																			
600-122469-5	1	T	08:46	X																			
600-122469-6	1	T	08:47	X																			
ZZZZZZ			08:48																				
ZZZZZZ			08:49																				
ZZZZZZ			08:50																				
ZZZZZZ			08:51																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Instrument ID: WC07 Method: 350.1

Start Date: 12/08/2015 08:05 End Date: 12/08/2015 09:07

Lab Sample ID	D/F	Type	Time	Analytes																			
				NH3																			
ZZZZZZ			08:53																				
ZZZZZZ			08:54																				
CCV 600-177964/45	1		08:55	X																			
CCB 600-177964/46	1		08:56	X																			
ZZZZZZ			08:57																				
ZZZZZZ			08:58																				
ZZZZZZ			08:59																				
ZZZZZZ			09:01																				
ZZZZZZ			09:02																				
ZZZZZZ			09:03																				
ZZZZZZ			09:04																				
ZZZZZZ			09:05																				
CCV 600-177964/55			09:06																				
CCB 600-177964/56			09:07																				

Prep Types
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Lab Sample ID	D/F	Type	Time	Analytes																			
				NNO32																			
ZZZZZZ			15:17																				
STD 600-178421/2 IC			15:18	X																			
STD 600-178421/3 IC			15:18	X																			
STD 600-178421/4 IC			15:19	X																			
STD 600-178421/5 IC			15:20	X																			
STD 600-178421/6 IC			15:21	X																			
ICV 600-178421/7	1		15:22	X																			
ICB 600-178421/8	1		15:22	X																			
ZZZZZZ			15:23																				
MB 600-178421/10	1	T	15:24	X																			
LCS 600-178421/11	1	T	15:25	X																			
ZZZZZZ			15:26																				
ZZZZZZ			15:26																				
ZZZZZZ			15:27																				
ZZZZZZ			15:28																				
ZZZZZZ			15:29																				
ZZZZZZ			15:30																				
ZZZZZZ			15:30																				
ZZZZZZ			15:31																				
CCV 600-178421/20	1		15:32	X																			
CCB 600-178421/21	1		15:33	X																			
ZZZZZZ			15:33																				
ZZZZZZ			15:34																				
ZZZZZZ			15:35																				
ZZZZZZ			15:36																				
ZZZZZZ			15:37																				
ZZZZZZ			15:37																				
ZZZZZZ			15:38																				
ZZZZZZ			15:39																				
ZZZZZZ			15:40																				
ZZZZZZ			15:41																				
CCV 600-178421/32	1		15:41	X																			
CCB 600-178421/33	1		15:42	X																			
600-122469-1	1	T	15:43	X																			
ZZZZZZ			15:44																				
ZZZZZZ			15:44																				
ZZZZZZ			15:45																				
ZZZZZZ			15:46																				
600-122469-2	1	T	15:47	X																			
ZZZZZZ			15:48																				
ZZZZZZ			15:48																				
ZZZZZZ			15:49																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Lab Sample ID	D/F	Type	Time	Analytes																			
				NNO32																			
ZZZZZZ			15:50																				
CCV 600-178421/44	1		15:51	X																			
CCB 600-178421/45	1		15:52	X																			
MB 600-178421/46	1	T	15:52	X																			
LCS 600-178421/47	1	T	15:53	X																			
ZZZZZZ			15:54																				
600-122469-3	1	T	15:55	X																			
ZZZZZZ			15:56																				
ZZZZZZ			15:56																				
ZZZZZZ			15:57																				
ZZZZZZ			15:58																				
ZZZZZZ			15:59																				
ZZZZZZ			15:59																				
ZZZZZZ			16:00																				
ZZZZZZ			16:01																				
CCV 600-178421/58	1		16:02	X																			
CCB 600-178421/59	1		16:03	X																			
ZZZZZZ			16:03																				
ZZZZZZ			16:04																				
ZZZZZZ			16:05																				
600-122469-5	1	T	16:06	X																			
ZZZZZZ			16:07																				
ZZZZZZ			16:07																				
ZZZZZZ			16:08																				
ZZZZZZ			16:09																				
ZZZZZZ			16:10																				
ZZZZZZ			16:10																				
CCV 600-178421/70	1		16:11	X																			
CCB 600-178421/71	1		16:12	X																			
MB 600-178421/72	1	T	16:13	X																			
LCS 600-178421/73	1	T	16:14	X																			
600-122469-6	1	T	16:14	X																			
600-122469-6 MS	1	T	16:15	X																			
600-122469-6 MSD	1	T	16:16	X																			
ZZZZZZ			16:17																				
ZZZZZZ			16:18																				
ZZZZZZ			16:18																				
600-122469-4	20	T	16:19	X																			
CCV 600-178421/81	1		16:20	X																			
CCB 600-178421/82	1		16:21	X																			

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Prep Types
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Instrument ID: WC10 Method: 4500 P E-1999

Start Date: 12/02/2015 13:00 End Date: 12/04/2015 10:17

Lab Sample ID	D/F	Type	Time	Analytes																			
				O-PO4	PO4																		
ICV 600-177771/1	1		13:00	X	X																		
ICB 600-177771/2	1		13:00		X																		
MB 600-177771/3	1	T	13:00		X																		
LCS 600-177771/4	1	T	13:00	X	X																		
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
ZZZZZZ			13:00																				
600-122469-1	5	T	13:00		X																		
600-122469-2	1	T	13:00		X																		
CCV 600-177771/13	1		13:00	X	X																		
CCB 600-177771/14	1		13:00		X																		
600-122469-3	1	T	13:00		X																		
600-122469-3 MS	1	T	13:00	X	X																		
600-122469-3 MSD	1	T	13:00	X	X																		
600-122469-4	25	T	13:00		X																		
600-122469-5	1	T	13:00		X																		
600-122469-6	1	T	13:00		X																		
CCV 600-177771/21	1		10:17	X	X																		
CCB 600-177771/22	1		10:17		X																		

Prep Types
T = Total/NA

B. # 177944 / 177964

Author: houston_wetchem_inst

Date : 12/8/2015

Original Run Filename: OM_12-8-2015_08-04-47AM.OMN created 12/8/2015 8:04:47 AM
Original Run Author's Signature: [houston_wetchem_inst]
Current Run Filename: OM_12-8-2015_08-04-47AM.OMN last modified 12/8/2015 9:09:30 AM
Current Run Author's Signature: [houston_wetchem_inst]
Description: AMMONIA 350.1

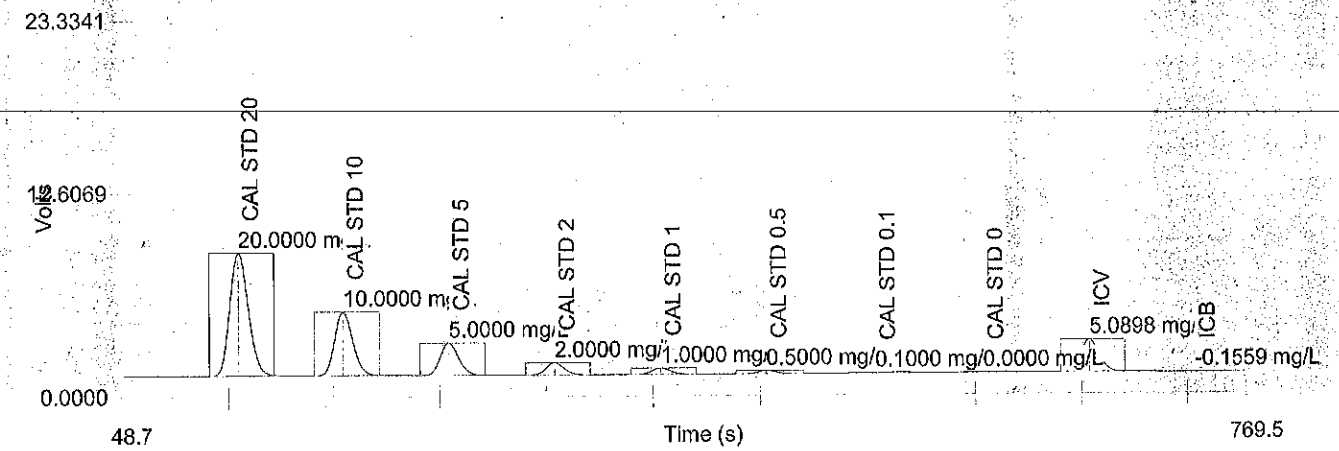
12/8/15

Sample	Rep.	Cup No.	Channel 1 AMMONIA (mg/L)
CAL STD 20	1	S1	20.0000
CAL STD 10	1	S2	10.0000
CAL STD 5	1	S3	5.0000
CAL STD 2	1	S4	2.0000
CAL STD 1	1	S5	1.0000
CAL STD 0.5	1	S6	0.5000
CAL STD 0.1	1	S7	0.1000
CAL STD 0	1	S8	0.0000
ICV	1	1	5.0898
		Calibration:	Table/Fig. 1
ICB	1	2	-0.1559
MB 600-177944/1-A	1	3	-0.1472
LCS 600-177944/2-A	1	4	4.9416
600-122682-W-1-B	1	5	-0.0365
600-122682-W-1-C MS	1	6	5.0316
600-122682-W-1-D MSD	1	7	4.9050
600-122707-B-1-A	1	8	42.2910
600-122669-A-1-A@1000	1	9	-0.0606
600-122664-C-1-A	1	10	10.0344
600-122723-C-1-A	1	11	4.2221
600-122591-C-1-B	1	12	7.7124
ccv	1	13	5.0719
ccb	1	14	-0.1537
600-122511-C-1-D	1	15	7.7635
600-122509-L-1-A	1	16	0.8133
600-122509-K-2-A	1	17	1.9856
600-122709-B-4-B	1	18	5.3018
600-122706-C-1-A	1	19	0.6549
600-122706-C-1-B MS	1	20	5.5447
600-122706-C-1-C MSD	1	21	5.6945
600-122676-C-1-A	1	22	0.1031
600-122469-A-1-A	1	23	-0.0119
600-122469-A-2-A	1	24	-0.0383
ccv	1	25	5.1340
ccb	1	26	-0.1519
600-122469-A-3-A	1	27	-0.0402
600-122469-A-4-A	1	28	-0.0356
600-122469-A-5-A	1	29	-0.0704
600-122469-A-6-A	1	30	-0.0490
mb	1	31	-0.1476
lcs	1	32	4.9301
600-122677-C-2	1	33	-0.0321
600-122677-C-2ms	1	34	5.1356
600-122677-C-2msd	1	35	5.1849
600-122678-A-1	1	36	-0.0868
ccv	1	37	5.1141
ccb	1	38	-0.1532
600-122667-C-2	1	39	-0.0643
600-122618-C-2	1	40	-0.0820
600-122516-D-2	1	41	15.8808
600-122618-C-3@5	1	42	11.9073
600-122667-C-3@5	1	43	5.6195
600-122677-C-3@5	1	44	8.9866
600-122707-B-1-A@10	1	45	7.5222
600-122669-A-1-A@100	1	46	0.1558
ccv	1	47	5.1186
ccb	1	48	-0.1525

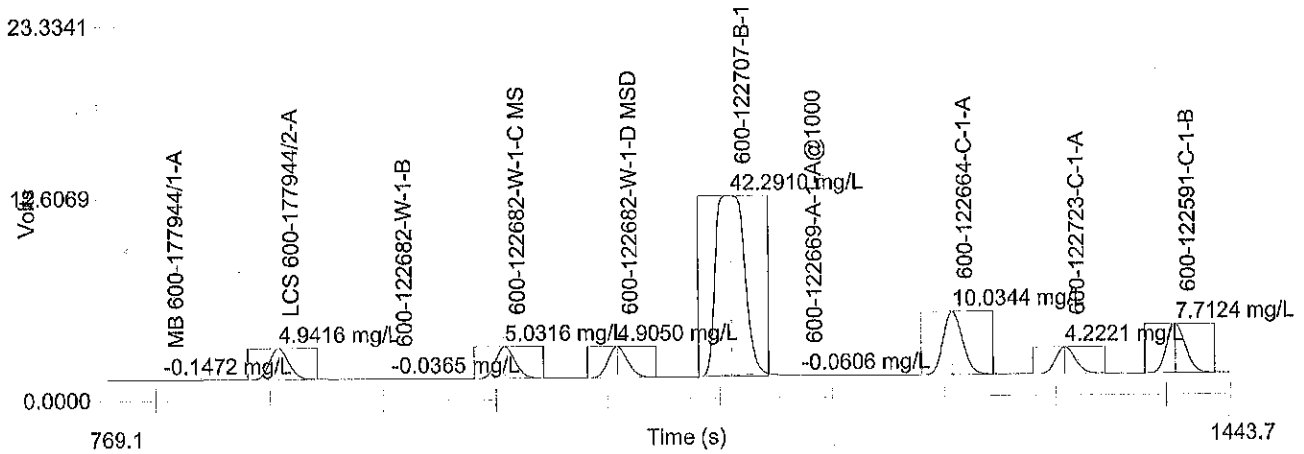
Author: houston_wetchem_inst

Date : 12/8/2015

Channel 1 (Detector 1) : Set 1 of 6



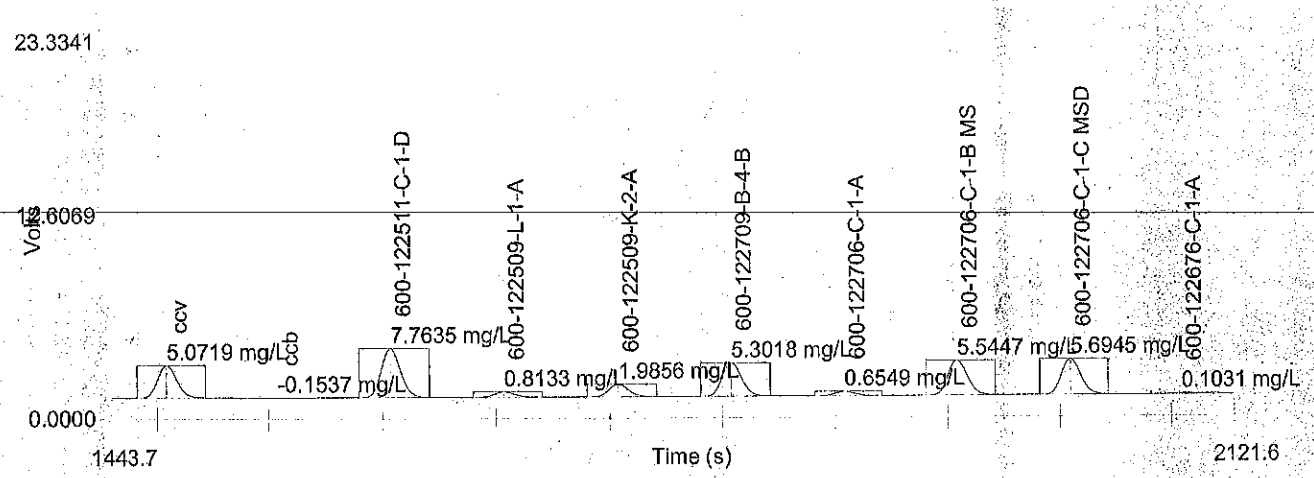
Channel 1 (Detector 1) : Set 2 of 6



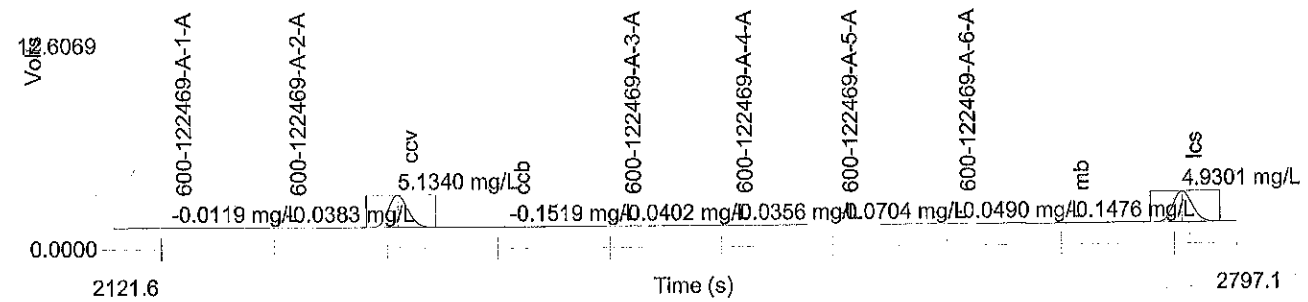
Author: houston_wetchem_inst

Date : 12/8/2015

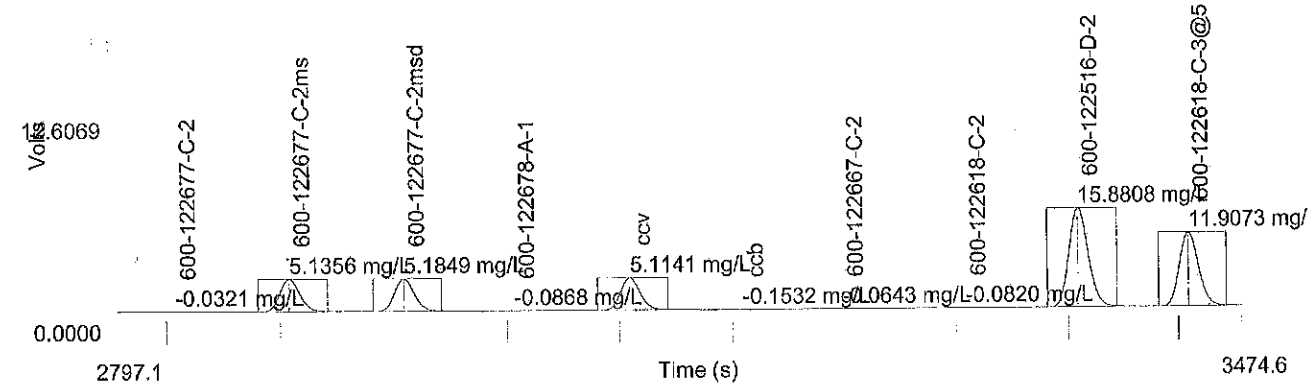
Channel 1 (Detector 1) : Set 3 of 6



Channel 1 (Detector 1) : Set 4 of 6



Channel 1 (Detector 1) : Set 5 of 6



Author: houston_wetchem_inst

Date : 12/8/2015

Channel 1 (Detector 1) : Set 6 of 6

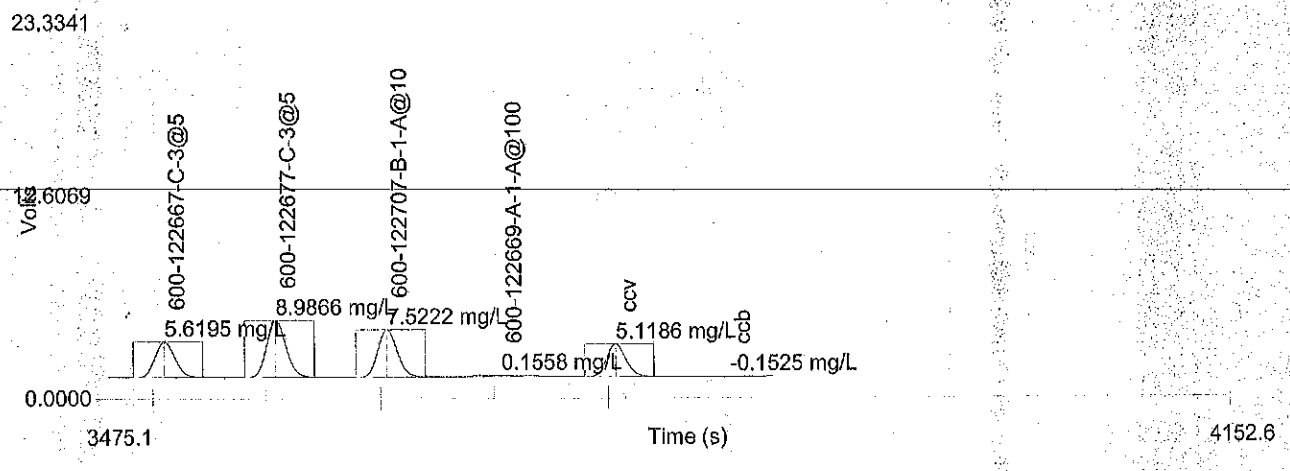
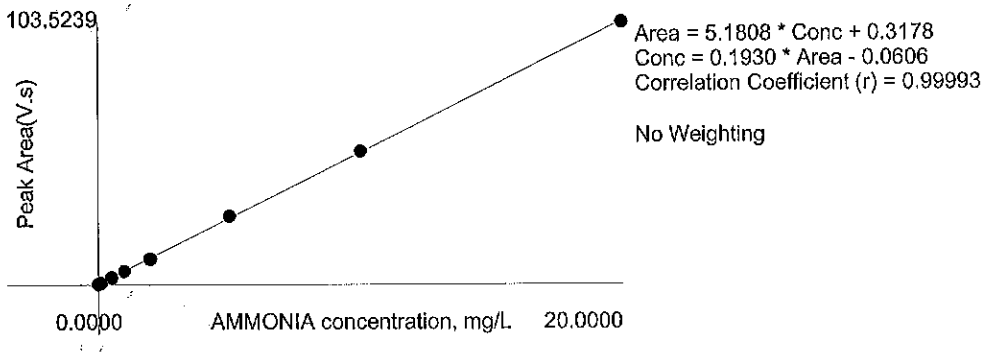


Table 1: AMMONIA

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	20.0000	1	103.5239	7.5974	0.4	12/8/2015	8:07:17 AM
2	10.0000	1	52.6677	3.9347	-1.0	12/8/2015	8:08:24 AM
3	5.0000	1	26.9921	2.0063	-2.9	12/8/2015	8:09:31 AM
4	2.0000	1	10.2088	0.7593	4.4	12/8/2015	8:10:39 AM
5	1.0000	1	5.4219	0.4039	1.4	12/8/2015	8:11:47 AM
6	0.5000	1	2.7907	0.2095	4.0	12/8/2015	8:12:56 AM
7	0.1000	1	0.6847	0.0506	18.1	12/8/2015	8:14:05 AM
8	0.0000	1	0.2298	0.0183		12/8/2015	8:15:14 AM

Figure 1: AMMONIA



TestAmerica *Houston*

TestAmerica

Colorimetric Lachat Data Review Checklist

#177944

LIMS Batch Number: 177964	Filename: 04.12.8.2015.-08.04.47.A	Instrument ID (circle one): WC07 WC19 WC05
Date/Analyst/1st Reviewer: 12.08.15 / JC	Method (circle): 353.2, 420, 350.1, 351.2	QC Type (circle): Standard QAPP Other
Matrix (circle): Non-potable Water Solid Leachate		Circle One: Total Soluble

Review Items	NA	Yes	No	2nd Rev	If No, why is data reportable?
A. Calibration/Instrument Run QC					
1. Number of Points: At least 5 standards + blank		/			
2. Linearity and intercept: r ≥ 0.995 |x-intercept| < RL or < ½ RL (special projects)		/			
3. ICV, second source: run before samples 90-110% recovery		/			
4. CCV: 10% frequency & closing 90-110% recovery		/			If no, list details:
5. Cadmium Column Efficiency Check (353.2): 90 - 110% NO2 recovery		/			If no, list details:
6. ICB/CCB: run before samples, 10% frequency, & closing Result < RL Result < ½ RL (special project)		/			If no, list details:
B. Client Sample and QC Sample Results					
7. Samples with results > linear range diluted and reanalyzed?		/			Comments:
8. On-instrument response of diluted sample is >10X MB on-instrument response		/			Comments:
C. Preparation/Matrix QC					
9. Method Blank: one per preparation batch Result < RL Result < ½ RL (special project) *If no, list blank ID & explain:*		/			☐ No analyte ≥ RL in associated samples ☐ Sample results >10x blank ☐ Insufficient sample for reanalysis
10. LCS: one per preparation batch 90-110% recovery *If no, list LCS ID & explain:*		/			☐ Insufficient sample for reanalysis ☐ LCS %R > QC limits & samples < RL
11. MS/MSD or MS/Dup frequency: A pair per 10 samples (routine) A pair per batch (_____) 90-110% recovery *If no, list QC ID & explain:*		/			☐ Insufficient sample

B. # 177944/177964

Scanned

Author: houston_wetchem_inst

Date : 12/8/2015

Original Run Filename: OM_12-8-2015_08-04-47AM.OMN created 12/8/2015 8:04:47 AM
Original Run Author's Signature: [houston_wetchem_inst]
Current Run Filename: OM_12-8-2015_08-04-47AM.OMN last modified 12/8/2015 9:09:30 AM
Current Run Author's Signature: [houston_wetchem_inst]
Description: AMMONIA 350.1

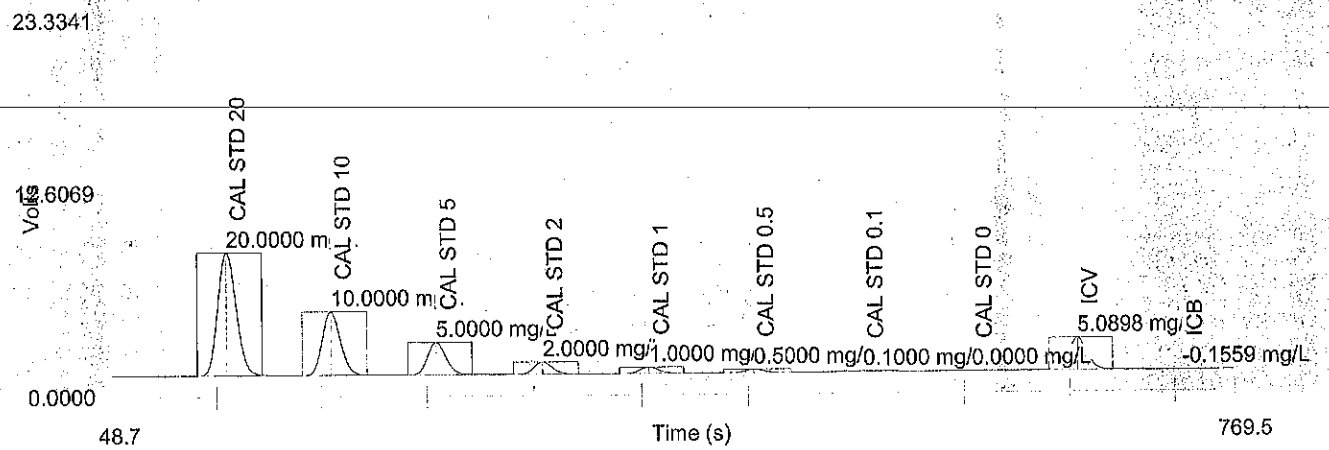
12/8/15

Sample	Rep.	Cup No.	Channel 1 AMMONIA (mg/L)
CAL STD 20	1	S1	20.0000
CAL STD 10	1	S2	10.0000
CAL STD 5	1	S3	5.0000
CAL STD 2	1	S4	2.0000
CAL STD 1	1	S5	1.0000
CAL STD 0.5	1	S6	0.5000
CAL STD 0.1	1	S7	0.1000
CAL STD 0	1	S8	0.0000
ICV	1	1	5.0898
		Calibration:	Table/Fig. 1
ICB	1	2	-0.1559
MB 600-177944/1-A	1	3	-0.1472
LCS 600-177944/2-A	1	4	4.9416
600-122682-W-1-B	1	5	-0.0365
600-122682-W-1-C MS	1	6	5.0316
600-122682-W-1-D MSD	1	7	4.9050
600-122707-B-1-A	1	8	42.2910
600-122669-A-1-A@1000	1	9	-0.0606
600-122664-C-1-A	1	10	10.0344
600-122723-C-1-A	1	11	4.2221
600-122591-C-1-B	1	12	7.7124
ccv	1	13	5.0719
ccb	1	14	-0.1537
600-122511-C-1-D	1	15	7.7635
600-122509-L-1-A	1	16	0.8133
600-122509-K-2-A	1	17	1.9856
600-122709-B-4-B	1	18	5.3018
600-122706-C-1-A	1	19	0.6549
600-122706-C-1-B MS	1	20	5.5447
600-122706-C-1-C MSD	1	21	5.6945
600-122676-C-1-A	1	22	0.1031
600-122469-A-1-A	1	23	-0.0119
600-122469-A-2-A	1	24	-0.0383
ccv	1	25	5.1340
ccb	1	26	-0.1519
600-122469-A-3-A	1	27	-0.0402
600-122469-A-4-A	1	28	-0.0356
600-122469-A-5-A	1	29	-0.0704
600-122469-A-6-A	1	30	-0.0490
mb	1	31	-0.1476
lcs	1	32	4.9301
600-122677-C-2	1	33	-0.0321
600-122677-C-2ms	1	34	5.1356
600-122677-C-2msd	1	35	5.1849
600-122678-A-1	1	36	-0.0868
ccv	1	37	5.1141
ccb	1	38	-0.1532
600-122667-C-2	1	39	-0.0643
600-122618-C-2	1	40	-0.0820
600-122516-D-2	1	41	15.8808
600-122618-C-3@5	1	42	11.9073
600-122667-C-3@5	1	43	5.6195
600-122677-C-3@5	1	44	8.9866
600-122707-B-1-A@10	1	45	7.5222
600-122669-A-1-A@100	1	46	0.1558
ccv	1	47	5.1186
ccb	1	48	-0.1525

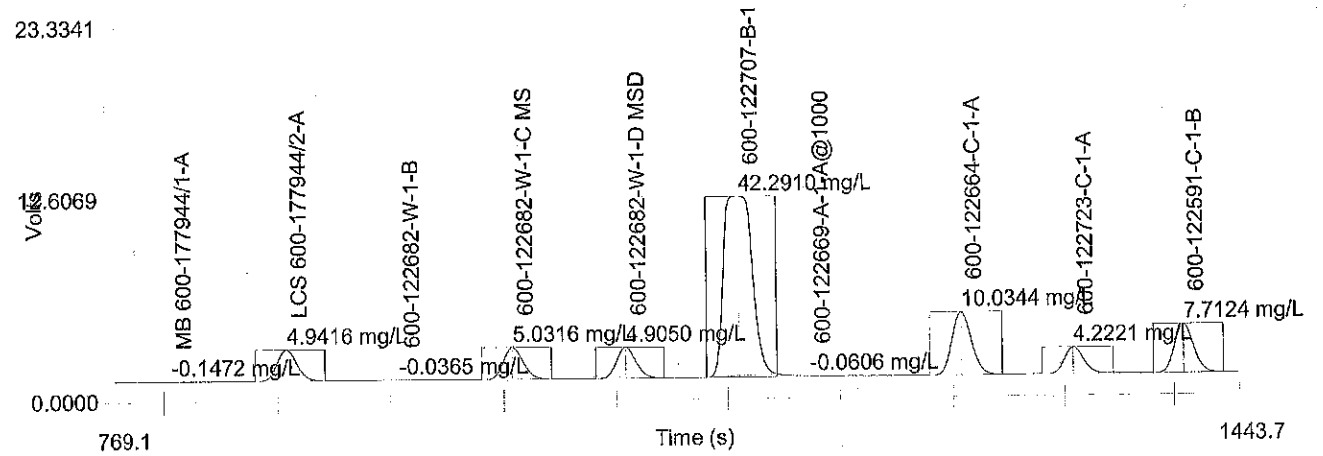
Author: houston_wetchem_inst

Date : 12/8/2015

Channel 1 (Detector 1) : Set 1 of 6



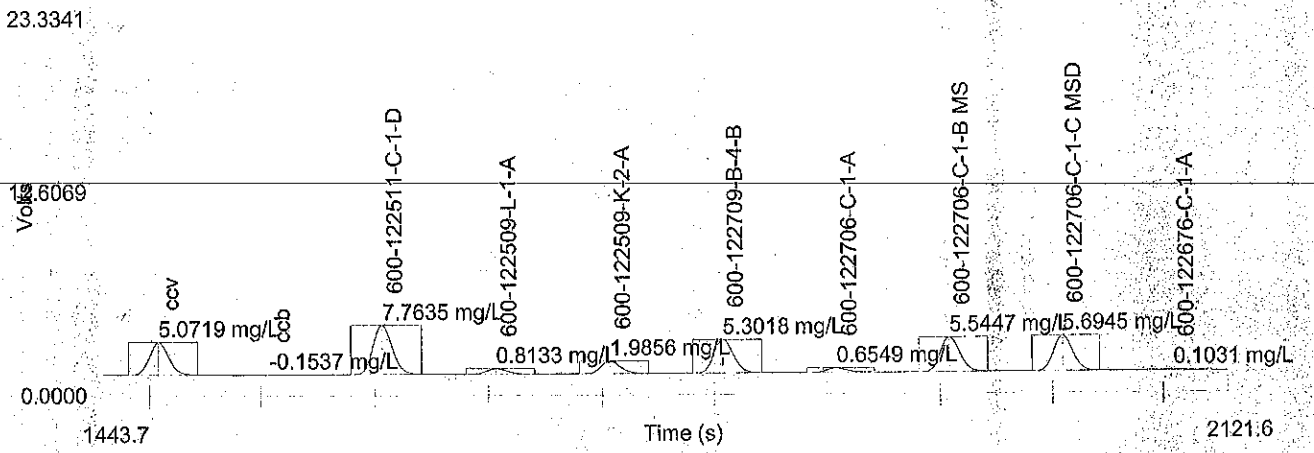
Channel 1 (Detector 1) : Set 2 of 6



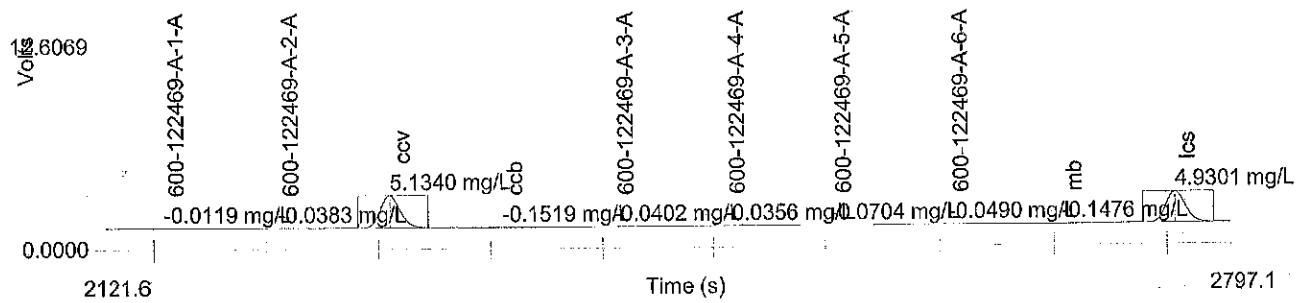
Author: houston_wetchem_inst

Date : 12/8/2015

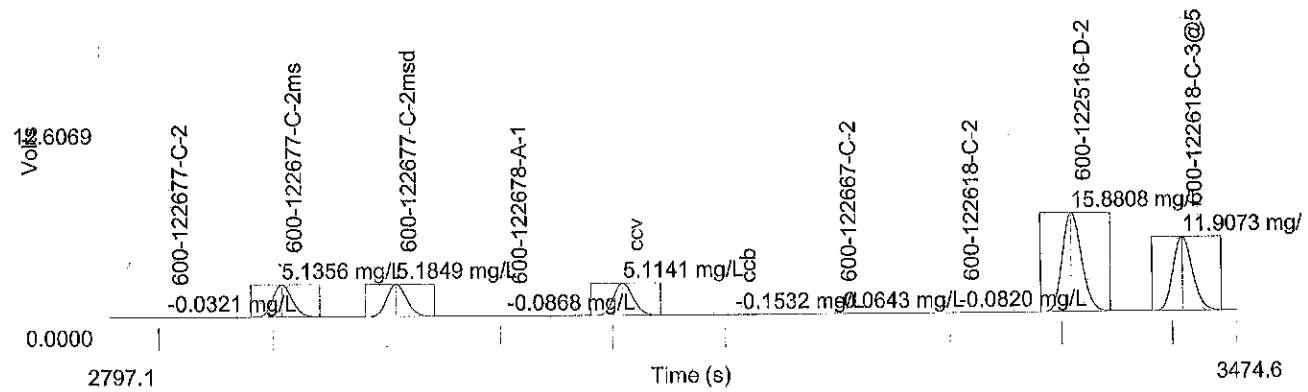
Channel 1 (Detector 1) : Set 3 of 6



Channel 1 (Detector 1) : Set 4 of 6



Channel 1 (Detector 1) : Set 5 of 6



Author: houston_wetchem_inst

Date : 12/8/2015

Channel 1 (Detector 1) : Set 6 of 6

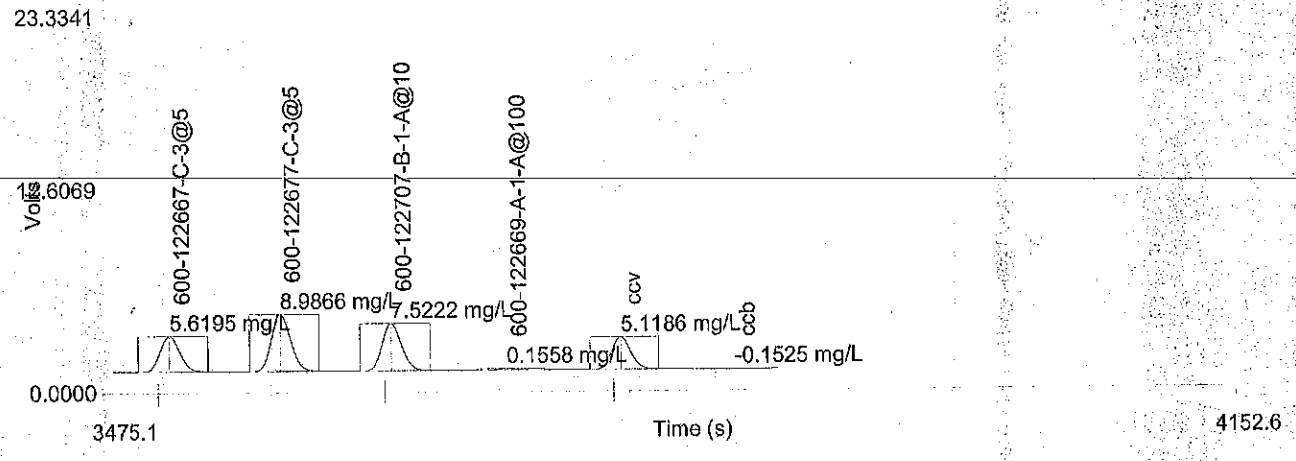
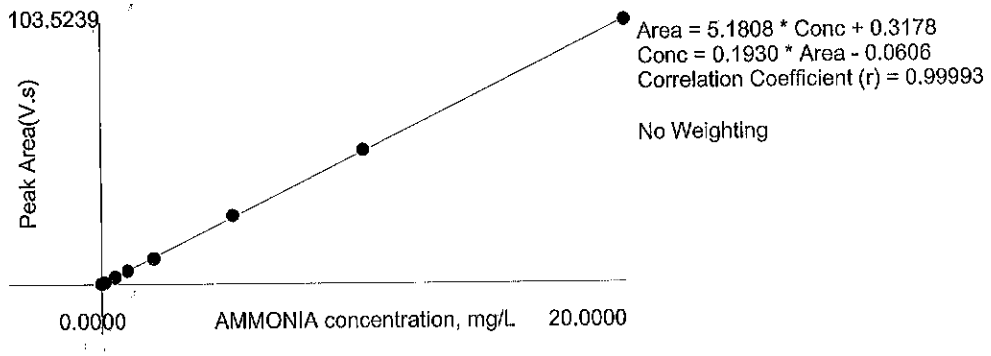


Table 1: AMMONIA

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	20.0000	1	103.5239	7.5974	0.4	12/8/2015	8:07:17 AM
2	10.0000	1	52.6677	3.9347	-1.0	12/8/2015	8:08:24 AM
3	5.0000	1	26.9921	2.0063	-2.9	12/8/2015	8:09:31 AM
4	2.0000	1	10.2088	0.7593	4.4	12/8/2015	8:10:39 AM
5	1.0000	1	5.4219	0.4039	1.4	12/8/2015	8:11:47 AM
6	0.5000	1	2.7907	0.2095	4.0	12/8/2015	8:12:56 AM
7	0.1000	1	0.6847	0.0506	18.1	12/8/2015	8:14:05 AM
8	0.0000	1	0.2298	0.0183		12/8/2015	8:15:14 AM

Figure 1: AMMONIA



TestAmerica *Houston*

TestAmerica

Colorimetric Lachat Data Review Checklist

#177944

LIMS Batch Number: 177964	Filename: 04.12.8.2015.-08.04.47.A4	Instrument ID (circle one): WC07 WC19 WC05
Date/Analyst/1st Reviewer: 12.08.15 / JC	Method (circle): 353.2, 420, 350.1, 351.2	QC Type (circle): Standard QAPP Other
Matrix (circle): Non-potable Water Solid Leachate		Circle One: Total Soluble

Review Items	NA	Yes	No	2nd Rev	If No, why is data reportable?
A. Calibration/Instrument Run QC					
1. Number of Points: At least 5 standards + blank		/			
2. Linearity and intercept: r ≥ 0.995 |x-intercept| < RL or < ½ RL (special projects)		/			
3. ICV, second source: run before samples 90-110% recovery		/			
4. CCV: 10% frequency & closing 90-110% recovery		/			If no, list details:
5. Cadmium Column Efficiency Check (353.2): 90 - 110% NO2 recovery		/			If no, list details:
6. ICB/CCB: run before samples, 10% frequency, & closing Result < RL Result < ½ RL (special project)		/			If no, list details:
B. Client Sample and QC Sample Results					
7. Samples with results > linear range diluted and reanalyzed?		/			Comments:
8. On-instrument response of diluted sample is >10X MB on-instrument response		/			Comments:
C. Preparation/Matrix QC					
9. Method Blank: one per preparation batch Result < RL Result < ½ RL (special project) *If no, list blank ID & explain:*		/			☐ No analyte > RL in associated samples ☐ Sample results >10x blank ☐ Insufficient sample for reanalysis
10. LCS: one per preparation batch 90-110% recovery *If no, list LCS ID & explain:*		/			☐ Insufficient sample for reanalysis ☐ LCS %R > QC limits & samples < RL
11. MS/MSD or MS/Dup frequency: A pair per 10 samples (routine) A pair per batch (_____) 90-110% recovery *If no, list QC ID & explain:*		/			☐ Insufficient sample

KD 12/14/15 #178421

Author: Houston_wetchem_inst

Date : 12/14/2015

Original Run Filename: OM_12-14-2015_03-16-38PM.OMN created 12/14/2015 3:16:38 PM
Original Run Author's Signature: [Houston_wetchem_inst]
Current Run Filename: OM_12-14-2015_03-16-38PM.OMN last modified 12/14/2015 4:22:18 PM
Current Run Author's Signature: [Houston_wetchem_inst]
Description: NO2+NO3

12/14/15

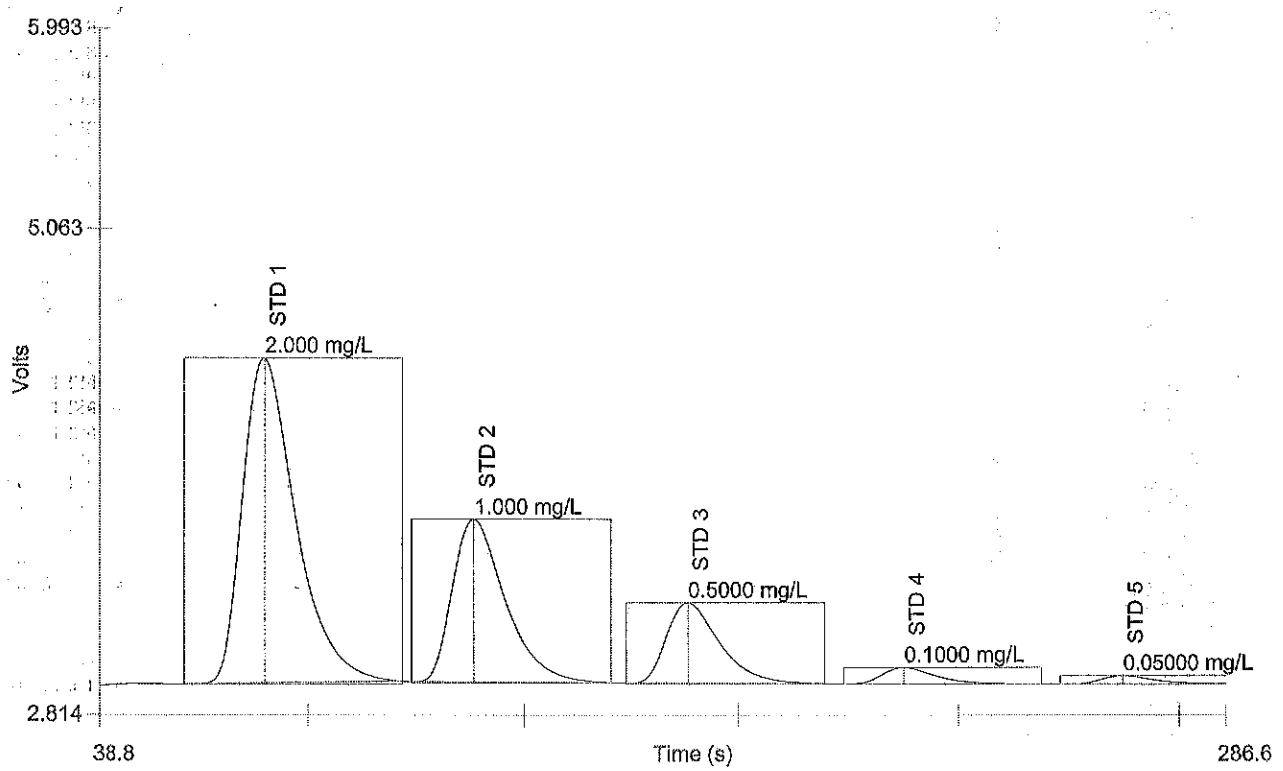
Sample	Rep.	Cup No.	Channel 1 Nitrate + Nitrite (mg/L)
STD 1	1	S1	2.000
STD 2	1	S2	1.000
STD 3	1	S3	0.5000
STD 4	1	S4	0.1000
STD 5	1	S5	0.05000
STD 6	1	S6	0.000
ICV	1	1	0.9989
		Calibration:	Table/Fig. 1
ICB	1	2	-0.01518
RS	1	3	0.9839
MB	1	4	-0.01305
LCS	1	5	1.012
600-122366-B-1	1	6	0.2508
600-122366-B-1 MS	1	7	1.030
600-122366-B-1 MSD	1	8	0.7513
600-122366-B-2	1	9	0.1335
600-122366-B-3	1	10	0.1424
600-122305-A-1@10	1	11	0.5782
600-122320-G6	1	12	0.7229
600-122421-D-1	1	13	0.03061
CCV	1	14	1.024
CCB	1	15	-0.01459
600-122421-D-2	1	16	0.02955
600-122421-D-3	1	17	0.03482
600-122425-D-1	1	18	0.04776
600-122425-D-2	1	19	0.03824
600-122425-D-3	1	20	1.513
600-122428-D-1	1	21	1.151
600-122428-D-1 MS	1	22	1.653
600-122428-D-1 MSD	1	23	1.757
600-122630-B-2@5	1	24	1.623
600-122559-A-1	1	25	0.03010
CCV	1	26	1.016
CCB	1	27	-0.01544
600-122469-A-1	1	28	1.877
600-122642-B-8@100	1	29	0.4952
600-122702-B-6	1	30	0.5678
600-122630-B-3@20	1	31	0.3235
600-122559-A-2@20	1	32	0.2741
600-122469-A-2	1	33	0.3713
600-122559-A-3	1	34	-0.01230
600-122559-A-3 MS	1	35	0.6293
600-122559-A-3 MSD	1	36	0.6101
600-122670-A-1@10	1	37	0.5672
CCV	1	38	1.018
CCB	1	39	-0.01799
MB	1	40	-0.002478
LCS	1	41	0.9994
600-122642-B-9@20	1	42	0.6064
600-122469-A-3	1	43	0.3817
600-122642-B-11@50	1	44	0.3981
600-122642-B-12	1	45	0.6786
600-122630-B-4@5	1	46	2.759
600-122559-A-4	1	47	1.573
600-122469-A-4@10	1	48	2.464
600-122723-B-1	1	49	0.2679
600-122723-B-1 MS	1	50	1.002
600-122723-B-1 MSD	1	51	0.9263

Author: Houston_wetchem_inst

Date : 12/14/2015

CCV	1	52	1.008
CCB	1	53	-0.0002758
600-122642-C-15@50	1	54	0.6227
600-122642-B-4@100	1	55	0.4945
600-122559-A-5	1	56	0.2345
600-122469-A-5	1	57	1.005
600-122642-B-5@250	1	58	0.1363
600-122723-A-2	1	59	0.1415
600-122642-B-3@250	1	60	0.2318
600-122630-B-1	1	61	1.355
600-122630-B-1 MS	1	62	1.875
600-122630-B-1 MSD	1	63	2.022
CCV	1	64	1.001
CCB	1	65	-0.02033
MB	1	66	-0.0003762
LCS	1	67	1.004
600-122469-A-6	1	68	0.4678
600-122469-A-6 MS	1	69	1.078
600-122469-A-6 MSD	1	70	0.8305
600-122642-B-6@250	1	71	0.1829
560-58240-A-2@5	1	72	0.5599
600-122630-B-4@20	1	73	0.5053
600-122469-A-4@20	1	74	0.8093
CCV	1	75	1.011
CCB	1	76	-0.0002758

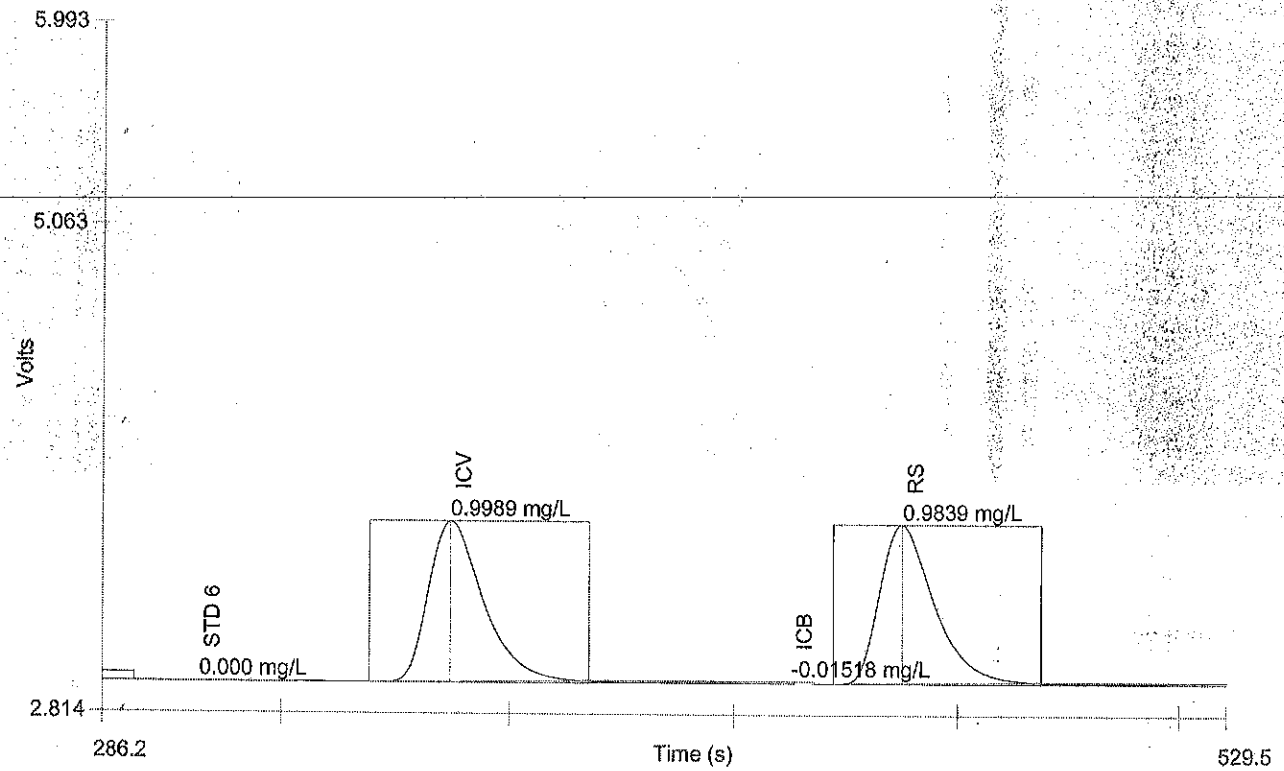
Channel 1 (NO3+NO2) : Set 1 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 2 of 17



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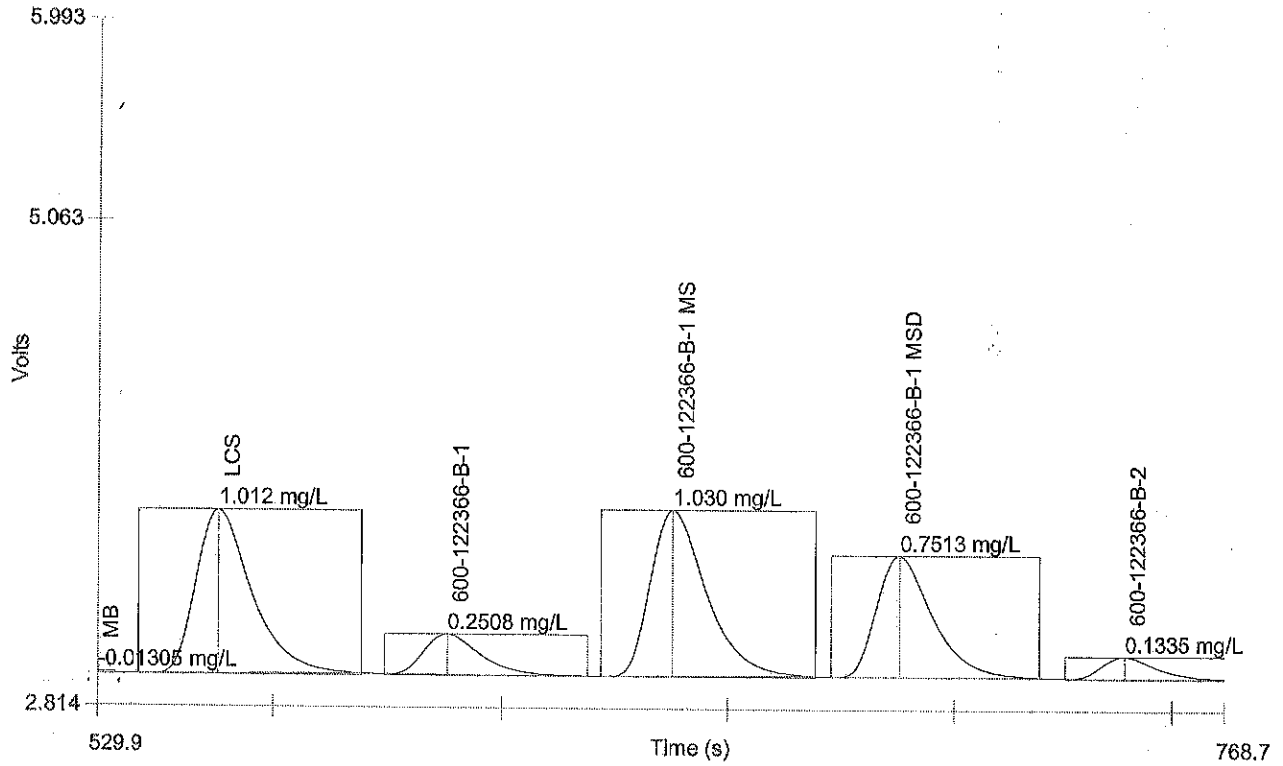
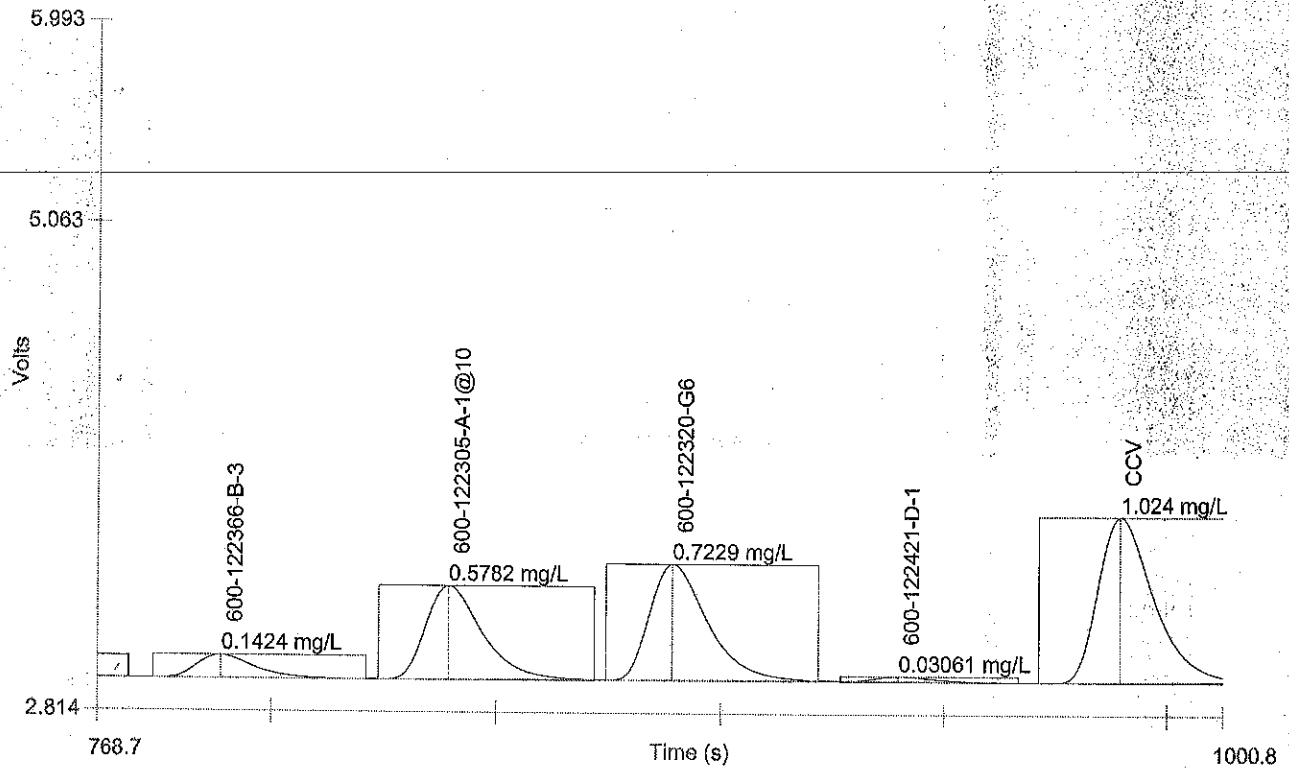


- 3 -

Author: Houston_wetchem_inst

Date : 12/14/2015

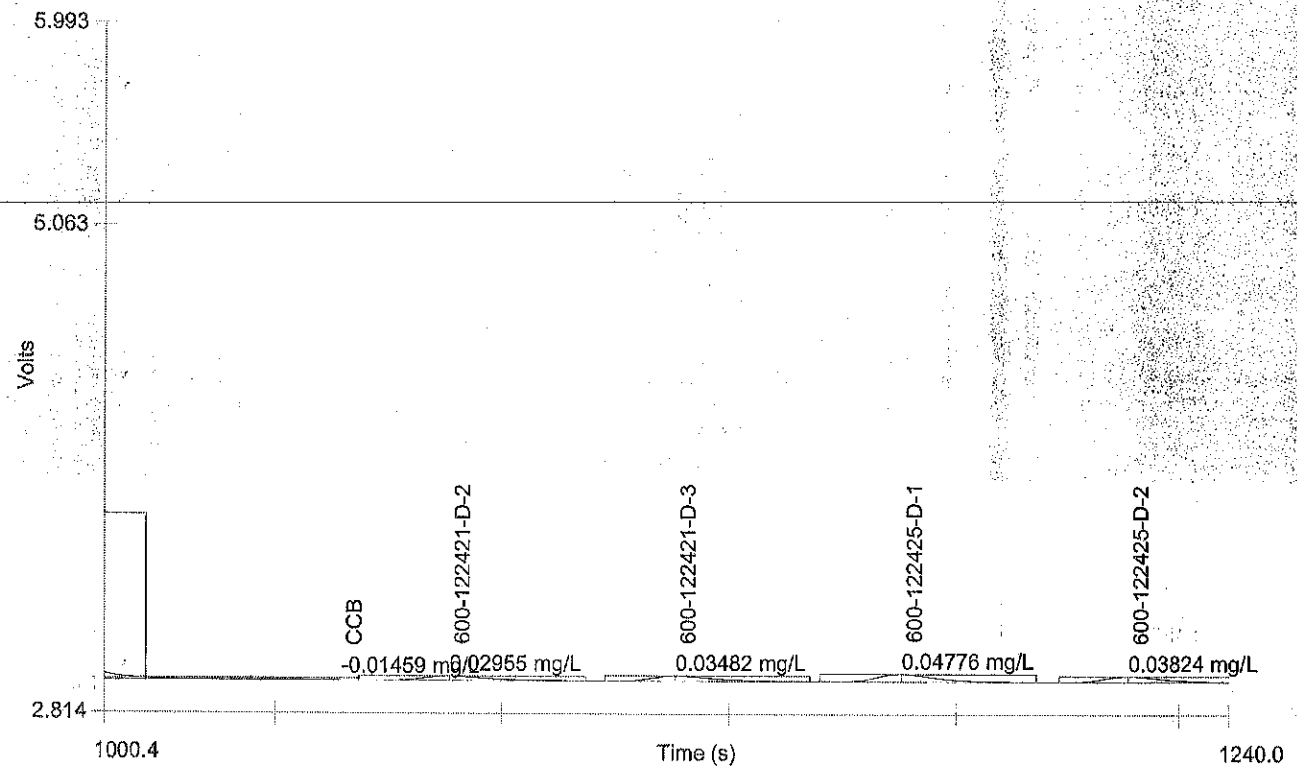
Channel 1 (NO3+NO2) : Set 4 of 17



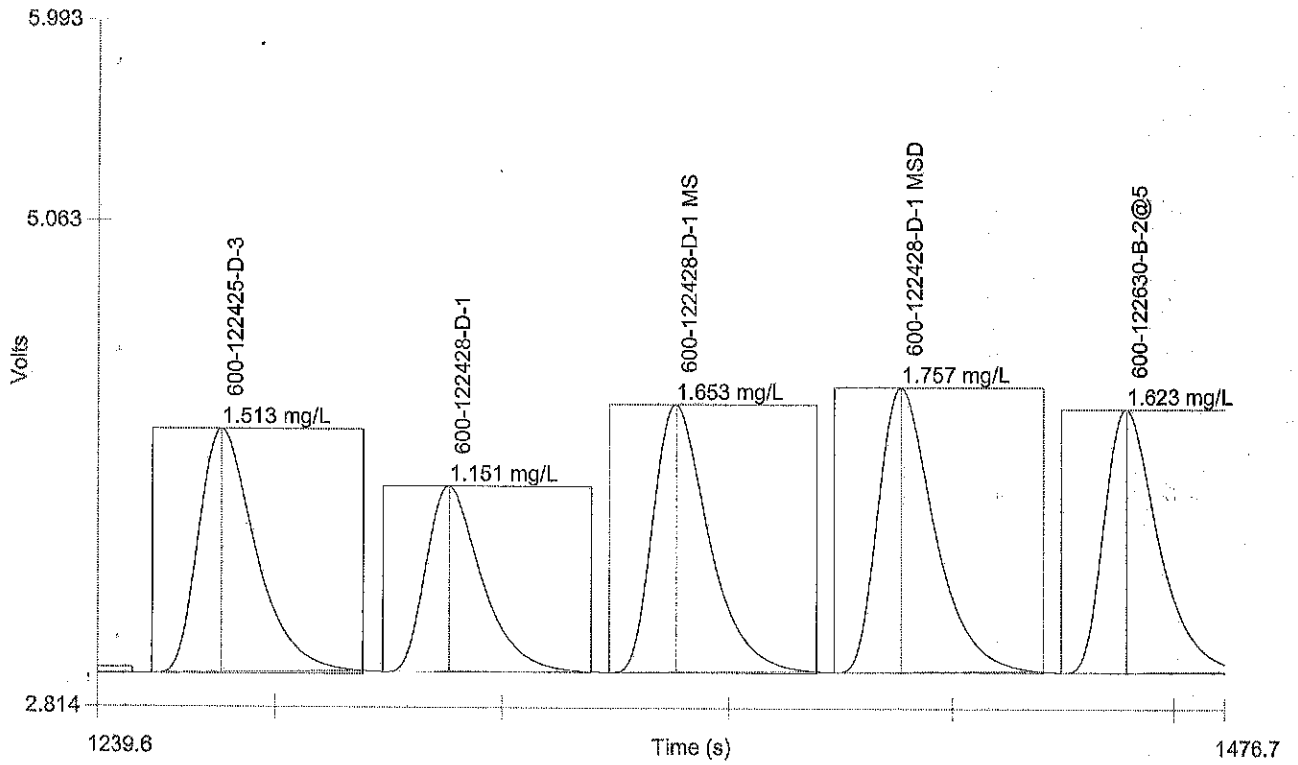
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 5 of 17



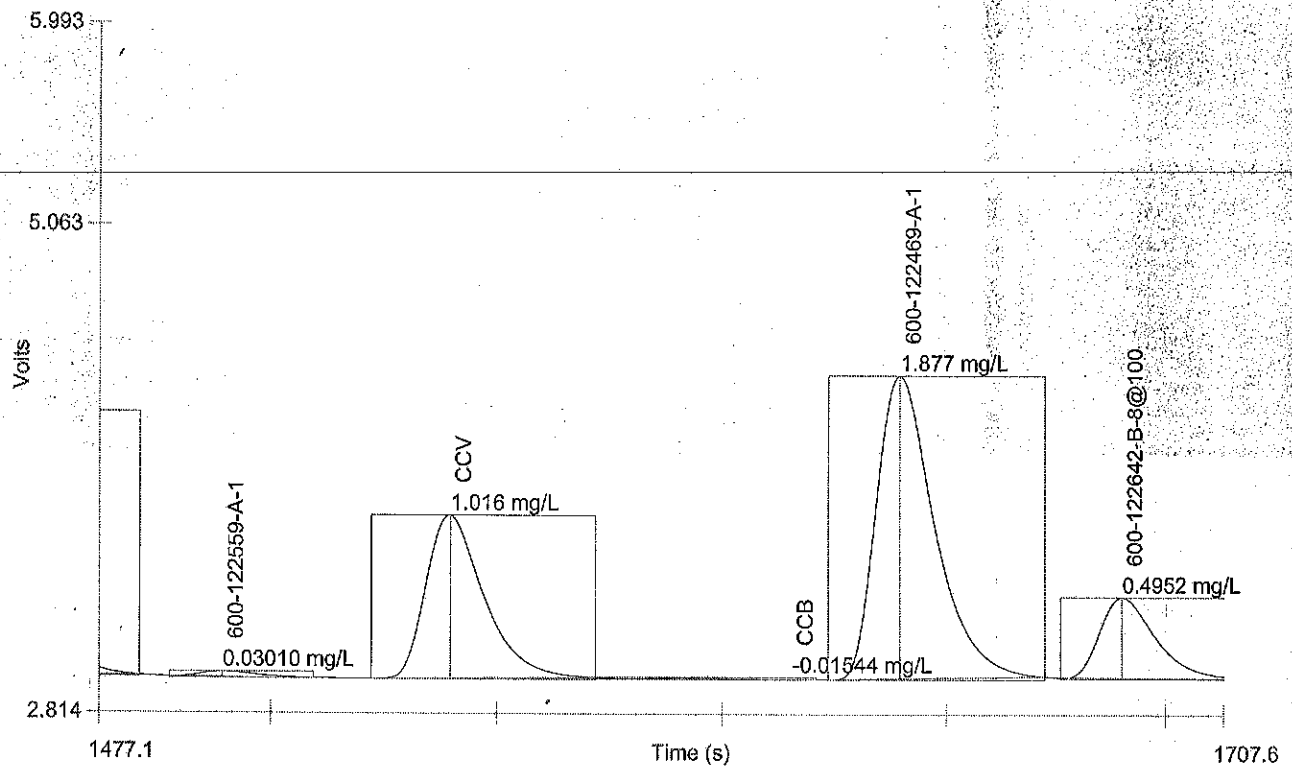
Channel 1 (NO3+NO2) : Set 6 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

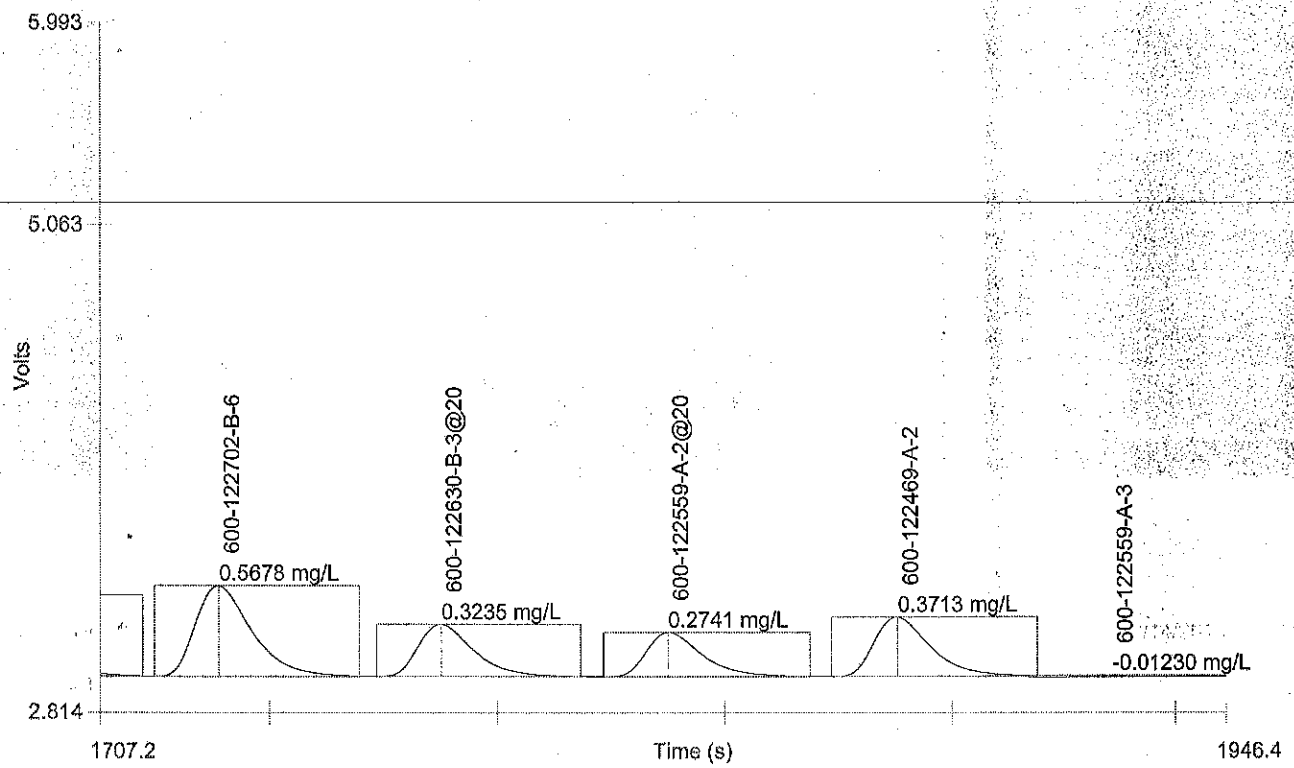
Channel 1 (NO3+NO2) : Set 7 of 17



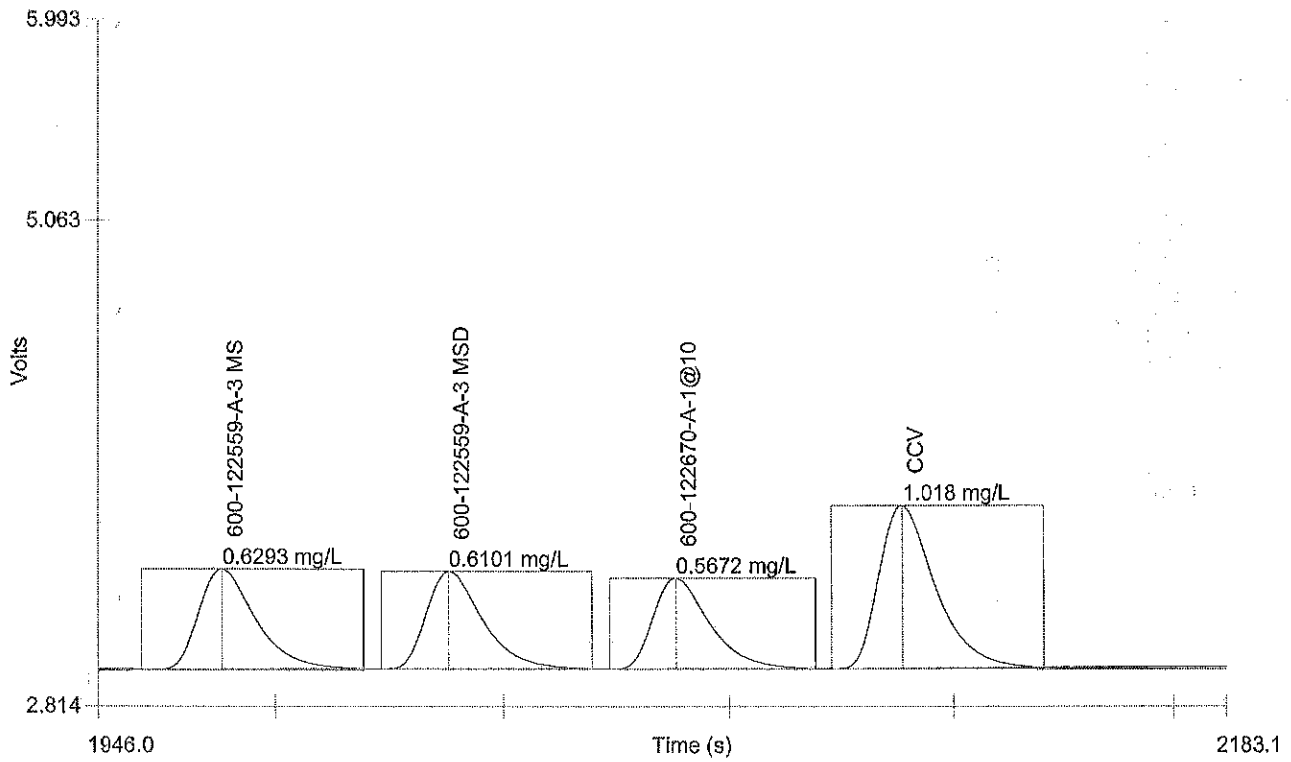
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 8 of 17



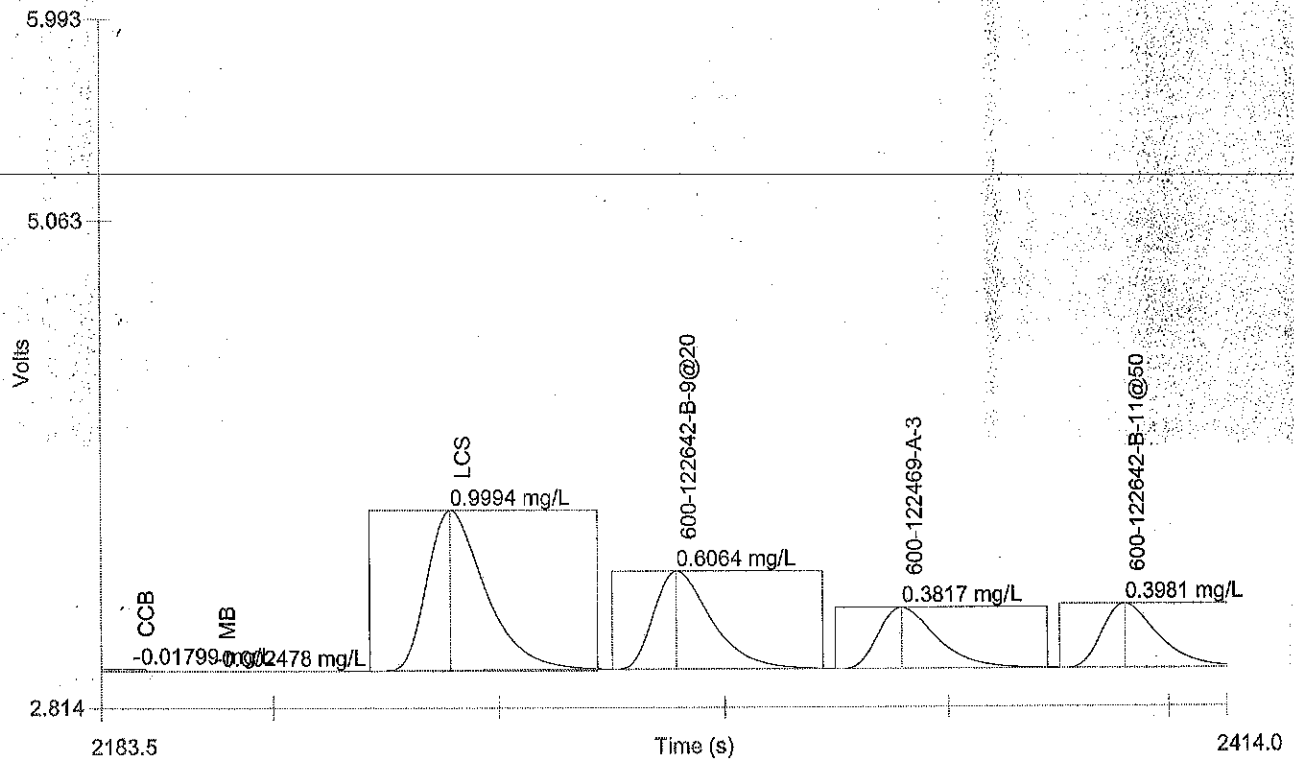
Channel 1 (NO3+NO2) : Set 9 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

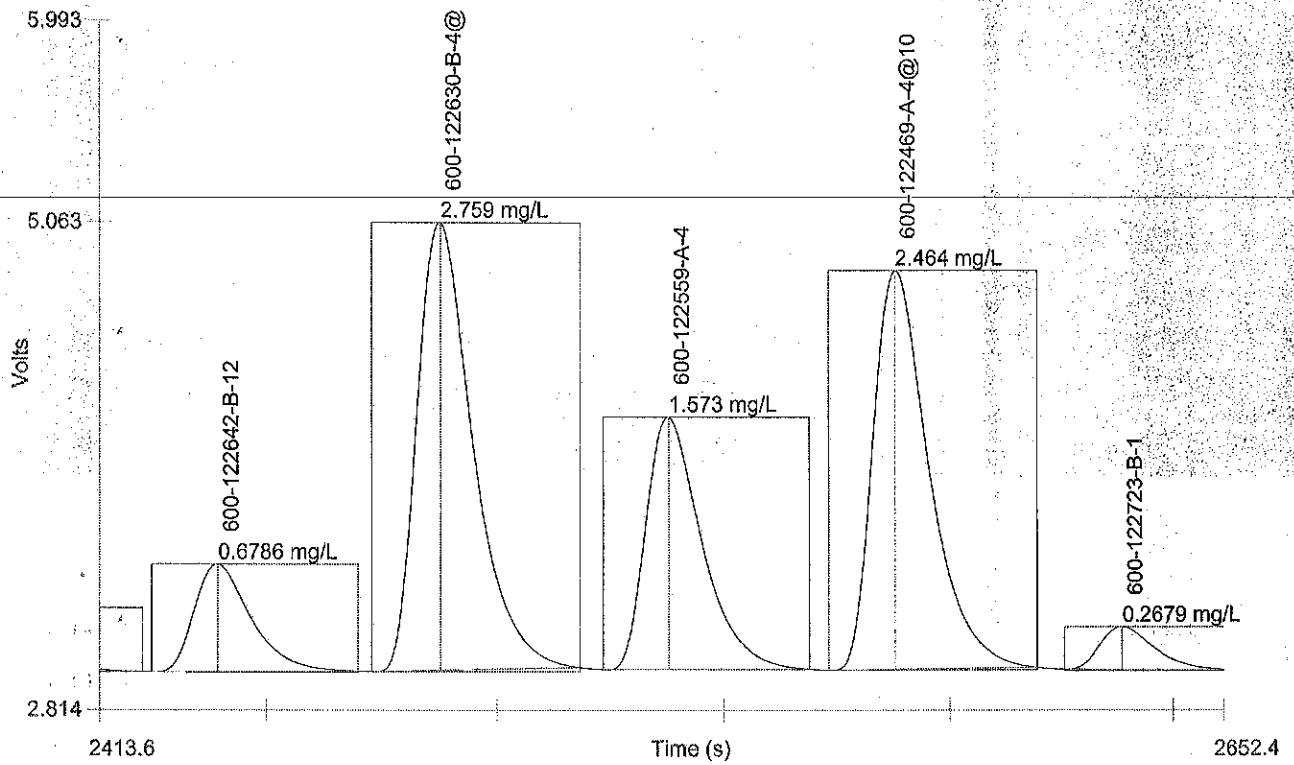
Channel 1 (NO3+NO2) : Set 10 of 17



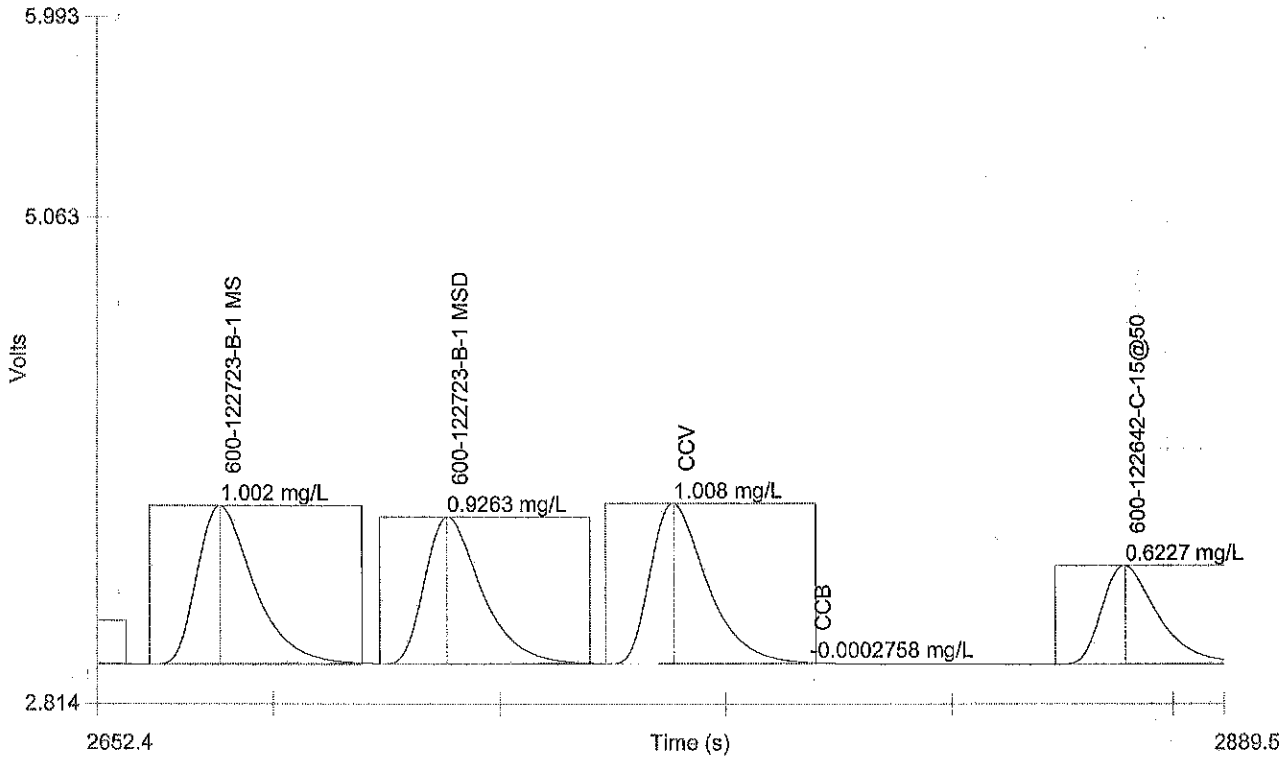
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 11 of 17



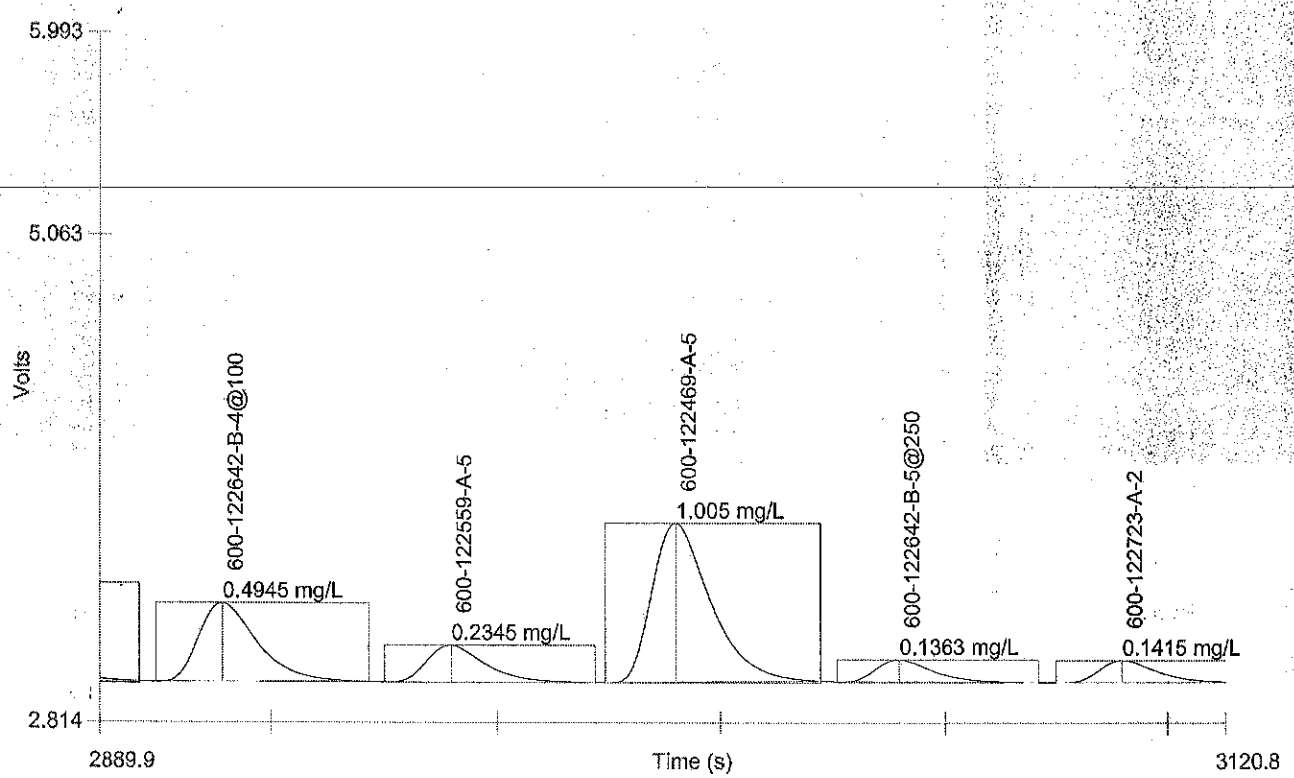
Channel 1 (NO3+NO2) : Set 12 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

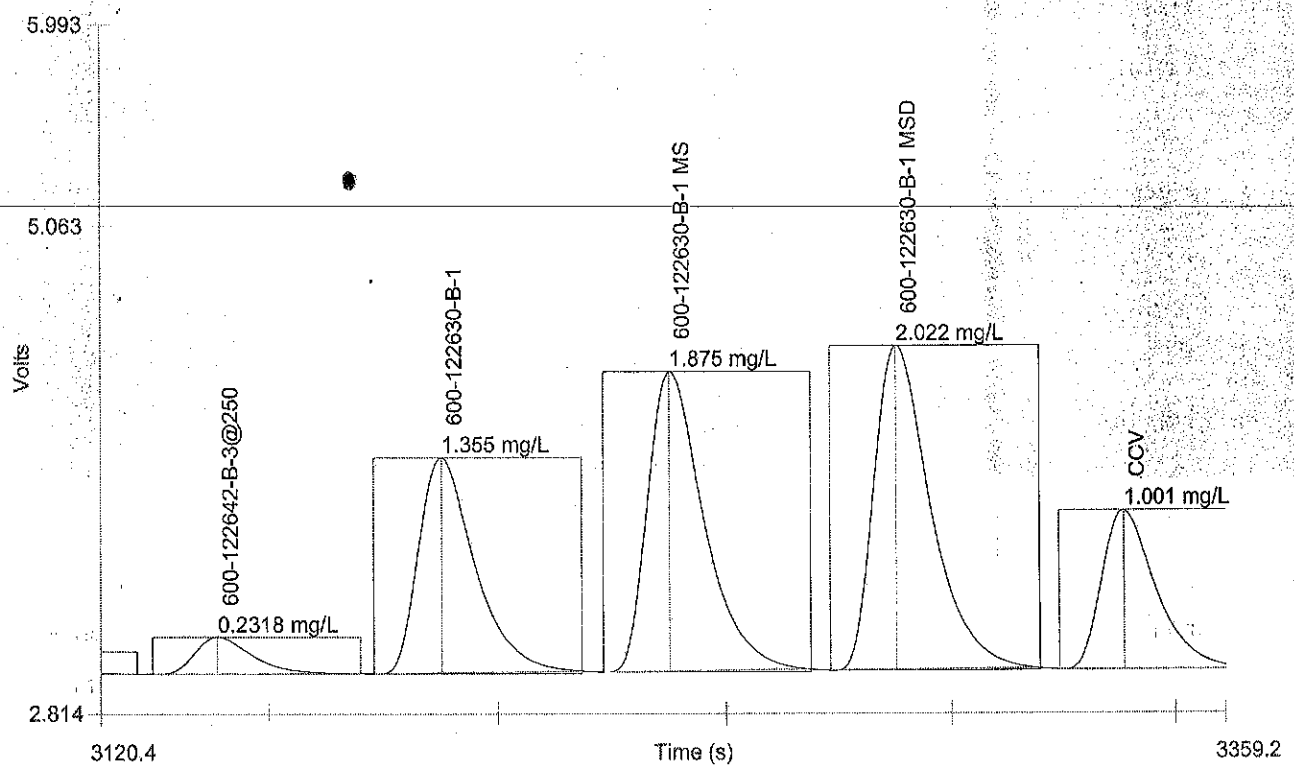
Channel 1 (NO3+NO2) : Set 13 of 17



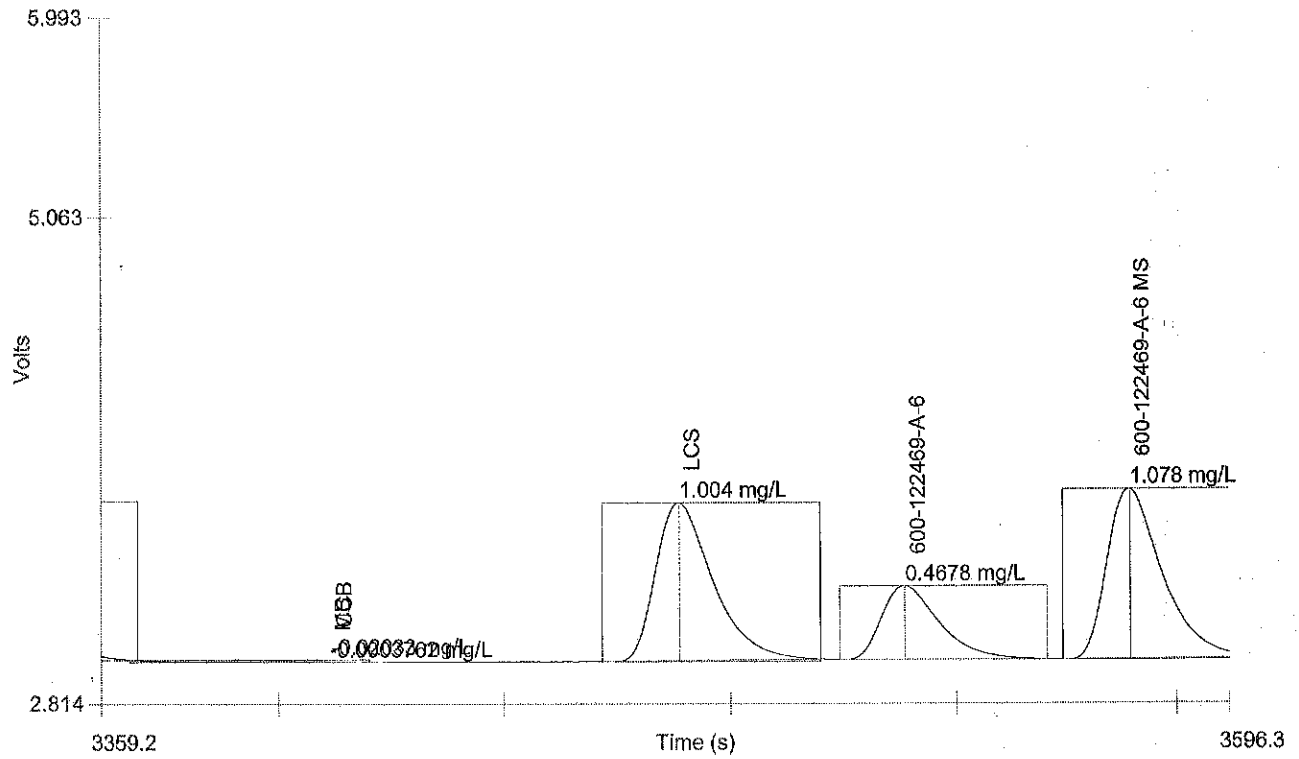
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 14 of 17



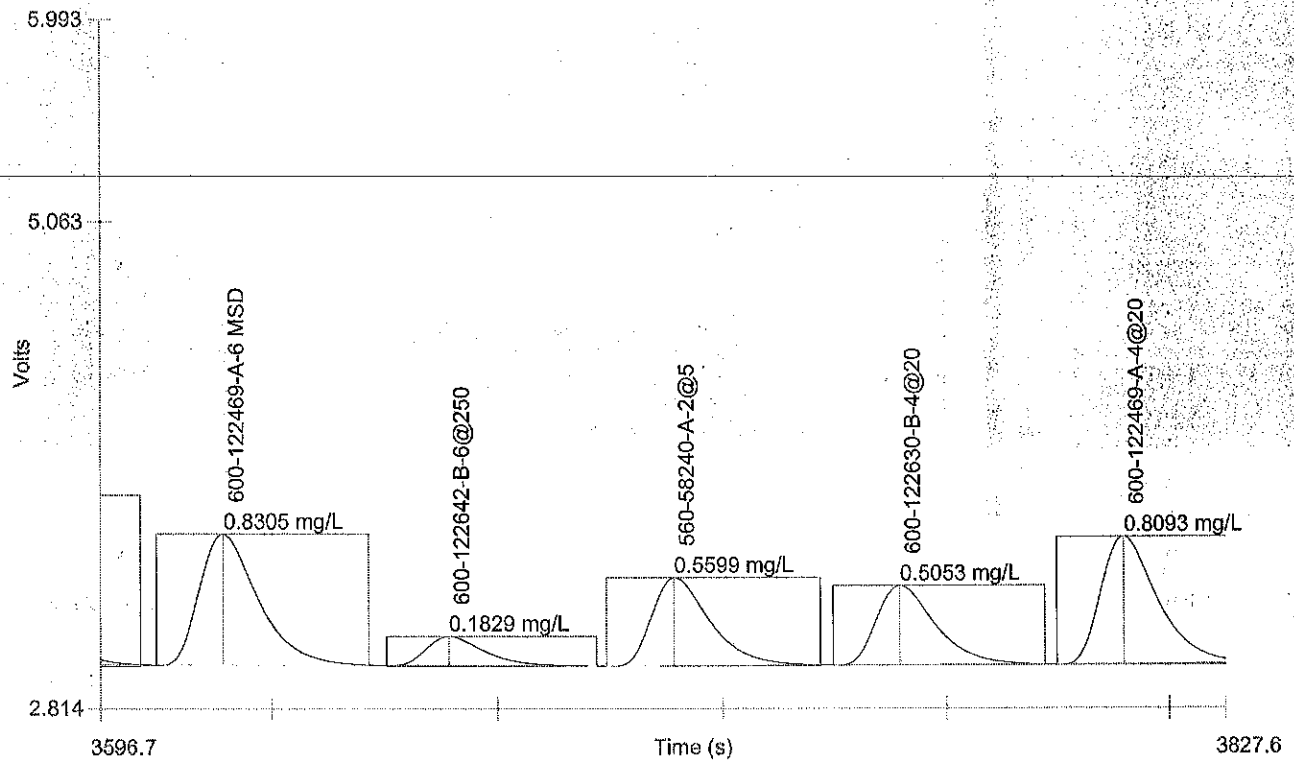
Channel 1 (NO3+NO2) : Set 15 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 16 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 17 of 17

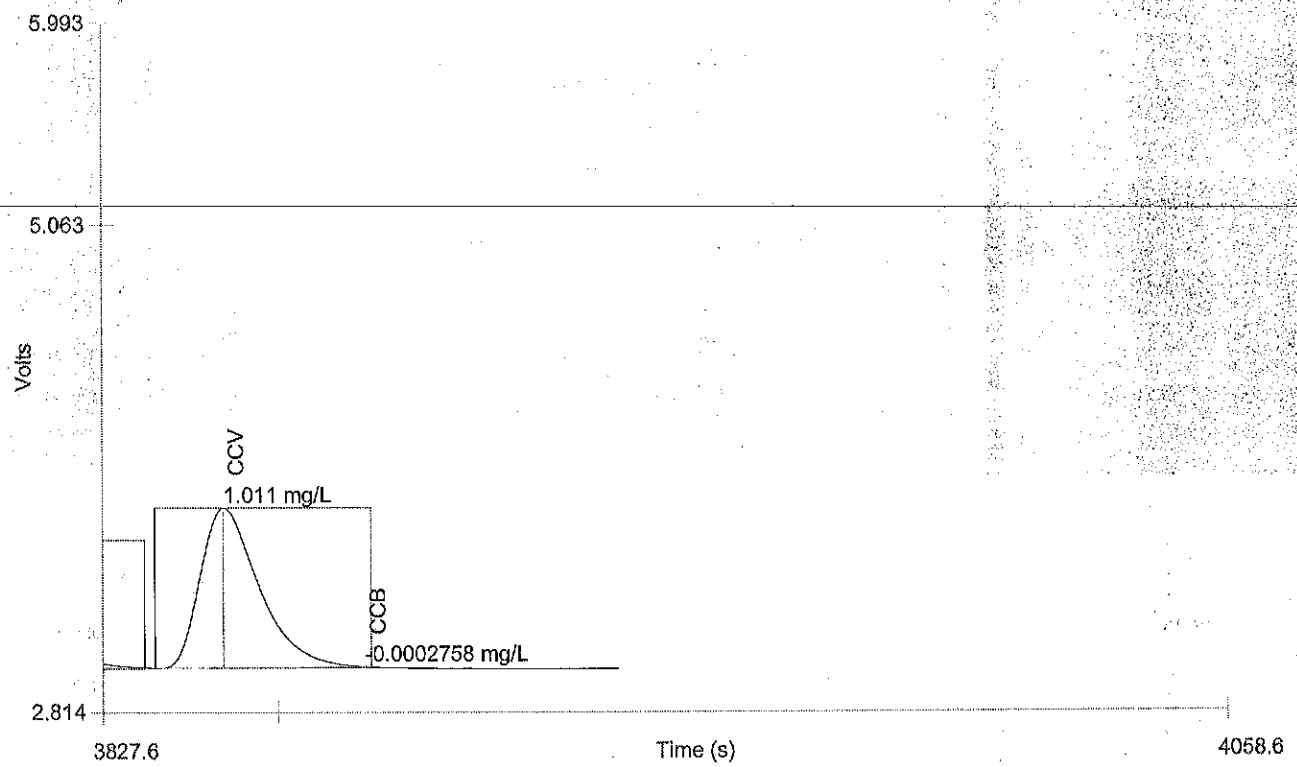
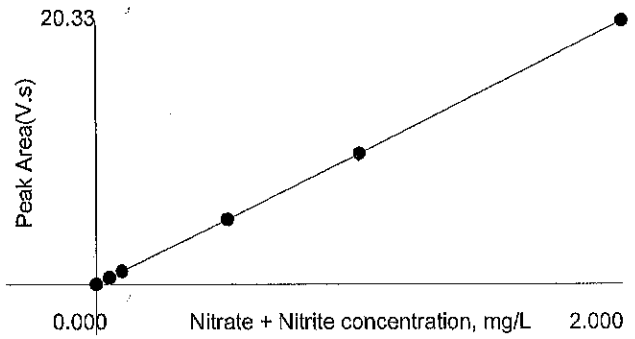


Table 1: Nitrate + Nitrite

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	2.000	1	20.33	1.506	-0.0	12/14/2015	3:18:28 PM
2	1.000	1	10.09	0.7544	-0.0	12/14/2015	3:19:14 PM
3	0.5000	1	5.024	0.3747	0.1	12/14/2015	3:20:01 PM
4	0.1000	1	1.006	0.07632	-0.1	12/14/2015	3:20:49 PM
5	0.05000	1	0.5196	0.03880	-3.2	12/14/2015	3:21:37 PM
6	0.000	1	-0.01170	-0.0005946		12/14/2015	3:22:26 PM

Figure 1: Nitrate + Nitrite



Area = 0.07684 * Conc^2 + 10.01 * Conc + 0.002920
Conc = - 7.323e-5 * Area^2 + 0.09987 * Area - 0.0002758
Correlation Coefficient (r) = 1.00000

No Weighting

TESTAMERICA HOUSTON
Orthophosphate by Colorimetry

Date/Time: 12/2/15 1300 Analyst: KD Balance ID: N/A Batch # 177771
Instrument ID: WC10 1° ID (Cal./CCV): 2009863 2° ID (LCS/ICV/MS): 1897352

Sample ID	Sample Vol. (mL or g)	ABS (880 nm)	Bkgd ABS	Final ABS (ABS - Bkgd ABS)	DF	Phosphorous (mg/L or mg/kg)	Comments
CS0 0.00 mg/L							
CS1 0.01 mg/L							
CS2 0.05 mg/L							
CS3 0.10 mg/L							
CS4 0.25 mg/L		KD 12/4/15				KD 12/4/15	
CS5 0.50 mg/L							
CS6 1.00 mg/L							
ICV	5 +Sol	0.462	0.000	0.462	1.0	0.530	TV = 0.5 mg/L
ICB	5	0.000	0.000	0.000		0.000	
MB	5	0.000	0.000	0.000		0.000	
LCS	5 +Sol	0.458	0.000	0.458		0.526	TV = 0.5 mg/L
1000 1223641B1	5	0.280	0.000	0.280	25.0	0.319	
MS B1	5 +Sol	0.734	0.000	0.734	25.0	0.846	TV = 0.5 mL
MSD B1	5 +Sol	0.742	0.000	0.742	25.0	0.855	TV = 0.5 mL
1000 122401A1	5	0.256	0.000 0.000	0.256	5X	0.291	
122428B1	5 KD 12/4/15	~~0.040~~ 0.017	~~0.017~~ 0.001	0.016	~~5X~~ 25X	0.012	~~TURBID~~ TURBID
122438A1	5	0.295	0.000	0.295	25.0	0.336	
122469B1	5 KD 12/4/15	~~0.050~~ 0.040	~~0.025~~ 0.017	0.023	~~5X~~ 25X	0.021	TURBID
B2	5	0.050	0.025	0.025	~~5X~~ 1.0	0.023	~~TURBID~~
CCV	5 +Sol	0.462	0.000	0.462	1.0	0.530	TV = 0.5 mg/L
CCB	5	0.000	0.000	0.000		0.000	
1000 122469 B3	5	0.057	0.030	0.027		0.025	
MS B3	5 +Sol	0.516	0.030	0.486		0.558	TV = 0.5 mL
MSD B3	5 +Sol	0.528	0.030	0.498		0.572	TV = 0.5 mL
1000 122469 B4	5	0.091	0.071	0.020	25X	0.018	TURBID
B5	5	0.025	0.017	0.008	1.0	0.003	TURBID
B6	5	~~0.0116~~	0.074	0.000	1.0	0.000	
CCV	5 +Sol	0.468	0.000	0.468	1.0	0.537	TV = 0.5 mL
CCB	5	0.000	0.000	0.000		0.000	

KD 12/4/15

5N H2SO4 ID: 2033361 SbK titrate ID: 1083499 Color Solution ID: 2058423
Ascorbic Acid ID: 2058266 Ammonium Molybdate ID: 2048489

Reviewed By: [signature] Date: 12/4/15

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Batch Number: 177944 Batch Start Date: 12/08/15 05:06 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	WETSNH3ICV 00020		
MB 600-177944/1		350.1, 350.1		100 mL	100 mL	<2 SU			
LCS 600-177944/2		350.1, 350.1		100 mL	100 mL	<2 SU	0.5 mL		
600-122706-C-1 MS		350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-122706-C-1 MSD		350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-122469-A-1	MW-06	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122469-A-2	MW-07	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122469-A-3	MW-07 DUP	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122469-A-4	MW-21	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122469-A-5	MW-23	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122469-A-6	MW-24	350.1, 350.1	T	100 mL	100 mL	<2 SU			

Batch Notes	
Pipette ID	WC47,WC53,WC63

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Batch Number: 177964 Batch Start Date: 12/08/15 08:05 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	CalcMsg	WETSNH3CAL 00012	WETSNH3ICV 00020
ICV 600-177964/9		350.1		5 mL	5 mL	<2 SU	OK		0.025 mL
ICB 600-177964/10		350.1		5 mL	5 mL	<2 SU	OK		
MB 600-177944/1-A		350.1		5 mL	5 mL	<2 SU	OK		
LCS 600-177944/2-A		350.1		5 mL	5 mL	<2 SU	OK		
CCV 600-177964/21		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-177964/22		350.1		5 mL	5 mL	<2 SU	OK		
600-122706-C-1-B MS		350.1	T	5 mL	5 mL	<2 SU	OK		
600-122706-C-1-C MSD		350.1	T	5 mL	5 mL	<2 SU	OK		
600-122469-A-1-A	MW-06	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122469-A-2-A	MW-07	350.1	T	5 mL	5 mL	<2 SU	OK		
CCV 600-177964/33		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-177964/34		350.1		5 mL	5 mL	<2 SU	OK		
600-122469-A-3-A	MW-07 DUP	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122469-A-4-A	MW-21	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122469-A-5-A	MW-23	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122469-A-6-A	MW-24	350.1	T	5 mL	5 mL	<2 SU	OK		
CCV 600-177964/45		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-177964/46		350.1		5 mL	5 mL	<2 SU	OK		

Batch Notes	
Pipette ID	WC47,WC53,WC63
Perform Calculation (0=No, 1=Yes)	1

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Batch Number: 177964 Batch Start Date: 12/08/15 08:05 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Batch Number: 178421 Batch Start Date: 12/14/15 15:17 Batch Analyst: Daniel, Kevin R

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	NO3NO2CRVE1.0 00045	NO3NO2ICV/LCS 00038		
ICV 600-178421/7		353.2		5 mL	5 mL		5 mL		
ICB 600-178421/8		353.2		5 mL	5 mL				
MB 600-178421/10		353.2		5 mL	5 mL				
LCS 600-178421/11		353.2		5 mL	5 mL		5 mL		
CCV 600-178421/20		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/21		353.2		5 mL	5 mL				
CCV 600-178421/32		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/33		353.2		5 mL	5 mL				
600-122469-A-1	MW-06	353.2	T	5 mL	5 mL				
600-122469-A-2	MW-07	353.2	T	5 mL	5 mL				
CCV 600-178421/44		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/45		353.2		5 mL	5 mL				
MB 600-178421/46		353.2		5 mL	5 mL				
LCS 600-178421/47		353.2		5 mL	5 mL		5 mL		
600-122469-A-3	MW-07 DUP	353.2	T	5 mL	5 mL				
CCV 600-178421/58		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/59		353.2		5 mL	5 mL				
600-122469-A-5	MW-23	353.2	T	5 mL	5 mL				
CCV 600-178421/70		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/71		353.2		5 mL	5 mL				
MB 600-178421/72		353.2		5 mL	5 mL				
LCS 600-178421/73		353.2		5 mL	5 mL		5 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Batch Number: 178421 Batch Start Date: 12/14/15 15:17 Batch Analyst: Daniel, Kevin R

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	NO3NO2CRVE1.0 00045	NO3NO2ICV/LCS 00038		
600-122469-A-6	MW-24	353.2	T	5 mL	5 mL				
600-122469-A-6 MS	MW-24	353.2	T	5 mL	5 mL		5 mL		
600-122469-A-6 MSD	MW-24	353.2	T	5 mL	5 mL		5 mL		
600-122469-A-4 ^20	MW-21	353.2	T	5 mL	5 mL				
CCV 600-178421/81		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/82		353.2		5 mL	5 mL				

Batch Notes	
Pipette ID	wc62 wc45a wc40

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Batch Number: 177771 Batch Start Date: 12/02/15 13:00 Batch Analyst: Daniel, Kevin R

Batch Method: 4500 P E-1999 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WETSPHOSCS 00022	WETSPHOSIS 00020		
ICV 600-177771/1		4500 P E-1999		5 mL	5 mL		50 uL		
ICB 600-177771/2		4500 P E-1999		5 mL	5 mL				
MB 600-177771/3		4500 P E-1999		5 mL	5 mL				
LCS 600-177771/4		4500 P E-1999		5 mL	5 mL		50 uL		
600-122469-B-1	MW-06	4500 P E-1999	T	5 mL	5 mL				
600-122469-B-2	MW-07	4500 P E-1999	T	5 mL	5 mL				
CCV 600-177771/13		4500 P E-1999		5 mL	5 mL	50 uL			
CCB 600-177771/14		4500 P E-1999		5 mL	5 mL				
600-122469-B-3	MW-07 DUP	4500 P E-1999	T	5 mL	5 mL				
600-122469-B-3 MS	MW-07 DUP	4500 P E-1999	T	5 mL	5 mL		50 uL		
600-122469-B-3 MSD	MW-07 DUP	4500 P E-1999	T	5 mL	5 mL		50 uL		
600-122469-B-4	MW-21	4500 P E-1999	T	5 mL	5 mL				
600-122469-B-5	MW-23	4500 P E-1999	T	5 mL	5 mL				
600-122469-B-6	MW-24	4500 P E-1999	T	5 mL	5 mL				
CCV 600-177771/21		4500 P E-1999		5 mL	5 mL	50 uL			
CCB 600-177771/22		4500 P E-1999		5 mL	5 mL				

Batch Notes	
Ammonium Molybdate Reagent ID Number	2048489
Ascorbic Acid Reagent ID Number	2058266
Potassium Antimonyl Tartrate Reagent ID	1883499
Pipette ID	wc62 wc45a
Sulfuric Acid Reagent ID Number	2033361

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122469-1

SDG No.:

Batch Number: 177771 Batch Start Date: 12/02/15 13:00 Batch Analyst: Daniel, Kevin R

Batch Method: 4500 P E-1999 Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

Test America (LAB COPY)
DateShipped: 12/1/2015
CarrierName: FedEx
AirbillNo: 775094882757

CHAIN OF CUSTODY RECORD

No: 6-120115-170244-0007
Lab: Test America
Lab Contact: Kristy Ricke
Lab Phone: 713-690-4444

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
MW-06	MW-06	Ground Water/ Duane Thomas	Grab	Nitrate Nitrite as N and Ammonia, Ortho-phosphate (EPA 365.1)	1066 (Ice to 4C & H2SO4), 1068 (Ice to 4C) (2)	MW-06	12/01/2015 11:30	
MW-07	MW-07	Ground Water/ Duane Thomas	Grab	Nitrate Nitrite as N and Ammonia, Ortho-phosphate (EPA 365.1)	1072 (Ice to 4C & H2SO4), 1074 (Ice to 4C) (2)	MW-07	12/01/2015 12:15	
MW-07-DUP	MW-07-DUP	Ground Water/ Duane Thomas	Grab	Nitrate Nitrite as N and Ammonia, Ortho-phosphate (EPA 365.1)	1078 (Ice to 4C & H2SO4), 1080 (Ice to 4C) (2)	MW-07-DUP	12/01/2015 12:15	
MW-21	MW-21	Ground Water/ Duane Thomas	Grab	Nitrate Nitrite as N and Ammonia, Ortho-phosphate (EPA 365.1)	1107 (Ice to 4C & H2SO4), 1109 (Ice to 4C) (2)	MW-21	12/01/2015 13:35	
MW-23	MW-23	Ground Water/ Duane Thomas	Grab	Nitrate Nitrite as N and Ammonia, Ortho-phosphate (EPA 365.1)	1119 (Ice to 4C & H2SO4), 1121 (Ice to 4C) (2)	MW-23	12/01/2015 08:45	
MW-24	MW-24	Ground Water/ Duane Thomas	Grab	Nitrate Nitrite as N and Ammonia, Ortho-phosphate (EPA 365.1)	1125 (Ice to 4C & H2SO4), 1127 (Ice to 4C) (2)	MW-24	12/01/2015 10:10	

600-122469 Chain of Custody

Shipment for Case Complete? N
Samples Transferred From Chain of Custody #

Analysis Key

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	EA Engineering	12/01/15 1800		12-2-15 11:40	TA

TestAmerica Houston

Loc: 600
122469

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Checklist

Date/Time Received: 15DEC 2 11:40

JOB NUMBER: _____ CLIENT: EA

UNPACKED BY: _____ CARRIER/DRIVER: Fedex SD

Custody Seal Present: ☒ YES ☐ NO Number of Coolers Received: _____

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
Blu	Y / N	Y / N	2.8	550	-0.3	2.5
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☑ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO Acid preserved are<pH 2: ☐ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		

COMMENTS:
TRK# 7750 9486 2757

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 600-122469-1

Login Number: 122469
List Number: 1
Creator: Jackson, Falynn E

List Source: TestAmerica Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

ANALYTICAL REPORT

Job Number: 600-122477-1

Job Description: Jones Road Groundwater Plume

For:
EA Engineering, Science, and Technology
5655 S. Yosemite St., Ste. 320
Greenwood Village, CO 80111

Attention: Pamela J Moss

Approved for release.
Kristy Ricke
Project Manager I
12/17/2015 11:40 AM

Kristy Ricke, Project Manager I
6310 Rothway Street, Houston, TX, 77040
(615)301-5764
kristy.ricke@testamericainc.com
12/17/2015

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Job Narrative
600-122477-1

Comments
No additional comments.

Receipt
The samples were received on 12/2/2015 11:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0º C.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Instrument ID: CHFID14 Analysis Batch Number: 164074

Lab Sample ID: IC 600-164074/1 Client Sample ID:

Date Analyzed: 06/08/15 10:52 Lab File ID: rsk060815_001.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.77	Split Peak	saccoj	06/08/15 12:47
Ethane	0.92	Split Peak	saccoj	06/08/15 12:47

RSK-175

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Instrument ID: CHFID14 Analysis Batch Number: 177677

Lab Sample ID: 600-122477-1 Client Sample ID: MW-06

Date Analyzed: 12/03/15 12:39 Lab File ID: rsk120315_014.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.77	Split Peak	saccoj	12/03/15 14:18
Ethane	0.92	Split Peak	saccoj	12/03/15 14:18

Lab Sample ID: 600-122477-4 Client Sample ID: MW-21

Date Analyzed: 12/03/15 13:28 Lab File ID: rsk120315_017.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.77	Split Peak	saccoj	12/03/15 14:19
Ethane	0.92	Split Peak	saccoj	12/03/15 14:19

Lab Sample ID: 600-122477-6 Client Sample ID: MW-24

Date Analyzed: 12/03/15 13:56 Lab File ID: rsk120315_019.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.75	Split Peak	saccoj	12/03/15 14:20

Lab Sample ID: CCV 600-177677/23 Client Sample ID:

Date Analyzed: 12/03/15 15:39 Lab File ID: rsk120315_023.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.75	Split Peak	saccoj	12/03/15 16:24
Ethane	0.90	Split Peak	saccoj	12/03/15 16:24

SAMPLE SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
600-122477-1	MW-06	Water	12/01/2015 1130	12/02/2015 1140
600-122477-2	MW-07	Water	12/01/2015 1215	12/02/2015 1140
600-122477-3	MW-07-Dup	Water	12/01/2015 1215	12/02/2015 1140
600-122477-4	MW-21	Water	12/01/2015 1335	12/02/2015 1140
600-122477-5	MW-23	Water	12/01/2015 0845	12/02/2015 1140
600-122477-6	MW-24	Water	12/01/2015 1010	12/02/2015 1140

EXECUTIVE SUMMARY - Detections

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
600-122477-1	**MW-06**					
Methane		0.00573		0.00100	mg/L	RSK-175
Total Organic Carbon		4.17		1.00	mg/L	5310 D-2000
600-122477-2	**MW-07**					
Methane		0.00105		0.00100	mg/L	RSK-175
Total Organic Carbon		0.936	J	1.00	mg/L	5310 D-2000
600-122477-3	**MW-07-DUP**					
Methane		0.00111		0.00100	mg/L	RSK-175
Total Organic Carbon		0.796	J	1.00	mg/L	5310 D-2000
600-122477-4	**MW-21**					
Methane		0.00416		0.00100	mg/L	RSK-175
Total Organic Carbon		1.52		1.00	mg/L	5310 D-2000
600-122477-5	**MW-23**					
Total Organic Carbon		1.09		1.00	mg/L	5310 D-2000
600-122477-6	**MW-24**					
Ethylene		0.00119	J	0.00200	mg/L	RSK-175
Total Organic Carbon		1.55		1.00	mg/L	5310 D-2000

METHOD SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Dissolved Gases in Water	TAL HOU	RSK RSK-175	
Organic Carbon, Total (TOC)	TAL HOU	SM 5310 D-2000	

Lab References:

TAL HOU = TestAmerica Houston

Method References:

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

METHOD / ANALYST SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Method	Analyst	Analyst ID
RSK RSK-175	Sacco, John P	JPS
SM 5310 D-2000	Contreras, Enrique	EC1

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Client Sample ID: **MW-06**

Lab Sample ID: 600-122477-1

Client Matrix: Water

Date Sampled: 12/01/2015 1130

Date Received: 12/02/2015 1140

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177677	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/03/2015 1239			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.00573		0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Client Sample ID: **MW-07**

Lab Sample ID: 600-122477-2

Client Matrix: Water

Date Sampled: 12/01/2015 1215

Date Received: 12/02/2015 1140

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177677	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/03/2015 1251			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.00105		0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Client Sample ID: **MW-07-Dup**

Lab Sample ID: 600-122477-3

Client Matrix: Water

Date Sampled: 12/01/2015 1215

Date Received: 12/02/2015 1140

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177677	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/03/2015 1302			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.00111		0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Client Sample ID: **MW-21**

Lab Sample ID: 600-122477-4

Client Matrix: Water

Date Sampled: 12/01/2015 1335

Date Received: 12/02/2015 1140

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177677	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/03/2015 1328			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.00416		0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Client Sample ID: **MW-23**

Lab Sample ID: 600-122477-5

Client Matrix: Water

Date Sampled: 12/01/2015 0845

Date Received: 12/02/2015 1140

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177677	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/03/2015 1340			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.000357	U	0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Client Sample ID: **MW-24**

Lab Sample ID: 600-122477-6

Client Matrix: Water

Date Sampled: 12/01/2015 1010

Date Received: 12/02/2015 1140

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177677	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/03/2015 1356			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.000357	U	0.000357	0.00100
Ethylene	0.00119	J	0.000324	0.00200

General Chemistry

Client Sample ID: **MW-06**

Lab Sample ID: 600-122477-1 Date Sampled: 12/01/2015 1130
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	4.17		mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178131	Analysis Date: 12/10/2015 0209						

General Chemistry

Client Sample ID: **MW-07**

Lab Sample ID: 600-122477-2 Date Sampled: 12/01/2015 1215
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	0.936	J	mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178131	Analysis Date: 12/10/2015 0240						

General Chemistry

Client Sample ID: **MW-07-Dup**

Lab Sample ID: 600-122477-3 Date Sampled: 12/01/2015 1215
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	0.796	J	mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178131	Analysis Date: 12/10/2015 0251						

General Chemistry

Client Sample ID: **MW-21**

Lab Sample ID: 600-122477-4 Date Sampled: 12/01/2015 1335
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	1.52		mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178131 Analysis Date: 12/10/2015 0322							

General Chemistry

Client Sample ID: **MW-23**

Lab Sample ID: 600-122477-5 Date Sampled: 12/01/2015 0845
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	1.09		mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178131	Analysis Date: 12/10/2015 0332						

General Chemistry

Client Sample ID: **MW-24**

Lab Sample ID: 600-122477-6 Date Sampled: 12/01/2015 1010
Client Matrix: Water Date Received: 12/02/2015 1140

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Total Organic Carbon	1.55		mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178314	Analysis Date: 12/11/2015 2125						

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Method Blank - Batch: 600-177677

Method: RSK-175
Preparation: N/A

Lab Sample ID:	MB 600-177677/2	Analysis Batch:	600-177677	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120315_002.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/03/2015 1002	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.000357	U	0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Lab Control Sample - Batch: 600-177677

Method: RSK-175
Preparation: N/A

Lab Sample ID:	LCS 600-177677/3	Analysis Batch:	600-177677	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120315_003.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/03/2015 1013	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ethane	0.00970	0.007867	81	70 - 130	
Methane	0.00516	0.004872	94	70 - 130	
Ethylene	0.00905	0.007544	83	70 - 130	

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177677

Method: RSK-175
Preparation: N/A

MS Lab Sample ID:	600-122382-I-5 MS	Analysis Batch:	600-177677	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120315_009.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/03/2015 1120			Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	600-122382-I-5 MSD	Analysis Batch:	600-177677	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120315_010.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/03/2015 1133			Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ethane	89	88	70 - 130	0	30		
Methane	86	88	70 - 130	1	30		
Ethylene	81	81	70 - 130	0	30		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177677

Method: RSK-175
Preparation: N/A

MS Lab Sample ID:	600-122382-I-5 MS	Units:	mg/L	MSD Lab Sample ID:	600-122382-I-5 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/03/2015 1120			Analysis Date:	12/03/2015 1133
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Ethane	0.000303	U	0.00970	0.00970	0.008603	0.008581
Methane	0.000789	J	0.00516	0.00516	0.005247	0.005305
Ethylene	0.00111	J	0.00905	0.00905	0.008437	0.008434

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Method Blank - Batch: 600-178131

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	MB 600-178131/39	Analysis Batch:	600-178131	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb039.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/09/2015 2209	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Organic Carbon	0.437	U	0.437	1.00

Lab Control Sample - Batch: 600-178131

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	LCS 600-178131/40	Analysis Batch:	600-178131	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb040.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/09/2015 2219	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	10.0	9.582	96	85 - 115	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178131

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122468-B-5 MS	Analysis Batch:	600-178131	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb058.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/10/2015 0127			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122468-B-5 MSD	Analysis Batch:	600-178131	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb059.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/10/2015 0138			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon	106	106	80 - 120	0	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178131

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122468-B-5 MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/10/2015 0127		
Prep Date:	N/A		
Leach Date:	N/A		

MSD Lab Sample ID:	600-122468-B-5 MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/10/2015 0138
Prep Date:	N/A
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Total Organic Carbon	7.24	10.0	10.0	17.87	17.80

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Method Blank - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	MB 600-178314/9	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb009.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 1621	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Organic Carbon	0.437	U	0.437	1.00

Lab Control Sample - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	LCS 600-178314/10	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb010.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 1632	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	10.0	9.703	97	85 - 115	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122905-D-6 MS	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb026.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 1919			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122905-D-6 MSD	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb027.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 1930			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon	108	109	80 - 120	1	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122905-D-6 MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/11/2015 1919		
Prep Date:	N/A		
Leach Date:	N/A		

MSD Lab Sample ID:	600-122905-D-6 MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/11/2015 1930
Prep Date:	N/A
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Total Organic Carbon	5.80	10.0	10.0	16.60	16.73

DATA REPORTING QUALIFIERS

Client: EA Engineering, Science, and Technology Job Number: 600-122477-1

Lab Section	Qualifier	Description
GC VOA		
	U	Indicates the analyte was analyzed for but not detected.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	U	Indicates the analyte was analyzed for but not detected.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC VOA					
Analysis Batch:600-177677					
LCS 600-177677/3	Lab Control Sample	T	Water	RSK-175	
MB 600-177677/2	Method Blank	T	Water	RSK-175	
600-122382-I-5 MS	Matrix Spike	T	Water	RSK-175	
600-122382-I-5 MSD	Matrix Spike Duplicate	T	Water	RSK-175	
600-122477-1	MW-06	T	Water	RSK-175	
600-122477-2	MW-07	T	Water	RSK-175	
600-122477-3	MW-07-Dup	T	Water	RSK-175	
600-122477-4	MW-21	T	Water	RSK-175	
600-122477-5	MW-23	T	Water	RSK-175	
600-122477-6	MW-24	T	Water	RSK-175	

Report Basis
T = Total

General Chemistry					
Analysis Batch:600-178131					
LCS 600-178131/40	Lab Control Sample	T	Water	5310 D-2000	
MB 600-178131/39	Method Blank	T	Water	5310 D-2000	
600-122468-B-5 MS	Matrix Spike	T	Water	5310 D-2000	
600-122468-B-5 MSD	Matrix Spike Duplicate	T	Water	5310 D-2000	
600-122477-1	MW-06	T	Water	5310 D-2000	
600-122477-2	MW-07	T	Water	5310 D-2000	
600-122477-3	MW-07-Dup	T	Water	5310 D-2000	
600-122477-4	MW-21	T	Water	5310 D-2000	
600-122477-5	MW-23	T	Water	5310 D-2000	
Analysis Batch:600-178314					
LCS 600-178314/10	Lab Control Sample	T	Water	5310 D-2000	
MB 600-178314/9	Method Blank	T	Water	5310 D-2000	
600-122477-6	MW-24	T	Water	5310 D-2000	
600-122905-D-6 MS	Matrix Spike	T	Water	5310 D-2000	
600-122905-D-6 MSD	Matrix Spike Duplicate	T	Water	5310 D-2000	

Report Basis
T = Total

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Laboratory Chronicle

Lab ID: 600-122477-1 **Client ID: MW-06**

Sample Date/Time: 12/01/2015 11:30 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122477-C-1		600-177677		12/03/2015 12:39	1	TAL HOU	JPS
A:5310 D-2000	600-122477-A-1		600-178131		12/10/2015 02:09	1	TAL HOU	EC1

Lab ID: 600-122477-2 **Client ID: MW-07**

Sample Date/Time: 12/01/2015 12:15 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122477-C-2		600-177677		12/03/2015 12:51	1	TAL HOU	JPS
A:5310 D-2000	600-122477-A-2		600-178131		12/10/2015 02:40	1	TAL HOU	EC1

Lab ID: 600-122477-3 **Client ID: MW-07-Dup**

Sample Date/Time: 12/01/2015 12:15 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122477-C-3		600-177677		12/03/2015 13:02	1	TAL HOU	JPS
A:5310 D-2000	600-122477-A-3		600-178131		12/10/2015 02:51	1	TAL HOU	EC1

Lab ID: 600-122477-4 **Client ID: MW-21**

Sample Date/Time: 12/01/2015 13:35 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122477-C-4		600-177677		12/03/2015 13:28	1	TAL HOU	JPS
A:5310 D-2000	600-122477-A-4		600-178131		12/10/2015 03:22	1	TAL HOU	EC1

Lab ID: 600-122477-5 **Client ID: MW-23**

Sample Date/Time: 12/01/2015 08:45 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122477-C-5		600-177677		12/03/2015 13:40	1	TAL HOU	JPS
A:5310 D-2000	600-122477-A-5		600-178131		12/10/2015 03:32	1	TAL HOU	EC1

Lab ID: 600-122477-6 **Client ID: MW-24**

Sample Date/Time: 12/01/2015 10:10 Received Date/Time: 12/02/2015 11:40

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122477-C-6		600-177677		12/03/2015 13:56	1	TAL HOU	JPS
A:5310 D-2000	600-122477-A-6		600-178314		12/11/2015 21:25	1	TAL HOU	EC1

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Laboratory Chronicle

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	MB 600-177677/2		600-177677		12/03/2015 10:02	1	TAL HOU	JPS
A:5310 D-2000	MB 600-178131/39		600-178131		12/09/2015 22:09	1	TAL HOU	EC1
A:5310 D-2000	MB 600-178314/9		600-178314		12/11/2015 16:21	1	TAL HOU	EC1

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	LCS 600-177677/3		600-177677		12/03/2015 10:13	1	TAL HOU	JPS
A:5310 D-2000	LCS 600-178131/40		600-178131		12/09/2015 22:19	1	TAL HOU	EC1
A:5310 D-2000	LCS 600-178314/10		600-178314		12/11/2015 16:32	1	TAL HOU	EC1

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 11/30/2015 12:30 Received Date/Time: 12/01/2015 12:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122382-I-5 MS		600-177677		12/03/2015 11:20	1	TAL HOU	JPS
A:5310 D-2000	600-122468-B-5 MS		600-178131		12/10/2015 01:27	1	TAL HOU	EC1
A:5310 D-2000	600-122905-D-6 MS		600-178314		12/11/2015 19:19	1	TAL HOU	EC1

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 11/30/2015 12:30 Received Date/Time: 12/01/2015 12:15

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122382-I-5 MSD		600-177677		12/03/2015 11:33	1	TAL HOU	JPS
A:5310 D-2000	600-122468-B-5 MSD		600-178131		12/10/2015 01:38	1	TAL HOU	EC1
A:5310 D-2000	600-122905-D-6 MSD		600-178314		12/11/2015 19:30	1	TAL HOU	EC1

Lab References:
TAL HOU = TestAmerica Houston

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
RSK-175 LCS_00017	09/24/16	09/17/13	Nitrogen, Lot 092914	1000000 mL	RSK-175_00014	1 uL	Ethane	9.7 ug/L
							Ethylene	9.05 ug/L
							Methane	5.16 ug/L
							Propane	14.18 ug/L
							Propene	13.58 ug/L
.RSK-175_00014	09/24/16	Coastal Specialty Gas, Lot UT002104			(Purchased Reagent)		Ethane	9.7 ppm v/v
							Ethylene	9.05 ppm v/v
							Methane	5.16 ppm v/v
							Propane	14.18 ppm v/v
							Propene	13.58 ppm v/v
TOCISCAL_00300	12/31/15	12/08/15	DI WATER, Lot NONE	500 mL	WETSTOCCAL_00018	5 mL	Total Organic Carbon	10 ppm
.WETSTOCCAL_00018	12/31/15	RICCA, Lot 1412B01			(Purchased Reagent)		Total Organic Carbon	1000 mg/L
TOCSLCS_00209	01/06/16	12/08/15	DI WATER, Lot NONE	1000 mL	WETSTOCICV_00033	10 mL	Total Organic Carbon	10 ppm
.WETSTOCICV_00033	02/26/17	LABCHEM, Lot E054-11			(Purchased Reagent)		Total Organic Carbon	1000 mg/L
							Total Organic Carbon	1000 mg/L

Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-122477-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Houston	Arkansas DEQ	State Program	6	15-045-0
TestAmerica Houston	Louisiana	NELAP	6	01967
TestAmerica Houston	Oklahoma	State Program	6	2015-050
TestAmerica Houston	Texas	NELAP	6	T104704223-15-18
TestAmerica Houston	USDA	Federal		P330-14-00192

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method RSK-175

Dissolved Gases (GC) by Method RSK_175

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk120315_003.d

Lab ID: LCS 600-177677/3 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Ethane	0.00970	0.007867	81	70-130	
Methane	0.00516	0.004872	94	70-130	
Ethylene	0.00905	0.007544	83	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk120315_009.d

Lab ID: 600-122382-I-5 MS Client ID:

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Ethane	0.00970	0.000303 U	0.008603	89	70-130	
Methane	0.00516	0.000789 J	0.005247	86	70-130	
Ethylene	0.00905	0.00111 J	0.008437	81	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk120315_010.d

Lab ID: 600-122382-I-5 MSD Client ID:

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Ethane	0.00970	0.008581	88	0	30	70-130	
Methane	0.00516	0.005305	88	1	30	70-130	
Ethylene	0.00905	0.008434	81	0	30	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Lab Sample ID: MB 600-177677/2

Matrix: Water Date Extracted:

Lab File ID:(1) rsk120315_002.d Lab File ID:(2)

Date Analyzed:(1) 12/03/2015 10:02 Date Analyzed:(2)

Instrument ID:(1) CHFID14 Instrument ID:(2)

GC Column:(1) RTX-5 ID: 0.53(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 600-177677/3	12/03/2015 10:13	
	600-122382-I-5 MS	12/03/2015 11:20	
	600-122382-I-5 MSD	12/03/2015 11:33	
MW-06	600-122477-1	12/03/2015 12:39	
MW-07	600-122477-2	12/03/2015 12:51	
MW-07-Dup	600-122477-3	12/03/2015 13:02	
MW-21	600-122477-4	12/03/2015 13:28	
MW-23	600-122477-5	12/03/2015 13:40	
MW-24	600-122477-6	12/03/2015 13:56	

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122477-1

SDG No.:

Client Sample ID: MW-06 | Lab Sample ID: 600-122477-1

Matrix: Water | Lab File ID: rsk120315_014.d

Analysis Method: RSK-175 | Date Collected: 12/01/2015 11:30

Sample wt/vol: 1(mL) | Date Analyzed: 12/03/2015 12:39

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177677 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.00573		0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_014.d				
Lims ID:	600-122477-C-1	Lab Sample ID:	600-122477-1		
Client ID:	MW-06				
Sample Type:	Client				
Inject. Date:	03-Dec-2015 12:39:57	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 009 Name: 600-0009699-014				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	03-Dec-2015 16:25:39	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK014				
First Level Reviewer: saccoj		Date:	03-Dec-2015 14:18:36		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.767	0.750	0.017	26056	5.73	M
2 Ethane	0.917	0.917	0.000	677	0.1595	M

QC Flag Legend

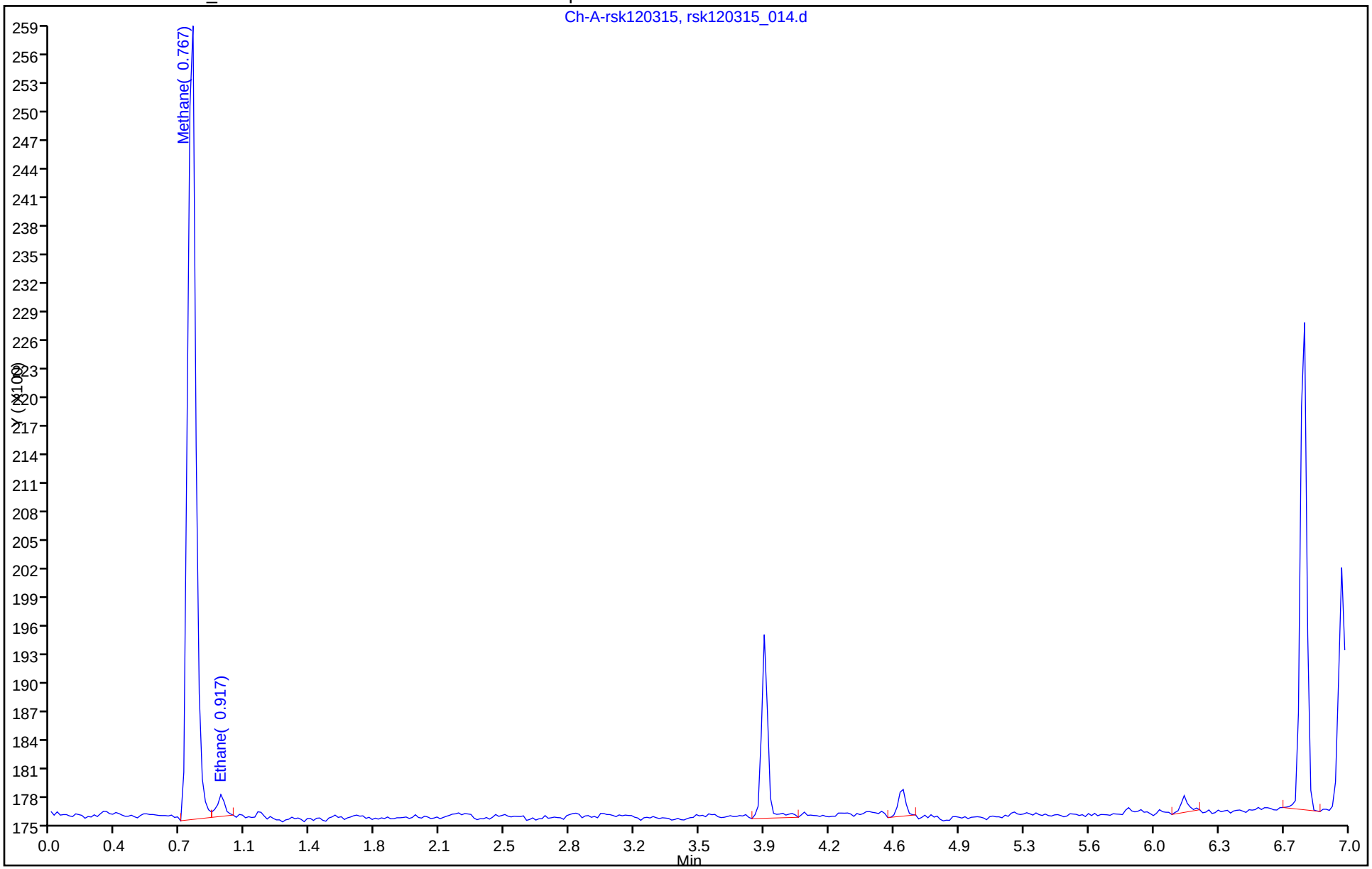
Review Flags

M - Manually Integrated

Report Date: 03-Dec-2015 16:25:40 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_014.d				
Injection Date:	03-Dec-2015 12:39:57	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122477-C-1	Lab Sample ID:	600-122477-1	Worklist Smp#:	14
Client ID:	MW-06				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

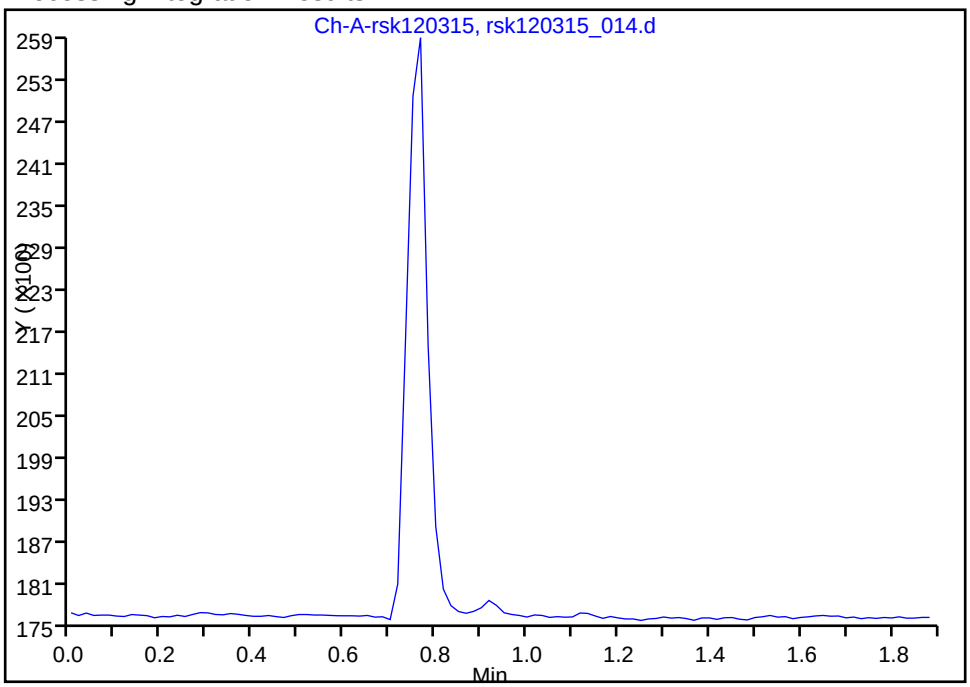
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_014.d				
Injection Date:	03-Dec-2015 12:39:57	Instrument ID:	CHFID14		
Lims ID:	600-122477-C-1	Lab Sample ID:	600-122477-1		
Client ID:	MW-06				
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

2 Ethane, CAS: 74-84-0

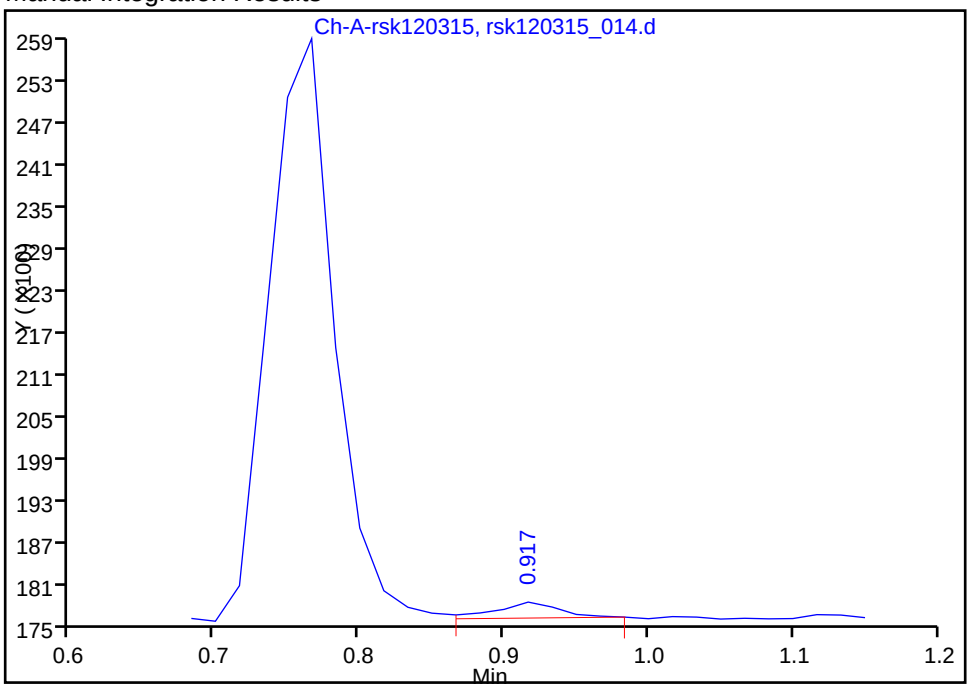
Not Detected
Expected RT: 0.92

Processing Integration Results



Manual Integration Results

RT: 0.92
Area: 677
Amount: 0.159538
Amount Units: ug/l



Reviewer: saccoj, 03-Dec-2015 14:18:36
Audit Action: Manually Integrated/Assigned Compound ID
Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

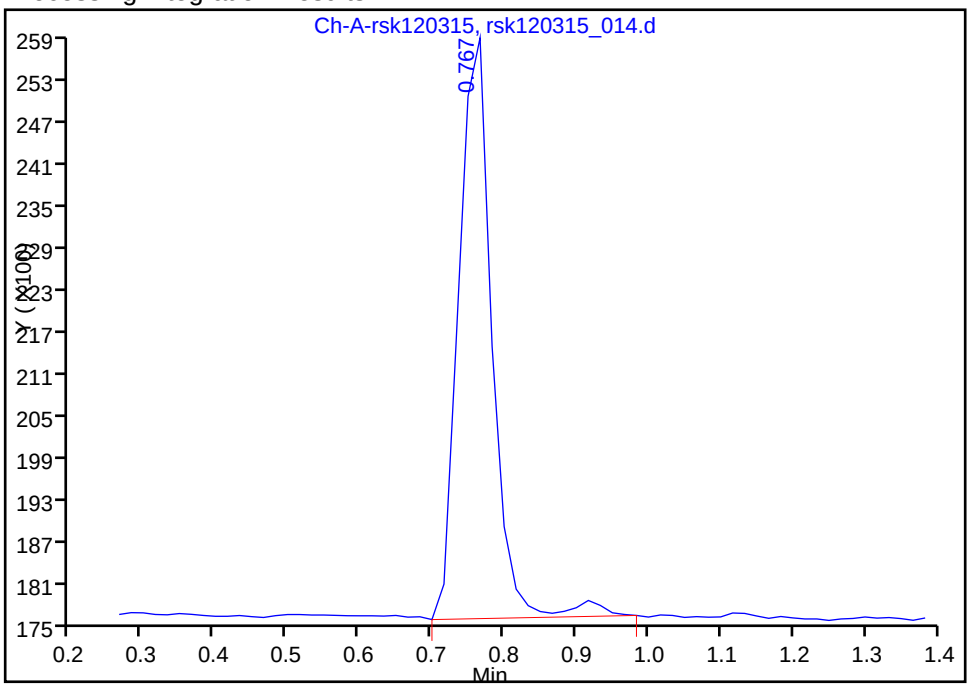
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_014.d				
Injection Date:	03-Dec-2015 12:39:57	Instrument ID:	CHFID14		
Lims ID:	600-122477-C-1	Lab Sample ID:	600-122477-1		
Client ID:	MW-06				
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

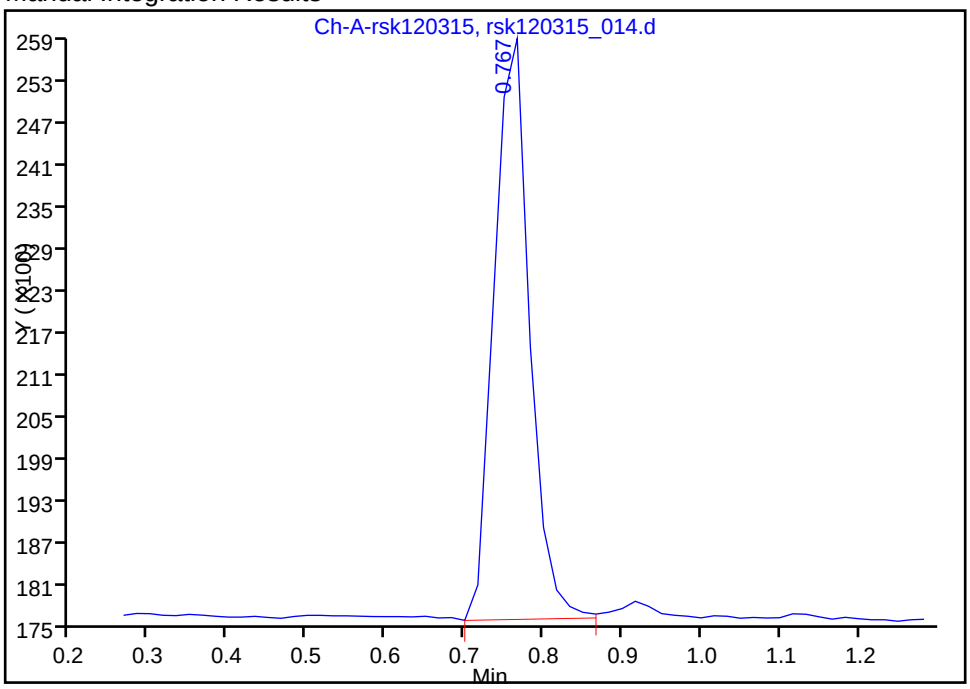
Processing Integration Results

RT: 0.77
Area: 26736
Amount: 5.884338
Amount Units: ug/l



Manual Integration Results

RT: 0.77
Area: 26056
Amount: 5.734677
Amount Units: ug/l



Reviewer: saccoj, 03-Dec-2015 14:18:36
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122477-1

SDG No.:

Client Sample ID: MW-07 | Lab Sample ID: 600-122477-2

Matrix: Water | Lab File ID: rsk120315_015.d

Analysis Method: RSK-175 | Date Collected: 12/01/2015 12:15

Sample wt/vol: 1(mL) | Date Analyzed: 12/03/2015 12:51

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177677 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.00105		0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_015.d
Lims ID: 600-122477-C-2 Lab Sample ID: 600-122477-2
Client ID: MW-07
Sample Type: Client
Inject. Date: 03-Dec-2015 12:51:08 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 010 Name: 600-0009699-015
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 03-Dec-2015 16:25:39 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK014

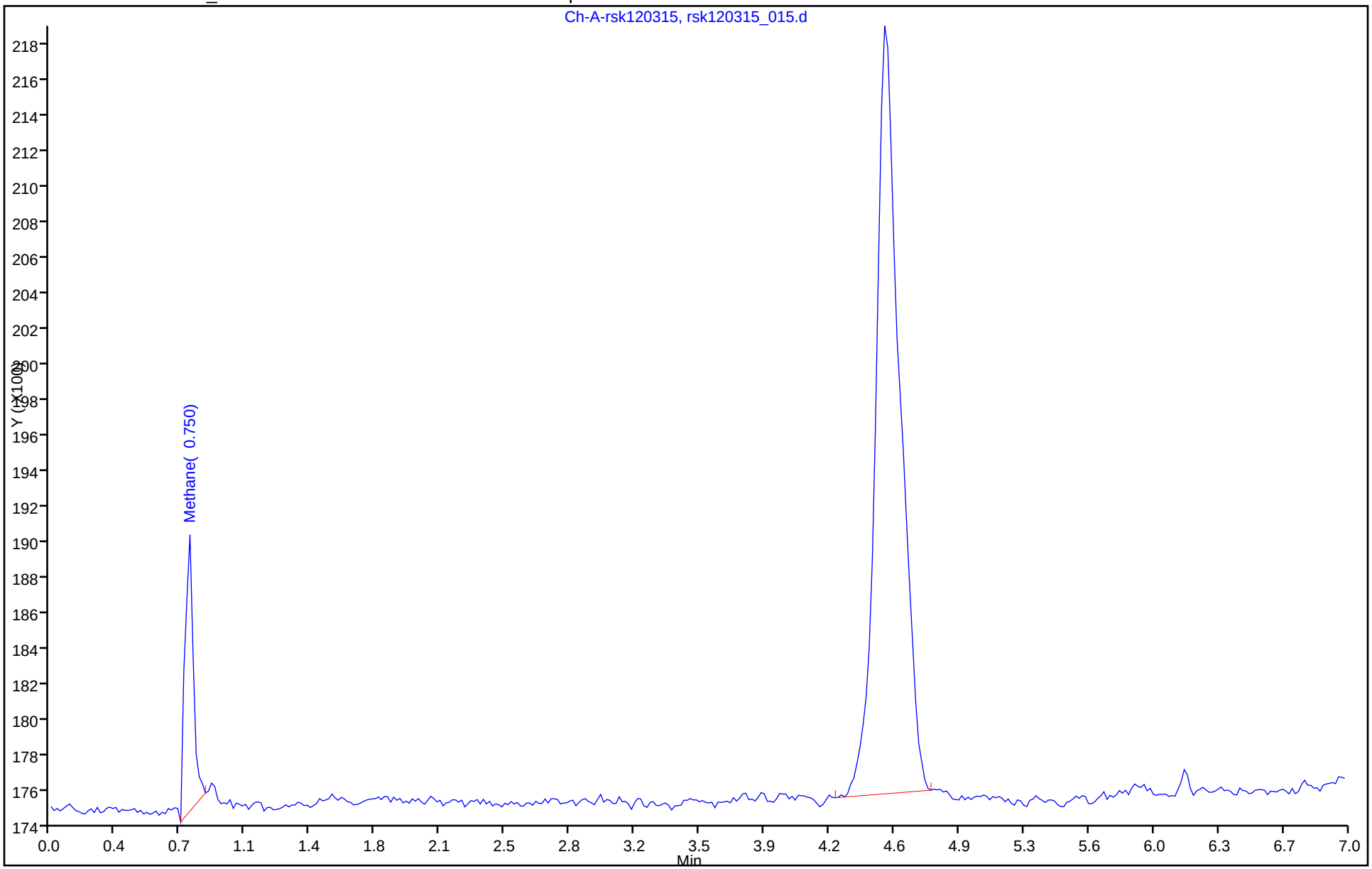
First Level Reviewer: saccoj Date: 03-Dec-2015 14:18:49

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	4789	1.05	

Report Date: 03-Dec-2015 16:25:41 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_015.d				
Injection Date:	03-Dec-2015 12:51:08	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122477-C-2	Lab Sample ID:	600-122477-2	Worklist Smp#:	15
Client ID:	MW-07				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG No.:
Client Sample ID: MW-07-Dup
Lab Sample ID: 600-122477-3
Matrix: Water
Lab File ID: rsk120315_016.d
Analysis Method: RSK-175
Date Collected: 12/01/2015 12:15
Sample wt/vol: 1(mL)
Date Analyzed: 12/03/2015 13:02
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177677
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.00111		0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

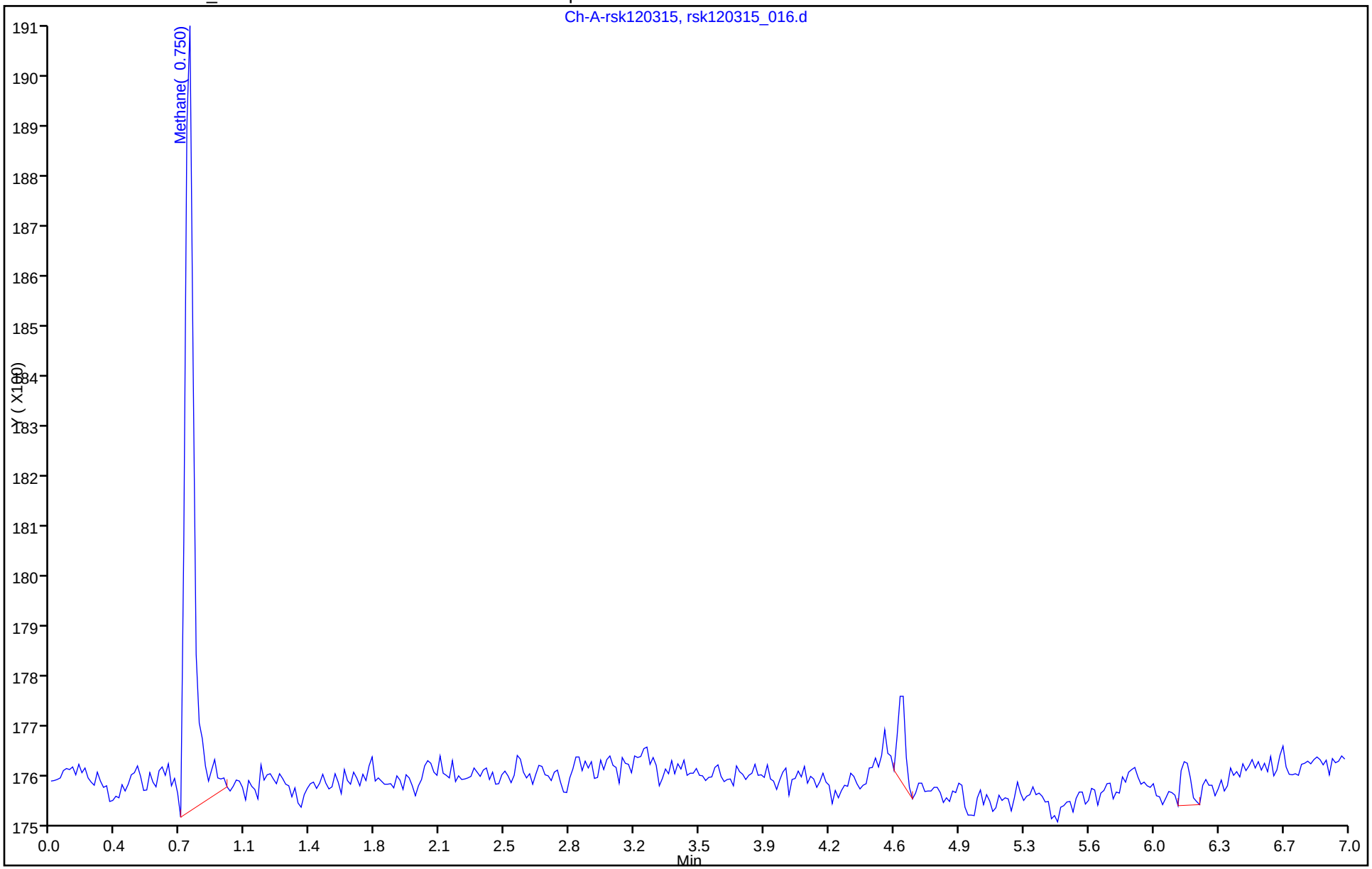
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_016.d				
Lims ID:	600-122477-C-3	Lab Sample ID:	600-122477-3		
Client ID:	MW-07-Dup				
Sample Type:	Client				
Inject. Date:	03-Dec-2015 13:02:18	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0009699-016				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	03-Dec-2015 16:25:39	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK014				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	5060	1.11	

Report Date: 03-Dec-2015 16:25:42 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_016.d				
Injection Date:	03-Dec-2015 13:02:18	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122477-C-3	Lab Sample ID:	600-122477-3	Worklist Smp#:	16
Client ID:	MW-07-Dup				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122477-1

SDG No.:

Client Sample ID: MW-21 | Lab Sample ID: 600-122477-4

Matrix: Water | Lab File ID: rsk120315_017.d

Analysis Method: RSK-175 | Date Collected: 12/01/2015 13:35

Sample wt/vol: 1(mL) | Date Analyzed: 12/03/2015 13:28

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177677 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.00416		0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_017.d				
Lims ID:	600-122477-C-4	Lab Sample ID:	600-122477-4		
Client ID:	MW-21				
Sample Type:	Client				
Inject. Date:	03-Dec-2015 13:28:16	ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0009699-017				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	03-Dec-2015 16:25:39	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK014				
First Level Reviewer: saccoj		Date:	03-Dec-2015 14:19:20		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.767	0.750	0.017	18908	4.16	M
2 Ethane	0.917	0.917	0.000	555	0.1308	M
3 Ethylene	1.117	1.117	0.000	384	0.1231	

QC Flag Legend

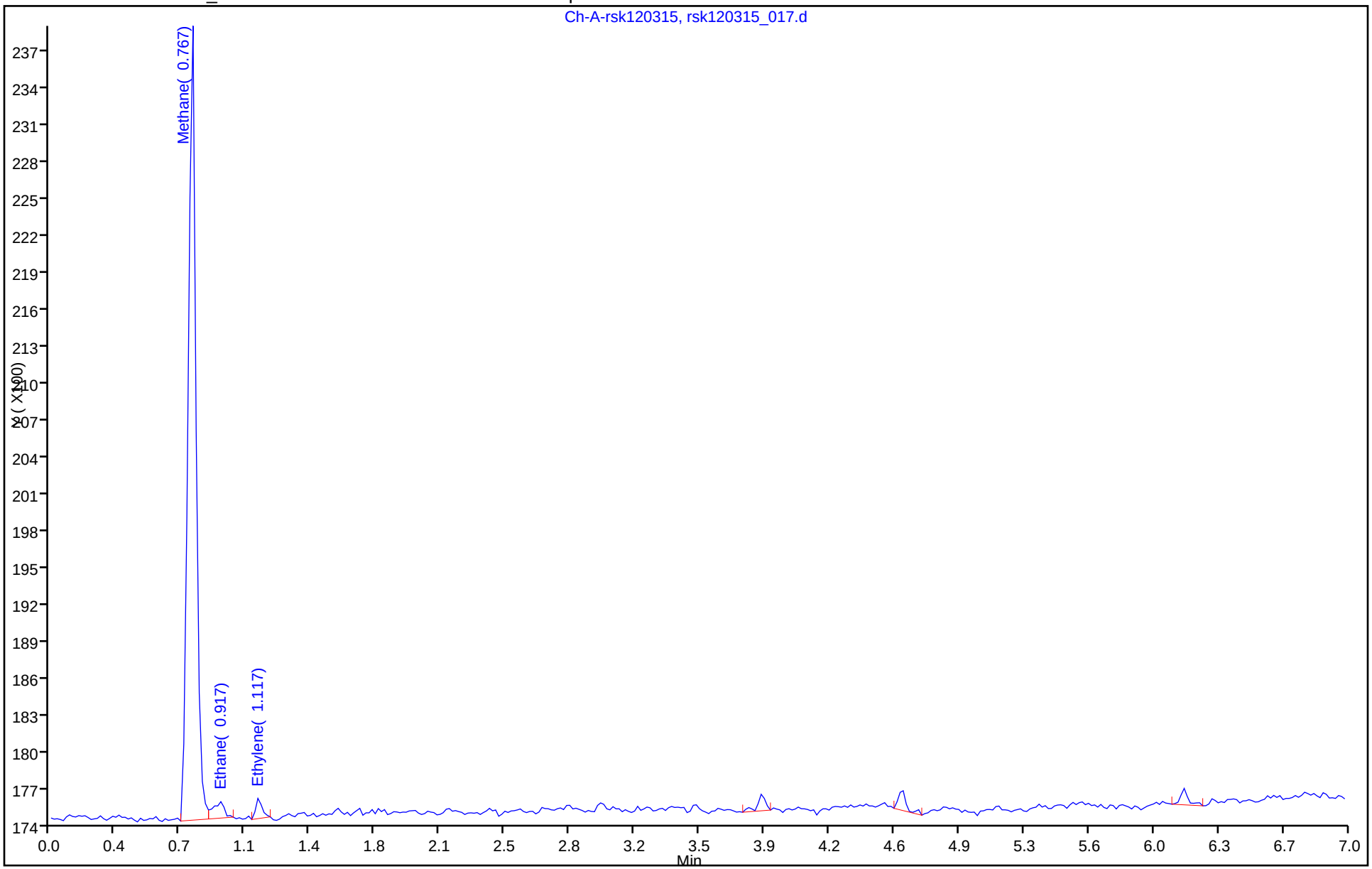
Review Flags

M - Manually Integrated

Report Date: 03-Dec-2015 16:25:42 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_017.d				
Injection Date:	03-Dec-2015 13:28:16	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122477-C-4	Lab Sample ID:	600-122477-4	Worklist Smp#:	17
Client ID:	MW-21				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

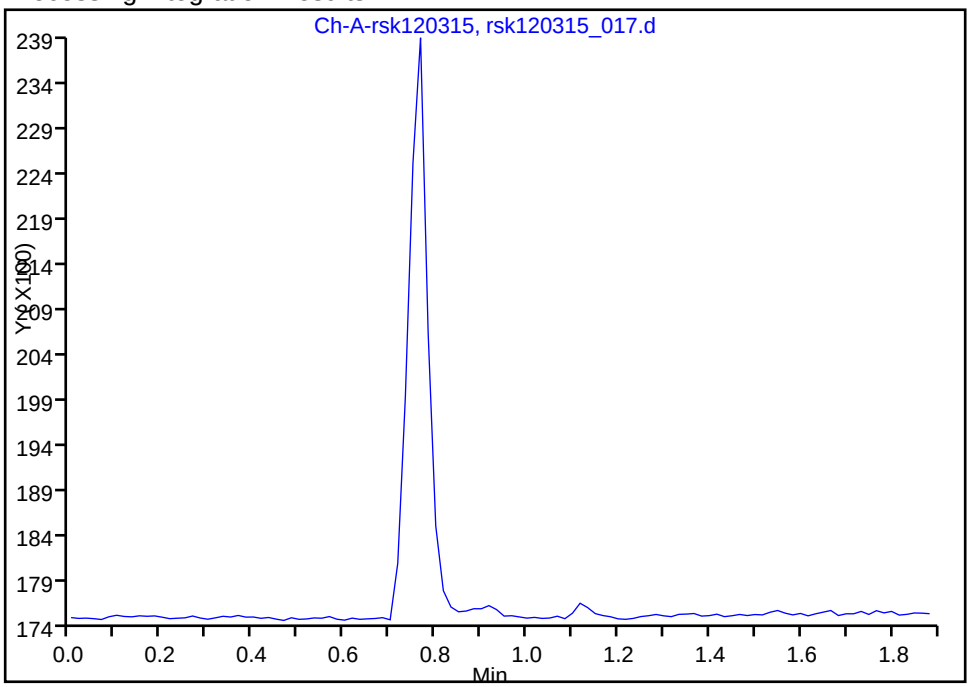
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_017.d				
Injection Date:	03-Dec-2015 13:28:16	Instrument ID:	CHFID14		
Lims ID:	600-122477-C-4	Lab Sample ID:	600-122477-4		
Client ID:	MW-21				
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

2 Ethane, CAS: 74-84-0

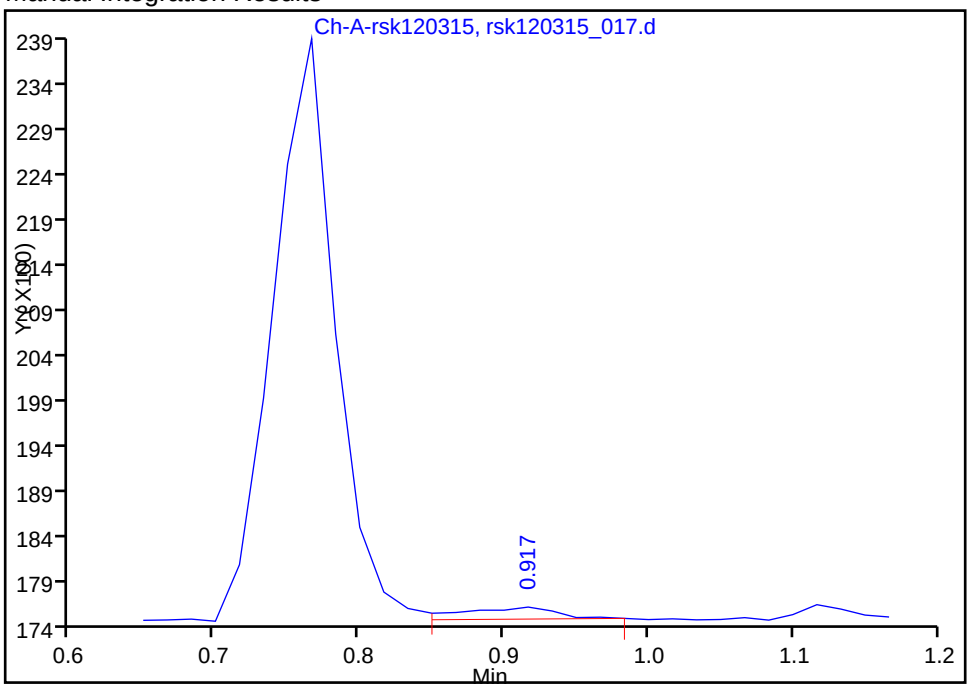
Not Detected
Expected RT: 0.92

Processing Integration Results



RT: 0.92
Area: 555
Amount: 0.130788
Amount Units: ug/l

Manual Integration Results



Reviewer: saccoj, 03-Dec-2015 14:19:20
Audit Action: Manually Integrated/Assigned Compound ID
Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

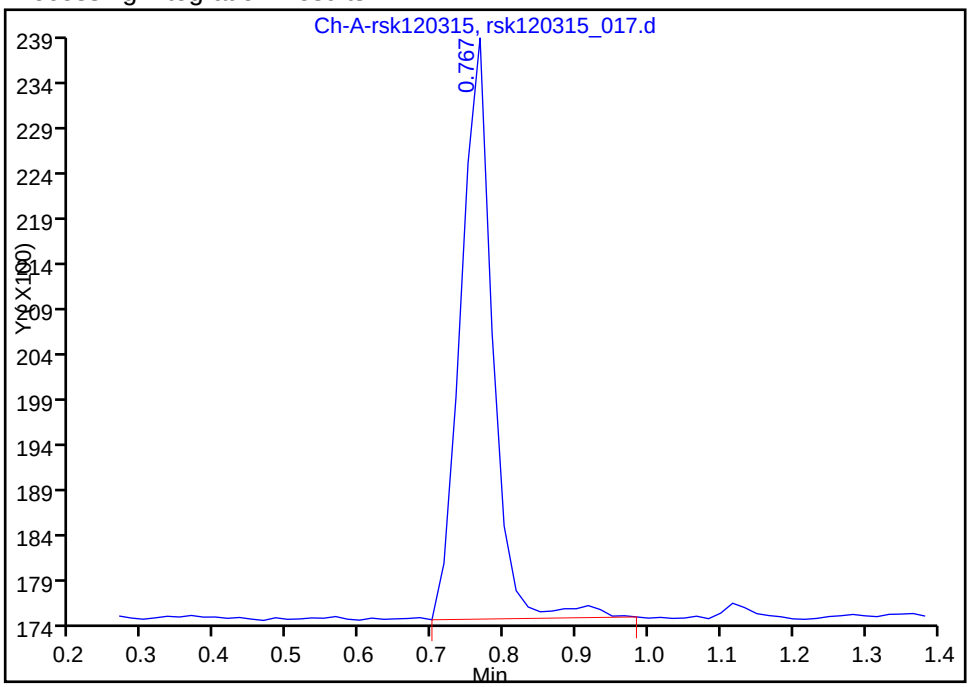
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_017.d				
Injection Date:	03-Dec-2015 13:28:16	Instrument ID:	CHFID14		
Lims ID:	600-122477-C-4	Lab Sample ID:	600-122477-4		
Client ID:	MW-21				
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

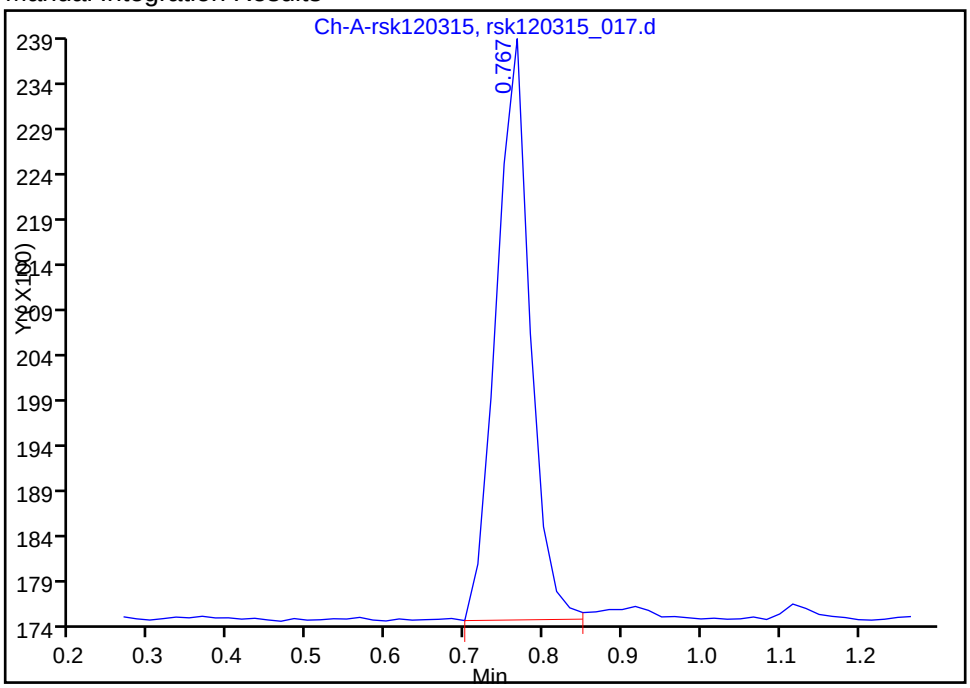
Processing Integration Results

RT: 0.77
Area: 19460
Amount: 4.282960
Amount Units: ug/l



Manual Integration Results

RT: 0.77
Area: 18908
Amount: 4.161470
Amount Units: ug/l



Reviewer: saccoj, 03-Dec-2015 14:19:20
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122477-1

SDG No.:

Client Sample ID: MW-23 | Lab Sample ID: 600-122477-5

Matrix: Water | Lab File ID: rsk120315_018.d

Analysis Method: RSK-175 | Date Collected: 12/01/2015 08:45

Sample wt/vol: 1(mL) | Date Analyzed: 12/03/2015 13:40

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177677 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.000357	U	0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

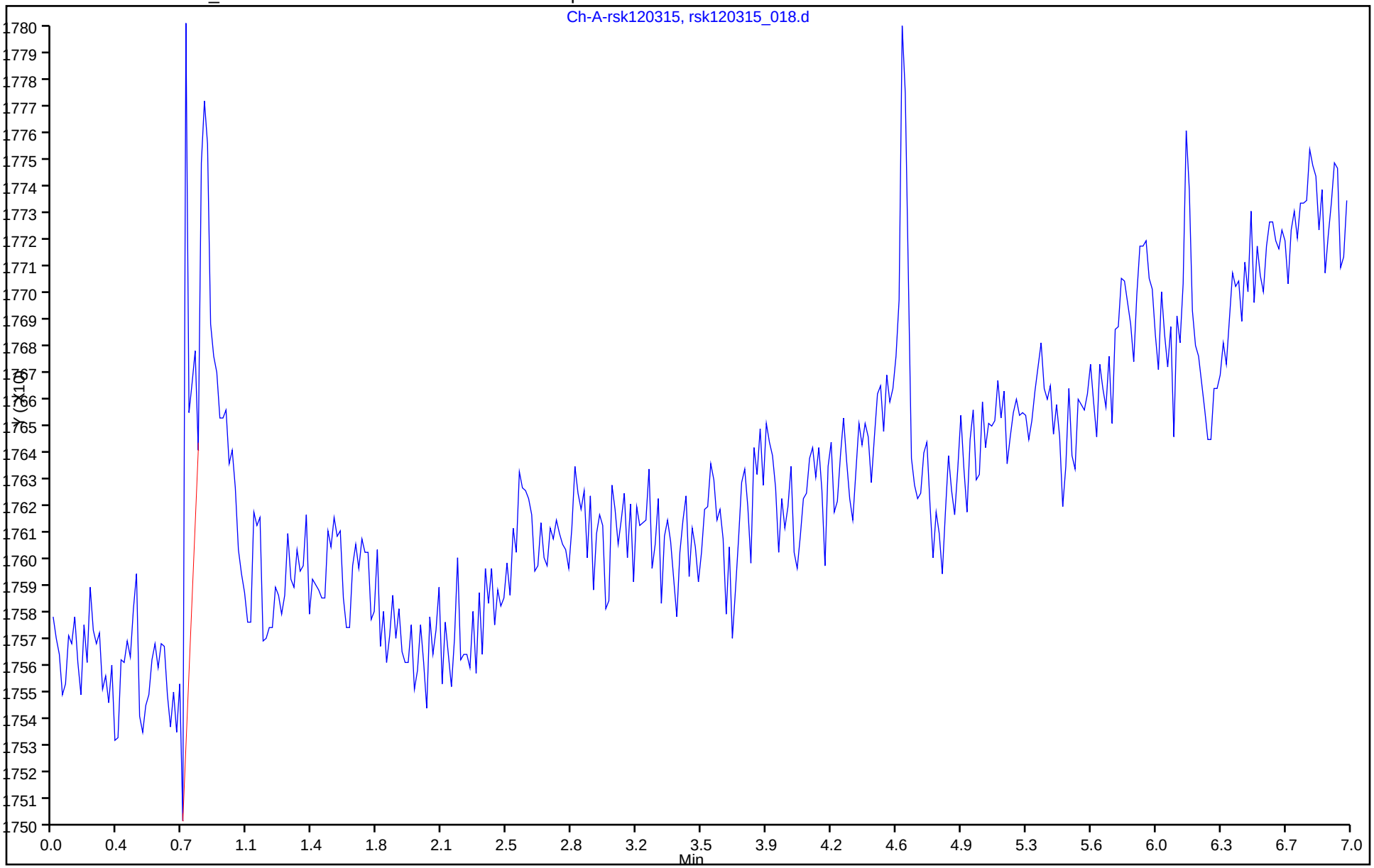
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_018.d				
Lims ID:	600-122477-C-5	Lab Sample ID:	600-122477-5		
Client ID:	MW-23				
Sample Type:	Client				
Inject. Date:	03-Dec-2015 13:40:19	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0009699-018				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	03-Dec-2015 16:25:39	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK014				
First Level Reviewer: saccoj		Date:	03-Dec-2015 14:19:34		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags

Report Date: 03-Dec-2015 16:25:43 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_018.d				
Injection Date:	03-Dec-2015 13:40:19	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122477-C-5	Lab Sample ID:	600-122477-5	Worklist Smp#:	18
Client ID:	MW-23				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG No.:
Client Sample ID: MW-24
Lab Sample ID: 600-122477-6
Matrix: Water
Lab File ID: rsk120315_019.d
Analysis Method: RSK-175
Date Collected: 12/01/2015 10:10
Sample wt/vol: 1(mL)
Date Analyzed: 12/03/2015 13:56
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177677
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.000357	U	0.00100	0.000357
74-85-1	Ethylene	0.00119	J	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_019.d
Lims ID: 600-122477-C-6 Lab Sample ID: 600-122477-6
Client ID: MW-24
Sample Type: Client
Inject. Date: 03-Dec-2015 13:56:23 ALS Bottle#: 0 Worklist Smp#: 19
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009699-019
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 03-Dec-2015 16:25:39 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK014

First Level Reviewer: saccoj Date: 03-Dec-2015 14:20:11

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	878	0.1932	M
3 Ethylene	1.117	1.117	0.000	3722	1.19	

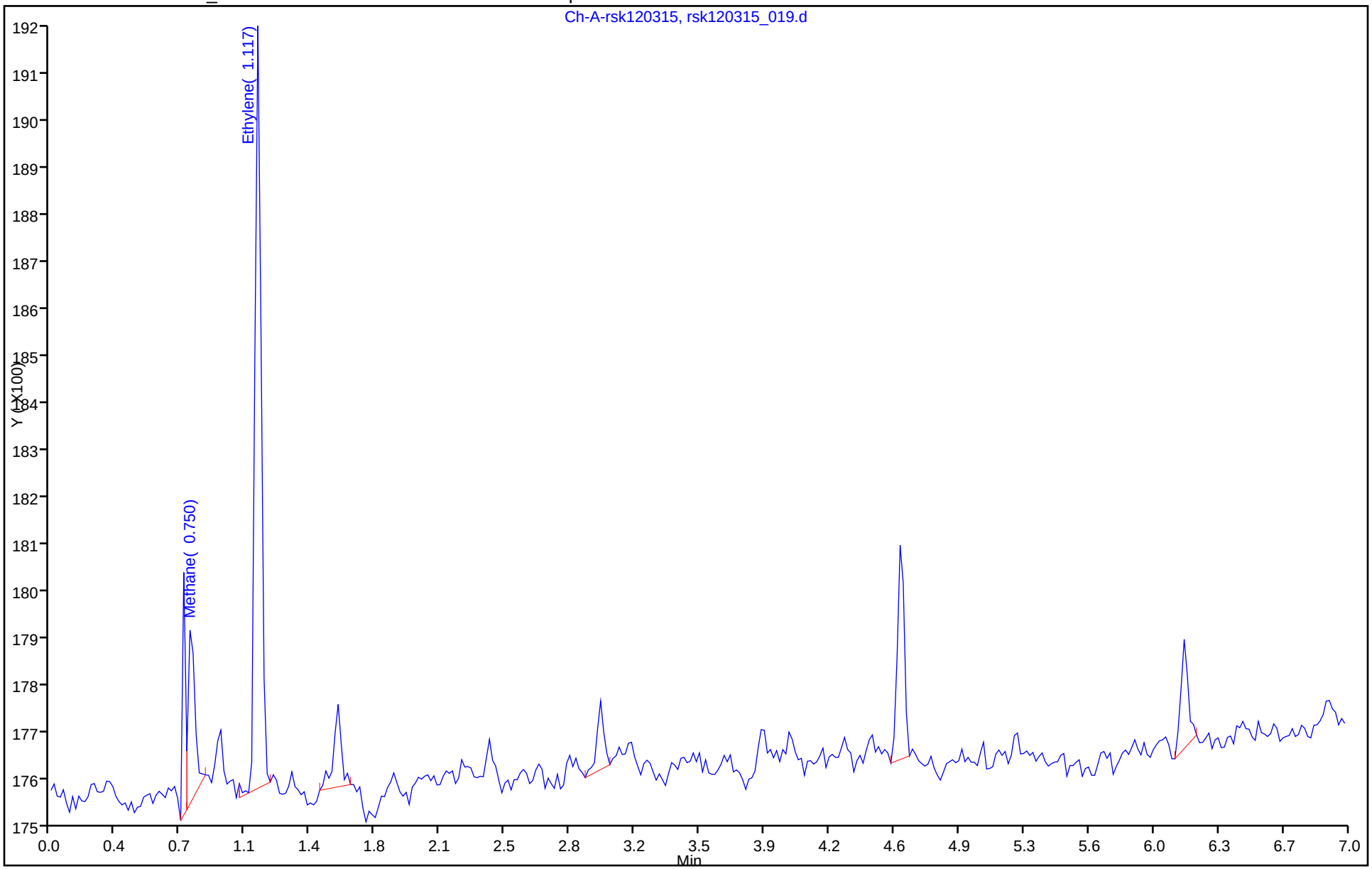
QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 03-Dec-2015 16:25:44 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_019.d				
Injection Date:	03-Dec-2015 13:56:23	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122477-C-6	Lab Sample ID:	600-122477-6	Worklist Smp#:	19
Client ID:	MW-24				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

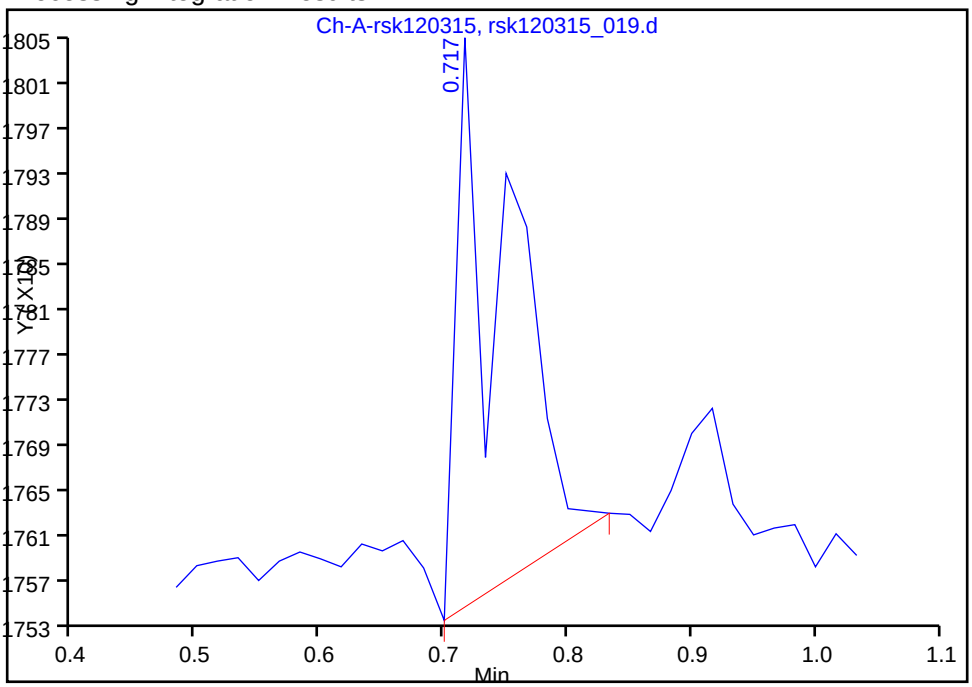
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_019.d				
Injection Date:	03-Dec-2015 13:56:23	Instrument ID:	CHFID14		
Lims ID:	600-122477-C-6	Lab Sample ID:	600-122477-6		
Client ID:	MW-24				
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

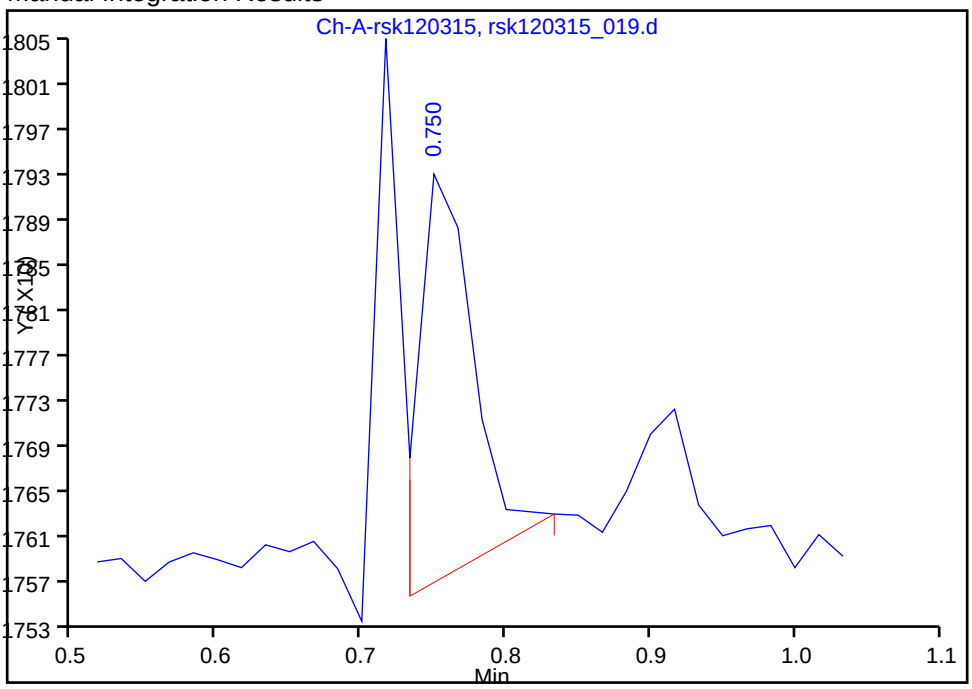
Processing Integration Results

RT: 0.72
Area: 1433
Amount: 0.315390
Amount Units: ug/l



Manual Integration Results

RT: 0.75
Area: 878
Amount: 0.193239
Amount Units: ug/l



Reviewer: saccoj, 03-Dec-2015 14:20:11
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122477-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
Methane	0.767	0.750	0.750	0.750	0.750	0.750	0.767	+++++			0.667 - 0.867	0.755
Ethane	0.917	0.900	0.917	0.917	0.900	0.900	0.917	+++++			0.817 - 1.017	0.910
Ethylene	1.117	1.117	1.117	1.117	1.100	1.117	1.117	+++++			1.017 - 1.217	1.115
Propane	1.533	1.533	1.533	1.533	1.533	1.533	1.533	+++++			1.450 - 1.650	1.533
Propene	2.333	2.333	2.333	2.333	2.333	2.333	2.333	+++++			2.233 - 2.433	2.333

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-122477-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	5157.0 4139.3	4530.3 3909.5	4516.5 4383.3	5169.3 +++++	Ave		4543.58652				10.5		20.0			
Ethane	5039.2 3849.7	4016.6 3719.2	4166.9 4147.5	4765.4 +++++	Ave		4243.49323				11.4		20.0			
Ethylene	3506.1 2885.2	2911.0 2799.4	3076.7 3097.2	3564.3 +++++	Ave		3119.99115				9.7		20.0			
Propane	5009.5 4122.9	4298.1 4029.7	4490.6 4471.8	5173.0 +++++	Ave		4513.65823				9.6		20.0			
Propene	2978.6 2536.8	2531.0 2409.7	2638.6 2687.2	3043.2 +++++	Ave		2689.30952				8.8		20.0			

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-122477-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methane	Ave	5322 134473	15592 226156	23305 +++++	35556	71188	1.03 34.4	3.44 51.6	5.16 +++++	6.88	17.2
Ethane	Ave	9776 240482	25987 402269	40419 +++++	61617	124461	1.94 64.7	6.47 97.0	9.70 +++++	12.9	32.3
Ethylene	Ave	6346 168881	17572 280268	27844 +++++	42999	87028	1.81 60.3	6.04 90.5	9.05 +++++	12.1	30.2
Propane	Ave	14207 380899	40652 634043	63676 +++++	97780	194856	2.84 94.5	9.46 142	14.2 +++++	18.9	47.3
Propene	Ave	8090 218140	22925 364884	35832 +++++	55089	114822	2.72 90.5	9.06 136	13.6 +++++	18.1	45.3

Curve Type Legend:

Ave = Average

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Jun-2015 10:52:10 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0006703-001
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:32 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

First Level Reviewer: saccoj Date: 08-Jun-2015 12:47:46

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.767	0.767	0.000	5322	1.03	1.17	M
2 Ethane	0.917	0.917	0.000	9776	1.94	2.30	M
3 Ethylene	1.117	1.117	0.000	6346	1.81	2.03	
5 Propane	1.533	1.550	-0.017	14207	2.84	3.15	
1 Propene	2.333	2.333	0.000	8090	2.72	3.01	

QC Flag Legend

Review Flags
M - Manually Integrated

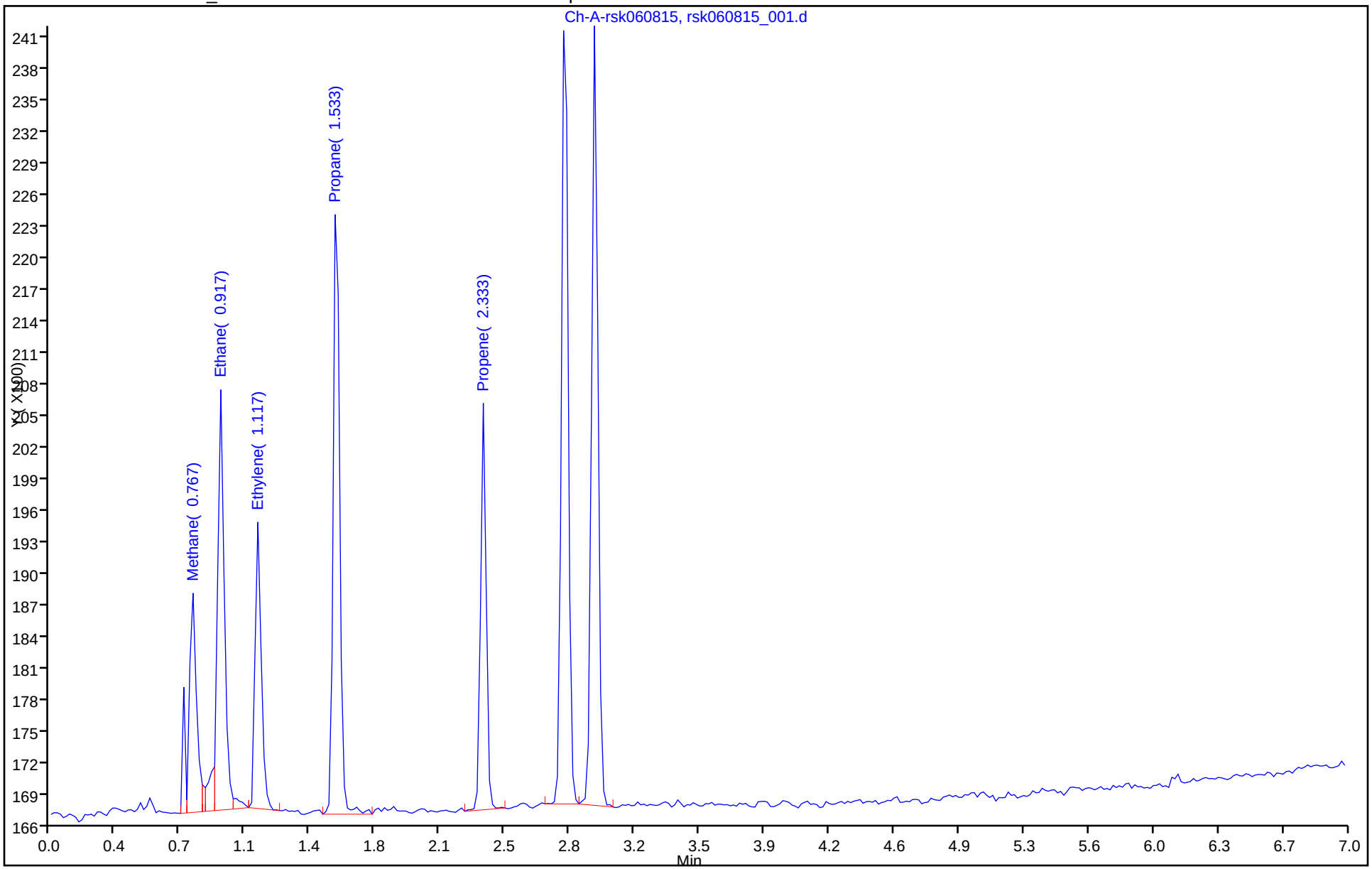
Reagents:

RSK-175 LCS_00017 Amount Added: 0.20 Units: mL

Report Date: 09-Jun-2015 08:49:32 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

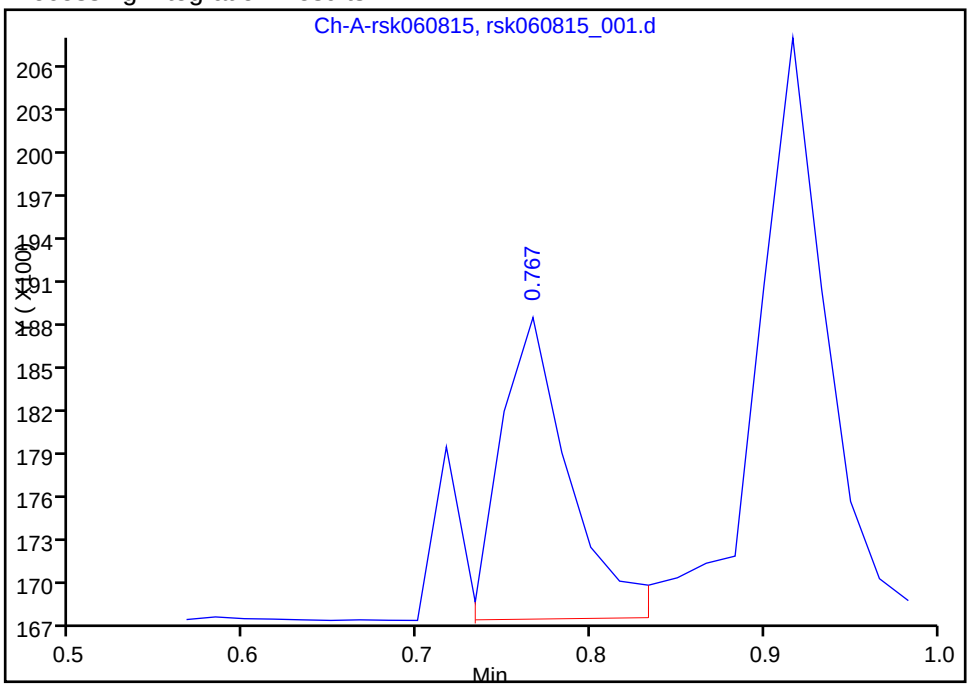
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14		
Lims ID:	IC				
Client ID:					
Operator ID:	saccoj	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

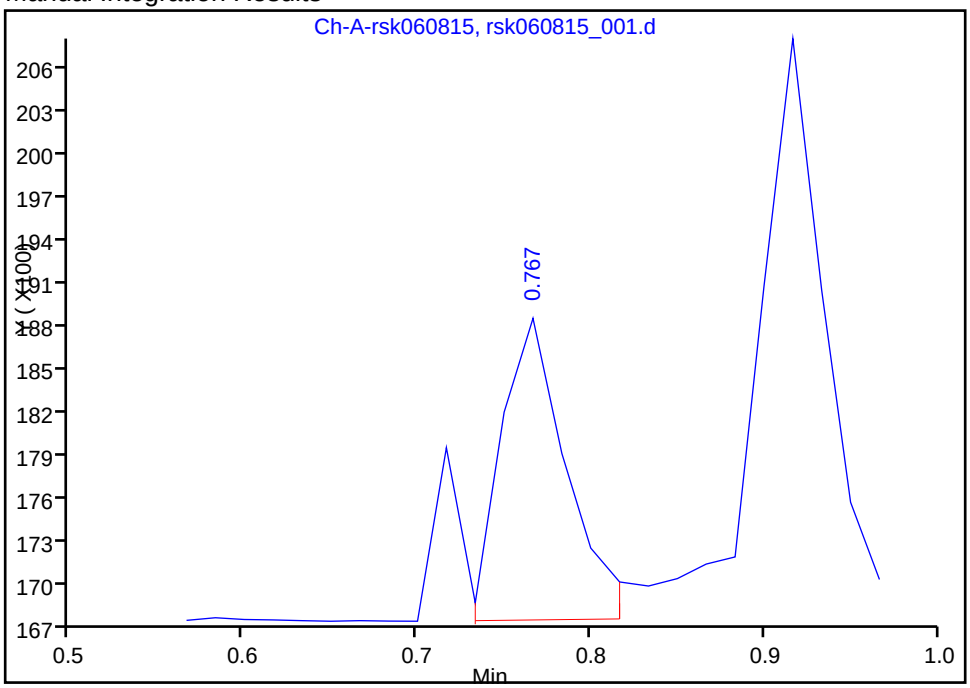
Processing Integration Results

RT: 0.77
Area: 5560
Amount: 1.258894
Amount Units: ug/l



Manual Integration Results

RT: 0.77
Area: 5322
Amount: 1.171321
Amount Units: ug/l



Reviewer: saccoj, 08-Jun-2015 12:47:46
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

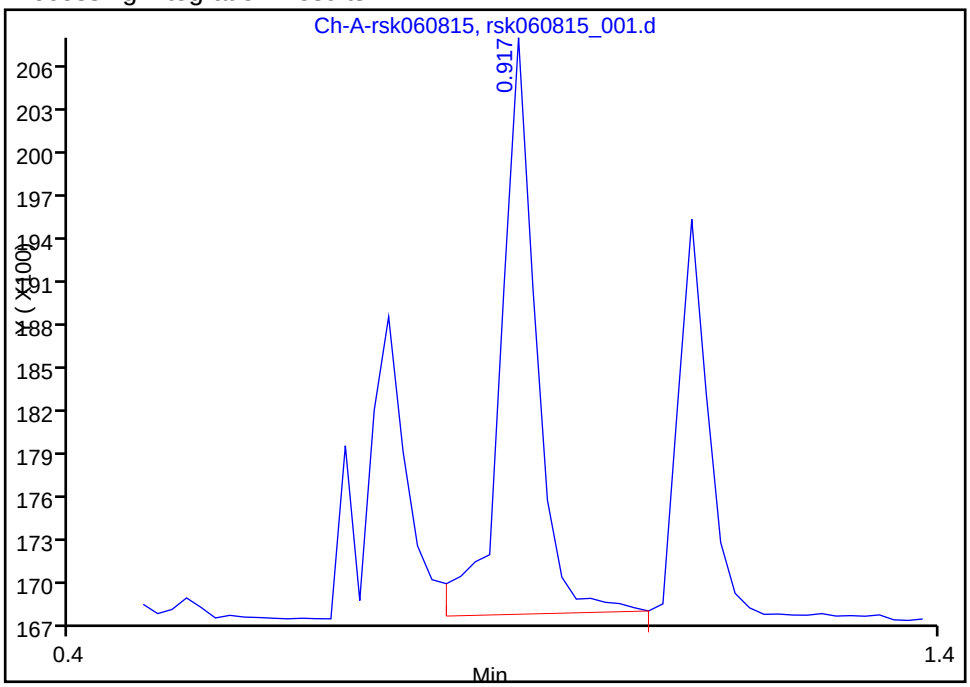
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14		
Lims ID:	IC				
Client ID:					
Operator ID:	saccoj	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

2 Ethane, CAS: 74-84-0

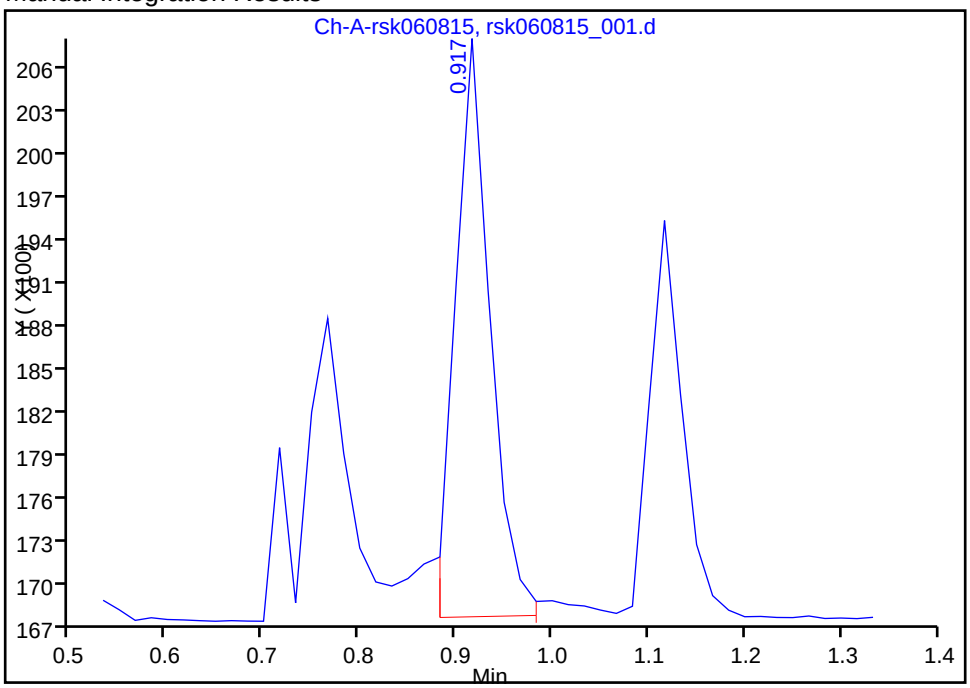
Processing Integration Results

RT: 0.92
Area: 11023
Amount: 2.639089
Amount Units: ug/l



Manual Integration Results

RT: 0.92
Area: 9776
Amount: 2.303762
Amount Units: ug/l



Reviewer: saccoj, 08-Jun-2015 12:47:46
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_002.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Jun-2015 11:03:33 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0006703-002
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:33 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

First Level Reviewer: saccoj Date: 08-Jun-2015 12:55:06

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.767	-0.017	15592	3.44	3.43	
2 Ethane	0.900	0.917	-0.017	25987	6.47	6.12	
3 Ethylene	1.117	1.117	0.000	17572	6.04	5.63	
5 Propane	1.533	1.550	-0.017	40652	9.46	9.01	
1 Propene	2.333	2.333	0.000	22925	9.06	8.52	

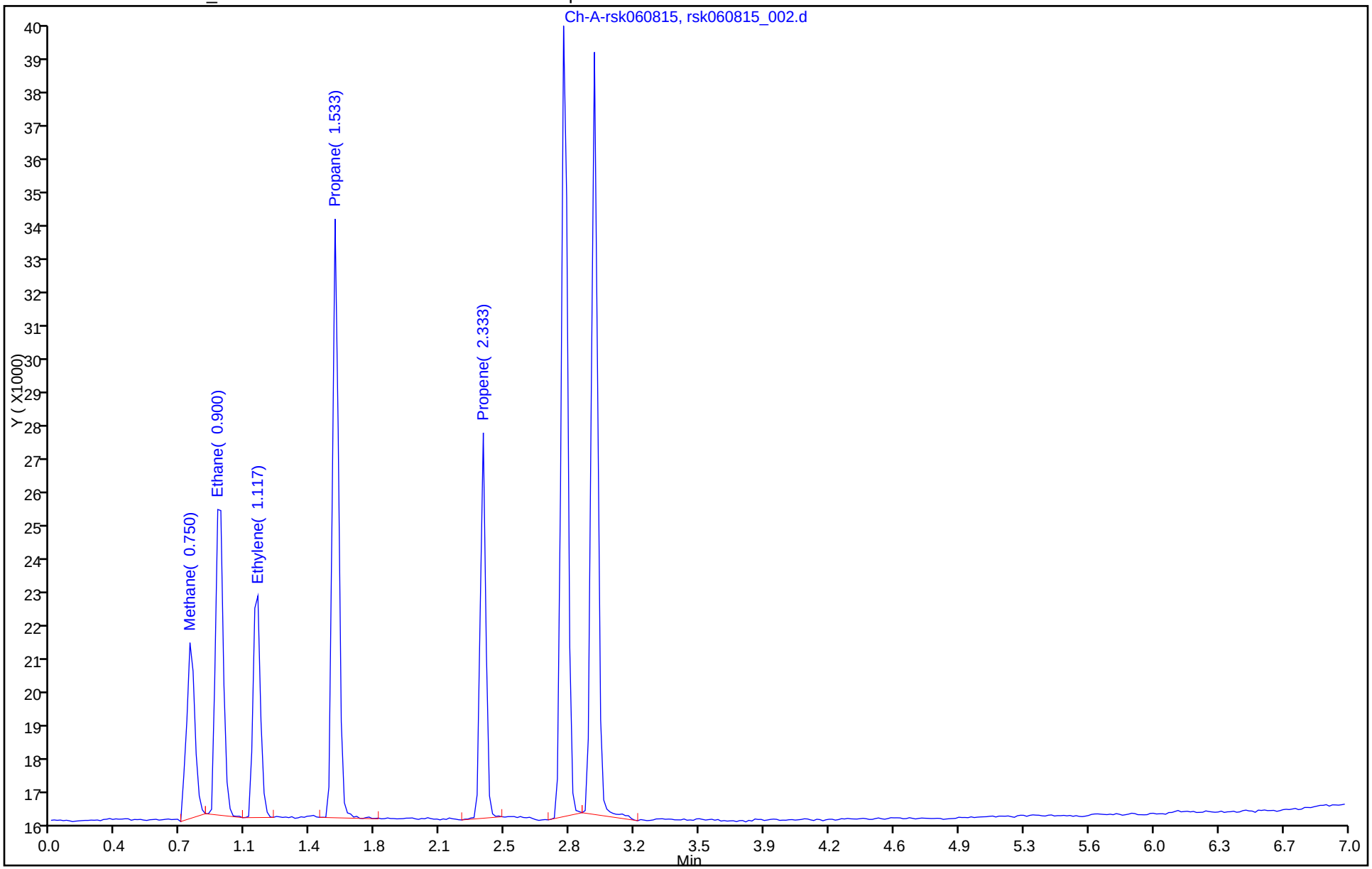
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 09-Jun-2015 08:49:33 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_002.d				
Injection Date:	08-Jun-2015 11:03:33	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_003.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	08-Jun-2015 11:15:05	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0006703-003				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:34	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	23305	5.16	5.13	
2 Ethane	0.917	0.917	0.000	40419	9.70	9.52	
3 Ethylene	1.117	1.117	0.000	27844	9.05	8.92	
5 Propane	1.533	1.533	0.000	63676	14.2	14.1	
1 Propene	2.333	2.333	0.000	35832	13.6	13.3	

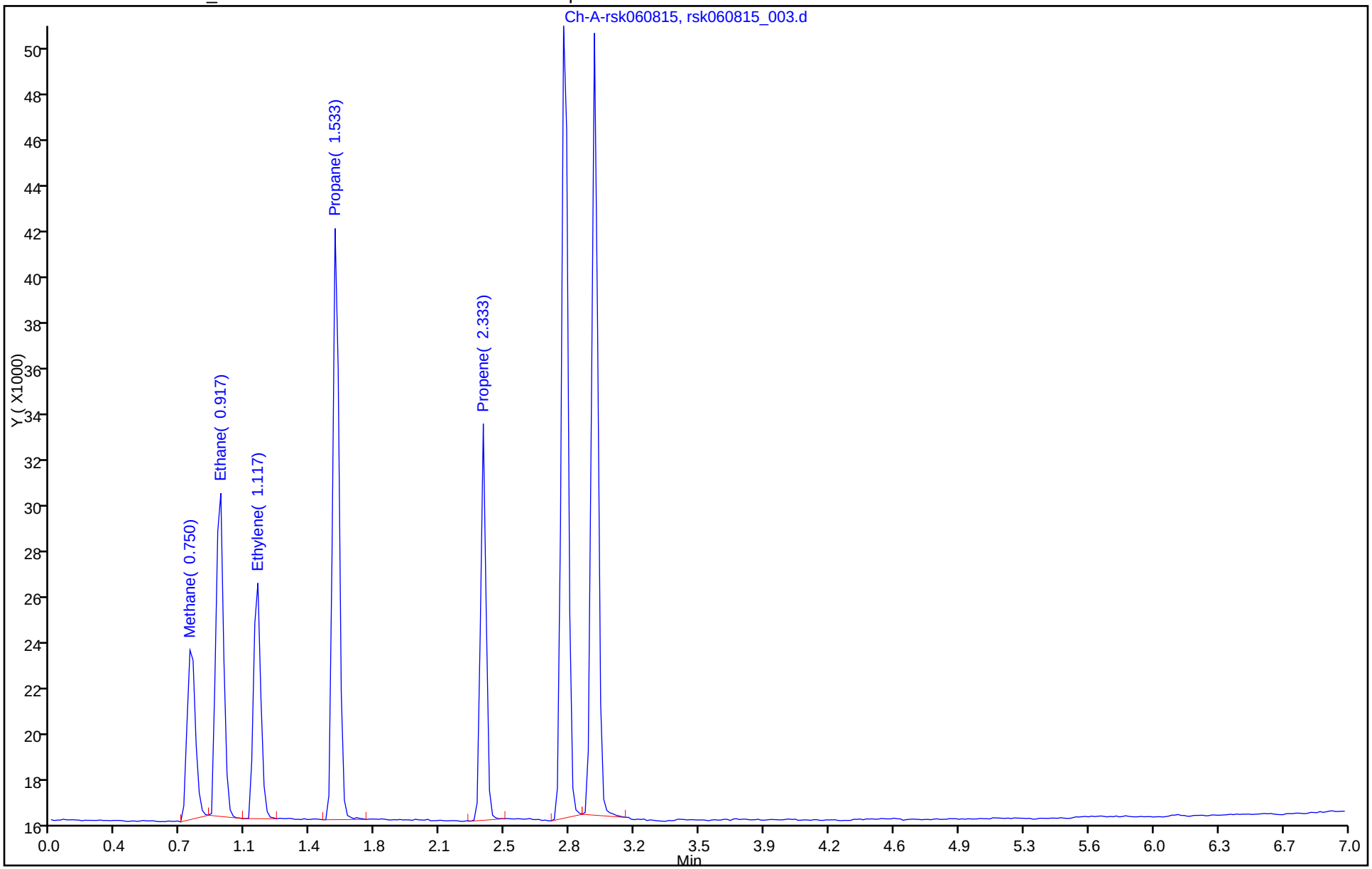
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 09-Jun-2015 08:49:35 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_003.d				
Injection Date:	08-Jun-2015 11:15:05	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_004.d				
Lims ID:	ICRT				
Client ID:					
Sample Type:	ICRT	Calib Level:	4		
Inject. Date:	08-Jun-2015 11:26:49	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0006703-004				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:36	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	35556	6.88	7.83	
2 Ethane	0.917	0.917	0.000	61617	12.9	14.5	
3 Ethylene	1.117	1.117	0.000	42999	12.1	13.8	
5 Propane	1.533	1.533	0.000	97780	18.9	21.7	
1 Propene	2.333	2.333	0.000	55089	18.1	20.5	

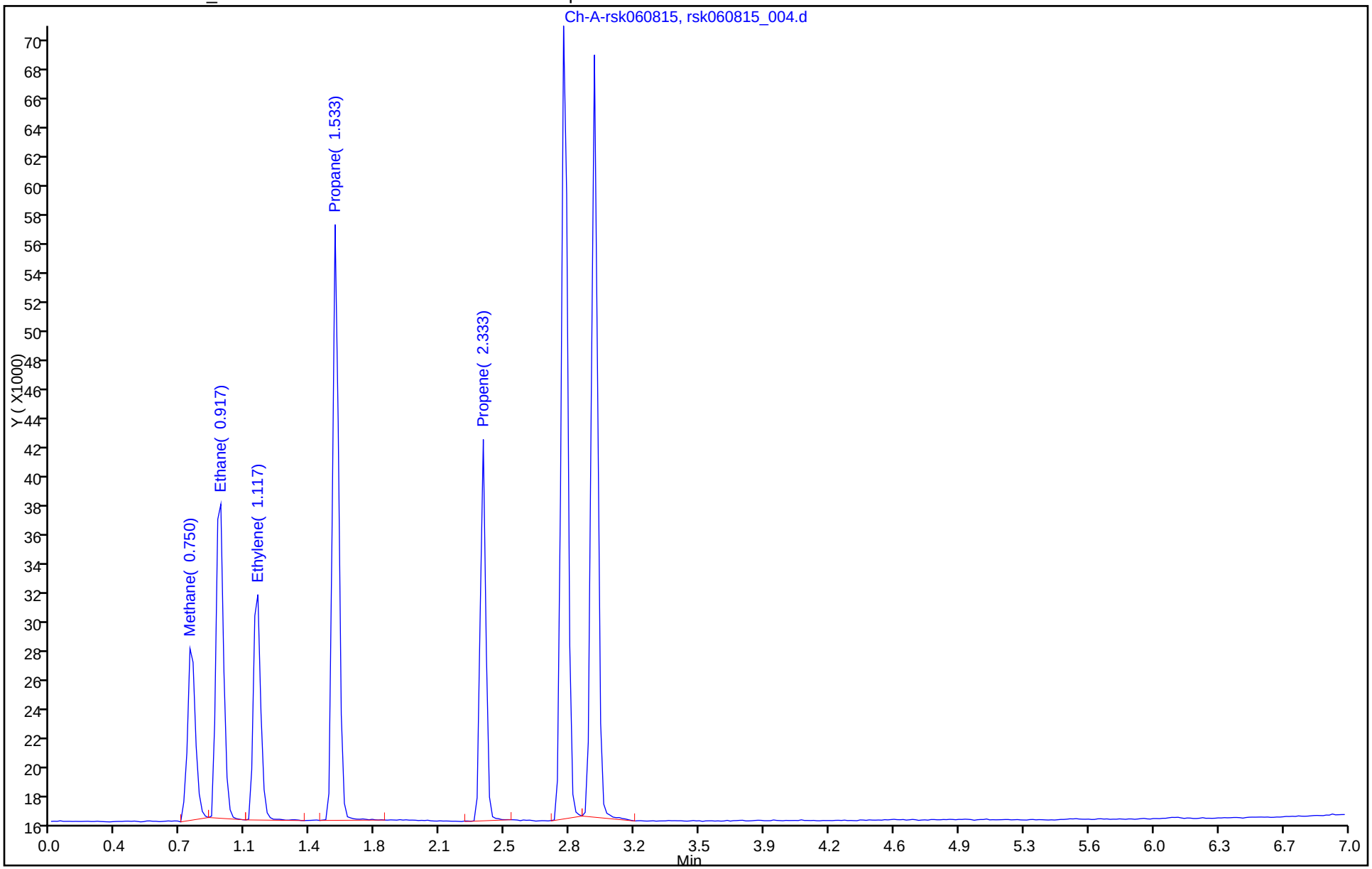
Reagents:

RSK-175 LCS_00017 Amount Added: 1.33 Units: mL

Report Date: 09-Jun-2015 08:49:36 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_004.d				
Injection Date:	08-Jun-2015 11:26:49	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	ICRT			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_005.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Jun-2015 11:38:11 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0006703-005
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:37 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	71188	17.2	15.7	
2 Ethane	0.900	0.917	-0.017	124461	32.3	29.3	
3 Ethylene	1.100	1.117	-0.017	87028	30.2	27.9	
5 Propane	1.533	1.533	0.000	194856	47.3	43.2	
1 Propene	2.333	2.333	0.000	114822	45.3	42.7	

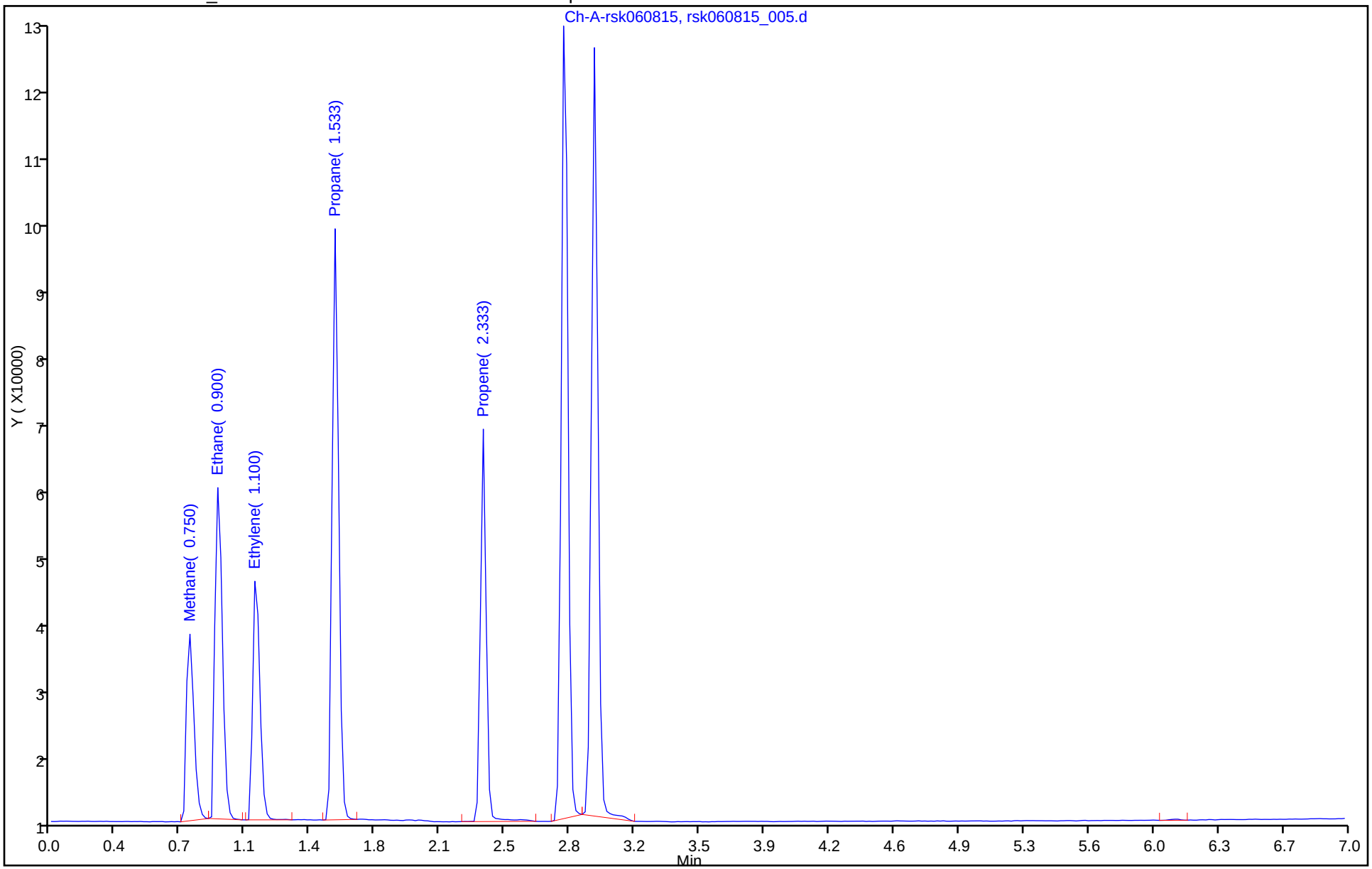
Reagents:

RSK-175 LCS_00017 Amount Added: 3.33 Units: mL

Report Date: 09-Jun-2015 08:49:38 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_005.d				
Injection Date:	08-Jun-2015 11:38:11	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_006.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	08-Jun-2015 11:50:00	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 600-0006703-006				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:39	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	134473	34.4	29.6	
2 Ethane	0.900	0.917	-0.017	240482	64.7	56.7	
3 Ethylene	1.117	1.117	0.000	168881	60.3	54.1	
5 Propane	1.533	1.533	0.000	380899	94.5	84.4	
1 Propene	2.333	2.333	0.000	218140	90.5	81.1	

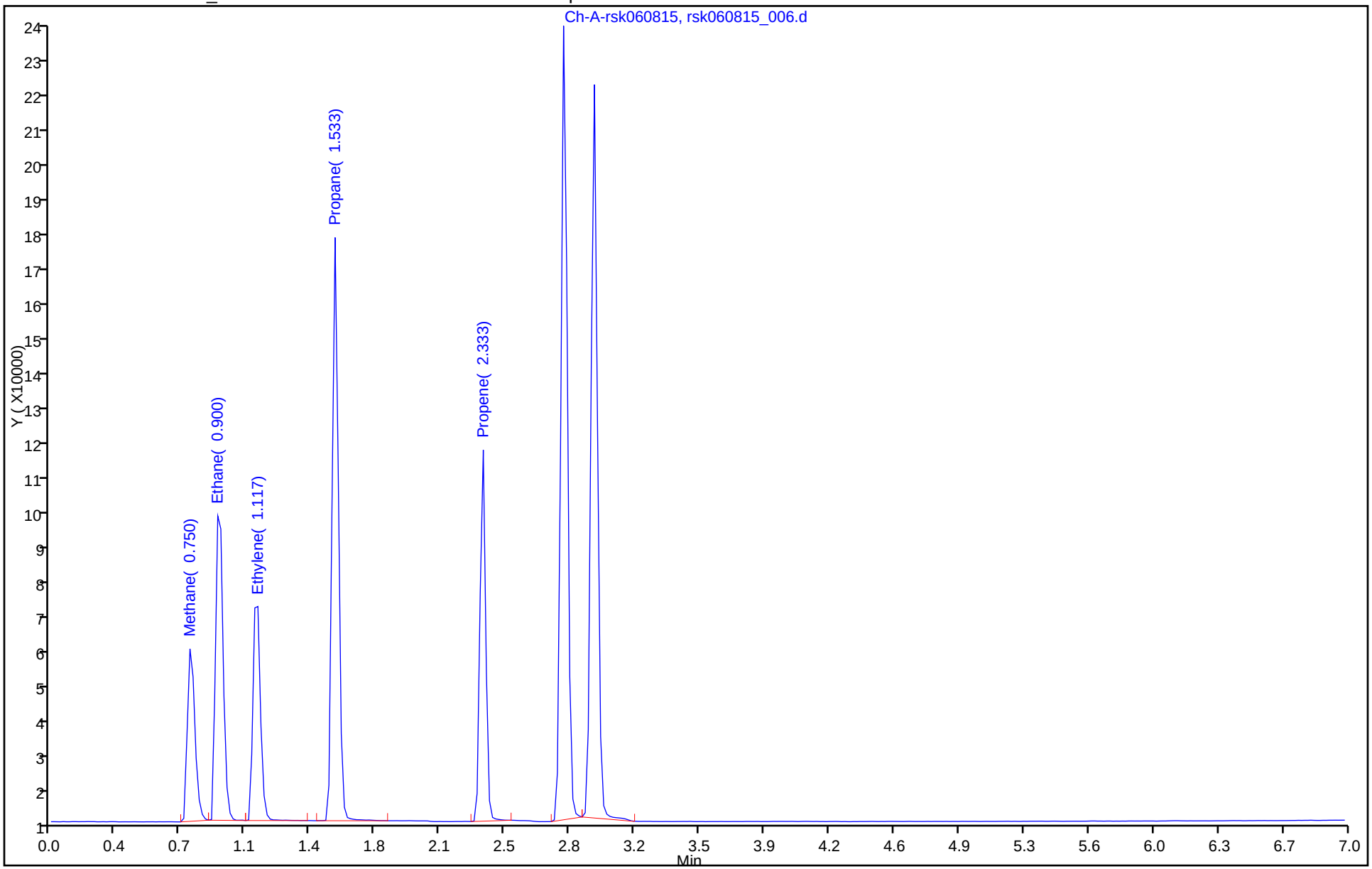
Reagents:

RSK-175 LCS_00017 Amount Added: 6.67 Units: mL

Report Date: 09-Jun-2015 08:49:39 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_006.d				
Injection Date:	08-Jun-2015 11:50:00	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_007.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	08-Jun-2015 12:01:45	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 002 Name: 600-0006703-007				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:40	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.767	0.750	0.017	226156	51.6	49.8	
2 Ethane	0.917	0.917	0.000	402269	97.0	94.8	
3 Ethylene	1.117	1.117	0.000	280268	90.5	89.8	
5 Propane	1.533	1.533	0.000	634043	141.8	140.5	
1 Propene	2.333	2.333	0.000	364884	135.8	135.7	

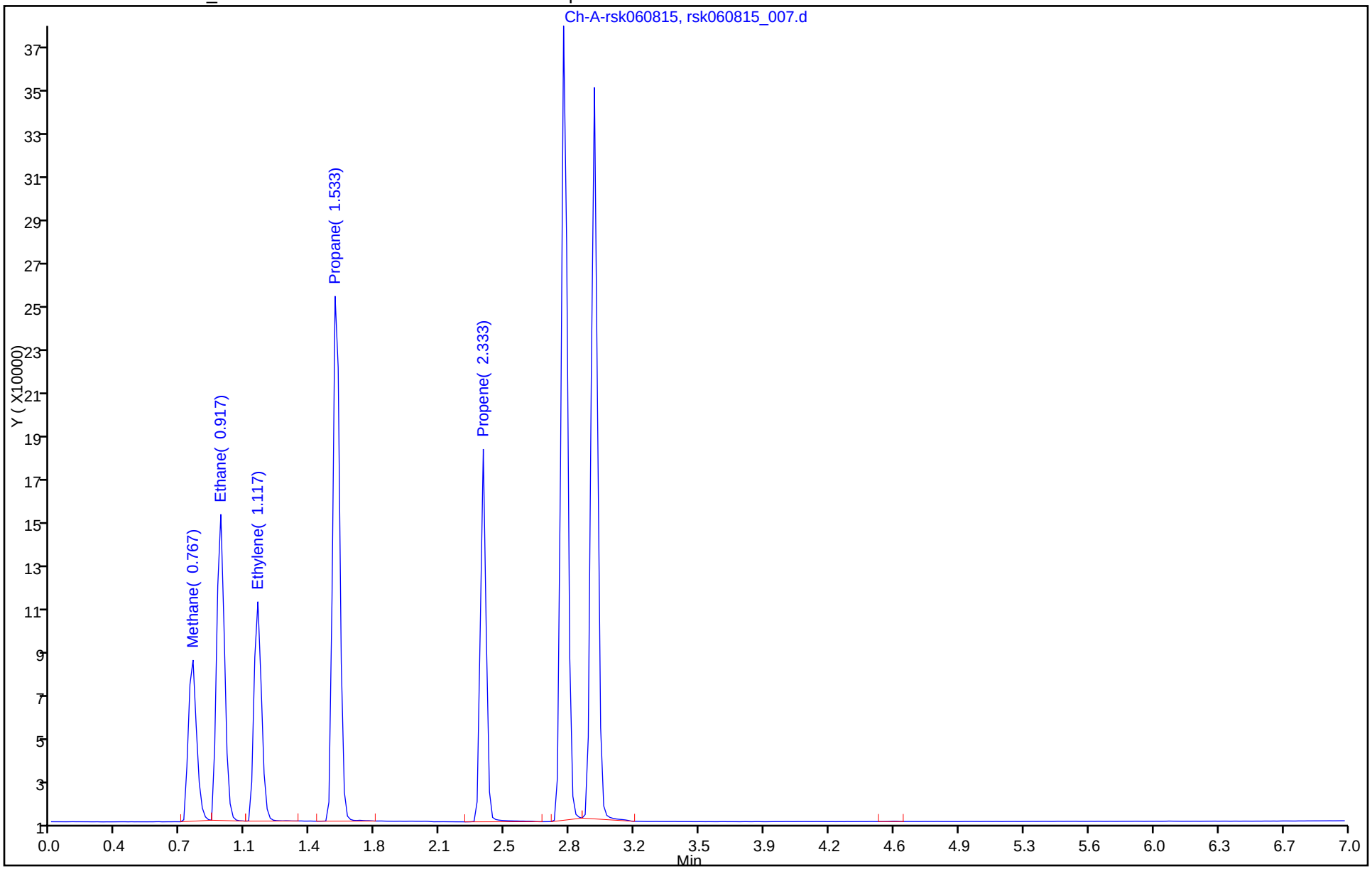
Reagents:

RSK-175 LCS_00017 Amount Added: 10.00 Units: mL

Report Date: 09-Jun-2015 08:49:40 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_007.d				
Injection Date:	08-Jun-2015 12:01:45	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	8		
Inject. Date:	08-Jun-2015 12:12:52	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 003 Name: 600-0006703-008				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:41	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

First Level Reviewer: saccoj Date: 08-Jun-2015 12:47:13

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	226803	68.8	49.9	
2 Ethane	0.900	0.917	-0.017	396667	129.3	93.5	
3 Ethylene	1.100	1.117	-0.017	276804	120.7	88.7	
5 Propane	1.533	1.533	0.000	624689	189.0	138.4	
1 Propene	2.333	2.333	0.000	354508	181.0	131.8	

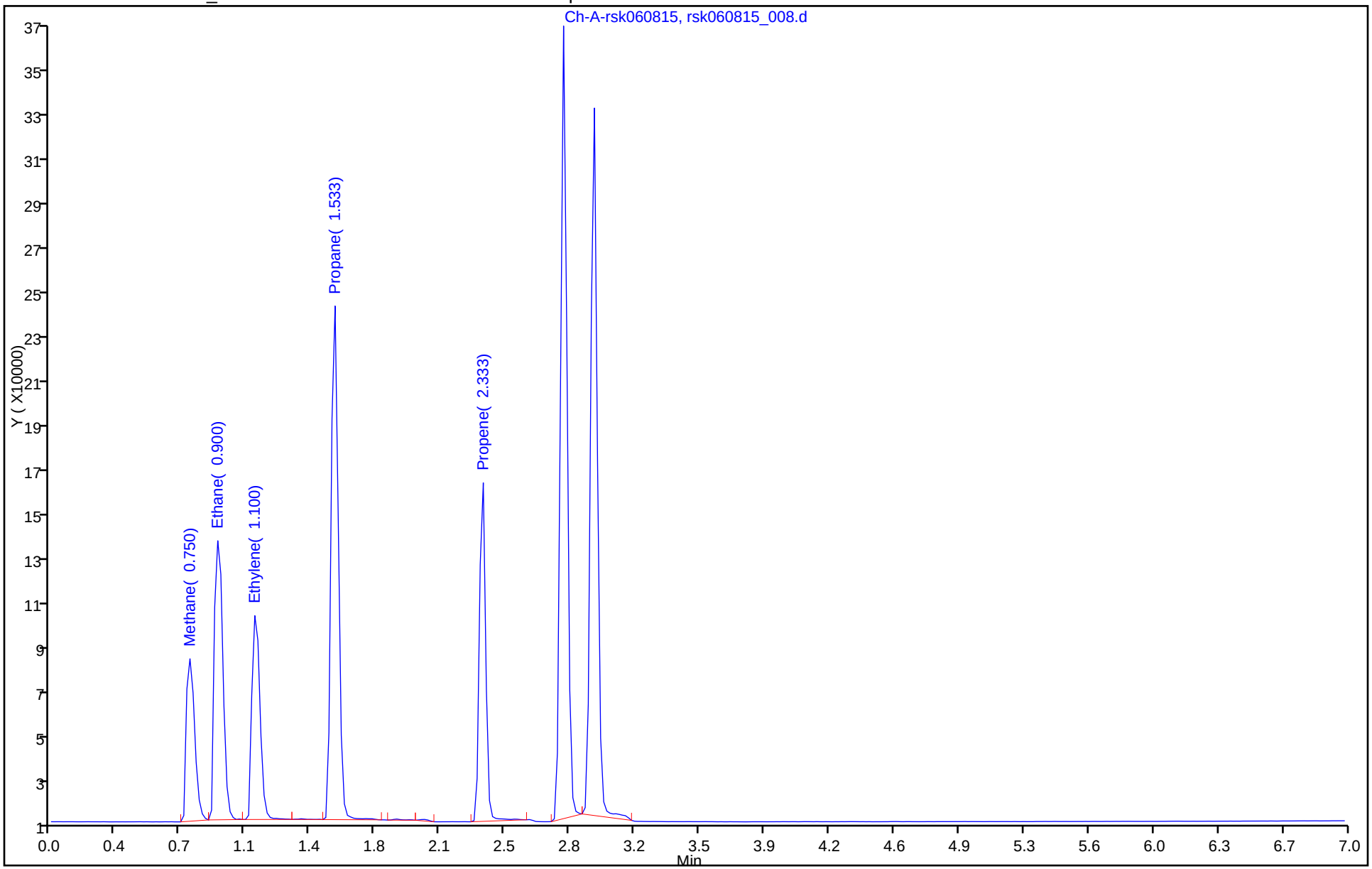
Reagents:

RSK-175 LCS_00017 Amount Added: 13.33 Units: mL

Report Date: 09-Jun-2015 08:49:41 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Injection Date:	08-Jun-2015 12:12:52	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Lab Sample ID: CCVRT 600-177677/1 Calibration Date: 12/03/2015 09:49

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120315_001.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	4549		3.45	3.44	0.1	20.0
Ethane	Ave	4243	3529		5.38	6.47	-16.8	20.0
Ethylene	Ave	3120	2604		5.04	6.04	-16.5	20.0
Propane	Ave	4514	3614		7.57	9.46	-19.9	20.0
Propene	Ave	2689	2092		7.05	9.06	-22.2*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Lab Sample ID: CCVRT 600-177677/1 Calibration Date: 12/03/2015 09:49

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120315_001.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.75	0.65	0.85
Ethane	0.90	0.80	1.00
Ethylene	1.12	1.02	1.22
Propane	1.55	1.45	1.65
Propene	2.37	2.27	2.47

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_001.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 03-Dec-2015 09:49:54 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009699-001
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 03-Dec-2015 16:25:30 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK014

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	15656	3.44	3.45	
2 Ethane	0.900	0.900	0.000	22830	6.47	5.38	
3 Ethylene	1.117	1.117	0.000	15717	6.04	5.04	
5 Propane	1.550	1.550	0.000	34183	9.46	7.57	
1 Propene	2.367	2.367	0.000	18952	9.06	7.05	

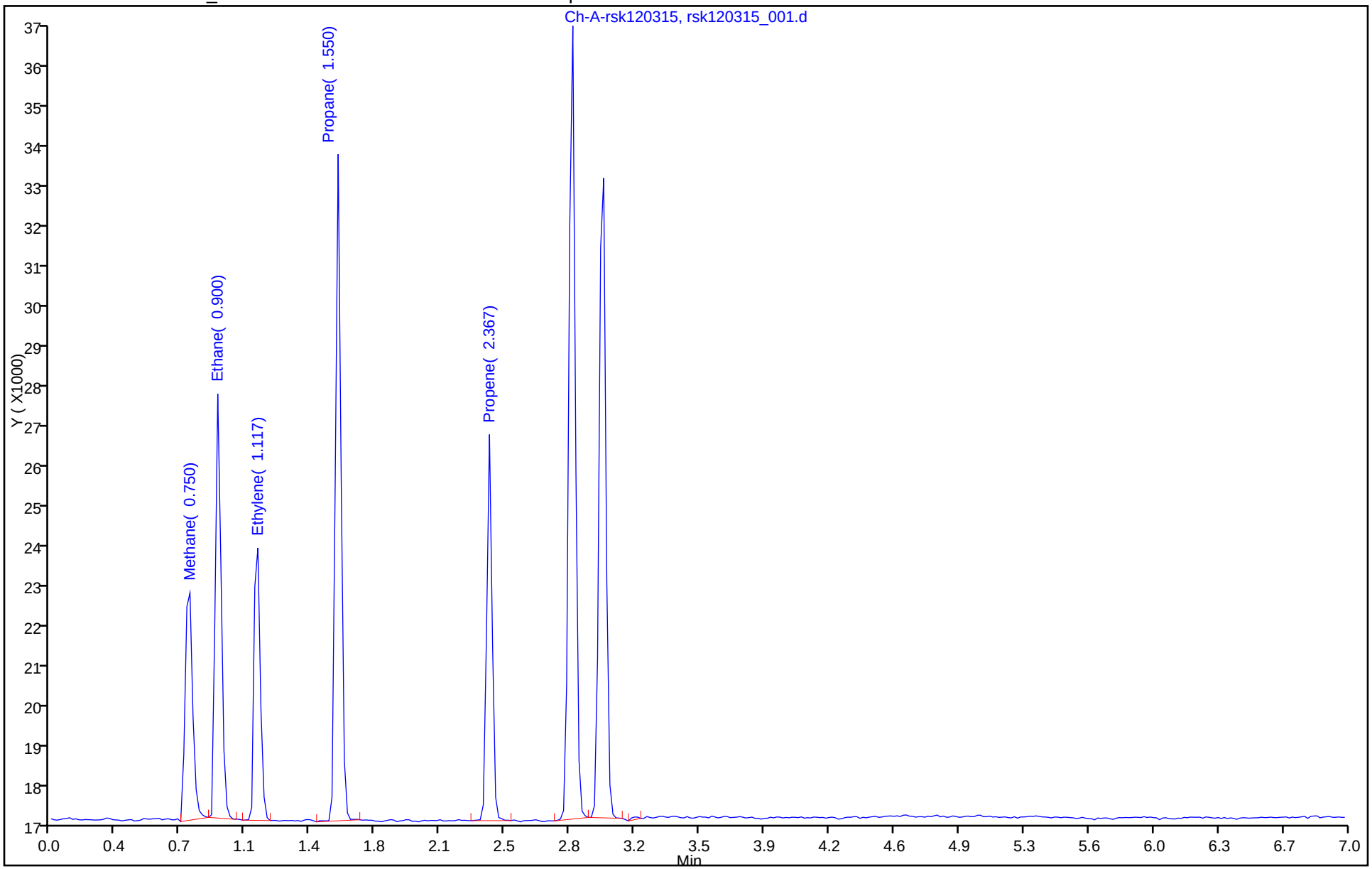
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 03-Dec-2015 16:25:31 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_001.d				
Injection Date:	03-Dec-2015 09:49:54	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Lab Sample ID: CCV 600-177677/12 Calibration Date: 12/03/2015 12:17

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120315_012.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	5116		5.81	5.16	12.6	20.0
Ethane	Ave	4243	4248		9.71	9.70	0.1	20.0
Ethylene	Ave	3120	3356		9.74	9.05	7.6	20.0
Propane	Ave	4514	4291		13.5	14.2	-4.9	20.0
Propene	Ave	2689	2613		13.2	13.6	-2.8	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Lab Sample ID: CCV 600-177677/12 Calibration Date: 12/03/2015 12:17

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120315_012.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.75	0.65	0.85
Ethane	0.92	0.82	1.02
Ethylene	1.12	1.02	1.22
Propane	1.55	1.45	1.65
Propene	2.37	2.27	2.47

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_012.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 03-Dec-2015 12:17:02 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 007 Name: 600-0009699-012
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 03-Dec-2015 16:25:39 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK014

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	26399	5.16	5.81	
2 Ethane	0.917	0.917	0.000	41204	9.70	9.71	
3 Ethylene	1.117	1.117	0.000	30376	9.05	9.74	
5 Propane	1.550	1.550	0.000	60853	14.2	13.5	
1 Propene	2.367	2.367	0.000	35484	13.6	13.2	

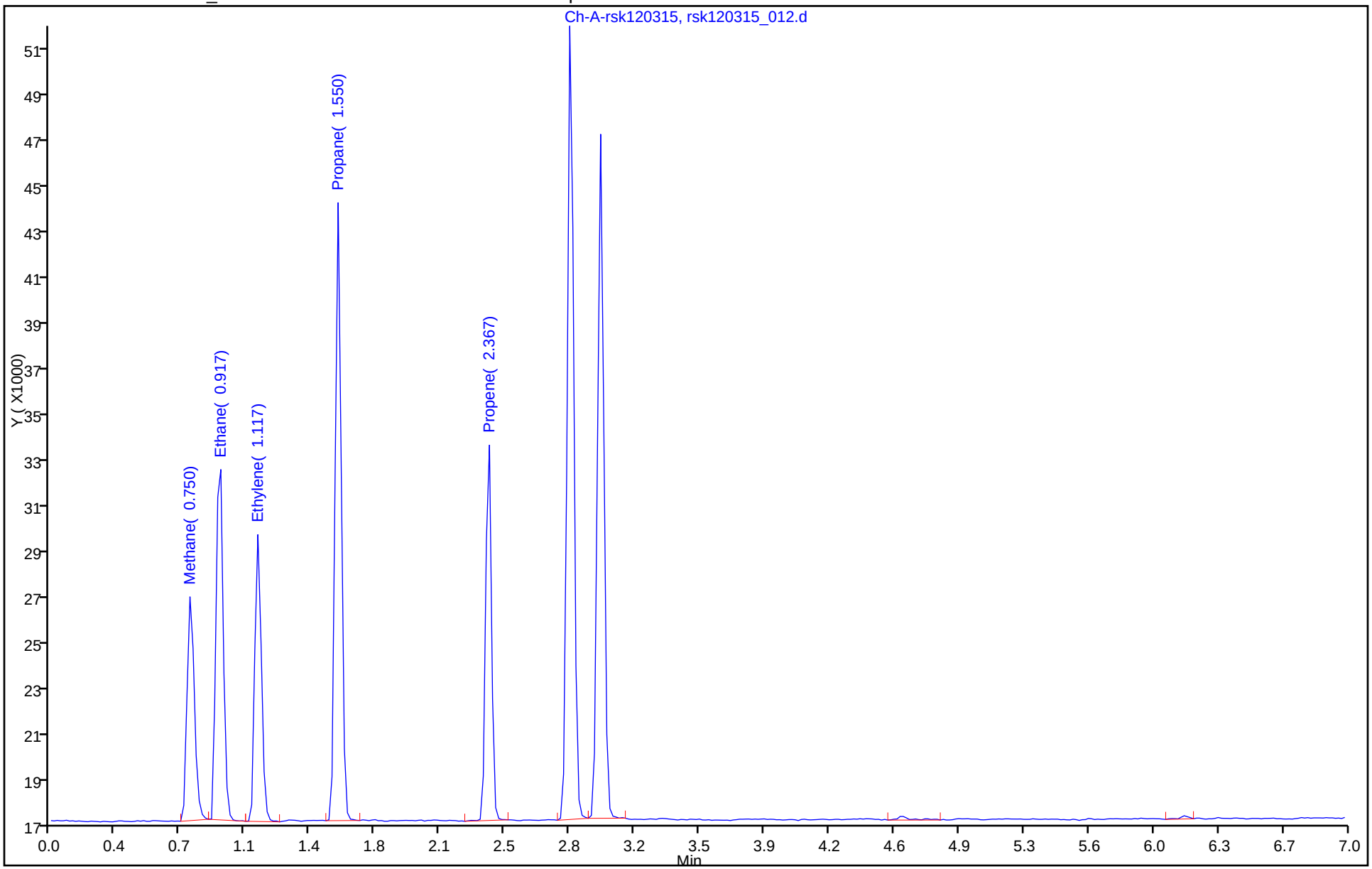
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 03-Dec-2015 16:25:39 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_012.d				
Injection Date:	03-Dec-2015 12:17:02	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Lab Sample ID: CCV 600-177677/23 Calibration Date: 12/03/2015 15:39

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120315_023.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	4491		5.10	5.16	-1.2	20.0
Ethane	Ave	4243	3422		7.82	9.70	-19.4	20.0
Ethylene	Ave	3120	2788		8.09	9.05	-10.6	20.0
Propane	Ave	4514	3215		10.1	14.2	-28.8*	20.0
Propene	Ave	2689	2103		10.6	13.6	-21.8*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Lab Sample ID: CCV 600-177677/23 Calibration Date: 12/03/2015 15:39

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120315_023.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.75	0.65	0.85
Ethane	0.90	0.80	1.00
Ethylene	1.12	1.02	1.22
Propane	1.55	1.45	1.65
Propene	2.35	2.25	2.45

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_023.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 03-Dec-2015 15:39:35 ALS Bottle#: 0 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 012 Name: 600-0009699-023
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 03-Dec-2015 16:25:47 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK014

First Level Reviewer: saccoj Date: 03-Dec-2015 16:24:34

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	23171	5.16	5.10	M
2 Ethane	0.900	0.900	0.000	33189	9.70	7.82	M
3 Ethylene	1.117	1.117	0.000	25234	9.05	8.09	
5 Propane	1.550	1.550	0.000	45594	14.2	10.1	
1 Propene	2.350	2.350	0.000	28560	13.6	10.6	

QC Flag Legend

Review Flags
M - Manually Integrated

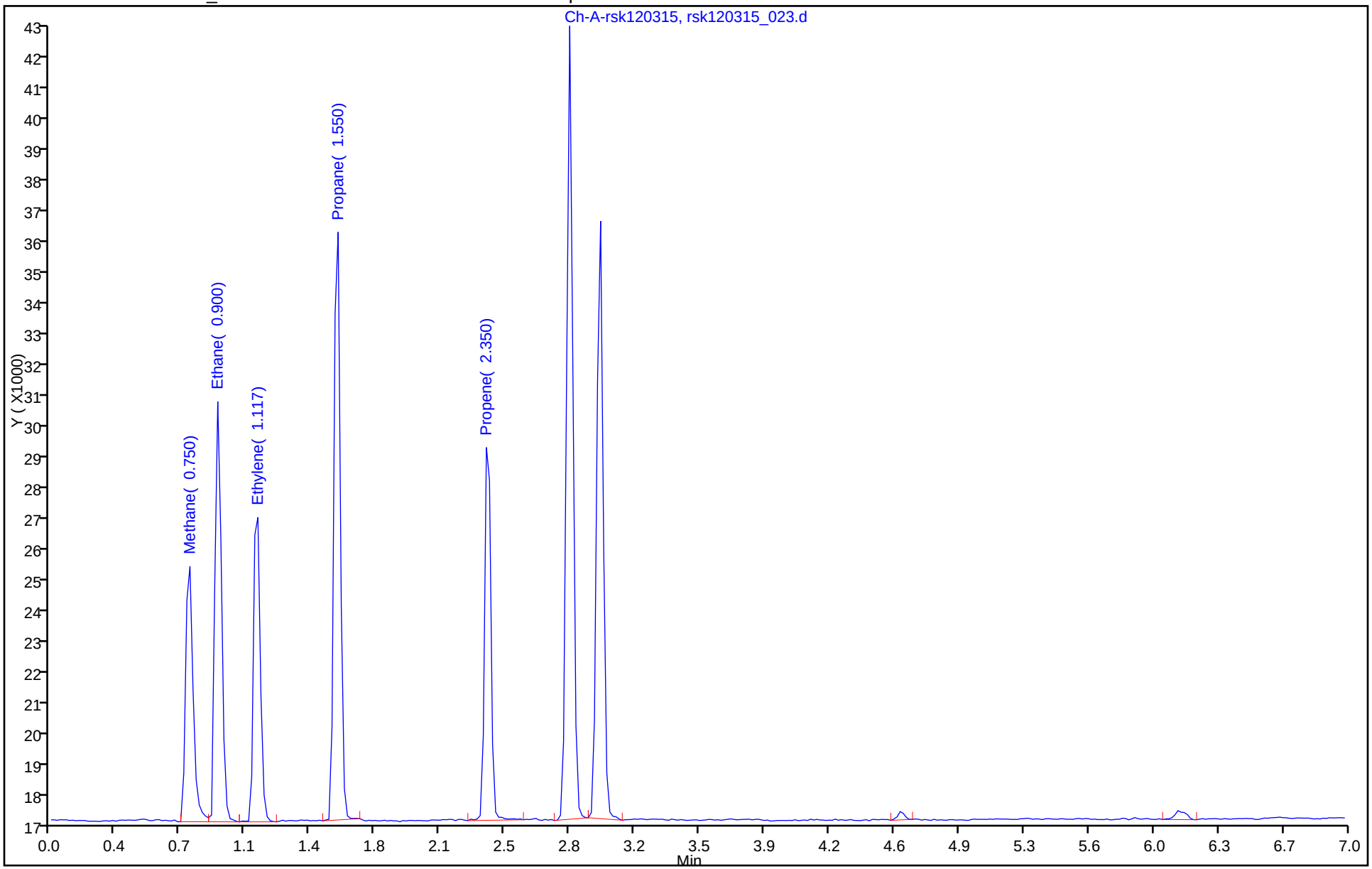
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 03-Dec-2015 16:25:47 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_023.d				
Injection Date:	03-Dec-2015 15:39:35	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

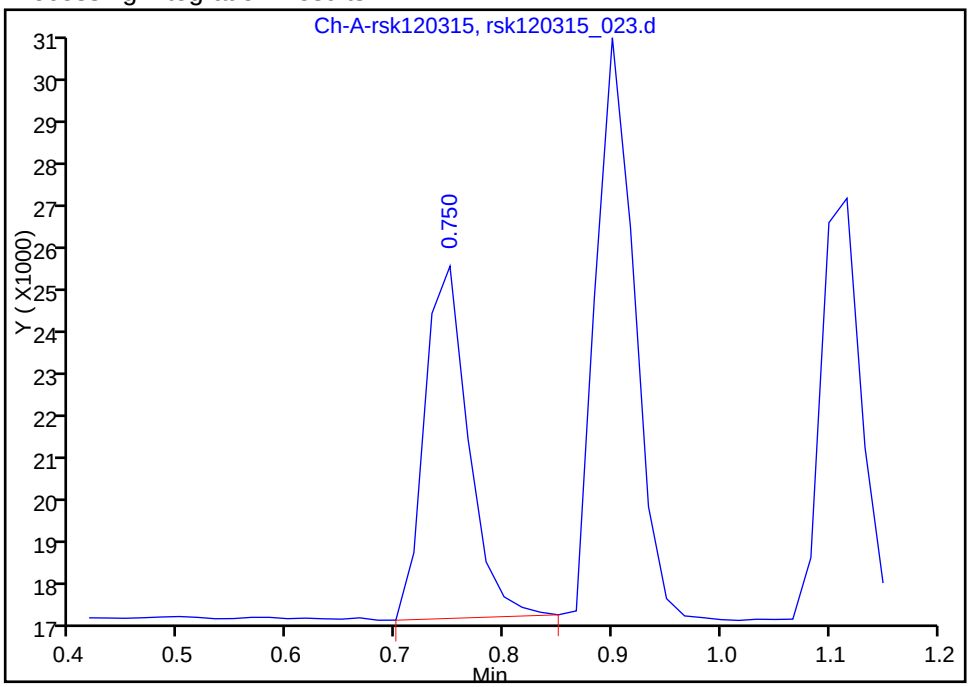
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_023.d				
Injection Date:	03-Dec-2015 15:39:35	Instrument ID:	CHFID14		
Lims ID:	CCV				
Client ID:					
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

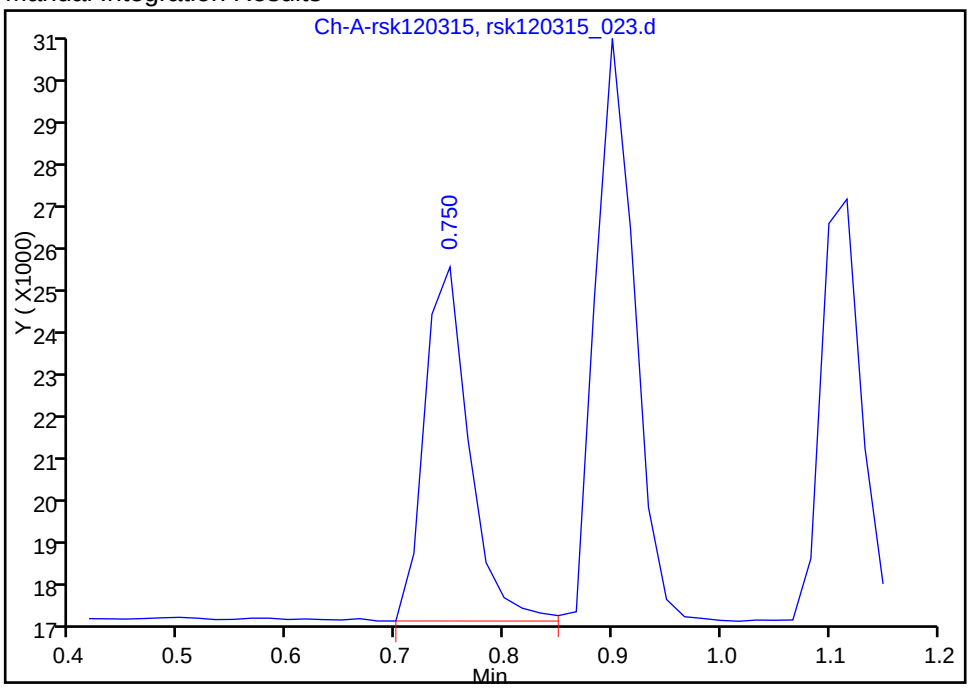
Processing Integration Results

RT: 0.75
Area: 22617
Amount: 4.977786
Amount Units: ug/l



Manual Integration Results

RT: 0.75
Area: 23171
Amount: 5.099716
Amount Units: ug/l



Reviewer: saccoj, 03-Dec-2015 16:24:34
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

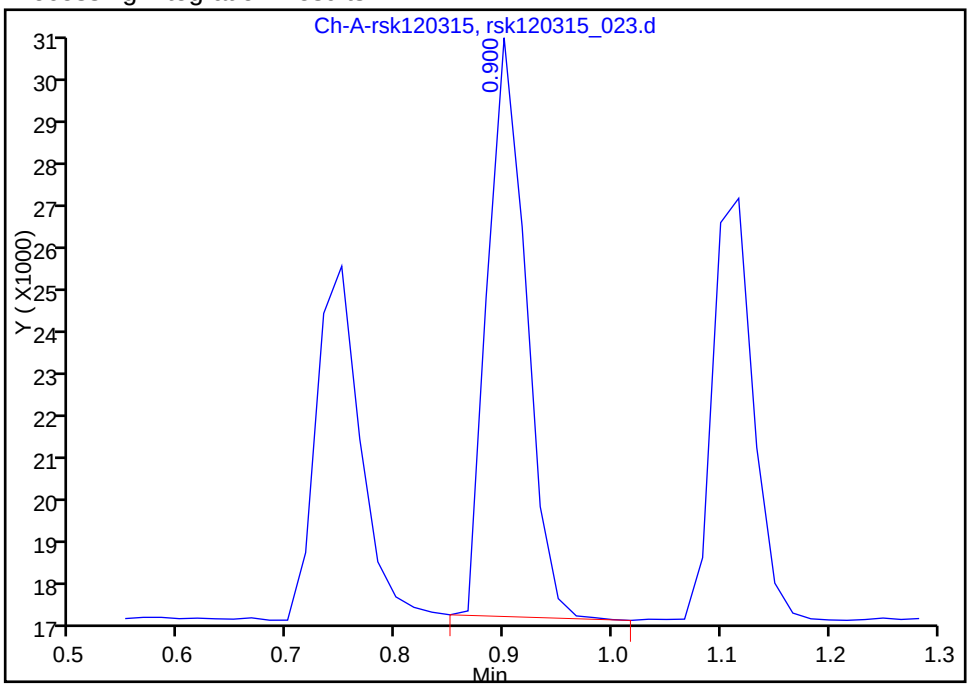
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_023.d				
Injection Date:	03-Dec-2015 15:39:35	Instrument ID:	CHFID14		
Lims ID:	CCV				
Client ID:					
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

2 Ethane, CAS: 74-84-0

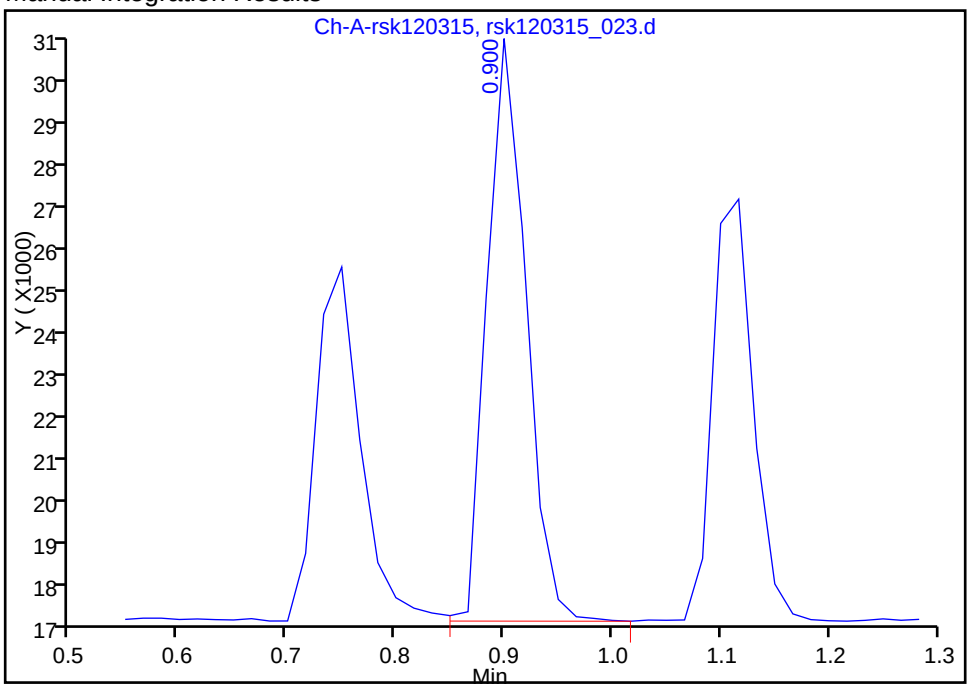
Processing Integration Results

RT: 0.90
Area: 32570
Amount: 7.675280
Amount Units: ug/l



Manual Integration Results

RT: 0.90
Area: 33189
Amount: 7.821151
Amount Units: ug/l



Reviewer: saccoj, 03-Dec-2015 16:24:34
Audit Action: Manually Integrated/Assigned Compound ID
Audit Reason: Split Peak

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-177677/2
Matrix: Water
Lab File ID: rsk120315_002.d
Analysis Method: RSK-175
Date Collected:
Sample wt/vol: 1(mL)
Date Analyzed: 12/03/2015 10:02
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177677
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.000357	U	0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

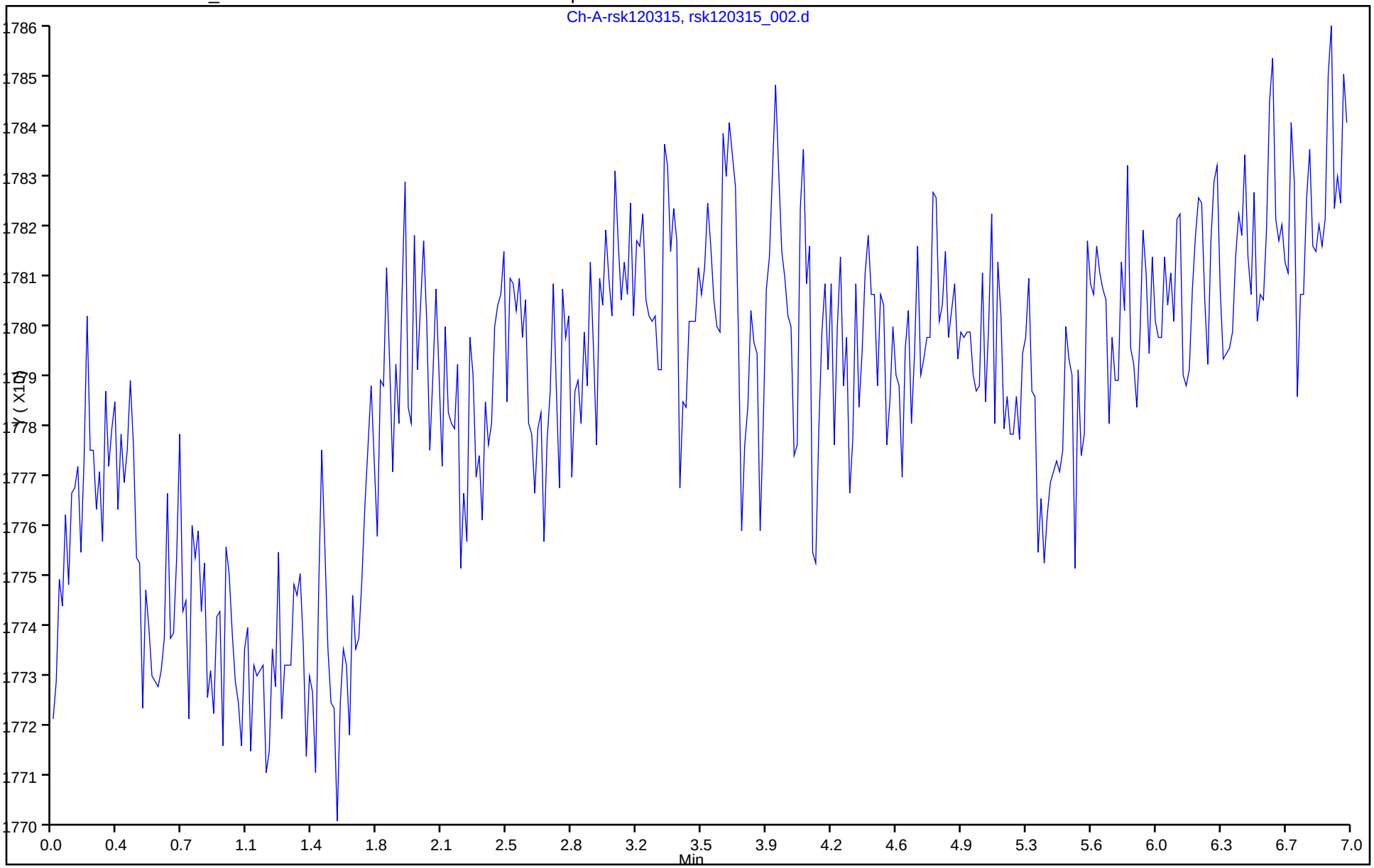
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_002.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	03-Dec-2015 10:02:21	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0009699-002				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	03-Dec-2015 16:25:30	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK014				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 03-Dec-2015 16:25:31 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_002.d				
Injection Date:	03-Dec-2015 10:02:21	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	MB			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-177677/3
Matrix: Water
Lab File ID: rsk120315_003.d
Analysis Method: RSK-175
Date Collected:
Sample wt/vol: 1(mL)
Date Analyzed: 12/03/2015 10:13
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177677
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.007867		0.00200	0.000303
74-82-8	Methane	0.004872		0.00100	0.000357
74-85-1	Ethylene	0.007544		0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_003.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 03-Dec-2015 10:13:08 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009699-003
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 03-Dec-2015 16:25:30 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK014

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	22138	5.16	4.87	
2 Ethane	0.900	0.900	0.000	33385	9.70	7.87	
3 Ethylene	1.117	1.117	0.000	23536	9.05	7.54	
5 Propane	1.550	1.550	0.000	50776	14.2	11.2	
1 Propene	2.367	2.367	0.000	28266	13.6	10.5	

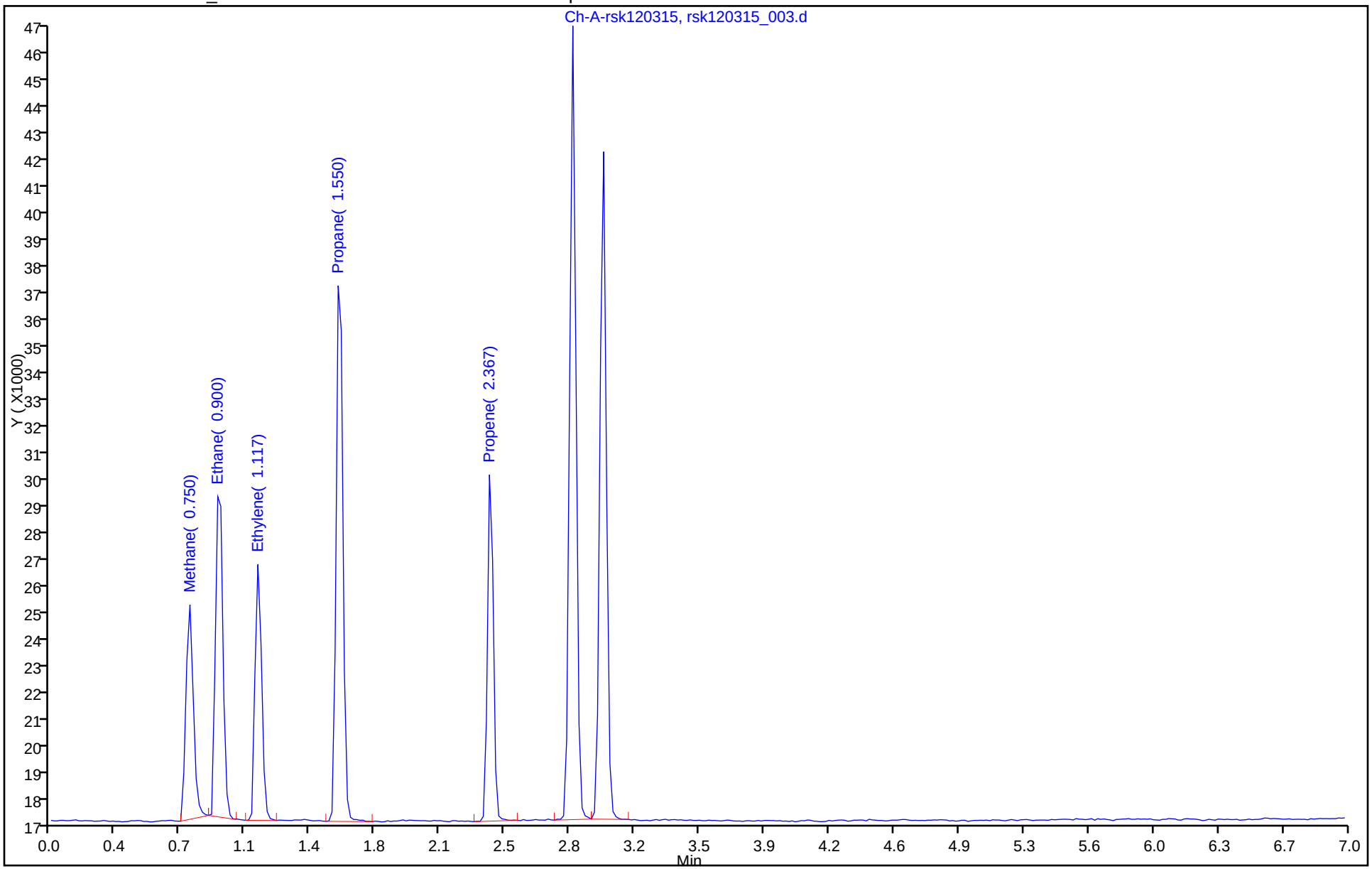
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 03-Dec-2015 16:25:32 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_003.d				
Injection Date:	03-Dec-2015 10:13:08	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	LCS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG No.:
Client Sample ID:
Lab Sample ID: 600-122382-I-5 MS
Matrix: Water
Lab File ID: rsk120315_009.d
Analysis Method: RSK-175
Date Collected: 11/30/2015 12:30
Sample wt/vol: 1(mL)
Date Analyzed: 12/03/2015 11:20
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177677
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.008603		0.00200	0.000303
74-82-8	Methane	0.005247		0.00100	0.000357
74-85-1	Ethylene	0.008437		0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_009.d
Lims ID: 600-122382-I-5 MS
Client ID:
Sample Type: MS
Inject. Date: 03-Dec-2015 11:20:49 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 004 Name: 600-0009699-009
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 03-Dec-2015 16:25:30 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK014

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	23841	5.16	5.25	
2 Ethane	0.917	0.900	0.017	36508	9.70	8.60	
3 Ethylene	1.117	1.117	0.000	26324	9.05	8.44	
5 Propane	1.567	1.550	0.017	54083	14.2	12.0	
1 Propene	2.367	2.367	0.000	31108	13.6	11.6	

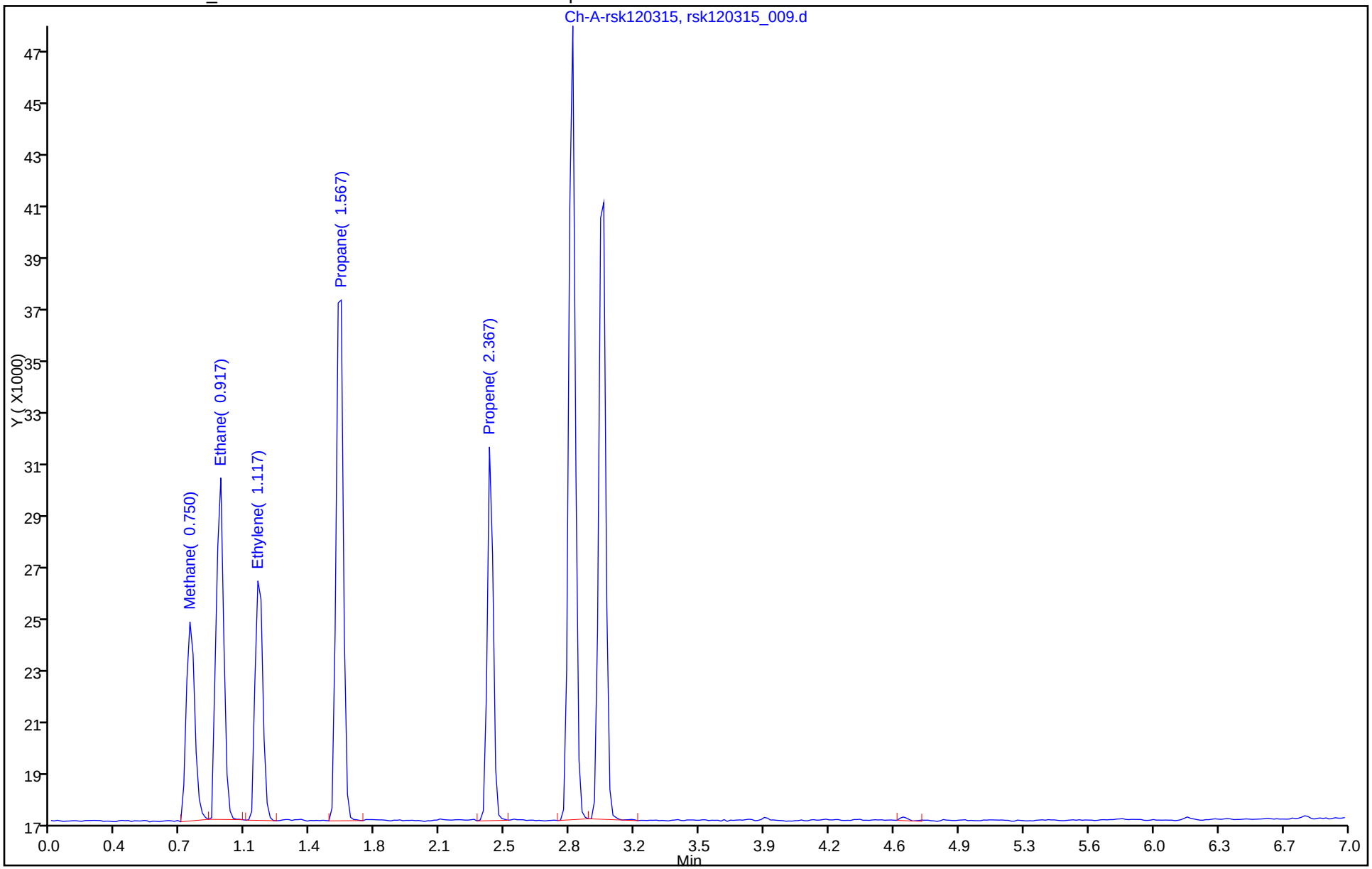
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 03-Dec-2015 16:25:37 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_009.d				
Injection Date:	03-Dec-2015 11:20:49	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122382-I-5 MS			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG No.:
Client Sample ID:
Lab Sample ID: 600-122382-I-5 MSD
Matrix: Water
Lab File ID: rsk120315_010.d
Analysis Method: RSK-175
Date Collected: 11/30/2015 12:30
Sample wt/vol: 1(mL)
Date Analyzed: 12/03/2015 11:33
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177677
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.008581		0.00200	0.000303
74-82-8	Methane	0.005305		0.00100	0.000357
74-85-1	Ethylene	0.008434		0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_010.d
Lims ID: 600-122382-I-5 MSD
Client ID:
Sample Type: MSD
Inject. Date: 03-Dec-2015 11:33:08 ALS Bottle#: 0 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 005 Name: 600-0009699-010
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 03-Dec-2015 16:25:30 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK014

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	24102	5.16	5.30	
2 Ethane	0.900	0.900	0.000	36412	9.70	8.58	
3 Ethylene	1.117	1.117	0.000	26313	9.05	8.43	
5 Propane	1.550	1.550	0.000	53659	14.2	11.9	
1 Propene	2.367	2.367	0.000	30527	13.6	11.4	

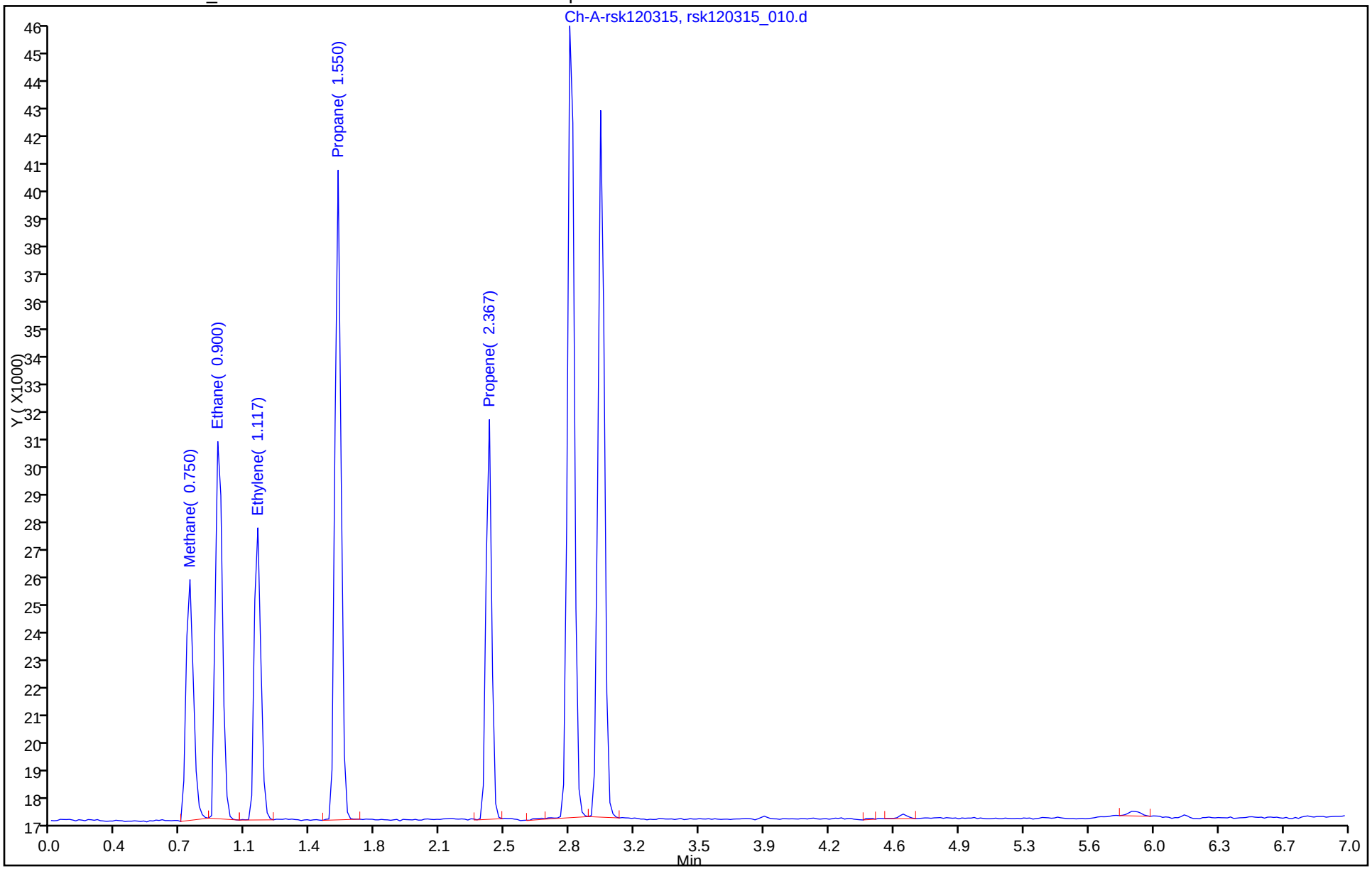
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 03-Dec-2015 16:25:38 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151203-9699.b\rsk120315_010.d				
Injection Date:	03-Dec-2015 11:33:08	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122382-I-5 MSD			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Instrument ID: CHFID14 Start Date: 06/08/2015 10:52

Analysis Batch Number: 164074 End Date: 06/08/2015 18:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-164074/1		06/08/2015 10:52	1	rsk060815_001.d	RTX-5 0.53(mm)
IC 600-164074/2		06/08/2015 11:03	1	rsk060815_002.d	RTX-5 0.53(mm)
IC 600-164074/3		06/08/2015 11:15	1	rsk060815_003.d	RTX-5 0.53(mm)
ICRT 600-164074/4		06/08/2015 11:26	1	rsk060815_004.d	RTX-5 0.53(mm)
IC 600-164074/5		06/08/2015 11:38	1	rsk060815_005.d	RTX-5 0.53(mm)
IC 600-164074/6		06/08/2015 11:50	1	rsk060815_006.d	RTX-5 0.53(mm)
IC 600-164074/7		06/08/2015 12:01	1	rsk060815_007.d	RTX-5 0.53(mm)
IC 600-164074/8		06/08/2015 12:12	1	rsk060815_008.d	RTX-5 0.53(mm)
ZZZZZ		06/08/2015 12:57	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:22	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:36	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:47	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:02	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:18	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:41	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 15:56	100		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 16:50	100		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 17:27	100		RTX-5 0.53(mm)
CCV 600-164074/20		06/08/2015 17:38	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 17:51	1000		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 18:03	1000		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 18:17	1000		RTX-5 0.53(mm)
CCV 600-164074/24		06/08/2015 18:28	1		RTX-5 0.53(mm)

RSK-175

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Instrument ID: CHFID14 Start Date: 12/03/2015 09:49

Analysis Batch Number: 177677 End Date: 12/03/2015 16:09

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 600-177677/1		12/03/2015 09:49	1	rsk120315_001.d	RTX-5 0.53(mm)
MB 600-177677/2		12/03/2015 10:02	1	rsk120315_002.d	RTX-5 0.53(mm)
LCS 600-177677/3		12/03/2015 10:13	1	rsk120315_003.d	RTX-5 0.53(mm)
ZZZZZ		12/03/2015 10:24	1		RTX-5 0.53(mm)
ZZZZZ		12/03/2015 10:36	1		RTX-5 0.53(mm)
ZZZZZ		12/03/2015 10:47	1		RTX-5 0.53(mm)
ZZZZZ		12/03/2015 10:58	1		RTX-5 0.53(mm)
ZZZZZ		12/03/2015 11:09	1		RTX-5 0.53(mm)
600-122382-I-5 MS		12/03/2015 11:20	1	rsk120315_009.d	RTX-5 0.53(mm)
600-122382-I-5 MSD		12/03/2015 11:33	1	rsk120315_010.d	RTX-5 0.53(mm)
ZZZZZ		12/03/2015 11:45	1		RTX-5 0.53(mm)
CCV 600-177677/12		12/03/2015 12:17	1	rsk120315_012.d	RTX-5 0.53(mm)
ZZZZZ		12/03/2015 12:28	1		RTX-5 0.53(mm)
600-122477-1	MW-06	12/03/2015 12:39	1	rsk120315_014.d	RTX-5 0.53(mm)
600-122477-2	MW-07	12/03/2015 12:51	1	rsk120315_015.d	RTX-5 0.53(mm)
600-122477-3	MW-07-Dup	12/03/2015 13:02	1	rsk120315_016.d	RTX-5 0.53(mm)
600-122477-4	MW-21	12/03/2015 13:28	1	rsk120315_017.d	RTX-5 0.53(mm)
600-122477-5	MW-23	12/03/2015 13:40	1	rsk120315_018.d	RTX-5 0.53(mm)
600-122477-6	MW-24	12/03/2015 13:56	1	rsk120315_019.d	RTX-5 0.53(mm)
ZZZZZ		12/03/2015 14:33	1000		RTX-5 0.53(mm)
ZZZZZ		12/03/2015 15:11	200		RTX-5 0.53(mm)
ZZZZZ		12/03/2015 15:24	1000		RTX-5 0.53(mm)
CCV 600-177677/23		12/03/2015 15:39	1	rsk120315_023.d	RTX-5 0.53(mm)
ZZZZZ		12/03/2015 15:53	200		RTX-5 0.53(mm)
CCV 600-177677/25		12/03/2015 16:09	1		RTX-5 0.53(mm)

RSK-175

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122477-1

SDG No.:

Project: Jones Road Groundwater Plume

Client Sample ID	Lab Sample ID
MW-06	600-122477-1
MW-07	600-122477-2
MW-07-Dup	600-122477-3
MW-21	600-122477-4
MW-23	600-122477-5
MW-24	600-122477-6

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-06
Lab Sample ID: 600-122477-1
Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 11:30
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	4.17	1.00	0.437	mg/L			1	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-07
Lab Sample ID: 600-122477-2
Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 12:15
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	0.936	1.00	0.437	mg/L	J		1	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-07-Dup
Lab Sample ID: 600-122477-3
Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 12:15
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	0.796	1.00	0.437	mg/L	J		1	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-21
Lab Sample ID: 600-122477-4
Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 13:35
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	1.52	1.00	0.437	mg/L			1	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-23
Lab Sample ID: 600-122477-5
Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 08:45
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	1.09	1.00	0.437	mg/L			1	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-24
Lab Sample ID: 600-122477-6
Lab Name: TestAmerica Houston
Job No.: 600-122477-1
SDG ID.:
Matrix: Water
Date Sampled: 12/01/2015 10:10
Reporting Basis: WET
Date Received: 12/02/2015 11:40

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Total Organic Carbon	1.55	1.00	0.437	mg/L			1	5310 D-2000

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Analyst: EC1 Batch Start Date: 12/09/2015

Reporting Units: mg/L Analytical Batch No.: 178131

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	16:34	Total Organic Carbon	9.456	10.0	95	85-115		TOCISCAL_00300
8	ICB	16:44	Total Organic Carbon	0.437				U	
31	CCV	20:45	Total Organic Carbon	9.746	10.0	97	85-115		TOCSLCS_00209
32	CCB	20:56	Total Organic Carbon	0.437				U	
43	CCV	22:51	Total Organic Carbon	9.642	10.0	96	85-115		TOCSLCS_00209
44	CCB	23:01	Total Organic Carbon	0.437				U	
55	CCV	00:56	Total Organic Carbon	9.726	10.0	97	85-115		TOCSLCS_00209
56	CCB	01:06	Total Organic Carbon	0.437				U	
67	CCV	03:01	Total Organic Carbon	9.753	10.0	98	85-115		TOCSLCS_00209
68	CCB	03:12	Total Organic Carbon	0.437				U	
71	CCV	03:43	Total Organic Carbon	9.575	10.0	96	85-115		TOCSLCS_00209
72	CCB	03:53	Total Organic Carbon	0.437				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Analyst: EC1 Batch Start Date: 12/11/2015

Reporting Units: mg/L Analytical Batch No.: 178314

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	16:00	Total Organic Carbon	9.853	10.0	99	85-115		TOCISCAL_00300
8	ICB	16:11	Total Organic Carbon	0.437				U	
19	CCV	18:06	Total Organic Carbon	10.19	10.0	102	85-115		TOCSLCS_00209
20	CCB	18:17	Total Organic Carbon	0.437				U	
31	CCV	20:12	Total Organic Carbon	10.34	10.0	103	85-115		TOCSLCS_00209
32	CCB	20:22	Total Organic Carbon	0.437				U	
43	CCV	22:17	Total Organic Carbon	10.14	10.0	101	85-115		TOCSLCS_00209
44	CCB	22:28	Total Organic Carbon	0.437				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 178131 Date: 12/09/2015 22:09							
5310 D-2000	MB 600-178131/39	Total Organic Carbon	0.437	U	mg/L	1.00	1
Batch ID: 178314 Date: 12/11/2015 16:21							
5310 D-2000	MB 600-178314/9	Total Organic Carbon	0.437	U	mg/L	1.00	1

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 178131 Date: 12/10/2015 01:27											
5310 D-2000	600-122468-B-5	Total Organic Carbon	7.24		mg/L						
5310 D-2000	600-122468-B-5 MS	Total Organic Carbon	17.87		mg/L	10.0	106	80-120			
Batch ID: 178314 Date: 12/11/2015 19:19											
5310 D-2000	600-122905-D-6	Total Organic Carbon	5.80		mg/L						
5310 D-2000	600-122905-D-6 MS	Total Organic Carbon	16.60		mg/L	10.0	108	80-120			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 178131 Date: 12/10/2015 01:38											
5310 D-2000	600-122468-B-5 MSD	Total Organic Carbon	17.80		mg/L	10.0	106	80-120	0	20	
Batch ID: 178314 Date: 12/11/2015 19:30											
5310 D-2000	600-122905-D-6 MSD	Total Organic Carbon	16.73		mg/L	10.0	109	80-120	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 178131	Date: 12/09/2015 22:19										
						LCS Source: TOCISCAL_00300					
5310 D-2000	LCS 600-178131/40	Total Organic Carbon	9.582		mg/L	10.0	96	85-115			
Batch ID: 178314	Date: 12/11/2015 16:32										
						LCS Source: TOCISCAL_00300					
5310 D-2000	LCS 600-178314/10	Total Organic Carbon	9.703		mg/L	10.0	97	85-115			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122477-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 5310 D-2000 MDL Date: 07/10/2012 14:07

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Organic Carbon		1	0.437

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122477-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 5310 D-2000 XMDL Date: 07/10/2012 14:07

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Organic Carbon		1	0.437

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Instrument ID: WC01 Method: 5310 D-2000

Start Date: 12/09/2015 15:31 End Date: 12/10/2015 03:53

Lab Sample ID	D/F	Type	Time	Analytes																			
				TOC																			
RINSE 600-178131/1			15:31																				
RINSE 600-178131/2			15:41																				
ZZZZZZ			15:52																				
ZZZZZZ			16:02																				
ZZZZZZ			16:13																				
ZZZZZZ			16:23																				
ICV 600-178131/7	1		16:34	X																			
ICB 600-178131/8	1		16:44	X																			
ZZZZZZ			16:55																				
ZZZZZZ			17:05																				
ZZZZZZ			17:16																				
ZZZZZZ			17:26																				
ZZZZZZ			17:37																				
ZZZZZZ			17:47																				
ZZZZZZ			17:58																				
ZZZZZZ			18:08																				
ZZZZZZ			18:19																				
ZZZZZZ			18:29																				
CCV 600-178131/19			18:39																				
CCB 600-178131/20			18:50																				
ZZZZZZ			19:00																				
ZZZZZZ			19:11																				
ZZZZZZ			19:21																				
ZZZZZZ			19:32																				
ZZZZZZ			19:42																				
ZZZZZZ			19:53																				
ZZZZZZ			20:03																				
ZZZZZZ			20:14																				
ZZZZZZ			20:24																				
ZZZZZZ			20:35																				
CCV 600-178131/31	1		20:45	X																			
CCB 600-178131/32	1		20:56	X																			
ZZZZZZ			21:06																				
ZZZZZZ			21:17																				
ZZZZZZ			21:27																				
ZZZZZZ			21:38																				
ZZZZZZ			21:48																				
ZZZZZZ			21:58																				
MB 600-178131/39	1	T	22:09	X																			
LCS 600-178131/40	1	T	22:19	X																			
ZZZZZZ			22:30																				
ZZZZZZ			22:40																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Instrument ID: WC01 Method: 5310 D-2000

Start Date: 12/09/2015 15:31 End Date: 12/10/2015 03:53

Lab Sample ID	D/F	Type	Time	Analytes																			
				TOC																			
CCV 600-178131/43	1		22:51	X																			
CCB 600-178131/44	1		23:01	X																			
ZZZZZZ			23:12																				
ZZZZZZ			23:22																				
ZZZZZZ			23:32																				
ZZZZZZ			23:43																				
ZZZZZZ			23:53																				
ZZZZZZ			00:04																				
ZZZZZZ			00:14																				
ZZZZZZ			00:25																				
ZZZZZZ			00:35																				
ZZZZZZ			00:45																				
CCV 600-178131/55	1		00:56	X																			
CCB 600-178131/56	1		01:06	X																			
ZZZZZZ			01:17																				
600-122468-B-5 MS	1	T	01:27	X																			
600-122468-B-5 MSD	1	T	01:38	X																			
ZZZZZZ			01:48																				
ZZZZZZ			01:58																				
600-122477-1	1	T	02:09	X																			
ZZZZZZ			02:19																				
ZZZZZZ			02:30																				
600-122477-2	1	T	02:40	X																			
600-122477-3	1	T	02:51	X																			
CCV 600-178131/67	1		03:01	X																			
CCB 600-178131/68	1		03:12	X																			
600-122477-4	1	T	03:22	X																			
600-122477-5	1	T	03:32	X																			
CCV 600-178131/71	1		03:43	X																			
CCB 600-178131/72	1		03:53	X																			

Prep Types

T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Instrument ID: WC01 Method: 5310 D-2000

Start Date: 12/11/2015 14:57 End Date: 12/12/2015 03:20

Lab Sample ID	D/F	Type	Time	Analytes																			
				TOC																			
RINSE 600-178314/1			14:57																				
RINSE 600-178314/2			15:08																				
ZZZZZZ			15:18																				
ZZZZZZ			15:29																				
ZZZZZZ			15:39																				
ZZZZZZ			15:50																				
ICV 600-178314/7	1		16:00	X																			
ICB 600-178314/8	1		16:11	X																			
MB 600-178314/9	1	T	16:21	X																			
LCS 600-178314/10	1	T	16:32	X																			
ZZZZZZ			16:42																				
ZZZZZZ			16:53																				
ZZZZZZ			17:03																				
ZZZZZZ			17:14																				
ZZZZZZ			17:24																				
ZZZZZZ			17:35																				
ZZZZZZ			17:45																				
ZZZZZZ			17:56																				
CCV 600-178314/19	1		18:06	X																			
CCB 600-178314/20	1		18:17	X																			
ZZZZZZ			18:27																				
ZZZZZZ			18:38																				
ZZZZZZ			18:48																				
ZZZZZZ			18:58																				
ZZZZZZ			19:09																				
600-122905-D-6 MS	1	T	19:19	X																			
600-122905-D-6 MSD	1	T	19:30	X																			
ZZZZZZ			19:40																				
ZZZZZZ			19:51																				
ZZZZZZ			20:01																				
CCV 600-178314/31	1		20:12	X																			
CCB 600-178314/32	1		20:22	X																			
ZZZZZZ			20:33																				
ZZZZZZ			20:43																				
ZZZZZZ			20:54																				
ZZZZZZ			21:04																				
ZZZZZZ			21:14																				
600-122477-6	1	T	21:25	X																			
ZZZZZZ			21:35																				
ZZZZZZ			21:46																				
ZZZZZZ			21:56																				
ZZZZZZ			22:07																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Instrument ID: WC01 Method: 5310 D-2000

Start Date: 12/11/2015 14:57 End Date: 12/12/2015 03:20

Lab Sample ID	D/F	Type	Time	Analytes																			
				TOC																			
CCV 600-178314/43	1		22:17	X																			
CCB 600-178314/44	1		22:28	X																			
ZZZZZZ			22:38																				
ZZZZZZ			22:48																				
ZZZZZZ			22:59																				
ZZZZZZ			23:09																				
ZZZZZZ			23:20																				
ZZZZZZ			23:30																				
ZZZZZZ			23:41																				
ZZZZZZ			23:51																				
ZZZZZZ			00:02																				
ZZZZZZ			00:12																				
CCV 600-178314/55			00:23																				
CCB 600-178314/56			00:33																				
ZZZZZZ			00:43																				
ZZZZZZ			00:54																				
ZZZZZZ			01:04																				
ZZZZZZ			01:15																				
ZZZZZZ			01:25																				
ZZZZZZ			01:36																				
ZZZZZZ			01:46																				
ZZZZZZ			01:57																				
ZZZZZZ			02:07																				
ZZZZZZ			02:17																				
CCV 600-178314/67			02:28																				
CCB 600-178314/68			02:38																				
ZZZZZZ			02:49																				
ZZZZZZ			02:59																				
CCV 600-178314/71			03:10																				
CCB 600-178314/72			03:20																				

Prep Types

T = Total/NA

****
** EC 12-9-15 178131 SEQUENCE **
****

TOC Unit: 1010
120915A Wed Dec 09 15:00:08 2015

Pm 12/10/15

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	no rinse	Sample	1	5.000	0	1.00	No	
2	RINSE	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
3	BLK	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
4	1	0-25ppm(pam)	Std. 2	1	5.000	0	1.00	No	
5	10	0-25ppm(pam)	Std. 3	1	5.000	0	1.00	No	
6	25	0-25ppm(pam)	Std. 4	1	5.000	0	1.00	No	
7	ICV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
8	ICB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
9	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
10	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
11	600-122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
12	ms 122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
13	msd 122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
14	122371-B-1@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
15	122371-B-2@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
16	122371-B-3@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
17	122371-B-4@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
18	122371-B-5@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
19	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
20	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
21	122371-B-6@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
22	122468-D-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
23	122610-D-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
24	122632-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
25	600-122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
26	ms 122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
27	msd 122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
28	122696-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
29	122697-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
30	122701-B-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
31	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
32	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
33	600-122610-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
34	600-122610-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
35	600-122610-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
36	600-122610-B-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
37	600-122688-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
38	600-122421-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
39	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
40	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
41	600-122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
42	ms 122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
43	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
44	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

****
** SEQUENCE **
****

TOC Unit: 1010
120915A Wed Dec 09 15:00:08 2015

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
45	msd 122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
46	600-122421-D-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
47	600-122425-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
48	600-122425-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
49	600-122425-D-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
50	600-122428-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
51	600-122676-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
52	600-122676-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
53	600-122676-B-7	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
54	600-122676-B-8	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
55	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
56	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
57	600-122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
58	ms 122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
59	msd 122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
60	600-122676-B-9	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
61	600-122695-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
62	600-122477-A-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
63	600-122436-E-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
64	600-122436-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
65	600-122477-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
66	600-122477-A-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
67	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
68	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
69	600-122477-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
70	600-122477-A-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
71	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
72	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

```
*****************************************************************
**                OI Analytical Model 1010 TOC                 **
**                          RUN SETUP                          **
*****************************************************************

TOC Unit: 1010
Operator:   Unknown
Data Path:  C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\120915A
WinTOC Version:  5.2                        Firmware Version:   5.2
WinTOC Revision:  rev 242                     Firmware Revision:  rev 365
```

```
*****************************************************************
**                        CONFIGURATION                        **
*****************************************************************

TOC Unit: 1010
Analysis Mode:  TIC/TOC     Spl Intro:  Autosampler 88
Remote Start :  OFF

Loop Size:  5 mL        Actual Volume  1mL   5mL   10mL   25mL
                        -------------  ----  ----  -----  -----
                         Loop A (uL):  1009  4970  10000  25000
                         Loop B (uL):  1008  4980  10000  25000

Tray Type:              88 Vial  Vial Option:        Preacidification
Needle Depth:           97 %     Preacid Volume (uL):              500
Wash Needle Depth:      94 %     Preacid Purge Time (min:sec):   2:00

             TIC    TOC    TC
Blank       ----   ----   ----            Linearization Coeff:  60000
 Average:     58    723      0

                          Sample Transfer Times (sec)
          Initial Fill          |        Loop Fill          | Sample Inject
     Non-AS    AS  AS w/Sep     | Non-AS    AS  AS w/Sep     |    (all)
     ------  ----- --------     | ------  ----- --------     | -------------
1mL:    0.0    0.0      0.0     |    0.0    0.0      0.0     |      0.0
5mL:    9.1    9.1      6.8     |    5.1    6.1      4.2     |      9.3
10mL:   0.0    0.0      0.0     |    0.0    0.0      0.0     |      0.0
25mL:   0.0    0.0      0.0     |    n/a    n/a      n/a     |      0.0

Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range:   0.000 ppmC,  Max Signal Range:   0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00
       Conc. Alarm Setpoints (ppm C)
          Low        |     High
       -----------   | -----------
TIC:     0.000           0.000
TOC:     0.000           0.000
TC:      0.000           0.000
```

```
*****************************************************************
**                         CALIBRATION                         **
*****************************************************************

TOC Unit: 1010
CAL111015  Wed Dec 09 09:00:22 2015

Std. #  Used  Conc. (ppm)  Volume (mL)
------  ----  -----------  -----------      RF (ugC/k-cts):     1.182
   1    Yes        0.000        5.000       R-Squared:         0.9960
   2    Yes        1.000        5.000       Offset (cts):         3161
   3    Yes       10.000        5.000       Offset (ugC):       -3.737
   4    Yes       25.000        5.000       Calibration Mode:     TOC
   5    No         0.000        5.000       Allow Editing:      No
```

Rep	Std. 1	Std. 2	Std. 3	Std. 4	Std. 5
1	-	9861	41597	109548	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-

(* = unused)

****
** METHODS **
****

TOC Unit: 1010
NO RINSE Fri Jan 03 11:50:47 2014

Acid Volume: 200 uL
Oxidant Volume: 1000 uL
Auto-Repeat Time: 00:00:00 (hr:min:sec)
Rinse Volume (mL): 25
Rinses Per Rep: 0
Rinses Per Sample: 0

	TIC	TOC	TC
React: (min:sec):	00:01	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

0-25PPM(PAM) Sat Oct 31 15:28:13 2015

Acid Volume: 200 uL
Oxidant Volume: 1000 uL
Auto-Repeat Time: 00:00:00 (hr:min:sec)
Rinse Volume (mL): 20
Rinses Per Rep: 0
Rinses Per Sample: 1

	TIC	TOC	TC
React: (min:sec):	00:01	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

****
** SEQUENCE **
****

TOC Unit: 1010
120915A Wed Dec 09 15:00:08 2015

Start Pos/Vial #: 1, Stop Pos/Vial #: 72

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	no rinse	Sample	1	5.000	0	1.00	No	
2	RINSE	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
3	BLK	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
4	1	0-25ppm(pam)	Std. 2	1	5.000	0	1.00	No	
5	10	0-25ppm(pam)	Std. 3	1	5.000	0	1.00	No	
6	25	0-25ppm(pam)	Std. 4	1	5.000	0	1.00	No	
7	ICV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
8	ICB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
9	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
10	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
11	600-122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
12	ms 122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
13	msd 122421-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
14	122371-B-1@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
15	122371-B-2@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
16	122371-B-3@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
17	122371-B-4@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
18	122371-B-5@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
19	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

20	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
21	122371-B-6@10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
22	122468-D-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
23	122610-D-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
24	122632-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
25	600-122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
26	ms 122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
27	msd 122675-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
28	122696-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
29	122697-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
30	122701-B-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
31	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
32	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
33	600-122610-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
34	600-122610-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
35	600-122610-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
36	600-122610-B-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
37	600-122688-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
38	600-122421-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
39	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
40	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
41	600-122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
42	ms 122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
43	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
44	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
45	msd 122468-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
46	600-122421-D-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
47	600-122425-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
48	600-122425-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
49	600-122425-D-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
50	600-122428-D-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
51	600-122676-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
52	600-122676-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
53	600-122676-B-7	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
54	600-122676-B-8	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
55	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
56	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
57	600-122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
58	ms 122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
59	msd 122468-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
60	600-122676-B-9	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
61	600-122695-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
62	600-122477-A-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
63	600-122436-E-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
64	600-122436-D-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
65	600-122477-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
66	600-122477-A-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
67	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
68	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
69	600-122477-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
70	600-122477-A-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
71	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
72	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No

Pos#	Path for Trend Data file
1	C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\TREND\2.CSV
2	C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\TREND\2.CSV

```
*****************************************************************
**                    RESULTS - 120915A                        **
*****************************************************************
```

TOC Unit: 1010

Pos/ Vial	Run Type	Rep #	Run Date	Run Time	TICArea (cts)	TICMass (ugC)	TICConc (ppm)	TOCArea (cts)	TOCMass (ugC)	TOCConc (ppm)	TCA (c

** Spl Name: RINSE Data File: gb001

Remarks: <none>

1	Spl	1 09Dec2015 15:31	103	0.053	0.011	2712	2.351	0.473

** Spl Name: RINSE Data File: gb002
Remarks: <none>

2	Spl	1 09Dec2015 15:41	118	0.071	0.014	1378	0.774	0.156

** Spl Name: BLK Data File: gb003
Remarks: <none>

3	Spl	1 09Dec2015 15:52	127	0.082	0.016	987	0.312	0.063

** Std2 Name: 1 Data File: gb004
Remarks: <none>

4	Std2	1 09Dec2015 16:02	-	-	-	9133	4.975	1.000

** Calibration:
RF (ugC/k-cts): 1.175
R-Squared: 0.9966
Offset (cts): 2624
Offset (ugC): -3.084

** Std3 Name: 10 Data File: gb005
Remarks: <none>

5	Std3	1 09Dec2015 16:13	-	-	-	41532	49.750	10.000

** Calibration:
RF (ugC/k-cts): 1.175
R-Squared: 0.9966
Offset (cts): 2593
Offset (ugC): -3.047

** Std4 Name: 25 Data File: gb006
Remarks: <none>

6	Std4	1 09Dec2015 16:23	-	-	-	110053	124.375	25.000

** Calibration:
RF (ugC/k-cts): 1.169
R-Squared: 0.9964
Offset (cts): 2481
Offset (ugC): -2.900

** Spl Name: ICV Data File: gb007
Remarks: <none>

7	Spl	1 09Dec2015 16:34	162	0.122	0.024	40983	47.044	9.456

** Spl Name: ICB Data File: gb008
Remarks: <none>

8	Spl	1 09Dec2015 16:44	134	0.089	0.018	693	0.000	0.000

** Spl Name: MB Data File: gb009
Remarks: <none>

9	Spl	1 09Dec2015 16:55	162	0.122	0.024	612	0.000	0.000

** Spl Name: LCS Data File: gb010
Remarks: <none>

10	Spl	1 09Dec2015 17:05	150	0.108	0.022	41135	47.222	9.492

** Spl Name: 600-122421-D-1 Data File: gb011
Remarks: <none>

11	Spl	1 09Dec2015 17:16	10947	12.724	2.558	21651	24.454	4.916

** Spl Name: ms 122421-D-1 Data File: gb012

Remarks: <none>

12	Spl	1 09Dec2015 17:26	10767	12.514	2.515	61323	70.811	14.233

** Spl Name: msd 122421-D-1 Data File: gb013
Remarks: <none>

13	Spl	1 09Dec2015 17:37	9964	11.575	2.327	61311	70.797	14.231

** Spl Name: 122371-B-1@10 Data File: gb014
Remarks: <none>

14	Spl	1 09Dec2015 17:47	471	0.483	0.097	24725	28.046	5.637

** Spl Name: 122371-B-2@10 Data File: gb015
Remarks: <none>

15	Spl	1 09Dec2015 17:58	481	0.494	0.099	25041	28.416	5.712

** Spl Name: 122371-B-3@10 Data File: gb016
Remarks: <none>

16	Spl	1 09Dec2015 18:08	556	0.582	0.117	30038	34.255	6.885

** Spl Name: 122371-B-4@10 Data File: gb017
Remarks: <none>

17	Spl	1 09Dec2015 18:19	611	0.646	0.130	35782	40.967	8.234

** Spl Name: 122371-B-5@10 Data File: gb018
Remarks: <none>

18	Spl	1 09Dec2015 18:29	582	0.612	0.123	36216	41.474	8.336

** Spl Name: CCV Data File: gb019
Remarks: <none>

19	Spl	1 09Dec2015 18:39	124	0.077	0.015	43112	49.532	9.956

** Spl Name: CCB Data File: gb020
Remarks: <none>

20	Spl	1 09Dec2015 18:50	284	0.264	0.053	865	0.166	0.033

** Spl Name: 122371-B-6@10 Data File: gb021
Remarks: <none>

21	Spl	1 09Dec2015 19:00	542	0.566	0.114	33026	37.746	7.587

** Spl Name: 122468-D-4@4 Data File: gb022
Remarks: <none>

22	Spl	1 09Dec2015 19:11	1608	1.811	0.364	28210	32.119	6.456

** Spl Name: 122610-D-1@2 Data File: gb023
Remarks: <none>

23	Spl	1 09Dec2015 19:21	3168	3.634	0.730	49924	57.492	11.556

** Spl Name: 122632-C-1@2 Data File: gb024
Remarks: <none>

24	Spl	1 09Dec2015 19:32	1732	1.956	0.393	14930	16.601	3.337

** Spl Name: 600-122675-D-1 Data File: gb025
Remarks: <none>

25	Spl	1 09Dec2015 19:42	6063	7.017	1.410	45169	51.935	10.439

** Spl Name: ms 122675-D-1 Data File: gb026

Remarks: <none>

26	Spl	1 09Dec2015 19:53	6195	7.171	1.441	91569	106.154	21.337
** Spl	Name: msd 122675-D-1				Data File: gb027			
	Remarks: <none>							
27	Spl	1 09Dec2015 20:03	5747	6.648	1.336	90642	105.071	21.120
** Spl	Name: 122696-C-1@2				Data File: gb028			
	Remarks: <none>							
28	Spl	1 09Dec2015 20:14	4276	4.929	0.991	54295	62.599	12.583
** Spl	Name: 122697-C-1@2				Data File: gb029			
	Remarks: <none>							
29	Spl	1 09Dec2015 20:24	9587	11.135	2.238	41339	47.460	9.540
** Spl	Name: 122701-B-1@2				Data File: gb030			
	Remarks: <none>							
30	Spl	1 09Dec2015 20:35	2905	3.327	0.669	14929	16.600	3.337
** Spl	Name: CCV				Data File: gb031			
	Remarks: <none>							
31	Spl	1 09Dec2015 20:45	210	0.178	0.036	42216	48.485	9.746
** Spl	Name: CCB				Data File: gb032			
	Remarks: <none>							
32	Spl	1 09Dec2015 20:56	166	0.126	0.025	730	0.008	0.002
** Spl	Name: 600-122610-B-4				Data File: gb033			
	Remarks: <none>							
33	Spl	1 09Dec2015 21:06	6512	7.542	1.516	39622	45.454	9.136
** Spl	Name: 600-122610-B-5				Data File: gb034			
	Remarks: <none>							
34	Spl	1 09Dec2015 21:17	2517	2.873	0.578	42476	48.789	9.807
** Spl	Name: 600-122610-B-6				Data File: gb035			
	Remarks: <none>							
35	Spl	1 09Dec2015 21:27	5232	6.046	1.215	33231	37.986	7.635
** Spl	Name: 600-122610-B-3				Data File: gb036			
	Remarks: <none>							
36	Spl	1 09Dec2015 21:38	2251	2.563	0.515	43075	49.489	9.947
** Spl	Name: 600-122688-C-1				Data File: gb037			
	Remarks: <none>							
37	Spl	1 09Dec2015 21:48	5236	6.051	1.216	48230	55.512	11.158
** Spl	Name: 600-122421-D-2				Data File: gb038			
	Remarks: <none>							
38	Spl	1 09Dec2015 21:58	10857	12.619	2.536	13129	14.496	2.914
** Spl	Name: MB				Data File: gb039			
	Remarks: <none>							
39	Spl	1 09Dec2015 22:09	243	0.216	0.043	1145	0.493	0.099
** Spl	Name: LCS				Data File: gb040			

Remarks: <none>

40	Spl	1 09Dec2015 22:19	182	0.145	0.029	41521	47.673	9.582

** Spl Name: 600-122468-A-2 Data File: gb041
Remarks: <none>

41	Spl	1 09Dec2015 22:30	1201	1.336	0.269	31484	35.944	7.225

** Spl Name: ms 122468-A-2 Data File: gb042
Remarks: <none>

42	Spl	1 09Dec2015 22:40	1181	1.312	0.264	75701	87.612	17.611

** Spl Name: CCV Data File: gb043
Remarks: <none>

43	Spl	1 09Dec2015 22:51	183	0.146	0.029	41773	47.967	9.642

** Spl Name: CCB Data File: gb044
Remarks: <none>

44	Spl	1 09Dec2015 23:01	208	0.175	0.035	714	0.000	0.000

** Spl Name: msd 122468-A-2 Data File: gb045
Remarks: <none>

45	Spl	1 09Dec2015 23:12	1002	1.103	0.222	76523	88.573	17.803

** Spl Name: 600-122421-D-3 Data File: gb046
Remarks: <none>

46	Spl	1 09Dec2015 23:22	8103	9.401	1.890	6566	6.828	1.372

** Spl Name: 600-122425-D-1 Data File: gb047
Remarks: <none>

47	Spl	1 09Dec2015 23:32	8875	10.303	2.071	4830	4.799	0.965

** Spl Name: 600-122425-D-2 Data File: gb048
Remarks: <none>

48	Spl	1 09Dec2015 23:43	4326	4.987	1.002	15098	16.797	3.376

** Spl Name: 600-122425-D-3 Data File: gb049
Remarks: <none>

49	Spl	1 09Dec2015 23:53	6641	7.692	1.546	21560	24.348	4.894

** Spl Name: 600-122428-D-1 Data File: gb050
Remarks: <none>

50	Spl	1 10Dec2015 00:04	19576	22.807	4.584	10738	11.703	2.352

** Spl Name: 600-122676-B-5 Data File: gb051
Remarks: <none>

51	Spl	1 10Dec2015 00:14	1846	2.089	0.420	42620	48.957	9.841

** Spl Name: 600-122676-B-6 Data File: gb052
Remarks: <none>

52	Spl	1 10Dec2015 00:25	1705	1.925	0.387	41437	47.575	9.563

** Spl Name: 600-122676-B-7 Data File: gb053
Remarks: <none>

53	Spl	1 10Dec2015 00:35	3005	3.444	0.692	33882	38.746	7.788

** Spl Name: 600-122676-B-8 Data File: gb054

Remarks: <none>

54	Spl	1 10Dec2015 00:45	2350	2.678	0.538	49285	56.745	11.406

** Spl Name: CCV Data File: gb055
Remarks: <none>

55	Spl	1 10Dec2015 00:56	158	0.117	0.023	42133	48.388	9.726

** Spl Name: CCB Data File: gb056
Remarks: <none>

56	Spl	1 10Dec2015 01:06	220	0.189	0.038	764	0.048	0.010

** Spl Name: 600-122468-B-5 Data File: gb057
Remarks: <none>

57	Spl	1 10Dec2015 01:17	639	0.679	0.137	31538	36.007	7.238

** Spl Name: ms 122468-B-5 Data File: gb058
Remarks: <none>

58	Spl	1 10Dec2015 01:27	671	0.716	0.144	76786	88.880	17.865

** Spl Name: msd 122468-B-5 Data File: gb059
Remarks: <none>

59	Spl	1 10Dec2015 01:38	727	0.782	0.157	76508	88.555	17.800

** Spl Name: 600-122676-B-9 Data File: gb060
Remarks: <none>

60	Spl	1 10Dec2015 01:48	6540	7.574	1.523	69135	79.940	16.068

** Spl Name: 600-122695-B-1 Data File: gb061
Remarks: <none>

61	Spl	1 10Dec2015 01:58	3132	3.592	0.722	23060	26.101	5.246

** Spl Name: 600-122477-A-1 Data File: gb062
Remarks: <none>

62	Spl	1 10Dec2015 02:09	25783	30.060	6.042	18485	20.755	4.172

** Spl Name: 600-122436-E-1 Data File: gb063
Remarks: <none>

63	Spl	1 10Dec2015 02:19	19492	22.709	4.565	144268	167.733	33.715

A-Linear range exceeded (130ugC). 10Dec2015 02:19

** Spl Name: 600-122436-D-2 Data File: gb064
Remarks: <none>

64	Spl	1 10Dec2015 02:30	1626	1.832	0.368	2338	1.887	0.379

** Spl Name: 600-122477-A-2 Data File: gb065
Remarks: <none>

65	Spl	1 10Dec2015 02:40	21598	25.170	5.059	4710	4.659	0.936

** Spl Name: 600-122477-A-3 Data File: gb066
Remarks: <none>

66	Spl	1 10Dec2015 02:51	21824	25.434	5.112	4110	3.958	0.795

** Spl Name: CCV Data File: gb067
Remarks: <none>

67	Spl	1 10Dec2015 03:01	130	0.084	0.017	42247	48.521	9.753
** Spl		Name: CCB Remarks: <none>			Data File: gb068			
68	Spl	1 10Dec2015 03:12	205	0.172	0.034	613	0.000	0.000
** Spl		Name: 600-122477-A-4 Remarks: <none>			Data File: gb069			
69	Spl	1 10Dec2015 03:22	34606	40.369	8.115	7185	7.551	1.518
** Spl		Name: 600-122477-A-5 Remarks: <none>			Data File: gb070			
70	Spl	1 10Dec2015 03:32	16463	19.169	3.853	5348	5.404	1.086
** Spl		Name: CCV Remarks: <none>			Data File: gb071			
71	Spl	1 10Dec2015 03:43	132	0.086	0.017	41489	47.635	9.575
** Spl		Name: CCB Remarks: <none>			Data File: gb072			
72	Spl	1 10Dec2015 03:53	224	0.194	0.039	612	0.000	0.000

****
** EC 12-11-15 178314 SEQUENCE **
****

TOC Unit: 1010
121115 Fri Dec 11 14:21:50 2015

12/14/15

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	no rinse	Sample	1	5.000	0	1.00	No	
2	RINSE	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
3	BLK	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
4	1	0-25ppm(pam)	Std. 2	1	5.000	0	1.00	No	
5	10	0-25ppm(pam)	Std. 3	1	5.000	0	1.00	No	
6	25	0-25ppm(pam)	Std. 4	1	5.000	0	1.00	No	
7	ICV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
8	ICB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
9	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
10	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
11	600-122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
12	ms 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
13	msd 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
14	122830-J-1@500	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
15	122669-A-1@20	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
16	122723-C-1@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
17	122756-B-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
18	122613-C-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
19	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
20	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
21	122676-D-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
22	122771-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
23	122509-K-2@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
24	122793-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
25	600-122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
26	ms 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
27	msd 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
28	122870-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
29	122839-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
30	122509-L-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
31	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
32	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
33	122818-E-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
34	122559-A-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
35	122559-A-3@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
36	600-122502-C-10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
37	600-122502-D-13	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
38	600-122477-A-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
39	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
40	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
41	600-122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
42	ms 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
43	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
44	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

****
** SEQUENCE **
****

TOC Unit: 1010
121115 Fri Dec 11 14:21:50 2015

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
45	msd 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
46	600-122502-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
47	600-122676-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
48	600-122795-A-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
49	600-122559-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
50	600-122559-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
51	600-122559-A-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
52	600-122772-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
53	600-122793-A-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
54	600-122839-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
55	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
56	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
57	600-122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
58	ms 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
59	msd 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
60	600-122868-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
61	600-122578-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
62	600-122630-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
63	600-122630-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
64	600-122630-B-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
65	600-122630-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
66	600-122818-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
67	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
68	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
69	600-122818-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
70	600-122818-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
71	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
72	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

E-Possible IR failure - reboot. 11Dec2015 14:48

```
*****************************************************************
**                  OI Analytical Model 1010 TOC                 **
**                          RUN SETUP                            **
*****************************************************************
```

TOC Unit: 1010
Operator: Unknown
Data Path: C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\121115
WinTOC Version: 5.2 Firmware Version: 5.2
WinTOC Revision: rev 242 Firmware Revision: rev 365

```
*****************************************************************
**                        CONFIGURATION                          **
*****************************************************************
```

TOC Unit: 1010
Analysis Mode: TIC/TOC Spl Intro: Autosampler 88
Remote Start : OFF

Loop Size: 5 mL	Actual Volume	1mL	5mL	10mL	25mL
	Loop A (uL):	1009	4970	10000	25000
	Loop B (uL):	1008	4980	10000	25000

Tray Type: 88 Vial Vial Option: Preacidification
Needle Depth: 97 % Preacid Volume (uL): 500
Wash Needle Depth: 94 % Preacid Purge Time (min:sec): 2:00

	TIC	TOC	TC
Blank	----	----	----
Average:	58	723	0

Linearization Coeff: 60000

Sample Transfer Times (sec)

	Initial Fill			Loop Fill			Sample Inject
	Non-AS	AS	AS w/Sep	Non-AS	AS	AS w/Sep	(all)
1mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5mL:	9.1	9.1	6.8	5.1	6.1	4.2	9.3
10mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25mL:	0.0	0.0	0.0	n/a	n/a	n/a	0.0

Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range: 0.000 ppmC, Max Signal Range: 0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00

Conc. Alarm Setpoints (ppm C)

	Low	High
TIC:	0.000	0.000
TOC:	0.000	0.000
TC:	0.000	0.000

```
*****************************************************************
**                         CALIBRATION                           **
*****************************************************************
```

TOC Unit: 1010
CAL111015 Fri Dec 11 09:26:18 2015

Std. #	Used	Conc. (ppm)	Volume (mL)		
1	Yes	0.000	5.000	RF (ugC/k-cts):	1.182
				R-Squared:	0.9969

2	Yes	1.000	5.000	Offset (cts):	3231
3	Yes	10.000	5.000	Offset (ugC):	-3.819
4	Yes	25.000	5.000	Calibration Mode:	TOC
5	No	0.000	5.000	Allow Editing:	No

Rep	Std. 1	Std. 2	Std. 3	Std. 4	Std. 5
1	-	9625	42091	109522	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-

(* = unused)

****
** METHODS **
****

TOC Unit: 1010
NO RINSE Fri Jan 03 11:50:47 2014

Acid Volume:	200 uL	Rinse Volume (mL):	25
Oxidant Volume:	1000 uL	Rinses Per Rep:	0
Auto-Repeat Time:	00:00:00 (hr:min:sec)	Rinses Per Sample:	0

	TIC	TOC	TC
React: (min:sec):	00:01	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

0-25PPM(PAM) Sat Oct 31 15:28:13 2015

Acid Volume:	200 uL	Rinse Volume (mL):	20
Oxidant Volume:	1000 uL	Rinses Per Rep:	0
Auto-Repeat Time:	00:00:00 (hr:min:sec)	Rinses Per Sample:	1

	TIC	TOC	TC
React: (min:sec):	00:01	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

****
** SEQUENCE **
****

TOC Unit: 1010
121115 Fri Dec 11 14:21:50 2015

Start Pos/Vial #: 1, Stop Pos/Vial #: 72

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	no rinse	Sample	1	5.000	0	1.00	No	
2	RINSE	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
3	BLK	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
4	1	0-25ppm(pam)	Std. 2	1	5.000	0	1.00	No	
5	10	0-25ppm(pam)	Std. 3	1	5.000	0	1.00	No	
6	25	0-25ppm(pam)	Std. 4	1	5.000	0	1.00	No	
7	ICV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
8	ICB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
9	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
10	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
11	600-122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
12	ms 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
13	msd 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
14	122830-J-1@500	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
15	122669-A-1@20	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

16	122723-C-1@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
17	122756-B-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
18	122613-C-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
19	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
20	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
21	122676-D-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
22	122771-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
23	122509-K-2@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
24	122793-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
25	600-122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
26	ms 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
27	msd 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
28	122870-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
29	122839-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
30	122509-L-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
31	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
32	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
33	122818-E-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
34	122559-A-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
35	122559-A-3@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
36	600-122502-C-10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
37	600-122502-D-13	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
38	600-122477-A-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
39	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
40	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
41	600-122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
42	ms 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
43	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
44	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
45	msd 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
46	600-122502-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
47	600-122676-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
48	600-122795-A-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
49	600-122559-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
50	600-122559-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
51	600-122559-A-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
52	600-122772-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
53	600-122793-A-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
54	600-122839-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
55	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
56	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
57	600-122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
58	ms 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
59	msd 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
60	600-122868-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
61	600-122578-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
62	600-122630-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
63	600-122630-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
64	600-122630-B-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
65	600-122630-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
66	600-122818-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
67	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
68	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
69	600-122818-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
70	600-122818-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
71	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
72	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No

Pos#	Path for Trend Data file
1	C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\TREND\2.CSV
2	C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\TREND\2.CSV

****
** RESULTS - 121115 **
****

TOC Unit: 1010

Pos/	Run	Rep	Run	Run	TICArea	TICMass	TICConc	TOCArea	TOCMass	TOCConc	TCA

```
Vial Type  #    Date      Time   (cts)   (ugC)    (ppm)     (cts)   (ugC)    (ppm)     (c
---- ---- --- --------- ----- ------- ------- ---------- ------- ------- ---------- ---

E-Possible IR failure - reboot.  11Dec2015 14:48


E-Possible IR failure - reboot.  11Dec2015 14:48

** Spl       Name:     RINSE                          Data File: gb001
             Remarks: <none>

1    Spl     1 11Dec2015 14:57     111   0.063      0.013    2154   1.691      0.340

** Spl       Name:     RINSE                          Data File: gb002
             Remarks: <none>

2    Spl     1 11Dec2015 15:08     100   0.050      0.010    1574   1.006      0.202

** Spl       Name:     BLK                            Data File: gb003
             Remarks: <none>

3    Spl     1 11Dec2015 15:18     119   0.072      0.014    1359   0.752      0.151

** Std2      Name:     1                              Data File: gb004
             Remarks: <none>

4    Std2    1 11Dec2015 15:29       -       -          -    9490   4.975      1.000

** Calibration:     RF (ugC/k-cts):   1.181
                    R-Squared:       0.9970
                    Offset (cts):      3131
                    Offset (ugC):    -3.696

** Std3      Name:     10                             Data File: gb005
             Remarks: <none>

5    Std3    1 11Dec2015 15:39       -       -          -   42729  49.750     10.000

** Calibration:     RF (ugC/k-cts):   1.183
                    R-Squared:       0.9977
                    Offset (cts):      3432
                    Offset (ugC):    -4.060

** Std4      Name:     25                             Data File: gb006
             Remarks: <none>

6    Std4    1 11Dec2015 15:50       -       -          -  110585 124.375     25.000

** Calibration:     RF (ugC/k-cts):   1.169
                    R-Squared:       0.9973
                    Offset (cts):      3202
                    Offset (ugC):    -3.743

** Spl       Name:     ICV                            Data File: gb007
             Remarks: <none>

7    Spl     1 11Dec2015 16:00     252   0.227      0.046   42652  49.018      9.853

** Spl       Name:     ICB                            Data File: gb008
             Remarks: <none>

8    Spl     1 11Dec2015 16:11     160   0.119      0.024    1085   0.423      0.085

** Spl       Name:     MB                             Data File: gb009
             Remarks: <none>

9    Spl     1 11Dec2015 16:21     113   0.064      0.013     921   0.231      0.047
```

```
** Spl        Name:     LCS                          Data File: gb010
              Remarks: <none>

10   Spl      1 11Dec2015 16:32      90   0.037      0.007   42015  48.274      9.703

** Spl        Name:     600-122775-A-4               Data File: gb011
              Remarks: <none>

11   Spl      1 11Dec2015 16:42     503   0.520      0.105    7344   7.740      1.556

** Spl        Name:     ms 122775-A-4                Data File: gb012
              Remarks: <none>

12   Spl      1 11Dec2015 16:53     480   0.493      0.099   50046  57.662     11.590

** Spl        Name:     msd 122775-A-4               Data File: gb013
              Remarks: <none>

13   Spl      1 11Dec2015 17:03     467   0.478      0.096   49040  56.486     11.354

** Spl        Name:     122830-J-1@500               Data File: gb014
              Remarks: <none>

14   Spl      1 11Dec2015 17:14     232   0.203      0.041  106622 123.804     24.885

** Spl        Name:     122669-A-1@20                Data File: gb015
              Remarks: <none>

15   Spl      1 11Dec2015 17:24     478   0.491      0.099    5153   5.179      1.041

** Spl        Name:     122723-C-1@4                 Data File: gb016
              Remarks: <none>

16   Spl      1 11Dec2015 17:35     971   1.067      0.214   24794  28.141      5.656

** Spl        Name:     122756-B-4@4                 Data File: gb017
              Remarks: <none>

17   Spl      1 11Dec2015 17:45     135   0.090      0.018   11689  12.820      2.577

** Spl        Name:     122613-C-4@4                 Data File: gb018
              Remarks: <none>

18   Spl      1 11Dec2015 17:56    1783   2.017      0.405   32425  37.062      7.450

** Spl        Name:     CCV                          Data File: gb019
              Remarks: <none>

19   Spl      1 11Dec2015 18:06     164   0.124      0.025   44094  50.704     10.192

** Spl        Name:     CCB                          Data File: gb020
              Remarks: <none>

20   Spl      1 11Dec2015 18:17     194   0.159      0.032     878   0.181      0.036

** Spl        Name:     122676-D-1@2                 Data File: gb021
              Remarks: <none>

21   Spl      1 11Dec2015 18:27    5733   6.635      1.334   49703  57.261     11.510

** Spl        Name:     122771-C-1@2                 Data File: gb022
              Remarks: <none>

22   Spl      1 11Dec2015 18:38    4719   5.449      1.095   57983  66.941     13.455

** Spl        Name:     122509-K-2@2                 Data File: gb023
              Remarks: <none>

23   Spl      1 11Dec2015 18:48    2501   2.856      0.574   31611  36.110      7.258
```

```
** Spl      Name:     122793-C-1@2                    Data File: gb024
            Remarks: <none>

24   Spl    1 11Dec2015 18:58    5048   5.834      1.173   39901  45.802      9.207

** Spl      Name:     600-122905-D-6                  Data File: gb025
            Remarks: <none>

25   Spl    1 11Dec2015 19:09    3869   4.455      0.896   25385  28.832      5.795

** Spl      Name:     ms 122905-D-6                   Data File: gb026
            Remarks: <none>

26   Spl    1 11Dec2015 19:19    3570   4.106      0.825   71351  82.570     16.597

** Spl      Name:     msd 122905-D-6                  Data File: gb027
            Remarks: <none>

27   Spl    1 11Dec2015 19:30    3684   4.239      0.852   71907  83.220     16.728

** Spl      Name:     122870-C-1@2                    Data File: gb028
            Remarks: <none>

28   Spl    1 11Dec2015 19:40    7082   8.212      1.651   60982  70.447     14.160

** Spl      Name:     122839-C-1@2                    Data File: gb029
            Remarks: <none>

29   Spl    1 11Dec2015 19:51    1701   1.921      0.386   21576  24.379      4.900

** Spl      Name:     122509-L-1@2                    Data File: gb030
            Remarks: <none>

30   Spl    1 11Dec2015 20:01    2159   2.456      0.494   24192  27.437      5.515

** Spl      Name:     CCV                             Data File: gb031
            Remarks: <none>

31   Spl    1 11Dec2015 20:12     131   0.085      0.017   44730  51.448     10.341

** Spl      Name:     CCB                             Data File: gb032
            Remarks: <none>

32   Spl    1 11Dec2015 20:22     162   0.122      0.024     966   0.284      0.057

** Spl      Name:     122818-E-1@2                    Data File: gb033
            Remarks: <none>

33   Spl    1 11Dec2015 20:33    6238   7.225      1.452   51528  59.395     11.939

** Spl      Name:     122559-A-1@2                    Data File: gb034
            Remarks: <none>

34   Spl    1 11Dec2015 20:43   15911  18.533      3.725   41752  47.966      9.641

** Spl      Name:     122559-A-3@2                    Data File: gb035
            Remarks: <none>

35   Spl    1 11Dec2015 20:54    6115   7.081      1.423   76860  89.010     17.892

** Spl      Name:     600-122502-C-10                 Data File: gb036
            Remarks: <none>

36   Spl    1 11Dec2015 21:04   77648  90.709     18.233   14596  16.219      3.260

** Spl      Name:     600-122502-D-13                 Data File: gb037
            Remarks: <none>

37   Spl    1 11Dec2015 21:14   62695  73.227     14.719   28395  32.351      6.503
```

```
** Spl      Name:     600-122477-A-6                Data File: gb038
            Remarks: <none>

38   Spl    1 11Dec2015 21:25   21673  25.270      5.079    7336   7.731      1.554

** Spl      Name:     MB                            Data File: gb039
            Remarks: <none>

39   Spl    1 11Dec2015 21:35     151   0.109      0.022     901   0.208      0.042

** Spl      Name:     LCS                           Data File: gb040
            Remarks: <none>

40   Spl    1 11Dec2015 21:46     135   0.090      0.018   42675  49.045      9.858

** Spl      Name:     600-122613-B-2                Data File: gb041
            Remarks: <none>

41   Spl    1 11Dec2015 21:56     543   0.567      0.114   30409  34.705      6.976

** Spl      Name:     ms 122613-B-2                 Data File: gb042
            Remarks: <none>

42   Spl    1 11Dec2015 22:07     620   0.657      0.132   77971  90.309     18.153

** Spl      Name:     CCV                           Data File: gb043
            Remarks: <none>

43   Spl    1 11Dec2015 22:17     208   0.175      0.035   43878  50.452     10.141

** Spl      Name:     CCB                           Data File: gb044
            Remarks: <none>

44   Spl    1 11Dec2015 22:28     191   0.155      0.031     676   0.000      0.000

** Spl      Name:     msd 122613-B-2                Data File: gb045
            Remarks: <none>

45   Spl    1 11Dec2015 22:38     512   0.531      0.107   77346  89.578     18.006

** Spl      Name:     600-122502-C-2                Data File: gb046
            Remarks: <none>

46   Spl    1 11Dec2015 22:48   54319  63.435     12.751   18894  21.243      4.270

** Spl      Name:     600-122676-B-4                Data File: gb047
            Remarks: <none>

47   Spl    1 11Dec2015 22:59    2223   2.531      0.509   43567  50.088     10.068

** Spl      Name:     600-122795-A-1                Data File: gb048
            Remarks: <none>

48   Spl    1 11Dec2015 23:09    4003   4.612      0.927   33814  38.686      7.776

** Spl      Name:     600-122559-A-2                Data File: gb049
            Remarks: <none>

49   Spl    1 11Dec2015 23:20   24191  28.213      5.671    9148   9.849      1.980

** Spl      Name:     600-122559-A-4                Data File: gb050
            Remarks: <none>

50   Spl    1 11Dec2015 23:30   14066  16.376      3.292    3951   3.774      0.758

** Spl      Name:     600-122559-A-5                Data File: gb051
            Remarks: <none>

51   Spl    1 11Dec2015 23:41   14774  17.204      3.458   22373  25.311      5.088
```

```
** Spl      Name:     600-122772-C-1                Data File: gb052
            Remarks:  <none>

52   Spl    1 11Dec2015 23:51    2621   2.996      0.602   11008  12.024      2.417

** Spl      Name:     600-122793-A-3                Data File: gb053
            Remarks:  <none>

53   Spl    1 12Dec2015 00:02    1469   1.650      0.332   56852  65.619     13.190

** Spl      Name:     600-122839-C-2                Data File: gb054
            Remarks:  <none>

54   Spl    1 12Dec2015 00:12    1042   1.150      0.231   42527  48.872      9.823

** Spl      Name:     CCV                           Data File: gb055
            Remarks:  <none>

55   Spl    1 12Dec2015 00:23     184   0.147      0.030   43801  50.361     10.123

** Spl      Name:     CCB                           Data File: gb056
            Remarks:  <none>

56   Spl    1 12Dec2015 00:33     231   0.202      0.041     675   0.000      0.000

** Spl      Name:     600-122613-B-5                Data File: gb057
            Remarks:  <none>

57   Spl    1 12Dec2015 00:43     605   0.639      0.128   29567  33.721      6.778

** Spl      Name:     ms 122613-B-5                 Data File: gb058
            Remarks:  <none>

58   Spl    1 12Dec2015 00:54     652   0.694      0.140   75777  87.744     17.637

** Spl      Name:     msd 122613-B-5                Data File: gb059
            Remarks:  <none>

59   Spl    1 12Dec2015 01:04     591   0.623      0.125   76797  88.936     17.877

** Spl      Name:     600-122868-C-1                Data File: gb060
            Remarks:  <none>

60   Spl    1 12Dec2015 01:15    3135   3.597      0.723   49979  57.584     11.575

** Spl      Name:     600-122578-B-1                Data File: gb061
            Remarks:  <none>

61   Spl    1 12Dec2015 01:25    7304   8.471      1.703    3171   2.862      0.575

** Spl      Name:     600-122630-B-1                Data File: gb062
            Remarks:  <none>

62   Spl    1 12Dec2015 01:36   15003  17.472      3.512   10017  10.865      2.184

** Spl      Name:     600-122630-B-2                Data File: gb063
            Remarks:  <none>

63   Spl    1 12Dec2015 01:46   12479  14.521      2.919    6519   6.776      1.362

** Spl      Name:     600-122630-B-3                Data File: gb064
            Remarks:  <none>

64   Spl    1 12Dec2015 01:57   21255  24.781      4.981    6703   6.991      1.405

** Spl      Name:     600-122630-B-4                Data File: gb065
            Remarks:  <none>

65   Spl    1 12Dec2015 02:07   18595  21.671      4.356   22796  25.805      5.187
```

```
** Spl        Name:     600-122818-B-4                Data File: gb066
               Remarks: <none>

66   Spl       1 12Dec2015 02:17    1597   1.799      0.362   40641  46.667      9.380

** Spl        Name:     CCV                           Data File: gb067
               Remarks: <none>

67   Spl       1 12Dec2015 02:28     135   0.090      0.018   43280  49.752     10.000

** Spl        Name:     CCB                           Data File: gb068
               Remarks: <none>

68   Spl       1 12Dec2015 02:38     228   0.199      0.040     665   0.000      0.000

** Spl        Name:     600-122818-B-5                Data File: gb069
               Remarks: <none>

69   Spl       1 12Dec2015 02:49    1275   1.423      0.286   38860  44.585      8.962

** Spl        Name:     600-122818-B-6                Data File: gb070
               Remarks: <none>

70   Spl       1 12Dec2015 02:59    4359   5.028      1.011   50034  57.648     11.588

** Spl        Name:     CCV                           Data File: gb071
               Remarks: <none>

71   Spl       1 12Dec2015 03:10     112   0.063      0.013   42727  49.106      9.870

** Spl        Name:     CCB                           Data File: gb072
               Remarks: <none>

72   Spl       1 12Dec2015 03:20     176   0.138      0.028     649   0.000      0.000

E-Possible IR failure - reboot.  12Dec2015 04:25
```

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Batch Number: 178131 Batch Start Date: 12/09/15 15:31 Batch Analyst: Contreras, Enrique

Batch Method: 5310 D-2000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TOCISCAL 00300	TOCSLCS 00209	WETSTOCICV 00033			
ICV 600-178131/7		5310 D-2000		12 mL					
CCV 600-178131/31		5310 D-2000			12 mL				
LCS 600-178131/40		5310 D-2000		12 mL					
CCV 600-178131/43		5310 D-2000			12 mL				
CCV 600-178131/55		5310 D-2000			12 mL				
600-122468-B-5 MS		5310 D-2000	T			0.12 mL			
600-122468-B-5 MSD		5310 D-2000	T			0.12 mL			
CCV 600-178131/67		5310 D-2000			12 mL				
CCV 600-178131/71		5310 D-2000			12 mL				

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122477-1

SDG No.:

Batch Number: 178314 Batch Start Date: 12/11/15 14:57 Batch Analyst: Contreras, Enrique

Batch Method: 5310 D-2000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TOCISCAL 00300	TOCSLCS 00209	WETSTOCICV 00033			
ICV 600-178314/7		5310 D-2000		12 mL					
LCS 600-178314/10		5310 D-2000		12 mL					
CCV 600-178314/19		5310 D-2000			12 mL				
600-122905-D-6 MS		5310 D-2000	T			0.12 mL			
600-122905-D-6 MSD		5310 D-2000	T			0.12 mL			
CCV 600-178314/31		5310 D-2000			12 mL				
CCV 600-178314/43		5310 D-2000			12 mL				

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

Test America (LAB COPY)
DateShipped: 12/1/2015
CarrierName: FedEx
AirbillNo: 775094863751

CHAIN OF CUSTODY RECORD

No: 6-120115-161307-0006
Lab: Test America
Lab Contact: Kristy Ricke
Lab Phone: 713-690-4444

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
MW-06	MW-06	Ground Water/ Duane Thomas	Grab	RSK-175, TOC (EPA 415.2)	1065 (Ice to 4C & HCl), 1067 (Ice to 4C & H2SO4) (3)	MW-06	12/01/2015 11:30	
MW-07	MW-07	Ground Water/ Duane Thomas	Grab	RSK-175, TOC (EPA 415.2)	1071 (Ice to 4C & HCl), 1073 (Ice to 4C & H2SO4) (3)	MW-07	12/01/2015 12:15	
MW-07-DUP	MW-07-DUP	Ground Water/ Duane Thomas	Grab	RSK-175, TOC (EPA 415.2)	1077 (Ice to 4C & HCl), 1079 (Ice to 4C & H2SO4) (3)	MW-07-DUP	12/01/2015 12:15	
MW-21	MW-21	Ground Water/ Duane Thomas	Grab	RSK-175, TOC (EPA 415.2)	1106 (Ice to 4C & HCl), 1108 (Ice to 4C & H2SO4) (3)	MW-21	12/01/2015 13:35	
MW-23	MW-23	Ground Water/ Duane Thomas	Grab	RSK-175, TOC (EPA 415.2)	1118 (Ice to 4C & HCl), 1120 (Ice to 4C & H2SO4) (3)	MW-23	12/01/2015 08:45	
MW-24	MW-24	Ground Water/ Duane Thomas	Grab	RSK-175, TOC (EPA 415.2)	1124 (Ice to 4C & HCl), 1126 (Ice to 4C & H2SO4) (3)	MW-24	12/01/2015 10:10	

600-122477 Chain of Custody

Shipment for Case Complete? N
Samples Transferred From Chain of Custody #

Analysis Key

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	EA Engineering	12/01/15 1800		12-2-15 11:40	

Loc: 600
122477

TestAmerica Houston

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Checklist

Date/Time Received: 15DEC 2 11:40

JOB NUMBER: _____ CLIENT: EA

UNPACKED BY: _____ CARRIER/DRIVER: Fedex Sp

Custody Seal Present: ☒ YES ☐ NO Number of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
GB	Y / N	Y / N	2.3	550	-0.3	2.0
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO Acid preserved are<pH 2: ☐ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		

COMMENTS:
TRK# 7750 9486 3751

HS-SA-WI-013 Rev. 3; 07/01/2014

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 600-122477-1

Login Number: 122477
List Number: 1
Creator: Jackson, Falynn E

List Source: TestAmerica Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

ANALYTICAL REPORT

Job Number: 600-122559-1

Job Description: Jones Road Groundwater Plume

For:
EA Engineering, Science, and Technology
5655 S. Yosemite St., Ste. 320
Greenwood Village, CO 80111

Attention: Pamela J Moss

Approved for release.
Kristy Ricke
Project Manager I
12/17/2015 12:35 PM

Kristy Ricke, Project Manager I
6310 Rothway Street, Houston, TX, 77040
(615)301-5764
kristy.ricke@testamericainc.com
12/17/2015

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Job Narrative
600-122559-1

Comments
No additional comments.

Receipt
The samples were received on 12/3/2015 12:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.5º C and 0.6º C.

GC Semi VOA
Method RSK-175: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-04 (600-122559-1), MW-08 (600-122559-3) and MW-20 (600-122559-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method 353.2: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-05 (600-122559-2). Elevated reporting limits (RLs) are provided.

Method SM 4500 P E: The following samples were diluted to bring the concentration of target analytes within the calibration range: 600-122511-B-1, 600-122511-B-1 MS and 600-122511-B-1 MSD. Elevated reporting limits (RLs) are provided.

Method SM 4500 P E: The following samples were diluted due to turbidity: MW-20 (600-122559-5), 600-122559-B-5 MS and 600-122559-B-5 MSD. Elevated reporting limits (RL) are provided.

Method SM 5310D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-04 (600-122559-1) and MW-08 (600-122559-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: CHFID14 Analysis Batch Number: 164074

Lab Sample ID: IC 600-164074/1 Client Sample ID:

Date Analyzed: 06/08/15 10:52 Lab File ID: rsk060815_001.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.77	Split Peak	saccoj	06/08/15 12:47
Ethane	0.92	Split Peak	saccoj	06/08/15 12:47

RSK-175

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: CHFID14 Analysis Batch Number: 177880

Lab Sample ID: 600-122559-4 Client Sample ID: MW-09

Date Analyzed: 12/07/15 14:14 Lab File ID: rsk120715_016.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.72	Split Peak	saccoj	12/07/15 15:27

Lab Sample ID: CCV 600-177880/23 Client Sample ID:

Date Analyzed: 12/07/15 15:52 Lab File ID: rsk120715_023.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.73	Split Peak	saccoj	12/07/15 16:06
Ethane	0.90	Split Peak	saccoj	12/07/15 16:06

RSK-175

SAMPLE SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
600-122559-1	MW-04	Water	12/02/2015 1355	12/03/2015 1255
600-122559-2	MW-05	Water	12/02/2015 1140	12/03/2015 1255
600-122559-3	MW-08	Water	12/02/2015 1025	12/03/2015 1255
600-122559-4	MW-09	Water	12/02/2015 0915	12/03/2015 1255
600-122559-5	MW-20	Water	12/02/2015 1440	12/03/2015 1255

EXECUTIVE SUMMARY - Detections

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
600-122559-1	**MW-04**					
Methane		0.283		0.0200	mg/L	RSK-175
Ammonia		1.00		0.200	mg/L	350.1
Nitrate Nitrite as N		0.0301	J	0.0500	mg/L	353.2
Orthophosphate		0.781		0.0500	mg/L	4500 P E-1999
Total Organic Carbon		19.3		2.00	mg/L	5310 D-2000
600-122559-2	**MW-05**					
Methane		0.0363		0.00100	mg/L	RSK-175
Nitrate Nitrite as N		5.48		1.00	mg/L	353.2
Total Organic Carbon		1.98		1.00	mg/L	5310 D-2000
600-122559-3	**MW-08**					
Methane		0.710		0.100	mg/L	RSK-175
Ethylene		0.000377	J	0.00200	mg/L	RSK-175
Ammonia		0.294		0.200	mg/L	350.1
Orthophosphate		0.253		0.0500	mg/L	4500 P E-1999
Total Organic Carbon		35.8		2.00	mg/L	5310 D-2000
600-122559-4	**MW-09**					
Nitrate Nitrite as N		1.57		0.0500	mg/L	353.2
Total Organic Carbon		0.759	J	1.00	mg/L	5310 D-2000
600-122559-5	**MW-20**					
Ethane		0.00122	J	0.00200	mg/L	RSK-175
Methane		0.969		0.100	mg/L	RSK-175
Ethylene		0.00170	J	0.00200	mg/L	RSK-175
Nitrate Nitrite as N		0.235		0.0500	mg/L	353.2
Total Organic Carbon		5.09		1.00	mg/L	5310 D-2000

METHOD SUMMARY

Client: EA Engineering, Science, and Technology | Job Number: 600-122559-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Dissolved Gases in Water	TAL HOU	RSK RSK-175	
Nitrogen, Ammonia	TAL HOU	MCAWW 350.1	
Distillation, Ammonia	TAL HOU		EPA 350.1
Nitrogen, Nitrate-Nitrite (Colorimetric, Automated, Cadmium Reduction)	TAL HOU	MCAWW 353.2	
Orthophosphate - SM Online, 2011	TAL HOU	SM-Online 4500 P E-1999	
Organic Carbon, Total (TOC)	TAL HOU	SM 5310 D-2000	

Lab References:

TAL HOU = TestAmerica Houston

Method References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM-Online = Standard Methods Online

METHOD / ANALYST SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Method	Analyst	Analyst ID
RSK RSK-175	Sacco, John P	JPS
MCAWW 350.1	Cemer, Sejfudin	SC1
MCAWW 353.2	Daniel, Kevin R	KRD
SM-Online 4500 P E-1999	Daniel, Kevin R	KRD
SM 5310 D-2000	Contreras, Enrique	EC1

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Client Sample ID: **MW-04**

Lab Sample ID: 600-122559-1

Client Matrix: Water

Date Sampled: 12/02/2015 1355

Date Received: 12/03/2015 1255

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/07/2015 1338			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Ethylene	0.000324	U	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Client Sample ID: **MW-04**

Lab Sample ID: 600-122559-1

Client Matrix: Water

Date Sampled: 12/02/2015 1355

Date Received: 12/03/2015 1255

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	20			Final Weight/Volume:	
Analysis Date:	12/07/2015 1618			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Methane	0.283		0.00714	0.0200

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Client Sample ID: **MW-05**

Lab Sample ID: 600-122559-2

Client Matrix: Water

Date Sampled: 12/02/2015 1140

Date Received: 12/03/2015 1255

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/07/2015 1351			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.0363		0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Client Sample ID: **MW-08**

Lab Sample ID: 600-122559-3

Client Matrix: Water

Date Sampled: 12/02/2015 1025

Date Received: 12/03/2015 1255

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/07/2015 1403			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Ethylene	0.000377	J	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Client Sample ID: **MW-08**

Lab Sample ID: 600-122559-3

Client Matrix: Water

Date Sampled: 12/02/2015 1025

Date Received: 12/03/2015 1255

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	100			Final Weight/Volume:	
Analysis Date:	12/07/2015 1629			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Methane	0.710		0.0357	0.100

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Client Sample ID: **MW-09**

Lab Sample ID: 600-122559-4

Client Matrix: Water

Date Sampled: 12/02/2015 0915

Date Received: 12/03/2015 1255

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/07/2015 1414			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.000357	U	0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Client Sample ID: **MW-20**

Lab Sample ID: 600-122559-5

Client Matrix: Water

Date Sampled: 12/02/2015 1440

Date Received: 12/03/2015 1255

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/07/2015 1425			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.00122	J	0.000303	0.00200
Ethylene	0.00170	J	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Client Sample ID: **MW-20**

Lab Sample ID: 600-122559-5

Client Matrix: Water

Date Sampled: 12/02/2015 1440

Date Received: 12/03/2015 1255

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	100			Final Weight/Volume:	
Analysis Date:	12/07/2015 1641			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Methane	0.969		0.0357	0.100

General Chemistry

Client Sample ID: **MW-04**

Lab Sample ID: 600-122559-1 Date Sampled: 12/02/2015 1355
Client Matrix: Water Date Received: 12/03/2015 1255

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	1.00		mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-178056	Analysis Date: 12/09/2015 0752						
Prep Batch: 600-178041	Prep Date: 12/09/2015 0516						
Nitrate Nitrite as N	0.0301	J	mg/L	0.0170	0.0500	1.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1541						
Orthophosphate	0.781		mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177773	Analysis Date: 12/03/2015 2300						
Total Organic Carbon	19.3		mg/L	0.874	2.00	2.0	5310 D-2000
Analysis Batch: 600-178314	Analysis Date: 12/11/2015 2043						

General Chemistry

Client Sample ID: MW-05

Lab Sample ID: 600-122559-2 Date Sampled: 12/02/2015 1140
Client Matrix: Water Date Received: 12/03/2015 1255

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-178056	Analysis Date: 12/09/2015 0808						
Prep Batch: 600-178041	Prep Date: 12/09/2015 0516						
Nitrate Nitrite as N	5.48		mg/L	0.340	1.00	20	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1546						
Orthophosphate	0.0104	U	mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177773	Analysis Date: 12/03/2015 2300						
Total Organic Carbon	1.98		mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178314	Analysis Date: 12/11/2015 2320						

General Chemistry

Client Sample ID: **MW-08**

Lab Sample ID: 600-122559-3 Date Sampled: 12/02/2015 1025
Client Matrix: Water Date Received: 12/03/2015 1255

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.294		mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-178056	Analysis Date: 12/09/2015 0811						
Prep Batch: 600-178041	Prep Date: 12/09/2015 0516						
Nitrate Nitrite as N	0.0170	U F1	mg/L	0.0170	0.0500	1.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1548						
Orthophosphate	0.253		mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177773	Analysis Date: 12/03/2015 2300						
Total Organic Carbon	35.8		mg/L	0.874	2.00	2.0	5310 D-2000
Analysis Batch: 600-178314	Analysis Date: 12/11/2015 2054						

General Chemistry

Client Sample ID: **MW-09**

Lab Sample ID: 600-122559-4 Date Sampled: 12/02/2015 0915
Client Matrix: Water Date Received: 12/03/2015 1255

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-178056	Analysis Date: 12/09/2015 0813						
Prep Batch: 600-178041	Prep Date: 12/09/2015 0516						
Nitrate Nitrite as N	1.57		mg/L	0.0170	0.0500	1.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1558						
Orthophosphate	0.0104	U	mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177773	Analysis Date: 12/03/2015 2300						
Total Organic Carbon	0.759	J	mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178314	Analysis Date: 12/11/2015 2330						

General Chemistry

Client Sample ID: **MW-20**

Lab Sample ID: 600-122559-5 Date Sampled: 12/02/2015 1440
Client Matrix: Water Date Received: 12/03/2015 1255

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-178056	Analysis Date: 12/09/2015 0814						
Prep Batch: 600-178041	Prep Date: 12/09/2015 0516						
Nitrate Nitrite as N	0.235		mg/L	0.0170	0.0500	1.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1605						
Orthophosphate	0.0519	U	mg/L	0.0519	0.250	5.0	4500 P E-1999
Analysis Batch: 600-177773	Analysis Date: 12/03/2015 2300						
Total Organic Carbon	5.09		mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178314	Analysis Date: 12/11/2015 2341						

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Method Blank - Batch: 600-177880

Method: RSK-175
Preparation: N/A

Lab Sample ID:	MB 600-177880/2	Analysis Batch:	600-177880	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120715_002.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/07/2015 1033	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.000357	U	0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Lab Control Sample - Batch: 600-177880

Method: RSK-175
Preparation: N/A

Lab Sample ID:	LCS 600-177880/3	Analysis Batch:	600-177880	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120715_003.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/07/2015 1045	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ethane	0.00970	0.007548	78	70 - 130	
Methane	0.00516	0.004806	93	70 - 130	
Ethylene	0.00905	0.007352	81	70 - 130	

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177880

Method: RSK-175
Preparation: N/A

MS Lab Sample ID:	600-122502-O-2 MS	Analysis Batch:	600-177880	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120715_006.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/07/2015 1120			Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	600-122502-O-2 MSD	Analysis Batch:	600-177880	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120715_007.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/07/2015 1132			Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ethane	99	91	70 - 130	9	30		
Methane	112	104	70 - 130	8	30		
Ethylene	100	92	70 - 130	9	30		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177880

Method: RSK-175
Preparation: N/A

MS Lab Sample ID:	600-122502-O-2 MS	Units:	mg/L	MSD Lab Sample ID:	600-122502-O-2 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/07/2015 1120			Analysis Date:	12/07/2015 1132
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Ethane	0.000303	U	0.00970	0.00970	0.009638	0.008851
Methane	0.000357	U	0.00516	0.00516	0.005779	0.005358
Ethylene	0.000324	U	0.00905	0.00905	0.009089	0.008309

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Method Blank - Batch: 600-178041

Method: 350.1
Preparation: 350.1

Lab Sample ID:	MB 600-178041/1-A	Analysis Batch:	600-178056	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178041	Lab File ID:	OM_12-9-2015_07-38-1
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/09/2015 0750	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	12/09/2015 0516				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Ammonia	0.0675	U	0.0675	0.200

Lab Control Sample - Batch: 600-178041

Method: 350.1
Preparation: 350.1

Lab Sample ID:	LCS 600-178041/2-A	Analysis Batch:	600-178056	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178041	Lab File ID:	OM_12-9-2015_07-38-1
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/09/2015 0751	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	12/09/2015 0516				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	5.00	4.942	99	90 - 110	

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178041

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122559-1	Analysis Batch:	600-178056	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178041	Lab File ID:	OM_12-9-2015_07-38-1
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/09/2015 0753			Final Weight/Volume:	100 mL
Prep Date:	12/09/2015 0516				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122559-1	Analysis Batch:	600-178056	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178041	Lab File ID:	OM_12-9-2015_07-38-1
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/09/2015 0755			Final Weight/Volume:	100 mL
Prep Date:	12/09/2015 0516				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia	95	93	90 - 110	2	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178041

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122559-2	Analysis Batch:	600-178056	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178041	Lab File ID:	OM_12-9-2015_07-38-1
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/09/2015 0809			Final Weight/Volume:	100 mL
Prep Date:	12/09/2015 0516				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122559-2	Analysis Batch:	600-178056	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178041	Lab File ID:	OM_12-9-2015_07-38-1
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/09/2015 0810			Final Weight/Volume:	100 mL
Prep Date:	12/09/2015 0516				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia	97	99	90 - 110	1	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178041

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122559-1	Units: mg/L	MSD Lab Sample ID:	600-122559-1
Client Matrix:	Water		Client Matrix:	Water
Dilution:	1.0		Dilution:	1.0
Analysis Date:	12/09/2015 0753		Analysis Date:	12/09/2015 0755
Prep Date:	12/09/2015 0516		Prep Date:	12/09/2015 0516
Leach Date:	N/A		Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Ammonia	1.00	5.00	5.00	5.744	5.634

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178041

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122559-2	Units: mg/L	MSD Lab Sample ID:	600-122559-2
Client Matrix:	Water		Client Matrix:	Water
Dilution:	1.0		Dilution:	1.0
Analysis Date:	12/09/2015 0809		Analysis Date:	12/09/2015 0810
Prep Date:	12/09/2015 0516		Prep Date:	12/09/2015 0516
Leach Date:	N/A		Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Ammonia	0.0675	U	5.00	5.00	4.868	4.942

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Method Blank - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 600-178421/10	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1524	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N	0.0170	U	0.0170	0.0500

Method Blank - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 600-178421/46	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1552	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N	0.0170	U	0.0170	0.0500

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Lab Control Sample - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 600-178421/11	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1525	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	1.00	1.012	101	90 - 110	

Lab Control Sample - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 600-178421/47	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1553	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	1.00	0.9994	100	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178421

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	600-122559-3	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1548			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122559-3	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1549			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrate Nitrite as N	63	61	80 - 120	3	20	F1	F1

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178421

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	600-122559-3	Units: mg/L		MSD Lab Sample ID:	600-122559-3
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/14/2015 1548			Analysis Date:	12/14/2015 1549
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Nitrate Nitrite as N	0.0170	U	1.00	1.00	0.6293	F1	0.6101	F1

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Method Blank - Batch: 600-177773

Method: 4500 P E-1999
Preparation: N/A

Lab Sample ID:	MB 600-177773/3	Analysis Batch:	600-177773	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/03/2015 2300	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Orthophosphate	0.0104	U	0.0104	0.0500

Lab Control Sample - Batch: 600-177773

Method: 4500 P E-1999
Preparation: N/A

Lab Sample ID:	LCS 600-177773/4	Analysis Batch:	600-177773	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/03/2015 2300	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Orthophosphate	0.500	0.5260	105	90 - 110	
Orthophosphorus as PO4	1.53	1.613	105	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177773

Method: 4500 P E-1999
Preparation: N/A

MS Lab Sample ID:	600-122559-5	Analysis Batch:	600-177773	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/03/2015 2300			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122559-5	Analysis Batch:	600-177773	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	5.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/03/2015 2300			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Orthophosphate	106	109	75 - 125	2	20		
Orthophosphorus as PO4	106	109	75 - 125	2	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177773

Method: 4500 P E-1999
Preparation: N/A

MS Lab Sample ID:	600-122559-5	Units: mg/L	
Client Matrix:	Water		
Dilution:	5.0		
Analysis Date:	12/03/2015 2300		
Prep Date:	N/A		
Leach Date:	N/A		

MSD Lab Sample ID:	600-122559-5
Client Matrix:	Water
Dilution:	5.0
Analysis Date:	12/03/2015 2300
Prep Date:	N/A
Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Orthophosphate	0.0519	U	2.50	2.50	2.655	2.715
Orthophosphorus as PO4	0.159	U	7.67	7.67	8.141	8.325

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Method Blank - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	MB 600-178314/9	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb009.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 1621	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Organic Carbon	0.437	U	0.437	1.00

Method Blank - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	MB 600-178314/39	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb039.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 2135	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Organic Carbon	0.437	U	0.437	1.00

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Lab Control Sample - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	LCS 600-178314/10	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb010.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 1632	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	10.0	9.703	97	85 - 115	

Lab Control Sample - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	LCS 600-178314/40	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb040.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 2146	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	10.0	9.858	99	85 - 115	

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122905-D-6 MS	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb026.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 1919			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122905-D-6 MSD	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb027.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 1930			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon	108	109	80 - 120	1	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122613-B-2 MS	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb042.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 2207			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122613-B-2 MSD	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb045.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 2238			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon	112	110	80 - 120	1	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122905-D-6 MS	Units: mg/L	MSD Lab Sample ID:	600-122905-D-6 MSD
Client Matrix:	Water		Client Matrix:	Water
Dilution:	1.0		Dilution:	1.0
Analysis Date:	12/11/2015 1919		Analysis Date:	12/11/2015 1930
Prep Date:	N/A		Prep Date:	N/A
Leach Date:	N/A		Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Total Organic Carbon	5.80	10.0	10.0	16.60	16.73

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122613-B-2 MS	Units: mg/L	MSD Lab Sample ID:	600-122613-B-2 MSD
Client Matrix:	Water		Client Matrix:	Water
Dilution:	1.0		Dilution:	1.0
Analysis Date:	12/11/2015 2207		Analysis Date:	12/11/2015 2238
Prep Date:	N/A		Prep Date:	N/A
Leach Date:	N/A		Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Total Organic Carbon	6.98	10.0	10.0	18.15	18.01

DATA REPORTING QUALIFIERS

Client: EA Engineering, Science, and Technology Job Number: 600-122559-1

Lab Section	Qualifier	Description
GC VOA		
	U	Indicates the analyte was analyzed for but not detected.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	U	Indicates the analyte was analyzed for but not detected.
	F1	MS and/or MSD Recovery is outside acceptance limits.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC VOA					
Analysis Batch:600-177880					
LCS 600-177880/3	Lab Control Sample	T	Water	RSK-175	
MB 600-177880/2	Method Blank	T	Water	RSK-175	
600-122502-O-2 MS	Matrix Spike	T	Water	RSK-175	
600-122502-O-2 MSD	Matrix Spike Duplicate	T	Water	RSK-175	
600-122559-1	MW-04	T	Water	RSK-175	
600-122559-2	MW-05	T	Water	RSK-175	
600-122559-3	MW-08	T	Water	RSK-175	
600-122559-4	MW-09	T	Water	RSK-175	
600-122559-5	MW-20	T	Water	RSK-175	

Report Basis
T = Total

General Chemistry					
Analysis Batch:600-177773					
LCS 600-177773/4	Lab Control Sample	T	Water	4500 P E-1999	
MB 600-177773/3	Method Blank	T	Water	4500 P E-1999	
600-122559-1	MW-04	T	Water	4500 P E-1999	
600-122559-2	MW-05	T	Water	4500 P E-1999	
600-122559-3	MW-08	T	Water	4500 P E-1999	
600-122559-4	MW-09	T	Water	4500 P E-1999	
600-122559-5	MW-20	T	Water	4500 P E-1999	
600-122559-5MS	Matrix Spike	T	Water	4500 P E-1999	
600-122559-5MSD	Matrix Spike Duplicate	T	Water	4500 P E-1999	
Prep Batch: 600-178041					
LCS 600-178041/2-A	Lab Control Sample	T	Water	350.1	
MB 600-178041/1-A	Method Blank	T	Water	350.1	
600-122559-1	MW-04	T	Water	350.1	
600-122559-1MS	Matrix Spike	T	Water	350.1	
600-122559-1MSD	Matrix Spike Duplicate	T	Water	350.1	
600-122559-2	MW-05	T	Water	350.1	
600-122559-2MS	Matrix Spike	T	Water	350.1	
600-122559-2MSD	Matrix Spike Duplicate	T	Water	350.1	
600-122559-3	MW-08	T	Water	350.1	
600-122559-4	MW-09	T	Water	350.1	
600-122559-5	MW-20	T	Water	350.1	
Analysis Batch:600-178056					
LCS 600-178041/2-A	Lab Control Sample	T	Water	350.1	600-178041
MB 600-178041/1-A	Method Blank	T	Water	350.1	600-178041
600-122559-1	MW-04	T	Water	350.1	600-178041
600-122559-1MS	Matrix Spike	T	Water	350.1	600-178041
600-122559-1MSD	Matrix Spike Duplicate	T	Water	350.1	600-178041
600-122559-2	MW-05	T	Water	350.1	600-178041

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:600-178056					
600-122559-2MS	Matrix Spike	T	Water	350.1	600-178041
600-122559-2MSD	Matrix Spike Duplicate	T	Water	350.1	600-178041
600-122559-3	MW-08	T	Water	350.1	600-178041
600-122559-4	MW-09	T	Water	350.1	600-178041
600-122559-5	MW-20	T	Water	350.1	600-178041
Analysis Batch:600-178314					
LCS 600-178314/10	Lab Control Sample	T	Water	5310 D-2000	
LCS 600-178314/40	Lab Control Sample	T	Water	5310 D-2000	
MB 600-178314/39	Method Blank	T	Water	5310 D-2000	
MB 600-178314/9	Method Blank	T	Water	5310 D-2000	
600-122559-1	MW-04	T	Water	5310 D-2000	
600-122559-2	MW-05	T	Water	5310 D-2000	
600-122559-3	MW-08	T	Water	5310 D-2000	
600-122559-4	MW-09	T	Water	5310 D-2000	
600-122559-5	MW-20	T	Water	5310 D-2000	
600-122613-B-2 MS	Matrix Spike	T	Water	5310 D-2000	
600-122613-B-2 MSD	Matrix Spike Duplicate	T	Water	5310 D-2000	
600-122905-D-6 MS	Matrix Spike	T	Water	5310 D-2000	
600-122905-D-6 MSD	Matrix Spike Duplicate	T	Water	5310 D-2000	
Analysis Batch:600-178421					
LCS 600-178421/11	Lab Control Sample	T	Water	353.2	
LCS 600-178421/47	Lab Control Sample	T	Water	353.2	
MB 600-178421/10	Method Blank	T	Water	353.2	
MB 600-178421/46	Method Blank	T	Water	353.2	
600-122559-1	MW-04	T	Water	353.2	
600-122559-2	MW-05	T	Water	353.2	
600-122559-3	MW-08	T	Water	353.2	
600-122559-3MS	Matrix Spike	T	Water	353.2	
600-122559-3MSD	Matrix Spike Duplicate	T	Water	353.2	
600-122559-4	MW-09	T	Water	353.2	
600-122559-5	MW-20	T	Water	353.2	

Report Basis
T = Total

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Laboratory Chronicle

Lab ID: 600-122559-1 **Client ID: MW-04**

Sample Date/Time: 12/02/2015 13:55 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122559-E-1		600-177880		12/07/2015 13:38	1	TAL HOU	JPS
A:RSK-175	600-122559-E-1		600-177880		12/07/2015 16:18	20	TAL HOU	JPS
P:350.1	600-122559-A-1-A		600-178056	600-178041	12/09/2015 05:16	1	TAL HOU	SC1
A:350.1	600-122559-A-1-A		600-178056	600-178041	12/09/2015 07:52	1	TAL HOU	SC1
A:353.2	600-122559-A-1		600-178421		12/14/2015 15:41	1	TAL HOU	KRD
A:4500 P E-1999	600-122559-B-1		600-177773		12/03/2015 23:00	1	TAL HOU	KRD
A:5310 D-2000	600-122559-A-1 ^2		600-178314		12/11/2015 20:43	2	TAL HOU	EC1

Lab ID: 600-122559-1 MS **Client ID: MW-04**

Sample Date/Time: 12/02/2015 13:55 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122559-A-1-B MS		600-178056	600-178041	12/09/2015 05:16	1	TAL HOU	SC1
A:350.1	600-122559-A-1-B MS		600-178056	600-178041	12/09/2015 07:53	1	TAL HOU	SC1

Lab ID: 600-122559-1 MSD **Client ID: MW-04**

Sample Date/Time: 12/02/2015 13:55 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122559-A-1-C MSD		600-178056	600-178041	12/09/2015 05:16	1	TAL HOU	SC1
A:350.1	600-122559-A-1-C MSD		600-178056	600-178041	12/09/2015 07:55	1	TAL HOU	SC1

Lab ID: 600-122559-2 **Client ID: MW-05**

Sample Date/Time: 12/02/2015 11:40 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122559-E-2		600-177880		12/07/2015 13:51	1	TAL HOU	JPS
P:350.1	600-122559-A-2-A		600-178056	600-178041	12/09/2015 05:16	1	TAL HOU	SC1
A:350.1	600-122559-A-2-A		600-178056	600-178041	12/09/2015 08:08	1	TAL HOU	SC1
A:353.2	600-122559-A-2 ^20		600-178421		12/14/2015 15:46	20	TAL HOU	KRD
A:4500 P E-1999	600-122559-B-2		600-177773		12/03/2015 23:00	1	TAL HOU	KRD
A:5310 D-2000	600-122559-A-2		600-178314		12/11/2015 23:20	1	TAL HOU	EC1

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Laboratory Chronicle

Lab ID: 600-122559-2 MS **Client ID: MW-05**

Sample Date/Time: 12/02/2015 11:40 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122559-A-2-B MS		600-178056	600-178041	12/09/2015 05:16	1	TAL HOU	SC1
A:350.1	600-122559-A-2-B MS		600-178056	600-178041	12/09/2015 08:09	1	TAL HOU	SC1

Lab ID: 600-122559-2 MSD **Client ID: MW-05**

Sample Date/Time: 12/02/2015 11:40 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122559-A-2-C MSD		600-178056	600-178041	12/09/2015 05:16	1	TAL HOU	SC1
A:350.1	600-122559-A-2-C MSD		600-178056	600-178041	12/09/2015 08:10	1	TAL HOU	SC1

Lab ID: 600-122559-3 **Client ID: MW-08**

Sample Date/Time: 12/02/2015 10:25 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122559-E-3		600-177880		12/07/2015 14:03	1	TAL HOU	JPS
A:RSK-175	600-122559-E-3		600-177880		12/07/2015 16:29	100	TAL HOU	JPS
P:350.1	600-122559-A-3-A		600-178056	600-178041	12/09/2015 05:16	1	TAL HOU	SC1
A:350.1	600-122559-A-3-A		600-178056	600-178041	12/09/2015 08:11	1	TAL HOU	SC1
A:353.2	600-122559-A-3		600-178421		12/14/2015 15:48	1	TAL HOU	KRD
A:4500 P E-1999	600-122559-B-3		600-177773		12/03/2015 23:00	1	TAL HOU	KRD
A:5310 D-2000	600-122559-A-3 ^2		600-178314		12/11/2015 20:54	2	TAL HOU	EC1

Lab ID: 600-122559-3 MS **Client ID: MW-08**

Sample Date/Time: 12/02/2015 10:25 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:353.2	600-122559-A-3 MS		600-178421		12/14/2015 15:48	1	TAL HOU	KRD

Lab ID: 600-122559-3 MSD **Client ID: MW-08**

Sample Date/Time: 12/02/2015 10:25 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:353.2	600-122559-A-3 MSD		600-178421		12/14/2015 15:49	1	TAL HOU	KRD

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Laboratory Chronicle

Lab ID: 600-122559-4 **Client ID: MW-09**

Sample Date/Time: 12/02/2015 09:15 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122559-E-4		600-177880		12/07/2015 14:14	1	TAL HOU	JPS
P:350.1	600-122559-A-4-A		600-178056	600-178041	12/09/2015 05:16	1	TAL HOU	SC1
A:350.1	600-122559-A-4-A		600-178056	600-178041	12/09/2015 08:13	1	TAL HOU	SC1
A:353.2	600-122559-A-4		600-178421		12/14/2015 15:58	1	TAL HOU	KRD
A:4500 P E-1999	600-122559-B-4		600-177773		12/03/2015 23:00	1	TAL HOU	KRD
A:5310 D-2000	600-122559-A-4		600-178314		12/11/2015 23:30	1	TAL HOU	EC1

Lab ID: 600-122559-5 **Client ID: MW-20**

Sample Date/Time: 12/02/2015 14:40 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122559-E-5		600-177880		12/07/2015 14:25	1	TAL HOU	JPS
A:RSK-175	600-122559-E-5		600-177880		12/07/2015 16:41	100	TAL HOU	JPS
P:350.1	600-122559-A-5-A		600-178056	600-178041	12/09/2015 05:16	1	TAL HOU	SC1
A:350.1	600-122559-A-5-A		600-178056	600-178041	12/09/2015 08:14	1	TAL HOU	SC1
A:353.2	600-122559-A-5		600-178421		12/14/2015 16:05	1	TAL HOU	KRD
A:4500 P E-1999	600-122559-B-5		600-177773		12/03/2015 23:00	5	TAL HOU	KRD
A:5310 D-2000	600-122559-A-5		600-178314		12/11/2015 23:41	1	TAL HOU	EC1

Lab ID: 600-122559-5 MS **Client ID: MW-20**

Sample Date/Time: 12/02/2015 14:40 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:4500 P E-1999	600-122559-B-5 MS		600-177773		12/03/2015 23:00	5	TAL HOU	KRD

Lab ID: 600-122559-5 MSD **Client ID: MW-20**

Sample Date/Time: 12/02/2015 14:40 Received Date/Time: 12/03/2015 12:55

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:4500 P E-1999	600-122559-B-5 MSD		600-177773		12/03/2015 23:00	5	TAL HOU	KRD

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Laboratory Chronicle

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	MB 600-177880/2		600-177880		12/07/2015 10:33	1	TAL HOU	JPS
P:350.1	MB 600-178041/1-A		600-178056	600-178041	12/09/2015 05:16	1	TAL HOU	SC1
A:350.1	MB 600-178041/1-A		600-178056	600-178041	12/09/2015 07:50	1	TAL HOU	SC1
A:353.2	MB 600-178421/10		600-178421		12/14/2015 15:24	1	TAL HOU	KRD
A:353.2	MB 600-178421/46		600-178421		12/14/2015 15:52	1	TAL HOU	KRD
A:4500 P E-1999	MB 600-177773/3		600-177773		12/03/2015 23:00	1	TAL HOU	KRD
A:5310 D-2000	MB 600-178314/9		600-178314		12/11/2015 16:21	1	TAL HOU	EC1
A:5310 D-2000	MB 600-178314/39		600-178314		12/11/2015 21:35	1	TAL HOU	EC1

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	LCS 600-177880/3		600-177880		12/07/2015 10:45	1	TAL HOU	JPS
P:350.1	LCS 600-178041/2-A		600-178056	600-178041	12/09/2015 05:16	1	TAL HOU	SC1
A:350.1	LCS 600-178041/2-A		600-178056	600-178041	12/09/2015 07:51	1	TAL HOU	SC1
A:353.2	LCS 600-178421/11		600-178421		12/14/2015 15:25	1	TAL HOU	KRD
A:353.2	LCS 600-178421/47		600-178421		12/14/2015 15:53	1	TAL HOU	KRD
A:4500 P E-1999	LCS 600-177773/4		600-177773		12/03/2015 23:00	1	TAL HOU	KRD
A:5310 D-2000	LCS 600-178314/10		600-178314		12/11/2015 16:32	1	TAL HOU	EC1
A:5310 D-2000	LCS 600-178314/40		600-178314		12/11/2015 21:46	1	TAL HOU	EC1

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 12/01/2015 10:05 Received Date/Time: 12/03/2015 08:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122502-O-2 MS		600-177880		12/07/2015 11:20	1	TAL HOU	JPS
A:5310 D-2000	600-122905-D-6 MS		600-178314		12/11/2015 19:19	1	TAL HOU	EC1
A:5310 D-2000	600-122613-B-2 MS		600-178314		12/11/2015 22:07	1	TAL HOU	EC1

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 12/01/2015 10:05 Received Date/Time: 12/03/2015 08:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122502-O-2 MSD		600-177880		12/07/2015 11:32	1	TAL HOU	JPS
A:5310 D-2000	600-122905-D-6 MSD		600-178314		12/11/2015 19:30	1	TAL HOU	EC1
A:5310 D-2000	600-122613-B-2 MSD		600-178314		12/11/2015 22:38	1	TAL HOU	EC1

Lab References:

TAL HOU = TestAmerica Houston

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
NO3NO2CRVE1.0_00045	12/15/15	12/14/15	DI WATER, Lot N/A	100 mL	NO3NO2CRVEINT_00038	10 mL	Nitrate Nitrite as N	1 ppm
.NO3NO2CRVEINT_00038	12/15/15	12/14/15	DI WATER, Lot NA	100 mL	WETSICINO2_00018	1 mL	Nitrate Nitrite as N	10 mg/L
..WETSICINO2_00018	12/31/15	SPEX CERTIPREP, Lot 3-106NO2N-2Y			(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L
NO3NO2ICV/LCS_00038	12/15/15	12/14/15	DI WATER, Lot N/A	100 mL	NO3NO2ICVSRCE_00001	0.1 mL	Nitrate Nitrite as N	1 ppm
.NO3NO2ICVSRCE_00001	01/01/16	INORGANIC VENTURES, Lot H2-NOX02113			(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L
RSK-175 LCS_00017	09/24/16	09/17/13	Nitrogen, Lot 092914	1000000 mL	RSK-175_00014	1 uL	Ethane	9.7 ug/L
							Ethylene	9.05 ug/L
							Methane	5.16 ug/L
							Propane	14.18 ug/L
							Propene	13.58 ug/L
.RSK-175_00014	09/24/16	Coastal Specialty Gas, Lot UT002104			(Purchased Reagent)		Ethane	9.7 ppm v/v
							Ethylene	9.05 ppm v/v
							Methane	5.16 ppm v/v
							Propane	14.18 ppm v/v
							Propene	13.58 ppm v/v
TOCISCAL_00300	12/31/15	12/08/15	DI WATER, Lot NONE	500 mL	WETSTOCCAL_00018	5 mL	Total Organic Carbon	10 ppm
.WETSTOCCAL_00018	12/31/15	RICCA, Lot 1412B01			(Purchased Reagent)		Total Organic Carbon	1000 mg/L
TOCSLCS_00209	01/06/16	12/08/15	DI WATER, Lot NONE	1000 mL	WETSTOCICV_00033	10 mL	Total Organic Carbon	10 ppm
.WETSTOCICV_00033	02/26/17	LABCHEM, Lot E054-11			(Purchased Reagent)		Total Organic Carbon	1000 mg/L
WETSNH3CAL_00012	08/12/16	LABCHEM, Lot D223-16			(Purchased Reagent)		Ammonia	1000 mg/L
WETSNH3ICV_00020	01/31/16	RICCA, Lot 2408676			(Purchased Reagent)		Ammonia	1000 mg/L
							Ammonia, undistilled	1000 mg/L
							Nitrogen, Kjeldahl	1000 mg/L
WETSPHOSCS_00022	09/30/16	RICCA, Lot 2509F52			(Purchased Reagent)		Orthophosphate	50 mg/L
							Orthophosphorus as PO4	153.325 mg/L
WETSPHOSIS_00020	05/26/16	LABCHEM, Lot E140-24			(Purchased Reagent)		Orthophosphate	50 mg/L
							Orthophosphorus as PO4	153.325 mg/L
WETSTOCICV_00033	02/26/17	LABCHEM, Lot E054-11			(Purchased Reagent)		Total Organic Carbon	1000 mg/L

Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-122559-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Houston	Arkansas DEQ	State Program	6	15-045-0
TestAmerica Houston	Louisiana	NELAP	6	01967
TestAmerica Houston	Oklahoma	State Program	6	2015-050
TestAmerica Houston	Texas	NELAP	6	T104704223-15-18
TestAmerica Houston	USDA	Federal		P330-14-00192

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method RSK-175

Dissolved Gases (GC) by Method RSK_175

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk120715_003.d

Lab ID: LCS 600-177880/3 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Ethane	0.00970	0.007548	78	70-130	
Methane	0.00516	0.004806	93	70-130	
Ethylene	0.00905	0.007352	81	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk120715_006.d

Lab ID: 600-122502-O-2 MS Client ID:

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Ethane	0.00970	0.000303 U	0.009638	99	70-130	
Methane	0.00516	0.000357 U	0.005779	112	70-130	
Ethylene	0.00905	0.000324 U	0.009089	100	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk120715_007.d

Lab ID: 600-122502-O-2 MSD Client ID:

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Ethane	0.00970	0.008851	91	9	30	70-130	
Methane	0.00516	0.005358	104	8	30	70-130	
Ethylene	0.00905	0.008309	92	9	30	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Lab Sample ID: MB 600-177880/2

Matrix: Water Date Extracted:

Lab File ID:(1) rsk120715_002.d Lab File ID:(2)

Date Analyzed:(1) 12/07/2015 10:33 Date Analyzed:(2)

Instrument ID:(1) CHFID14 Instrument ID:(2)

GC Column:(1) RTX-5 ID: 0.53(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 600-177880/3	12/07/2015 10:45	
	600-122502-O-2 MS	12/07/2015 11:20	
	600-122502-O-2 MSD	12/07/2015 11:32	
MW-04	600-122559-1	12/07/2015 13:38	
MW-05	600-122559-2	12/07/2015 13:51	
MW-08	600-122559-3	12/07/2015 14:03	
MW-09	600-122559-4	12/07/2015 14:14	
MW-20	600-122559-5	12/07/2015 14:25	
MW-04	600-122559-1	12/07/2015 16:18	
MW-08	600-122559-3	12/07/2015 16:29	
MW-20	600-122559-5	12/07/2015 16:41	

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122559-1

SDG No.:

Client Sample ID: MW-04 | Lab Sample ID: 600-122559-1

Matrix: Water | Lab File ID: rsk120715_013.d

Analysis Method: RSK-175 | Date Collected: 12/02/2015 13:55

Sample wt/vol: 1(mL) | Date Analyzed: 12/07/2015 13:38

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177880 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_013.d				
Lims ID:	600-122559-E-1	Lab Sample ID:	600-122559-1		
Client ID:	MW-04				
Sample Type:	Client				
Inject. Date:	07-Dec-2015 13:38:15	ALS Bottle#:	0	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 008 Name: 600-0009751-013				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	07-Dec-2015 16:44:38	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK037				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	868781	191.2	E

QC Flag Legend

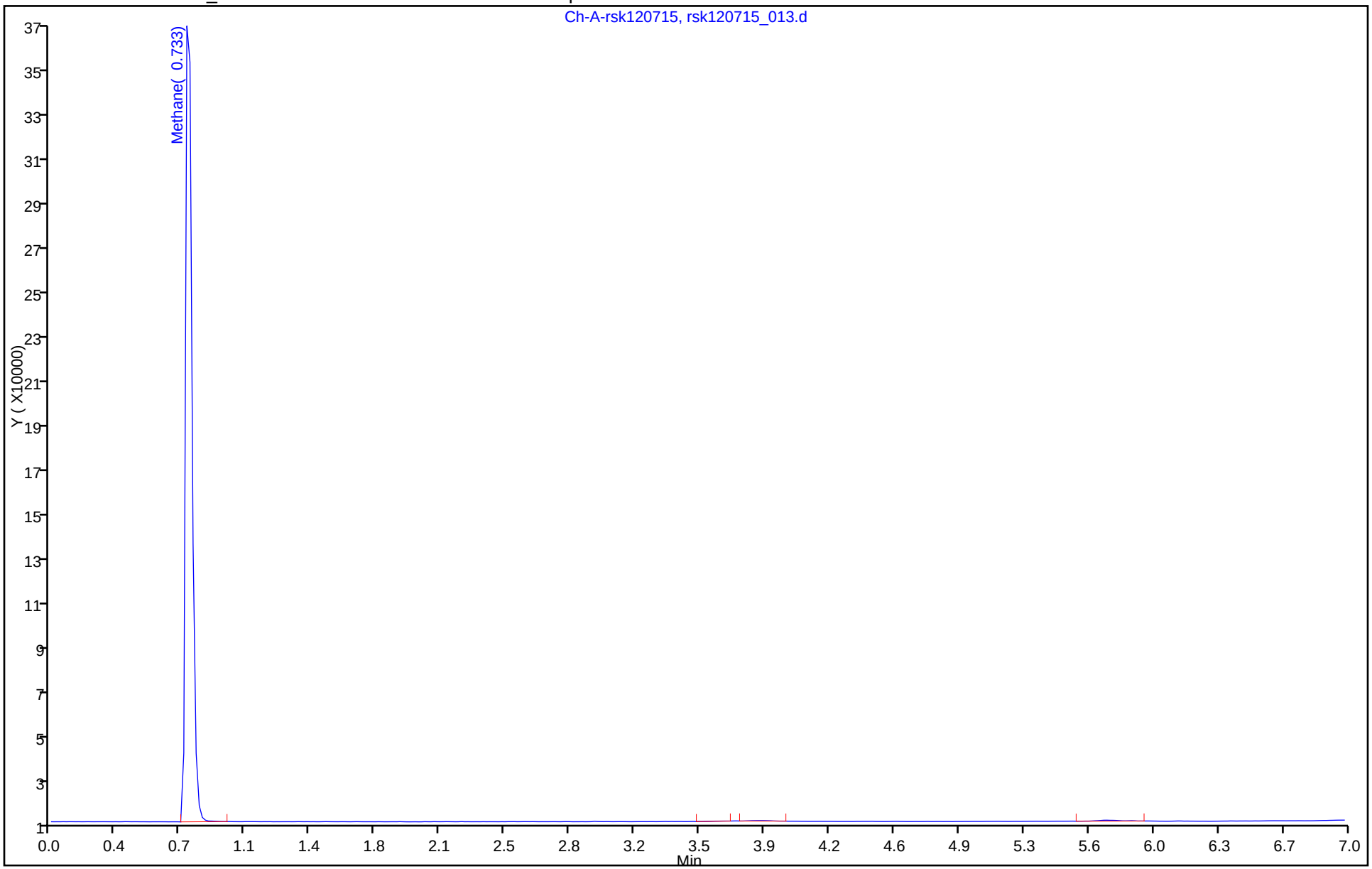
Processing Flags

E - Exceeded Maximum Amount

Report Date: 07-Dec-2015 16:44:40 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_013.d				
Injection Date:	07-Dec-2015 13:38:15	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122559-E-1	Lab Sample ID:	600-122559-1	Worklist Smp#:	13
Client ID:	MW-04				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122559-1

SDG No.:

Client Sample ID: MW-04 | Lab Sample ID: 600-122559-1

Matrix: Water | Lab File ID: rsk120715_025.d

Analysis Method: RSK-175 | Date Collected: 12/02/2015 13:55

Sample wt/vol: 1(mL) | Date Analyzed: 12/07/2015 16:18

Soil Aliquot Vol: | Dilution Factor: 20

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177880 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.283		0.0200	0.00714

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_025.d
Lims ID: 600-122559-E-1 Lab Sample ID: 600-122559-1
Client ID: MW-04
Sample Type: Client
Inject. Date: 07-Dec-2015 16:18:31 ALS Bottle#: 0 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: #: 014 Name: 600-0009751-025
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 17:27:20 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

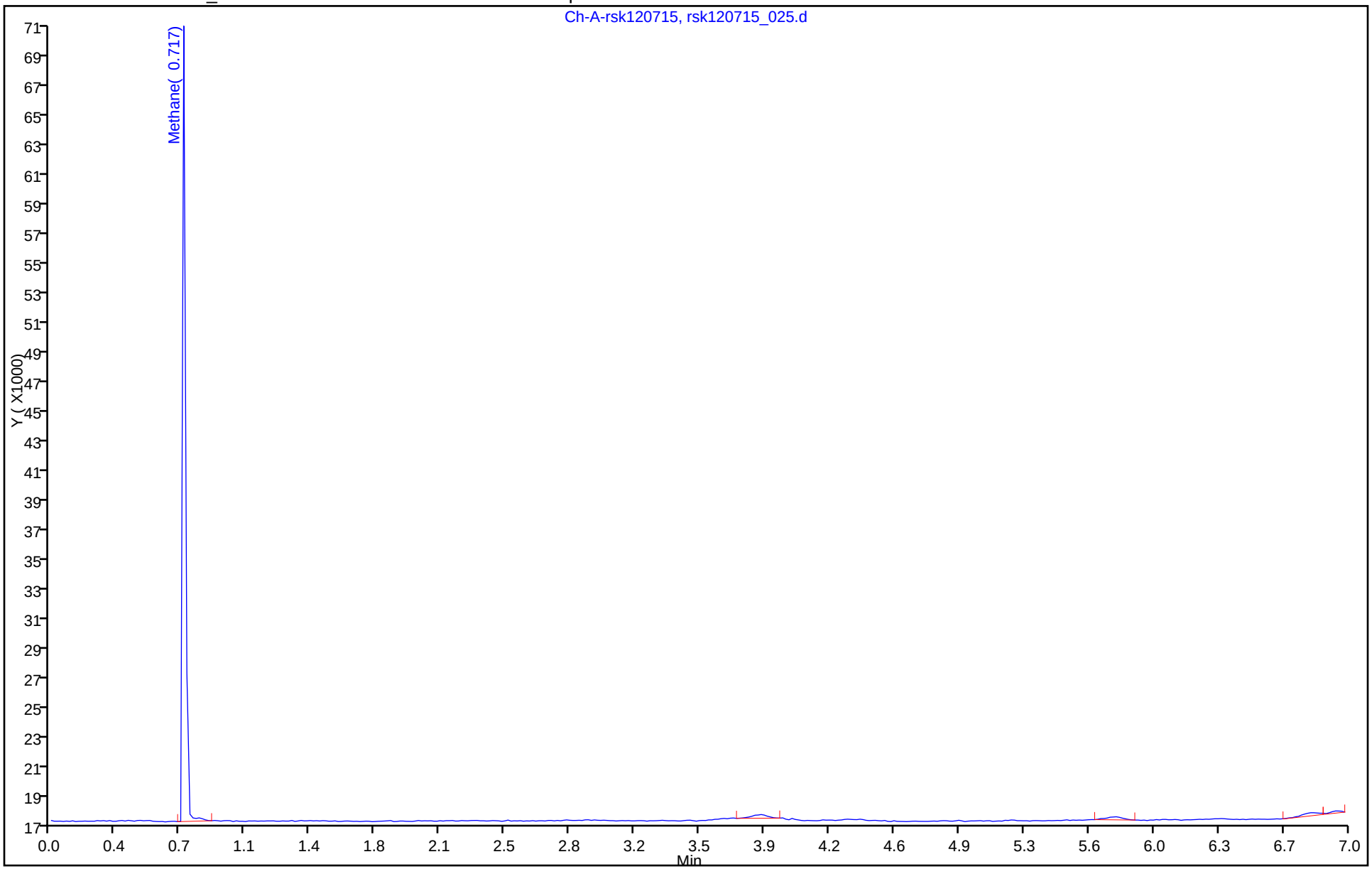
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.717	0.733	-0.016	64223	14.1	

Report Date: 07-Dec-2015 17:27:47 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_025.d				
Injection Date:	07-Dec-2015 16:18:31	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122559-E-1	Lab Sample ID:	600-122559-1	Worklist Smp#:	25
Client ID:	MW-04				
Injection Vol:	1.0 ul	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122559-1
SDG No.:
Client Sample ID: MW-05
Lab Sample ID: 600-122559-2
Matrix: Water
Lab File ID: rsk120715_014.d
Analysis Method: RSK-175
Date Collected: 12/02/2015 11:40
Sample wt/vol: 1(mL)
Date Analyzed: 12/07/2015 13:51
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177880
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.0363		0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_014.d
Lims ID: 600-122559-E-2 Lab Sample ID: 600-122559-2
Client ID: MW-05
Sample Type: Client
Inject. Date: 07-Dec-2015 13:51:59 ALS Bottle#: 0 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 009 Name: 600-0009751-014
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:38 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

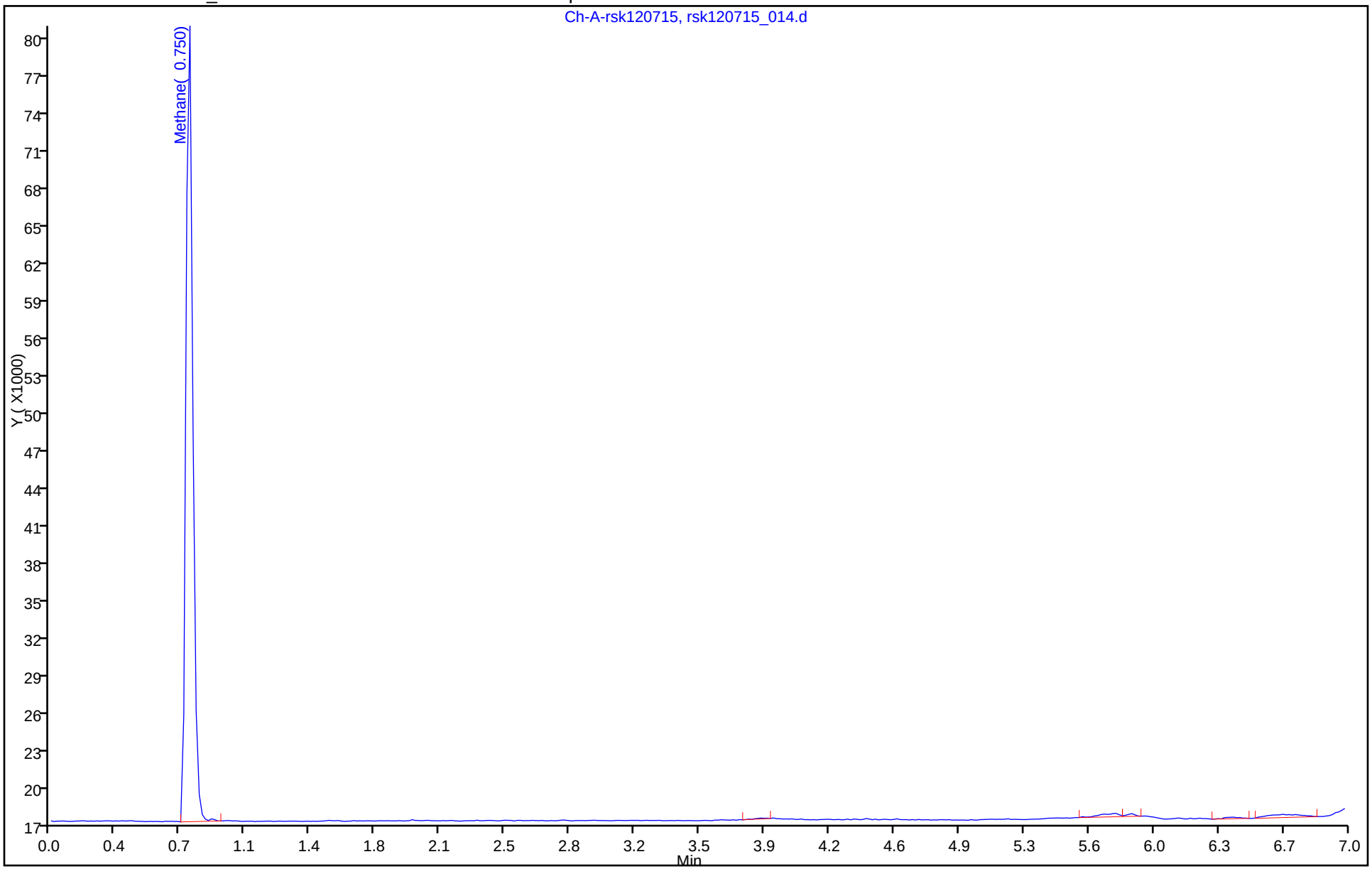
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	165144	36.3	

Report Date: 07-Dec-2015 16:44:41 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_014.d				
Injection Date:	07-Dec-2015 13:51:59	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122559-E-2	Lab Sample ID:	600-122559-2	Worklist Smp#:	14
Client ID:	MW-05				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122559-1

SDG No.:

Client Sample ID: MW-08 | Lab Sample ID: 600-122559-3

Matrix: Water | Lab File ID: rsk120715_015.d

Analysis Method: RSK-175 | Date Collected: 12/02/2015 10:25

Sample wt/vol: 1(mL) | Date Analyzed: 12/07/2015 14:03

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177880 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-85-1	Ethylene	0.000377	J	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_015.d
Lims ID: 600-122559-E-3 Lab Sample ID: 600-122559-3
Client ID: MW-08
Sample Type: Client
Inject. Date: 07-Dec-2015 14:03:17 ALS Bottle#: 0 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 010 Name: 600-0009751-015
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:38 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	2497767	549.7	E
3 Ethylene	1.033	1.100	-0.067	1175	0.3766	

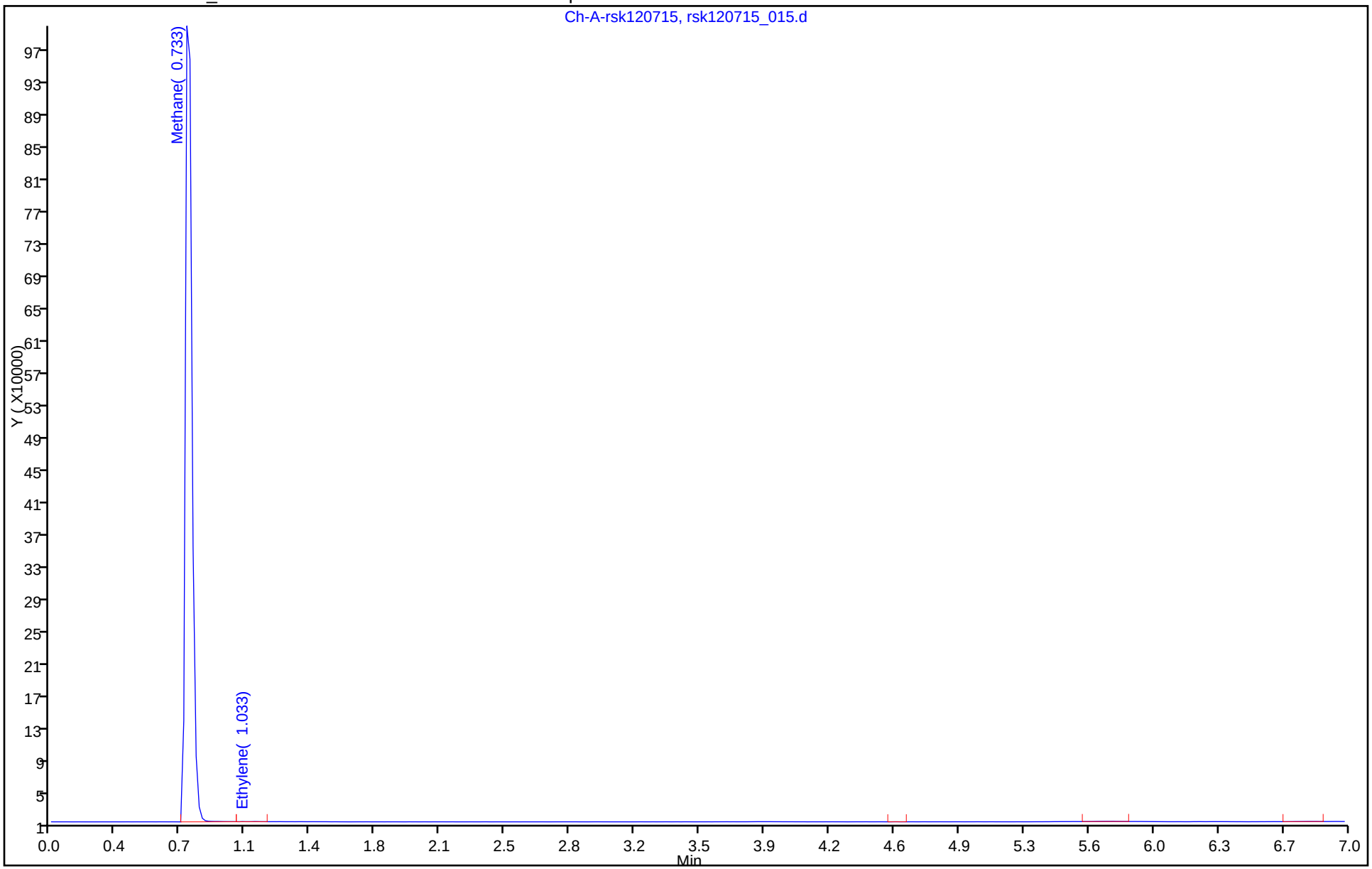
QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount

Report Date: 07-Dec-2015 16:44:43 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_015.d				
Injection Date:	07-Dec-2015 14:03:17	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122559-E-3	Lab Sample ID:	600-122559-3	Worklist Smp#:	15
Client ID:	MW-08				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122559-1
SDG No.:
Client Sample ID: MW-08
Lab Sample ID: 600-122559-3
Matrix: Water
Lab File ID: rsk120715_026.d
Analysis Method: RSK-175
Date Collected: 12/02/2015 10:25
Sample wt/vol: 1(mL)
Date Analyzed: 12/07/2015 16:29
Soil Aliquot Vol:
Dilution Factor: 100
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177880
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.710		0.100	0.0357

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_026.d
Lims ID: 600-122559-E-3 Lab Sample ID: 600-122559-3
Client ID: MW-08
Sample Type: Client
Inject. Date: 07-Dec-2015 16:29:43 ALS Bottle#: 0 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 100.0000
Sample Info: #: 015 Name: 600-0009751-026
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 17:27:20 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

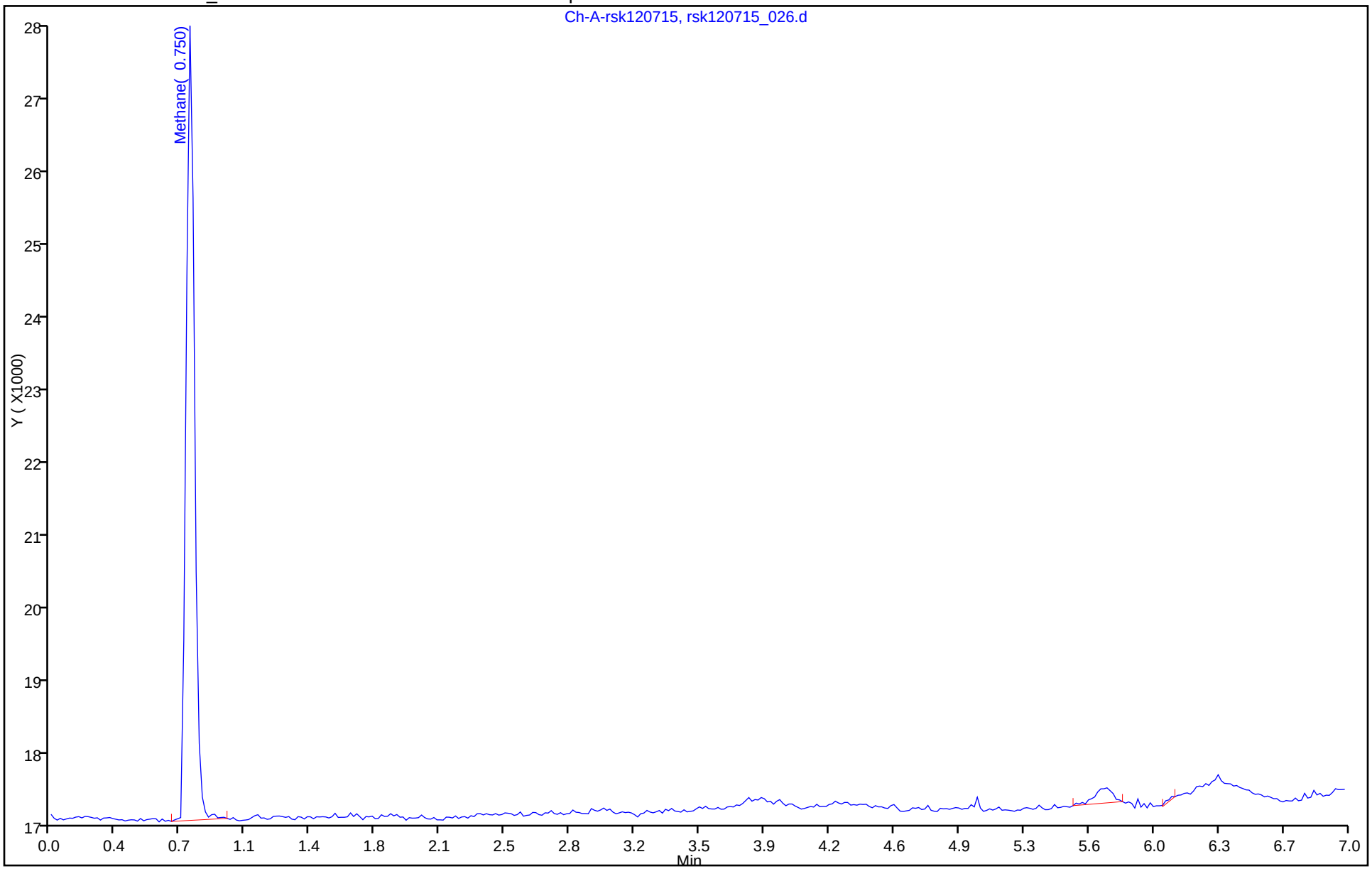
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	32254	7.10	

Report Date: 07-Dec-2015 17:27:49 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_026.d				
Injection Date:	07-Dec-2015 16:29:43	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122559-E-3	Lab Sample ID:	600-122559-3	Worklist Smp#:	26
Client ID:	MW-08				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122559-1

SDG No.:

Client Sample ID: MW-09 | Lab Sample ID: 600-122559-4

Matrix: Water | Lab File ID: rsk120715_016.d

Analysis Method: RSK-175 | Date Collected: 12/02/2015 09:15

Sample wt/vol: 1(mL) | Date Analyzed: 12/07/2015 14:14

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177880 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.000357	U	0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_016.d
Lims ID: 600-122559-E-4 Lab Sample ID: 600-122559-4
Client ID: MW-09
Sample Type: Client
Inject. Date: 07-Dec-2015 14:14:29 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009751-016
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:38 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

First Level Reviewer: saccoj Date: 07-Dec-2015 15:27:25

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.717	0.733	-0.016	1434	0.3156	M

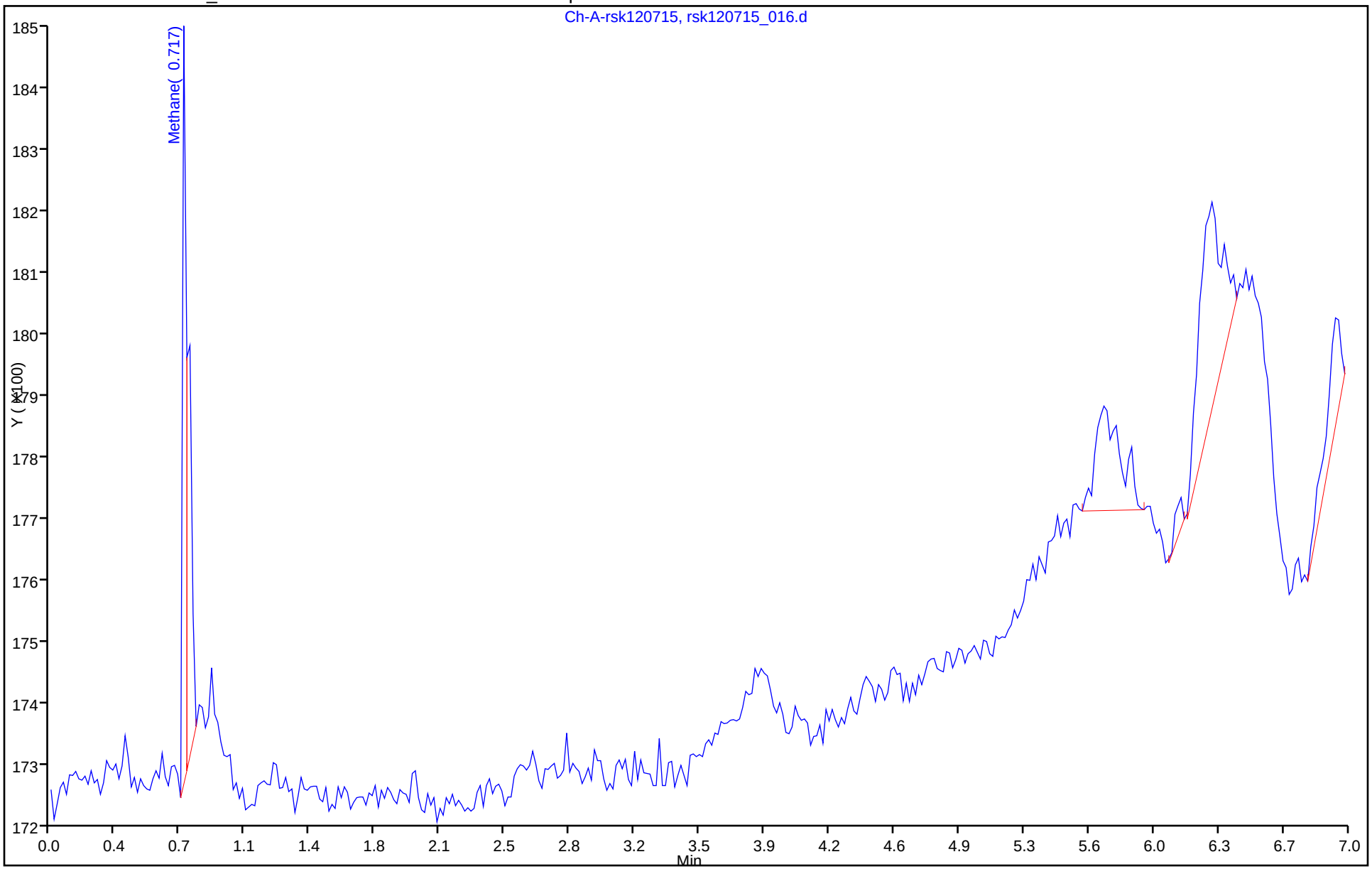
QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 07-Dec-2015 16:44:44 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_016.d				
Injection Date:	07-Dec-2015 14:14:29	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122559-E-4	Lab Sample ID:	600-122559-4	Worklist Smp#:	16
Client ID:	MW-09				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

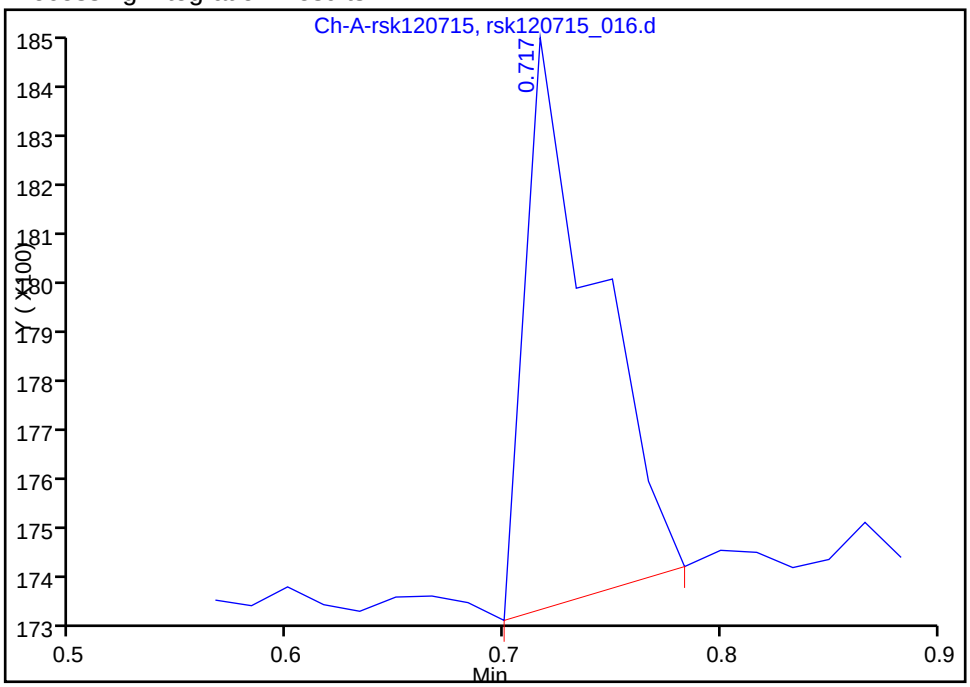
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_016.d				
Injection Date:	07-Dec-2015 14:14:29	Instrument ID:	CHFID14		
Lims ID:	600-122559-E-4	Lab Sample ID:	600-122559-4		
Client ID:	MW-09				
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	16
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

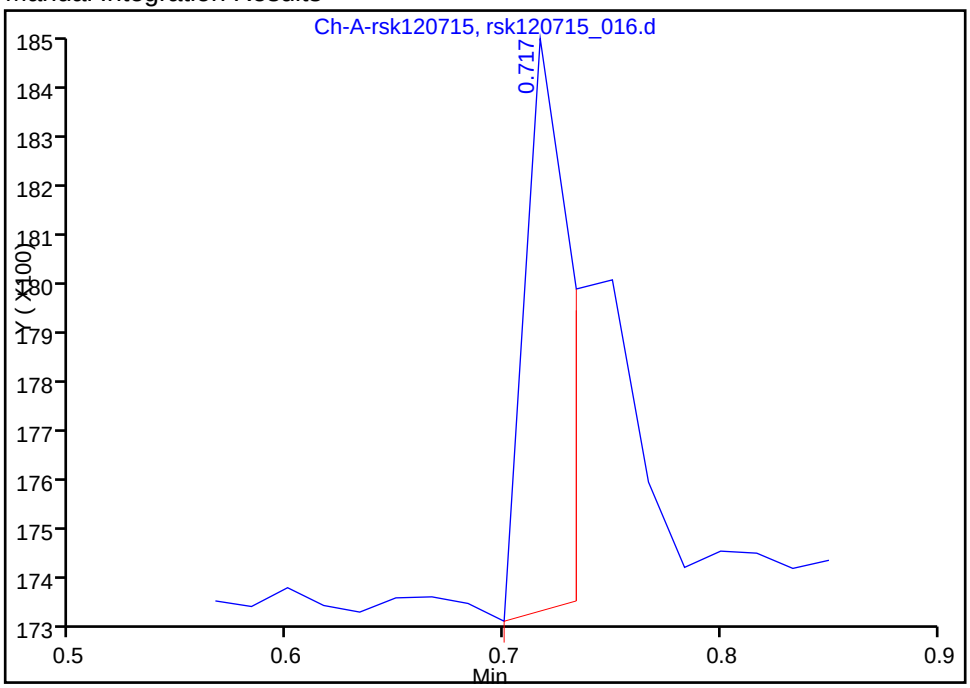
Processing Integration Results

RT: 0.72
Area: 2535
Amount: 0.557929
Amount Units: ug/l



Manual Integration Results

RT: 0.72
Area: 1434
Amount: 0.315610
Amount Units: ug/l



Reviewer: saccoj, 07-Dec-2015 15:27:25
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122559-1

SDG No.:

Client Sample ID: MW-20 | Lab Sample ID: 600-122559-5

Matrix: Water | Lab File ID: rsk120715_017.d

Analysis Method: RSK-175 | Date Collected: 12/02/2015 14:40

Sample wt/vol: 1(mL) | Date Analyzed: 12/07/2015 14:25

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177880 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.00122	J	0.00200	0.000303
74-85-1	Ethylene	0.00170	J	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_017.d				
Lims ID:	600-122559-E-5	Lab Sample ID:	600-122559-5		
Client ID:	MW-20				
Sample Type:	Client				
Inject. Date:	07-Dec-2015 14:25:35	ALS Bottle#:	0	Worklist Smp#:	17
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0009751-017				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	07-Dec-2015 16:44:38	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK037				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	2475897	544.9	E
2 Ethane	0.900	0.900	0.000	5190	1.22	
3 Ethylene	1.100	1.100	0.000	5295	1.70	

QC Flag Legend

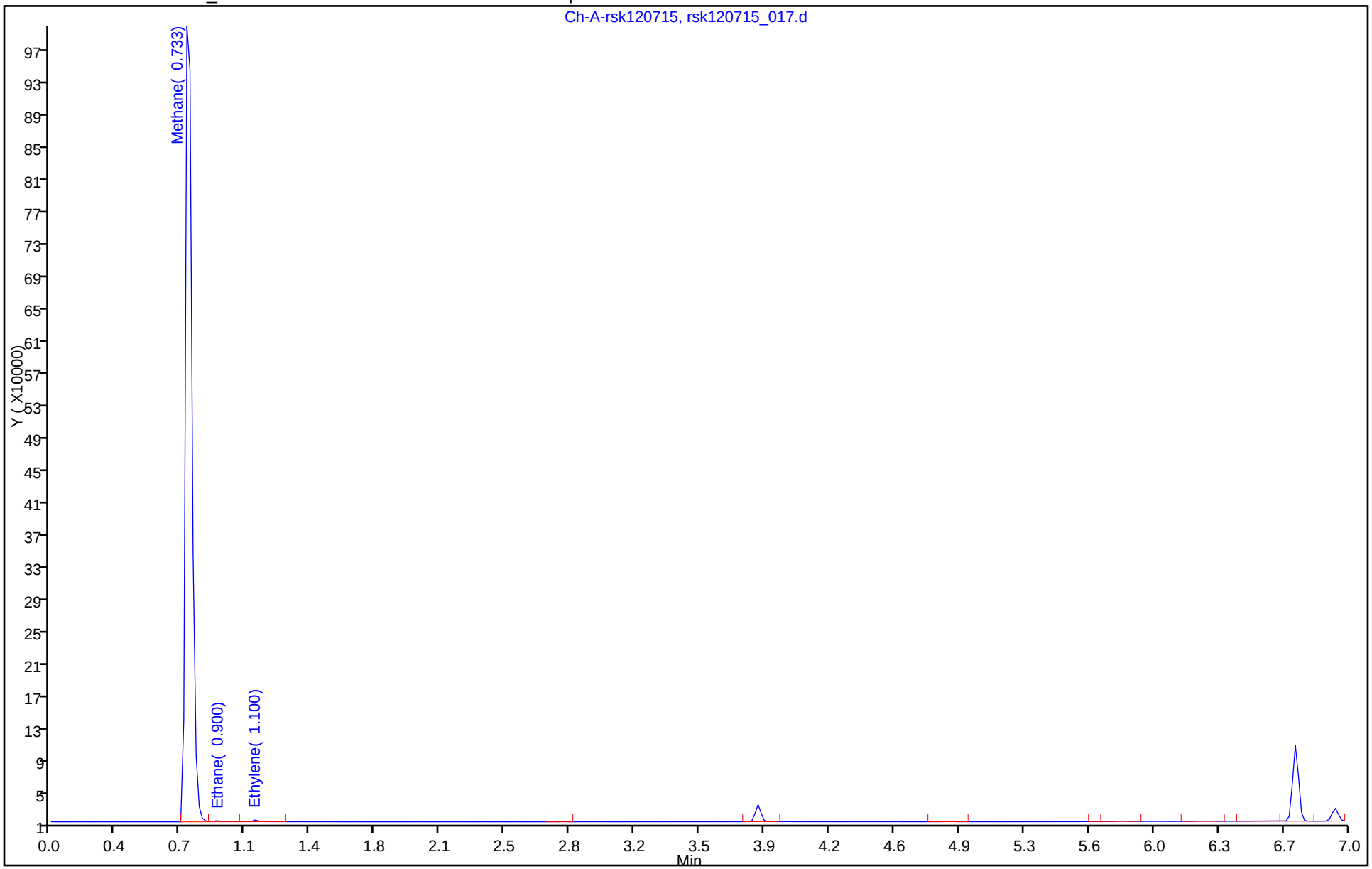
Processing Flags

E - Exceeded Maximum Amount

Report Date: 07-Dec-2015 16:44:46 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_017.d				
Injection Date:	07-Dec-2015 14:25:35	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122559-E-5	Lab Sample ID:	600-122559-5	Worklist Smp#:	17
Client ID:	MW-20				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122559-1

SDG No.:

Client Sample ID: MW-20 | Lab Sample ID: 600-122559-5

Matrix: Water | Lab File ID: rsk120715_027.d

Analysis Method: RSK-175 | Date Collected: 12/02/2015 14:40

Sample wt/vol: 1(mL) | Date Analyzed: 12/07/2015 16:41

Soil Aliquot Vol: | Dilution Factor: 100

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177880 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	0.969		0.100	0.0357

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_027.d
Lims ID: 600-122559-E-5 Lab Sample ID: 600-122559-5
Client ID: MW-20
Sample Type: Client
Inject. Date: 07-Dec-2015 16:41:08 ALS Bottle#: 0 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 100.0000
Sample Info: #: 016 Name: 600-0009751-027
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 17:27:20 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

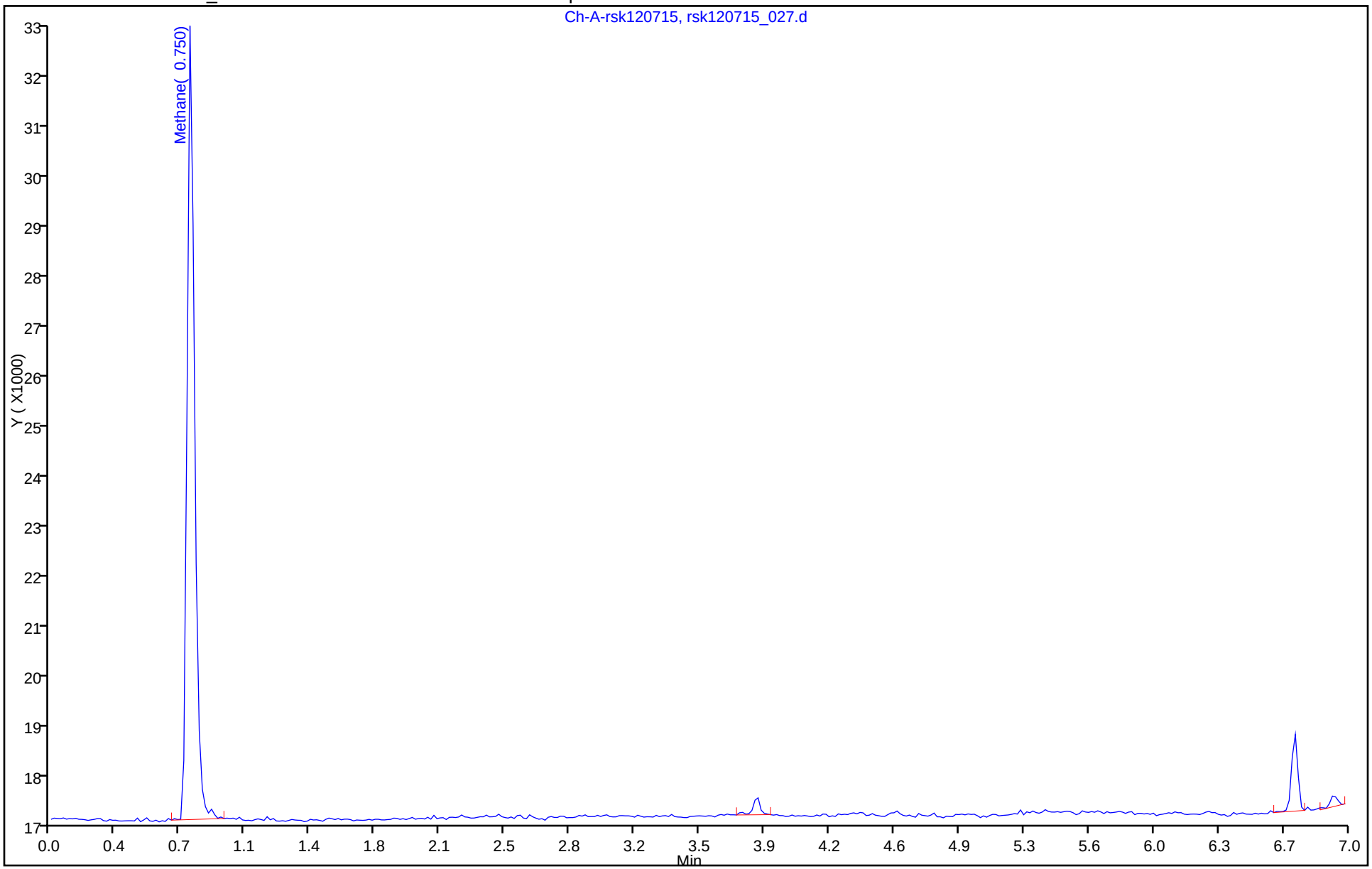
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	44025	9.69	

Report Date: 07-Dec-2015 17:27:49 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_027.d				
Injection Date:	07-Dec-2015 16:41:08	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122559-E-5	Lab Sample ID:	600-122559-5	Worklist Smp#:	27
Client ID:	MW-20				
Injection Vol:	1.0 ul	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122559-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
Methane	0.767	0.750	0.750	0.750	0.750	0.750	0.767	+++++			0.667 - 0.867	0.755
Ethane	0.917	0.900	0.917	0.917	0.900	0.900	0.917	+++++			0.817 - 1.017	0.910
Ethylene	1.117	1.117	1.117	1.117	1.100	1.117	1.117	+++++			1.017 - 1.217	1.115
Propane	1.533	1.533	1.533	1.533	1.533	1.533	1.533	+++++			1.450 - 1.650	1.533
Propene	2.333	2.333	2.333	2.333	2.333	2.333	2.333	+++++			2.233 - 2.433	2.333

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-122559-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	5157.0 4139.3	4530.3 3909.5	4516.5 4383.3	5169.3 +++++	Ave		4543.58652				10.5		20.0			
Ethane	5039.2 3849.7	4016.6 3719.2	4166.9 4147.5	4765.4 +++++	Ave		4243.49323				11.4		20.0			
Ethylene	3506.1 2885.2	2911.0 2799.4	3076.7 3097.2	3564.3 +++++	Ave		3119.99115				9.7		20.0			
Propane	5009.5 4122.9	4298.1 4029.7	4490.6 4471.8	5173.0 +++++	Ave		4513.65823				9.6		20.0			
Propene	2978.6 2536.8	2531.0 2409.7	2638.6 2687.2	3043.2 +++++	Ave		2689.30952				8.8		20.0			

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-122559-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methane	Ave	5322 134473	15592 226156	23305 +++++	35556	71188	1.03 34.4	3.44 51.6	5.16 +++++	6.88	17.2
Ethane	Ave	9776 240482	25987 402269	40419 +++++	61617	124461	1.94 64.7	6.47 97.0	9.70 +++++	12.9	32.3
Ethylene	Ave	6346 168881	17572 280268	27844 +++++	42999	87028	1.81 60.3	6.04 90.5	9.05 +++++	12.1	30.2
Propane	Ave	14207 380899	40652 634043	63676 +++++	97780	194856	2.84 94.5	9.46 142	14.2 +++++	18.9	47.3
Propene	Ave	8090 218140	22925 364884	35832 +++++	55089	114822	2.72 90.5	9.06 136	13.6 +++++	18.1	45.3

Curve Type Legend:

Ave = Average

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	08-Jun-2015 10:52:10	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0006703-001				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:32	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				
First Level Reviewer: saccoj		Date:	08-Jun-2015 12:47:46		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.767	0.767	0.000	5322	1.03	1.17	M
2 Ethane	0.917	0.917	0.000	9776	1.94	2.30	M
3 Ethylene	1.117	1.117	0.000	6346	1.81	2.03	
5 Propane	1.533	1.550	-0.017	14207	2.84	3.15	
1 Propene	2.333	2.333	0.000	8090	2.72	3.01	

QC Flag Legend

Review Flags

M - Manually Integrated

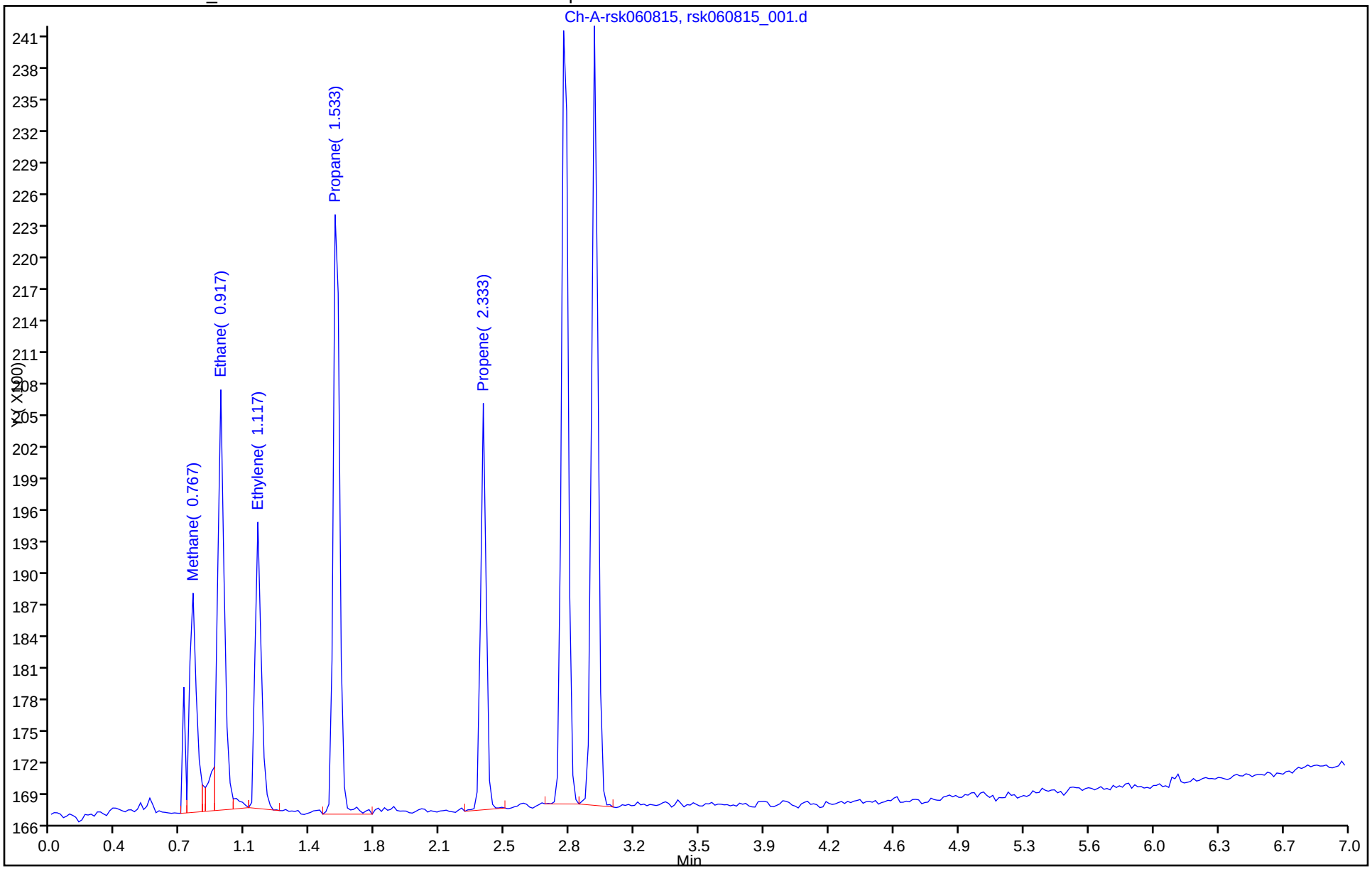
Reagents:

RSK-175 LCS_00017 Amount Added: 0.20 Units: mL

Report Date: 09-Jun-2015 08:49:32 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

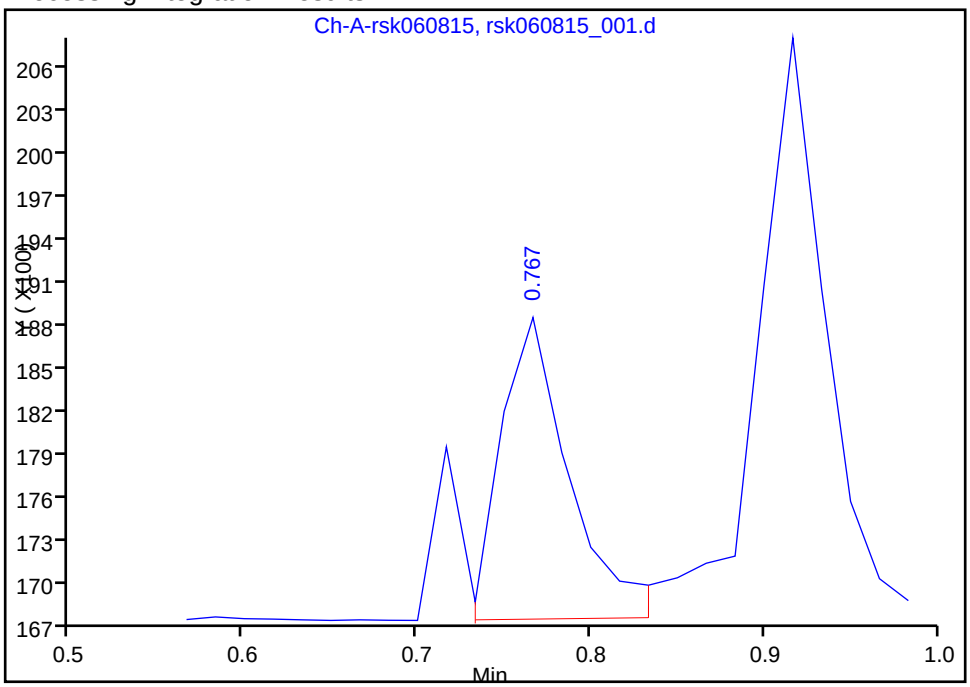
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14		
Lims ID:	IC				
Client ID:					
Operator ID:	saccoj	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

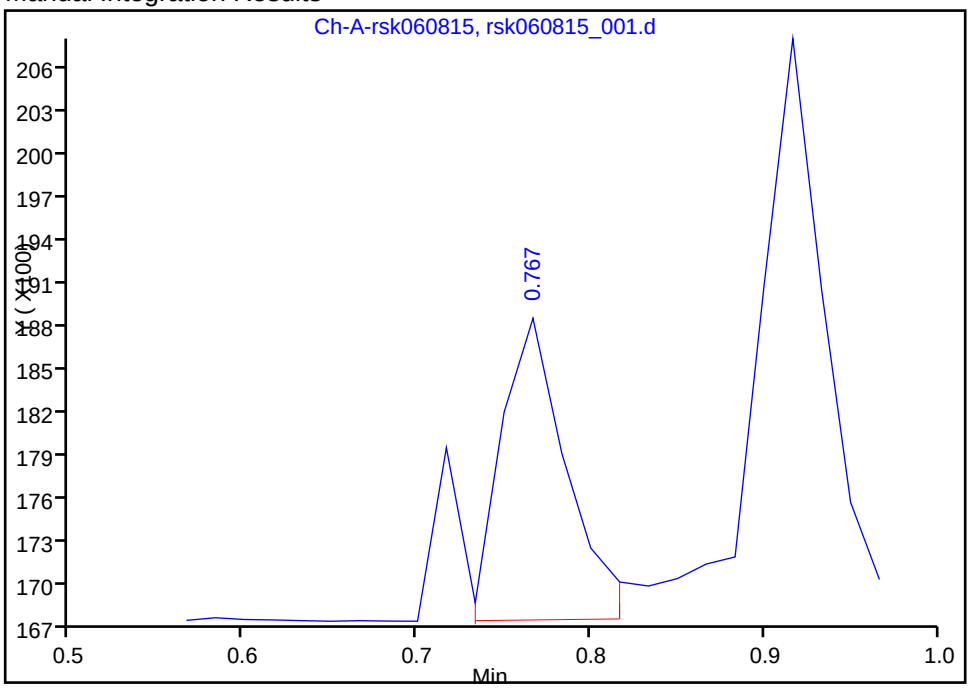
Processing Integration Results

RT: 0.77
Area: 5560
Amount: 1.258894
Amount Units: ug/l



Manual Integration Results

RT: 0.77
Area: 5322
Amount: 1.171321
Amount Units: ug/l



Reviewer: saccoj, 08-Jun-2015 12:47:46
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

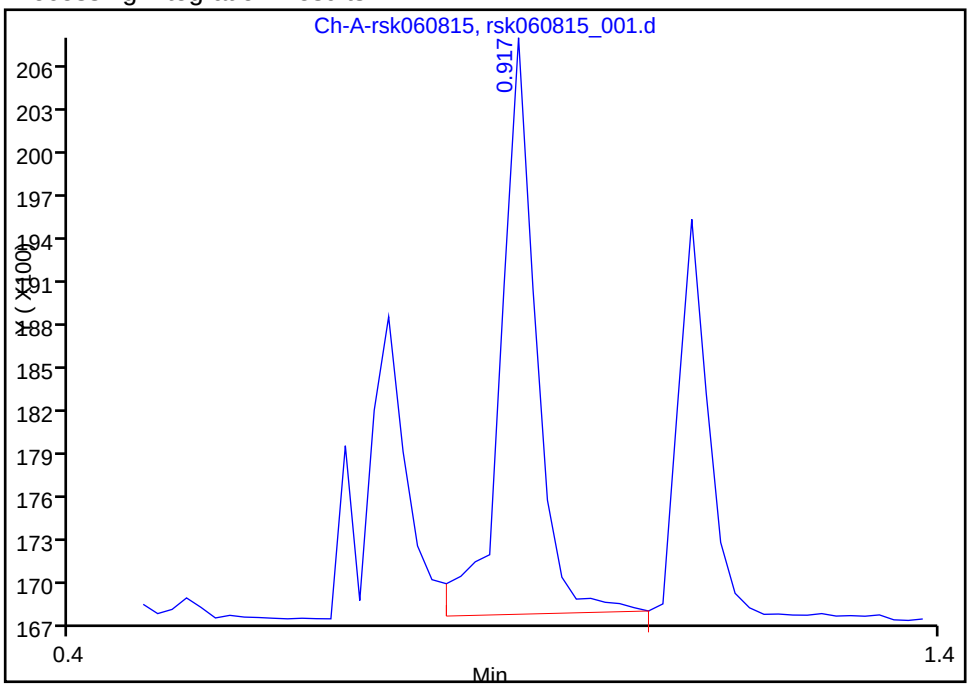
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14		
Lims ID:	IC				
Client ID:					
Operator ID:	saccoj	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

2 Ethane, CAS: 74-84-0

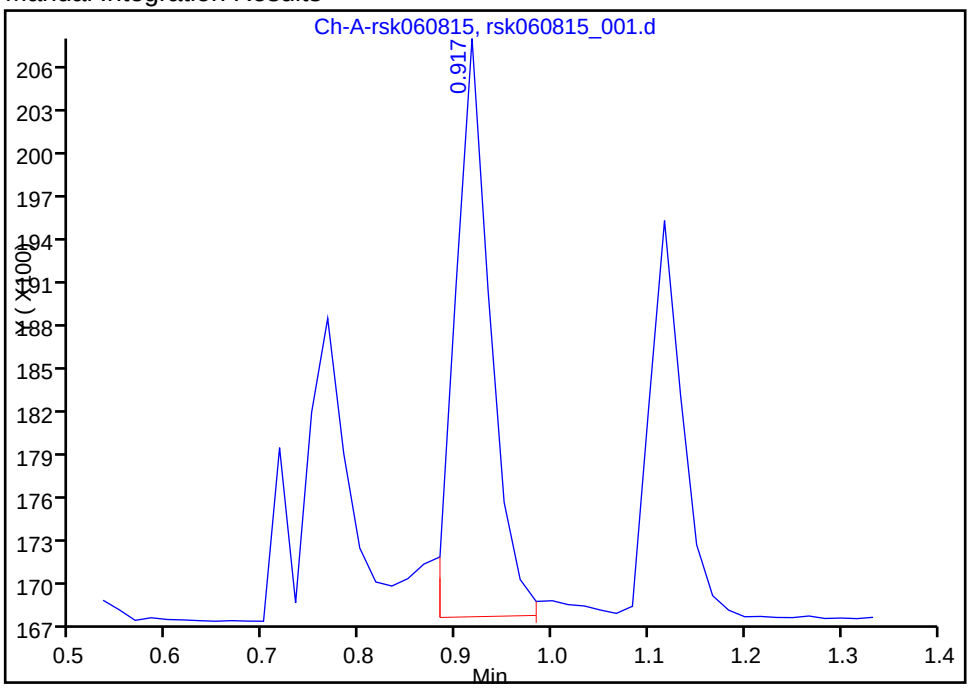
Processing Integration Results

RT: 0.92
Area: 11023
Amount: 2.639089
Amount Units: ug/l



Manual Integration Results

RT: 0.92
Area: 9776
Amount: 2.303762
Amount Units: ug/l



Reviewer: saccoj, 08-Jun-2015 12:47:46
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_002.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	08-Jun-2015 11:03:33	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0006703-002				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:33	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				
First Level Reviewer: saccoj		Date:	08-Jun-2015 12:55:06		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.767	-0.017	15592	3.44	3.43	
2 Ethane	0.900	0.917	-0.017	25987	6.47	6.12	
3 Ethylene	1.117	1.117	0.000	17572	6.04	5.63	
5 Propane	1.533	1.550	-0.017	40652	9.46	9.01	
1 Propene	2.333	2.333	0.000	22925	9.06	8.52	

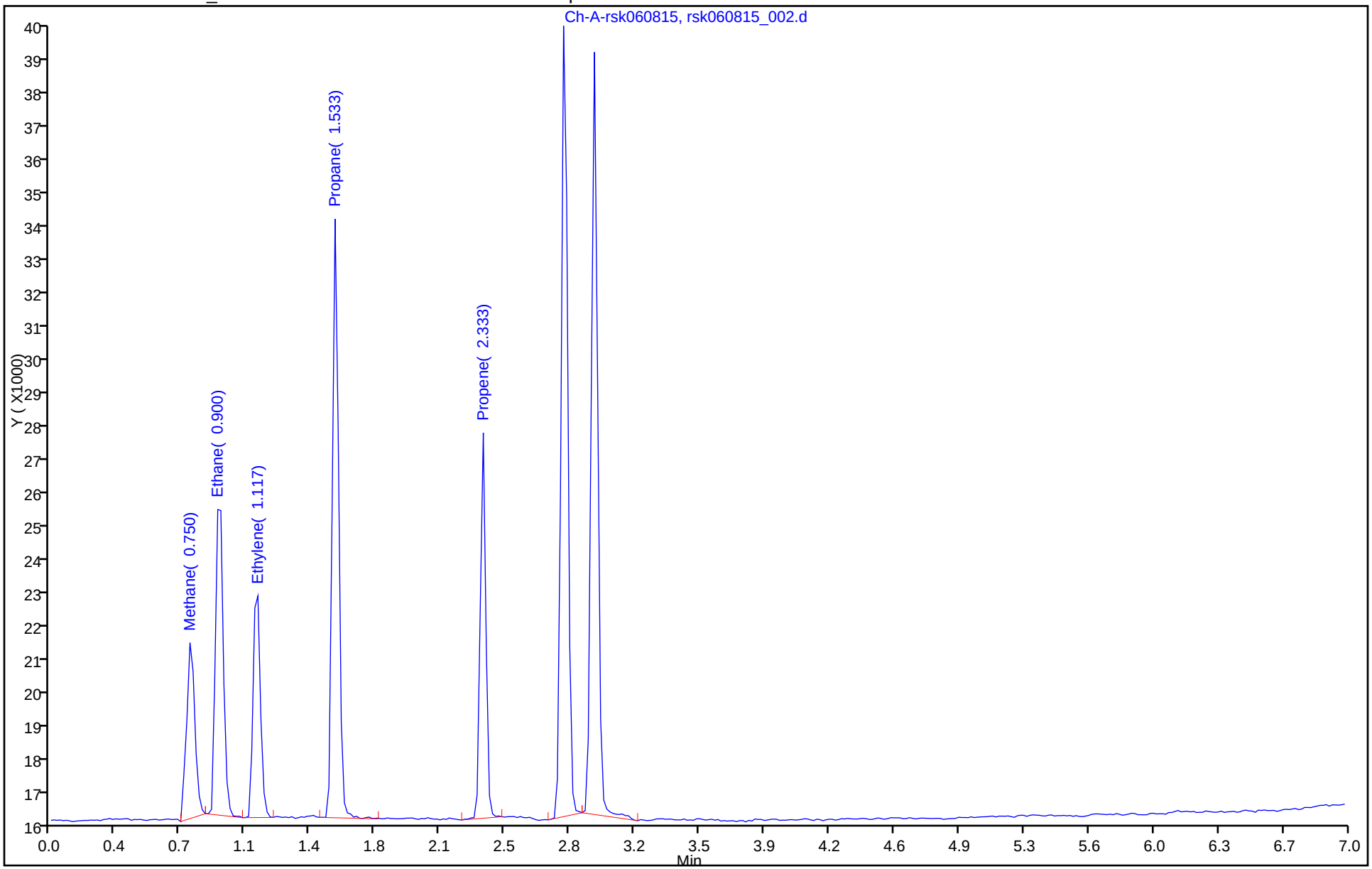
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 09-Jun-2015 08:49:33 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_002.d				
Injection Date:	08-Jun-2015 11:03:33	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_003.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	3		
Inject. Date:	08-Jun-2015 11:15:05	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0006703-003				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:34	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	23305	5.16	5.13	
2 Ethane	0.917	0.917	0.000	40419	9.70	9.52	
3 Ethylene	1.117	1.117	0.000	27844	9.05	8.92	
5 Propane	1.533	1.533	0.000	63676	14.2	14.1	
1 Propene	2.333	2.333	0.000	35832	13.6	13.3	

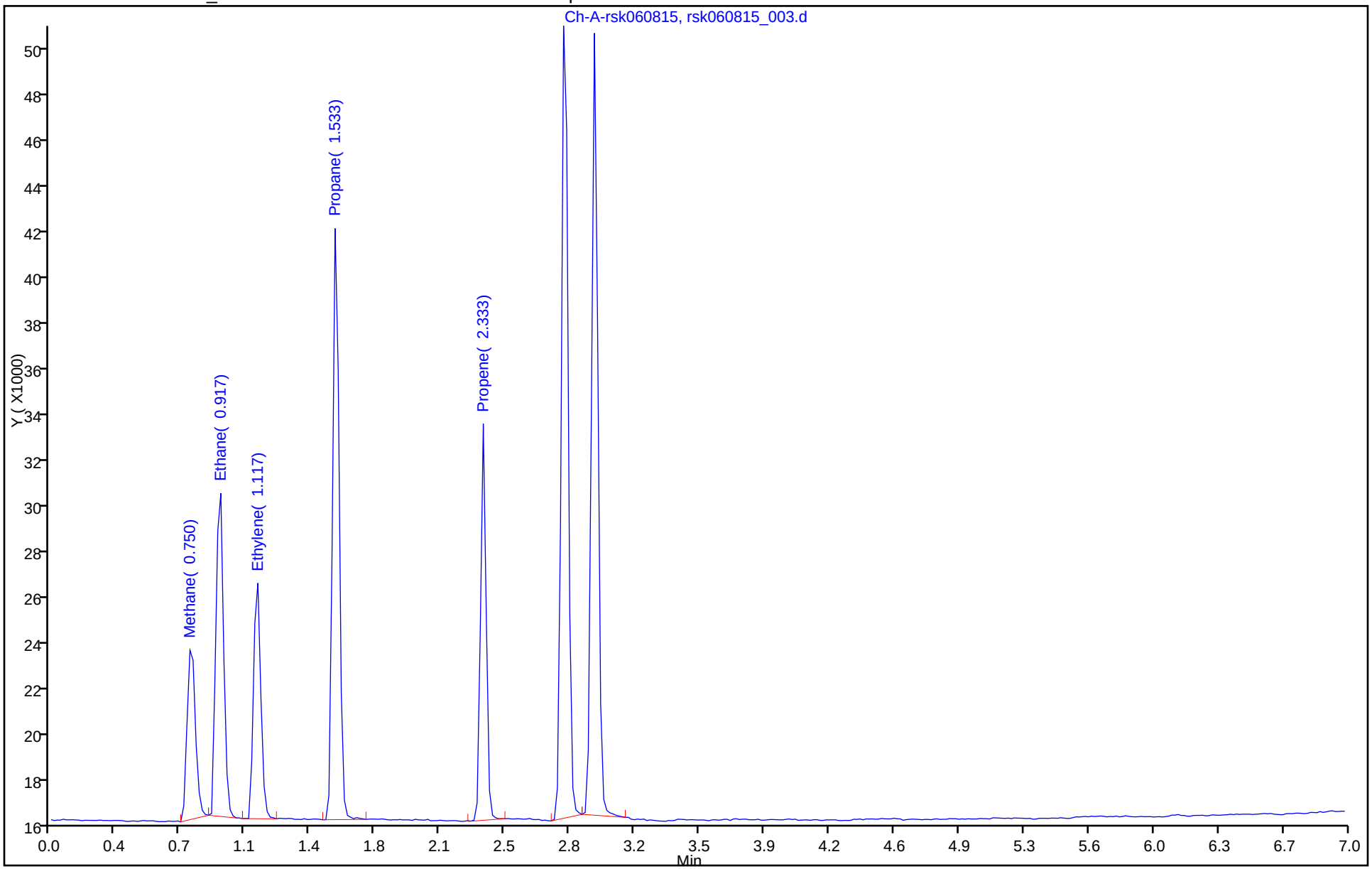
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 09-Jun-2015 08:49:35 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_003.d				
Injection Date:	08-Jun-2015 11:15:05	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_004.d				
Lims ID:	ICRT				
Client ID:					
Sample Type:	ICRT	Calib Level:	4		
Inject. Date:	08-Jun-2015 11:26:49	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0006703-004				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:36	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	35556	6.88	7.83	
2 Ethane	0.917	0.917	0.000	61617	12.9	14.5	
3 Ethylene	1.117	1.117	0.000	42999	12.1	13.8	
5 Propane	1.533	1.533	0.000	97780	18.9	21.7	
1 Propene	2.333	2.333	0.000	55089	18.1	20.5	

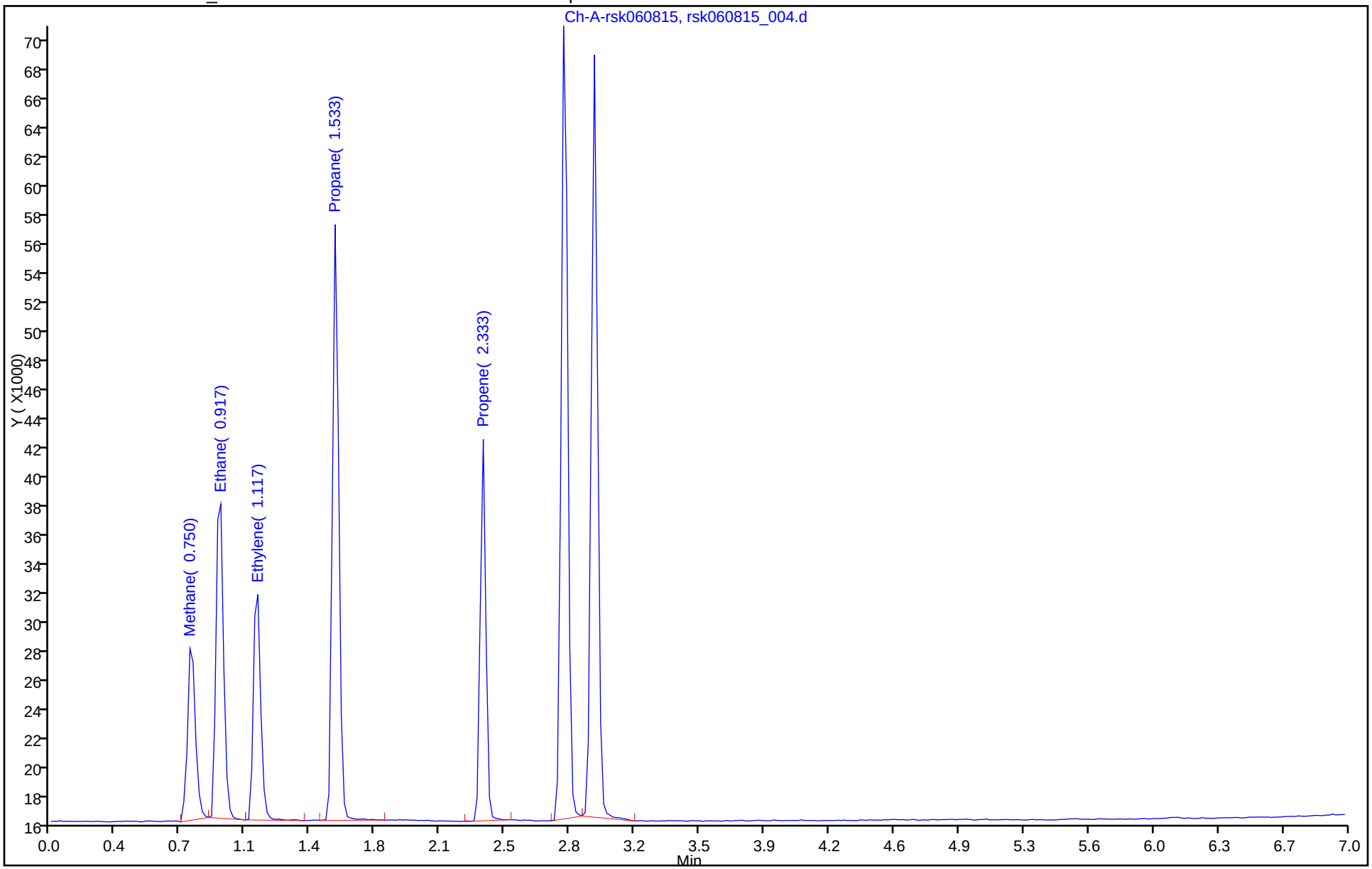
Reagents:

RSK-175 LCS_00017 Amount Added: 1.33 Units: mL

Report Date: 09-Jun-2015 08:49:36 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_004.d				
Injection Date:	08-Jun-2015 11:26:49	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	ICRT			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_005.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Jun-2015 11:38:11 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0006703-005
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:37 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	71188	17.2	15.7	
2 Ethane	0.900	0.917	-0.017	124461	32.3	29.3	
3 Ethylene	1.100	1.117	-0.017	87028	30.2	27.9	
5 Propane	1.533	1.533	0.000	194856	47.3	43.2	
1 Propene	2.333	2.333	0.000	114822	45.3	42.7	

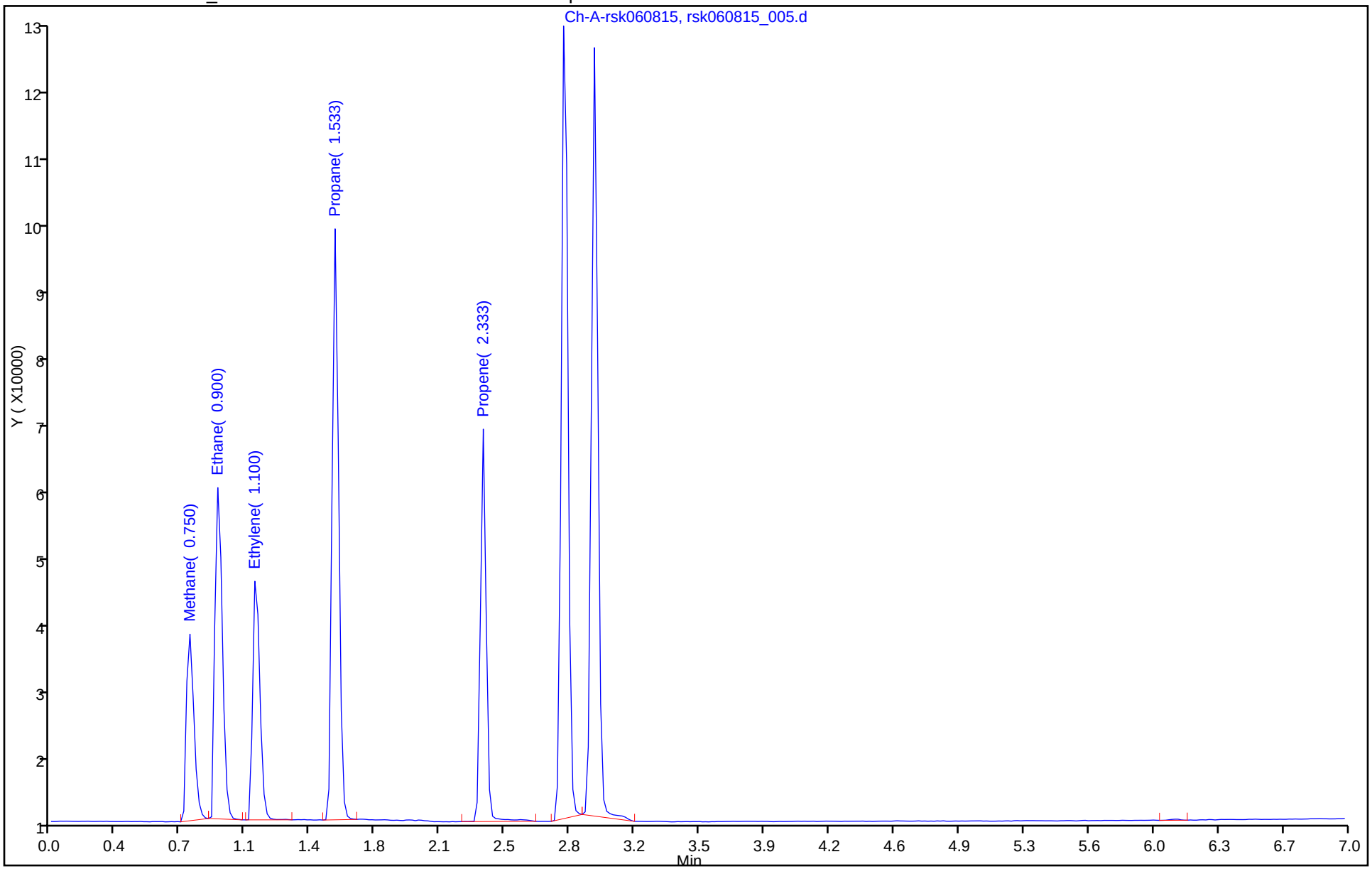
Reagents:

RSK-175 LCS_00017 Amount Added: 3.33 Units: mL

Report Date: 09-Jun-2015 08:49:38 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_005.d				
Injection Date:	08-Jun-2015 11:38:11	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_006.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	08-Jun-2015 11:50:00	ALS Bottle#:	0	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 001 Name: 600-0006703-006				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:39	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	134473	34.4	29.6	
2 Ethane	0.900	0.917	-0.017	240482	64.7	56.7	
3 Ethylene	1.117	1.117	0.000	168881	60.3	54.1	
5 Propane	1.533	1.533	0.000	380899	94.5	84.4	
1 Propene	2.333	2.333	0.000	218140	90.5	81.1	

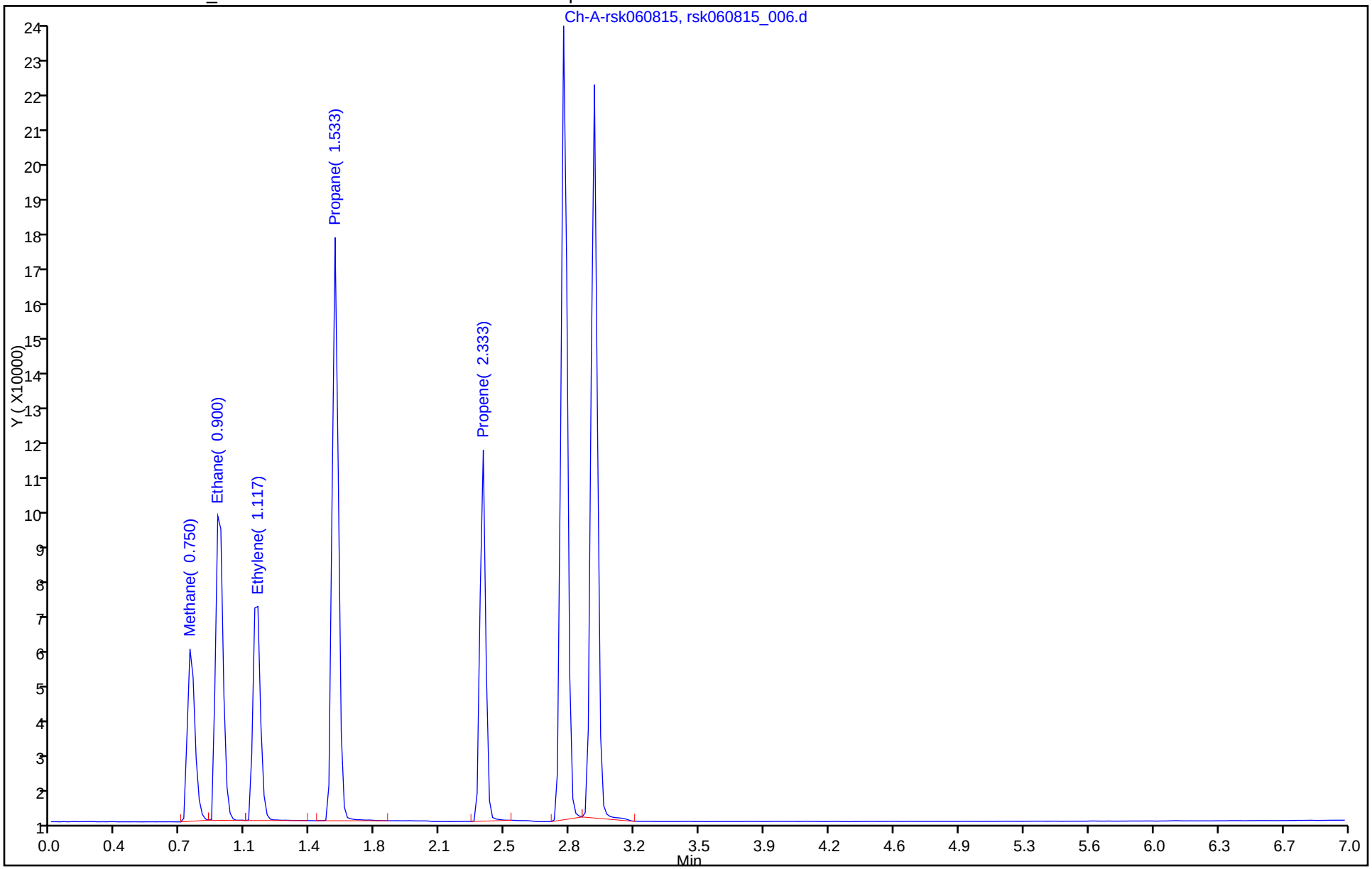
Reagents:

RSK-175 LCS_00017 Amount Added: 6.67 Units: mL

Report Date: 09-Jun-2015 08:49:39 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_006.d				
Injection Date:	08-Jun-2015 11:50:00	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_007.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	08-Jun-2015 12:01:45	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 002 Name: 600-0006703-007				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:40	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.767	0.750	0.017	226156	51.6	49.8	
2 Ethane	0.917	0.917	0.000	402269	97.0	94.8	
3 Ethylene	1.117	1.117	0.000	280268	90.5	89.8	
5 Propane	1.533	1.533	0.000	634043	141.8	140.5	
1 Propene	2.333	2.333	0.000	364884	135.8	135.7	

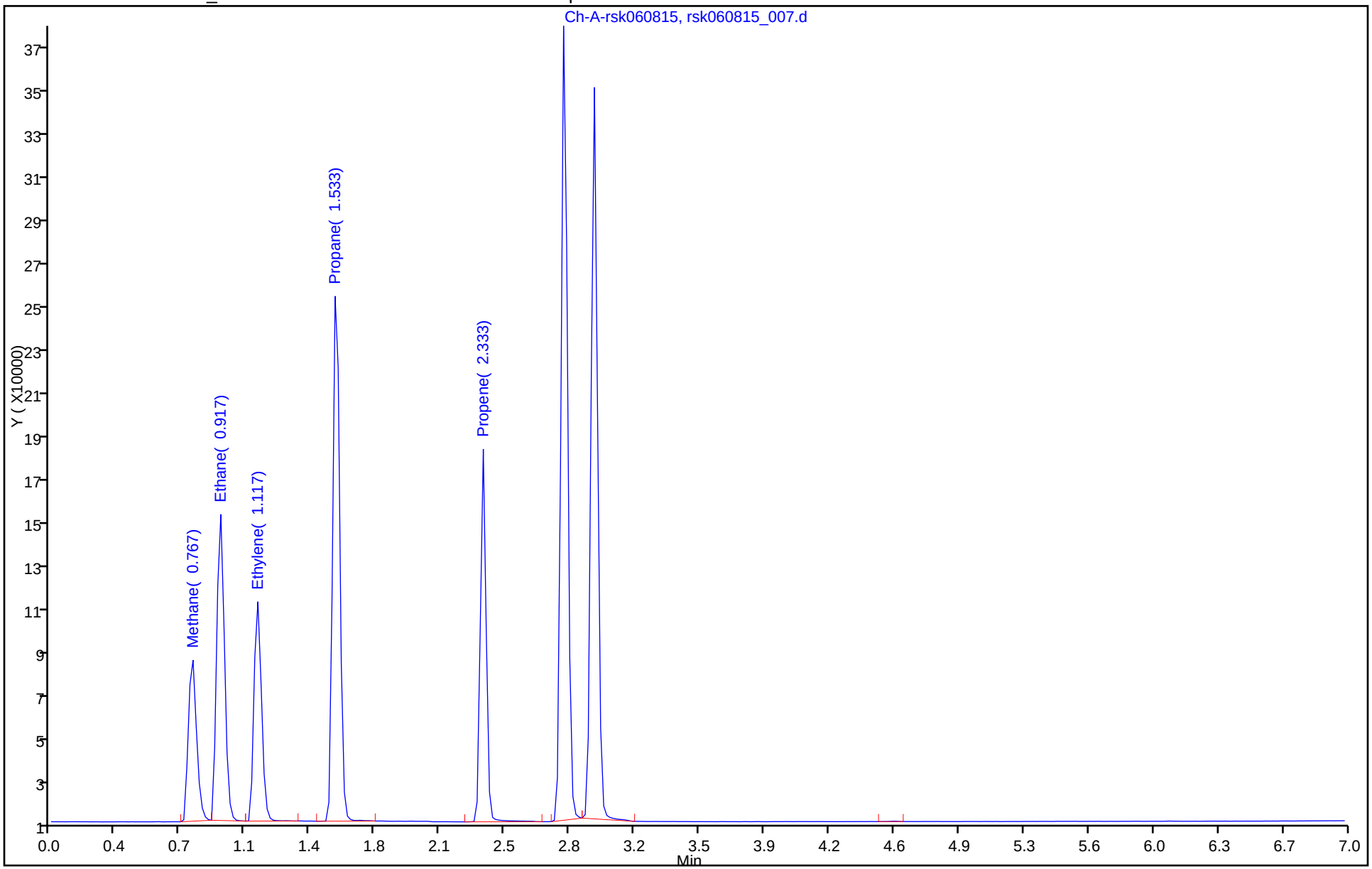
Reagents:

RSK-175 LCS_00017 Amount Added: 10.00 Units: mL

Report Date: 09-Jun-2015 08:49:40 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_007.d				
Injection Date:	08-Jun-2015 12:01:45	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	8		
Inject. Date:	08-Jun-2015 12:12:52	ALS Bottle#:	0	Worklist Smp#:	8
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 003 Name: 600-0006703-008				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:41	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

First Level Reviewer: saccoj Date: 08-Jun-2015 12:47:13

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	226803	68.8	49.9	
2 Ethane	0.900	0.917	-0.017	396667	129.3	93.5	
3 Ethylene	1.100	1.117	-0.017	276804	120.7	88.7	
5 Propane	1.533	1.533	0.000	624689	189.0	138.4	
1 Propene	2.333	2.333	0.000	354508	181.0	131.8	

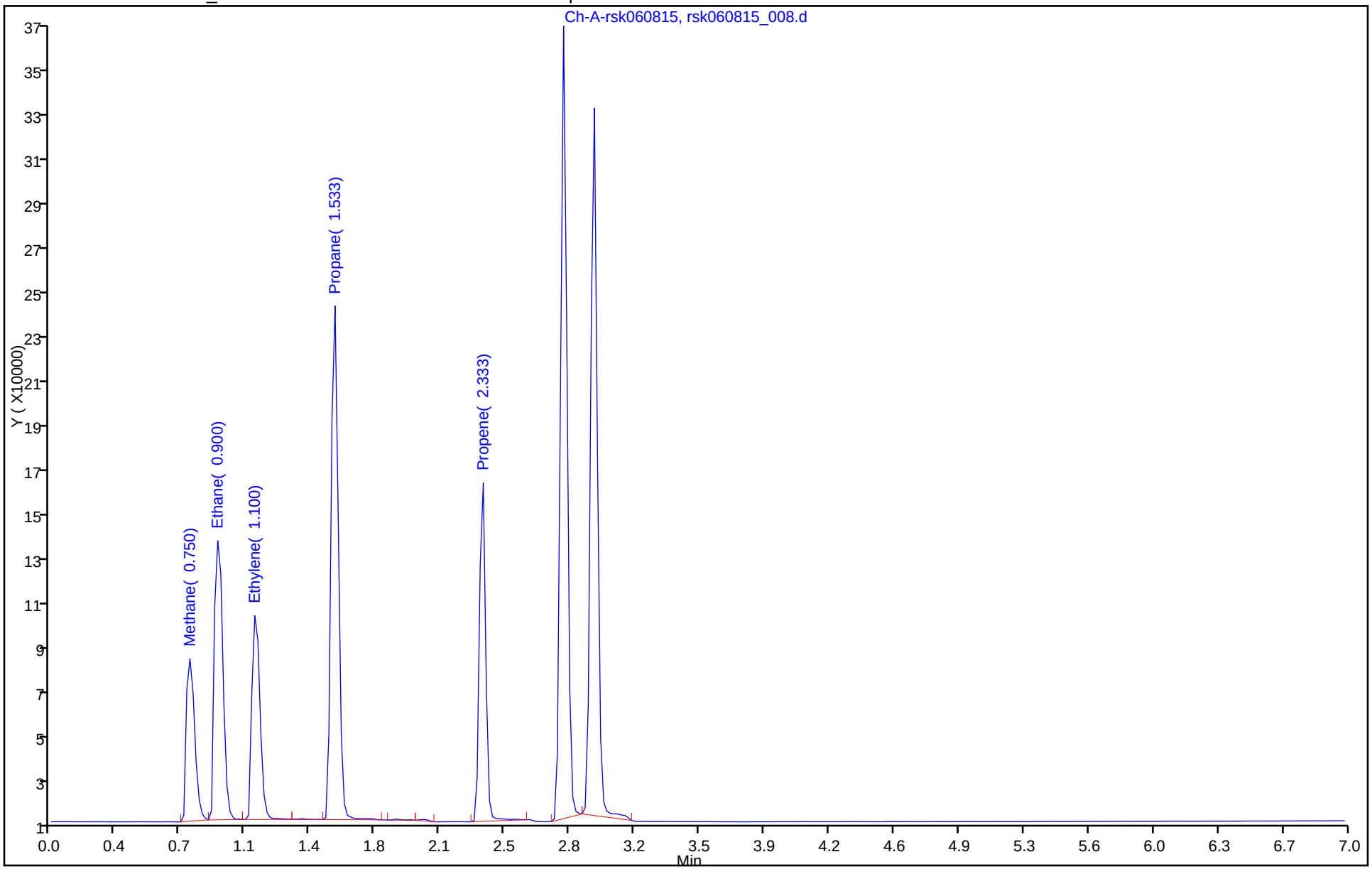
Reagents:

RSK-175 LCS_00017 Amount Added: 13.33 Units: mL

Report Date: 09-Jun-2015 08:49:41 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Injection Date:	08-Jun-2015 12:12:52	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Lab Sample ID: CCVRT 600-177880/1 Calibration Date: 12/07/2015 10:20

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_001.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	4407		5.01	5.16	-3.0	20.0
Ethane	Ave	4243	3505		8.01	9.70	-17.4	20.0
Ethylene	Ave	3120	2649		7.69	9.05	-15.1	20.0
Propane	Ave	4514	3588		11.3	14.2	-20.5*	20.0
Propene	Ave	2689	2084		10.5	13.6	-22.5*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Lab Sample ID: CCVRT 600-177880/1 Calibration Date: 12/07/2015 10:20

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_001.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.75	0.65	0.85
Ethane	0.92	0.82	1.02
Ethylene	1.12	1.02	1.22
Propane	1.55	1.45	1.65
Propene	2.35	2.25	2.45

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_001.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 07-Dec-2015 10:20:44 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009751-001
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:21 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	22741	5.16	5.01	
2 Ethane	0.917	0.917	0.000	34003	9.70	8.01	
3 Ethylene	1.117	1.117	0.000	23977	9.05	7.68	
5 Propane	1.550	1.550	0.000	50879	14.2	11.3	
1 Propene	2.350	2.350	0.000	28295	13.6	10.5	

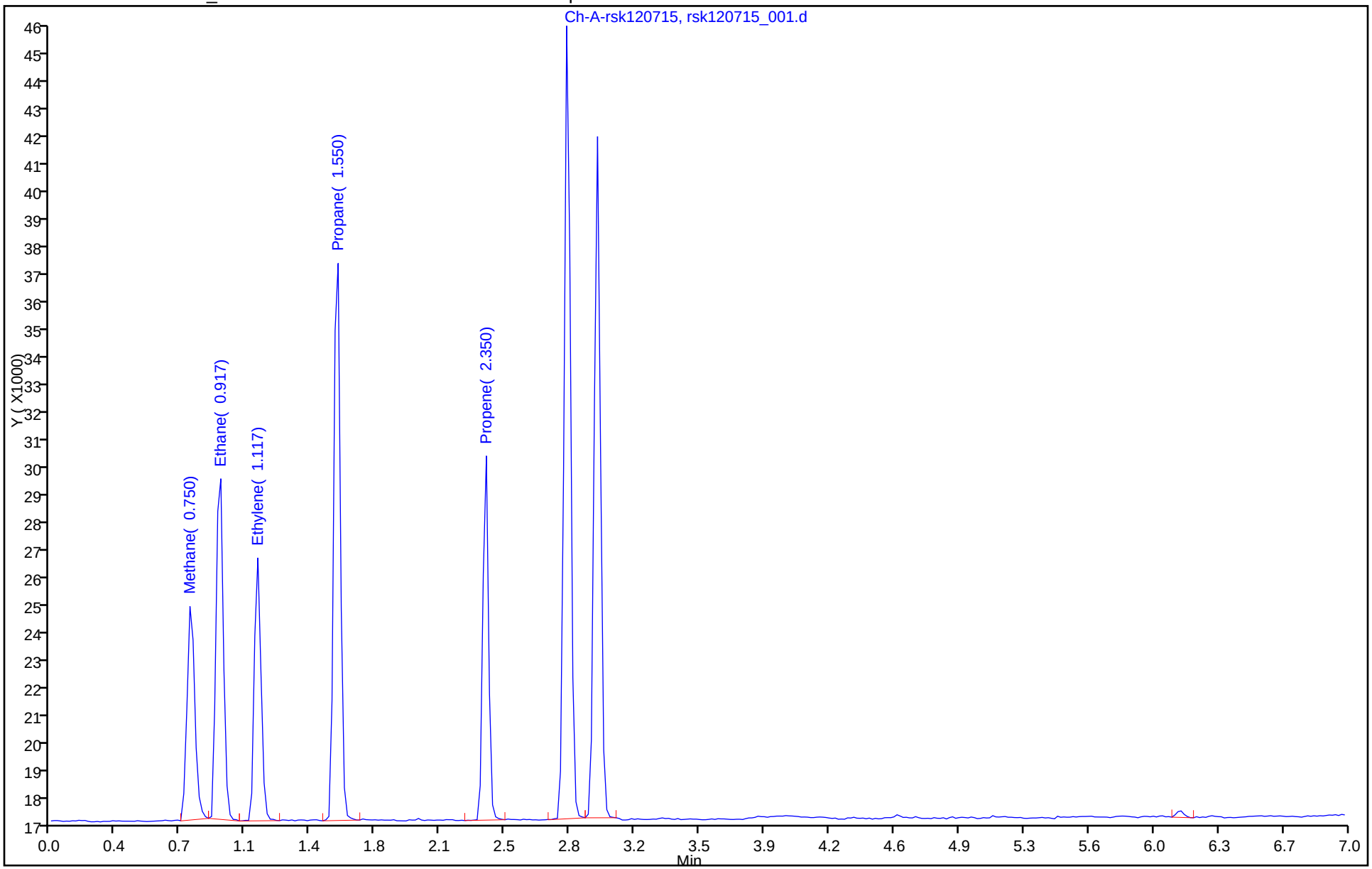
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 07-Dec-2015 16:44:23 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_001.d				
Injection Date:	07-Dec-2015 10:20:44	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Lab Sample ID: CCV 600-177880/12 Calibration Date: 12/07/2015 13:25

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_012.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	4857		3.68	3.44	6.9	20.0
Ethane	Ave	4243	3521		5.37	6.47	-17.0	20.0
Ethylene	Ave	3120	2653		5.13	6.04	-15.0	20.0
Propane	Ave	4514	3489		7.31	9.46	-22.7*	20.0
Propene	Ave	2689	1997		6.73	9.06	-25.7*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Lab Sample ID: CCV 600-177880/12 Calibration Date: 12/07/2015 13:25

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_012.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.33	2.23	2.43

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_012.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Dec-2015 13:25:20 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 007 Name: 600-0009751-012
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:38 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	16716	3.44	3.68	
2 Ethane	0.900	0.900	0.000	22778	6.47	5.37	
3 Ethylene	1.100	1.100	0.000	16012	6.04	5.13	
5 Propane	1.533	1.533	0.000	33003	9.46	7.31	
1 Propene	2.333	2.333	0.000	18087	9.06	6.73	

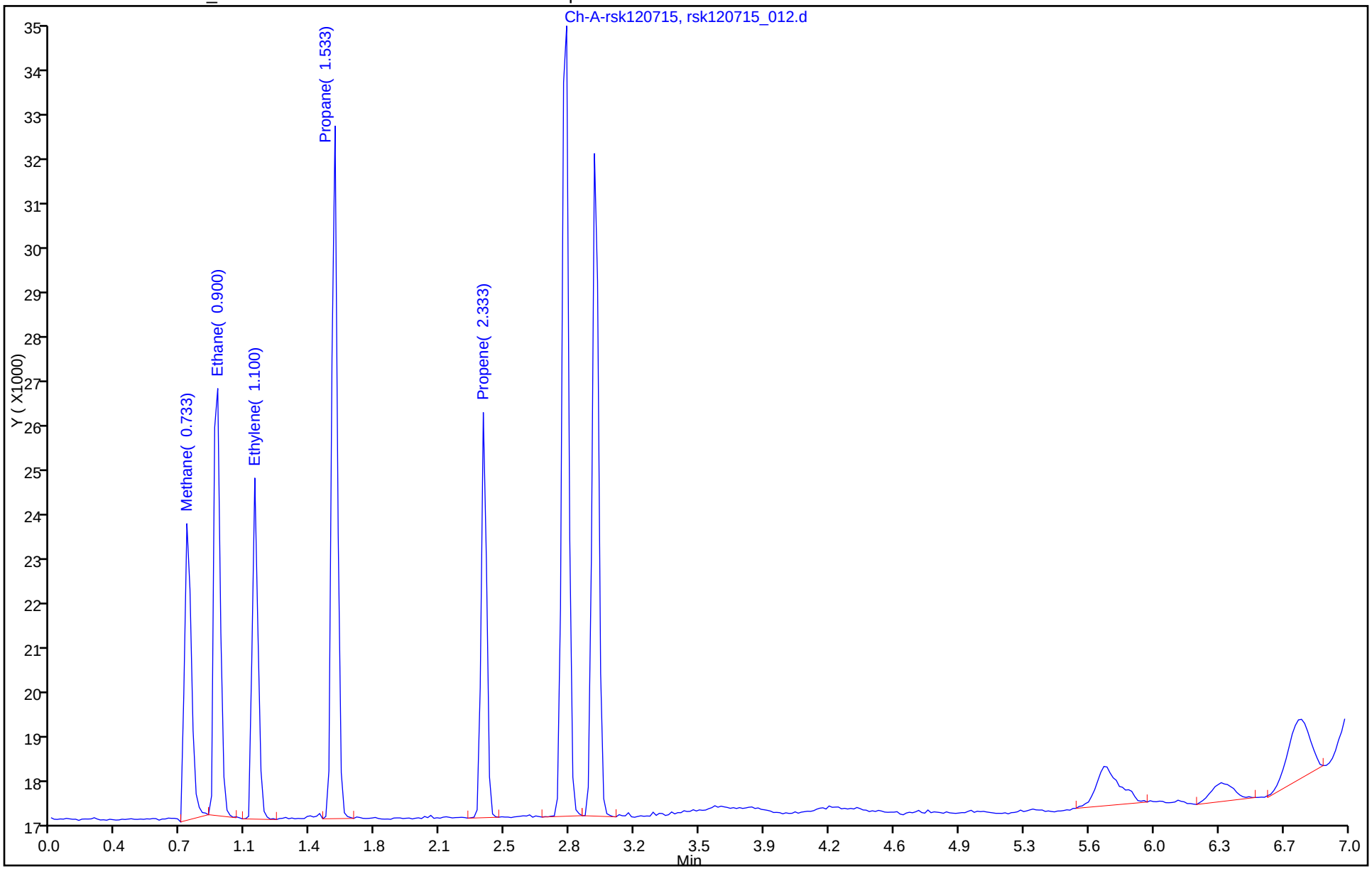
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 07-Dec-2015 16:44:39 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_012.d				
Injection Date:	07-Dec-2015 13:25:20	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Lab Sample ID: CCV 600-177880/23 Calibration Date: 12/07/2015 15:52

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_023.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	4795		3.63	3.44	5.5	20.0
Ethane	Ave	4243	3442		5.25	6.47	-18.9	20.0
Ethylene	Ave	3120	2655		5.14	6.04	-14.9	20.0
Propane	Ave	4514	3205		6.72	9.46	-29.0*	20.0
Propene	Ave	2689	1891		6.37	9.06	-29.7*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Lab Sample ID: CCV 600-177880/23 Calibration Date: 12/07/2015 15:52

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_023.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.33	2.23	2.43

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_023.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Dec-2015 15:52:47 ALS Bottle#: 0 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 012 Name: 600-0009751-023
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:51 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

First Level Reviewer: saccoj Date: 07-Dec-2015 16:06:25

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	16502	3.44	3.63	M
2 Ethane	0.900	0.900	0.000	22270	6.47	5.25	M
3 Ethylene	1.100	1.100	0.000	16025	6.04	5.14	
5 Propane	1.533	1.533	0.000	30312	9.46	6.72	
1 Propene	2.333	2.333	0.000	17125	9.06	6.37	

QC Flag Legend

Review Flags
M - Manually Integrated

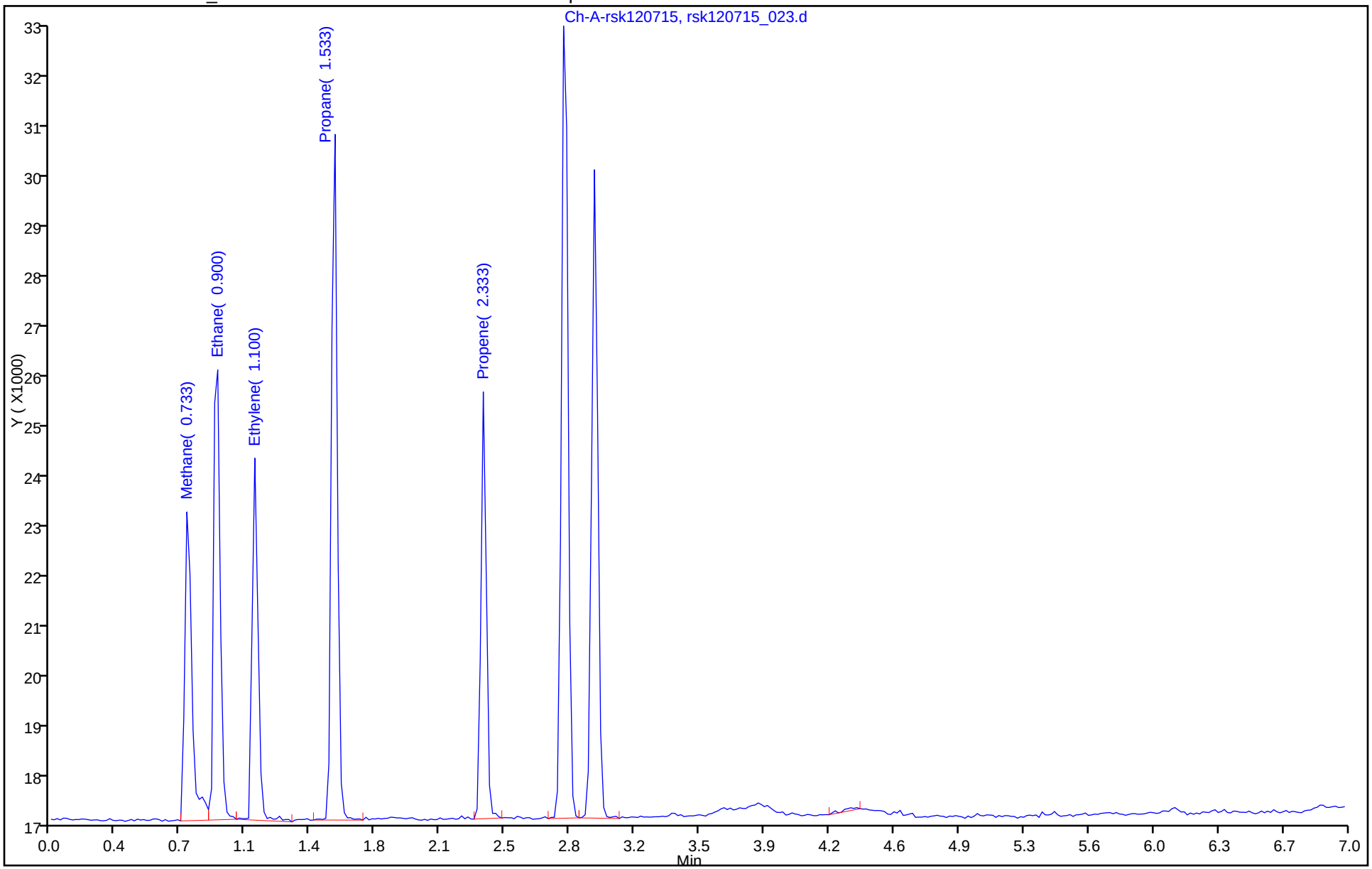
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 07-Dec-2015 16:44:51 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_023.d				
Injection Date:	07-Dec-2015 15:52:47	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

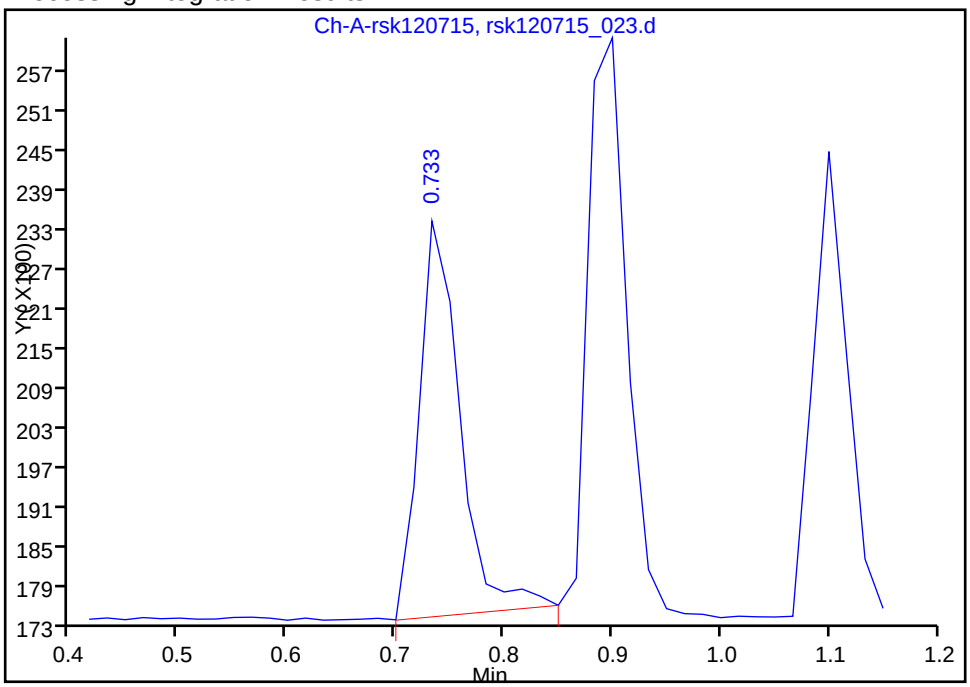
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_023.d				
Injection Date:	07-Dec-2015 15:52:47	Instrument ID:	CHFID14		
Lims ID:	CCV				
Client ID:					
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

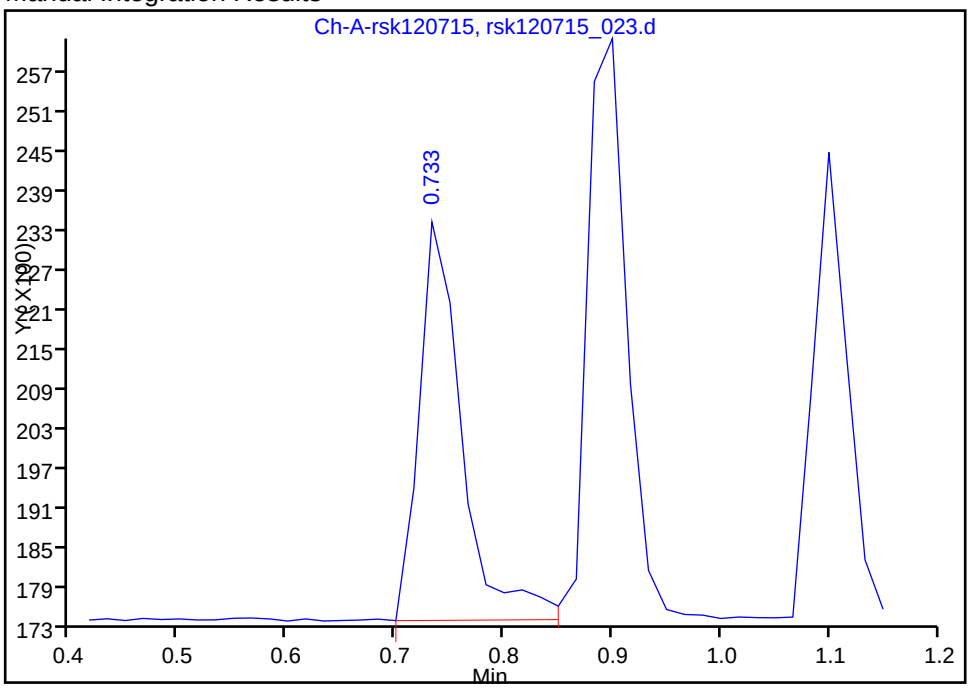
Processing Integration Results

RT: 0.73
Area: 15606
Amount: 3.434732
Amount Units: ug/l



Manual Integration Results

RT: 0.73
Area: 16502
Amount: 3.631933
Amount Units: ug/l



Reviewer: saccoj, 07-Dec-2015 16:06:25
Audit Action: Manually Integrated/Assigned Compound ID
Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

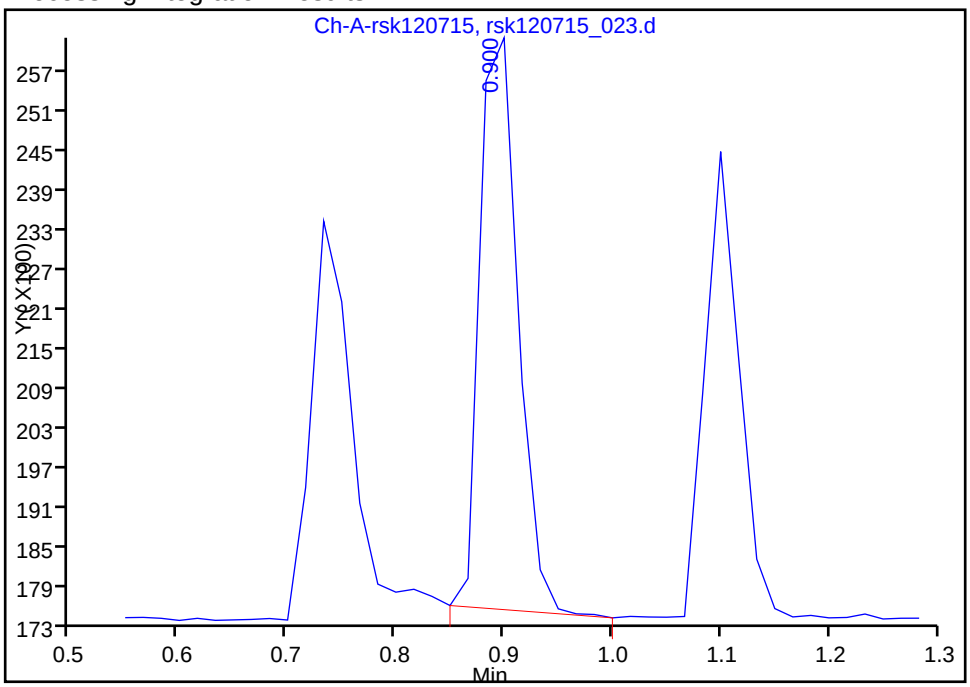
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_023.d				
Injection Date:	07-Dec-2015 15:52:47	Instrument ID:	CHFID14		
Lims ID:	CCV				
Client ID:					
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

2 Ethane, CAS: 74-84-0

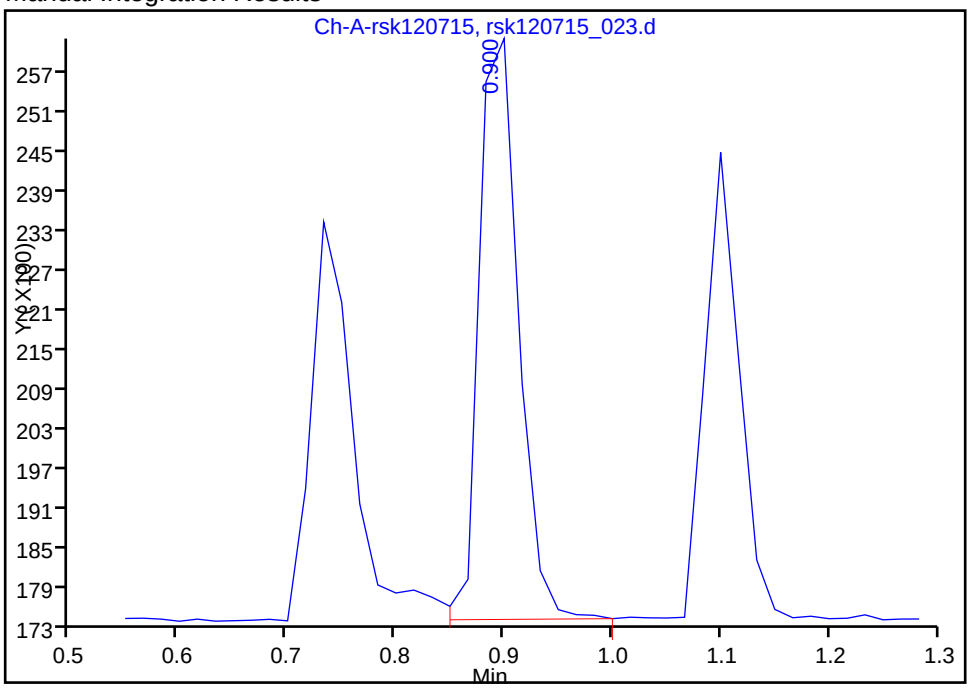
Processing Integration Results

RT: 0.90
Area: 21352
Amount: 5.031704
Amount Units: ug/l



Manual Integration Results

RT: 0.90
Area: 22270
Amount: 5.248035
Amount Units: ug/l



Reviewer: saccoj, 07-Dec-2015 16:06:25
Audit Action: Manually Integrated/Assigned Compound ID
Audit Reason: Split Peak

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Lab Sample ID: CCV 600-177880/29 Calibration Date: 12/07/2015 17:15

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_029.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	4858		3.68	3.44	6.9	20.0
Ethane	Ave	4243	3803		5.80	6.47	-10.4	20.0
Ethylene	Ave	3120	3008		5.82	6.04	-3.6	20.0
Propane	Ave	4514	3603		7.55	9.46	-20.2*	20.0
Propene	Ave	2689	2120		7.14	9.06	-21.2*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Lab Sample ID: CCV 600-177880/29 Calibration Date: 12/07/2015 17:15

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_029.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.33	2.23	2.43

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_029.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Dec-2015 17:15:13 ALS Bottle#: 0 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 018 Name: 600-0009751-029
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 17:27:50 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	16719	3.44	3.68	
2 Ethane	0.900	0.900	0.000	24608	6.47	5.80	
3 Ethylene	1.100	1.100	0.000	18160	6.04	5.82	
5 Propane	1.533	1.533	0.000	34076	9.46	7.55	
1 Propene	2.333	2.333	0.000	19200	9.06	7.14	

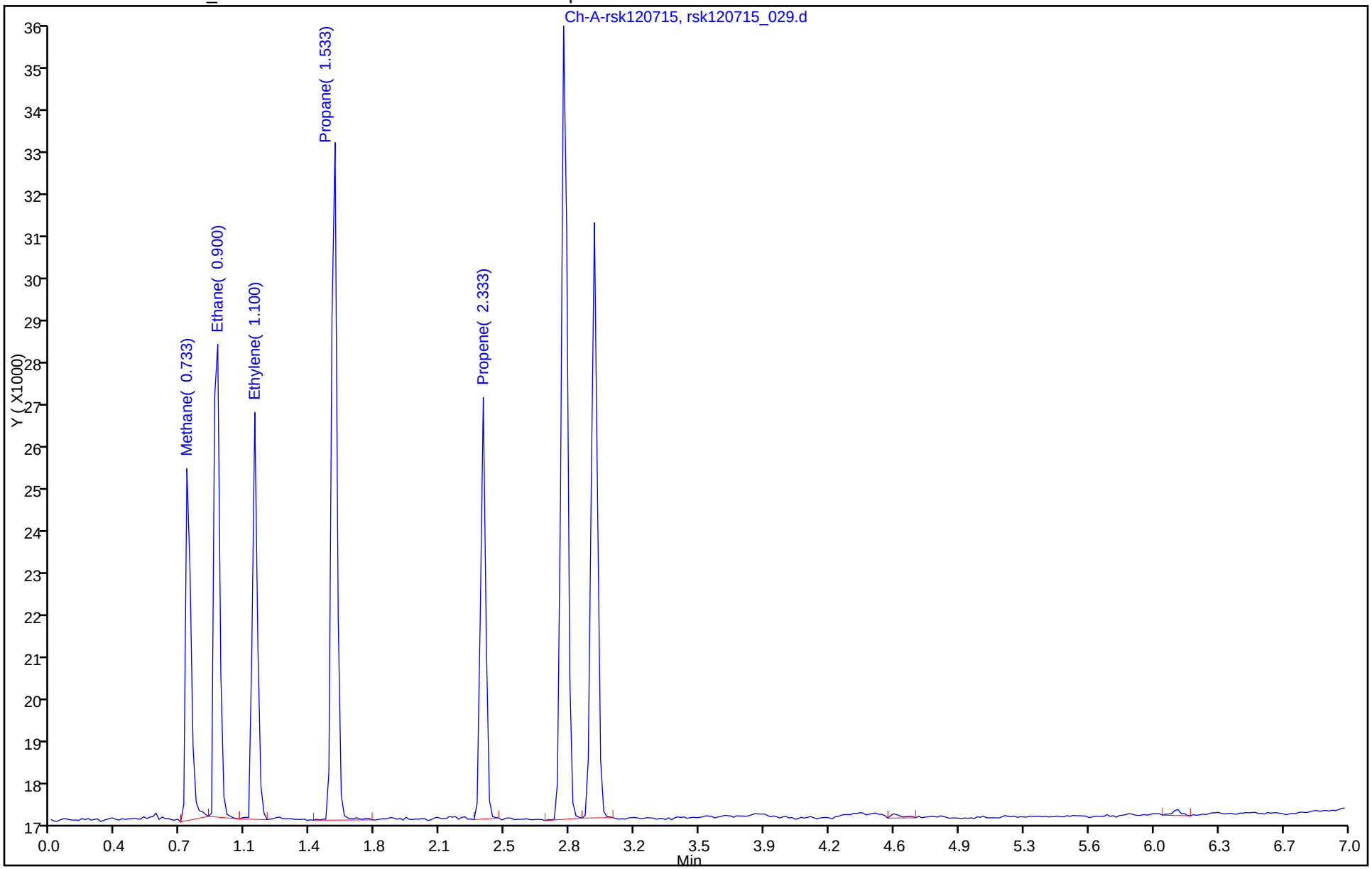
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 07-Dec-2015 17:27:52 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_029.d				
Injection Date:	07-Dec-2015 17:15:13	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122559-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-177880/2
Matrix: Water
Lab File ID: rsk120715_002.d
Analysis Method: RSK-175
Date Collected:
Sample wt/vol: 1(mL)
Date Analyzed: 12/07/2015 10:33
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177880
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.000357	U	0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

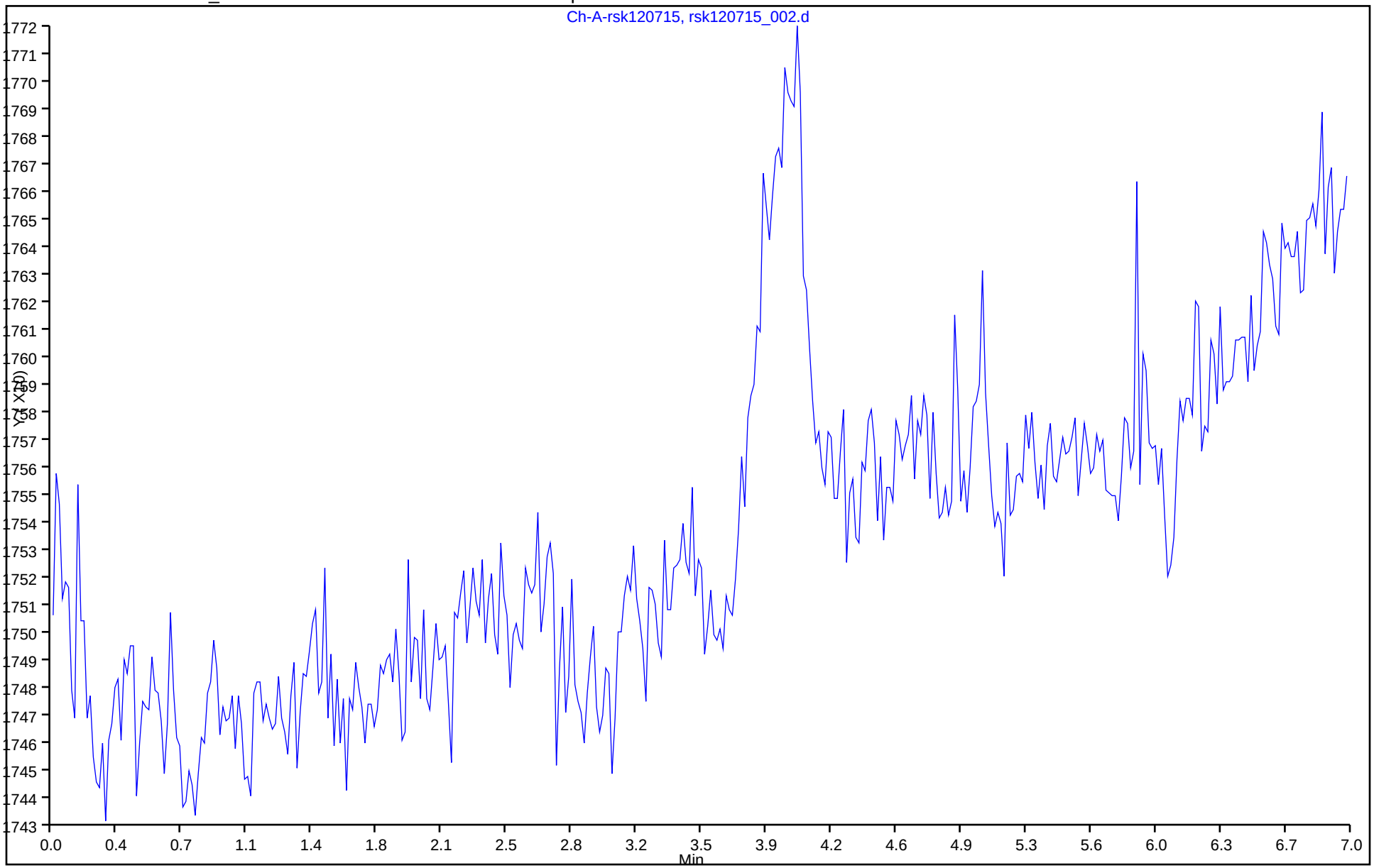
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_002.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	07-Dec-2015 10:33:44	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0009751-002				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	07-Dec-2015 16:44:21	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK037				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 07-Dec-2015 16:44:24 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_002.d				
Injection Date:	07-Dec-2015 10:33:44	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	MB			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122559-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-177880/3
Matrix: Water
Lab File ID: rsk120715_003.d
Analysis Method: RSK-175
Date Collected:
Sample wt/vol: 1(mL)
Date Analyzed: 12/07/2015 10:45
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177880
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.007548		0.00200	0.000303
74-82-8	Methane	0.004806		0.00100	0.000357
74-85-1	Ethylene	0.007352		0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_003.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 07-Dec-2015 10:45:07 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009751-003
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:21 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	21836	5.16	4.81	
2 Ethane	0.900	0.917	-0.017	32028	9.70	7.55	
3 Ethylene	1.100	1.117	-0.017	22938	9.05	7.35	
5 Propane	1.533	1.550	-0.017	47154	14.2	10.4	
1 Propene	2.333	2.350	-0.017	26124	13.6	9.71	

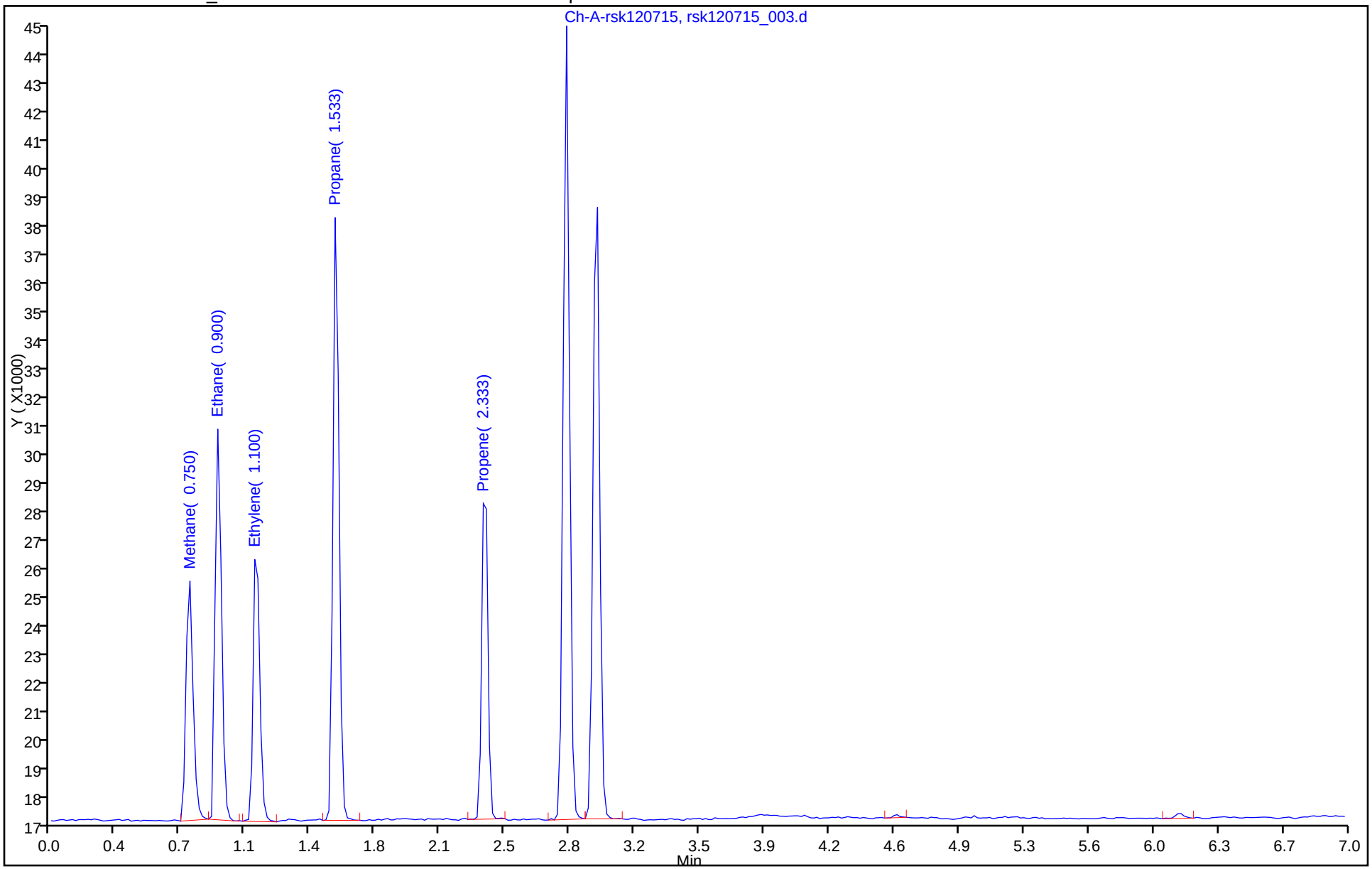
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 07-Dec-2015 16:44:25 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_003.d				
Injection Date:	07-Dec-2015 10:45:07	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	LCS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122559-1
SDG No.:
Client Sample ID:
Lab Sample ID: 600-122502-O-2 MS
Matrix: Water
Lab File ID: rsk120715_006.d
Analysis Method: RSK-175
Date Collected: 12/01/2015 10:05
Sample wt/vol: 1(mL)
Date Analyzed: 12/07/2015 11:20
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177880
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.009638		0.00200	0.000303
74-82-8	Methane	0.005779		0.00100	0.000357
74-85-1	Ethylene	0.009089		0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_006.d
Lims ID: 600-122502-O-2 MS
Client ID:
Sample Type: MS
Inject. Date: 07-Dec-2015 11:20:05 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001 Name: 600-0009751-006
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:21 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	26259	5.16	5.78	
2 Ethane	0.900	0.917	-0.017	40899	9.70	9.64	
3 Ethylene	1.117	1.117	0.000	28358	9.05	9.09	
5 Propane	1.550	1.550	0.000	61746	14.2	13.7	
1 Propene	2.350	2.350	0.000	33846	13.6	12.6	

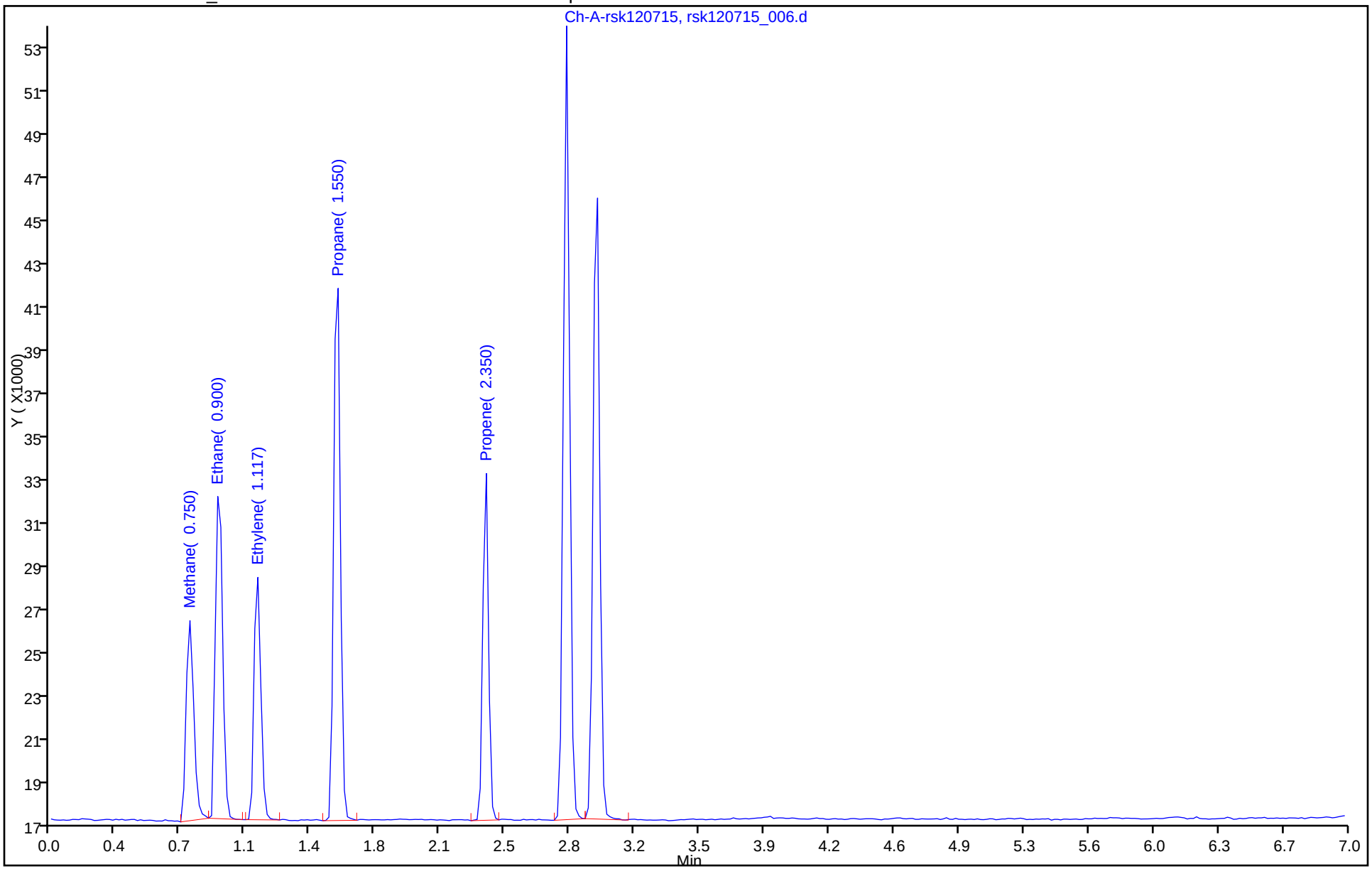
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 07-Dec-2015 16:44:30 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_006.d				
Injection Date:	07-Dec-2015 11:20:05	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122502-O-2 MS			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122559-1
SDG No.:
Client Sample ID:
Lab Sample ID: 600-122502-O-2 MSD
Matrix: Water
Lab File ID: rsk120715_007.d
Analysis Method: RSK-175
Date Collected: 12/01/2015 10:05
Sample wt/vol: 1(mL)
Date Analyzed: 12/07/2015 11:32
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177880
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.008851		0.00200	0.000303
74-82-8	Methane	0.005358		0.00100	0.000357
74-85-1	Ethylene	0.008309		0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_007.d
Lims ID: 600-122502-O-2 MSD
Client ID:
Sample Type: MSD
Inject. Date: 07-Dec-2015 11:32:23 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 002 Name: 600-0009751-007
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:21 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	24345	5.16	5.36	
2 Ethane	0.900	0.917	-0.017	37559	9.70	8.85	
3 Ethylene	1.117	1.117	0.000	25925	9.05	8.31	
5 Propane	1.533	1.550	-0.017	56427	14.2	12.5	
1 Propene	2.333	2.350	-0.017	30829	13.6	11.5	

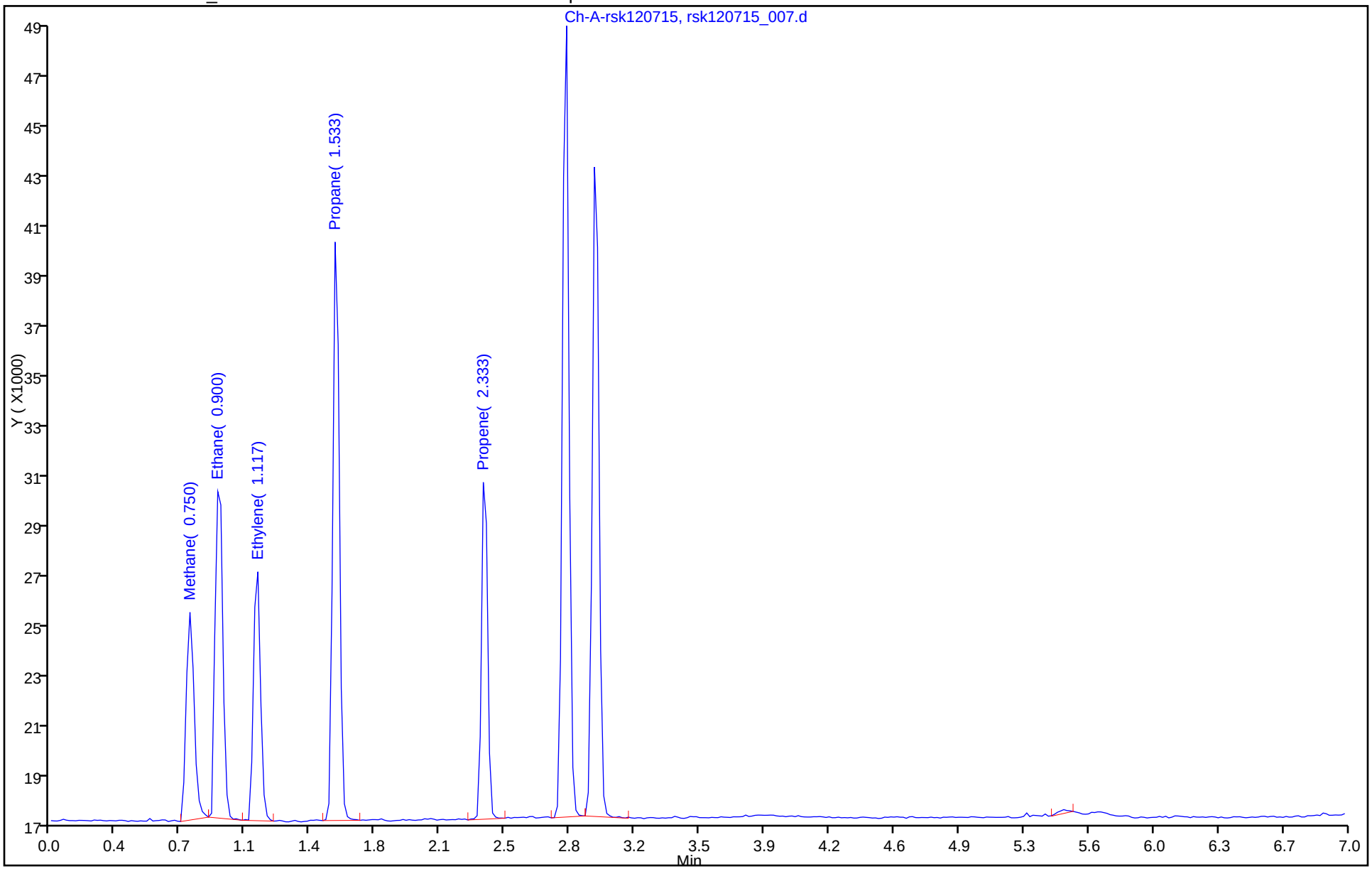
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 07-Dec-2015 16:44:31 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_007.d				
Injection Date:	07-Dec-2015 11:32:23	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122502-O-2 MSD			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: CHFID14 Start Date: 06/08/2015 10:52

Analysis Batch Number: 164074 End Date: 06/08/2015 18:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-164074/1		06/08/2015 10:52	1	rsk060815_001.d	RTX-5 0.53(mm)
IC 600-164074/2		06/08/2015 11:03	1	rsk060815_002.d	RTX-5 0.53(mm)
IC 600-164074/3		06/08/2015 11:15	1	rsk060815_003.d	RTX-5 0.53(mm)
ICRT 600-164074/4		06/08/2015 11:26	1	rsk060815_004.d	RTX-5 0.53(mm)
IC 600-164074/5		06/08/2015 11:38	1	rsk060815_005.d	RTX-5 0.53(mm)
IC 600-164074/6		06/08/2015 11:50	1	rsk060815_006.d	RTX-5 0.53(mm)
IC 600-164074/7		06/08/2015 12:01	1	rsk060815_007.d	RTX-5 0.53(mm)
IC 600-164074/8		06/08/2015 12:12	1	rsk060815_008.d	RTX-5 0.53(mm)
ZZZZZ		06/08/2015 12:57	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:22	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:36	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:47	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:02	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:18	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:41	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 15:56	100		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 16:50	100		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 17:27	100		RTX-5 0.53(mm)
CCV 600-164074/20		06/08/2015 17:38	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 17:51	1000		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 18:03	1000		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 18:17	1000		RTX-5 0.53(mm)
CCV 600-164074/24		06/08/2015 18:28	1		RTX-5 0.53(mm)

RSK-175

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: CHFID14 Start Date: 12/07/2015 10:20

Analysis Batch Number: 177880 End Date: 12/07/2015 17:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 600-177880/1		12/07/2015 10:20	1	rsk120715_001.d	RTX-5 0.53(mm)
MB 600-177880/2		12/07/2015 10:33	1	rsk120715_002.d	RTX-5 0.53(mm)
LCS 600-177880/3		12/07/2015 10:45	1	rsk120715_003.d	RTX-5 0.53(mm)
ZZZZZ		12/07/2015 10:58	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 11:09	1		RTX-5 0.53(mm)
600-122502-O-2 MS		12/07/2015 11:20	1	rsk120715_006.d	RTX-5 0.53(mm)
600-122502-O-2 MSD		12/07/2015 11:32	1	rsk120715_007.d	RTX-5 0.53(mm)
ZZZZZ		12/07/2015 11:43	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 11:54	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 12:21	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 12:43	1		RTX-5 0.53(mm)
CCV 600-177880/12		12/07/2015 13:25	1	rsk120715_012.d	RTX-5 0.53(mm)
600-122559-1	MW-04	12/07/2015 13:38	1	rsk120715_013.d	RTX-5 0.53(mm)
600-122559-2	MW-05	12/07/2015 13:51	1	rsk120715_014.d	RTX-5 0.53(mm)
600-122559-3	MW-08	12/07/2015 14:03	1	rsk120715_015.d	RTX-5 0.53(mm)
600-122559-4	MW-09	12/07/2015 14:14	1	rsk120715_016.d	RTX-5 0.53(mm)
600-122559-5	MW-20	12/07/2015 14:25	1	rsk120715_017.d	RTX-5 0.53(mm)
ZZZZZ		12/07/2015 14:36	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 14:47	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 14:59	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 15:17	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 15:41	1000		RTX-5 0.53(mm)
CCV 600-177880/23		12/07/2015 15:52	1	rsk120715_023.d	RTX-5 0.53(mm)
ZZZZZ		12/07/2015 16:07	500		RTX-5 0.53(mm)
600-122559-1	MW-04	12/07/2015 16:18	20	rsk120715_025.d	RTX-5 0.53(mm)
600-122559-3	MW-08	12/07/2015 16:29	100	rsk120715_026.d	RTX-5 0.53(mm)
600-122559-5	MW-20	12/07/2015 16:41	100	rsk120715_027.d	RTX-5 0.53(mm)
ZZZZZ		12/07/2015 17:03	500		RTX-5 0.53(mm)
CCV 600-177880/29		12/07/2015 17:15	1	rsk120715_029.d	RTX-5 0.53(mm)

RSK-175

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122559-1

SDG No.:

Project: Jones Road Groundwater Plume

Client Sample ID	Lab Sample ID
MW-04	600-122559-1
MW-05	600-122559-2
MW-08	600-122559-3
MW-09	600-122559-4
MW-20	600-122559-5

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-04
Lab Sample ID: 600-122559-1
Lab Name: TestAmerica Houston
Job No.: 600-122559-1
SDG ID.:
Matrix: Water
Date Sampled: 12/02/2015 13:55
Reporting Basis: WET
Date Received: 12/03/2015 12:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	1.00	0.200	0.0675	mg/L			1	350.1
	Nitrate Nitrite as N	0.0301	0.0500	0.0170	mg/L	J		1	353.2
14265-44-2	Orthophosphate	0.781	0.0500	0.0104	mg/L			1	4500 P E-1999
7440-44-0	Total Organic Carbon	19.3	2.00	0.874	mg/L			2	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-05
Lab Sample ID: 600-122559-2
Lab Name: TestAmerica Houston
Job No.: 600-122559-1
SDG ID.:
Matrix: Water
Date Sampled: 12/02/2015 11:40
Reporting Basis: WET
Date Received: 12/03/2015 12:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	5.48	1.00	0.340	mg/L			20	353.2
14265-44-2	Orthophosphate	0.0104	0.0500	0.0104	mg/L	U		1	4500 P E-1999
7440-44-0	Total Organic Carbon	1.98	1.00	0.437	mg/L			1	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-08
Lab Sample ID: 600-122559-3
Lab Name: TestAmerica Houston
Job No.: 600-122559-1
SDG ID.:
Matrix: Water
Date Sampled: 12/02/2015 10:25
Reporting Basis: WET
Date Received: 12/03/2015 12:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.294	0.200	0.0675	mg/L			1	350.1
	Nitrate Nitrite as N	0.0170	0.0500	0.0170	mg/L	U	F1	1	353.2
14265-44-2	Orthophosphate	0.253	0.0500	0.0104	mg/L			1	4500 P E-1999
7440-44-0	Total Organic Carbon	35.8	2.00	0.874	mg/L			2	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-09
Lab Sample ID: 600-122559-4
Lab Name: TestAmerica Houston
Job No.: 600-122559-1
SDG ID.:
Matrix: Water
Date Sampled: 12/02/2015 09:15
Reporting Basis: WET
Date Received: 12/03/2015 12:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	1.57	0.0500	0.0170	mg/L			1	353.2
14265-44-2	Orthophosphate	0.0104	0.0500	0.0104	mg/L	U		1	4500 P E-1999
7440-44-0	Total Organic Carbon	0.759	1.00	0.437	mg/L	J		1	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-20
Lab Sample ID: 600-122559-5
Lab Name: TestAmerica Houston
Job No.: 600-122559-1
SDG ID.:
Matrix: Water
Date Sampled: 12/02/2015 14:40
Reporting Basis: WET
Date Received: 12/03/2015 12:55

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	0.235	0.0500	0.0170	mg/L			1	353.2
14265-44-2	Orthophosphate	0.0519	0.250	0.0519	mg/L	U		5	4500 P E-1999
7440-44-0	Total Organic Carbon	5.09	1.00	0.437	mg/L			1	5310 D-2000

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Analyst: SC1 Batch Start Date: 12/09/2015

Reporting Units: mg/L Analytical Batch No.: 178056

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
9	ICV	07:48	Ammonia	5.119	5.00	102	90-110		WETSNH3ICV_00020
10	ICB	07:49	Ammonia	0.0675				U	
21	CCV	08:01	Ammonia	5.070	5.00	101	90-110		WETSNH3CAL_00012
22	CCB	08:02	Ammonia	0.0675				U	
33	CCV	08:15	Ammonia	5.086	5.00	102	90-110		WETSNH3CAL_00012
34	CCB	08:16	Ammonia	0.0675				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Analyst: KRD Batch Start Date: 12/14/2015

Reporting Units: mg/L Analytical Batch No.: 178421

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	15:22	Nitrate Nitrite as N	0.9989	1.00	100	90-110		NO3NO2ICV/LCS_0003 8
8	ICB	15:22	Nitrate Nitrite as N	0.0170				U	
20	CCV	15:32	Nitrate Nitrite as N	1.024	1.00	102	90-110		NO3NO2CRVE1.0_0004 5
21	CCB	15:33	Nitrate Nitrite as N	0.0170				U	
32	CCV	15:41	Nitrate Nitrite as N	1.016	1.00	102	90-110		NO3NO2CRVE1.0_0004 5
33	CCB	15:42	Nitrate Nitrite as N	0.0170				U	
44	CCV	15:51	Nitrate Nitrite as N	1.018	1.00	102	90-110		NO3NO2CRVE1.0_0004 5
45	CCB	15:52	Nitrate Nitrite as N	0.0170				U	
58	CCV	16:02	Nitrate Nitrite as N	1.008	1.00	101	90-110		NO3NO2CRVE1.0_0004 5
59	CCB	16:03	Nitrate Nitrite as N	0.0170				U	
70	CCV	16:11	Nitrate Nitrite as N	1.001	1.00	100	90-110		NO3NO2CRVE1.0_0004 5
71	CCB	16:12	Nitrate Nitrite as N	0.0170				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Analyst: KRD Batch Start Date: 12/03/2015

Reporting Units: mg/L Analytical Batch No.: 177773

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	23:00	Orthophosphate	0.5160	0.500	103	90-110		WETSPHOSIS_00020
2	ICB	23:00	Orthophosphate	0.0104				U	
13	CCV	23:00	Orthophosphate	0.5330	0.500	107	90-110		WETSPHOSCS_00022
14	CCB	23:00	Orthophosphate	0.0104				U	
18	CCV	23:00	Orthophosphate	0.5350	0.500	107	90-110		WETSPHOSCS_00022
19	CCB	23:00	Orthophosphate	0.0104				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Analyst: EC1 Batch Start Date: 12/11/2015

Reporting Units: mg/L Analytical Batch No.: 178314

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	16:00	Total Organic Carbon	9.853	10.0	99	85-115		TOCISCAL_00300
8	ICB	16:11	Total Organic Carbon	0.437				U	
19	CCV	18:06	Total Organic Carbon	10.19	10.0	102	85-115		TOCSLCS_00209
20	CCB	18:17	Total Organic Carbon	0.437				U	
31	CCV	20:12	Total Organic Carbon	10.34	10.0	103	85-115		TOCSLCS_00209
32	CCB	20:22	Total Organic Carbon	0.437				U	
43	CCV	22:17	Total Organic Carbon	10.14	10.0	101	85-115		TOCSLCS_00209
44	CCB	22:28	Total Organic Carbon	0.437				U	
55	CCV	00:23	Total Organic Carbon	10.12	10.0	101	85-115		TOCSLCS_00209
56	CCB	00:33	Total Organic Carbon	0.437				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 178056 Date: 12/09/2015 07:50 Prep Batch: 178041 Date: 12/09/2015 05:16							
350.1	MB 600-178041/1-A	Ammonia	0.0675	U	mg/L	0.200	1
Batch ID: 178421 Date: 12/14/2015 15:24							
353.2	MB 600-178421/10	Nitrate Nitrite as N	0.0170	U	mg/L	0.0500	1
Batch ID: 178421 Date: 12/14/2015 15:52							
353.2	MB 600-178421/46	Nitrate Nitrite as N	0.0170	U	mg/L	0.0500	1
Batch ID: 177773 Date: 12/03/2015 23:00							
4500 P E-1999	MB 600-177773/3	Orthophosphate	0.0104	U	mg/L	0.0500	1
4500 P E-1999	MB 600-177773/3	Orthophosphorus as PO4	0.0318	U	mg/L	0.153	1
Batch ID: 178314 Date: 12/11/2015 16:21							
5310 D-2000	MB 600-178314/9	Total Organic Carbon	0.437	U	mg/L	1.00	1
Batch ID: 178314 Date: 12/11/2015 21:35							
5310 D-2000	MB 600-178314/39	Total Organic Carbon	0.437	U	mg/L	1.00	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 178056	Date: 12/09/2015 07:53		Prep Batch: 178041			Date: 12/09/2015 05:16					
350.1	600-122559-1	Ammonia	1.00		mg/L						
350.1	600-122559-1 MS	Ammonia	5.744		mg/L	5.00	95	90-110			
Batch ID: 178056	Date: 12/09/2015 08:09		Prep Batch: 178041			Date: 12/09/2015 05:16					
350.1	600-122559-2	Ammonia	0.0675	U	mg/L						
350.1	600-122559-2 MS	Ammonia	4.868		mg/L	5.00	97	90-110			
Batch ID: 178421	Date: 12/14/2015 15:48										
353.2	600-122559-3	Nitrate Nitrite as N	0.0170	U	mg/L						F1
353.2	600-122559-3 MS	Nitrate Nitrite as N	0.6293		mg/L	1.00	63	80-120			F1
Batch ID: 177773	Date: 12/03/2015 23:00										
4500 P E-1999	600-122559-5	Orthophosphate	0.0519	U	mg/L						
4500 P E-1999	600-122559-5 MS	Orthophosphate	2.655		mg/L	2.50	106	75-125			
4500 P E-1999	600-122559-5	Orthophosphorus as PO4	0.159	U	mg/L						
4500 P E-1999	600-122559-5 MS	Orthophosphorus as PO4	8.141		mg/L	7.67	106	75-125			
Batch ID: 178314	Date: 12/11/2015 19:19										
5310 D-2000	600-122905-D-6	Total Organic Carbon	5.80		mg/L						
5310 D-2000	600-122905-D-6 MS	Total Organic Carbon	16.60		mg/L	10.0	108	80-120			
Batch ID: 178314	Date: 12/11/2015 22:07										
5310 D-2000	600-122613-B-2	Total Organic Carbon	6.98		mg/L						
5310 D-2000	600-122613-B-2 MS	Total Organic Carbon	18.15		mg/L	10.0	112	80-120			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 178056	Date: 12/09/2015 07:55		Prep Batch: 178041			Date: 12/09/2015 05:16					
350.1	600-122559-1 MSD	Ammonia	5.634		mg/L	5.00	93	90-110	2	20	
Batch ID: 178056	Date: 12/09/2015 08:10		Prep Batch: 178041			Date: 12/09/2015 05:16					
350.1	600-122559-2 MSD	Ammonia	4.942		mg/L	5.00	99	90-110	1	20	
Batch ID: 178421	Date: 12/14/2015 15:49										
353.2	600-122559-3 MSD	Nitrate Nitrite as N	0.6101		mg/L	1.00	61	80-120	3	20	F1
Batch ID: 177773	Date: 12/03/2015 23:00										
4500 P E-1999	600-122559-5 MSD	Orthophosphate	2.715		mg/L	2.50	109	75-125	2	20	
4500 P E-1999	600-122559-5 MSD	Orthophosphorus as PO4	8.325		mg/L	7.67	109	75-125	2	20	
Batch ID: 178314	Date: 12/11/2015 19:30										
5310 D-2000	600-122905-D-6 MSD	Total Organic Carbon	16.73		mg/L	10.0	109	80-120	1	20	
Batch ID: 178314	Date: 12/11/2015 22:38										
5310 D-2000	600-122613-B-2 MSD	Total Organic Carbon	18.01		mg/L	10.0	110	80-120	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 178056	Date: 12/09/2015 07:51		Prep Batch: 178041			Date: 12/09/2015 05:16					
						LCS Source: WETSNH3ICV_00020					
350.1	LCS 600-178041/2-A	Ammonia	4.942		mg/L	5.00	99	90-110			
Batch ID: 178421	Date: 12/14/2015 15:25										
						LCS Source: NO3NO2ICV/LCS_00038					
353.2	LCS 600-178421/11	Nitrate Nitrite as N	1.012		mg/L	1.00	101	90-110			
Batch ID: 178421	Date: 12/14/2015 15:53										
						LCS Source: NO3NO2ICV/LCS_00038					
353.2	LCS 600-178421/47	Nitrate Nitrite as N	0.9994		mg/L	1.00	100	90-110			
Batch ID: 177773	Date: 12/03/2015 23:00										
						LCS Source: WETSPHOSIS_00020					
4500 P E-1999	LCS 600-177773/4	Orthophosphate	0.5260		mg/L	0.500	105	90-110			
4500 P E-1999	LCS 600-177773/4	Orthophosphorus as PO4	1.613		mg/L	1.53	105	90-110			
Batch ID: 178314	Date: 12/11/2015 16:32										
						LCS Source: TOCISCAL_00300					
5310 D-2000	LCS 600-178314/10	Total Organic Carbon	9.703		mg/L	10.0	97	85-115			
Batch ID: 178314	Date: 12/11/2015 21:46										
						LCS Source: TOCISCAL_00300					
5310 D-2000	LCS 600-178314/40	Total Organic Carbon	9.858		mg/L	10.0	99	85-115			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122559-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 MDL Date: 04/30/2014 10:41

Prep Method: 350.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ammonia		0.2	0.067487

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122559-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 XMDL Date: 04/30/2014 10:42

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ammonia		0.2	0.067487

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122559-1

SDG Number:

Matrix: Water Instrument ID: WC05

Method: 353.2 MDL Date: 07/09/2012 10:23

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Nitrate Nitrite as N		0.05	0.017

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122559-1

SDG Number:

Matrix: Water Instrument ID: WC05

Method: 353.2 XMDL Date: 05/05/2014 08:21

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate Nitrite as N		0.05	0.017

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122559-1

SDG Number:

Matrix: Water Instrument ID: WC10

Method: 4500 P E-1999 MDL Date: 05/05/2014 08:22

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Orthophosphate		0.05	0.010379

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122559-1

SDG Number:

Matrix: Water Instrument ID: WC10

Method: 4500 P E-1999 XMDL Date: 05/05/2014 08:22

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Orthophosphate		0.05	0.010379

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122559-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 5310 D-2000 MDL Date: 07/10/2012 14:07

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Organic Carbon		1	0.437

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122559-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 5310 D-2000 XMDL Date: 07/10/2012 14:07

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Organic Carbon		1	0.437

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Prep Method: 350.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-178041/1-A	12/09/2015 05:16	178041		100	100
LCS 600-178041/2-A	12/09/2015 05:16	178041		100	100
600-122559-1	12/09/2015 05:16	178041		100	100
600-122559-1 MS	12/09/2015 05:16	178041		100	100
600-122559-1 MSD	12/09/2015 05:16	178041		100	100
600-122559-2	12/09/2015 05:16	178041		100	100
600-122559-2 MS	12/09/2015 05:16	178041		100	100
600-122559-2 MSD	12/09/2015 05:16	178041		100	100
600-122559-3	12/09/2015 05:16	178041		100	100
600-122559-4	12/09/2015 05:16	178041		100	100
600-122559-5	12/09/2015 05:16	178041		100	100

FORM XII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: WC07 Method: 350.1

Start Date: 12/09/2015 07:39 End Date: 12/09/2015 08:37

Lab Sample ID	D/F	Type	Time	Analytes																			
				NH3																			
ZZZZZZ			07:39																				
ZZZZZZ			07:40																				
ZZZZZZ			07:41																				
ZZZZZZ			07:42																				
ZZZZZZ			07:43																				
ZZZZZZ			07:44																				
ZZZZZZ			07:45																				
ZZZZZZ			07:47																				
ICV 600-178056/9	1		07:48	X																			
ICB 600-178056/10	1		07:49	X																			
MB 600-178041/1-A	1	T	07:50	X																			
LCS 600-178041/2-A	1	T	07:51	X																			
600-122559-1	1	T	07:52	X																			
600-122559-1 MS	1	T	07:53	X																			
600-122559-1 MSD	1	T	07:55	X																			
ZZZZZZ			07:56																				
ZZZZZZ			07:57																				
ZZZZZZ			07:58																				
ZZZZZZ			07:59																				
ZZZZZZ			08:00																				
CCV 600-178056/21	1		08:01	X																			
CCB 600-178056/22	1		08:02	X																			
ZZZZZZ			08:03																				
ZZZZZZ			08:05																				
ZZZZZZ			08:06																				
ZZZZZZ			08:07																				
600-122559-2	1	T	08:08	X																			
600-122559-2 MS	1	T	08:09	X																			
600-122559-2 MSD	1	T	08:10	X																			
600-122559-3	1	T	08:11	X																			
600-122559-4	1	T	08:13	X																			
600-122559-5	1	T	08:14	X																			
CCV 600-178056/33	1		08:15	X																			
CCB 600-178056/34	1		08:16	X																			
ZZZZZZ			08:17																				
ZZZZZZ			08:18																				
ZZZZZZ			08:19																				
ZZZZZZ			08:20																				
ZZZZZZ			08:22																				
ZZZZZZ			08:23																				
ZZZZZZ			08:24																				
ZZZZZZ			08:25																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: WC07 Method: 350.1

Start Date: 12/09/2015 07:39 End Date: 12/09/2015 08:37

Lab Sample ID	D/F	Type	Time	Analytes																			
				NH3																			
ZZZZZZ			08:26																				
ZZZZZZ			08:27																				
CCV 600-178056/45			08:28																				
CCB 600-178056/46			08:30																				
ZZZZZZ			08:31																				
ZZZZZZ			08:32																				
ZZZZZZ			08:33																				
ZZZZZZ			08:34																				
ZZZZZZ			08:35																				
CCV 600-178056/52			08:36																				
CCB 600-178056/53			08:37																				

Prep Types
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Lab Sample ID	D/F	Type	Time	Analytes																			
				NNO32																			
ZZZZZZ			15:17																				
STD 600-178421/2 IC			15:18	X																			
STD 600-178421/3 IC			15:18	X																			
STD 600-178421/4 IC			15:19	X																			
STD 600-178421/5 IC			15:20	X																			
STD 600-178421/6 IC			15:21	X																			
ICV 600-178421/7	1		15:22	X																			
ICB 600-178421/8	1		15:22	X																			
ZZZZZZ			15:23																				
MB 600-178421/10	1	T	15:24	X																			
LCS 600-178421/11	1	T	15:25	X																			
ZZZZZZ			15:26																				
ZZZZZZ			15:26																				
ZZZZZZ			15:27																				
ZZZZZZ			15:28																				
ZZZZZZ			15:29																				
ZZZZZZ			15:30																				
ZZZZZZ			15:30																				
ZZZZZZ			15:31																				
CCV 600-178421/20	1		15:32	X																			
CCB 600-178421/21	1		15:33	X																			
ZZZZZZ			15:33																				
ZZZZZZ			15:34																				
ZZZZZZ			15:35																				
ZZZZZZ			15:36																				
ZZZZZZ			15:37																				
ZZZZZZ			15:37																				
ZZZZZZ			15:38																				
ZZZZZZ			15:39																				
ZZZZZZ			15:40																				
600-122559-1	1	T	15:41	X																			
CCV 600-178421/32	1		15:41	X																			
CCB 600-178421/33	1		15:42	X																			
ZZZZZZ			15:43																				
ZZZZZZ			15:44																				
ZZZZZZ			15:44																				
ZZZZZZ			15:45																				
600-122559-2	20	T	15:46	X																			
ZZZZZZ			15:47																				
600-122559-3	1	T	15:48	X																			
600-122559-3 MS	1	T	15:48	X																			
600-122559-3 MSD	1	T	15:49	X																			

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Lab Sample ID	D/F	Type	Time	Analytes																			
				NNO32																			
ZZZZZZ			15:50																				
CCV 600-178421/44	1		15:51	X																			
CCB 600-178421/45	1		15:52	X																			
MB 600-178421/46	1	T	15:52	X																			
LCS 600-178421/47	1	T	15:53	X																			
ZZZZZZ			15:54																				
ZZZZZZ			15:55																				
ZZZZZZ			15:56																				
ZZZZZZ			15:56																				
ZZZZZZ			15:57																				
600-122559-4	1	T	15:58	X																			
ZZZZZZ			15:59																				
ZZZZZZ			15:59																				
ZZZZZZ			16:00																				
ZZZZZZ			16:01																				
CCV 600-178421/58	1		16:02	X																			
CCB 600-178421/59	1		16:03	X																			
ZZZZZZ			16:03																				
ZZZZZZ			16:04																				
600-122559-5	1	T	16:05	X																			
ZZZZZZ			16:06																				
ZZZZZZ			16:07																				
ZZZZZZ			16:07																				
ZZZZZZ			16:08																				
ZZZZZZ			16:09																				
ZZZZZZ			16:10																				
ZZZZZZ			16:10																				
CCV 600-178421/70	1		16:11	X																			
CCB 600-178421/71	1		16:12	X																			
ZZZZZZ			16:13																				
ZZZZZZ			16:14																				
ZZZZZZ			16:14																				
ZZZZZZ			16:15																				
ZZZZZZ			16:16																				
ZZZZZZ			16:17																				
ZZZZZZ			16:18																				
ZZZZZZ			16:18																				
ZZZZZZ			16:19																				
CCV 600-178421/81			16:20																				
CCB 600-178421/82			16:21																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Prep Types
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: WC10 Method: 4500 P E-1999

Start Date: 12/03/2015 23:00 End Date: 12/03/2015 23:00

Lab Sample ID	D/F	Type	Time	Analytes																			
				O-PO4	PO4																		
ICV 600-177773/1	1		23:00	X	X																		
ICB 600-177773/2	1		23:00		X																		
MB 600-177773/3	1	T	23:00		X																		
LCS 600-177773/4	1	T	23:00	X	X																		
ZZZZZZ			23:00																				
ZZZZZZ			23:00																				
ZZZZZZ			23:00																				
ZZZZZZ			23:00																				
600-122559-1	1	T	23:00		X																		
600-122559-2	1	T	23:00		X																		
600-122559-3	1	T	23:00		X																		
600-122559-4	1	T	23:00		X																		
CCV 600-177773/13	1		23:00	X	X																		
CCB 600-177773/14	1		23:00		X																		
600-122559-5	5	T	23:00		X																		
600-122559-5 MS	5	T	23:00	X	X																		
600-122559-5 MSD	5	T	23:00	X	X																		
CCV 600-177773/18	1		23:00	X	X																		
CCB 600-177773/19	1		23:00		X																		
ZZZZZZ			23:00																				

Prep Types
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: WC01 Method: 5310 D-2000

Start Date: 12/11/2015 14:57 End Date: 12/12/2015 03:20

Lab Sample ID	D/F	Type	Time	Analytes																			
				TOC																			
RINSE 600-178314/1			14:57																				
RINSE 600-178314/2			15:08																				
ZZZZZZ			15:18																				
ZZZZZZ			15:29																				
ZZZZZZ			15:39																				
ZZZZZZ			15:50																				
ICV 600-178314/7	1		16:00	X																			
ICB 600-178314/8	1		16:11	X																			
MB 600-178314/9	1	T	16:21	X																			
LCS 600-178314/10	1	T	16:32	X																			
ZZZZZZ			16:42																				
ZZZZZZ			16:53																				
ZZZZZZ			17:03																				
ZZZZZZ			17:14																				
ZZZZZZ			17:24																				
ZZZZZZ			17:35																				
ZZZZZZ			17:45																				
ZZZZZZ			17:56																				
CCV 600-178314/19	1		18:06	X																			
CCB 600-178314/20	1		18:17	X																			
ZZZZZZ			18:27																				
ZZZZZZ			18:38																				
ZZZZZZ			18:48																				
ZZZZZZ			18:58																				
ZZZZZZ			19:09																				
600-122905-D-6 MS	1	T	19:19	X																			
600-122905-D-6 MSD	1	T	19:30	X																			
ZZZZZZ			19:40																				
ZZZZZZ			19:51																				
ZZZZZZ			20:01																				
CCV 600-178314/31	1		20:12	X																			
CCB 600-178314/32	1		20:22	X																			
ZZZZZZ			20:33																				
600-122559-1	2	T	20:43	X																			
600-122559-3	2	T	20:54	X																			
ZZZZZZ			21:04																				
ZZZZZZ			21:14																				
ZZZZZZ			21:25																				
MB 600-178314/39	1	T	21:35	X																			
LCS 600-178314/40	1	T	21:46	X																			
ZZZZZZ			21:56																				
600-122613-B-2 MS	1	T	22:07	X																			

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Instrument ID: WC01 Method: 5310 D-2000

Start Date: 12/11/2015 14:57 End Date: 12/12/2015 03:20

Lab Sample ID	D/F	Type	Time	Analytes																			
				TOC																			
CCV 600-178314/43	1		22:17	X																			
CCB 600-178314/44	1		22:28	X																			
600-122613-B-2 MSD	1	T	22:38	X																			
ZZZZZZ			22:48																				
ZZZZZZ			22:59																				
ZZZZZZ			23:09																				
600-122559-2	1	T	23:20	X																			
600-122559-4	1	T	23:30	X																			
600-122559-5	1	T	23:41	X																			
ZZZZZZ			23:51																				
ZZZZZZ			00:02																				
ZZZZZZ			00:12																				
CCV 600-178314/55	1		00:23	X																			
CCB 600-178314/56	1		00:33	X																			
ZZZZZZ			00:43																				
ZZZZZZ			00:54																				
ZZZZZZ			01:04																				
ZZZZZZ			01:15																				
ZZZZZZ			01:25																				
ZZZZZZ			01:36																				
ZZZZZZ			01:46																				
ZZZZZZ			01:57																				
ZZZZZZ			02:07																				
ZZZZZZ			02:17																				
CCV 600-178314/67			02:28																				
CCB 600-178314/68			02:38																				
ZZZZZZ			02:49																				
ZZZZZZ			02:59																				
CCV 600-178314/71			03:10																				
CCB 600-178314/72			03:20																				

Prep Types

T = Total/NA

KD 12/14/15 #178421

Author: Houston_wetchem_inst

Date : 12/14/2015

Original Run Filename: OM_12-14-2015_03-16-38PM.OMN created 12/14/2015 3:16:38 PM
Original Run Author's Signature: [Houston_wetchem_inst]
Current Run Filename: OM_12-14-2015_03-16-38PM.OMN last modified 12/14/2015 4:22:18 PM
Current Run Author's Signature: [Houston_wetchem_inst]
Description: NO2+NO3

12/14/15

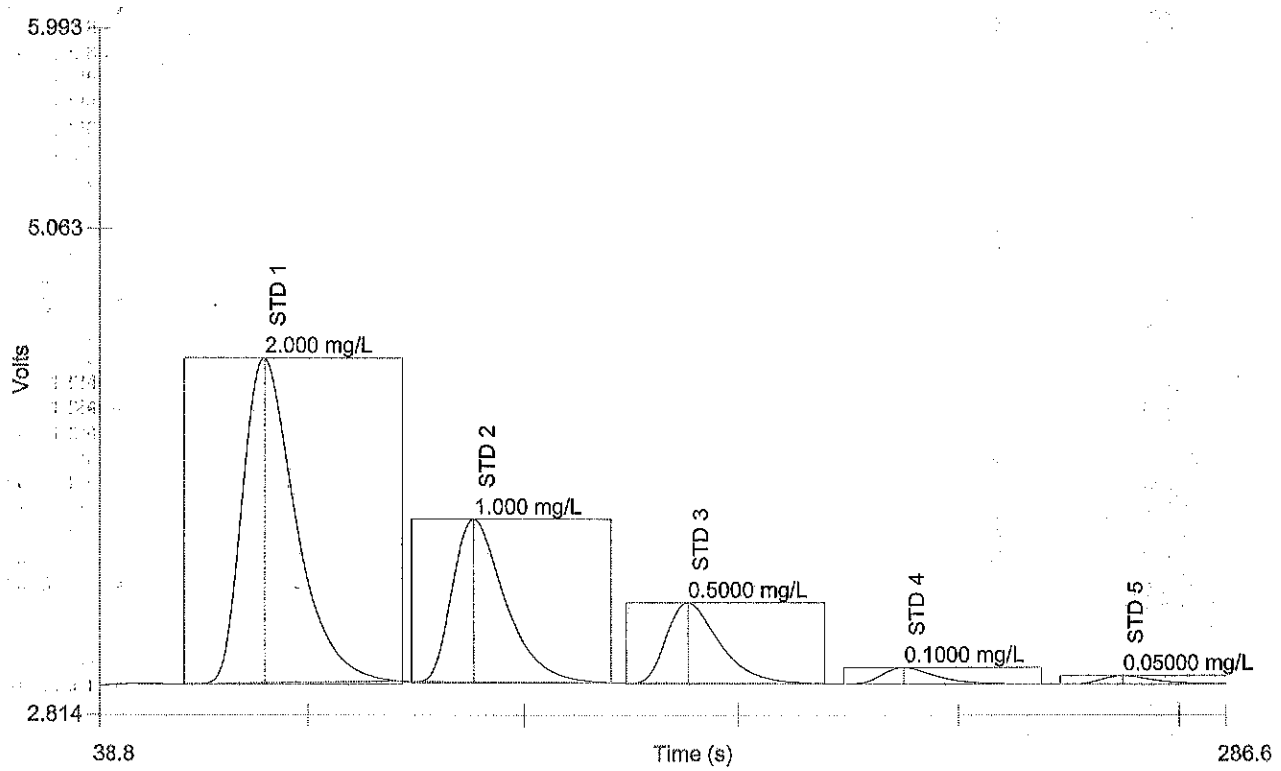
Sample	Rep.	Cup No.	Channel 1 Nitrate + Nitrite (mg/L)
STD 1	1	S1	2.000
STD 2	1	S2	1.000
STD 3	1	S3	0.5000
STD 4	1	S4	0.1000
STD 5	1	S5	0.05000
STD 6	1	S6	0.000
ICV	1	1	0.9989
		Calibration:	Table/Fig. 1
ICB	1	2	-0.01518
RS	1	3	0.9839
MB	1	4	-0.01305
LCS	1	5	1.012
600-122366-B-1	1	6	0.2508
600-122366-B-1 MS	1	7	1.030
600-122366-B-1 MSD	1	8	0.7513
600-122366-B-2	1	9	0.1335
600-122366-B-3	1	10	0.1424
600-122305-A-1@10	1	11	0.5782
600-122320-G6	1	12	0.7229
600-122421-D-1	1	13	0.03061
CCV	1	14	1.024
CCB	1	15	-0.01459
600-122421-D-2	1	16	0.02955
600-122421-D-3	1	17	0.03482
600-122425-D-1	1	18	0.04776
600-122425-D-2	1	19	0.03824
600-122425-D-3	1	20	1.513
600-122428-D-1	1	21	1.151
600-122428-D-1 MS	1	22	1.653
600-122428-D-1 MSD	1	23	1.757
600-122630-B-2@5	1	24	1.623
600-122559-A-1	1	25	0.03010
CCV	1	26	1.016
CCB	1	27	-0.01544
600-122469-A-1	1	28	1.877
600-122642-B-8@100	1	29	0.4952
600-122702-B-6	1	30	0.5678
600-122630-B-3@20	1	31	0.3235
600-122559-A-2@20	1	32	0.2741
600-122469-A-2	1	33	0.3713
600-122559-A-3	1	34	-0.01230
600-122559-A-3 MS	1	35	0.6293
600-122559-A-3 MSD	1	36	0.6101
600-122670-A-1@10	1	37	0.5672
CCV	1	38	1.018
CCB	1	39	-0.01799
MB	1	40	-0.002478
LCS	1	41	0.9994
600-122642-B-9@20	1	42	0.6064
600-122469-A-3	1	43	0.3817
600-122642-B-11@50	1	44	0.3981
600-122642-B-12	1	45	0.6786
600-122630-B-4@5	1	46	2.759
600-122559-A-4	1	47	1.573
600-122469-A-4@10	1	48	2.464
600-122723-B-1	1	49	0.2679
600-122723-B-1 MS	1	50	1.002
600-122723-B-1 MSD	1	51	0.9263

Author: Houston_wetchem_inst

Date : 12/14/2015

CCV	1	52	1.008
CCB	1	53	-0.0002758
600-122642-C-15@50	1	54	0.6227
600-122642-B-4@100	1	55	0.4945
600-122559-A-5	1	56	0.2345
600-122469-A-5	1	57	1.005
600-122642-B-5@250	1	58	0.1363
600-122723-A-2	1	59	0.1415
600-122642-B-3@250	1	60	0.2318
600-122630-B-1	1	61	1.355
600-122630-B-1 MS	1	62	1.875
600-122630-B-1 MSD	1	63	2.022
CCV	1	64	1.001
CCB	1	65	-0.02033
MB	1	66	-0.0003762
LCS	1	67	1.004
600-122469-A-6	1	68	0.4678
600-122469-A-6 MS	1	69	1.078
600-122469-A-6 MSD	1	70	0.8305
600-122642-B-6@250	1	71	0.1829
560-58240-A-2@5	1	72	0.5599
600-122630-B-4@20	1	73	0.5053
600-122469-A-4@20	1	74	0.8093
CCV	1	75	1.011
CCB	1	76	-0.0002758

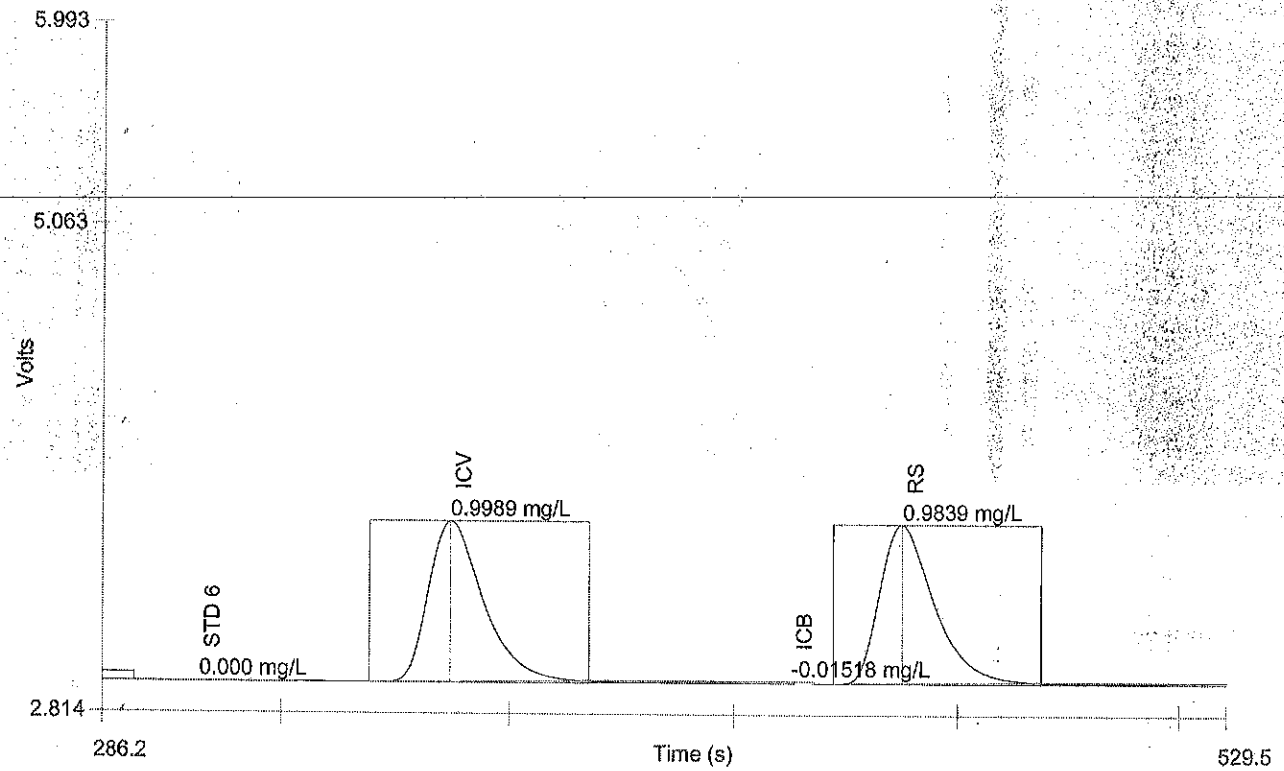
Channel 1 (NO3+NO2) : Set 1 of 17



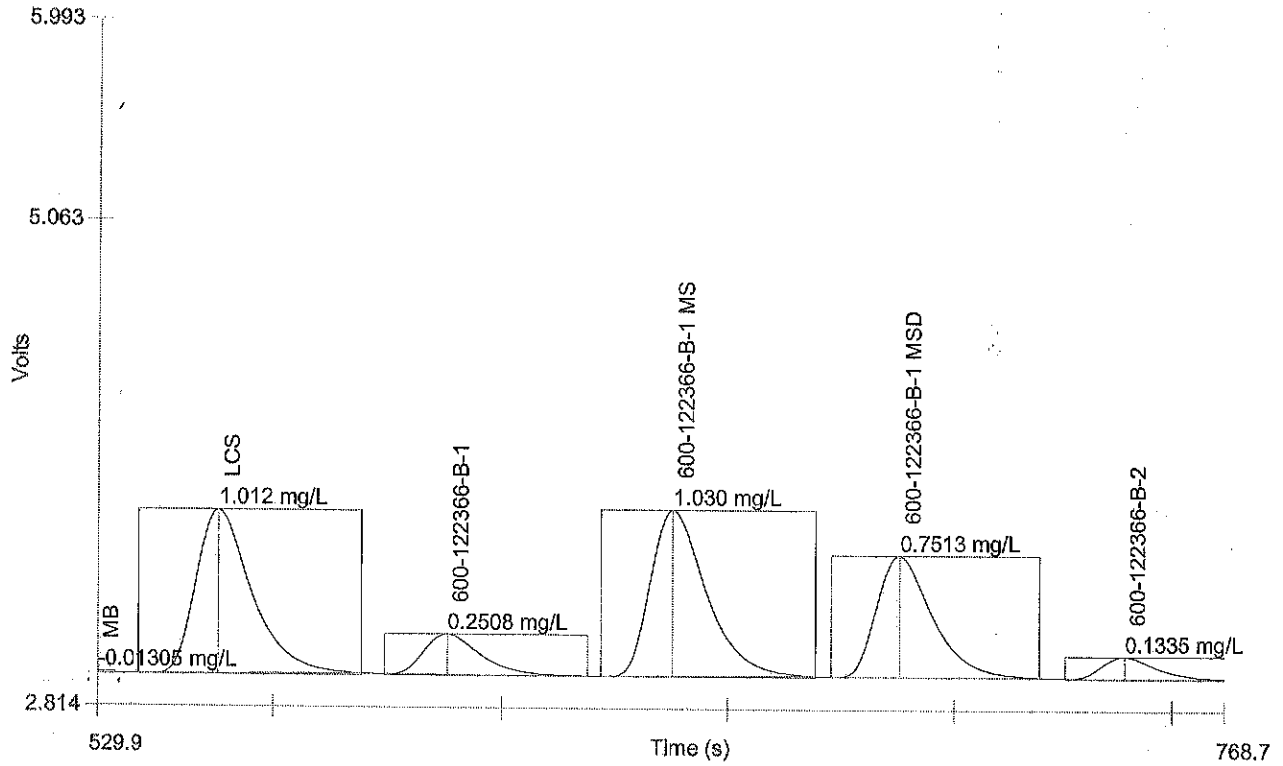
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 2 of 17



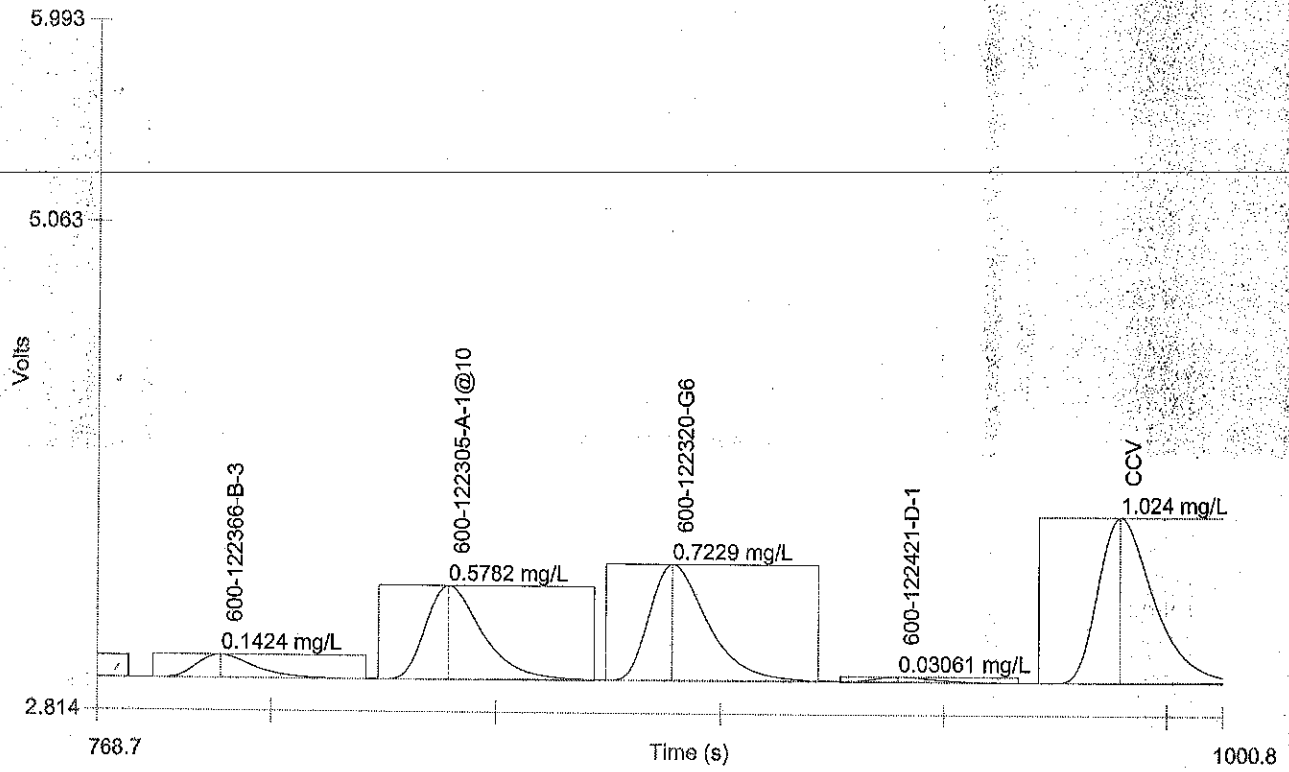
Channel 1 (NO3+NO2) : Set 3 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

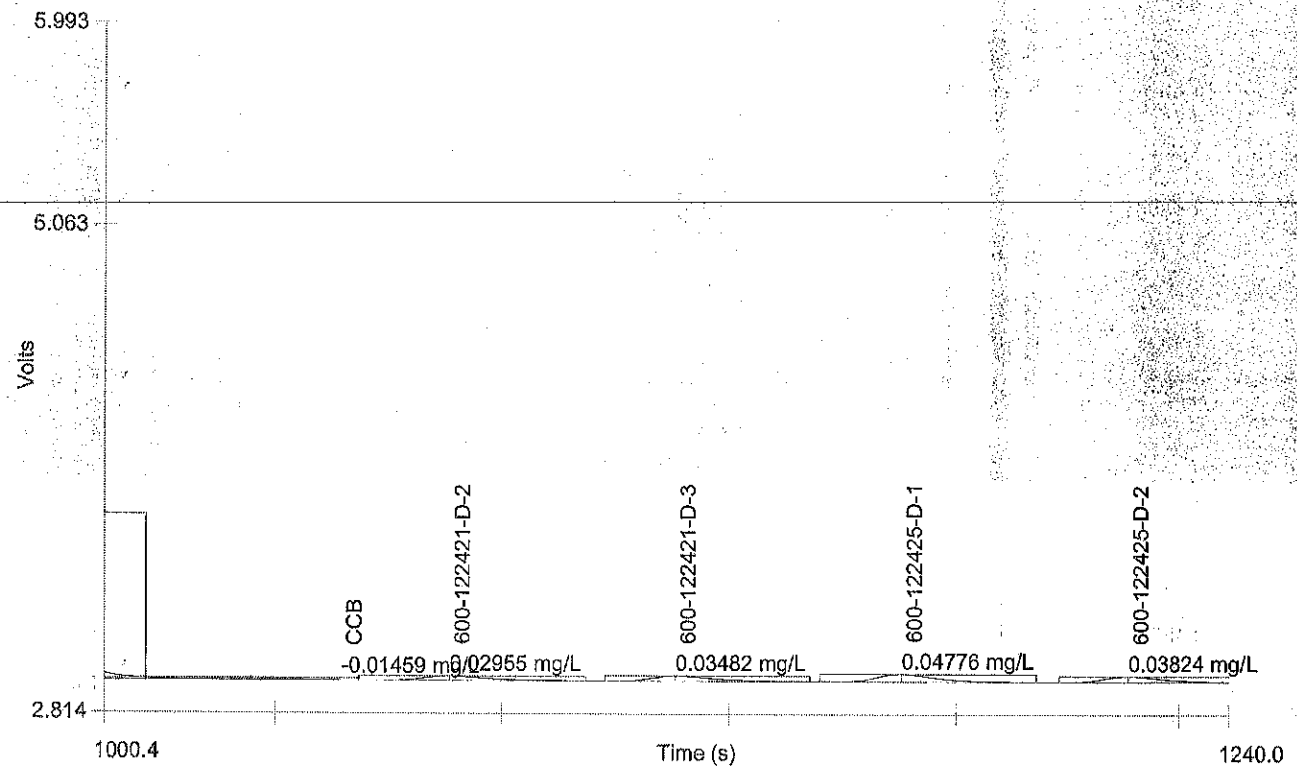
Channel 1 (NO3+NO2) : Set 4 of 17



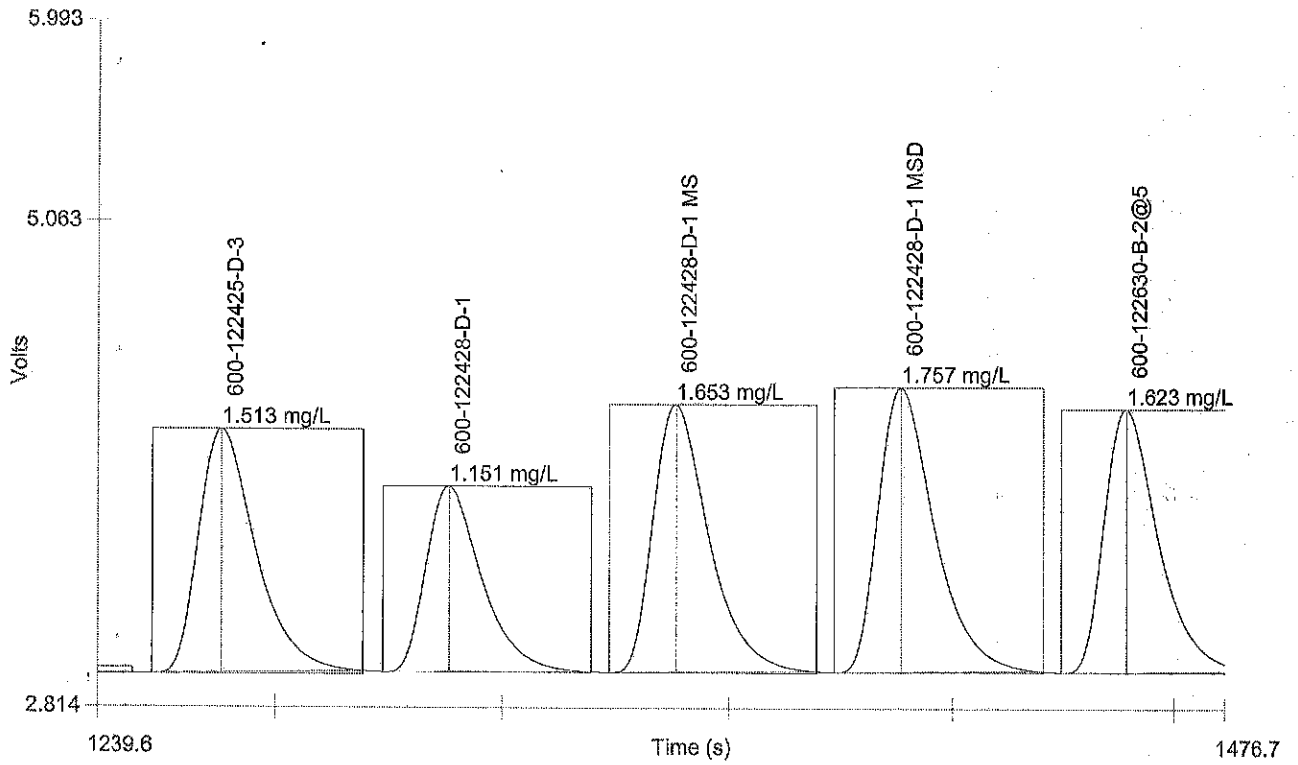
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 5 of 17



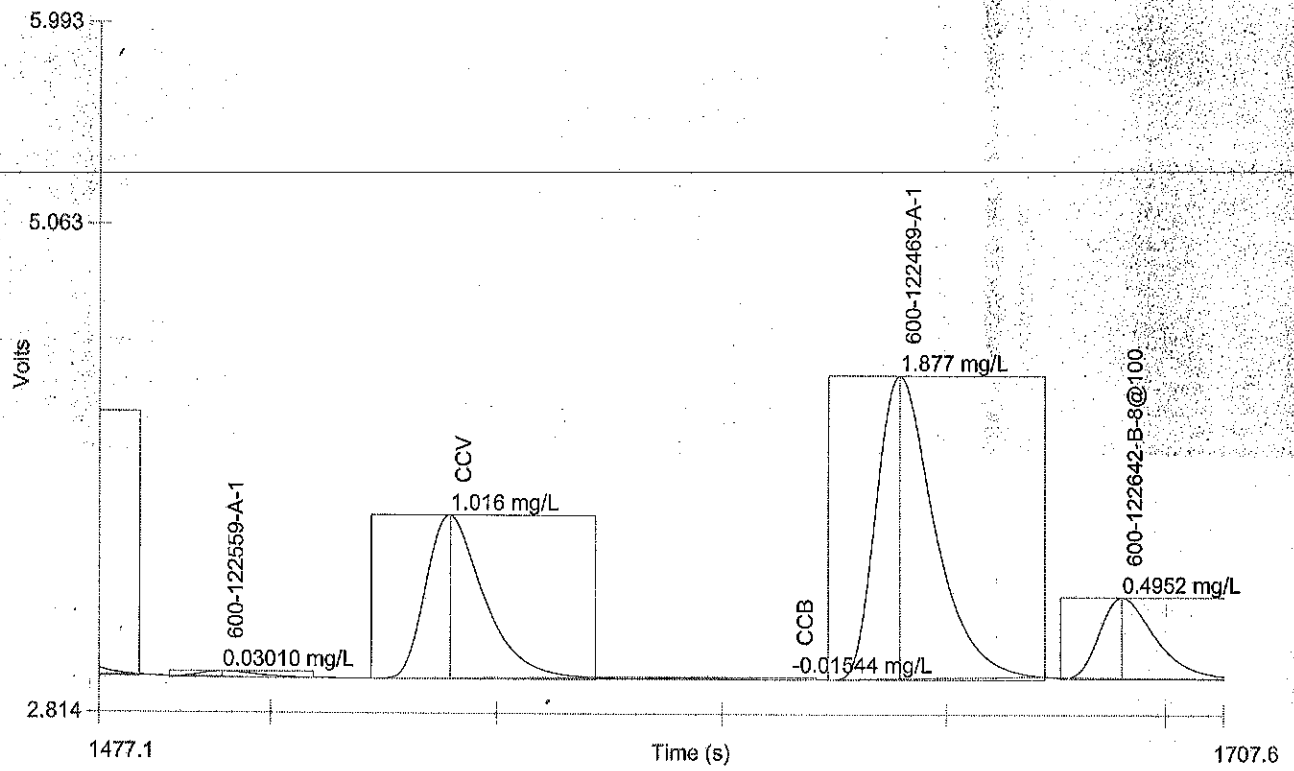
Channel 1 (NO3+NO2) : Set 6 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

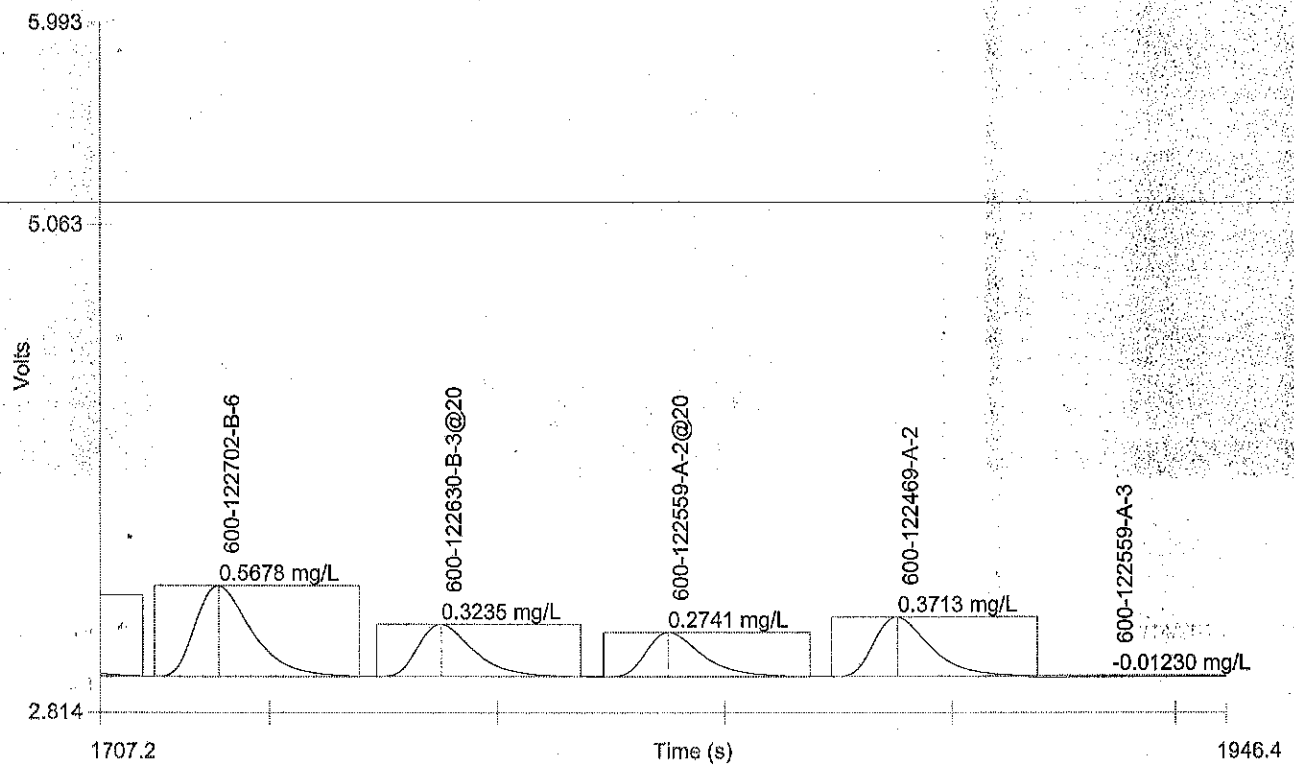
Channel 1 (NO3+NO2) : Set 7 of 17



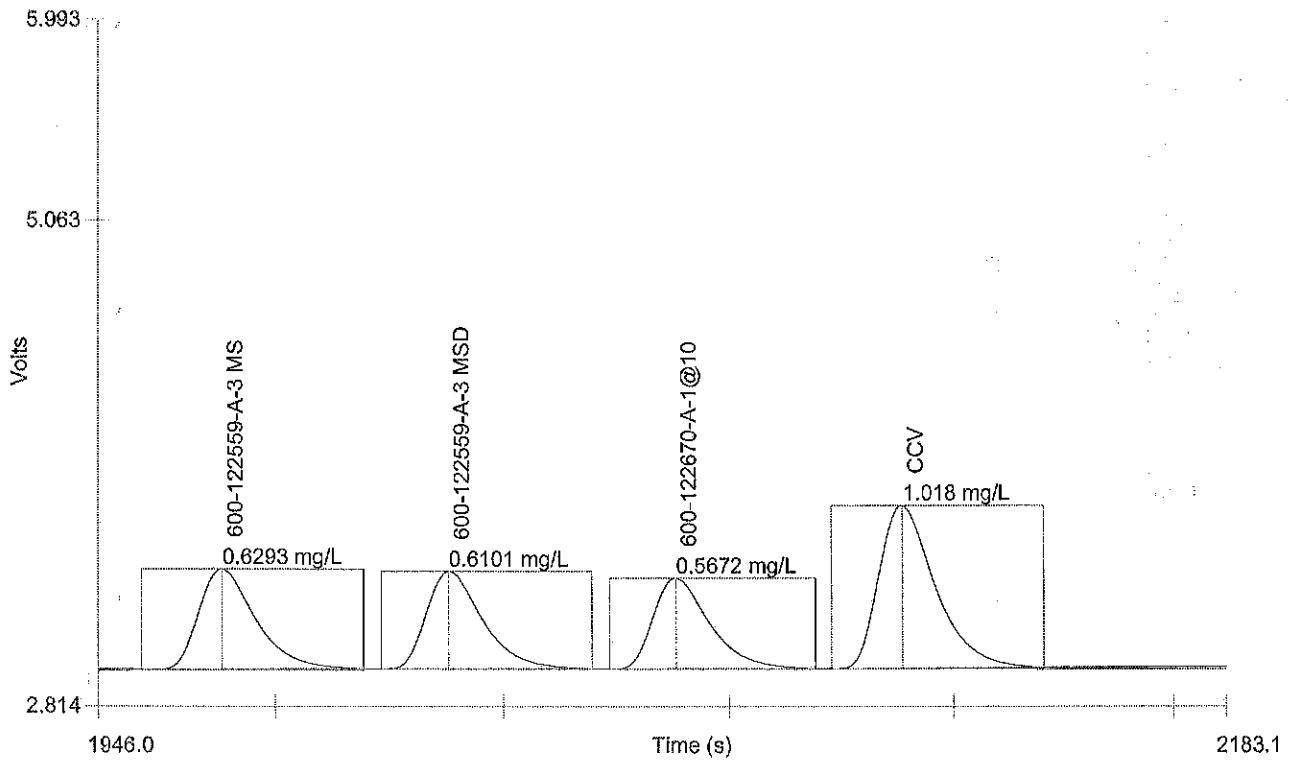
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 8 of 17



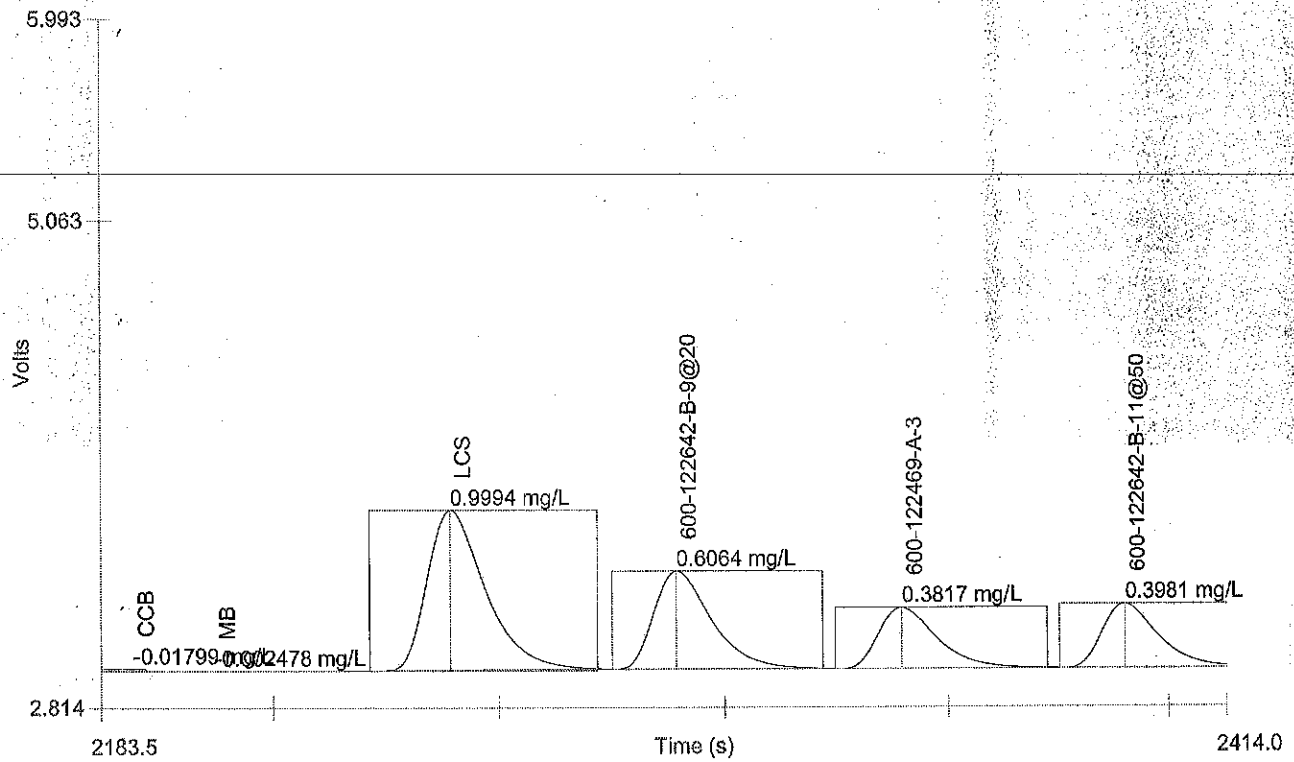
Channel 1 (NO3+NO2) : Set 9 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

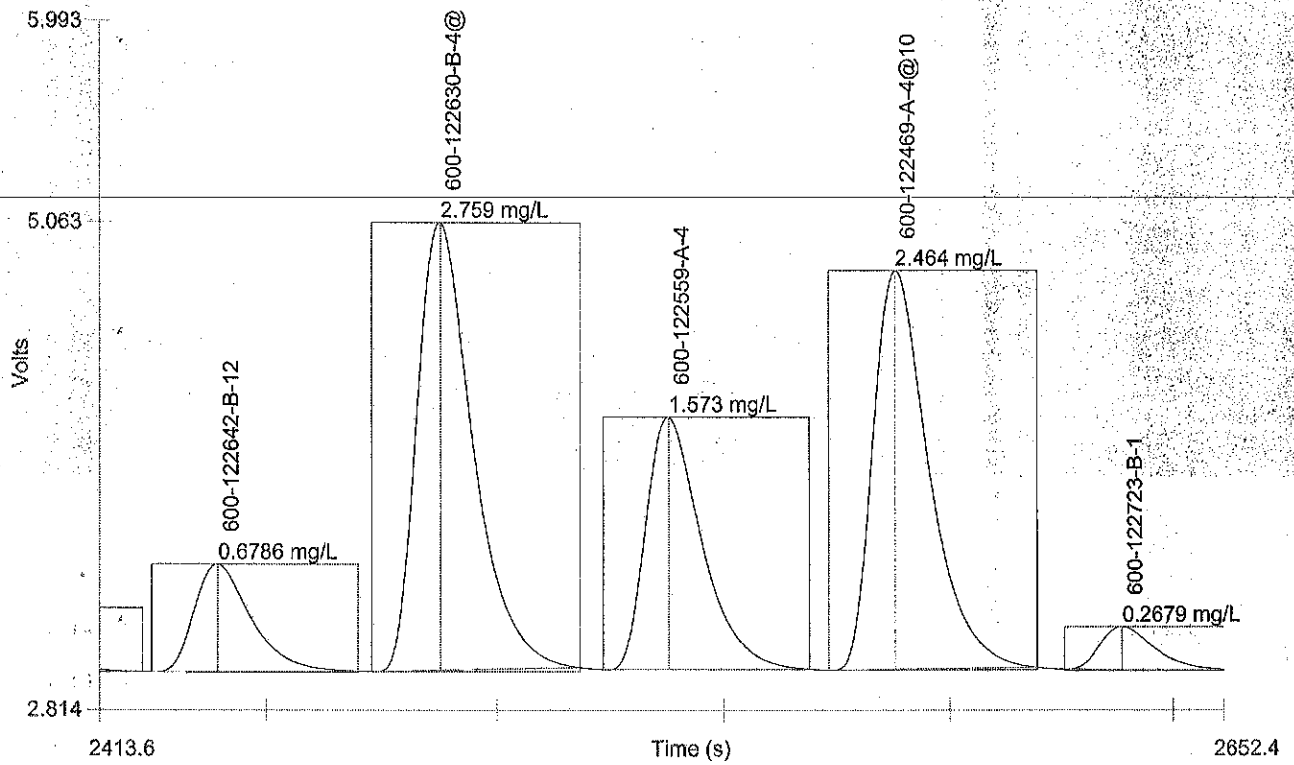
Channel 1 (NO3+NO2) : Set 10 of 17



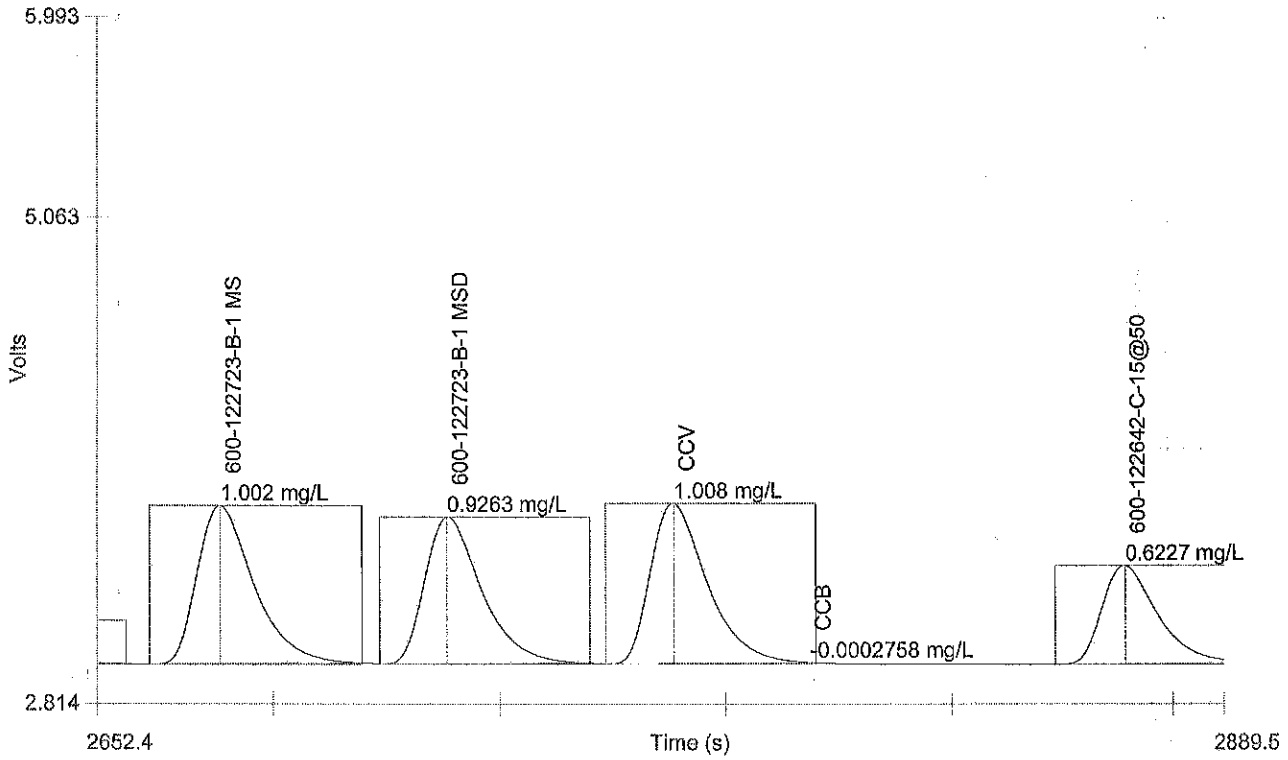
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 11 of 17



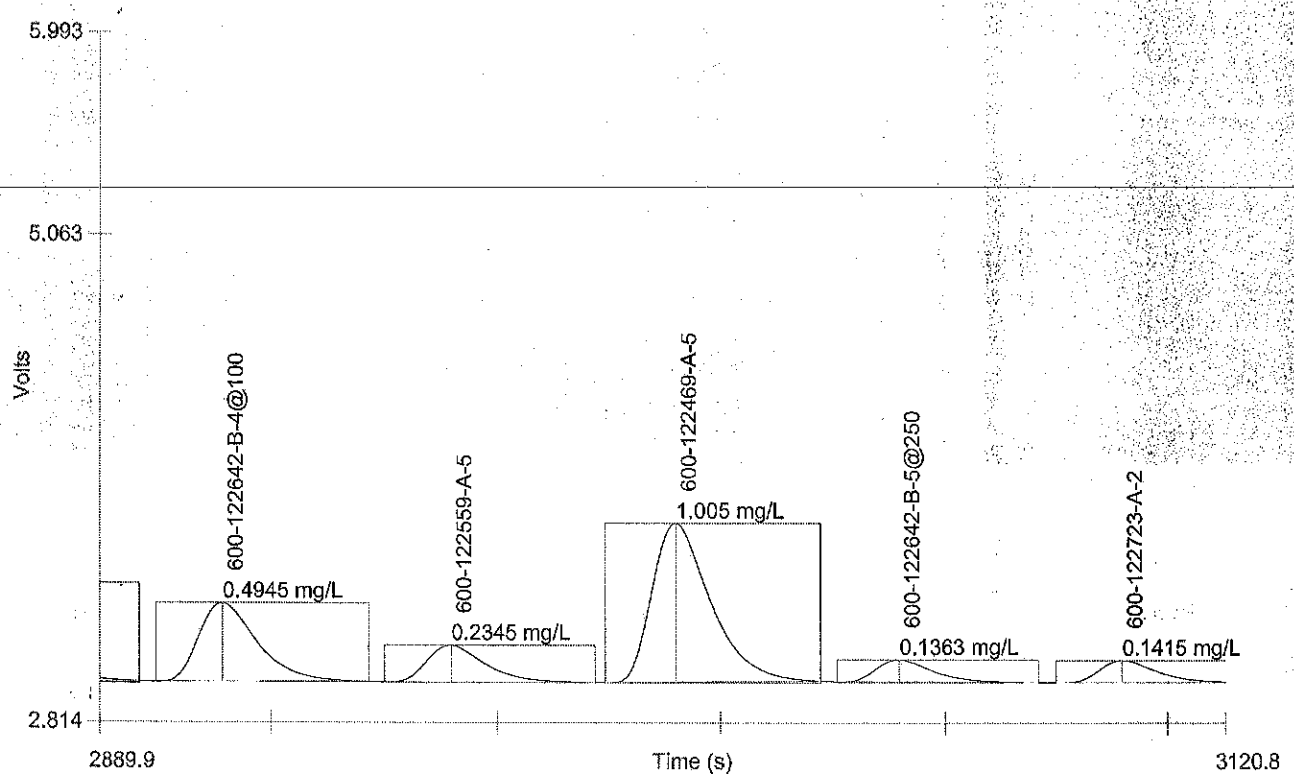
Channel 1 (NO3+NO2) : Set 12 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

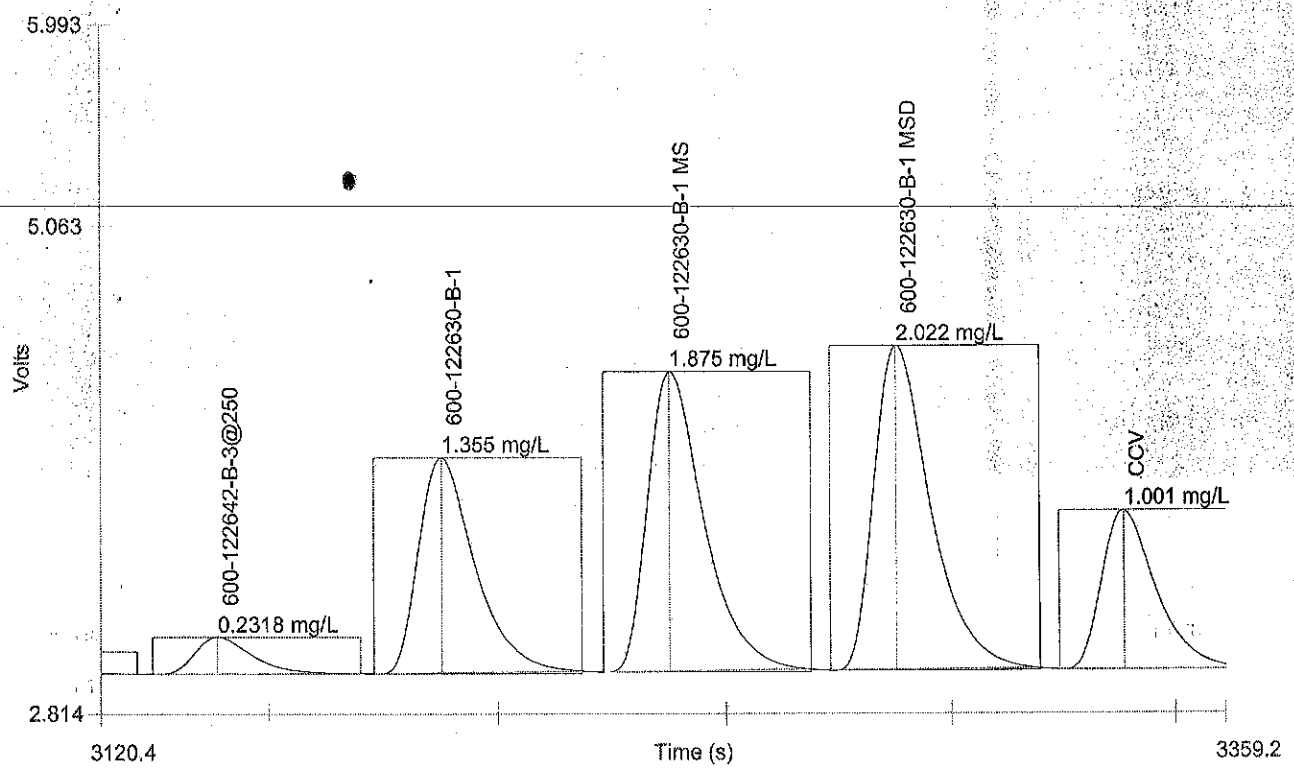
Channel 1 (NO3+NO2) : Set 13 of 17



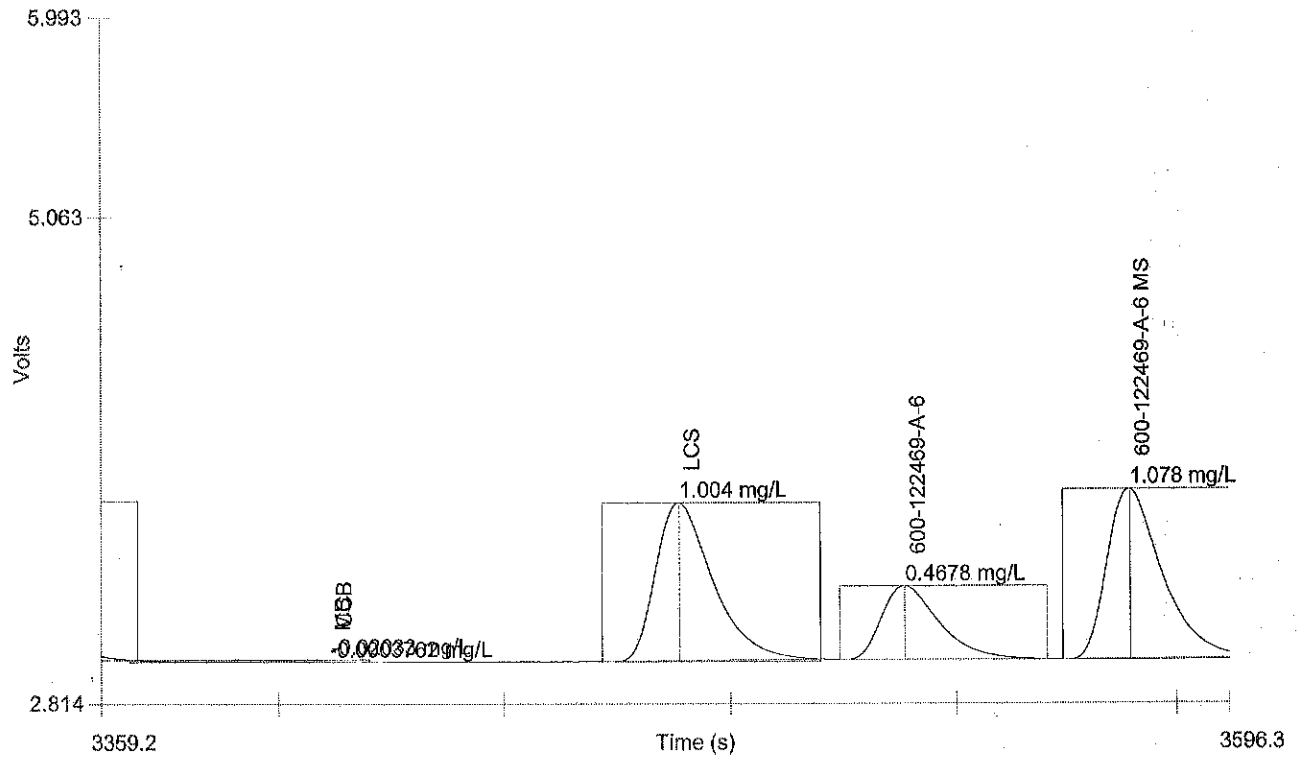
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 14 of 17



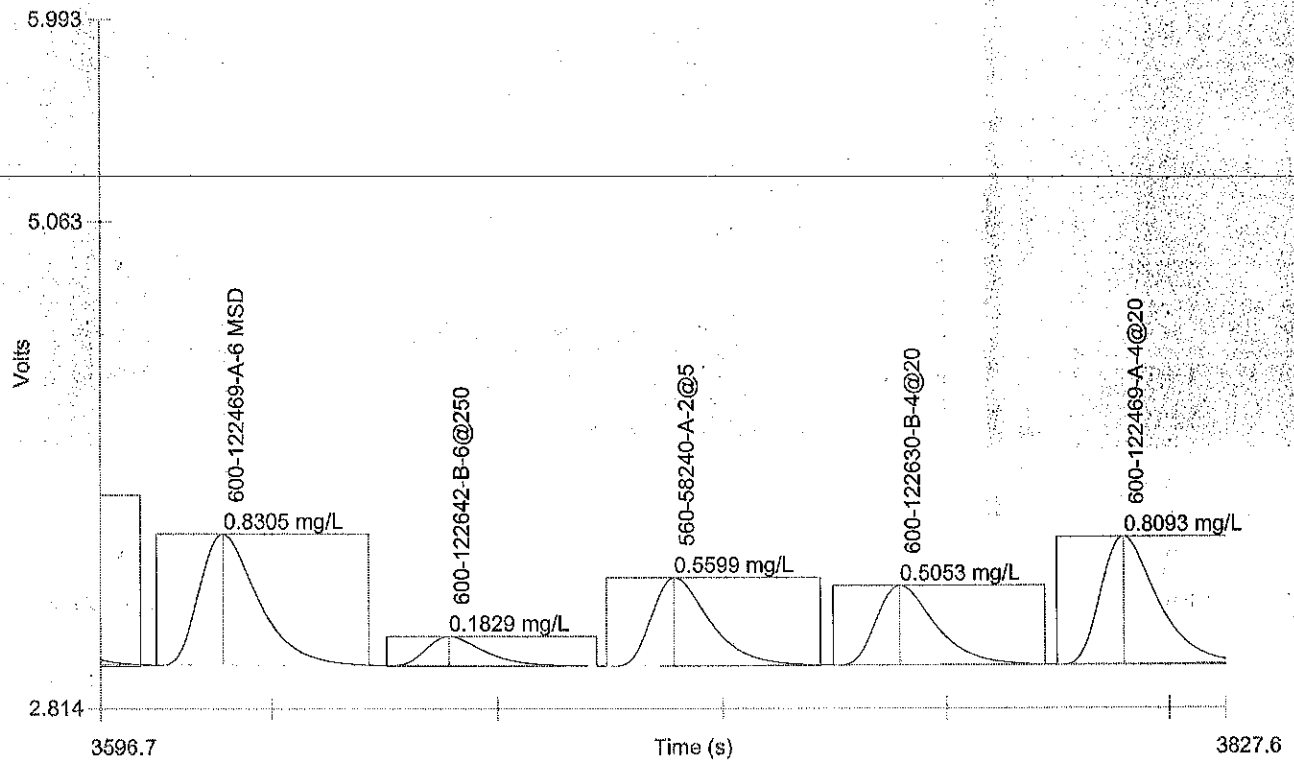
Channel 1 (NO3+NO2) : Set 15 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 16 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 17 of 17

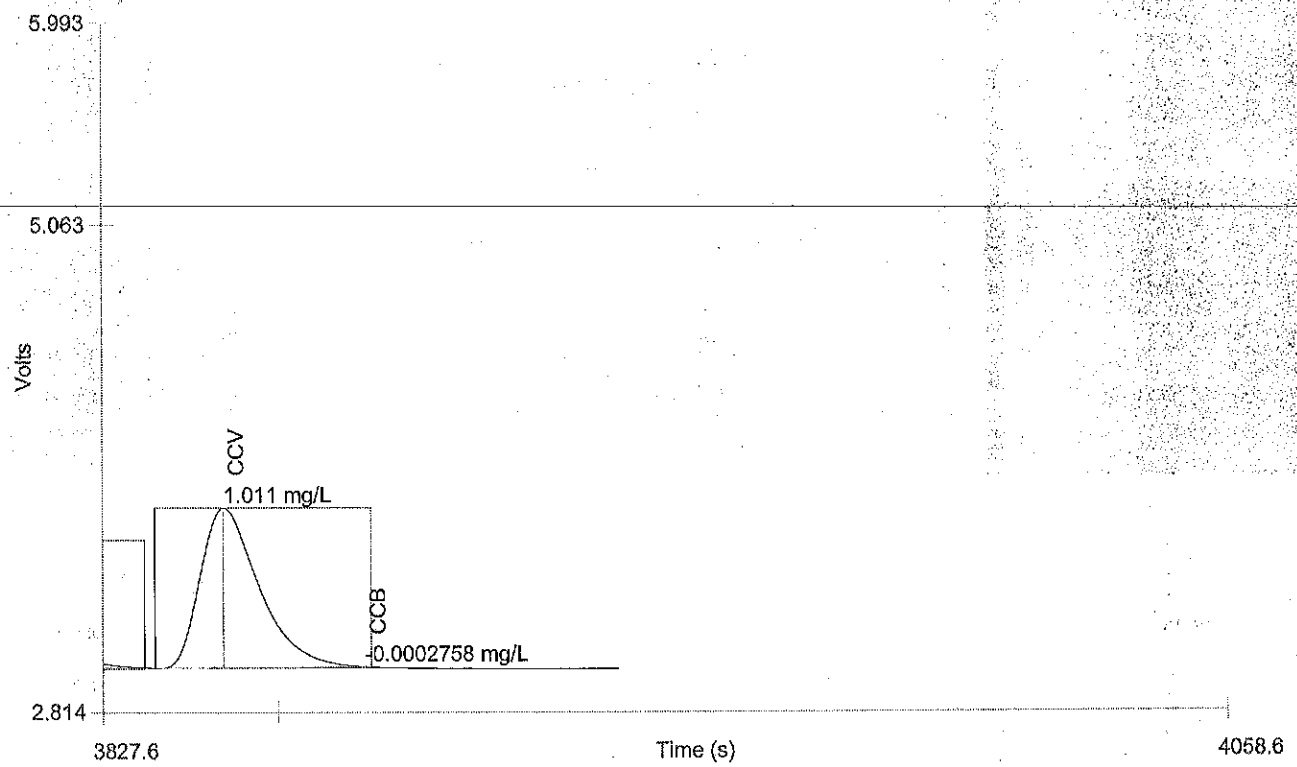
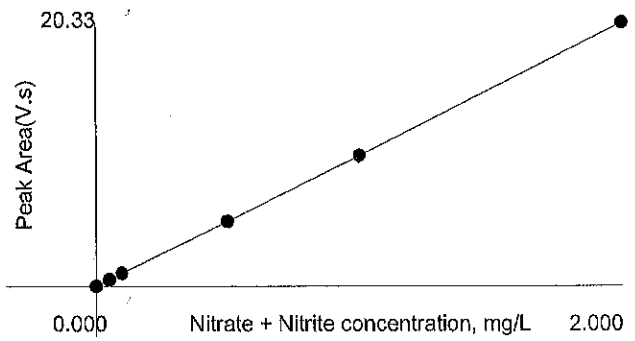


Table 1: Nitrate + Nitrite

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	2.000	1	20.33	1.506	-0.0	12/14/2015	3:18:28 PM
2	1.000	1	10.09	0.7544	-0.0	12/14/2015	3:19:14 PM
3	0.5000	1	5.024	0.3747	0.1	12/14/2015	3:20:01 PM
4	0.1000	1	1.006	0.07632	-0.1	12/14/2015	3:20:49 PM
5	0.05000	1	0.5196	0.03880	-3.2	12/14/2015	3:21:37 PM
6	0.000	1	-0.01170	-0.0005946		12/14/2015	3:22:26 PM

Figure 1: Nitrate + Nitrite



Area = 0.07684 * Conc^2 + 10.01 * Conc + 0.002920
Conc = - 7.323e-5 * Area^2 + 0.09987 * Area - 0.0002758
Correlation Coefficient (r) = 1.00000

No Weighting

TESTAMERICA HOUSTON
Orthophosphate by Colorimetry

Date/Time: 12/3/15 2300 Analyst: KD Balance ID: N/A Batch # 177773
Instrument ID: UV10 1° ID (Cal./CCV): 20098/23 2° ID (LCS/ICV/MS): 1897352

Sample ID	Sample Vol. (mL or g)	ABS (880 nm)	Bkgd ABS	Final ABS (ABS - Bkgd ABS)	DF	Phosphorous (mg/L or mg/kg)	Comments
CS0 0.00 mg/L							
CS1 0.01 mg/L							
CS2 0.05 mg/L							
CS3 0.10 mg/L							
CS4 0.25 mg/L		KD 12/4/15				KD 12/4/15	
CS5 0.50 mg/L							
CS6 1.00 mg/L							
ICV	5 +5ml	0.450	0.000	0.450	1.0	0.516	TV = 0.5 mg/L
ICB	5	0.000	0.000	0.000		0.000	
MB	5	0.000	0.000	0.000		0.000	
LCS	5 +5ml	0.450	0.000	0.450		0.516	TV = 0.5 mg/L
600122511 B1	5	0.267	0.001	0.266	25X	0.303	
MS B1	5 +5ml	0.704	0.001	0.703	25X	0.810	TV = 0.5 mg/L
MSD B1	5 +5ml	0.724	0.001	0.723	25X	0.833	TV = 0.5 mg/L
600122528 A1	5	0.295	0.000	0.295	1.0	0.336	
600122569 B1	5	0.732	0.054	0.670		0.761	
B2	5	0.099	0.092	0.007		0.002	
B3	5	0.250	0.052	0.206		0.233	KD 12/4/15
B4	5	0.060	0.058	0.002		0.000	
CCV	5 +5ml	0.464	0.000	0.464		0.533	TV = 0.5 mg/L
CCB	5	0.000	0.000	0.000		0.000	
600122569 B5	5	0.067	0.057	0.010	5X	0.005	TURBID
MS B5	5 +5ml	0.520	0.057	0.463	5X	0.531	TV = 0.5 mg/L
MSD B5	5 +5ml	0.520	0.057	0.473	5X	0.543	TV = 0.5 mg/L
						KD 12/4/15	
CCV	5 +5ml	0.466	0.000	0.466	1.0	0.536	TV = 0.5 mg/L
CCB	5	0.000	0.000	0.000		0.000	

5N H2SO4 ID: 2033361 SbK titrate ID: 19983499 Color Solution ID: 20586123
Ascorbic Acid ID: 20587266 Ammonium Molybdate ID: 20486489

Reviewed By: _____ Date: _____

****
** EC 12-11-15 178314 SEQUENCE **
****

TOC Unit: 1010
121115 Fri Dec 11 14:21:50 2015

12/14/15

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	no rinse	Sample	1	5.000	0	1.00	No	
2	RINSE	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
3	BLK	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
4	1	0-25ppm(pam)	Std. 2	1	5.000	0	1.00	No	
5	10	0-25ppm(pam)	Std. 3	1	5.000	0	1.00	No	
6	25	0-25ppm(pam)	Std. 4	1	5.000	0	1.00	No	
7	ICV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
8	ICB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
9	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
10	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
11	600-122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
12	ms 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
13	msd 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
14	122830-J-1@500	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
15	122669-A-1@20	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
16	122723-C-1@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
17	122756-B-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
18	122613-C-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
19	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
20	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
21	122676-D-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
22	122771-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
23	122509-K-2@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
24	122793-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
25	600-122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
26	ms 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
27	msd 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
28	122870-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
29	122839-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
30	122509-L-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
31	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
32	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
33	122818-E-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
34	122559-A-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
35	122559-A-3@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
36	600-122502-C-10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
37	600-122502-D-13	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
38	600-122477-A-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
39	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
40	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
41	600-122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
42	ms 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
43	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
44	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

****
** SEQUENCE **
****

TOC Unit: 1010
121115 Fri Dec 11 14:21:50 2015

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
45	msd 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
46	600-122502-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
47	600-122676-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
48	600-122795-A-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
49	600-122559-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
50	600-122559-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
51	600-122559-A-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
52	600-122772-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
53	600-122793-A-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
54	600-122839-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
55	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
56	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
57	600-122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
58	ms 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
59	msd 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
60	600-122868-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
61	600-122578-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
62	600-122630-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
63	600-122630-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
64	600-122630-B-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
65	600-122630-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
66	600-122818-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
67	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
68	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
69	600-122818-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
70	600-122818-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
71	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
72	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

E-Possible IR failure - reboot. 11Dec2015 14:48

```
*****************************************************************
**                  OI Analytical Model 1010 TOC                 **
**                          RUN SETUP                            **
*****************************************************************
```

TOC Unit: 1010
Operator: Unknown
Data Path: C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\121115
WinTOC Version: 5.2 Firmware Version: 5.2
WinTOC Revision: rev 242 Firmware Revision: rev 365

```
*****************************************************************
**                        CONFIGURATION                          **
*****************************************************************
```

TOC Unit: 1010
Analysis Mode: TIC/TOC Spl Intro: Autosampler 88
Remote Start : OFF

Loop Size: 5 mL	Actual Volume	1mL	5mL	10mL	25mL
	Loop A (uL):	1009	4970	10000	25000
	Loop B (uL):	1008	4980	10000	25000

Tray Type: 88 Vial Vial Option: Preacidification
Needle Depth: 97 % Preacid Volume (uL): 500
Wash Needle Depth: 94 % Preacid Purge Time (min:sec): 2:00

	TIC	TOC	TC
Blank	----	----	----
Average:	58	723	0

Linearization Coeff: 60000

Sample Transfer Times (sec)

	Initial Fill			Loop Fill			Sample Inject
	Non-AS	AS	AS w/Sep	Non-AS	AS	AS w/Sep	(all)
1mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5mL:	9.1	9.1	6.8	5.1	6.1	4.2	9.3
10mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25mL:	0.0	0.0	0.0	n/a	n/a	n/a	0.0

Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range: 0.000 ppmC, Max Signal Range: 0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00

Conc. Alarm Setpoints (ppm C)

	Low	High
TIC:	0.000	0.000
TOC:	0.000	0.000
TC:	0.000	0.000

```
*****************************************************************
**                        CALIBRATION                            **
*****************************************************************
```

TOC Unit: 1010
CAL111015 Fri Dec 11 09:26:18 2015

Std. #	Used	Conc. (ppm)	Volume (mL)		
1	Yes	0.000	5.000	RF (ugC/k-cts):	1.182
				R-Squared:	0.9969

2	Yes	1.000	5.000	Offset (cts): 3231
3	Yes	10.000	5.000	Offset (ugC): -3.819
4	Yes	25.000	5.000	Calibration Mode: TOC
5	No	0.000	5.000	Allow Editing: No

Rep	Std. 1	Std. 2	Std. 3	Std. 4	Std. 5
1	-	9625	42091	109522	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-

(* = unused)

****
** METHODS **
****

TOC Unit: 1010
NO RINSE Fri Jan 03 11:50:47 2014

Acid Volume:	200 uL	Rinse Volume (mL):	25
Oxidant Volume:	1000 uL	Rinses Per Rep:	0
Auto-Repeat Time:	00:00:00 (hr:min:sec)	Rinses Per Sample:	0

	TIC	TOC	TC
React: (min:sec):	00:01	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

0-25PPM(PAM) Sat Oct 31 15:28:13 2015

Acid Volume:	200 uL	Rinse Volume (mL):	20
Oxidant Volume:	1000 uL	Rinses Per Rep:	0
Auto-Repeat Time:	00:00:00 (hr:min:sec)	Rinses Per Sample:	1

	TIC	TOC	TC
React: (min:sec):	00:01	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

****
** SEQUENCE **
****

TOC Unit: 1010
121115 Fri Dec 11 14:21:50 2015

Start Pos/Vial #: 1, Stop Pos/Vial #: 72

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	no rinse	Sample	1	5.000	0	1.00	No	
2	RINSE	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
3	BLK	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
4	1	0-25ppm(pam)	Std. 2	1	5.000	0	1.00	No	
5	10	0-25ppm(pam)	Std. 3	1	5.000	0	1.00	No	
6	25	0-25ppm(pam)	Std. 4	1	5.000	0	1.00	No	
7	ICV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
8	ICB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
9	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
10	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
11	600-122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
12	ms 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
13	msd 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
14	122830-J-1@500	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
15	122669-A-1@20	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

16	122723-C-1@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
17	122756-B-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
18	122613-C-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
19	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
20	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
21	122676-D-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
22	122771-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
23	122509-K-2@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
24	122793-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
25	600-122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
26	ms 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
27	msd 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
28	122870-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
29	122839-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
30	122509-L-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
31	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
32	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
33	122818-E-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
34	122559-A-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
35	122559-A-3@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
36	600-122502-C-10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
37	600-122502-D-13	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
38	600-122477-A-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
39	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
40	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
41	600-122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
42	ms 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
43	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
44	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
45	msd 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
46	600-122502-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
47	600-122676-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
48	600-122795-A-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
49	600-122559-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
50	600-122559-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
51	600-122559-A-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
52	600-122772-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
53	600-122793-A-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
54	600-122839-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
55	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
56	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
57	600-122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
58	ms 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
59	msd 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
60	600-122868-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
61	600-122578-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
62	600-122630-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
63	600-122630-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
64	600-122630-B-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
65	600-122630-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
66	600-122818-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
67	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
68	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
69	600-122818-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
70	600-122818-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
71	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
72	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No

Pos#	Path for Trend Data file
1	C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\TREND\2.CSV
2	C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\TREND\2.CSV

****
** RESULTS - 121115 **
****

TOC Unit: 1010

Pos/	Run	Rep	Run	Run	TICArea	TICMass	TICConc	TOCArea	TOCMass	TOCConc	TCA

```
Vial Type  #    Date      Time   (cts)   (ugC)    (ppm)     (cts)   (ugC)    (ppm)     (c
---- ---- --- --------- ----- ------- ------- ---------- ------- ------- ---------- ---

E-Possible IR failure - reboot.  11Dec2015 14:48


E-Possible IR failure - reboot.  11Dec2015 14:48

** Spl       Name:     RINSE                          Data File: gb001
             Remarks: <none>

1    Spl     1 11Dec2015 14:57     111   0.063      0.013    2154   1.691      0.340

** Spl       Name:     RINSE                          Data File: gb002
             Remarks: <none>

2    Spl     1 11Dec2015 15:08     100   0.050      0.010    1574   1.006      0.202

** Spl       Name:     BLK                            Data File: gb003
             Remarks: <none>

3    Spl     1 11Dec2015 15:18     119   0.072      0.014    1359   0.752      0.151

** Std2      Name:     1                              Data File: gb004
             Remarks: <none>

4    Std2    1 11Dec2015 15:29       -       -          -    9490   4.975      1.000

** Calibration:     RF (ugC/k-cts):   1.181
                    R-Squared:       0.9970
                    Offset (cts):      3131
                    Offset (ugC):    -3.696

** Std3      Name:     10                             Data File: gb005
             Remarks: <none>

5    Std3    1 11Dec2015 15:39       -       -          -   42729  49.750     10.000

** Calibration:     RF (ugC/k-cts):   1.183
                    R-Squared:       0.9977
                    Offset (cts):      3432
                    Offset (ugC):    -4.060

** Std4      Name:     25                             Data File: gb006
             Remarks: <none>

6    Std4    1 11Dec2015 15:50       -       -          -  110585 124.375     25.000

** Calibration:     RF (ugC/k-cts):   1.169
                    R-Squared:       0.9973
                    Offset (cts):      3202
                    Offset (ugC):    -3.743

** Spl       Name:     ICV                            Data File: gb007
             Remarks: <none>

7    Spl     1 11Dec2015 16:00     252   0.227      0.046   42652  49.018      9.853

** Spl       Name:     ICB                            Data File: gb008
             Remarks: <none>

8    Spl     1 11Dec2015 16:11     160   0.119      0.024    1085   0.423      0.085

** Spl       Name:     MB                             Data File: gb009
             Remarks: <none>

9    Spl     1 11Dec2015 16:21     113   0.064      0.013     921   0.231      0.047
```

```
** Spl        Name:     LCS                          Data File: gb010
              Remarks: <none>

10   Spl      1 11Dec2015 16:32      90   0.037      0.007   42015  48.274      9.703

** Spl        Name:     600-122775-A-4               Data File: gb011
              Remarks: <none>

11   Spl      1 11Dec2015 16:42     503   0.520      0.105    7344   7.740      1.556

** Spl        Name:     ms 122775-A-4                Data File: gb012
              Remarks: <none>

12   Spl      1 11Dec2015 16:53     480   0.493      0.099   50046  57.662     11.590

** Spl        Name:     msd 122775-A-4               Data File: gb013
              Remarks: <none>

13   Spl      1 11Dec2015 17:03     467   0.478      0.096   49040  56.486     11.354

** Spl        Name:     122830-J-1@500               Data File: gb014
              Remarks: <none>

14   Spl      1 11Dec2015 17:14     232   0.203      0.041  106622 123.804     24.885

** Spl        Name:     122669-A-1@20                Data File: gb015
              Remarks: <none>

15   Spl      1 11Dec2015 17:24     478   0.491      0.099    5153   5.179      1.041

** Spl        Name:     122723-C-1@4                 Data File: gb016
              Remarks: <none>

16   Spl      1 11Dec2015 17:35     971   1.067      0.214   24794  28.141      5.656

** Spl        Name:     122756-B-4@4                 Data File: gb017
              Remarks: <none>

17   Spl      1 11Dec2015 17:45     135   0.090      0.018   11689  12.820      2.577

** Spl        Name:     122613-C-4@4                 Data File: gb018
              Remarks: <none>

18   Spl      1 11Dec2015 17:56    1783   2.017      0.405   32425  37.062      7.450

** Spl        Name:     CCV                          Data File: gb019
              Remarks: <none>

19   Spl      1 11Dec2015 18:06     164   0.124      0.025   44094  50.704     10.192

** Spl        Name:     CCB                          Data File: gb020
              Remarks: <none>

20   Spl      1 11Dec2015 18:17     194   0.159      0.032     878   0.181      0.036

** Spl        Name:     122676-D-1@2                 Data File: gb021
              Remarks: <none>

21   Spl      1 11Dec2015 18:27    5733   6.635      1.334   49703  57.261     11.510

** Spl        Name:     122771-C-1@2                 Data File: gb022
              Remarks: <none>

22   Spl      1 11Dec2015 18:38    4719   5.449      1.095   57983  66.941     13.455

** Spl        Name:     122509-K-2@2                 Data File: gb023
              Remarks: <none>

23   Spl      1 11Dec2015 18:48    2501   2.856      0.574   31611  36.110      7.258
```

```
** Spl      Name:     122793-C-1@2                    Data File: gb024
            Remarks: <none>

24   Spl    1 11Dec2015 18:58    5048   5.834      1.173   39901  45.802      9.207

** Spl      Name:     600-122905-D-6                  Data File: gb025
            Remarks: <none>

25   Spl    1 11Dec2015 19:09    3869   4.455      0.896   25385  28.832      5.795

** Spl      Name:     ms 122905-D-6                   Data File: gb026
            Remarks: <none>

26   Spl    1 11Dec2015 19:19    3570   4.106      0.825   71351  82.570     16.597

** Spl      Name:     msd 122905-D-6                  Data File: gb027
            Remarks: <none>

27   Spl    1 11Dec2015 19:30    3684   4.239      0.852   71907  83.220     16.728

** Spl      Name:     122870-C-1@2                    Data File: gb028
            Remarks: <none>

28   Spl    1 11Dec2015 19:40    7082   8.212      1.651   60982  70.447     14.160

** Spl      Name:     122839-C-1@2                    Data File: gb029
            Remarks: <none>

29   Spl    1 11Dec2015 19:51    1701   1.921      0.386   21576  24.379      4.900

** Spl      Name:     122509-L-1@2                    Data File: gb030
            Remarks: <none>

30   Spl    1 11Dec2015 20:01    2159   2.456      0.494   24192  27.437      5.515

** Spl      Name:     CCV                             Data File: gb031
            Remarks: <none>

31   Spl    1 11Dec2015 20:12     131   0.085      0.017   44730  51.448     10.341

** Spl      Name:     CCB                             Data File: gb032
            Remarks: <none>

32   Spl    1 11Dec2015 20:22     162   0.122      0.024     966   0.284      0.057

** Spl      Name:     122818-E-1@2                    Data File: gb033
            Remarks: <none>

33   Spl    1 11Dec2015 20:33    6238   7.225      1.452   51528  59.395     11.939

** Spl      Name:     122559-A-1@2                    Data File: gb034
            Remarks: <none>

34   Spl    1 11Dec2015 20:43   15911  18.533      3.725   41752  47.966      9.641

** Spl      Name:     122559-A-3@2                    Data File: gb035
            Remarks: <none>

35   Spl    1 11Dec2015 20:54    6115   7.081      1.423   76860  89.010     17.892

** Spl      Name:     600-122502-C-10                 Data File: gb036
            Remarks: <none>

36   Spl    1 11Dec2015 21:04   77648  90.709     18.233   14596  16.219      3.260

** Spl      Name:     600-122502-D-13                 Data File: gb037
            Remarks: <none>

37   Spl    1 11Dec2015 21:14   62695  73.227     14.719   28395  32.351      6.503
```

```
** Spl      Name:     600-122477-A-6                Data File: gb038
            Remarks: <none>

38   Spl    1 11Dec2015 21:25   21673  25.270      5.079    7336   7.731      1.554

** Spl      Name:     MB                            Data File: gb039
            Remarks: <none>

39   Spl    1 11Dec2015 21:35     151   0.109      0.022     901   0.208      0.042

** Spl      Name:     LCS                           Data File: gb040
            Remarks: <none>

40   Spl    1 11Dec2015 21:46     135   0.090      0.018   42675  49.045      9.858

** Spl      Name:     600-122613-B-2                Data File: gb041
            Remarks: <none>

41   Spl    1 11Dec2015 21:56     543   0.567      0.114   30409  34.705      6.976

** Spl      Name:     ms 122613-B-2                 Data File: gb042
            Remarks: <none>

42   Spl    1 11Dec2015 22:07     620   0.657      0.132   77971  90.309     18.153

** Spl      Name:     CCV                           Data File: gb043
            Remarks: <none>

43   Spl    1 11Dec2015 22:17     208   0.175      0.035   43878  50.452     10.141

** Spl      Name:     CCB                           Data File: gb044
            Remarks: <none>

44   Spl    1 11Dec2015 22:28     191   0.155      0.031     676   0.000      0.000

** Spl      Name:     msd 122613-B-2                Data File: gb045
            Remarks: <none>

45   Spl    1 11Dec2015 22:38     512   0.531      0.107   77346  89.578     18.006

** Spl      Name:     600-122502-C-2                Data File: gb046
            Remarks: <none>

46   Spl    1 11Dec2015 22:48   54319  63.435     12.751   18894  21.243      4.270

** Spl      Name:     600-122676-B-4                Data File: gb047
            Remarks: <none>

47   Spl    1 11Dec2015 22:59    2223   2.531      0.509   43567  50.088     10.068

** Spl      Name:     600-122795-A-1                Data File: gb048
            Remarks: <none>

48   Spl    1 11Dec2015 23:09    4003   4.612      0.927   33814  38.686      7.776

** Spl      Name:     600-122559-A-2                Data File: gb049
            Remarks: <none>

49   Spl    1 11Dec2015 23:20   24191  28.213      5.671    9148   9.849      1.980

** Spl      Name:     600-122559-A-4                Data File: gb050
            Remarks: <none>

50   Spl    1 11Dec2015 23:30   14066  16.376      3.292    3951   3.774      0.758

** Spl      Name:     600-122559-A-5                Data File: gb051
            Remarks: <none>

51   Spl    1 11Dec2015 23:41   14774  17.204      3.458   22373  25.311      5.088
```

** Spl Name: 600-122772-C-1 Data File: gb052
Remarks: <none>

52	Spl	1	11Dec2015 23:51	2621	2.996	0.602	11008	12.024	2.417

** Spl Name: 600-122793-A-3 Data File: gb053
Remarks: <none>

53	Spl	1	12Dec2015 00:02	1469	1.650	0.332	56852	65.619	13.190

** Spl Name: 600-122839-C-2 Data File: gb054
Remarks: <none>

54	Spl	1	12Dec2015 00:12	1042	1.150	0.231	42527	48.872	9.823

** Spl Name: CCV Data File: gb055
Remarks: <none>

55	Spl	1	12Dec2015 00:23	184	0.147	0.030	43801	50.361	10.123

** Spl Name: CCB Data File: gb056
Remarks: <none>

56	Spl	1	12Dec2015 00:33	231	0.202	0.041	675	0.000	0.000

** Spl Name: 600-122613-B-5 Data File: gb057
Remarks: <none>

57	Spl	1	12Dec2015 00:43	605	0.639	0.128	29567	33.721	6.778

** Spl Name: ms 122613-B-5 Data File: gb058
Remarks: <none>

58	Spl	1	12Dec2015 00:54	652	0.694	0.140	75777	87.744	17.637

** Spl Name: msd 122613-B-5 Data File: gb059
Remarks: <none>

59	Spl	1	12Dec2015 01:04	591	0.623	0.125	76797	88.936	17.877

** Spl Name: 600-122868-C-1 Data File: gb060
Remarks: <none>

60	Spl	1	12Dec2015 01:15	3135	3.597	0.723	49979	57.584	11.575

** Spl Name: 600-122578-B-1 Data File: gb061
Remarks: <none>

61	Spl	1	12Dec2015 01:25	7304	8.471	1.703	3171	2.862	0.575

** Spl Name: 600-122630-B-1 Data File: gb062
Remarks: <none>

62	Spl	1	12Dec2015 01:36	15003	17.472	3.512	10017	10.865	2.184

** Spl Name: 600-122630-B-2 Data File: gb063
Remarks: <none>

63	Spl	1	12Dec2015 01:46	12479	14.521	2.919	6519	6.776	1.362

** Spl Name: 600-122630-B-3 Data File: gb064
Remarks: <none>

64	Spl	1	12Dec2015 01:57	21255	24.781	4.981	6703	6.991	1.405

** Spl Name: 600-122630-B-4 Data File: gb065
Remarks: <none>

65	Spl	1	12Dec2015 02:07	18595	21.671	4.356	22796	25.805	5.187

```
** Spl        Name:     600-122818-B-4                Data File: gb066
               Remarks: <none>

66   Spl       1 12Dec2015 02:17    1597   1.799      0.362   40641  46.667      9.380

** Spl        Name:     CCV                           Data File: gb067
               Remarks: <none>

67   Spl       1 12Dec2015 02:28     135   0.090      0.018   43280  49.752     10.000

** Spl        Name:     CCB                           Data File: gb068
               Remarks: <none>

68   Spl       1 12Dec2015 02:38     228   0.199      0.040     665   0.000      0.000

** Spl        Name:     600-122818-B-5                Data File: gb069
               Remarks: <none>

69   Spl       1 12Dec2015 02:49    1275   1.423      0.286   38860  44.585      8.962

** Spl        Name:     600-122818-B-6                Data File: gb070
               Remarks: <none>

70   Spl       1 12Dec2015 02:59    4359   5.028      1.011   50034  57.648     11.588

** Spl        Name:     CCV                           Data File: gb071
               Remarks: <none>

71   Spl       1 12Dec2015 03:10     112   0.063      0.013   42727  49.106      9.870

** Spl        Name:     CCB                           Data File: gb072
               Remarks: <none>

72   Spl       1 12Dec2015 03:20     176   0.138      0.028     649   0.000      0.000

E-Possible IR failure - reboot.  12Dec2015 04:25
```

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Batch Number: 178041 Batch Start Date: 12/09/15 05:16 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	WETSNH3ICV 00020		
MB 600-178041/1		350.1, 350.1		100 mL	100 mL	<2 SU			
LCS 600-178041/2		350.1, 350.1		100 mL	100 mL	<2 SU	0.5 mL		
600-122559-A-1	MW-04	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122559-A-1 MS	MW-04	350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-122559-A-1 MSD	MW-04	350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-122559-A-2	MW-05	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122559-A-2 MS	MW-05	350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-122559-A-2 MSD	MW-05	350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-122559-A-3	MW-08	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122559-A-4	MW-09	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122559-A-5	MW-20	350.1, 350.1	T	100 mL	100 mL	<2 SU			

Batch Notes	
Pipette ID	WC47,WC53,WC63

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Batch Number: 178056 Batch Start Date: 12/09/15 07:39 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	CalcMsg	WETSNH3CAL 00012	WETSNH3ICV 00020
ICV 600-178056/9		350.1		5 mL	5 mL	<2 SU	OK		0.025 mL
ICB 600-178056/10		350.1		5 mL	5 mL	<2 SU	OK		
MB 600-178041/1-A		350.1		5 mL	5 mL	<2 SU	OK		
LCS 600-178041/2-A		350.1		5 mL	5 mL	<2 SU	OK		
600-122559-A-1-A	MW-04	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122559-A-1-B MS	MW-04	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122559-A-1-C MSD	MW-04	350.1	T	5 mL	5 mL	<2 SU	OK		
CCV 600-178056/21		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-178056/22		350.1		5 mL	5 mL	<2 SU	OK		
600-122559-A-2-A	MW-05	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122559-A-2-B MS	MW-05	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122559-A-2-C MSD	MW-05	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122559-A-3-A	MW-08	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122559-A-4-A	MW-09	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122559-A-5-A	MW-20	350.1	T	5 mL	5 mL	<2 SU	OK		
CCV 600-178056/33		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-178056/34		350.1		5 mL	5 mL	<2 SU	OK		

Batch Notes	
Pipette ID	WC47,WC53,WC63
Perform Calculation (0=No, 1=Yes)	1

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Batch Number: 178056 Batch Start Date: 12/09/15 07:39 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Batch Number: 178421 Batch Start Date: 12/14/15 15:17 Batch Analyst: Daniel, Kevin R

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	NO3NO2CRVE1.0 00045	NO3NO2ICV/LCS 00038		
ICV 600-178421/7		353.2		5 mL	5 mL		5 mL		
ICB 600-178421/8		353.2		5 mL	5 mL				
MB 600-178421/10		353.2		5 mL	5 mL				
LCS 600-178421/11		353.2		5 mL	5 mL		5 mL		
CCV 600-178421/20		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/21		353.2		5 mL	5 mL				
600-122559-A-1	MW-04	353.2	T	5 mL	5 mL				
CCV 600-178421/32		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/33		353.2		5 mL	5 mL				
600-122559-A-2 ^20	MW-05	353.2	T	5 mL	5 mL				
600-122559-A-3	MW-08	353.2	T	5 mL	5 mL				
600-122559-A-3 MS	MW-08	353.2	T	5 mL	5 mL		5 mL		
600-122559-A-3 MSD	MW-08	353.2	T	5 mL	5 mL		5 mL		
CCV 600-178421/44		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/45		353.2		5 mL	5 mL				
MB 600-178421/46		353.2		5 mL	5 mL				
LCS 600-178421/47		353.2		5 mL	5 mL		5 mL		
600-122559-A-4	MW-09	353.2	T	5 mL	5 mL				
CCV 600-178421/58		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/59		353.2		5 mL	5 mL				
600-122559-A-5	MW-20	353.2	T	5 mL	5 mL				
CCV 600-178421/70		353.2		5 mL	5 mL	5 mL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Batch Number: 178421 Batch Start Date: 12/14/15 15:17 Batch Analyst: Daniel, Kevin R

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	NO3NO2CRVE1.0 00045	NO3NO2ICV/LCS 00038		
CCB 600-178421/71		353.2		5 mL	5 mL				

Batch Notes	
Pipette ID	wc62 wc45a wc40

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Batch Number: 177773 Batch Start Date: 12/03/15 23:00 Batch Analyst: Daniel, Kevin R

Batch Method: 4500 P E-1999 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WETSPHOSCS 00022	WETSPHOSIS 00020		
ICV 600-177773/1		4500 P E-1999		5 mL	5 mL		50 uL		
ICB 600-177773/2		4500 P E-1999		5 mL	5 mL				
MB 600-177773/3		4500 P E-1999		5 mL	5 mL				
LCS 600-177773/4		4500 P E-1999		5 mL	5 mL		50 uL		
600-122559-B-1	MW-04	4500 P E-1999	T	5 mL	5 mL				
600-122559-B-2	MW-05	4500 P E-1999	T	5 mL	5 mL				
600-122559-B-3	MW-08	4500 P E-1999	T	5 mL	5 mL				
600-122559-B-4	MW-09	4500 P E-1999	T	5 mL	5 mL				
CCV 600-177773/13		4500 P E-1999		5 mL	5 mL	50 uL			
CCB 600-177773/14		4500 P E-1999		5 mL	5 mL				
600-122559-B-5	MW-20	4500 P E-1999	T	5 mL	5 mL				
600-122559-B-5 MS	MW-20	4500 P E-1999	T	5 mL	5 mL		50 uL		
600-122559-B-5 MSD	MW-20	4500 P E-1999	T	5 mL	5 mL		50 uL		
CCV 600-177773/18		4500 P E-1999		5 mL	5 mL	50 uL			
CCB 600-177773/19		4500 P E-1999		5 mL	5 mL				

Batch Notes	
Ammonium Molybdate Reagent ID Number	2048489
Ascorbic Acid Reagent ID Number	2058266
Potassium Antimonyl Tartrate Reagent ID	1883499
Pipette ID	wc62 wc45a
Sulfuric Acid Reagent ID Number	2033361

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Batch Number: 177773 Batch Start Date: 12/03/15 23:00 Batch Analyst: Daniel, Kevin R

Batch Method: 4500 P E-1999 Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122559-1

SDG No.:

Batch Number: 178314 Batch Start Date: 12/11/15 14:57 Batch Analyst: Contreras, Enrique

Batch Method: 5310 D-2000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TOCISCAL 00300	TOCSLCS 00209	WETSTOCICV 00033			
ICV 600-178314/7		5310 D-2000		12 mL					
LCS 600-178314/10		5310 D-2000		12 mL					
CCV 600-178314/19		5310 D-2000			12 mL				
600-122905-D-6 MS		5310 D-2000	T			0.12 mL			
600-122905-D-6 MSD		5310 D-2000	T			0.12 mL			
CCV 600-178314/31		5310 D-2000			12 mL				
LCS 600-178314/40		5310 D-2000		12 mL					
600-122613-B-2 MS		5310 D-2000	T			0.12 mL			
CCV 600-178314/43		5310 D-2000			12 mL				
600-122613-B-2 MSD		5310 D-2000	T			0.12 mL			
CCV 600-178314/55		5310 D-2000			12 mL				

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

Test America (LAB COPY)
DateShipped: 12/2/2015
CarrierName: FedEx
AirbillNo: 775106131099

CHAIN OF CUSTODY RECORD

No: 6-120215-163239-0011
Lab: Test America
Lab Contact: Kristy Ricke
Lab Phone: 713-690-4444

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
MW-04	MW-04	Ground Water/ Duane Thomas	Grab	Nitrate Nitrite as N and Ammonia, Ortho-phosphate (EPA 365.1)	1049 (Ice to 4C & H2SO4), 1051 (Ice to 4C) (2)	MW-04	12/02/2015 13:55	
MW-05	MW-05	Ground Water/ Duane Thomas	Grab	Nitrate Nitrite as N and Ammonia, Ortho-phosphate (EPA 365.1)	1055 (Ice to 4C & H2SO4), 1057 (Ice to 4C) (2)	MW-05	12/02/2015 11:40	
MW-08	MW-08	Ground Water/ Duane Thomas	Grab	Nitrate Nitrite as N and Ammonia, Ortho-phosphate (EPA 365.1)	1084 (Ice to 4C & H2SO4), 1086 (Ice to 4C) (2)	MW-08	12/02/2015 10:25	
MW-09	MW-09	Ground Water/ Duane Thomas	Grab	Nitrate Nitrite as N and Ammonia, Ortho-phosphate (EPA 365.1)	1090 (Ice to 4C & H2SO4), 1092 (Ice to 4C) (2)	MW-09	12/02/2015 09:15	
MW-20	MW-20	Ground Water/ Duane Thomas	Grab	Nitrate Nitrite as N and Ammonia, Ortho-phosphate (EPA 365.1)	1096 (Ice to 4C & H2SO4), 1098 (Ice to 4C) (2)	MW-20	12/02/2015 14:40	

600-122559 Chain of Custody

Special Instructions:

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	PA Engineering	12/02/15 1800		12-3-15 12:55	

Test America (LAB COPY)
DateShipped: 12/2/2015
CarrierName: FedEx
AirbillNo: 775106116710

CHAIN OF CUSTODY RECORD

No: 6-120215-162623-0010
Lab: Test America
Lab Contact: Kristy Ricke
Lab Phone: 713-690-4444

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
MW-04	MW-04	Ground Water/ Duane Thomas	Grab	RSK-175, TOC (EPA 415.2)	1048 (Ice to 4C & HCl), 1050 (Ice to 4C & H2SO4) (3)	MW-04	12/02/2015 13:55	
MW-05	MW-05	Ground Water/ Duane Thomas	Grab	RSK-175, TOC (EPA 415.2)	1054 (Ice to 4C & HCl), 1056 (Ice to 4C & H2SO4) (3)	MW-05	12/02/2015 11:40	
MW-08	MW-08	Ground Water/ Duane Thomas	Grab	RSK-175, TOC (EPA 415.2)	1083 (Ice to 4C & HCl), 1085 (Ice to 4C & H2SO4) (3)	MW-08	12/02/2015 10:25	
MW-09	MW-09	Ground Water/ Duane Thomas	Grab	RSK-175, TOC (EPA 415.2)	1089 (Ice to 4C & HCl), 1091 (Ice to 4C & H2SO4) (3)	MW-09	12/02/2015 09:15	
MW-20	MW-20	Ground Water/ Duane Thomas	Grab	RSK-175, TOC (EPA 415.2)	1095 (Ice to 4C & HCl), 1097 (Ice to 4C & H2SO4) (3)	MW-20	12/02/2015 14:40	

Special Instructions:

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	FAT Engineering	12/02/15 1800		12-3-15 1215	

Loc: 600
122559

TestAmerica Houston

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Checklist

'15 DEC 3 12:55

Date/Time Received: _____

JOB NUMBER: _____ CLIENT: EA

UNPACKED BY: _____ CARRIER/DRIVER: Fedex Sd

Custody Seal Present: ☒ YES ☐ NO Number of Coolers Received: 2

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
RW	Y / N	Y / N	0.9	550	-0.3	0.6
RW	Y / N	Y / N	0.8			0.5
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO Acid preserved are<pH 2: ☐ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		

COMMENTS:

TRK # 7751 0613 1099 7751 0611 6710

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 600-122559-1

Login Number: 122559
List Number: 1
Creator: Jackson, Falynn E

List Source: TestAmerica Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6/0.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

ANALYTICAL REPORT

Job Number: 600-122630-1

Job Description: Jones Road Groundwater Plume

For:
EA Engineering, Science, and Technology
5655 S. Yosemite St., Ste. 320
Greenwood Village, CO 80111

Attention: Pamela J Moss

Approved for release.
Kristy Ricke
Project Manager I
12/17/2015 12:57 PM

Kristy Ricke, Project Manager I
6310 Rothway Street, Houston, TX, 77040
(615)301-5764
kristy.ricke@testamericainc.com
12/17/2015

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Job Narrative
600-122630-1

Comments
No additional comments.

Receipt
The samples were received on 12/4/2015 11:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.6º C.

GC Semi VOA
Method RSK-175: The following sample was diluted to bring the concentration of target analytes within the calibration range: MW-01 (600-122630-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method 353.2: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-02 (600-122630-2), MW-02-Dup (600-122630-3) and MW-03 (600-122630-4). Elevated reporting limits (RLs) are provided.

Method SM 4500 P E: The following samples were diluted to bring the concentration of target analytes within the calibration range: 600-122591-B-1, 600-122591-B-1 MS and 600-122591-B-1 MSD. Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: CHFID14 Analysis Batch Number: 164074

Lab Sample ID: IC 600-164074/1 Client Sample ID:

Date Analyzed: 06/08/15 10:52 Lab File ID: rsk060815_001.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.77	Split Peak	saccoj	06/08/15 12:47
Ethane	0.92	Split Peak	saccoj	06/08/15 12:47

RSK-175

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: CHFID14 Analysis Batch Number: 177880

Lab Sample ID: CCV 600-177880/23 Client Sample ID:

Date Analyzed: 12/07/15 15:52 Lab File ID: rsk120715_023.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.73	Split Peak	saccoj	12/07/15 16:06
Ethane	0.90	Split Peak	saccoj	12/07/15 16:06

RSK-175

SAMPLE SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
600-122630-1	MW-01	Water	12/03/2015 0755	12/04/2015 1150
600-122630-2	MW-02	Water	12/03/2015 0935	12/04/2015 1150
600-122630-3	MW-02-Dup	Water	12/03/2015 0935	12/04/2015 1150
600-122630-4	MW-03	Water	12/03/2015 1050	12/04/2015 1150

EXECUTIVE SUMMARY - Detections

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Lab Sample ID Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
600-122630-1	**MW-01**					
Ethane		0.00241		0.00200	mg/L	RSK-175
Methane		2.35		0.500	mg/L	RSK-175
Ethylene		0.00353		0.00200	mg/L	RSK-175
Nitrate Nitrite as N		1.36	F1	0.0500	mg/L	353.2
Total Organic Carbon		2.18		1.00	mg/L	5310 D-2000
600-122630-2	**MW-02**					
Methane		0.00250		0.00100	mg/L	RSK-175
Nitrate Nitrite as N		8.12		0.250	mg/L	353.2
Orthophosphate		0.0250	J	0.0500	mg/L	4500 P E-1999
Total Organic Carbon		1.36		1.00	mg/L	5310 D-2000
600-122630-3	**MW-02-DUP**					
Methane		0.00188		0.00100	mg/L	RSK-175
Nitrate Nitrite as N		6.47		1.00	mg/L	353.2
Orthophosphate		0.0320	J	0.0500	mg/L	4500 P E-1999
Total Organic Carbon		1.41		1.00	mg/L	5310 D-2000
600-122630-4	**MW-03**					
Methane		0.000894	J	0.00100	mg/L	RSK-175
Nitrate Nitrite as N		10.1		1.00	mg/L	353.2
Orthophosphate		0.281		0.0500	mg/L	4500 P E-1999
Total Organic Carbon		5.19		1.00	mg/L	5310 D-2000

METHOD SUMMARY

Client: EA Engineering, Science, and Technology | Job Number: 600-122630-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Dissolved Gases in Water	TAL HOU	RSK RSK-175	
Nitrogen, Ammonia	TAL HOU	MCAWW 350.1	
Distillation, Ammonia	TAL HOU		EPA 350.1
Nitrogen, Nitrate-Nitrite (Colorimetric, Automated, Cadmium Reduction)	TAL HOU	MCAWW 353.2	
Orthophosphate - SM Online, 2011	TAL HOU	SM-Online 4500 P E-1999	
Organic Carbon, Total (TOC)	TAL HOU	SM 5310 D-2000	

Lab References:

TAL HOU = TestAmerica Houston

Method References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

SM-Online = Standard Methods Online

METHOD / ANALYST SUMMARY

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Method	Analyst	Analyst ID
RSK RSK-175	Sacco, John P	JPS
MCAWW 350.1	Cemer, Sejfudin	SC1
MCAWW 353.2	Daniel, Kevin R	KRD
SM-Online 4500 P E-1999	Daniel, Kevin R	KRD
SM 5310 D-2000	Contreras, Enrique	EC1

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Client Sample ID: **MW-01**

Lab Sample ID: 600-122630-1

Client Matrix: Water

Date Sampled: 12/03/2015 0755

Date Received: 12/04/2015 1150

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/07/2015 1436			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.00241		0.000303	0.00200
Ethylene	0.00353		0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Client Sample ID: **MW-01**

Lab Sample ID: 600-122630-1

Client Matrix: Water

Date Sampled: 12/03/2015 0755

Date Received: 12/04/2015 1150

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	500			Final Weight/Volume:	
Analysis Date:	12/07/2015 1703			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Methane	2.35		0.179	0.500

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Client Sample ID: **MW-02**

Lab Sample ID: 600-122630-2

Client Matrix: Water

Date Sampled: 12/03/2015 0935

Date Received: 12/04/2015 1150

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/07/2015 1447			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.00250		0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Client Sample ID: **MW-02-Dup**

Lab Sample ID: 600-122630-3

Client Matrix: Water

Date Sampled: 12/03/2015 0935

Date Received: 12/04/2015 1150

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/07/2015 1459			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.00188		0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Client Sample ID: **MW-03**

Lab Sample ID: 600-122630-4

Client Matrix: Water

Date Sampled: 12/03/2015 1050

Date Received: 12/04/2015 1150

RSK-175 Dissolved Gases in Water

Analysis Method:	RSK-175	Analysis Batch:	600-177880	Instrument ID:	CHFID14
	N/A		N/A	Initial Weight/Volume:	1 mL
Dilution:	1.0			Final Weight/Volume:	
Analysis Date:	12/07/2015 1517			Injection Volume:	1 uL
Prep Date:	N/A			Result Type:	PRIMARY

Analyte	Result (mg/L)	Qualifier	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.000894	J	0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

General Chemistry

Client Sample ID: MW-01

Lab Sample ID: 600-122630-1 Date Sampled: 12/03/2015 0755
Client Matrix: Water Date Received: 12/04/2015 1150

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-178144	Analysis Date: 12/10/2015 0745						
Prep Batch: 600-178121	Prep Date: 12/10/2015 0529						
Nitrate Nitrite as N	1.36	F1	mg/L	0.0170	0.0500	1.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1609						
Orthophosphate	0.0104	U	mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177969	Analysis Date: 12/04/2015 2345						
Total Organic Carbon	2.18		mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178314	Analysis Date: 12/12/2015 0136						

General Chemistry

Client Sample ID: MW-02

Lab Sample ID: 600-122630-2 Date Sampled: 12/03/2015 0935
Client Matrix: Water Date Received: 12/04/2015 1150

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-178144	Analysis Date: 12/10/2015 0750						
Prep Batch: 600-178121	Prep Date: 12/10/2015 0529						
Nitrate Nitrite as N	8.12		mg/L	0.0850	0.250	5.0	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1540						
Orthophosphate	0.0250	J	mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177969	Analysis Date: 12/04/2015 2345						
Total Organic Carbon	1.36		mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178314	Analysis Date: 12/12/2015 0146						

General Chemistry

Client Sample ID: **MW-02-Dup**

Lab Sample ID: 600-122630-3 Date Sampled: 12/03/2015 0935
Client Matrix: Water Date Received: 12/04/2015 1150

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-178144	Analysis Date: 12/10/2015 0748						
Prep Batch: 600-178121	Prep Date: 12/10/2015 0529						
Nitrate Nitrite as N	6.47		mg/L	0.340	1.00	20	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1545						
Orthophosphate	0.0320	J	mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177969	Analysis Date: 12/04/2015 2345						
Total Organic Carbon	1.41		mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178314	Analysis Date: 12/12/2015 0157						

General Chemistry

Client Sample ID: **MW-03**

Lab Sample ID: 600-122630-4 Date Sampled: 12/03/2015 1050
Client Matrix: Water Date Received: 12/04/2015 1150

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Ammonia	0.0675	U	mg/L	0.0675	0.200	1.0	350.1
Analysis Batch: 600-178144	Analysis Date: 12/10/2015 0751						
Prep Batch: 600-178121	Prep Date: 12/10/2015 0529						
Nitrate Nitrite as N	10.1		mg/L	0.340	1.00	20	353.2
Analysis Batch: 600-178421	Analysis Date: 12/14/2015 1618						
Orthophosphate	0.281		mg/L	0.0104	0.0500	1.0	4500 P E-1999
Analysis Batch: 600-177969	Analysis Date: 12/04/2015 2345						
Total Organic Carbon	5.19		mg/L	0.437	1.00	1.0	5310 D-2000
Analysis Batch: 600-178314	Analysis Date: 12/12/2015 0207						

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Method Blank - Batch: 600-177880

Method: RSK-175
Preparation: N/A

Lab Sample ID:	MB 600-177880/2	Analysis Batch:	600-177880	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120715_002.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/07/2015 1033	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Ethane	0.000303	U	0.000303	0.00200
Methane	0.000357	U	0.000357	0.00100
Ethylene	0.000324	U	0.000324	0.00200

Lab Control Sample - Batch: 600-177880

Method: RSK-175
Preparation: N/A

Lab Sample ID:	LCS 600-177880/3	Analysis Batch:	600-177880	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120715_003.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/07/2015 1045	Units:	mg/L	Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ethane	0.00970	0.007548	78	70 - 130	
Methane	0.00516	0.004806	93	70 - 130	
Ethylene	0.00905	0.007352	81	70 - 130	

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177880

Method: RSK-175
Preparation: N/A

MS Lab Sample ID:	600-122502-O-2 MS	Analysis Batch:	600-177880	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120715_006.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/07/2015 1120			Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

MSD Lab Sample ID:	600-122502-O-2 MSD	Analysis Batch:	600-177880	Instrument ID:	CHFID14
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	rsk120715_007.d
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	1 mL
Analysis Date:	12/07/2015 1132			Final Weight/Volume:	
Prep Date:	N/A			Injection Volume:	1 uL
Leach Date:	N/A			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ethane	99	91	70 - 130	9	30		
Methane	112	104	70 - 130	8	30		
Ethylene	100	92	70 - 130	9	30		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177880

Method: RSK-175
Preparation: N/A

MS Lab Sample ID:	600-122502-O-2 MS	Units:	mg/L	MSD Lab Sample ID:	600-122502-O-2 MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/07/2015 1120			Analysis Date:	12/07/2015 1132
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Ethane	0.000303	U	0.00970	0.00970	0.009638	0.008851
Methane	0.000357	U	0.00516	0.00516	0.005779	0.005358
Ethylene	0.000324	U	0.00905	0.00905	0.009089	0.008309

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Method Blank - Batch: 600-178121

Method: 350.1
Preparation: 350.1

Lab Sample ID:	MB 600-178121/1-A	Analysis Batch:	600-178144	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178121	Lab File ID:	OM_12-10-2015_07-31-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/10/2015 0743	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	12/10/2015 0529				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Ammonia	0.0675	U	0.0675	0.200

Lab Control Sample - Batch: 600-178121

Method: 350.1
Preparation: 350.1

Lab Sample ID:	LCS 600-178121/2-A	Analysis Batch:	600-178144	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178121	Lab File ID:	OM_12-10-2015_07-31-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/10/2015 0744	Units:	mg/L	Final Weight/Volume:	100 mL
Prep Date:	12/10/2015 0529				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	5.00	4.973	99	90 - 110	

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178121

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122630-1	Analysis Batch:	600-178144	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178121	Lab File ID:	OM_12-10-2015_07-31-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/10/2015 0827			Final Weight/Volume:	100 mL
Prep Date:	12/10/2015 0529				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122630-1	Analysis Batch:	600-178144	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178121	Lab File ID:	OM_12-10-2015_07-31-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/10/2015 0828			Final Weight/Volume:	100 mL
Prep Date:	12/10/2015 0529				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia	100	96	90 - 110	4	20		

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178121

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122661-B-1-B MS	Analysis Batch:	600-178144	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178121	Lab File ID:	OM_12-10-2015_07-31-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/10/2015 0829			Final Weight/Volume:	100 mL
Prep Date:	12/10/2015 0529				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122661-B-1-C MSD	Analysis Batch:	600-178144	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	600-178121	Lab File ID:	OM_12-10-2015_07-31-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	100 mL
Analysis Date:	12/10/2015 0830			Final Weight/Volume:	100 mL
Prep Date:	12/10/2015 0529				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Ammonia	100	100	90 - 110	0	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178121

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122630-1	Units:	mg/L	MSD Lab Sample ID:	600-122630-1
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/10/2015 0827			Analysis Date:	12/10/2015 0828
Prep Date:	12/10/2015 0529			Prep Date:	12/10/2015 0529
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Ammonia	0.0675	U	5.00	5.00	4.998	4.821

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178121

Method: 350.1
Preparation: 350.1

MS Lab Sample ID:	600-122661-B-1-B MS	Units:	mg/L	MSD Lab Sample ID:	600-122661-B-1-C MSD
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/10/2015 0829			Analysis Date:	12/10/2015 0830
Prep Date:	12/10/2015 0529			Prep Date:	12/10/2015 0529
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual		MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Ammonia	0.0675	U	5.00	5.00	5.016	5.014

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Method Blank - Batch: 600-178144

Method: 350.1
Preparation: N/A

Lab Sample ID:	MB 600-178144/38	Analysis Batch:	600-178144	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-10-2015_07-31-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/10/2015 0813	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Ammonia	0.0675	U	0.0675	0.200

Lab Control Sample - Batch: 600-178144

Method: 350.1
Preparation: N/A

Lab Sample ID:	LCS 600-178144/39	Analysis Batch:	600-178144	Instrument ID:	WC07
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-10-2015_07-31-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/10/2015 0814	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Ammonia	5.00	4.744	95	90 - 110	

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Method Blank - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 600-178421/10	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1524	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N	0.0170	U	0.0170	0.0500

Method Blank - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 600-178421/46	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1552	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N	0.0170	U	0.0170	0.0500

Method Blank - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	MB 600-178421/72	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1613	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Nitrate Nitrite as N	0.0170	U	0.0170	0.0500

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Lab Control Sample - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 600-178421/11	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1525	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	1.00	1.012	101	90 - 110	

Lab Control Sample - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 600-178421/47	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1553	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	1.00	0.9994	100	90 - 110	

Lab Control Sample - Batch: 600-178421

Method: 353.2
Preparation: N/A

Lab Sample ID:	LCS 600-178421/73	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1614	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	1.00	1.004	100	90 - 110	

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178421

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	600-122630-1	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1610			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122630-1	Analysis Batch:	600-178421	Instrument ID:	WC05
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	OM_12-14-2015_03-16-
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/14/2015 1610			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrate Nitrite as N	52	67	80 - 120	8	20	F1	F1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178421

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	600-122630-1	Units:	mg/L	MSD Lab Sample ID:	600-122630-1
Client Matrix:	Water			Client Matrix:	Water
Dilution:	1.0			Dilution:	1.0
Analysis Date:	12/14/2015 1610			Analysis Date:	12/14/2015 1610
Prep Date:	N/A			Prep Date:	N/A
Leach Date:	N/A			Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual		MSD Result/Qual	
Nitrate Nitrite as N	1.36	1.00	1.00	1.875	F1	2.022	F1

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Method Blank - Batch: 600-177969

Method: 4500 P E-1999
Preparation: N/A

Lab Sample ID:	MB 600-177969/3	Analysis Batch:	600-177969	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/04/2015 2345	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Orthophosphate	0.0104	U	0.0104	0.0500

Lab Control Sample - Batch: 600-177969

Method: 4500 P E-1999
Preparation: N/A

Lab Sample ID:	LCS 600-177969/4	Analysis Batch:	600-177969	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/04/2015 2345	Units:	mg/L	Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Orthophosphate	0.500	0.5140	103	90 - 110	
Orthophosphorus as PO4	1.53	1.576	103	90 - 110	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177969

Method: 4500 P E-1999
Preparation: N/A

MS Lab Sample ID:	600-122591-B-1 MS	Analysis Batch:	600-177969	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	25	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/04/2015 2345			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122591-B-1 MSD	Analysis Batch:	600-177969	Instrument ID:	WC10
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	N/A
Dilution:	25	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	12/04/2015 2345			Final Weight/Volume:	5 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Orthophosphate	111	105	75 - 125	4	20		
Orthophosphorus as PO4	111	105	75 - 125	4	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-177969

Method: 4500 P E-1999
Preparation: N/A

MS Lab Sample ID:	600-122591-B-1 MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	25		
Analysis Date:	12/04/2015 2345		
Prep Date:	N/A		
Leach Date:	N/A		

MSD Lab Sample ID:	600-122591-B-1 MSD
Client Matrix:	Water
Dilution:	25
Analysis Date:	12/04/2015 2345
Prep Date:	N/A
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Orthophosphate	7.65	12.5	12.5	21.55	20.75
Orthophosphorus as PO4	23.5	38.3	38.3	66.08	63.62

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Method Blank - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	MB 600-178314/39	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb039.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 2135	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Total Organic Carbon	0.437	U	0.437	1.00

Lab Control Sample - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

Lab Sample ID:	LCS 600-178314/40	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb040.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/11/2015 2146	Units:	mg/L	Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	10.0	9.858	99	85 - 115	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122613-B-5 MS	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb058.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/12/2015 0054			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

MSD Lab Sample ID:	600-122613-B-5 MSD	Analysis Batch:	600-178314	Instrument ID:	WC01
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	gb059.rlt
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	12 mL
Analysis Date:	12/12/2015 0104			Final Weight/Volume:	12 mL
Prep Date:	N/A				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Total Organic Carbon	109	111	80 - 120	1	20		

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 600-178314

Method: 5310 D-2000
Preparation: N/A

MS Lab Sample ID:	600-122613-B-5 MS	Units: mg/L	
Client Matrix:	Water		
Dilution:	1.0		
Analysis Date:	12/12/2015 0054		
Prep Date:	N/A		
Leach Date:	N/A		

MSD Lab Sample ID:	600-122613-B-5 MSD
Client Matrix:	Water
Dilution:	1.0
Analysis Date:	12/12/2015 0104
Prep Date:	N/A
Leach Date:	N/A

Analyte	Sample Result/Qual	MS Spike Amount	MSD Spike Amount	MS Result/Qual	MSD Result/Qual
Total Organic Carbon	6.78	10.0	10.0	17.64	17.88

DATA REPORTING QUALIFIERS

Client: EA Engineering, Science, and Technology Job Number: 600-122630-1

Lab Section	Qualifier	Description
GC VOA		
	U	Indicates the analyte was analyzed for but not detected.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
General Chemistry		
	U	Indicates the analyte was analyzed for but not detected.
	F1	MS and/or MSD Recovery is outside acceptance limits.
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC VOA					
Analysis Batch:600-177880					
LCS 600-177880/3	Lab Control Sample	T	Water	RSK-175	
MB 600-177880/2	Method Blank	T	Water	RSK-175	
600-122502-O-2 MS	Matrix Spike	T	Water	RSK-175	
600-122502-O-2 MSD	Matrix Spike Duplicate	T	Water	RSK-175	
600-122630-1	MW-01	T	Water	RSK-175	
600-122630-2	MW-02	T	Water	RSK-175	
600-122630-3	MW-02-Dup	T	Water	RSK-175	
600-122630-4	MW-03	T	Water	RSK-175	

Report Basis
T = Total

General Chemistry					
Analysis Batch:600-177969					
LCS 600-177969/4	Lab Control Sample	T	Water	4500 P E-1999	
MB 600-177969/3	Method Blank	T	Water	4500 P E-1999	
600-122591-B-1 MS	Matrix Spike	T	Water	4500 P E-1999	
600-122591-B-1 MSD	Matrix Spike Duplicate	T	Water	4500 P E-1999	
600-122630-1	MW-01	T	Water	4500 P E-1999	
600-122630-2	MW-02	T	Water	4500 P E-1999	
600-122630-3	MW-02-Dup	T	Water	4500 P E-1999	
600-122630-4	MW-03	T	Water	4500 P E-1999	
Prep Batch: 600-178121					
LCS 600-178121/2-A	Lab Control Sample	T	Water	350.1	
MB 600-178121/1-A	Method Blank	T	Water	350.1	
600-122630-1	MW-01	T	Water	350.1	
600-122630-1MS	Matrix Spike	T	Water	350.1	
600-122630-1MSD	Matrix Spike Duplicate	T	Water	350.1	
600-122630-2	MW-02	T	Water	350.1	
600-122630-3	MW-02-Dup	T	Water	350.1	
600-122630-4	MW-03	T	Water	350.1	
600-122661-B-1-B MS	Matrix Spike	T	Water	350.1	
600-122661-B-1-C MSD	Matrix Spike Duplicate	T	Water	350.1	
Analysis Batch:600-178144					
LCS 600-178144/39	Lab Control Sample	T	Water	350.1	
MB 600-178144/38	Method Blank	T	Water	350.1	
LCS 600-178121/2-A	Lab Control Sample	T	Water	350.1	600-178121
MB 600-178121/1-A	Method Blank	T	Water	350.1	600-178121
600-122630-1	MW-01	T	Water	350.1	600-178121
600-122630-1MS	Matrix Spike	T	Water	350.1	600-178121
600-122630-1MSD	Matrix Spike Duplicate	T	Water	350.1	600-178121
600-122630-2	MW-02	T	Water	350.1	600-178121
600-122630-3	MW-02-Dup	T	Water	350.1	600-178121

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:600-178144					
600-122630-4	MW-03	T	Water	350.1	600-178121
600-122661-B-1-B MS	Matrix Spike	T	Water	350.1	600-178121
600-122661-B-1-C MSD	Matrix Spike Duplicate	T	Water	350.1	600-178121
600-122828-C-2 MSD	Matrix Spike Duplicate	T	Water	350.1	
Analysis Batch:600-178314					
LCS 600-178314/40	Lab Control Sample	T	Water	5310 D-2000	
MB 600-178314/39	Method Blank	T	Water	5310 D-2000	
600-122613-B-5 MS	Matrix Spike	T	Water	5310 D-2000	
600-122613-B-5 MSD	Matrix Spike Duplicate	T	Water	5310 D-2000	
600-122630-1	MW-01	T	Water	5310 D-2000	
600-122630-2	MW-02	T	Water	5310 D-2000	
600-122630-3	MW-02-Dup	T	Water	5310 D-2000	
600-122630-4	MW-03	T	Water	5310 D-2000	
Analysis Batch:600-178421					
LCS 600-178421/11	Lab Control Sample	T	Water	353.2	
LCS 600-178421/47	Lab Control Sample	T	Water	353.2	
LCS 600-178421/73	Lab Control Sample	T	Water	353.2	
MB 600-178421/10	Method Blank	T	Water	353.2	
MB 600-178421/46	Method Blank	T	Water	353.2	
MB 600-178421/72	Method Blank	T	Water	353.2	
600-122630-1	MW-01	T	Water	353.2	
600-122630-1MS	Matrix Spike	T	Water	353.2	
600-122630-1MSD	Matrix Spike Duplicate	T	Water	353.2	
600-122630-2	MW-02	T	Water	353.2	
600-122630-3	MW-02-Dup	T	Water	353.2	
600-122630-4	MW-03	T	Water	353.2	

Report Basis
T = Total

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Laboratory Chronicle

Lab ID: 600-122630-1 **Client ID: MW-01**

Sample Date/Time: 12/03/2015 07:55 Received Date/Time: 12/04/2015 11:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122630-E-1		600-177880		12/07/2015 14:36	1	TAL HOU	JPS
A:RSK-175	600-122630-E-1		600-177880		12/07/2015 17:03	500	TAL HOU	JPS
P:350.1	600-122630-B-1-A		600-178144	600-178121	12/10/2015 05:29	1	TAL HOU	SC1
A:350.1	600-122630-B-1-A		600-178144	600-178121	12/10/2015 07:45	1	TAL HOU	SC1
A:353.2	600-122630-B-1		600-178421		12/14/2015 16:09	1	TAL HOU	KRD
A:4500 P E-1999	600-122630-A-1		600-177969		12/04/2015 23:45	1	TAL HOU	KRD
A:5310 D-2000	600-122630-B-1		600-178314		12/12/2015 01:36	1	TAL HOU	EC1

Lab ID: 600-122630-1 MS **Client ID: MW-01**

Sample Date/Time: 12/03/2015 07:55 Received Date/Time: 12/04/2015 11:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122630-B-1-B MS		600-178144	600-178121	12/10/2015 05:29	1	TAL HOU	SC1
A:350.1	600-122630-B-1-B MS		600-178144	600-178121	12/10/2015 08:27	1	TAL HOU	SC1
A:353.2	600-122630-B-1 MS		600-178421		12/14/2015 16:10	1	TAL HOU	KRD

Lab ID: 600-122630-1 MSD **Client ID: MW-01**

Sample Date/Time: 12/03/2015 07:55 Received Date/Time: 12/04/2015 11:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
P:350.1	600-122630-B-1-C MSD		600-178144	600-178121	12/10/2015 05:29	1	TAL HOU	SC1
A:350.1	600-122630-B-1-C MSD		600-178144	600-178121	12/10/2015 08:28	1	TAL HOU	SC1
A:353.2	600-122630-B-1 MSD		600-178421		12/14/2015 16:10	1	TAL HOU	KRD

Lab ID: 600-122630-2 **Client ID: MW-02**

Sample Date/Time: 12/03/2015 09:35 Received Date/Time: 12/04/2015 11:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122630-E-2		600-177880		12/07/2015 14:47	1	TAL HOU	JPS
P:350.1	600-122630-B-2-A		600-178144	600-178121	12/10/2015 05:29	1	TAL HOU	SC1
A:350.1	600-122630-B-2-A		600-178144	600-178121	12/10/2015 07:50	1	TAL HOU	SC1
A:353.2	600-122630-B-2 ^5		600-178421		12/14/2015 15:40	5	TAL HOU	KRD
A:4500 P E-1999	600-122630-A-2		600-177969		12/04/2015 23:45	1	TAL HOU	KRD
A:5310 D-2000	600-122630-B-2		600-178314		12/12/2015 01:46	1	TAL HOU	EC1

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Laboratory Chronicle

Lab ID: 600-122630-3 **Client ID: MW-02-Dup**

Sample Date/Time: 12/03/2015 09:35 Received Date/Time: 12/04/2015 11:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122630-E-3		600-177880		12/07/2015 14:59	1	TAL HOU	JPS
P:350.1	600-122630-C-3-A		600-178144	600-178121	12/10/2015 05:29	1	TAL HOU	SC1
A:350.1	600-122630-C-3-A		600-178144	600-178121	12/10/2015 07:48	1	TAL HOU	SC1
A:353.2	600-122630-B-3 ^20		600-178421		12/14/2015 15:45	20	TAL HOU	KRD
A:4500 P E-1999	600-122630-A-3		600-177969		12/04/2015 23:45	1	TAL HOU	KRD
A:5310 D-2000	600-122630-B-3		600-178314		12/12/2015 01:57	1	TAL HOU	EC1

Lab ID: 600-122630-4 **Client ID: MW-03**

Sample Date/Time: 12/03/2015 10:50 Received Date/Time: 12/04/2015 11:50

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122630-D-4		600-177880		12/07/2015 15:17	1	TAL HOU	JPS
P:350.1	600-122630-B-4-A		600-178144	600-178121	12/10/2015 05:29	1	TAL HOU	SC1
A:350.1	600-122630-B-4-A		600-178144	600-178121	12/10/2015 07:51	1	TAL HOU	SC1
A:353.2	600-122630-B-4 ^20		600-178421		12/14/2015 16:18	20	TAL HOU	KRD
A:4500 P E-1999	600-122630-A-4		600-177969		12/04/2015 23:45	1	TAL HOU	KRD
A:5310 D-2000	600-122630-B-4		600-178314		12/12/2015 02:07	1	TAL HOU	EC1

Lab ID: MB **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	MB 600-177880/2		600-177880		12/07/2015 10:33	1	TAL HOU	JPS
P:350.1	MB 600-178121/1-A		600-178144	600-178121	12/10/2015 05:29	1	TAL HOU	SC1
A:350.1	MB 600-178121/1-A		600-178144	600-178121	12/10/2015 07:43	1	TAL HOU	SC1
A:350.1	MB 600-178144/38		600-178144		12/10/2015 08:13	1	TAL HOU	SC1
A:353.2	MB 600-178421/10		600-178421		12/14/2015 15:24	1	TAL HOU	KRD
A:353.2	MB 600-178421/46		600-178421		12/14/2015 15:52	1	TAL HOU	KRD
A:353.2	MB 600-178421/72		600-178421		12/14/2015 16:13	1	TAL HOU	KRD
A:4500 P E-1999	MB 600-177969/3		600-177969		12/04/2015 23:45	1	TAL HOU	KRD
A:5310 D-2000	MB 600-178314/39		600-178314		12/11/2015 21:35	1	TAL HOU	EC1

Client: EA Engineering, Science, and Technology Job Number: 600-122630-1

Laboratory Chronicle

Lab ID: LCS **Client ID: N/A**

Sample Date/Time: N/A Received Date/Time: N/A

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	LCS 600-177880/3		600-177880		12/07/2015 10:45	1	TAL HOU	JPS
P:350.1	LCS 600-178121/2-A		600-178144	600-178121	12/10/2015 05:29	1	TAL HOU	SC1
A:350.1	LCS 600-178121/2-A		600-178144	600-178121	12/10/2015 07:44	1	TAL HOU	SC1
A:350.1	LCS 600-178144/39		600-178144		12/10/2015 08:14	1	TAL HOU	SC1
A:353.2	LCS 600-178421/11		600-178421		12/14/2015 15:25	1	TAL HOU	KRD
A:353.2	LCS 600-178421/47		600-178421		12/14/2015 15:53	1	TAL HOU	KRD
A:353.2	LCS 600-178421/73		600-178421		12/14/2015 16:14	1	TAL HOU	KRD
A:4500 P E-1999	LCS 600-177969/4		600-177969		12/04/2015 23:45	1	TAL HOU	KRD
A:5310 D-2000	LCS 600-178314/40		600-178314		12/11/2015 21:46	1	TAL HOU	EC1

Lab ID: MS **Client ID: N/A**

Sample Date/Time: 12/01/2015 10:05 Received Date/Time: 12/03/2015 08:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122502-O-2 MS		600-177880		12/07/2015 11:20	1	TAL HOU	JPS
P:350.1	600-122661-B-1-B MS		600-178144	600-178121	12/10/2015 05:29	1	TAL HOU	SC1
A:350.1	600-122661-B-1-B MS		600-178144	600-178121	12/10/2015 08:29	1	TAL HOU	SC1
A:4500 P E-1999	600-122591-B-1 MS		600-177969		12/04/2015 23:45	25	TAL HOU	KRD
A:5310 D-2000	600-122613-B-5 MS		600-178314		12/12/2015 00:54	1	TAL HOU	EC1

Lab ID: MSD **Client ID: N/A**

Sample Date/Time: 12/01/2015 10:05 Received Date/Time: 12/03/2015 08:00

Method	Bottle ID	Run	Analysis Batch	Prep Batch	Date Prepared / Analyzed	Dil	Lab	Analyst
A:RSK-175	600-122502-O-2 MSD		600-177880		12/07/2015 11:32	1	TAL HOU	JPS
A:350.1	600-122828-C-2 MSD		600-178144		12/10/2015 08:18	1	TAL HOU	SC1
P:350.1	600-122661-B-1-C MSD		600-178144	600-178121	12/10/2015 05:29	1	TAL HOU	SC1
A:350.1	600-122661-B-1-C MSD		600-178144	600-178121	12/10/2015 08:30	1	TAL HOU	SC1
A:4500 P E-1999	600-122591-B-1 MSD		600-177969		12/04/2015 23:45	25	TAL HOU	KRD
A:5310 D-2000	600-122613-B-5 MSD		600-178314		12/12/2015 01:04	1	TAL HOU	EC1

Lab References:
TAL HOU = TestAmerica Houston

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
NO3NO2CRVE1.0_00045	12/15/15	12/14/15	DI WATER, Lot N/A	100 mL	NO3NO2CRVEINT_00038	10 mL	Nitrate Nitrite as N	1 ppm
.NO3NO2CRVEINT_00038	12/15/15	12/14/15	DI WATER, Lot NA	100 mL	WETSICINO2_00018	1 mL	Nitrate Nitrite as N	10 mg/L
..WETSICINO2_00018	12/31/15	SPEX CERTIPREP, Lot 3-106NO2N-2Y			(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L
NO3NO2ICV/LCS_00038	12/15/15	12/14/15	DI WATER, Lot N/A	100 mL	NO3NO2ICVSRCE_00001	0.1 mL	Nitrate Nitrite as N	1 ppm
.NO3NO2ICVSRCE_00001	01/01/16	INORGANIC VENTURES, Lot H2-NOX02113			(Purchased Reagent)		Nitrate Nitrite as N	1000 mg/L
RSK-175 LCS_00017	09/24/16	09/17/13	Nitrogen, Lot 092914	1000000 mL	RSK-175_00014	1 uL	Ethane	9.7 ug/L
							Ethylene	9.05 ug/L
							Methane	5.16 ug/L
							Propane	14.18 ug/L
							Propene	13.58 ug/L
.RSK-175_00014	09/24/16	Coastal Specialty Gas, Lot UT002104			(Purchased Reagent)		Ethane	9.7 ppm v/v
							Ethylene	9.05 ppm v/v
							Methane	5.16 ppm v/v
							Propane	14.18 ppm v/v
							Propene	13.58 ppm v/v
TOCISCAL_00300	12/31/15	12/08/15	DI WATER, Lot NONE	500 mL	WETSTOCCAL_00018	5 mL	Total Organic Carbon	10 ppm
.WETSTOCCAL_00018	12/31/15	RICCA, Lot 1412B01			(Purchased Reagent)		Total Organic Carbon	1000 mg/L
TOCSLCS_00209	01/06/16	12/08/15	DI WATER, Lot NONE	1000 mL	WETSTOCICV_00033	10 mL	Total Organic Carbon	10 ppm
.WETSTOCICV_00033	02/26/17	LABCHEM, Lot E054-11			(Purchased Reagent)		Total Organic Carbon	1000 mg/L
WETSNH3CAL_00012	08/12/16	LABCHEM, Lot D223-16			(Purchased Reagent)		Ammonia	1000 mg/L
WETSNH3ICV_00020	01/31/16	RICCA, Lot 2408676			(Purchased Reagent)		Ammonia	1000 mg/L
							Ammonia, undistilled	1000 mg/L
							Nitrogen, Kjeldahl	1000 mg/L
WETSPHOSCS_00022	09/30/16	RICCA, Lot 2509F52			(Purchased Reagent)		Orthophosphate	50 mg/L
							Orthophosphorus as PO4	153.325 mg/L
WETSPHOSIS_00020	05/26/16	LABCHEM, Lot E140-24			(Purchased Reagent)		Orthophosphate	50 mg/L
							Orthophosphorus as PO4	153.325 mg/L
WETSTOCICV_00033	02/26/17	LABCHEM, Lot E054-11			(Purchased Reagent)		Total Organic Carbon	1000 mg/L

Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-122630-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Houston	Arkansas DEQ	State Program	6	15-045-0
TestAmerica Houston	Louisiana	NELAP	6	01967
TestAmerica Houston	Oklahoma	State Program	6	2015-050
TestAmerica Houston	Texas	NELAP	6	T104704223-15-18
TestAmerica Houston	USDA	Federal		P330-14-00192

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Method RSK-175

Dissolved Gases (GC) by Method RSK_175

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk120715_003.d

Lab ID: LCS 600-177880/3 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Ethane	0.00970	0.007548	78	70-130	
Methane	0.00516	0.004806	93	70-130	
Ethylene	0.00905	0.007352	81	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk120715_006.d

Lab ID: 600-122502-O-2 MS Client ID:

COMPOUND	SPIKE ADDED (mg/L)	SAMPLE CONCENTRATION (mg/L)	MS CONCENTRATION (mg/L)	MS % REC	QC LIMITS REC	#
Ethane	0.00970	0.000303 U	0.009638	99	70-130	
Methane	0.00516	0.000357 U	0.005779	112	70-130	
Ethylene	0.00905	0.000324 U	0.009089	100	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk120715_007.d

Lab ID: 600-122502-O-2 MSD Client ID:

COMPOUND	SPIKE ADDED (mg/L)	MSD CONCENTRATION (mg/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Ethane	0.00970	0.008851	91	9	30	70-130	
Methane	0.00516	0.005358	104	8	30	70-130	
Ethylene	0.00905	0.008309	92	9	30	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Lab Sample ID: MB 600-177880/2

Matrix: Water Date Extracted:

Lab File ID:(1) rsk120715_002.d Lab File ID:(2)

Date Analyzed:(1) 12/07/2015 10:33 Date Analyzed:(2)

Instrument ID:(1) CHFID14 Instrument ID:(2)

GC Column:(1) RTX-5 ID: 0.53(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 600-177880/3	12/07/2015 10:45	
	600-122502-O-2 MS	12/07/2015 11:20	
	600-122502-O-2 MSD	12/07/2015 11:32	
MW-01	600-122630-1	12/07/2015 14:36	
MW-02	600-122630-2	12/07/2015 14:47	
MW-02-Dup	600-122630-3	12/07/2015 14:59	
MW-03	600-122630-4	12/07/2015 15:17	
MW-01	600-122630-1	12/07/2015 17:03	

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122630-1
SDG No.:
Client Sample ID: MW-01
Lab Sample ID: 600-122630-1
Matrix: Water
Lab File ID: rsk120715_018.d
Analysis Method: RSK-175
Date Collected: 12/03/2015 07:55
Sample wt/vol: 1(mL)
Date Analyzed: 12/07/2015 14:36
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177880
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.00241		0.00200	0.000303
74-85-1	Ethylene	0.00353		0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_018.d				
Lims ID:	600-122630-E-1	Lab Sample ID:	600-122630-1		
Client ID:	MW-01				
Sample Type:	Client				
Inject. Date:	07-Dec-2015 14:36:52	ALS Bottle#:	0	Worklist Smp#:	18
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0009751-018				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	07-Dec-2015 16:44:38	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK037				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.767	0.733	0.034	3973213	874.5	E
2 Ethane	0.900	0.900	0.000	10208	2.41	
3 Ethylene	1.117	1.100	0.017	11009	3.53	

QC Flag Legend

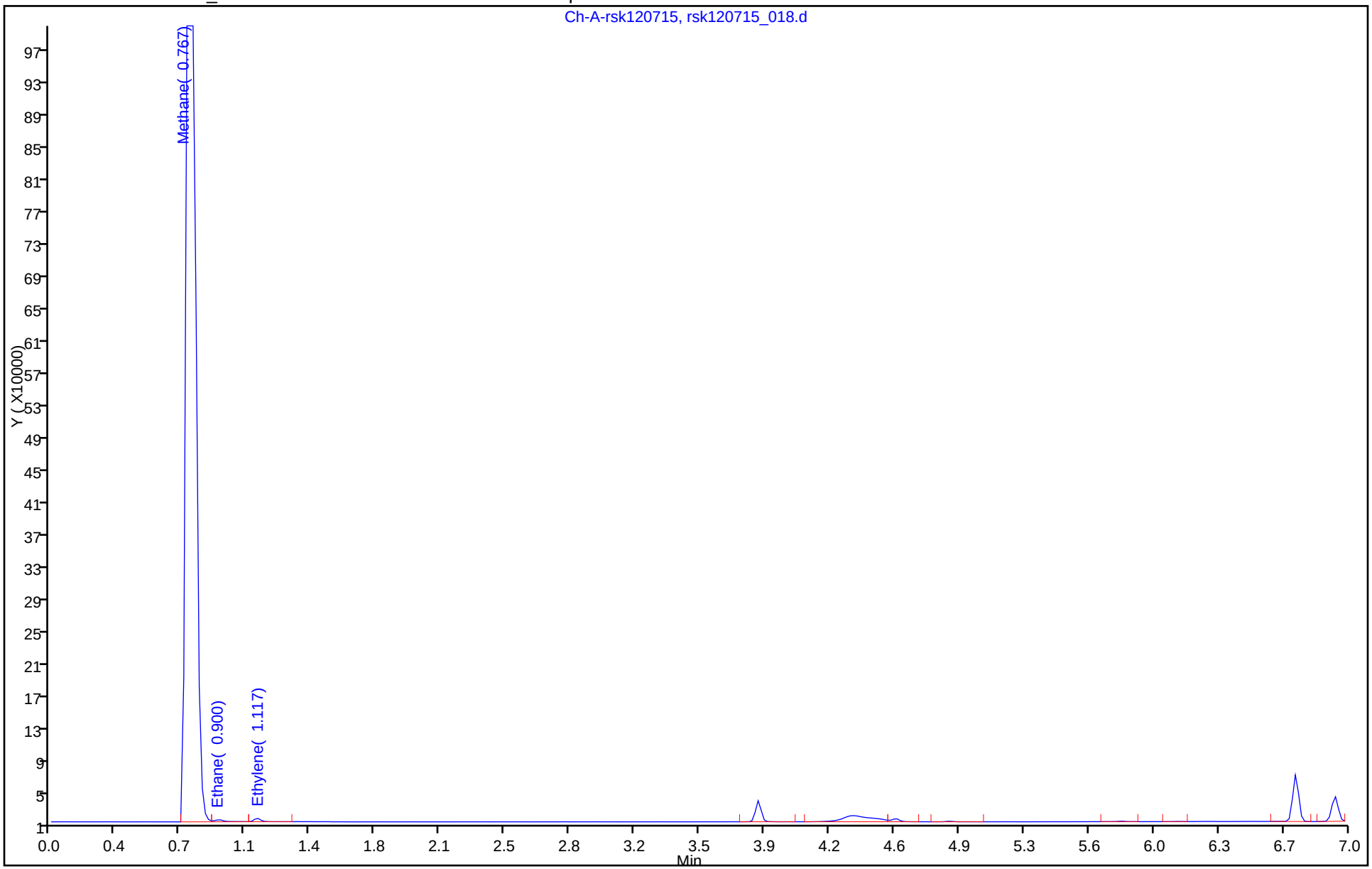
Processing Flags

E - Exceeded Maximum Amount

Report Date: 07-Dec-2015 16:44:47 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_018.d				
Injection Date:	07-Dec-2015 14:36:52	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122630-E-1	Lab Sample ID:	600-122630-1	Worklist Smp#:	18
Client ID:	MW-01				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122630-1

SDG No.:

Client Sample ID: MW-01 | Lab Sample ID: 600-122630-1

Matrix: Water | Lab File ID: rsk120715_028.d

Analysis Method: RSK-175 | Date Collected: 12/03/2015 07:55

Sample wt/vol: 1(mL) | Date Analyzed: 12/07/2015 17:03

Soil Aliquot Vol: | Dilution Factor: 500

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177880 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	2.35		0.500	0.179

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_028.d
Lims ID: 600-122630-E-1 Lab Sample ID: 600-122630-1
Client ID: MW-01
Sample Type: Client
Inject. Date: 07-Dec-2015 17:03:25 ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 500.0000
Sample Info: #: 017 Name: 600-0009751-028
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 17:27:20 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

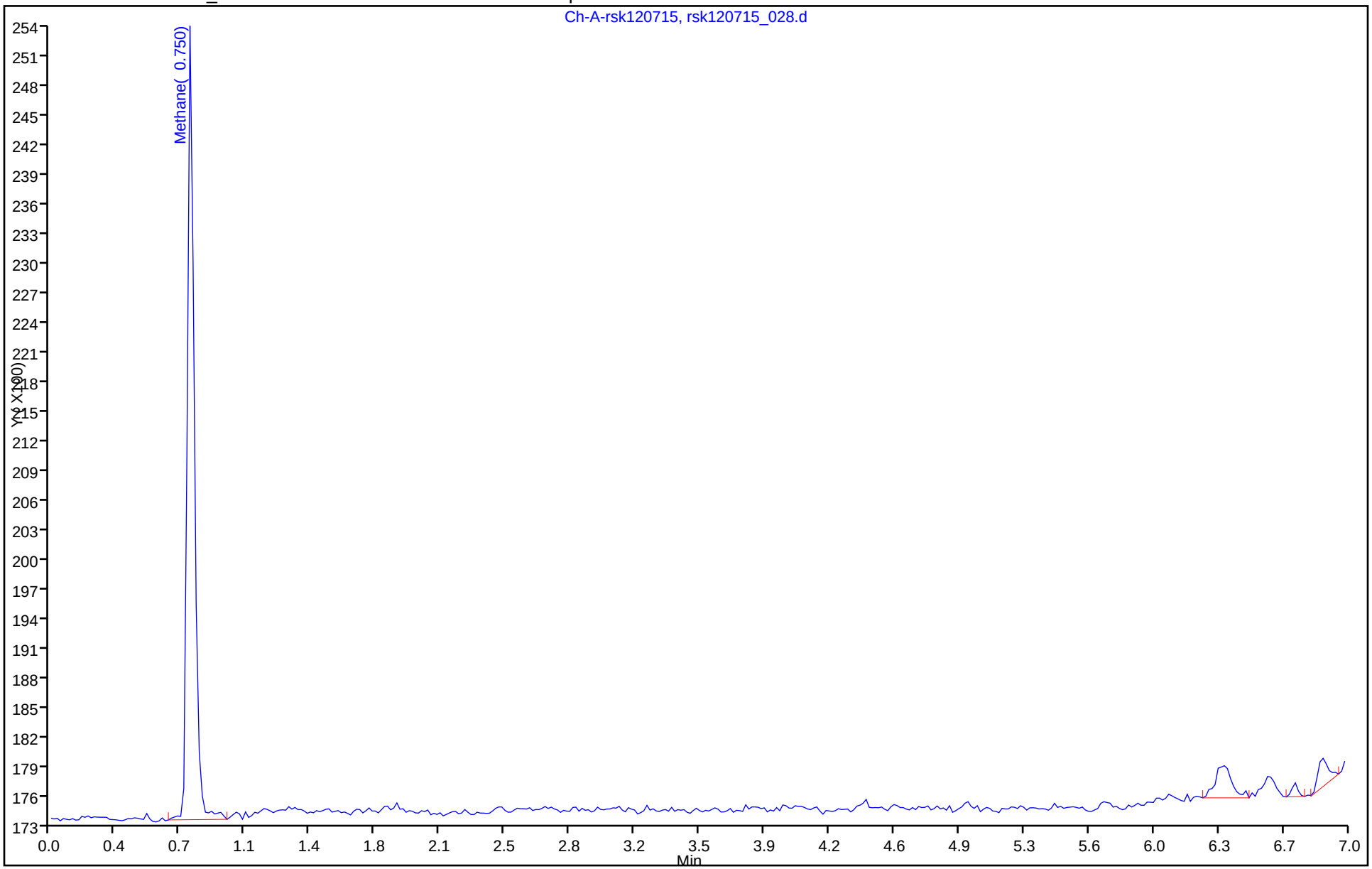
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	21313	4.69	

Report Date: 07-Dec-2015 17:27:49 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_028.d				
Injection Date:	07-Dec-2015 17:03:25	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122630-E-1	Lab Sample ID:	600-122630-1	Worklist Smp#:	28
Client ID:	MW-01				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122630-1

SDG No.:

Client Sample ID: MW-02 | Lab Sample ID: 600-122630-2

Matrix: Water | Lab File ID: rsk120715_019.d

Analysis Method: RSK-175 | Date Collected: 12/03/2015 09:35

Sample wt/vol: 1(mL) | Date Analyzed: 12/07/2015 14:47

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177880 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.00250		0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

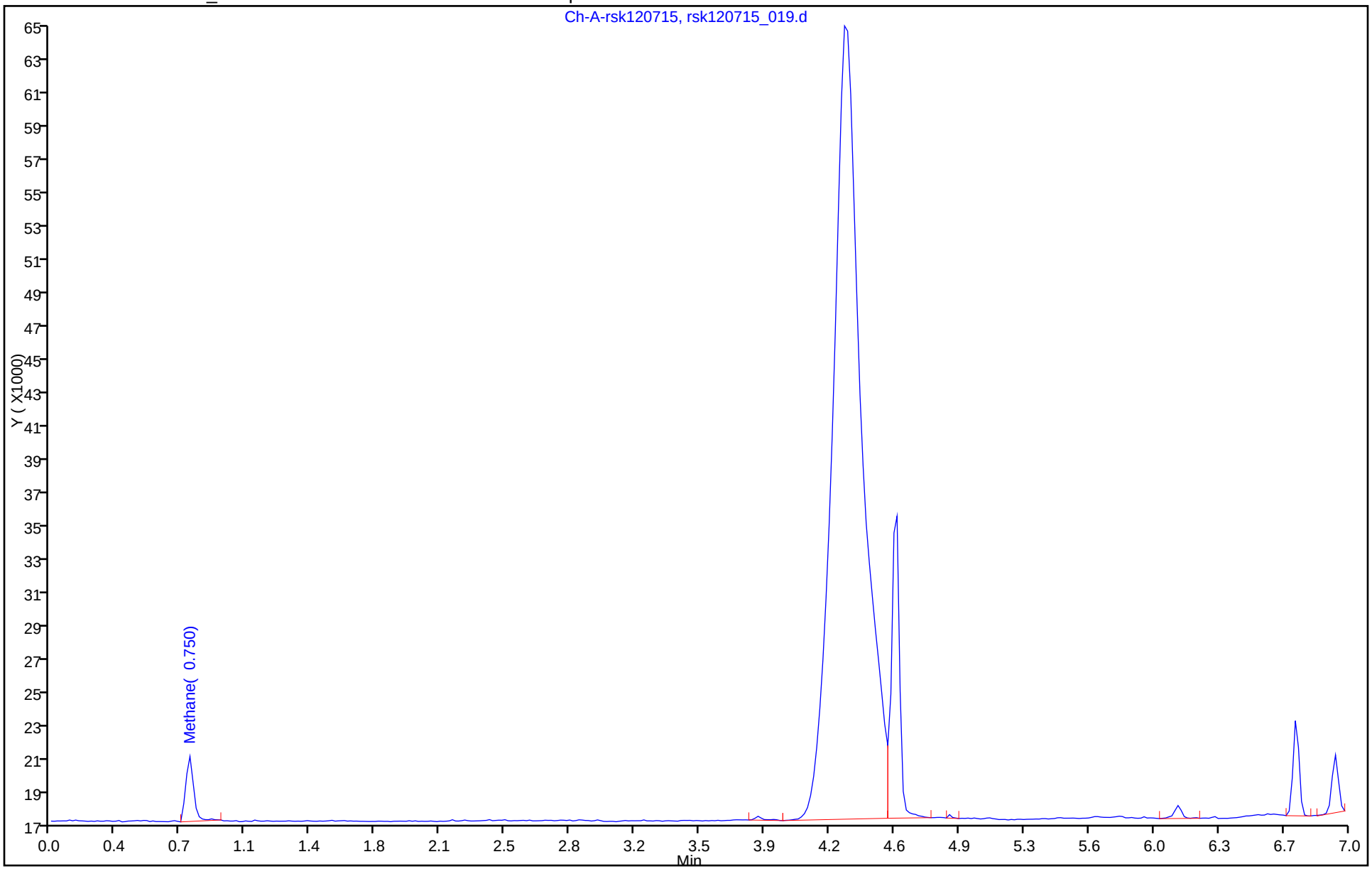
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_019.d				
Lims ID:	600-122630-E-2	Lab Sample ID:	600-122630-2		
Client ID:	MW-02				
Sample Type:	Client				
Inject. Date:	07-Dec-2015 14:47:57	ALS Bottle#:	0	Worklist Smp#:	19
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0009751-019				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	07-Dec-2015 16:44:38	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK037				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	11371	2.50	

Report Date: 07-Dec-2015 16:44:48 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_019.d				
Injection Date:	07-Dec-2015 14:47:57	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122630-E-2	Lab Sample ID:	600-122630-2	Worklist Smp#:	19
Client ID:	MW-02				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122630-1

SDG No.:

Client Sample ID: MW-02-Dup | Lab Sample ID: 600-122630-3

Matrix: Water | Lab File ID: rsk120715_020.d

Analysis Method: RSK-175 | Date Collected: 12/03/2015 09:35

Sample wt/vol: 1(mL) | Date Analyzed: 12/07/2015 14:59

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177880 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.00188		0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_020.d
Lims ID: 600-122630-E-3 Lab Sample ID: 600-122630-3
Client ID: MW-02-Dup
Sample Type: Client
Inject. Date: 07-Dec-2015 14:59:17 ALS Bottle#: 0 Worklist Smp#: 20
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009751-020
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:38 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

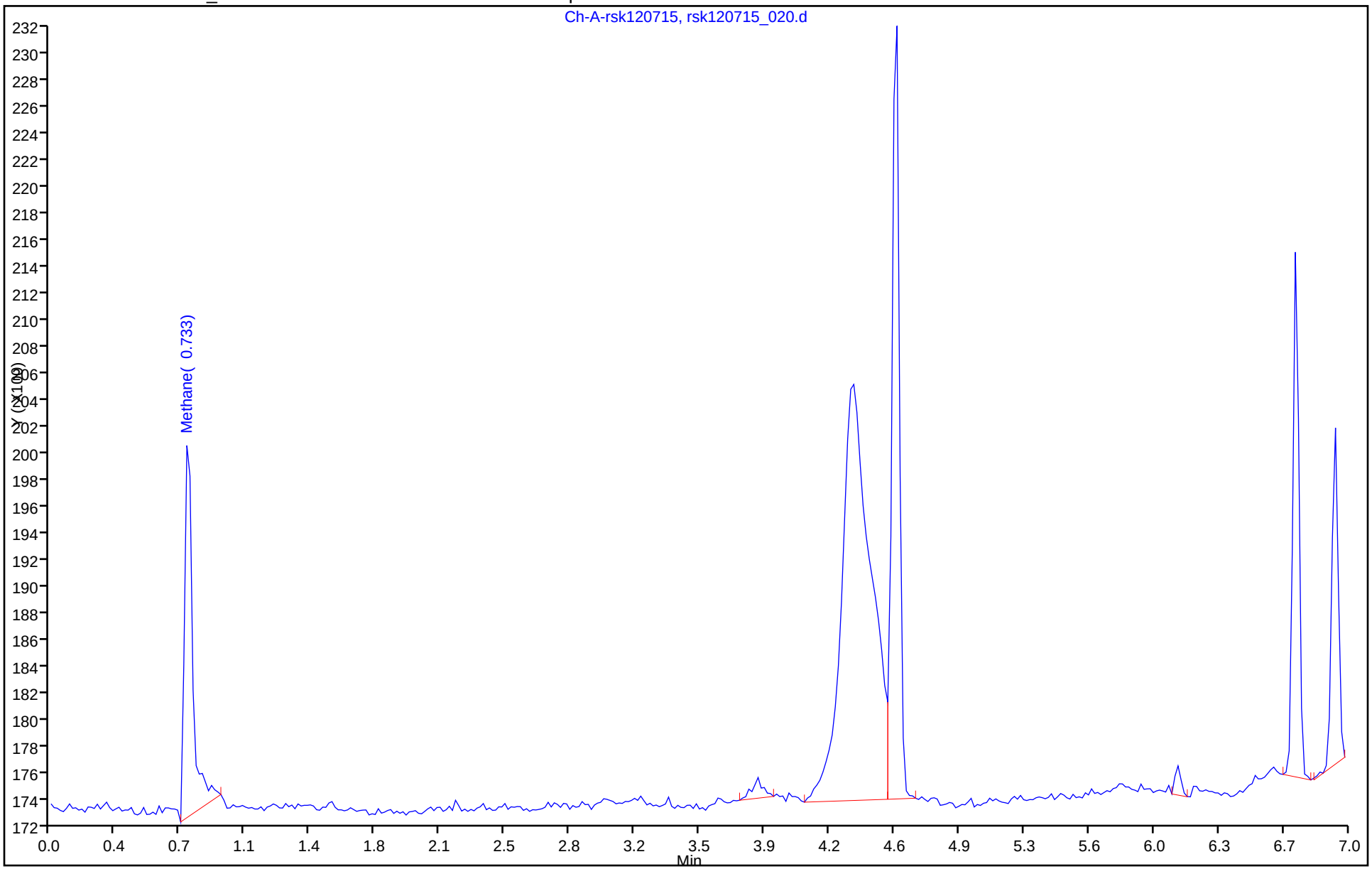
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	8538	1.88	

Report Date: 07-Dec-2015 16:44:49 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_020.d				
Injection Date:	07-Dec-2015 14:59:17	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122630-E-3	Lab Sample ID:	600-122630-3	Worklist Smp#:	20
Client ID:	MW-02-Dup				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-122630-1

SDG No.:

Client Sample ID: MW-03 | Lab Sample ID: 600-122630-4

Matrix: Water | Lab File ID: rsk120715_021.d

Analysis Method: RSK-175 | Date Collected: 12/03/2015 10:50

Sample wt/vol: 1(mL) | Date Analyzed: 12/07/2015 15:17

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 177880 | Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.000894	J	0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_021.d
Lims ID: 600-122630-D-4 Lab Sample ID: 600-122630-4
Client ID: MW-03
Sample Type: Client
Inject. Date: 07-Dec-2015 15:17:23 ALS Bottle#: 0 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009751-021
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:38 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

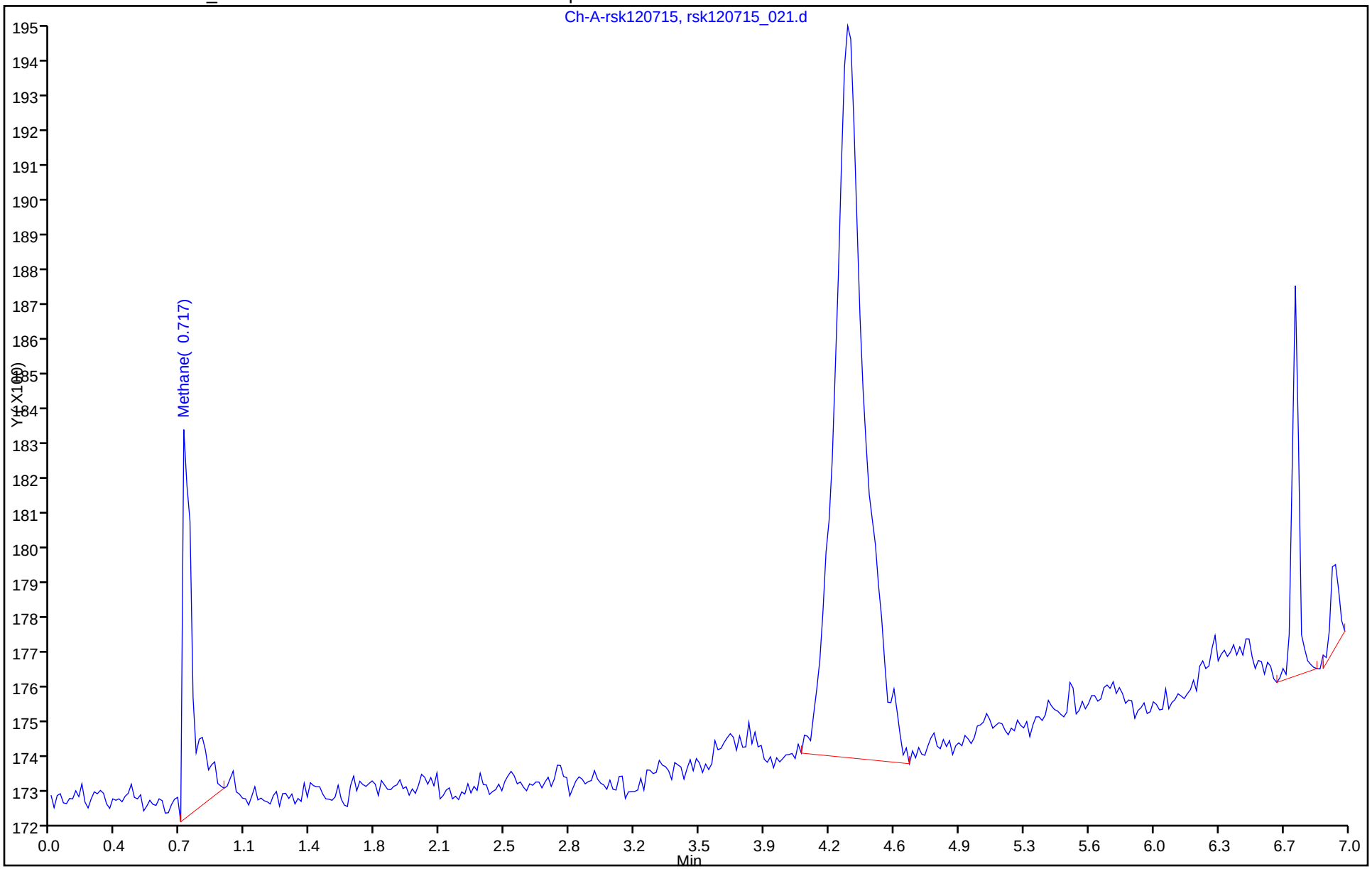
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.717	0.733	-0.016	4064	0.8944	

Report Date: 07-Dec-2015 16:44:50 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_021.d				
Injection Date:	07-Dec-2015 15:17:23	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122630-D-4	Lab Sample ID:	600-122630-4	Worklist Smp#:	21
Client ID:	MW-03				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122630-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8			RT WINDOW	AVG RT
Methane	0.767	0.750	0.750	0.750	0.750	0.750	0.767	+++++			0.667 - 0.867	0.755
Ethane	0.917	0.900	0.917	0.917	0.900	0.900	0.917	+++++			0.817 - 1.017	0.910
Ethylene	1.117	1.117	1.117	1.117	1.100	1.117	1.117	+++++			1.017 - 1.217	1.115
Propane	1.533	1.533	1.533	1.533	1.533	1.533	1.533	+++++			1.450 - 1.650	1.533
Propene	2.333	2.333	2.333	2.333	2.333	2.333	2.333	+++++			2.233 - 2.433	2.333

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-122630-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2								
Methane	5157.0 4139.3	4530.3 3909.5	4516.5 4383.3	5169.3 +++++	Ave		4543.58652				10.5		20.0			
Ethane	5039.2 3849.7	4016.6 3719.2	4166.9 4147.5	4765.4 +++++	Ave		4243.49323				11.4		20.0			
Ethylene	3506.1 2885.2	2911.0 2799.4	3076.7 3097.2	3564.3 +++++	Ave		3119.99115				9.7		20.0			
Propane	5009.5 4122.9	4298.1 4029.7	4490.6 4471.8	5173.0 +++++	Ave		4513.65823				9.6		20.0			
Propene	2978.6 2536.8	2531.0 2409.7	2638.6 2687.2	3043.2 +++++	Ave		2689.30952				8.8		20.0			

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-122630-1 Analy Batch No.: 164074

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/08/2015 10:52 Calibration End Date: 06/08/2015 12:12 Calibration ID: 6867

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-164074/1	rsk060815_001.d
Level 2	IC 600-164074/2	rsk060815_002.d
Level 3	IC 600-164074/3	rsk060815_003.d
Level 4	ICRT 600-164074/4	rsk060815_004.d
Level 5	IC 600-164074/5	rsk060815_005.d
Level 6	IC 600-164074/6	rsk060815_006.d
Level 7	IC 600-164074/7	rsk060815_007.d
Level 8	IC 600-164074/8	rsk060815_008.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Methane	Ave	5322 134473	15592 226156	23305 +++++	35556	71188	1.03 34.4	3.44 51.6	5.16 +++++	6.88	17.2
Ethane	Ave	9776 240482	25987 402269	40419 +++++	61617	124461	1.94 64.7	6.47 97.0	9.70 +++++	12.9	32.3
Ethylene	Ave	6346 168881	17572 280268	27844 +++++	42999	87028	1.81 60.3	6.04 90.5	9.05 +++++	12.1	30.2
Propane	Ave	14207 380899	40652 634043	63676 +++++	97780	194856	2.84 94.5	9.46 142	14.2 +++++	18.9	47.3
Propene	Ave	8090 218140	22925 364884	35832 +++++	55089	114822	2.72 90.5	9.06 136	13.6 +++++	18.1	45.3

Curve Type Legend:

Ave = Average

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	08-Jun-2015 10:52:10	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0006703-001				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:32	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

First Level Reviewer: saccoj Date: 08-Jun-2015 12:47:46

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.767	0.767	0.000	5322	1.03	1.17	M
2 Ethane	0.917	0.917	0.000	9776	1.94	2.30	M
3 Ethylene	1.117	1.117	0.000	6346	1.81	2.03	
5 Propane	1.533	1.550	-0.017	14207	2.84	3.15	
1 Propene	2.333	2.333	0.000	8090	2.72	3.01	

QC Flag Legend

Review Flags

M - Manually Integrated

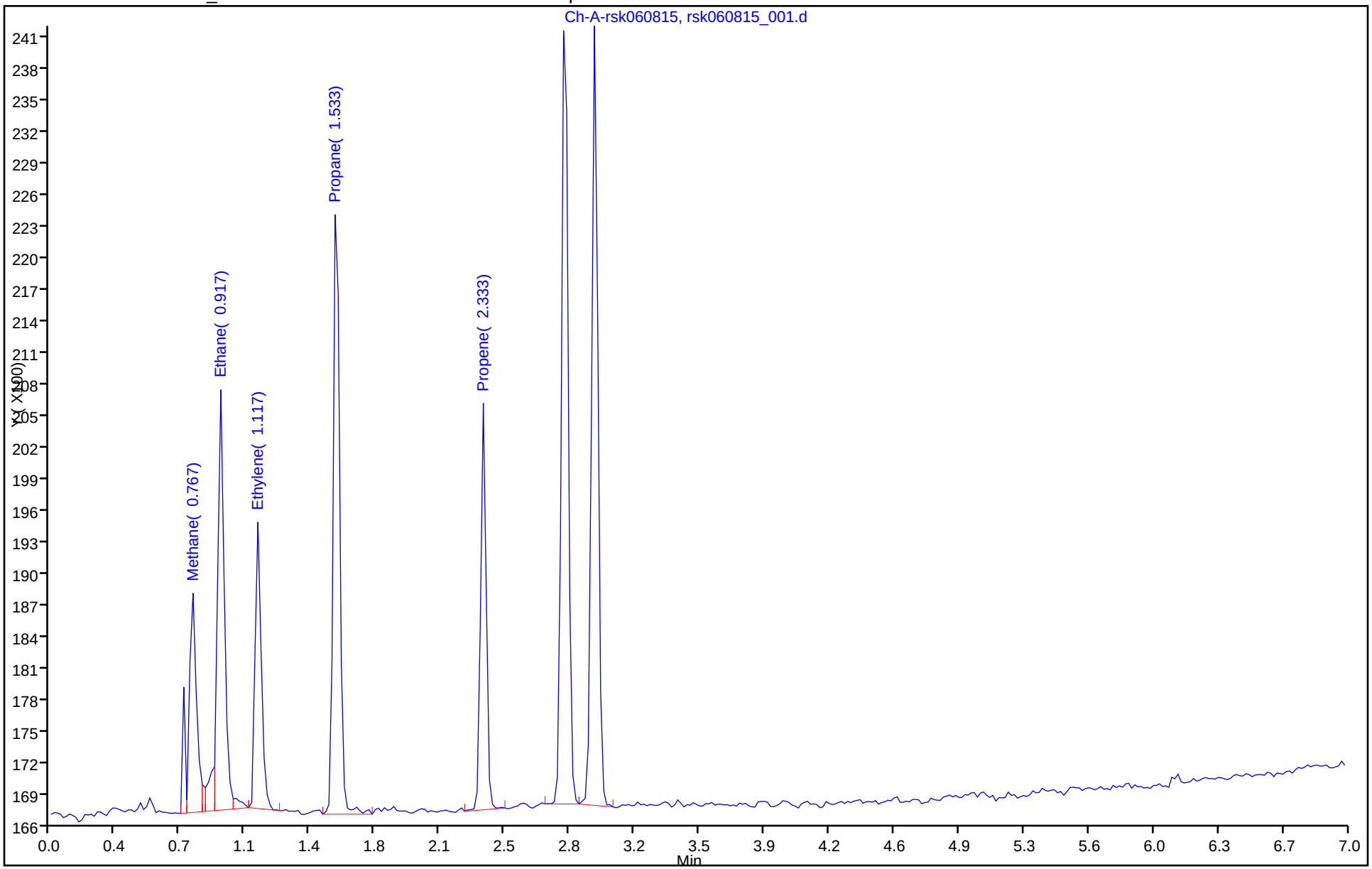
Reagents:

RSK-175 LCS_00017 Amount Added: 0.20 Units: mL

Report Date: 09-Jun-2015 08:49:32 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

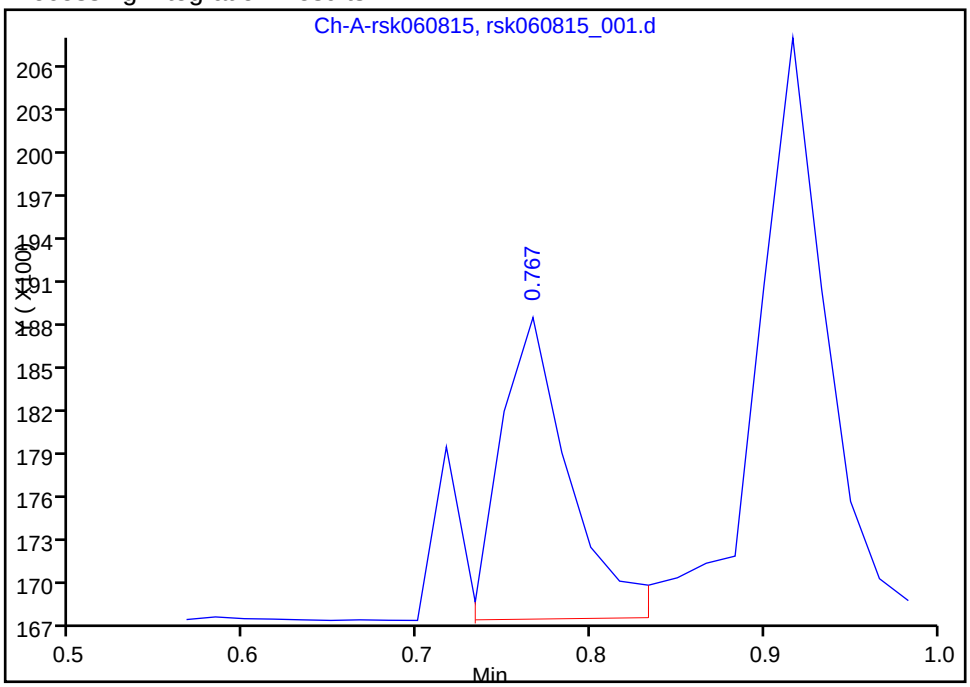
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14		
Lims ID:	IC				
Client ID:					
Operator ID:	saccoj	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

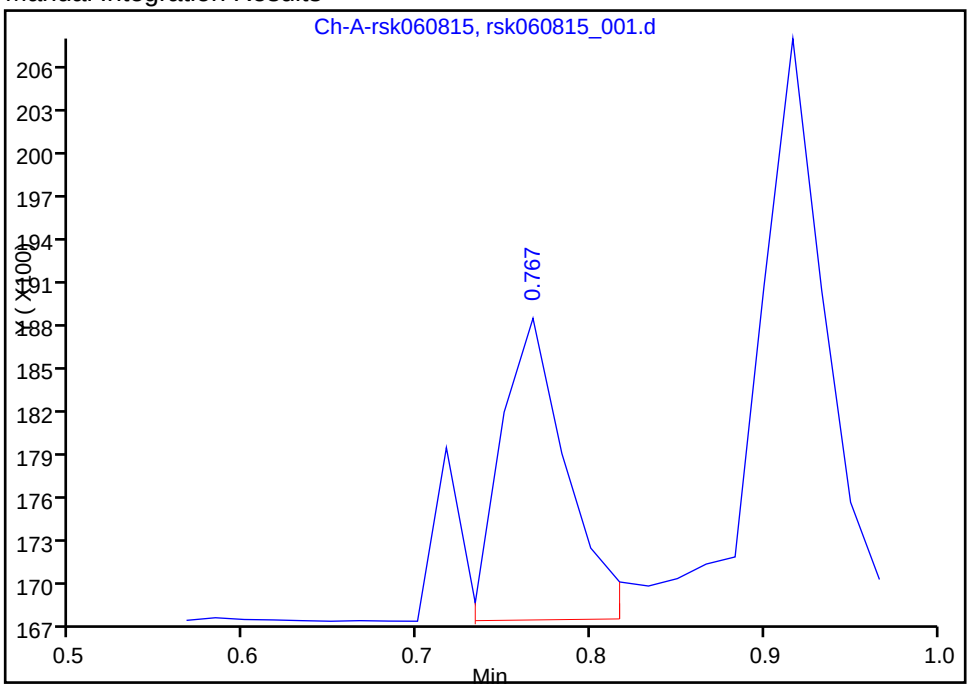
Processing Integration Results

RT: 0.77
Area: 5560
Amount: 1.258894
Amount Units: ug/l



Manual Integration Results

RT: 0.77
Area: 5322
Amount: 1.171321
Amount Units: ug/l



Reviewer: saccoj, 08-Jun-2015 12:47:46
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

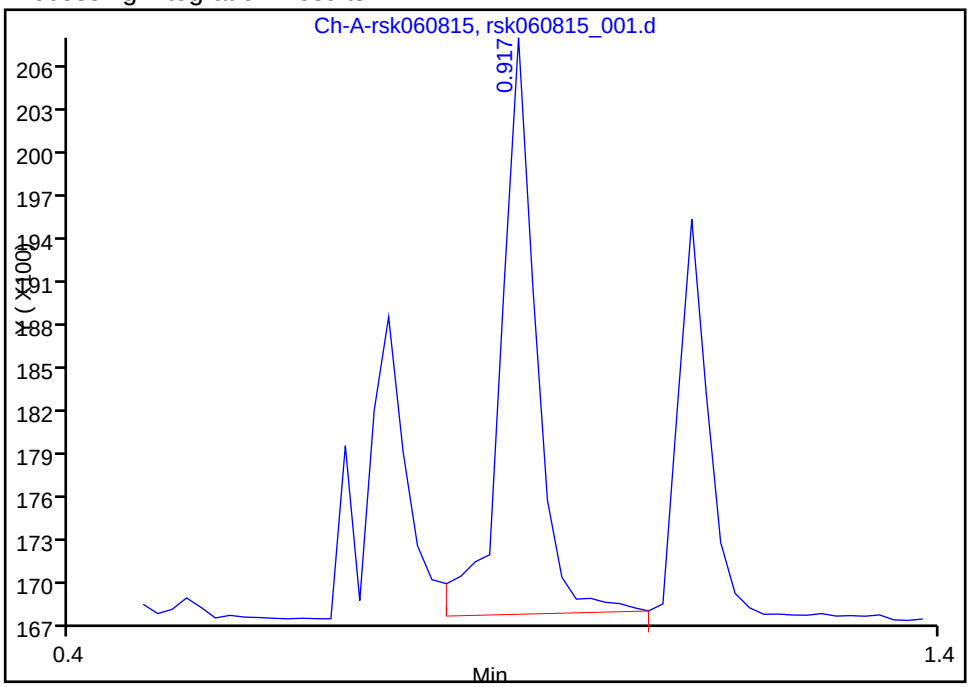
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_001.d				
Injection Date:	08-Jun-2015 10:52:10	Instrument ID:	CHFID14		
Lims ID:	IC				
Client ID:					
Operator ID:	saccoj	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

2 Ethane, CAS: 74-84-0

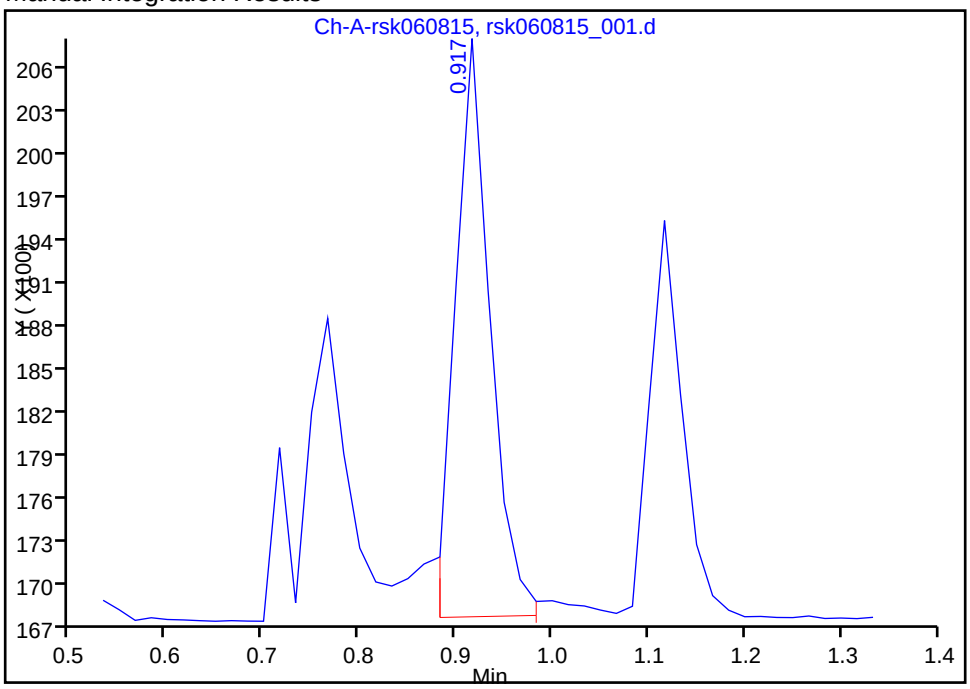
Processing Integration Results

RT: 0.92
Area: 11023
Amount: 2.639089
Amount Units: ug/l



Manual Integration Results

RT: 0.92
Area: 9776
Amount: 2.303762
Amount Units: ug/l



Reviewer: saccoj, 08-Jun-2015 12:47:46
Audit Action: Split an Integrated Peak
Audit Reason: Split Peak

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_002.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Jun-2015 11:03:33 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0006703-002
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:33 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

First Level Reviewer: saccoj Date: 08-Jun-2015 12:55:06

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.767	-0.017	15592	3.44	3.43	
2 Ethane	0.900	0.917	-0.017	25987	6.47	6.12	
3 Ethylene	1.117	1.117	0.000	17572	6.04	5.63	
5 Propane	1.533	1.550	-0.017	40652	9.46	9.01	
1 Propene	2.333	2.333	0.000	22925	9.06	8.52	

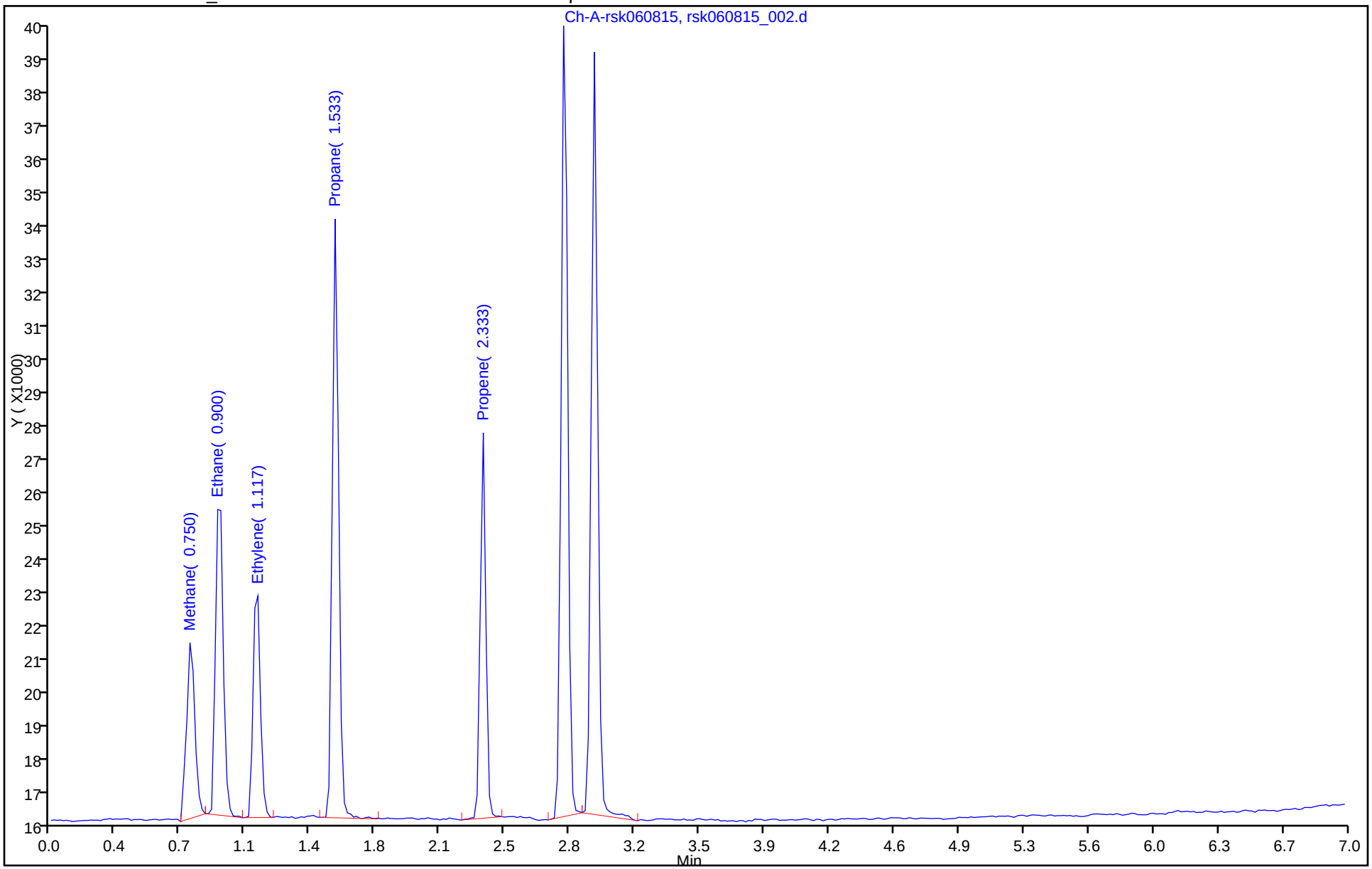
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 09-Jun-2015 08:49:33 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_002.d				
Injection Date:	08-Jun-2015 11:03:33	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_003.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Jun-2015 11:15:05 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0006703-003
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:34 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	23305	5.16	5.13	
2 Ethane	0.917	0.917	0.000	40419	9.70	9.52	
3 Ethylene	1.117	1.117	0.000	27844	9.05	8.92	
5 Propane	1.533	1.533	0.000	63676	14.2	14.1	
1 Propene	2.333	2.333	0.000	35832	13.6	13.3	

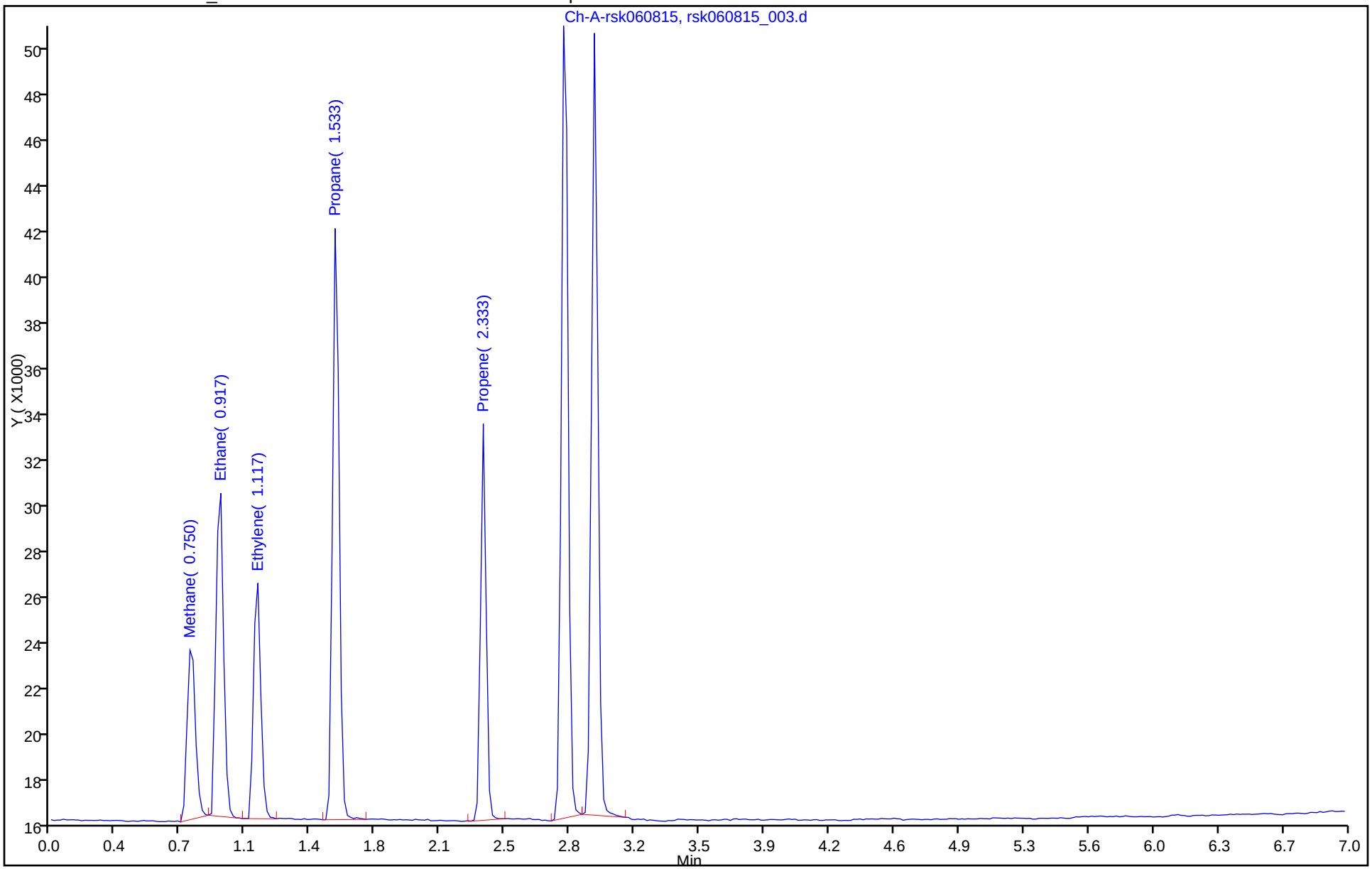
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 09-Jun-2015 08:49:35 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_003.d				
Injection Date:	08-Jun-2015 11:15:05	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_004.d
Lims ID: ICRT
Client ID:
Sample Type: ICRT Calib Level: 4
Inject. Date: 08-Jun-2015 11:26:49 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0006703-004
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:36 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	35556	6.88	7.83	
2 Ethane	0.917	0.917	0.000	61617	12.9	14.5	
3 Ethylene	1.117	1.117	0.000	42999	12.1	13.8	
5 Propane	1.533	1.533	0.000	97780	18.9	21.7	
1 Propene	2.333	2.333	0.000	55089	18.1	20.5	

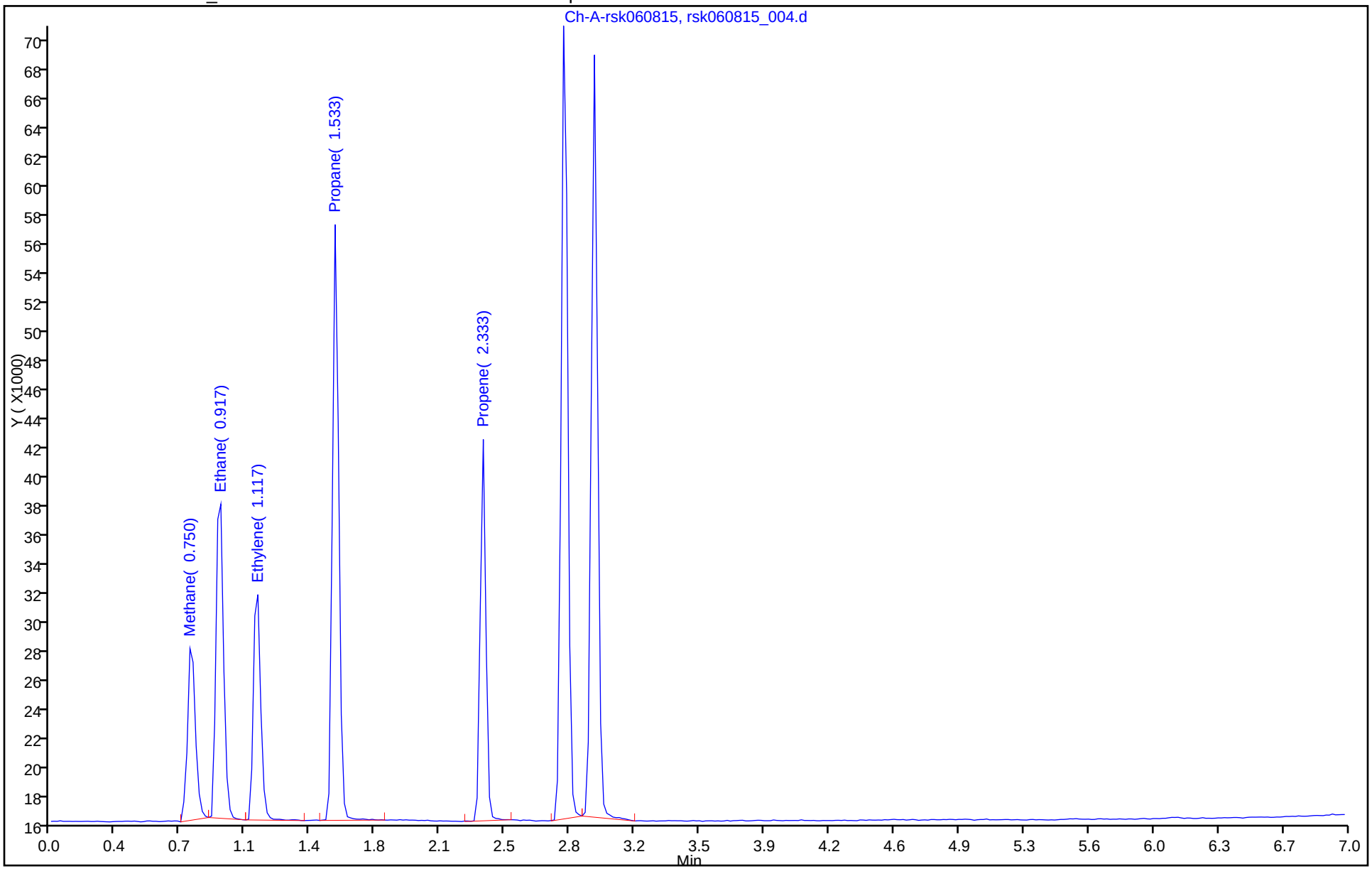
Reagents:

RSK-175 LCS_00017 Amount Added: 1.33 Units: mL

Report Date: 09-Jun-2015 08:49:36 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_004.d				
Injection Date:	08-Jun-2015 11:26:49	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	ICRT			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_005.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Jun-2015 11:38:11 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0006703-005
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:37 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	71188	17.2	15.7	
2 Ethane	0.900	0.917	-0.017	124461	32.3	29.3	
3 Ethylene	1.100	1.117	-0.017	87028	30.2	27.9	
5 Propane	1.533	1.533	0.000	194856	47.3	43.2	
1 Propene	2.333	2.333	0.000	114822	45.3	42.7	

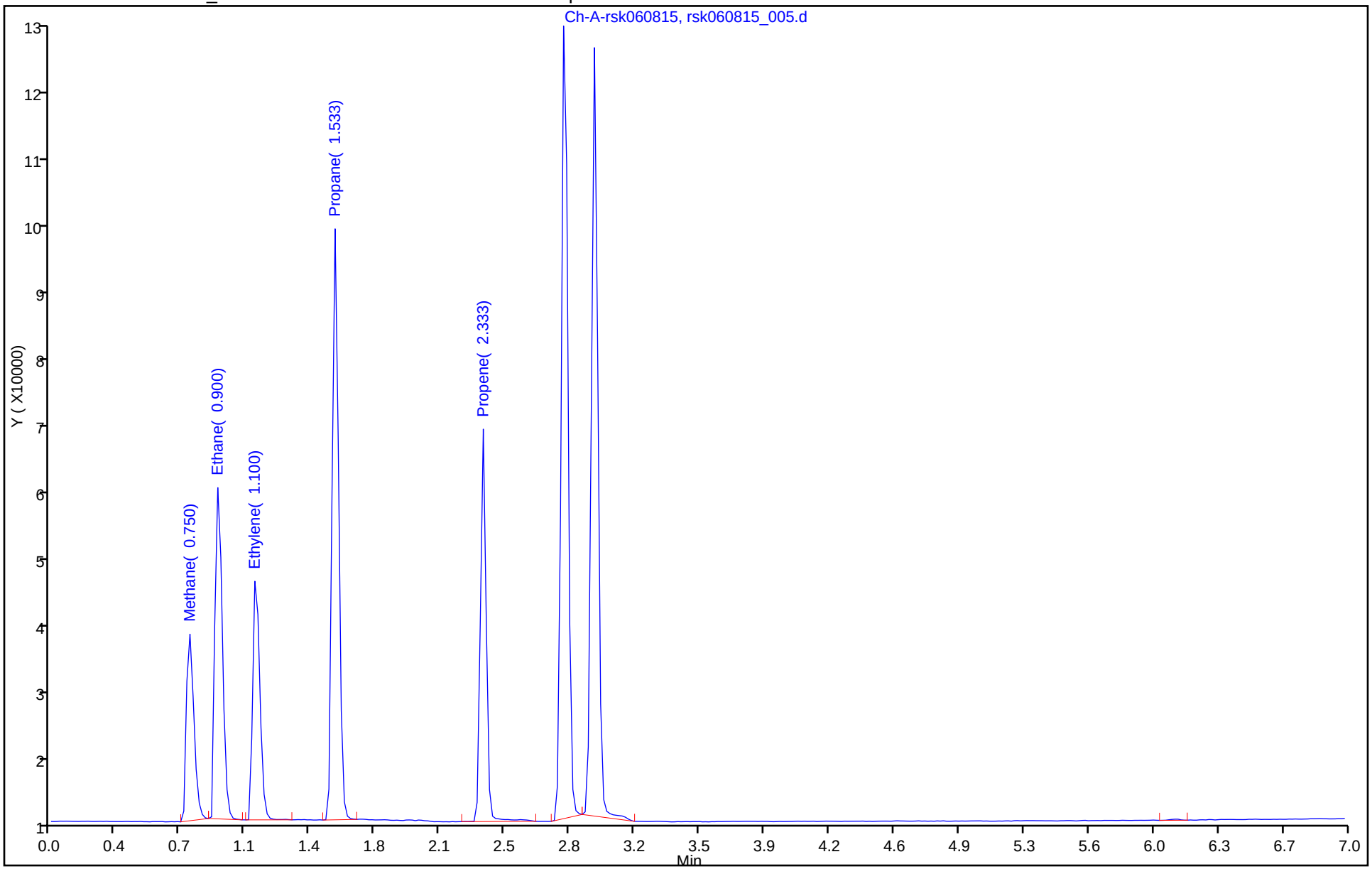
Reagents:

RSK-175 LCS_00017 Amount Added: 3.33 Units: mL

Report Date: 09-Jun-2015 08:49:38 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_005.d				
Injection Date:	08-Jun-2015 11:38:11	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_006.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 08-Jun-2015 11:50:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001 Name: 600-0006703-006
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:39 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	134473	34.4	29.6	
2 Ethane	0.900	0.917	-0.017	240482	64.7	56.7	
3 Ethylene	1.117	1.117	0.000	168881	60.3	54.1	
5 Propane	1.533	1.533	0.000	380899	94.5	84.4	
1 Propene	2.333	2.333	0.000	218140	90.5	81.1	

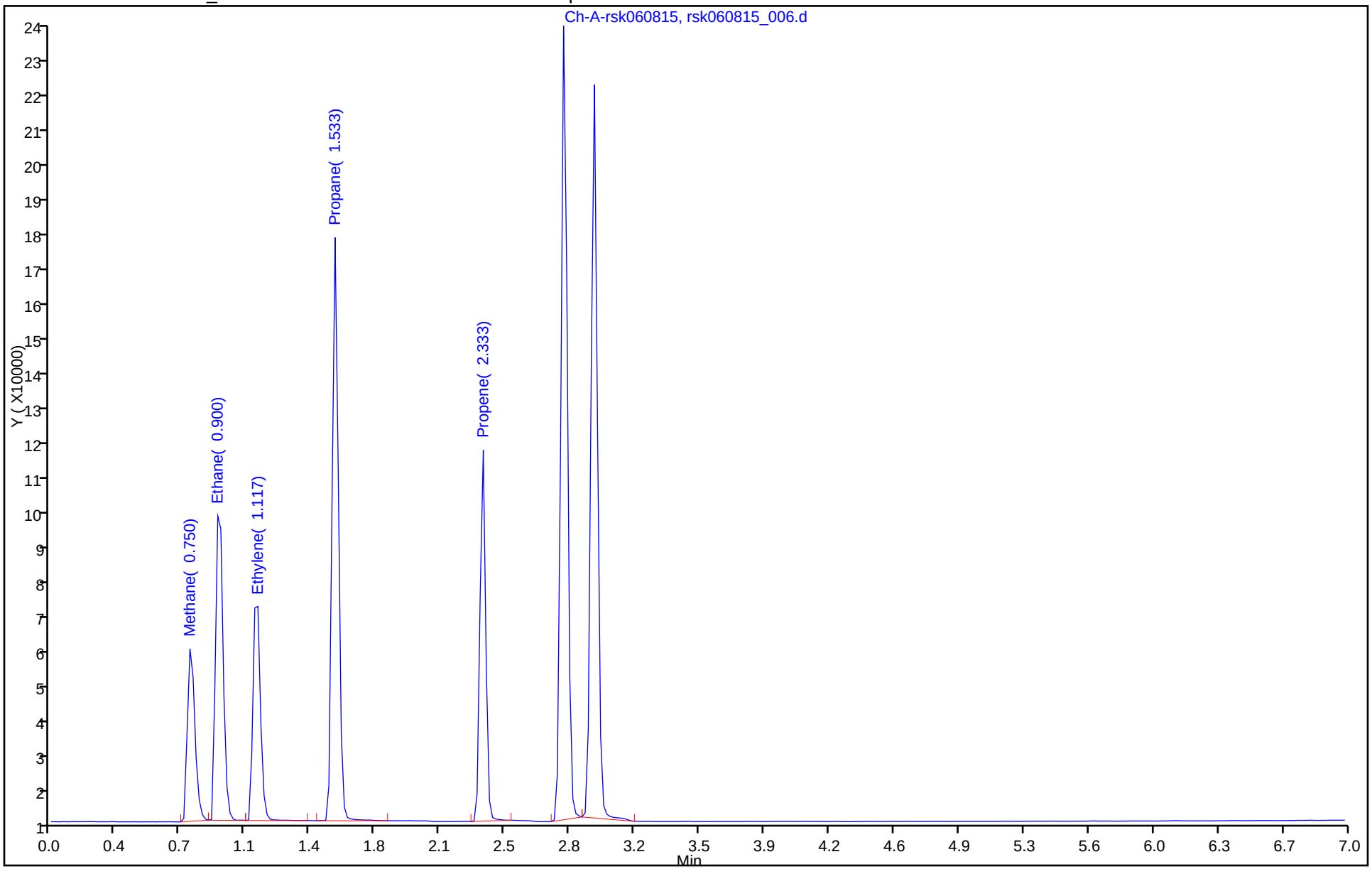
Reagents:

RSK-175 LCS_00017 Amount Added: 6.67 Units: mL

Report Date: 09-Jun-2015 08:49:39 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_006.d				
Injection Date:	08-Jun-2015 11:50:00	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_007.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	08-Jun-2015 12:01:45	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 002 Name: 600-0006703-007				
Misc. Info.:	Study: RSK-175 Channel A: I/F Serial#, 5108270234				
Operator ID:	saccoj	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	09-Jun-2015 08:49:40	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK027				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.767	0.750	0.017	226156	51.6	49.8	
2 Ethane	0.917	0.917	0.000	402269	97.0	94.8	
3 Ethylene	1.117	1.117	0.000	280268	90.5	89.8	
5 Propane	1.533	1.533	0.000	634043	141.8	140.5	
1 Propene	2.333	2.333	0.000	364884	135.8	135.7	

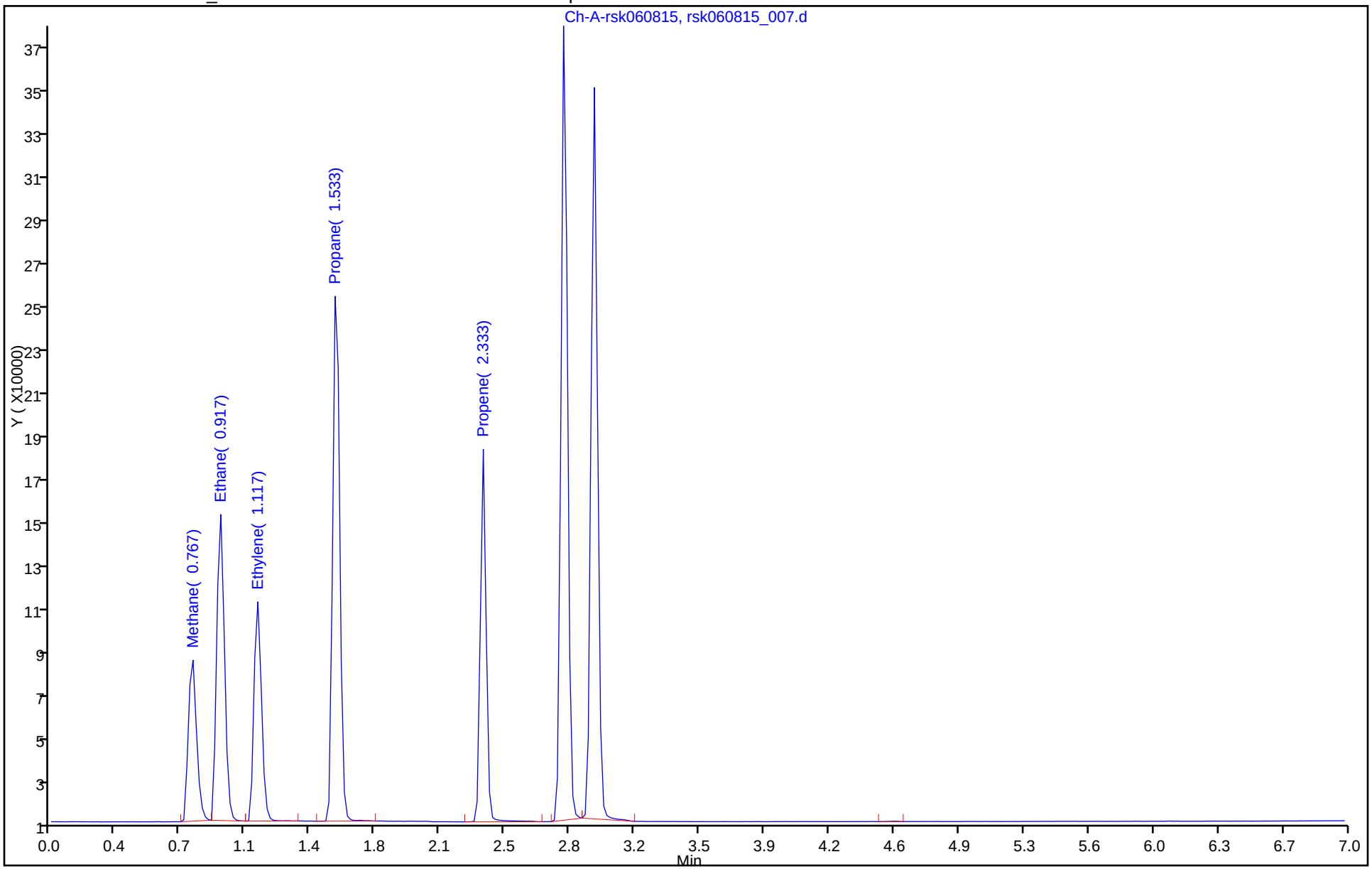
Reagents:

RSK-175 LCS_00017 Amount Added: 10.00 Units: mL

Report Date: 09-Jun-2015 08:49:40 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_007.d				
Injection Date:	08-Jun-2015 12:01:45	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 08-Jun-2015 12:12:52 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 003 Name: 600-0006703-008
Misc. Info.: Study: RSK-175 Channel A: I/F Serial#, 5108270234
Operator ID: saccoj Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 09-Jun-2015 08:49:41 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK027

First Level Reviewer: saccoj Date: 08-Jun-2015 12:47:13

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	226803	68.8	49.9	
2 Ethane	0.900	0.917	-0.017	396667	129.3	93.5	
3 Ethylene	1.100	1.117	-0.017	276804	120.7	88.7	
5 Propane	1.533	1.533	0.000	624689	189.0	138.4	
1 Propene	2.333	2.333	0.000	354508	181.0	131.8	

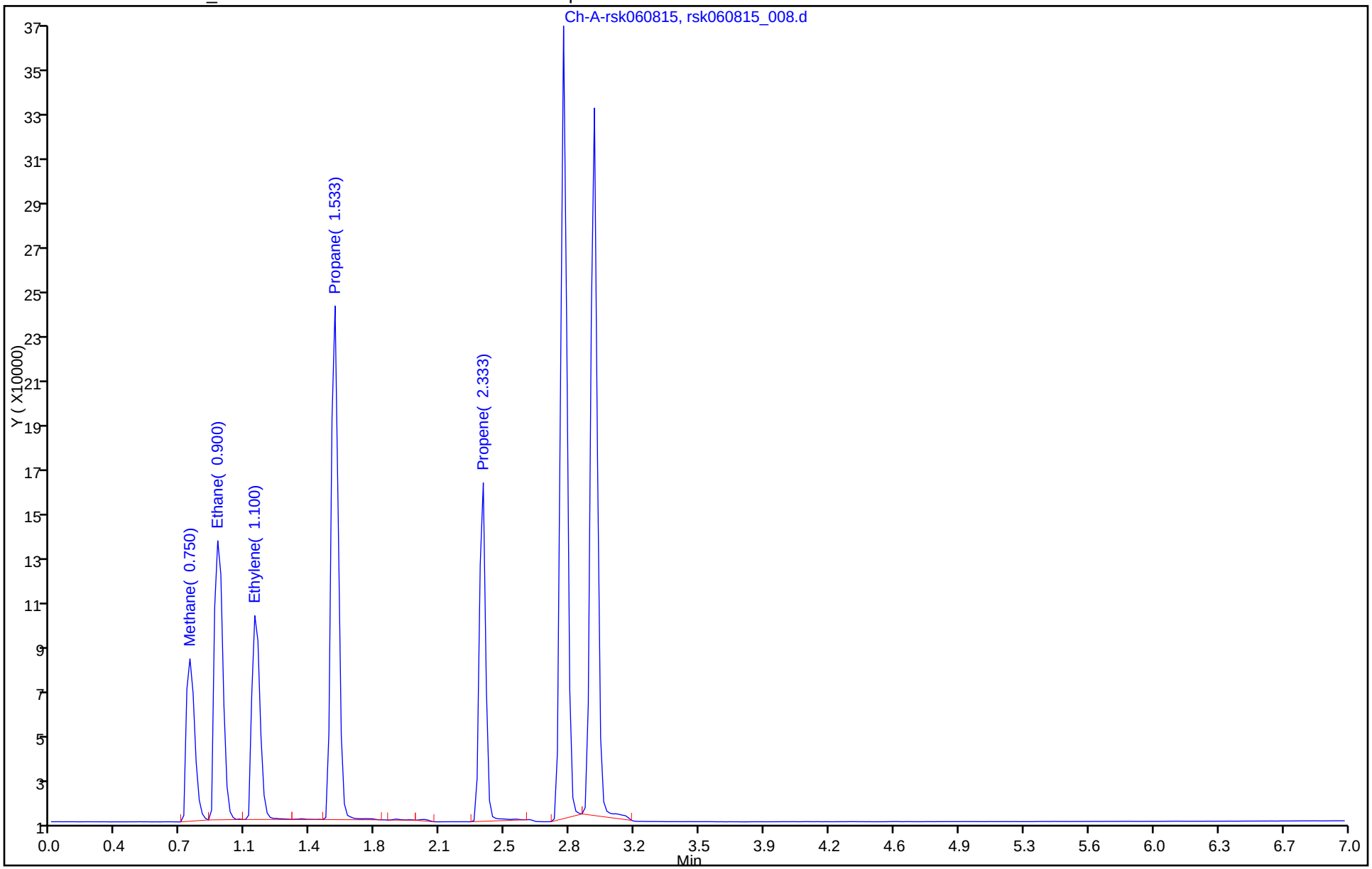
Reagents:

RSK-175 LCS_00017 Amount Added: 13.33 Units: mL

Report Date: 09-Jun-2015 08:49:41 Chrom Revision: 2.2 14-May-2015 11:41:56

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Injection Date:	08-Jun-2015 12:12:52	Instrument ID:	CHFID14	Operator ID:	saccoj
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Lab Sample ID: CCVRT 600-177880/1 Calibration Date: 12/07/2015 10:20

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_001.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	4407		5.01	5.16	-3.0	20.0
Ethane	Ave	4243	3505		8.01	9.70	-17.4	20.0
Ethylene	Ave	3120	2649		7.69	9.05	-15.1	20.0
Propane	Ave	4514	3588		11.3	14.2	-20.5*	20.0
Propene	Ave	2689	2084		10.5	13.6	-22.5*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Lab Sample ID: CCVRT 600-177880/1 Calibration Date: 12/07/2015 10:20

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_001.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.75	0.65	0.85
Ethane	0.92	0.82	1.02
Ethylene	1.12	1.02	1.22
Propane	1.55	1.45	1.65
Propene	2.35	2.25	2.45

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_001.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 07-Dec-2015 10:20:44 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009751-001
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:21 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	22741	5.16	5.01	
2 Ethane	0.917	0.917	0.000	34003	9.70	8.01	
3 Ethylene	1.117	1.117	0.000	23977	9.05	7.68	
5 Propane	1.550	1.550	0.000	50879	14.2	11.3	
1 Propene	2.350	2.350	0.000	28295	13.6	10.5	

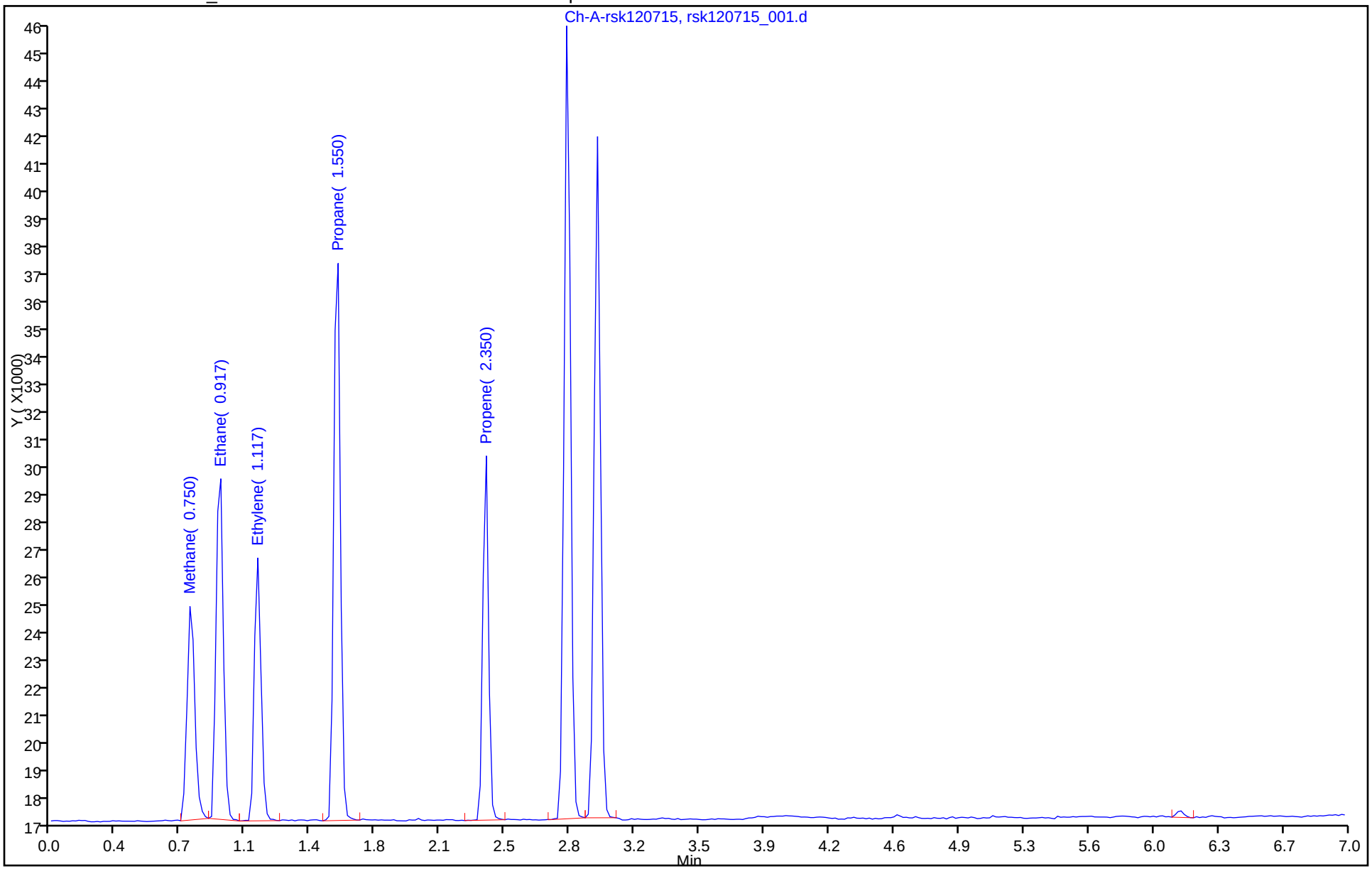
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 07-Dec-2015 16:44:23 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_001.d				
Injection Date:	07-Dec-2015 10:20:44	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Lab Sample ID: CCV 600-177880/12 Calibration Date: 12/07/2015 13:25

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_012.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	4857		3.68	3.44	6.9	20.0
Ethane	Ave	4243	3521		5.37	6.47	-17.0	20.0
Ethylene	Ave	3120	2653		5.13	6.04	-15.0	20.0
Propane	Ave	4514	3489		7.31	9.46	-22.7*	20.0
Propene	Ave	2689	1997		6.73	9.06	-25.7*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Lab Sample ID: CCV 600-177880/12 Calibration Date: 12/07/2015 13:25

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_012.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.33	2.23	2.43

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_012.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Dec-2015 13:25:20 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 007 Name: 600-0009751-012
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:38 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	16716	3.44	3.68	
2 Ethane	0.900	0.900	0.000	22778	6.47	5.37	
3 Ethylene	1.100	1.100	0.000	16012	6.04	5.13	
5 Propane	1.533	1.533	0.000	33003	9.46	7.31	
1 Propene	2.333	2.333	0.000	18087	9.06	6.73	

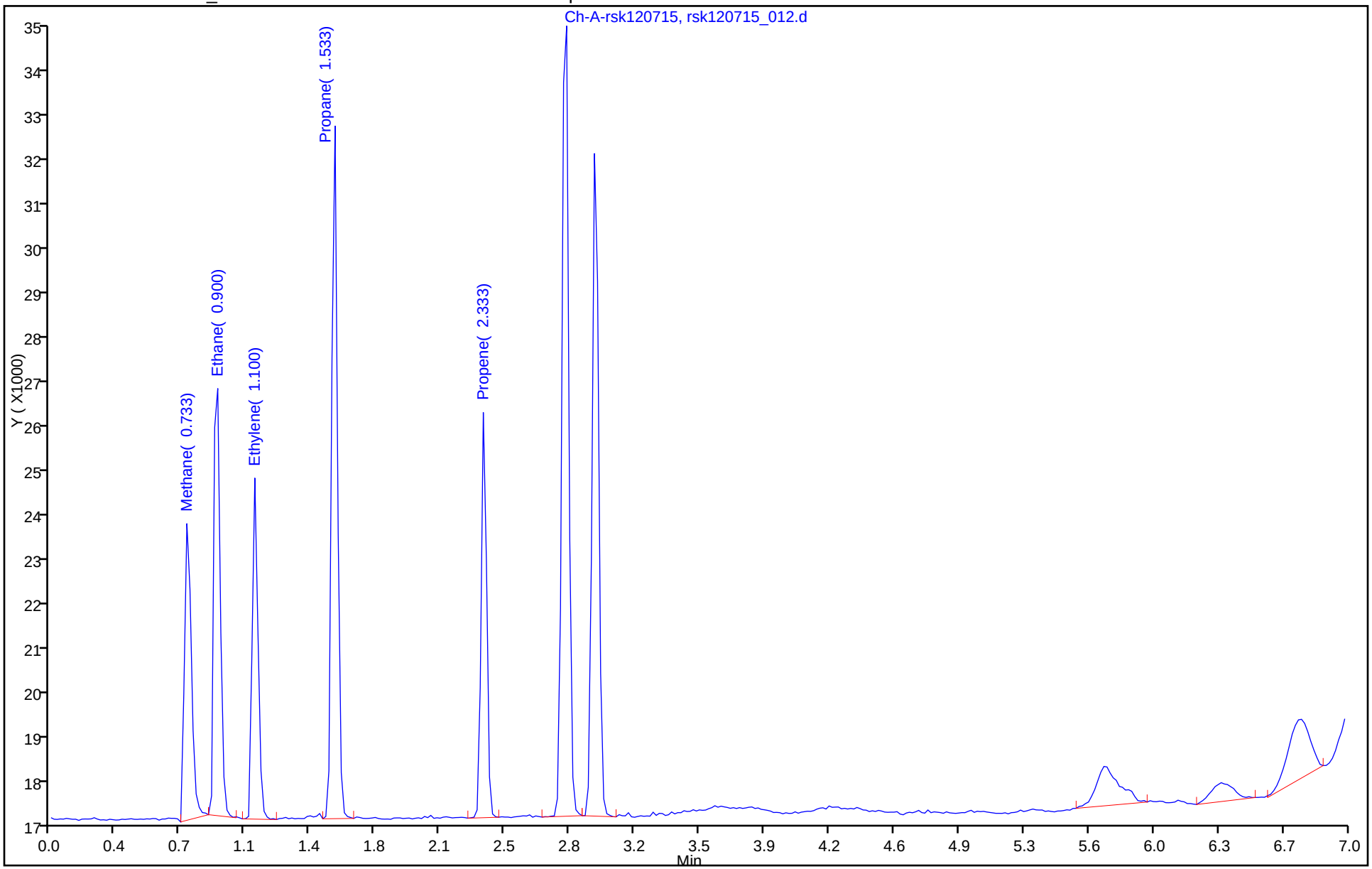
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 07-Dec-2015 16:44:39 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_012.d				
Injection Date:	07-Dec-2015 13:25:20	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Lab Sample ID: CCV 600-177880/23 Calibration Date: 12/07/2015 15:52

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_023.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	4795		3.63	3.44	5.5	20.0
Ethane	Ave	4243	3442		5.25	6.47	-18.9	20.0
Ethylene	Ave	3120	2655		5.14	6.04	-14.9	20.0
Propane	Ave	4514	3205		6.72	9.46	-29.0*	20.0
Propene	Ave	2689	1891		6.37	9.06	-29.7*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Lab Sample ID: CCV 600-177880/23 Calibration Date: 12/07/2015 15:52

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_023.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.33	2.23	2.43

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_023.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Dec-2015 15:52:47 ALS Bottle#: 0 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 012 Name: 600-0009751-023
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:51 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

First Level Reviewer: saccoj Date: 07-Dec-2015 16:06:25

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	16502	3.44	3.63	M
2 Ethane	0.900	0.900	0.000	22270	6.47	5.25	M
3 Ethylene	1.100	1.100	0.000	16025	6.04	5.14	
5 Propane	1.533	1.533	0.000	30312	9.46	6.72	
1 Propene	2.333	2.333	0.000	17125	9.06	6.37	

QC Flag Legend

Review Flags
M - Manually Integrated

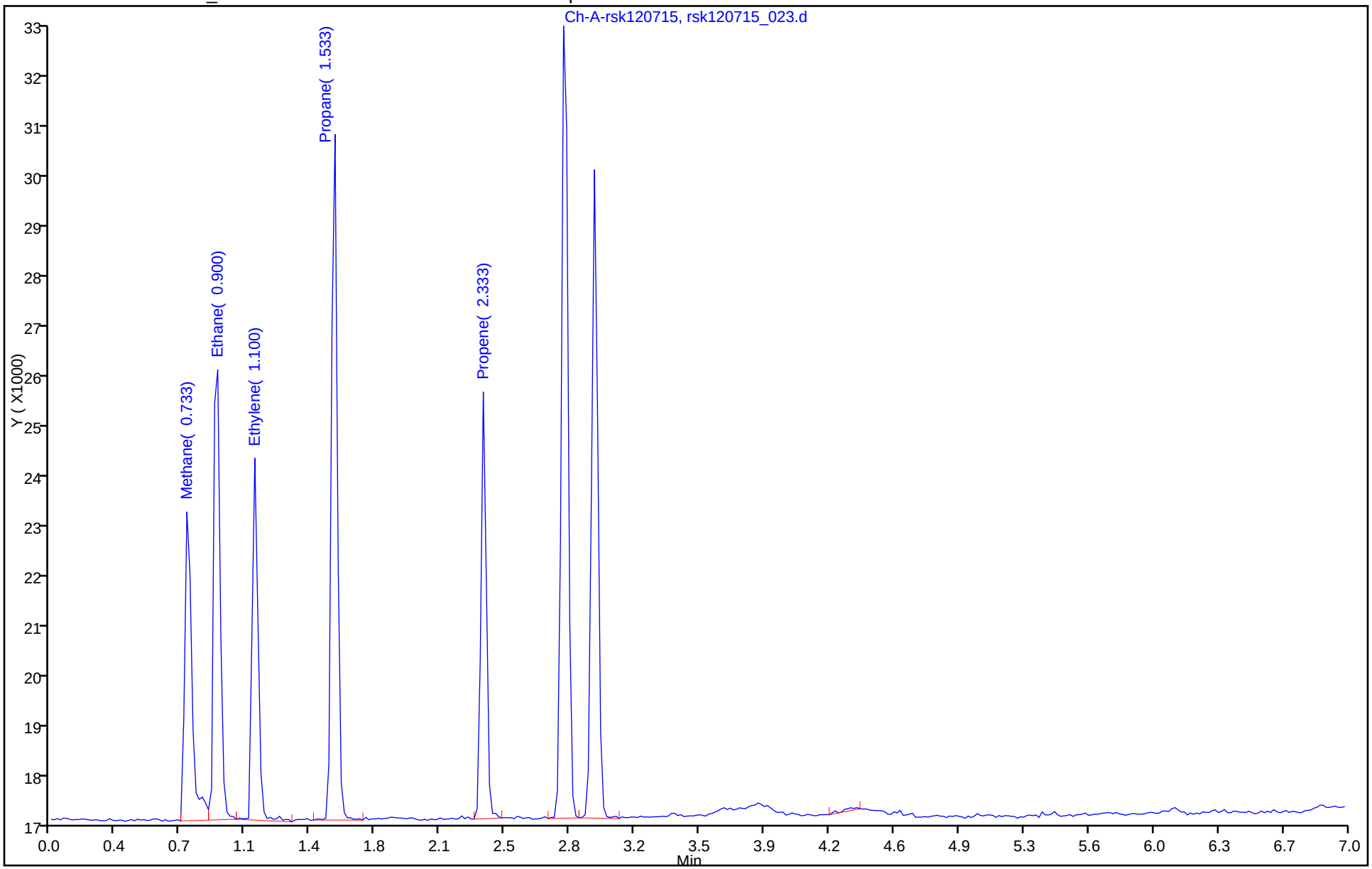
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 07-Dec-2015 16:44:51 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_023.d				
Injection Date:	07-Dec-2015 15:52:47	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

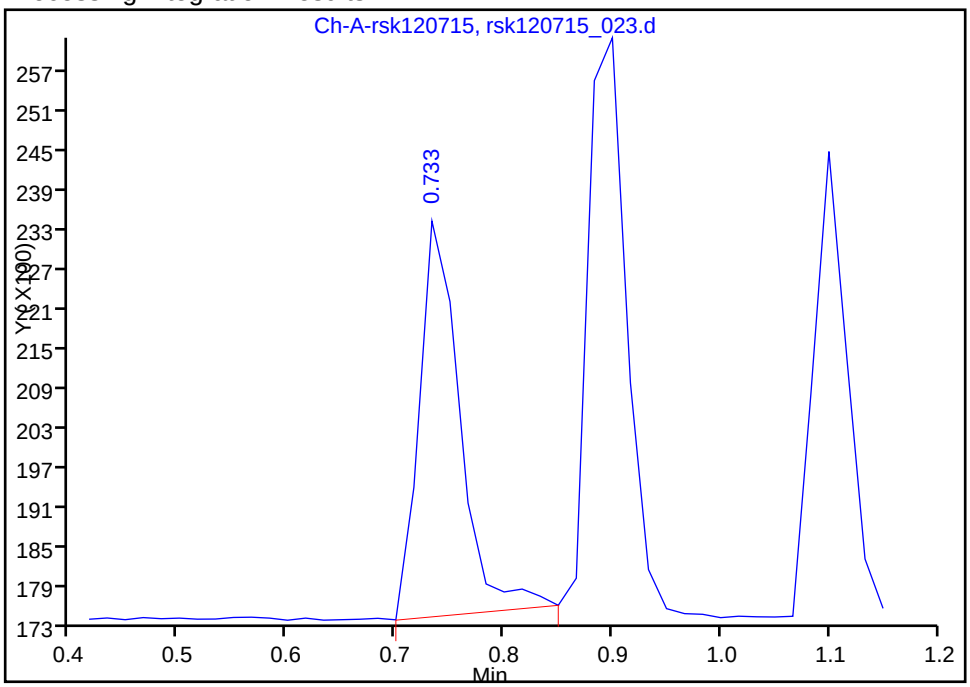
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_023.d				
Injection Date:	07-Dec-2015 15:52:47	Instrument ID:	CHFID14		
Lims ID:	CCV				
Client ID:					
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

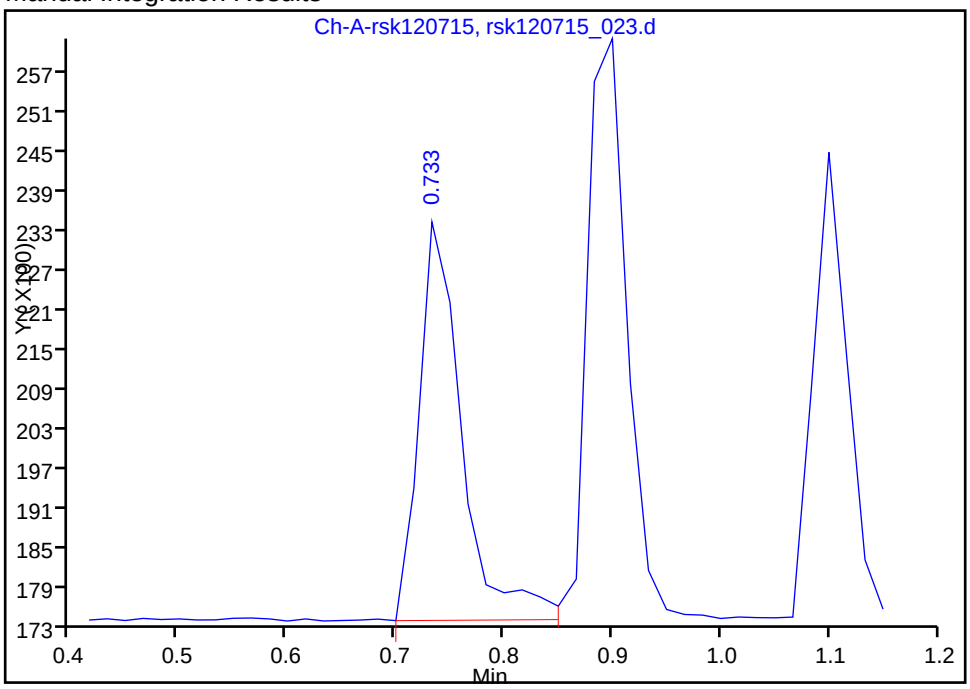
Processing Integration Results

RT: 0.73
Area: 15606
Amount: 3.434732
Amount Units: ug/l



Manual Integration Results

RT: 0.73
Area: 16502
Amount: 3.631933
Amount Units: ug/l



Reviewer: saccoj, 07-Dec-2015 16:06:25
Audit Action: Manually Integrated/Assigned Compound ID
Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

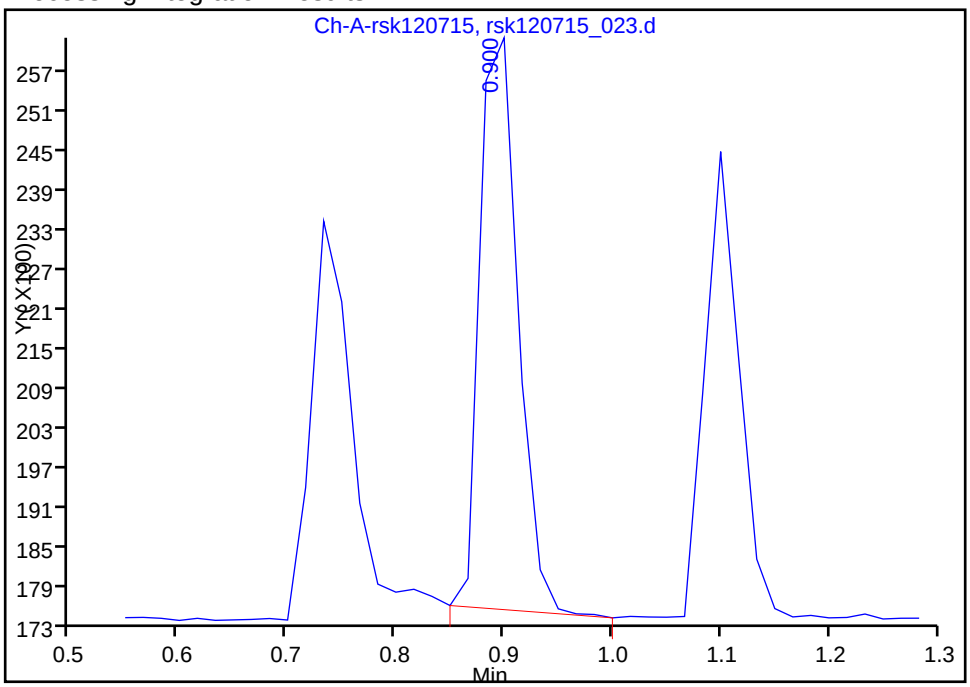
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_023.d				
Injection Date:	07-Dec-2015 15:52:47	Instrument ID:	CHFID14		
Lims ID:	CCV				
Client ID:					
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	23
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

2 Ethane, CAS: 74-84-0

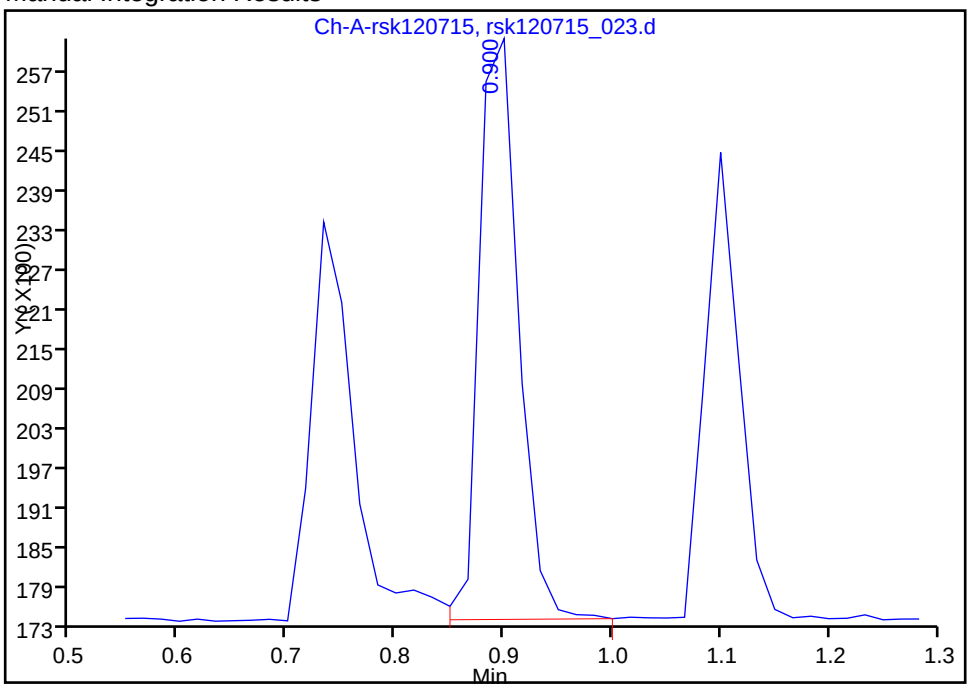
Processing Integration Results

RT: 0.90
Area: 21352
Amount: 5.031704
Amount Units: ug/l



Manual Integration Results

RT: 0.90
Area: 22270
Amount: 5.248035
Amount Units: ug/l



Reviewer: saccoj, 07-Dec-2015 16:06:25
Audit Action: Manually Integrated/Assigned Compound ID
Audit Reason: Split Peak

FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Lab Sample ID: CCV 600-177880/29 Calibration Date: 12/07/2015 17:15

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_029.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	4544	4858		3.68	3.44	6.9	20.0
Ethane	Ave	4243	3803		5.80	6.47	-10.4	20.0
Ethylene	Ave	3120	3008		5.82	6.04	-3.6	20.0
Propane	Ave	4514	3603		7.55	9.46	-20.2*	20.0
Propene	Ave	2689	2120		7.14	9.06	-21.2*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Lab Sample ID: CCV 600-177880/29 Calibration Date: 12/07/2015 17:15

Instrument ID: CHFID14 Calib Start Date: 06/08/2015 10:52

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 06/08/2015 12:12

Lab File ID: rsk120715_029.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.33	2.23	2.43

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_029.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 07-Dec-2015 17:15:13 ALS Bottle#: 0 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 018 Name: 600-0009751-029
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 17:27:50 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	16719	3.44	3.68	
2 Ethane	0.900	0.900	0.000	24608	6.47	5.80	
3 Ethylene	1.100	1.100	0.000	18160	6.04	5.82	
5 Propane	1.533	1.533	0.000	34076	9.46	7.55	
1 Propene	2.333	2.333	0.000	19200	9.06	7.14	

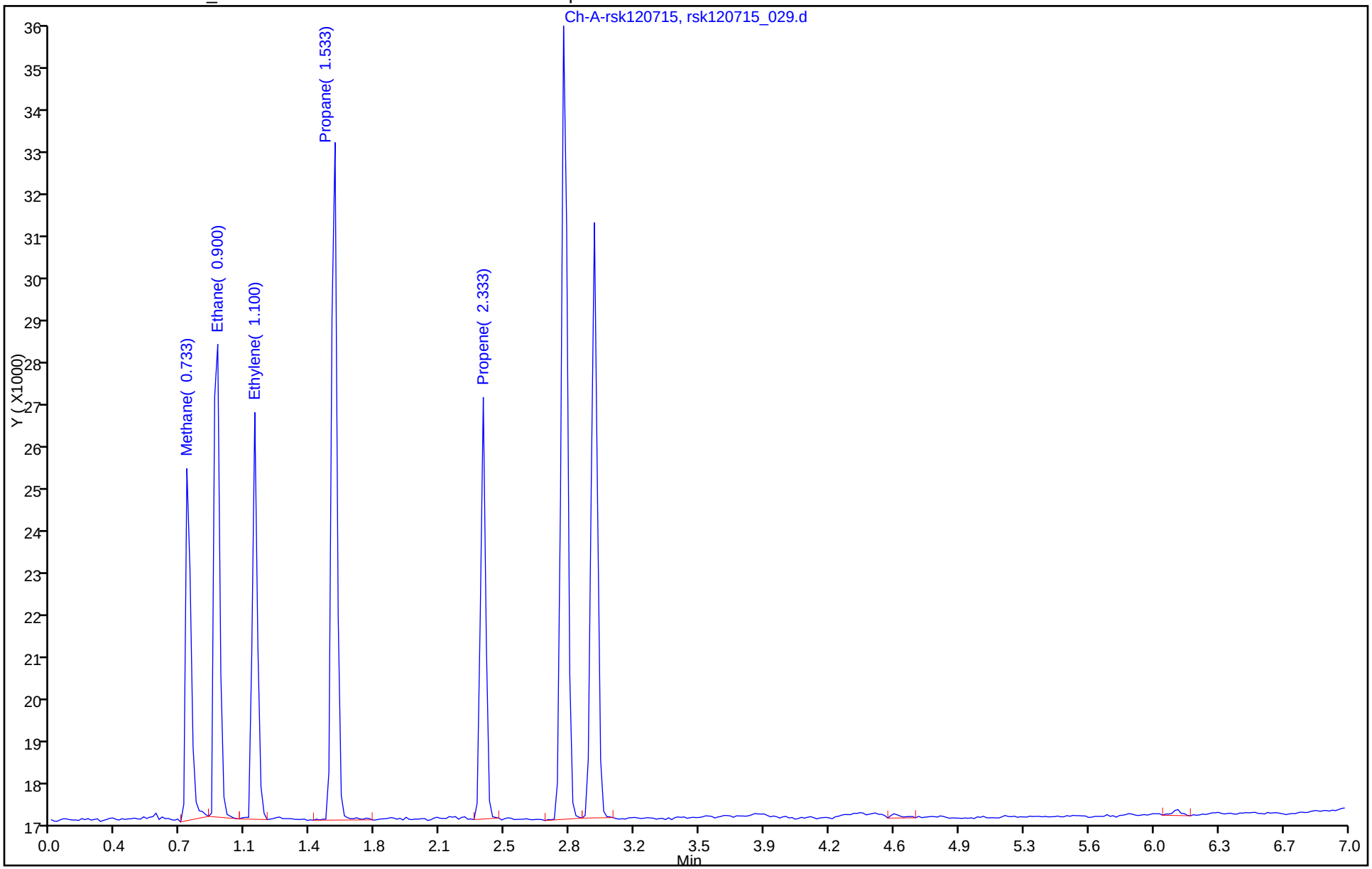
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 07-Dec-2015 17:27:52 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_029.d				
Injection Date:	07-Dec-2015 17:15:13	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	29
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122630-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-177880/2
Matrix: Water
Lab File ID: rsk120715_002.d
Analysis Method: RSK-175
Date Collected:
Sample wt/vol: 1(mL)
Date Analyzed: 12/07/2015 10:33
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177880
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.000303	U	0.00200	0.000303
74-82-8	Methane	0.000357	U	0.00100	0.000357
74-85-1	Ethylene	0.000324	U	0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

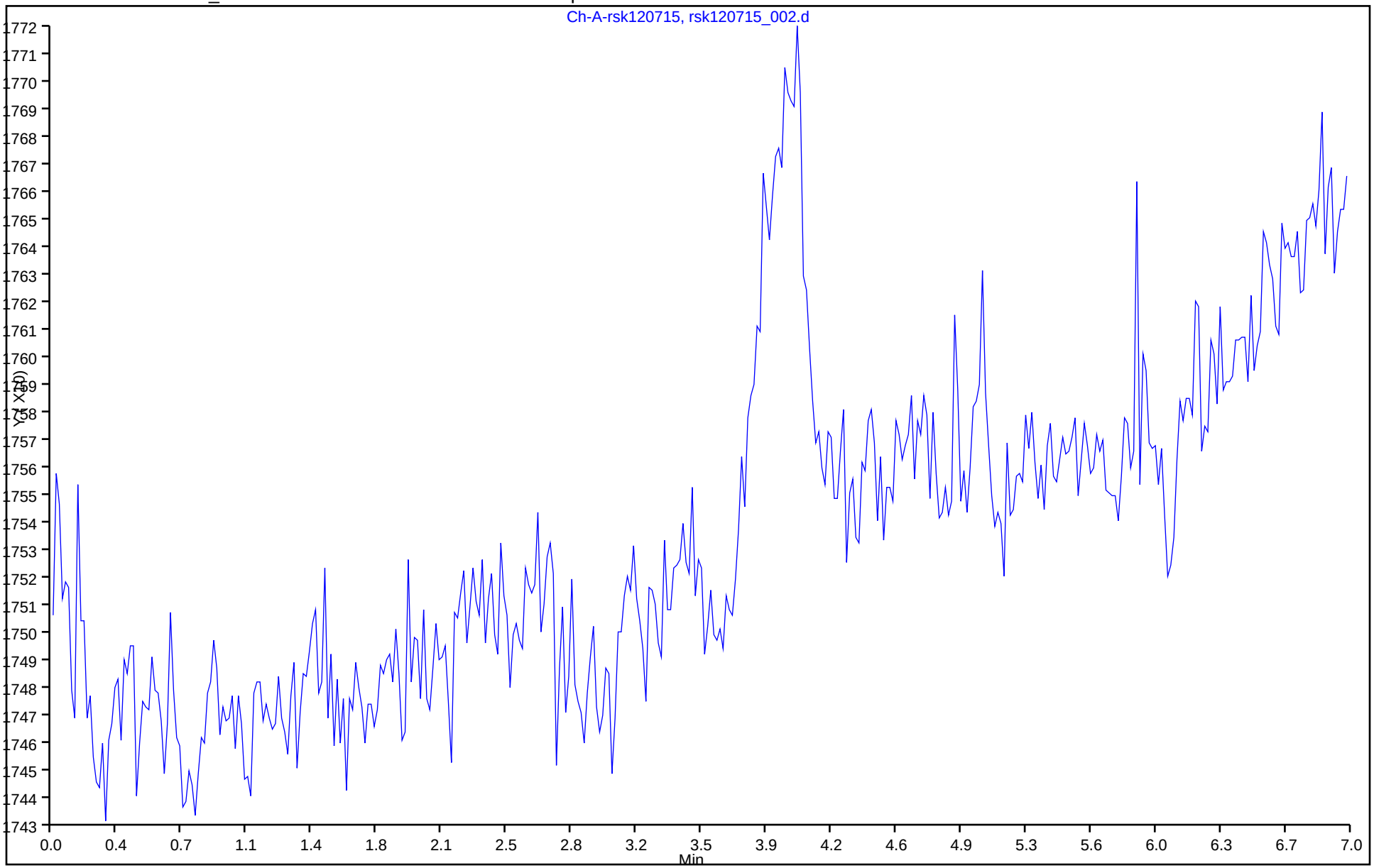
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_002.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	07-Dec-2015 10:33:44	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0009751-002				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	07-Dec-2015 16:44:21	Calib Date:	08-Jun-2015 12:12:52		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK037				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 07-Dec-2015 16:44:24 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_002.d				
Injection Date:	07-Dec-2015 10:33:44	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	MB			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122630-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-177880/3
Matrix: Water
Lab File ID: rsk120715_003.d
Analysis Method: RSK-175
Date Collected:
Sample wt/vol: 1(mL)
Date Analyzed: 12/07/2015 10:45
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177880
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.007548		0.00200	0.000303
74-82-8	Methane	0.004806		0.00100	0.000357
74-85-1	Ethylene	0.007352		0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_003.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 07-Dec-2015 10:45:07 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0009751-003
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:21 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	21836	5.16	4.81	
2 Ethane	0.900	0.917	-0.017	32028	9.70	7.55	
3 Ethylene	1.100	1.117	-0.017	22938	9.05	7.35	
5 Propane	1.533	1.550	-0.017	47154	14.2	10.4	
1 Propene	2.333	2.350	-0.017	26124	13.6	9.71	

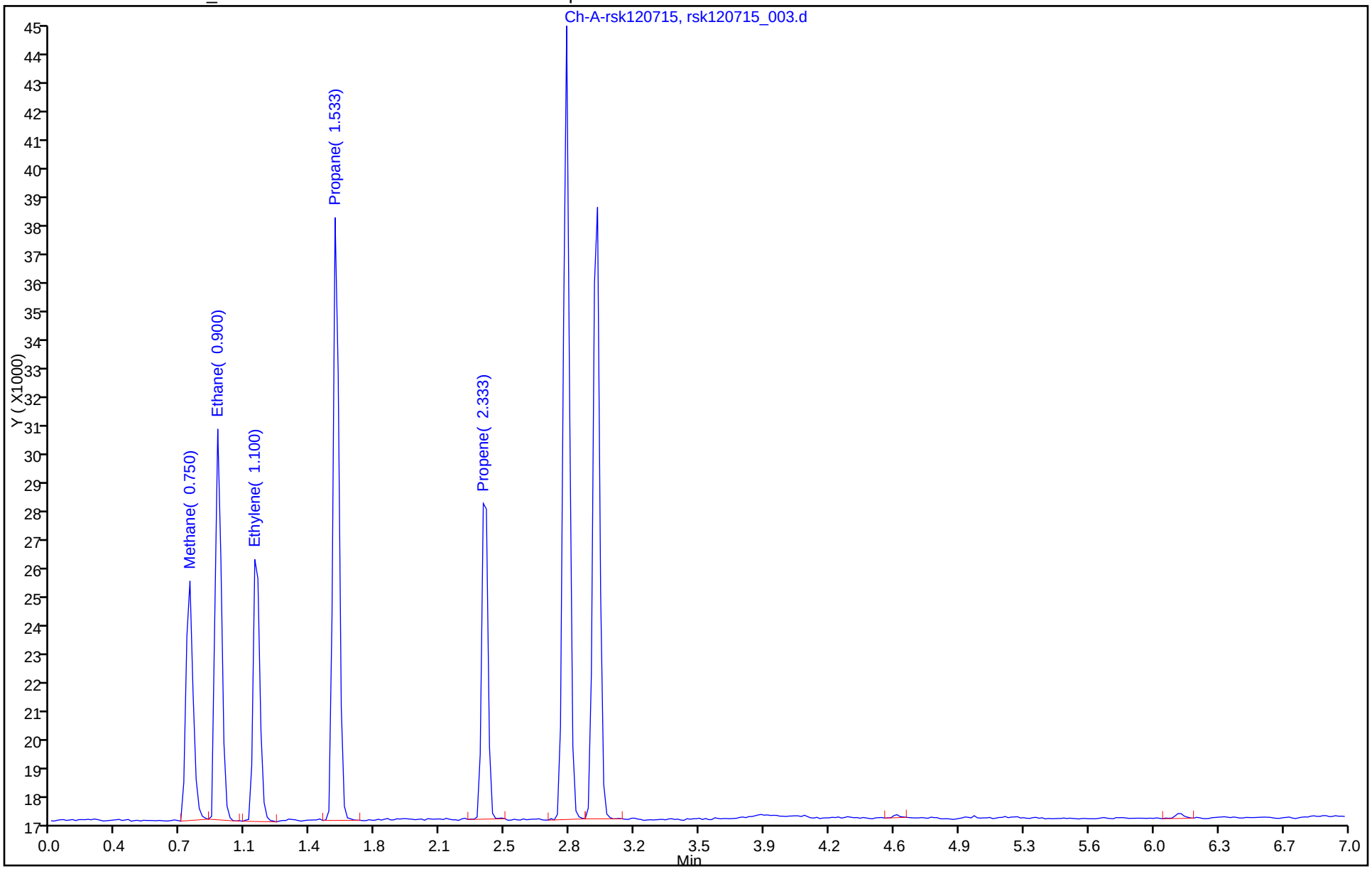
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 07-Dec-2015 16:44:25 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_003.d				
Injection Date:	07-Dec-2015 10:45:07	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	LCS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122630-1
SDG No.:
Client Sample ID:
Lab Sample ID: 600-122502-O-2 MS
Matrix: Water
Lab File ID: rsk120715_006.d
Analysis Method: RSK-175
Date Collected: 12/01/2015 10:05
Sample wt/vol: 1(mL)
Date Analyzed: 12/07/2015 11:20
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177880
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.009638		0.00200	0.000303
74-82-8	Methane	0.005779		0.00100	0.000357
74-85-1	Ethylene	0.009089		0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_006.d
Lims ID: 600-122502-O-2 MS
Client ID:
Sample Type: MS
Inject. Date: 07-Dec-2015 11:20:05 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001 Name: 600-0009751-006
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:21 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	26259	5.16	5.78	
2 Ethane	0.900	0.917	-0.017	40899	9.70	9.64	
3 Ethylene	1.117	1.117	0.000	28358	9.05	9.09	
5 Propane	1.550	1.550	0.000	61746	14.2	13.7	
1 Propene	2.350	2.350	0.000	33846	13.6	12.6	

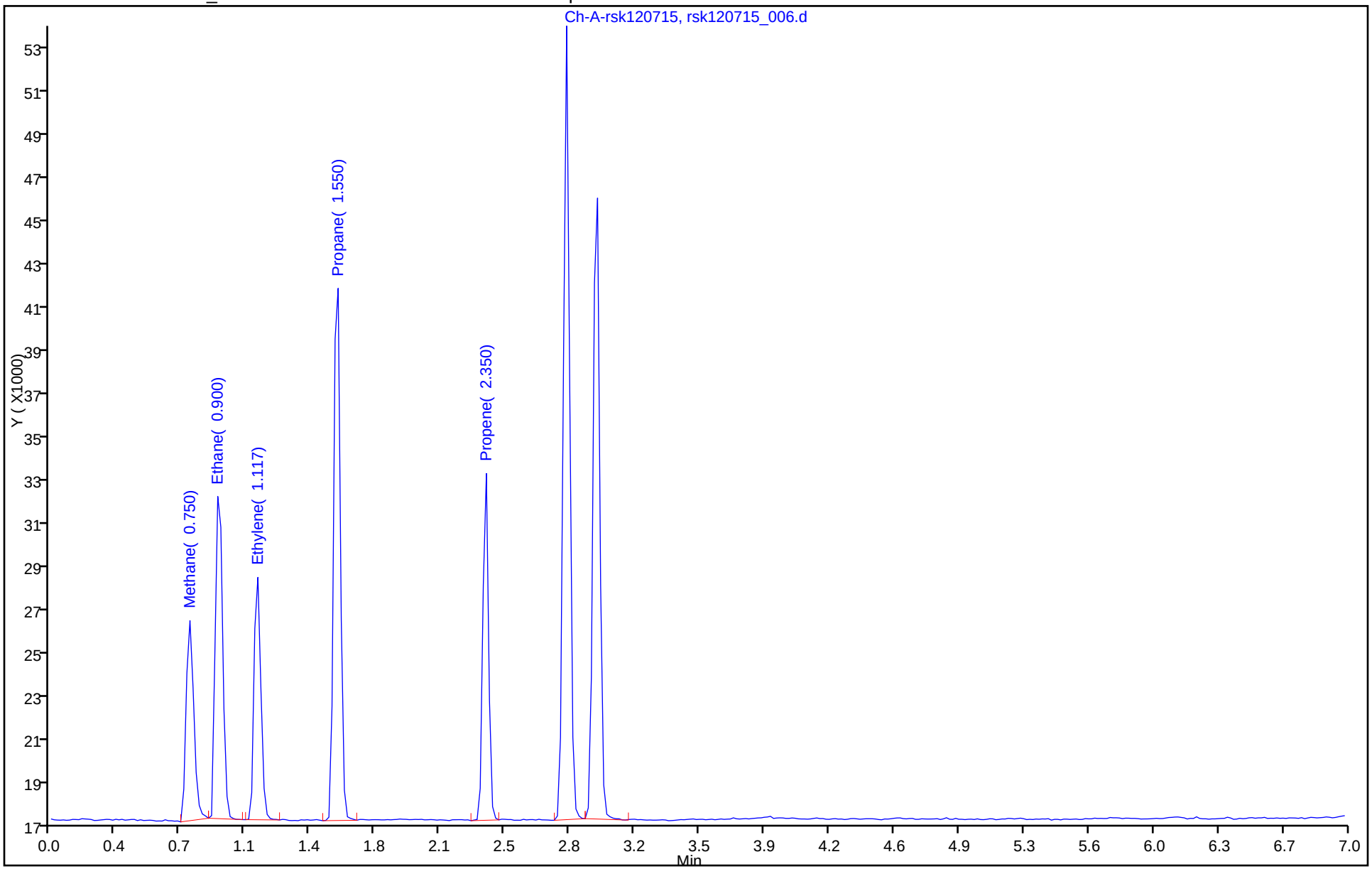
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 07-Dec-2015 16:44:30 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_006.d				
Injection Date:	07-Dec-2015 11:20:05	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122502-O-2 MS			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-122630-1
SDG No.:
Client Sample ID:
Lab Sample ID: 600-122502-O-2 MSD
Matrix: Water
Lab File ID: rsk120715_007.d
Analysis Method: RSK-175
Date Collected: 12/01/2015 10:05
Sample wt/vol: 1(mL)
Date Analyzed: 12/07/2015 11:32
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 177880
Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.008851		0.00200	0.000303
74-82-8	Methane	0.005358		0.00100	0.000357
74-85-1	Ethylene	0.008309		0.00200	0.000324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_007.d
Lims ID: 600-122502-O-2 MSD
Client ID:
Sample Type: MSD
Inject. Date: 07-Dec-2015 11:32:23 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 002 Name: 600-0009751-007
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 07-Dec-2015 16:44:21 Calib Date: 08-Jun-2015 12:12:52
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20150608-6703.b\rsk060815_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK037

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	24345	5.16	5.36	
2 Ethane	0.900	0.917	-0.017	37559	9.70	8.85	
3 Ethylene	1.117	1.117	0.000	25925	9.05	8.31	
5 Propane	1.533	1.550	-0.017	56427	14.2	12.5	
1 Propene	2.333	2.350	-0.017	30829	13.6	11.5	

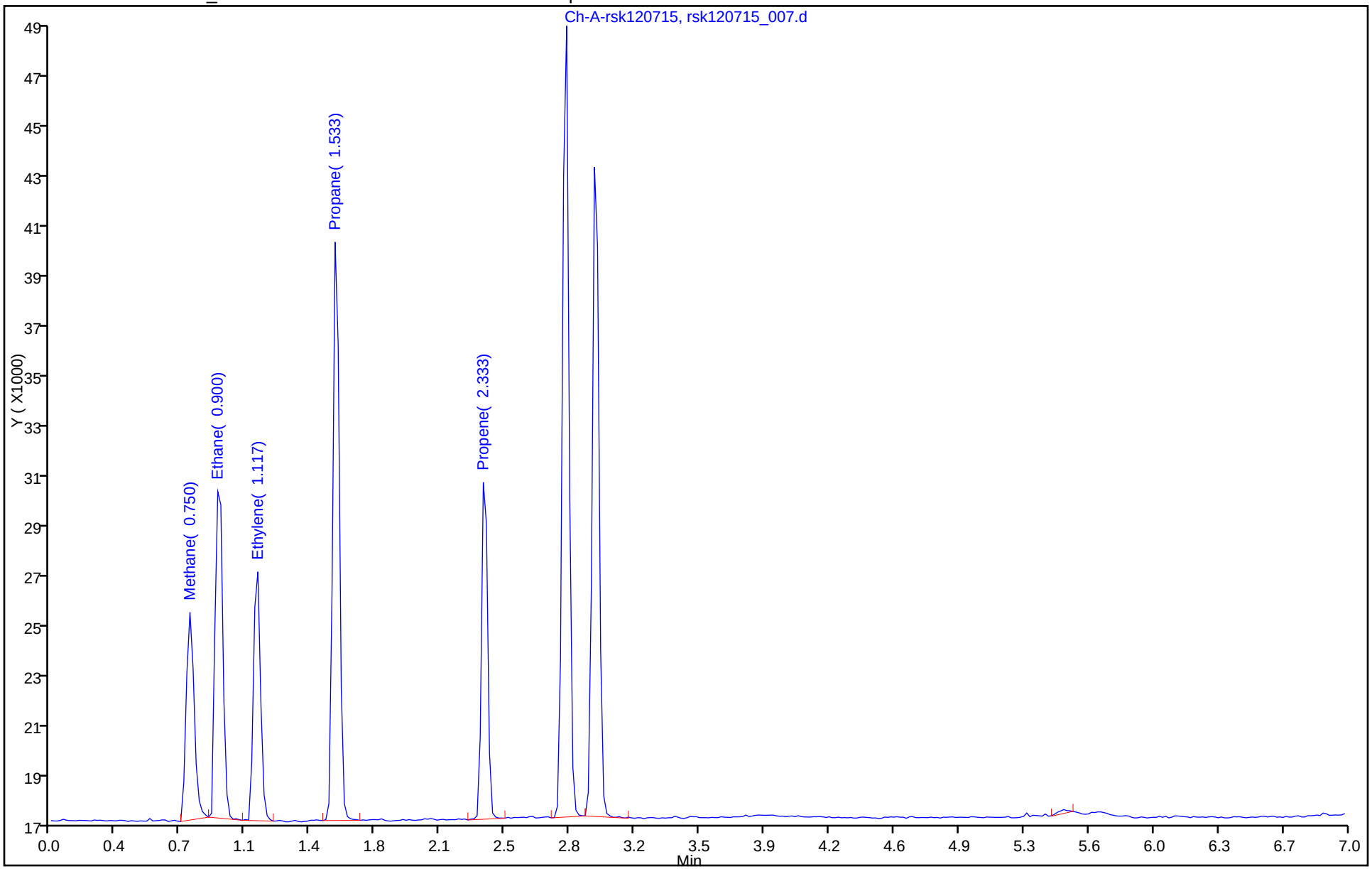
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 07-Dec-2015 16:44:31 Chrom Revision: 2.2 08-Oct-2015 07:17:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151207-9751.b\rsk120715_007.d				
Injection Date:	07-Dec-2015 11:32:23	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-122502-O-2 MSD			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: CHFID14 Start Date: 06/08/2015 10:52

Analysis Batch Number: 164074 End Date: 06/08/2015 18:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-164074/1		06/08/2015 10:52	1	rsk060815_001.d	RTX-5 0.53(mm)
IC 600-164074/2		06/08/2015 11:03	1	rsk060815_002.d	RTX-5 0.53(mm)
IC 600-164074/3		06/08/2015 11:15	1	rsk060815_003.d	RTX-5 0.53(mm)
ICRT 600-164074/4		06/08/2015 11:26	1	rsk060815_004.d	RTX-5 0.53(mm)
IC 600-164074/5		06/08/2015 11:38	1	rsk060815_005.d	RTX-5 0.53(mm)
IC 600-164074/6		06/08/2015 11:50	1	rsk060815_006.d	RTX-5 0.53(mm)
IC 600-164074/7		06/08/2015 12:01	1	rsk060815_007.d	RTX-5 0.53(mm)
IC 600-164074/8		06/08/2015 12:12	1	rsk060815_008.d	RTX-5 0.53(mm)
ZZZZZ		06/08/2015 12:57	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:22	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:36	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 13:47	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:02	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:18	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 14:41	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 15:56	100		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 16:50	100		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 17:27	100		RTX-5 0.53(mm)
CCV 600-164074/20		06/08/2015 17:38	1		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 17:51	1000		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 18:03	1000		RTX-5 0.53(mm)
ZZZZZ		06/08/2015 18:17	1000		RTX-5 0.53(mm)
CCV 600-164074/24		06/08/2015 18:28	1		RTX-5 0.53(mm)

RSK-175

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: CHFID14 Start Date: 12/07/2015 10:20

Analysis Batch Number: 177880 End Date: 12/07/2015 17:15

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 600-177880/1		12/07/2015 10:20	1	rsk120715_001.d	RTX-5 0.53(mm)
MB 600-177880/2		12/07/2015 10:33	1	rsk120715_002.d	RTX-5 0.53(mm)
LCS 600-177880/3		12/07/2015 10:45	1	rsk120715_003.d	RTX-5 0.53(mm)
ZZZZZ		12/07/2015 10:58	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 11:09	1		RTX-5 0.53(mm)
600-122502-O-2 MS		12/07/2015 11:20	1	rsk120715_006.d	RTX-5 0.53(mm)
600-122502-O-2 MSD		12/07/2015 11:32	1	rsk120715_007.d	RTX-5 0.53(mm)
ZZZZZ		12/07/2015 11:43	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 11:54	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 12:21	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 12:43	1		RTX-5 0.53(mm)
CCV 600-177880/12		12/07/2015 13:25	1	rsk120715_012.d	RTX-5 0.53(mm)
ZZZZZ		12/07/2015 13:38	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 13:51	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 14:03	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 14:14	1		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 14:25	1		RTX-5 0.53(mm)
600-122630-1	MW-01	12/07/2015 14:36	1	rsk120715_018.d	RTX-5 0.53(mm)
600-122630-2	MW-02	12/07/2015 14:47	1	rsk120715_019.d	RTX-5 0.53(mm)
600-122630-3	MW-02-Dup	12/07/2015 14:59	1	rsk120715_020.d	RTX-5 0.53(mm)
600-122630-4	MW-03	12/07/2015 15:17	1	rsk120715_021.d	RTX-5 0.53(mm)
ZZZZZ		12/07/2015 15:41	1000		RTX-5 0.53(mm)
CCV 600-177880/23		12/07/2015 15:52	1	rsk120715_023.d	RTX-5 0.53(mm)
ZZZZZ		12/07/2015 16:07	500		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 16:18	20		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 16:29	100		RTX-5 0.53(mm)
ZZZZZ		12/07/2015 16:41	100		RTX-5 0.53(mm)
600-122630-1	MW-01	12/07/2015 17:03	500	rsk120715_028.d	RTX-5 0.53(mm)
CCV 600-177880/29		12/07/2015 17:15	1	rsk120715_029.d	RTX-5 0.53(mm)

RSK-175

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122630-1

SDG No.:

Project: Jones Road Groundwater Plume

Client Sample ID	Lab Sample ID
MW-01	600-122630-1
MW-02	600-122630-2
MW-02-Dup	600-122630-3
MW-03	600-122630-4

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-01
Lab Sample ID: 600-122630-1
Lab Name: TestAmerica Houston
Job No.: 600-122630-1
SDG ID.:
Matrix: Water
Date Sampled: 12/03/2015 07:55
Reporting Basis: WET
Date Received: 12/04/2015 11:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	1.36	0.0500	0.0170	mg/L		F1	1	353.2
14265-44-2	Orthophosphate	0.0104	0.0500	0.0104	mg/L	U		1	4500 P E-1999
7440-44-0	Total Organic Carbon	2.18	1.00	0.437	mg/L			1	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-02
Lab Sample ID: 600-122630-2
Lab Name: TestAmerica Houston
Job No.: 600-122630-1
SDG ID.:
Matrix: Water
Date Sampled: 12/03/2015 09:35
Reporting Basis: WET
Date Received: 12/04/2015 11:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	8.12	0.250	0.0850	mg/L			5	353.2
14265-44-2	Orthophosphate	0.0250	0.0500	0.0104	mg/L	J		1	4500 P E-1999
7440-44-0	Total Organic Carbon	1.36	1.00	0.437	mg/L			1	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-02-Dup
Lab Sample ID: 600-122630-3
Lab Name: TestAmerica Houston
Job No.: 600-122630-1
SDG ID.:
Matrix: Water
Date Sampled: 12/03/2015 09:35
Reporting Basis: WET
Date Received: 12/04/2015 11:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	6.47	1.00	0.340	mg/L			20	353.2
14265-44-2	Orthophosphate	0.0320	0.0500	0.0104	mg/L	J		1	4500 P E-1999
7440-44-0	Total Organic Carbon	1.41	1.00	0.437	mg/L			1	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-03
Lab Sample ID: 600-122630-4
Lab Name: TestAmerica Houston
Job No.: 600-122630-1
SDG ID.:
Matrix: Water
Date Sampled: 12/03/2015 10:50
Reporting Basis: WET
Date Received: 12/04/2015 11:50

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	10.1	1.00	0.340	mg/L			20	353.2
14265-44-2	Orthophosphate	0.281	0.0500	0.0104	mg/L			1	4500 P E-1999
7440-44-0	Total Organic Carbon	5.19	1.00	0.437	mg/L			1	5310 D-2000

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Analyst: SC1 Batch Start Date: 12/10/2015

Reporting Units: mg/L Analytical Batch No.: 178144

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
9	ICV	07:41	Ammonia	5.134	5.00	103	90-110		WETSNH3ICV_00020
10	ICB	07:42	Ammonia	0.0675				U	
21	CCV	07:54	Ammonia	5.037	5.00	101	90-110		WETSNH3CAL_00012
22	CCB	07:55	Ammonia	0.0675				U	
33	CCV	08:08	Ammonia	5.057	5.00	101	90-110		WETSNH3CAL_00012
34	CCB	08:09	Ammonia	0.0675				U	
45	CCV	08:21	Ammonia	5.015	5.00	100	90-110		WETSNH3CAL_00012
46	CCB	08:22	Ammonia	0.0675				U	
54	CCB	08:31	Ammonia	0.0675				U	
55	CCV	08:32	Ammonia	4.955	5.00	99	90-110		WETSNH3CAL_00012

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Analyst: KRD Batch Start Date: 12/14/2015

Reporting Units: mg/L Analytical Batch No.: 178421

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	15:22	Nitrate Nitrite as N	0.9989	1.00	100	90-110		NO3NO2ICV/LCS_0003 8
8	ICB	15:22	Nitrate Nitrite as N	0.0170				U	
20	CCV	15:32	Nitrate Nitrite as N	1.024	1.00	102	90-110		NO3NO2CRVE1.0_0004 5
21	CCB	15:33	Nitrate Nitrite as N	0.0170				U	
32	CCV	15:41	Nitrate Nitrite as N	1.016	1.00	102	90-110		NO3NO2CRVE1.0_0004 5
33	CCB	15:42	Nitrate Nitrite as N	0.0170				U	
44	CCV	15:51	Nitrate Nitrite as N	1.018	1.00	102	90-110		NO3NO2CRVE1.0_0004 5
45	CCB	15:52	Nitrate Nitrite as N	0.0170				U	
58	CCV	16:02	Nitrate Nitrite as N	1.008	1.00	101	90-110		NO3NO2CRVE1.0_0004 5
59	CCB	16:03	Nitrate Nitrite as N	0.0170				U	
70	CCV	16:11	Nitrate Nitrite as N	1.001	1.00	100	90-110		NO3NO2CRVE1.0_0004 5
71	CCB	16:12	Nitrate Nitrite as N	0.0170				U	
81	CCV	16:20	Nitrate Nitrite as N	1.011	1.00	101	90-110		NO3NO2CRVE1.0_0004 5
82	CCB	16:21	Nitrate Nitrite as N	0.0170				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Analyst: KRD Batch Start Date: 12/04/2015

Reporting Units: mg/L Analytical Batch No.: 177969

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	23:45	Orthophosphate	0.5230	0.500	105	90-110		WETSPHOSIS_00020
2	ICB	23:45	Orthophosphate	0.0104				U	
12	CCV	23:45	Orthophosphate	0.5280	0.500	106	90-110		WETSPHOSCS_00022
13	CCB	23:45	Orthophosphate	0.0104				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Analyst: EC1 Batch Start Date: 12/11/2015

Reporting Units: mg/L Analytical Batch No.: 178314

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	16:00	Total Organic Carbon	9.853	10.0	99	85-115		TOCISCAL_00300
8	ICB	16:11	Total Organic Carbon	0.437				U	
31	CCV	20:12	Total Organic Carbon	10.34	10.0	103	85-115		TOCSLCS_00209
32	CCB	20:22	Total Organic Carbon	0.437				U	
43	CCV	22:17	Total Organic Carbon	10.14	10.0	101	85-115		TOCSLCS_00209
44	CCB	22:28	Total Organic Carbon	0.437				U	
55	CCV	00:23	Total Organic Carbon	10.12	10.0	101	85-115		TOCSLCS_00209
56	CCB	00:33	Total Organic Carbon	0.437				U	
67	CCV	02:28	Total Organic Carbon	10.00	10.0	100	85-115		TOCSLCS_00209
68	CCB	02:38	Total Organic Carbon	0.437				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 178144 Date: 12/10/2015 07:43 Prep Batch: 178121 Date: 12/10/2015 05:29							
350.1	MB 600-178121/1-A	Ammonia	0.0675	U	mg/L	0.200	1
Batch ID: 178144 Date: 12/10/2015 08:13							
350.1	MB 600-178144/38	Ammonia	0.0675	U	mg/L	0.200	1
Batch ID: 178421 Date: 12/14/2015 15:24							
353.2	MB 600-178421/10	Nitrate Nitrite as N	0.0170	U	mg/L	0.0500	1
Batch ID: 178421 Date: 12/14/2015 15:52							
353.2	MB 600-178421/46	Nitrate Nitrite as N	0.0170	U	mg/L	0.0500	1
Batch ID: 178421 Date: 12/14/2015 16:13							
353.2	MB 600-178421/72	Nitrate Nitrite as N	0.0170	U	mg/L	0.0500	1
Batch ID: 177969 Date: 12/04/2015 23:45							
4500 P E-1999	MB 600-177969/3	Orthophosphate	0.0104	U	mg/L	0.0500	1
4500 P E-1999	MB 600-177969/3	Orthophosphorus as PO4	0.0318	U	mg/L	0.153	1
Batch ID: 178314 Date: 12/11/2015 21:35							
5310 D-2000	MB 600-178314/39	Total Organic Carbon	0.437	U	mg/L	1.00	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 178144	Date: 12/10/2015 08:27		Prep Batch: 178121			Date: 12/10/2015 05:29					
350.1	600-122630-1	Ammonia	0.0675	U	mg/L						
350.1	600-122630-1 MS	Ammonia	4.998		mg/L	5.00	100	90-110			
Batch ID: 178144	Date: 12/10/2015 08:29		Prep Batch: 178121			Date: 12/10/2015 05:29					
350.1	600-122661-B-1-B	Ammonia	0.0675	U	mg/L						
350.1	600-122661-B-1-B MS	Ammonia	5.016		mg/L	5.00	100	90-110			
Batch ID: 178421	Date: 12/14/2015 16:10										
353.2	600-122630-1	Nitrate Nitrite as N	1.36		mg/L						F1
353.2	600-122630-1 MS	Nitrate Nitrite as N	1.875		mg/L	1.00	52	80-120			F1
Batch ID: 177969	Date: 12/04/2015 23:45										
4500 P E-1999	600-122591-B-1	Orthophosphate	7.65		mg/L						
4500 P E-1999	600-122591-B-1 MS	Orthophosphate	21.55		mg/L	12.5	111	75-125			
4500 P E-1999	600-122591-B-1	Orthophosphorus as PO4	23.5		mg/L						
4500 P E-1999	600-122591-B-1 MS	Orthophosphorus as PO4	66.08		mg/L	38.3	111	75-125			
Batch ID: 178314	Date: 12/12/2015 00:54										
5310 D-2000	600-122613-B-5	Total Organic Carbon	6.78		mg/L						
5310 D-2000	600-122613-B-5 MS	Total Organic Carbon	17.64		mg/L	10.0	109	80-120			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 178144 Date: 12/10/2015 08:18											
350.1	600-122828-C-2 MSD	Ammonia	4.974		mg/L	5.00	99	90-110	1	20	
Batch ID: 178144 Date: 12/10/2015 08:28 Prep Batch: 178121 Date: 12/10/2015 05:29											
350.1	600-122630-1 MSD	Ammonia	4.821		mg/L	5.00	96	90-110	4	20	
Batch ID: 178144 Date: 12/10/2015 08:30 Prep Batch: 178121 Date: 12/10/2015 05:29											
350.1	600-122661-B-1-C MSD	Ammonia	5.014		mg/L	5.00	100	90-110	0	20	
Batch ID: 178421 Date: 12/14/2015 16:10											
353.2	600-122630-1 MSD	Nitrate Nitrite as N	2.022		mg/L	1.00	67	80-120	8	20	F1
Batch ID: 177969 Date: 12/04/2015 23:45											
4500 P E-1999	600-122591-B-1 MSD	Orthophosphate	20.75		mg/L	12.5	105	75-125	4	20	
4500 P E-1999	600-122591-B-1 MSD	Orthophosphorus as PO4	63.62		mg/L	38.3	105	75-125	4	20	
Batch ID: 178314 Date: 12/12/2015 01:04											
5310 D-2000	600-122613-B-5 MSD	Total Organic Carbon	17.88		mg/L	10.0	111	80-120	1	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 178144	Date: 12/10/2015 07:44		Prep Batch: 178121			Date: 12/10/2015 05:29					
						LCS Source: WETSNH3ICV_00020					
350.1	LCS 600-178121/2-A	Ammonia	4.973		mg/L	5.00	99	90-110			
Batch ID: 178144	Date: 12/10/2015 08:14										
						LCS Source: WETSNH3ICV_00020					
350.1	LCS 600-178144/39	Ammonia	4.744		mg/L	5.00	95	90-110			
Batch ID: 178421	Date: 12/14/2015 15:25										
						LCS Source: NO3NO2ICV/LCS_00038					
353.2	LCS 600-178421/11	Nitrate Nitrite as N	1.012		mg/L	1.00	101	90-110			
Batch ID: 178421	Date: 12/14/2015 15:53										
						LCS Source: NO3NO2ICV/LCS_00038					
353.2	LCS 600-178421/47	Nitrate Nitrite as N	0.9994		mg/L	1.00	100	90-110			
Batch ID: 178421	Date: 12/14/2015 16:14										
						LCS Source: NO3NO2ICV/LCS_00038					
353.2	LCS 600-178421/73	Nitrate Nitrite as N	1.004		mg/L	1.00	100	90-110			
Batch ID: 177969	Date: 12/04/2015 23:45										
						LCS Source: WETSPHOSIS_00020					
4500 P E-1999	LCS 600-177969/4	Orthophosphate	0.5140		mg/L	0.500	103	90-110			
4500 P E-1999	LCS 600-177969/4	Orthophosphorus as PO4	1.576		mg/L	1.53	103	90-110			
Batch ID: 178314	Date: 12/11/2015 21:46										
						LCS Source: TOCISCAL_00300					
5310 D-2000	LCS 600-178314/40	Total Organic Carbon	9.858		mg/L	10.0	99	85-115			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122630-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 MDL Date: 04/30/2014 10:41

Prep Method: 350.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ammonia		0.2	0.067487

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122630-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 XMDL Date: 04/30/2014 10:42

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ammonia		0.2	0.067487

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122630-1

SDG Number:

Matrix: Water Instrument ID: WC05

Method: 353.2 MDL Date: 07/09/2012 10:23

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Nitrate Nitrite as N		0.05	0.017

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122630-1

SDG Number:

Matrix: Water Instrument ID: WC05

Method: 353.2 XMDL Date: 05/05/2014 08:21

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate Nitrite as N		0.05	0.017

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122630-1

SDG Number:

Matrix: Water Instrument ID: WC10

Method: 4500 P E-1999 MDL Date: 05/05/2014 08:22

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Orthophosphate		0.05	0.010379

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122630-1

SDG Number:

Matrix: Water Instrument ID: WC10

Method: 4500 P E-1999 XMDL Date: 05/05/2014 08:22

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Orthophosphate		0.05	0.010379

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122630-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 5310 D-2000 MDL Date: 07/10/2012 14:07

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Organic Carbon		1	0.437

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-122630-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 5310 D-2000 XMDL Date: 07/10/2012 14:07

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Organic Carbon		1	0.437

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Prep Method: 350.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-178121/1-A	12/10/2015 05:29	178121		100	100
LCS 600-178121/2-A	12/10/2015 05:29	178121		100	100
600-122630-1	12/10/2015 05:29	178121		100	100
600-122630-1 MS	12/10/2015 05:29	178121		100	100
600-122630-1 MSD	12/10/2015 05:29	178121		100	100
600-122630-3	12/10/2015 05:29	178121		100	100
600-122630-2	12/10/2015 05:29	178121		100	100
600-122630-4	12/10/2015 05:29	178121		100	100
600-122661-B-1-B MS	12/10/2015 05:29	178121		100	100
600-122661-B-1-C MSD	12/10/2015 05:29	178121		100	100

FORM XII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: WC07 Method: 350.1

Start Date: 12/10/2015 07:31 End Date: 12/10/2015 08:32

Lab Sample ID	D/F	Type	Time	Analytes																			
				NH3																			
ZZZZZZ			07:31																				
ZZZZZZ			07:33																				
ZZZZZZ			07:34																				
ZZZZZZ			07:35																				
ZZZZZZ			07:36																				
ZZZZZZ			07:37																				
ZZZZZZ			07:38																				
ZZZZZZ			07:39																				
ICV 600-178144/9	1		07:41	X																			
ICB 600-178144/10	1		07:42	X																			
MB 600-178121/1-A	1	T	07:43	X																			
LCS 600-178121/2-A	1	T	07:44	X																			
600-122630-1	1	T	07:45	X																			
ZZZZZZ			07:46																				
ZZZZZZ			07:47																				
600-122630-3	1	T	07:48	X																			
600-122630-2	1	T	07:50	X																			
600-122630-4	1	T	07:51	X																			
ZZZZZZ			07:52																				
ZZZZZZ			07:53																				
CCV 600-178144/21	1		07:54	X																			
CCB 600-178144/22	1		07:55	X																			
ZZZZZZ			07:56																				
ZZZZZZ			07:57																				
ZZZZZZ			07:59																				
ZZZZZZ			08:00																				
ZZZZZZ			08:01																				
ZZZZZZ			08:02																				
ZZZZZZ			08:03																				
ZZZZZZ			08:04																				
ZZZZZZ			08:05																				
ZZZZZZ			08:07																				
CCV 600-178144/33	1		08:08	X																			
CCB 600-178144/34	1		08:09	X																			
ZZZZZZ			08:10																				
ZZZZZZ			08:11																				
ZZZZZZ			08:12																				
MB 600-178144/38	1	T	08:13	X																			
LCS 600-178144/39	1	T	08:14	X																			
ZZZZZZ			08:16																				
ZZZZZZ			08:17																				
600-122828-C-2 MSD	1	T	08:18	X																			

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: WC07 Method: 350.1

Start Date: 12/10/2015 07:31 End Date: 12/10/2015 08:32

Lab Sample ID	D/F	Type	Time	Analytes																			
				NH3																			
ZZZZZZ			08:19																				
ZZZZZZ			08:20																				
CCV 600-178144/45	1		08:21	X																			
CCB 600-178144/46	1		08:22	X																			
ZZZZZZ			08:23																				
ZZZZZZ			08:25																				
ZZZZZZ			08:26																				
600-122630-1 MS	1	T	08:27	X																			
600-122630-1 MSD	1	T	08:28	X																			
600-122661-B-1-B MS	1	T	08:29	X																			
600-122661-B-1-C MSD	1	T	08:30	X																			
CCB 600-178144/54	1		08:31	X																			
CCV 600-178144/55	1		08:32	X																			

Prep Types

T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Lab Sample ID	D/F	Type	Time	Analytes																			
				NNO32																			
ZZZZZZ			15:17																				
STD 600-178421/2 IC			15:18	X																			
STD 600-178421/3 IC			15:18	X																			
STD 600-178421/4 IC			15:19	X																			
STD 600-178421/5 IC			15:20	X																			
STD 600-178421/6 IC			15:21	X																			
ICV 600-178421/7	1		15:22	X																			
ICB 600-178421/8	1		15:22	X																			
ZZZZZZ			15:23																				
MB 600-178421/10	1	T	15:24	X																			
LCS 600-178421/11	1	T	15:25	X																			
ZZZZZZ			15:26																				
ZZZZZZ			15:26																				
ZZZZZZ			15:27																				
ZZZZZZ			15:28																				
ZZZZZZ			15:29																				
ZZZZZZ			15:30																				
ZZZZZZ			15:30																				
ZZZZZZ			15:31																				
CCV 600-178421/20	1		15:32	X																			
CCB 600-178421/21	1		15:33	X																			
ZZZZZZ			15:33																				
ZZZZZZ			15:34																				
ZZZZZZ			15:35																				
ZZZZZZ			15:36																				
ZZZZZZ			15:37																				
ZZZZZZ			15:37																				
ZZZZZZ			15:38																				
ZZZZZZ			15:39																				
600-122630-2	5	T	15:40	X																			
ZZZZZZ			15:41																				
CCV 600-178421/32	1		15:41	X																			
CCB 600-178421/33	1		15:42	X																			
ZZZZZZ			15:43																				
ZZZZZZ			15:44																				
ZZZZZZ			15:44																				
600-122630-3	20	T	15:45	X																			
ZZZZZZ			15:46																				
ZZZZZZ			15:47																				
ZZZZZZ			15:48																				
ZZZZZZ			15:48																				
ZZZZZZ			15:49																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Lab Sample ID	D/F	Type	Time	Analytes																			
				NNO32																			
ZZZZZZ			15:50																				
CCV 600-178421/44	1		15:51	X																			
CCB 600-178421/45	1		15:52	X																			
MB 600-178421/46	1	T	15:52	X																			
LCS 600-178421/47	1	T	15:53	X																			
ZZZZZZ			15:54																				
ZZZZZZ			15:55																				
ZZZZZZ			15:56																				
ZZZZZZ			15:56																				
ZZZZZZ			15:57																				
ZZZZZZ			15:58																				
ZZZZZZ			15:59																				
ZZZZZZ			15:59																				
ZZZZZZ			16:00																				
ZZZZZZ			16:01																				
CCV 600-178421/58	1		16:02	X																			
CCB 600-178421/59	1		16:03	X																			
ZZZZZZ			16:03																				
ZZZZZZ			16:04																				
ZZZZZZ			16:05																				
ZZZZZZ			16:06																				
ZZZZZZ			16:07																				
ZZZZZZ			16:07																				
ZZZZZZ			16:08																				
600-122630-1	1	T	16:09	X																			
600-122630-1 MS	1	T	16:10	X																			
600-122630-1 MSD	1	T	16:10	X																			
CCV 600-178421/70	1		16:11	X																			
CCB 600-178421/71	1		16:12	X																			
MB 600-178421/72	1	T	16:13	X																			
LCS 600-178421/73	1	T	16:14	X																			
ZZZZZZ			16:14																				
ZZZZZZ			16:15																				
ZZZZZZ			16:16																				
ZZZZZZ			16:17																				
ZZZZZZ			16:18																				
600-122630-4	20	T	16:18	X																			
ZZZZZZ			16:19																				
CCV 600-178421/81	1		16:20	X																			
CCB 600-178421/82	1		16:21	X																			

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: WC05 Method: 353.2

Start Date: 12/14/2015 15:17 End Date: 12/14/2015 16:21

Prep Types
T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: WC10 Method: 4500 P E-1999

Start Date: 12/04/2015 23:45 End Date: 12/04/2015 23:45

Lab Sample ID	D/F	Type	Time	Analytes																			
				O-PO4	PO4																		
ICV 600-177969/1	1		23:45	X	X																		
ICB 600-177969/2	1		23:45		X																		
MB 600-177969/3	1	T	23:45		X																		
LCS 600-177969/4	1	T	23:45	X	X																		
ZZZZZZ			23:45																				
600-122591-B-1 MS	25	T	23:45	X	X																		
600-122591-B-1 MSD	25	T	23:45	X	X																		
600-122630-1	1	T	23:45		X																		
600-122630-2	1	T	23:45		X																		
600-122630-3	1	T	23:45		X																		
600-122630-4	1	T	23:45		X																		
CCV 600-177969/12	1		23:45	X	X																		
CCB 600-177969/13	1		23:45		X																		

Prep Types

T = Total/NA

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: WC01 Method: 5310 D-2000

Start Date: 12/11/2015 14:57 End Date: 12/12/2015 03:20

Lab Sample ID	D/F	Type	Time	Analytes																			
				TOC																			
RINSE 600-178314/1			14:57																				
RINSE 600-178314/2			15:08																				
ZZZZZZ			15:18																				
ZZZZZZ			15:29																				
ZZZZZZ			15:39																				
ZZZZZZ			15:50																				
ICV 600-178314/7	1		16:00	X																			
ICB 600-178314/8	1		16:11	X																			
ZZZZZZ			16:21																				
ZZZZZZ			16:32																				
ZZZZZZ			16:42																				
ZZZZZZ			16:53																				
ZZZZZZ			17:03																				
ZZZZZZ			17:14																				
ZZZZZZ			17:24																				
ZZZZZZ			17:35																				
ZZZZZZ			17:45																				
ZZZZZZ			17:56																				
CCV 600-178314/19			18:06																				
CCB 600-178314/20			18:17																				
ZZZZZZ			18:27																				
ZZZZZZ			18:38																				
ZZZZZZ			18:48																				
ZZZZZZ			18:58																				
ZZZZZZ			19:09																				
ZZZZZZ			19:19																				
ZZZZZZ			19:30																				
ZZZZZZ			19:40																				
ZZZZZZ			19:51																				
ZZZZZZ			20:01																				
CCV 600-178314/31	1		20:12	X																			
CCB 600-178314/32	1		20:22	X																			
ZZZZZZ			20:33																				
ZZZZZZ			20:43																				
ZZZZZZ			20:54																				
ZZZZZZ			21:04																				
ZZZZZZ			21:14																				
ZZZZZZ			21:25																				
MB 600-178314/39	1	T	21:35	X																			
LCS 600-178314/40	1	T	21:46	X																			
ZZZZZZ			21:56																				
ZZZZZZ			22:07																				

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Instrument ID: WC01 Method: 5310 D-2000

Start Date: 12/11/2015 14:57 End Date: 12/12/2015 03:20

Lab Sample ID	D/F	Type	Time	Analytes																			
				TOC																			
CCV 600-178314/43	1		22:17	X																			
CCB 600-178314/44	1		22:28	X																			
ZZZZZZ			22:38																				
ZZZZZZ			22:48																				
ZZZZZZ			22:59																				
ZZZZZZ			23:09																				
ZZZZZZ			23:20																				
ZZZZZZ			23:30																				
ZZZZZZ			23:41																				
ZZZZZZ			23:51																				
ZZZZZZ			00:02																				
ZZZZZZ			00:12																				
CCV 600-178314/55	1		00:23	X																			
CCB 600-178314/56	1		00:33	X																			
ZZZZZZ			00:43																				
600-122613-B-5 MS	1	T	00:54	X																			
600-122613-B-5 MSD	1	T	01:04	X																			
ZZZZZZ			01:15																				
ZZZZZZ			01:25																				
600-122630-1	1	T	01:36	X																			
600-122630-2	1	T	01:46	X																			
600-122630-3	1	T	01:57	X																			
600-122630-4	1	T	02:07	X																			
ZZZZZZ			02:17																				
CCV 600-178314/67	1		02:28	X																			
CCB 600-178314/68	1		02:38	X																			
ZZZZZZ			02:49																				
ZZZZZZ			02:59																				
CCV 600-178314/71			03:10																				
CCB 600-178314/72			03:20																				

Prep Types

T = Total/NA

KD 12/14/15 #178421

Author: Houston_wetchem_inst

Date : 12/14/2015

Original Run Filename: OM_12-14-2015_03-16-38PM.OMN created 12/14/2015 3:16:38 PM
Original Run Author's Signature: [Houston_wetchem_inst]
Current Run Filename: OM_12-14-2015_03-16-38PM.OMN last modified 12/14/2015 4:22:18 PM
Current Run Author's Signature: [Houston_wetchem_inst]
Description: NO2+NO3

12/14/15

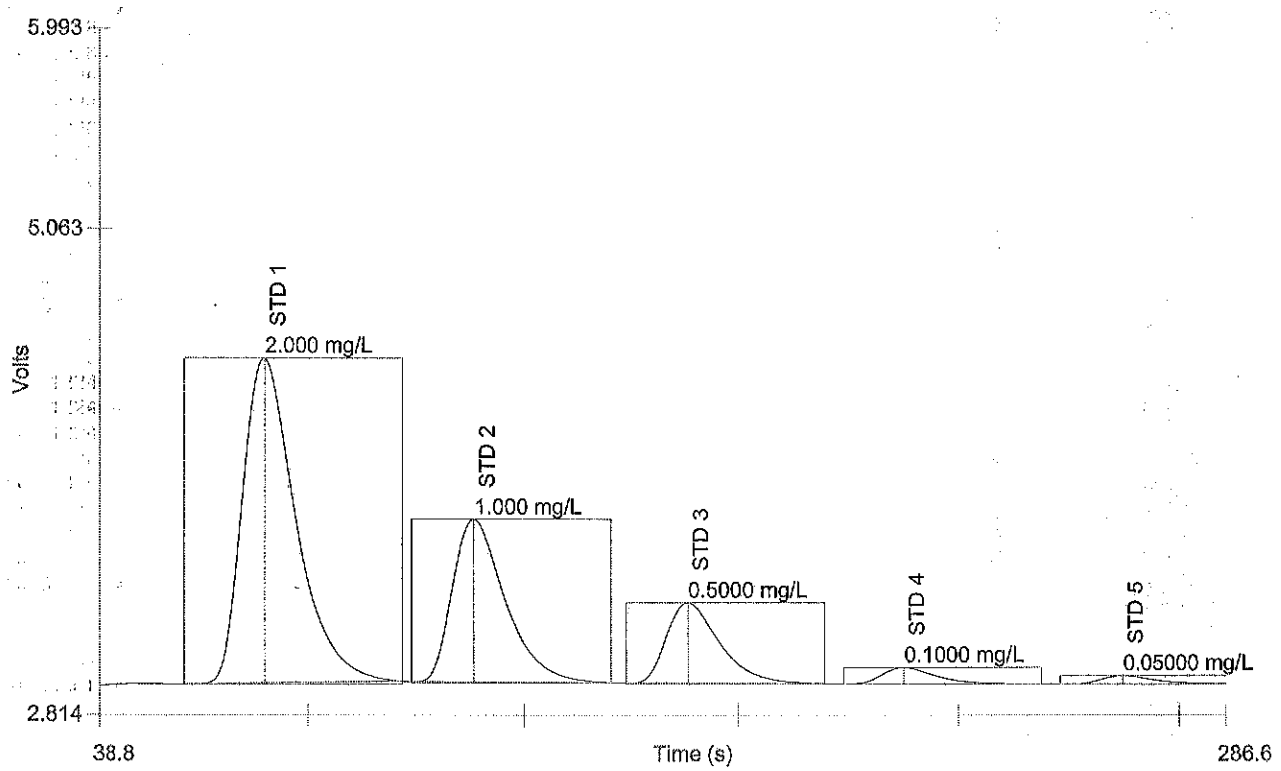
Sample	Rep.	Cup No.	Channel 1 Nitrate + Nitrite (mg/L)
STD 1	1	S1	2.000
STD 2	1	S2	1.000
STD 3	1	S3	0.5000
STD 4	1	S4	0.1000
STD 5	1	S5	0.05000
STD 6	1	S6	0.000
ICV	1	1	0.9989
		Calibration:	Table/Fig. 1
ICB	1	2	-0.01518
RS	1	3	0.9839
MB	1	4	-0.01305
LCS	1	5	1.012
600-122366-B-1	1	6	0.2508
600-122366-B-1 MS	1	7	1.030
600-122366-B-1 MSD	1	8	0.7513
600-122366-B-2	1	9	0.1335
600-122366-B-3	1	10	0.1424
600-122305-A-1@10	1	11	0.5782
600-122320-G6	1	12	0.7229
600-122421-D-1	1	13	0.03061
CCV	1	14	1.024
CCB	1	15	-0.01459
600-122421-D-2	1	16	0.02955
600-122421-D-3	1	17	0.03482
600-122425-D-1	1	18	0.04776
600-122425-D-2	1	19	0.03824
600-122425-D-3	1	20	1.513
600-122428-D-1	1	21	1.151
600-122428-D-1 MS	1	22	1.653
600-122428-D-1 MSD	1	23	1.757
600-122630-B-2@5	1	24	1.623
600-122559-A-1	1	25	0.03010
CCV	1	26	1.016
CCB	1	27	-0.01544
600-122469-A-1	1	28	1.877
600-122642-B-8@100	1	29	0.4952
600-122702-B-6	1	30	0.5678
600-122630-B-3@20	1	31	0.3235
600-122559-A-2@20	1	32	0.2741
600-122469-A-2	1	33	0.3713
600-122559-A-3	1	34	-0.01230
600-122559-A-3 MS	1	35	0.6293
600-122559-A-3 MSD	1	36	0.6101
600-122670-A-1@10	1	37	0.5672
CCV	1	38	1.018
CCB	1	39	-0.01799
MB	1	40	-0.002478
LCS	1	41	0.9994
600-122642-B-9@20	1	42	0.6064
600-122469-A-3	1	43	0.3817
600-122642-B-11@50	1	44	0.3981
600-122642-B-12	1	45	0.6786
600-122630-B-4@5	1	46	2.759
600-122559-A-4	1	47	1.573
600-122469-A-4@10	1	48	2.464
600-122723-B-1	1	49	0.2679
600-122723-B-1 MS	1	50	1.002
600-122723-B-1 MSD	1	51	0.9263

Author: Houston_wetchem_inst

Date : 12/14/2015

CCV	1	52	1.008
CCB	1	53	-0.0002758
600-122642-C-15@50	1	54	0.6227
600-122642-B-4@100	1	55	0.4945
600-122559-A-5	1	56	0.2345
600-122469-A-5	1	57	1.005
600-122642-B-5@250	1	58	0.1363
600-122723-A-2	1	59	0.1415
600-122642-B-3@250	1	60	0.2318
600-122630-B-1	1	61	1.355
600-122630-B-1 MS	1	62	1.875
600-122630-B-1 MSD	1	63	2.022
CCV	1	64	1.001
CCB	1	65	-0.02033
MB	1	66	-0.0003762
LCS	1	67	1.004
600-122469-A-6	1	68	0.4678
600-122469-A-6 MS	1	69	1.078
600-122469-A-6 MSD	1	70	0.8305
600-122642-B-6@250	1	71	0.1829
560-58240-A-2@5	1	72	0.5599
600-122630-B-4@20	1	73	0.5053
600-122469-A-4@20	1	74	0.8093
CCV	1	75	1.011
CCB	1	76	-0.0002758

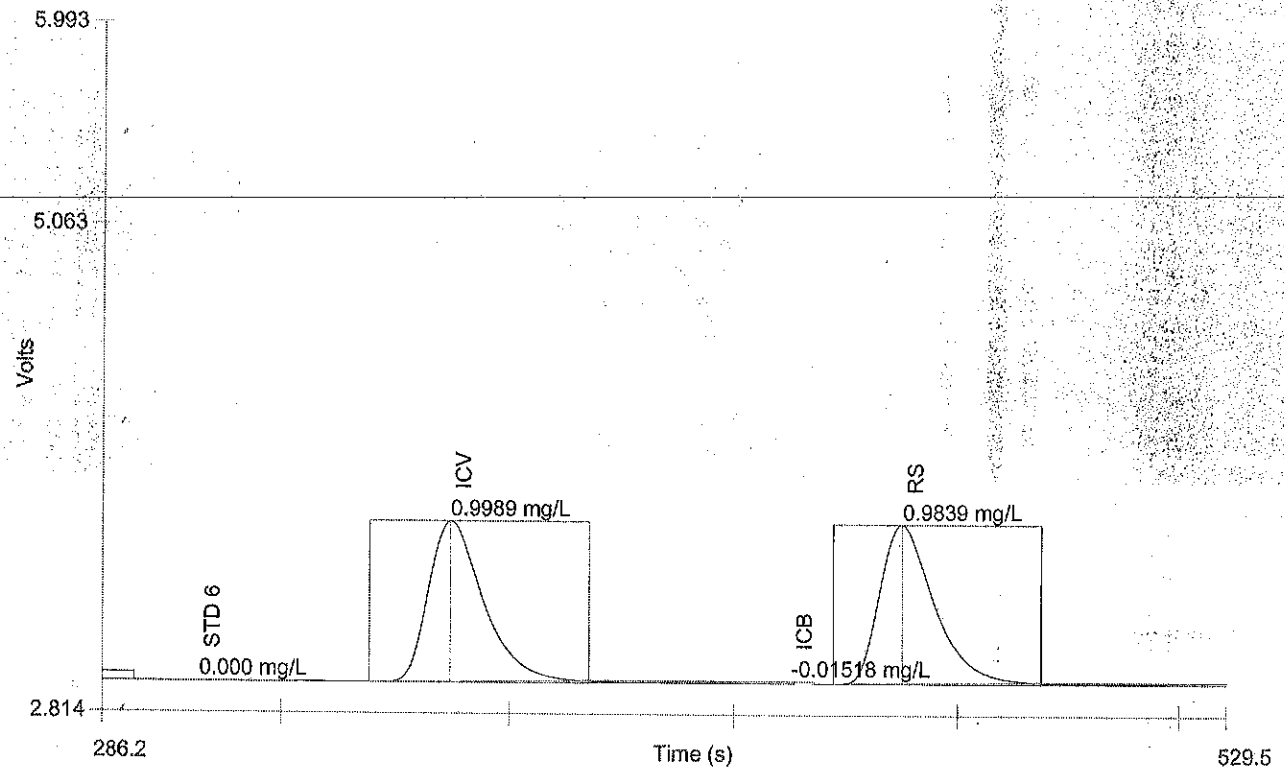
Channel 1 (NO3+NO2) : Set 1 of 17



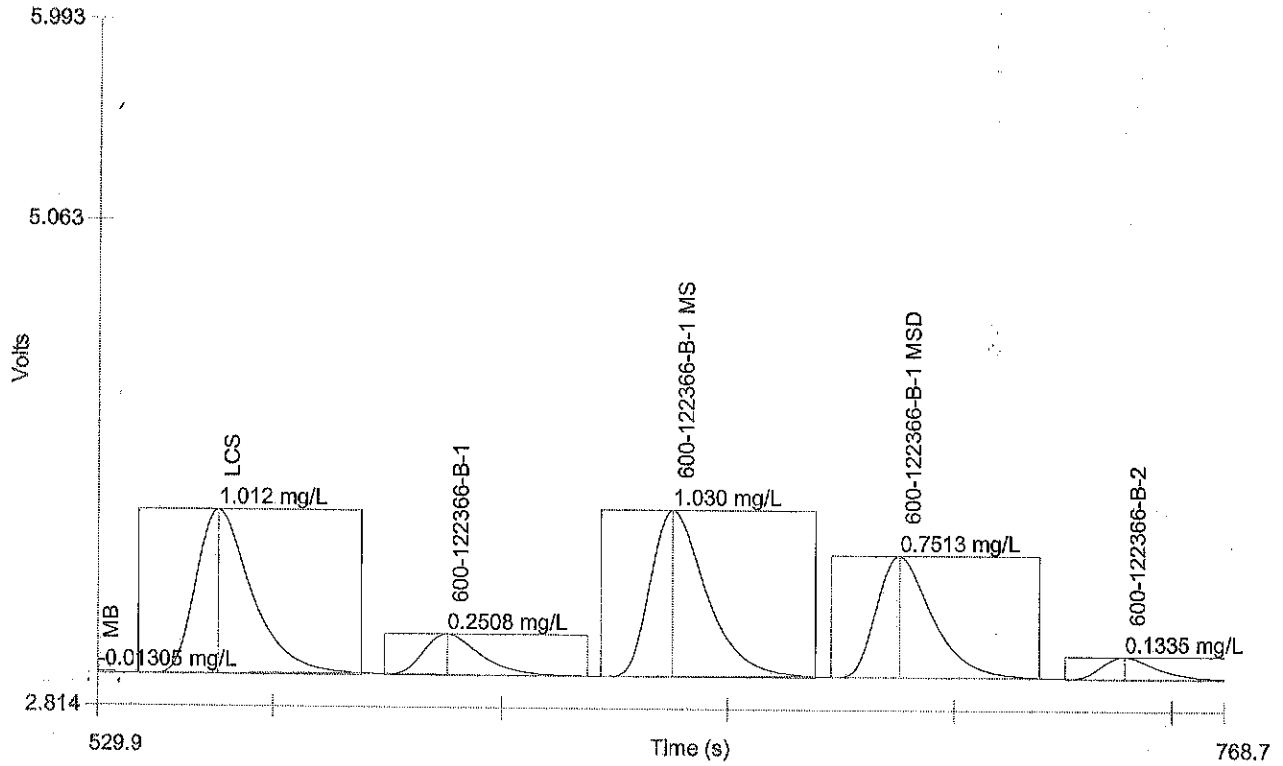
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 2 of 17



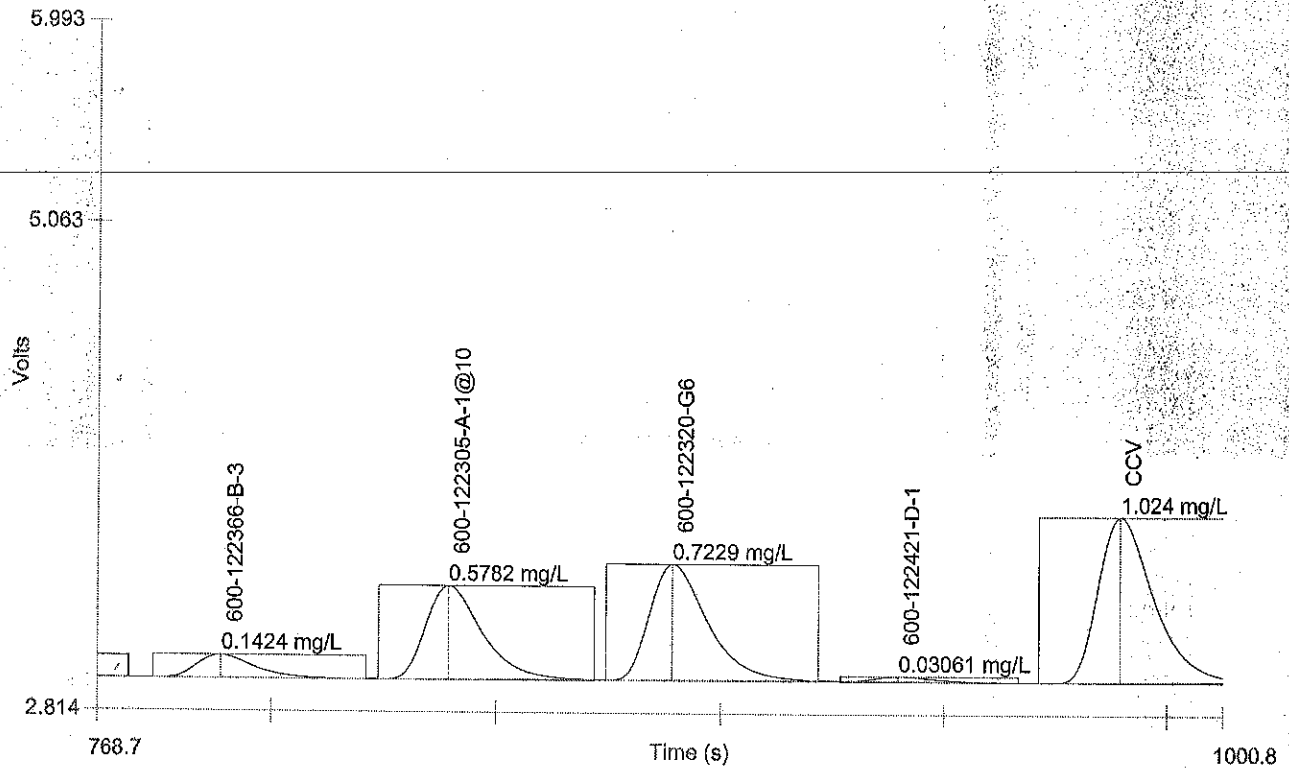
Channel 1 (NO3+NO2) : Set 3 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

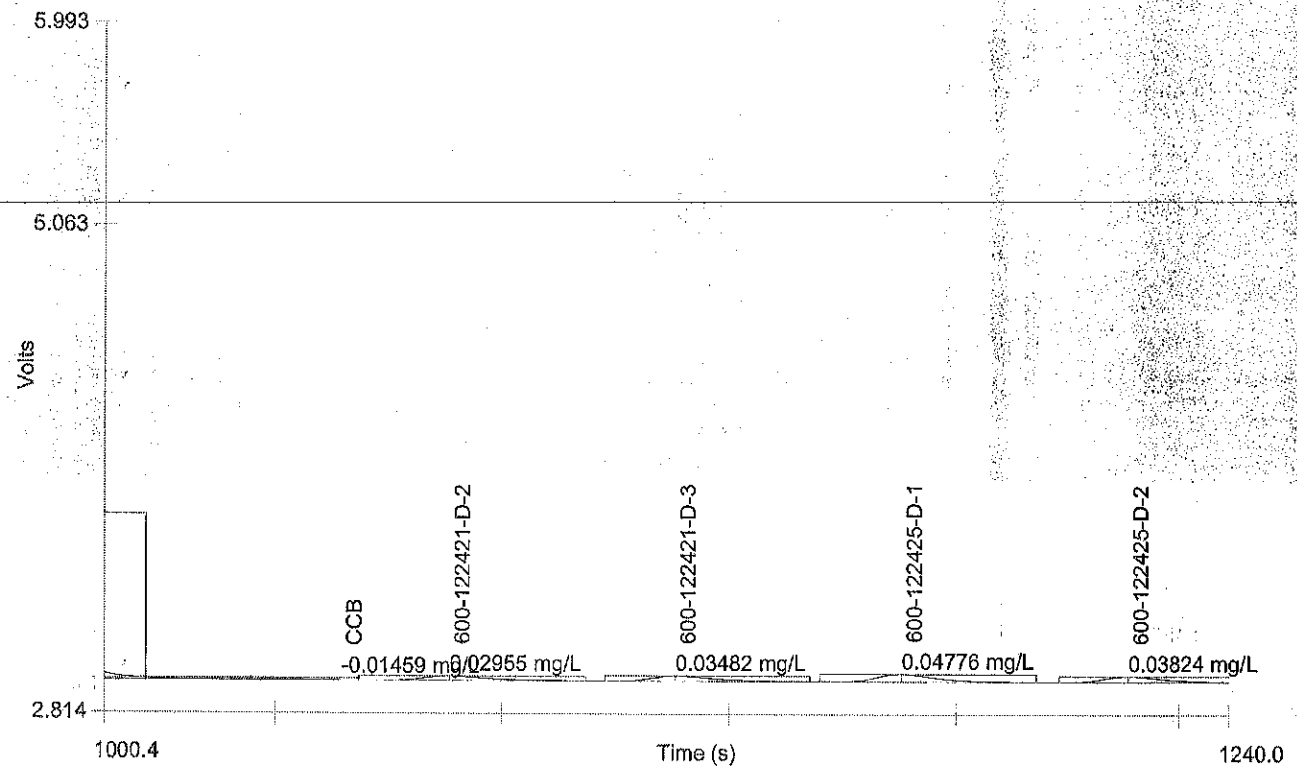
Channel 1 (NO3+NO2) : Set 4 of 17



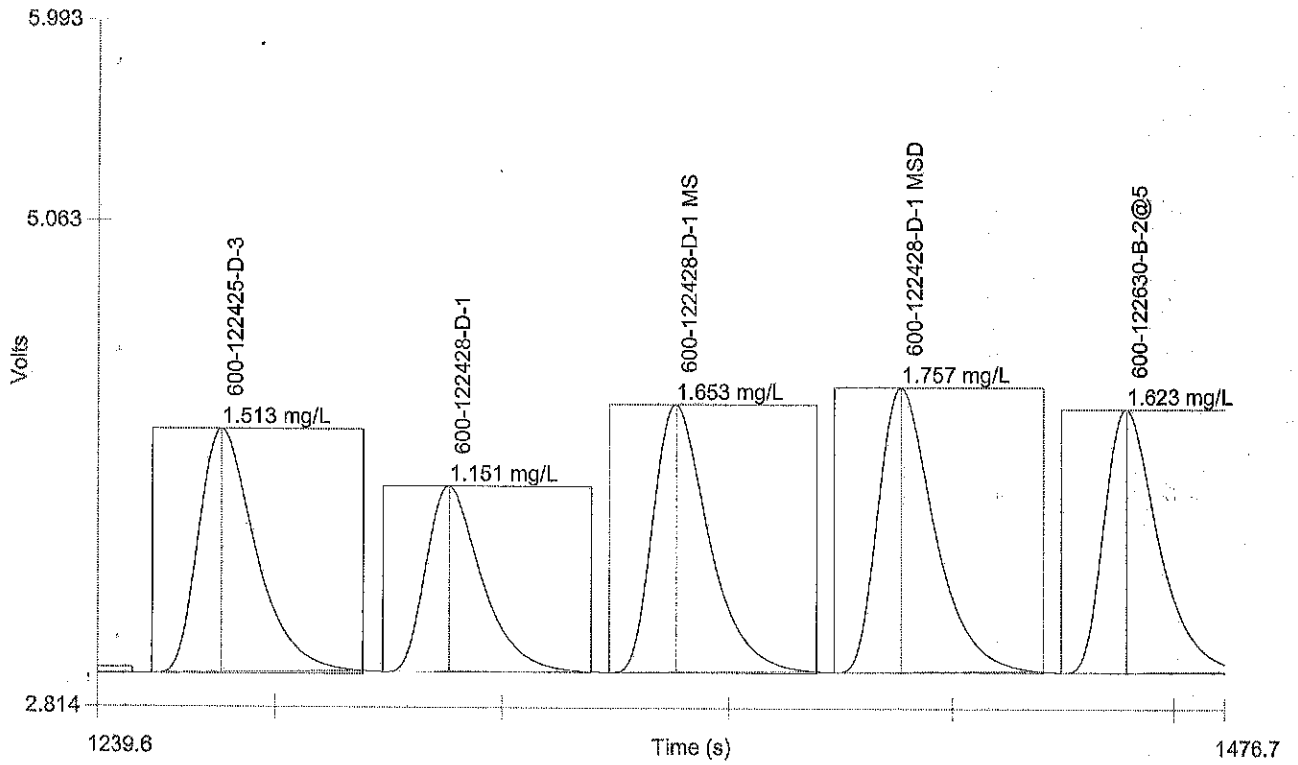
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 5 of 17



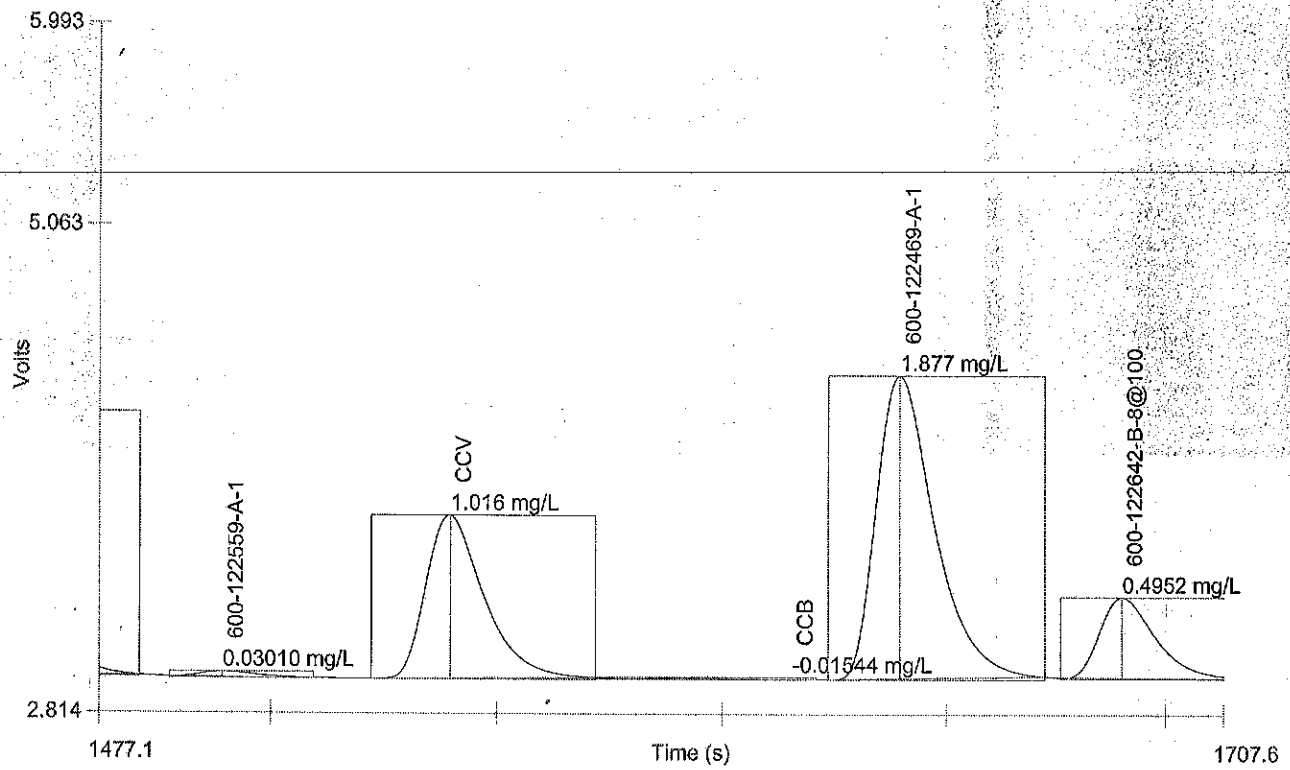
Channel 1 (NO3+NO2) : Set 6 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

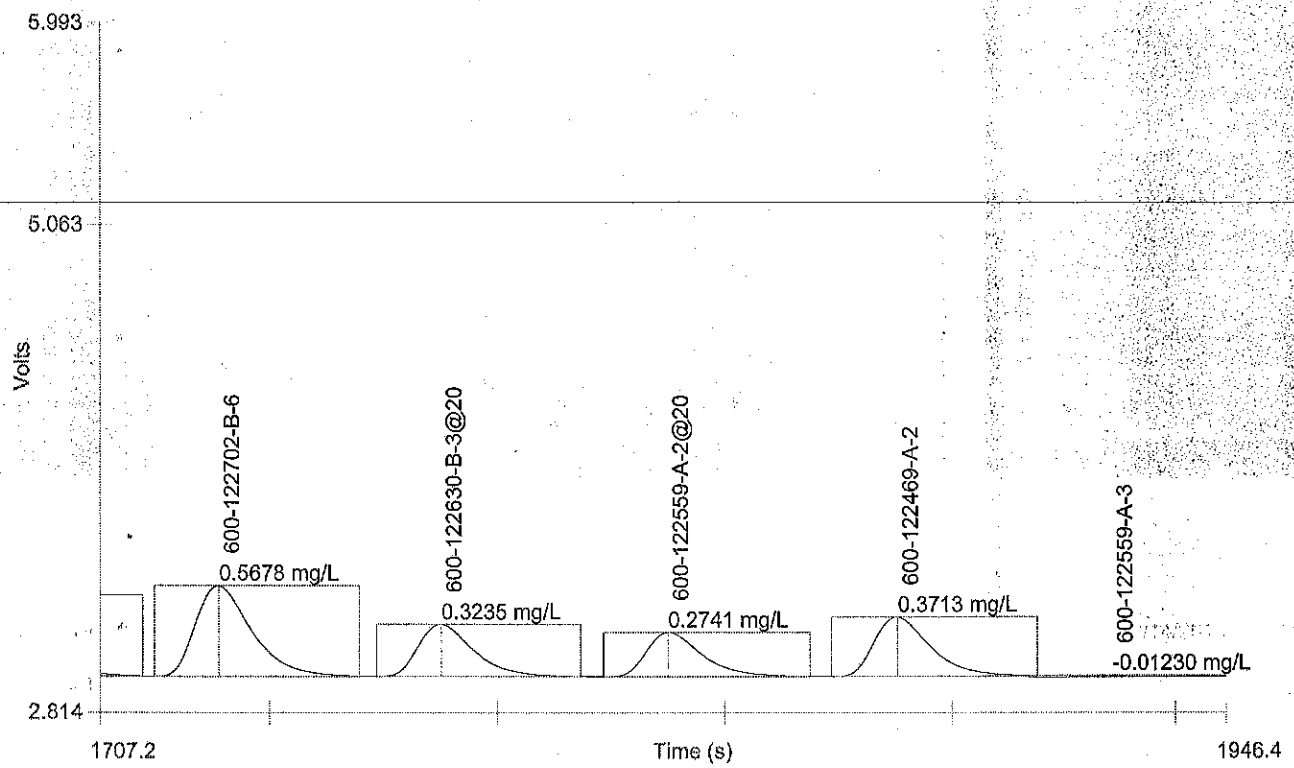
Channel 1 (NO3+NO2) : Set 7 of 17



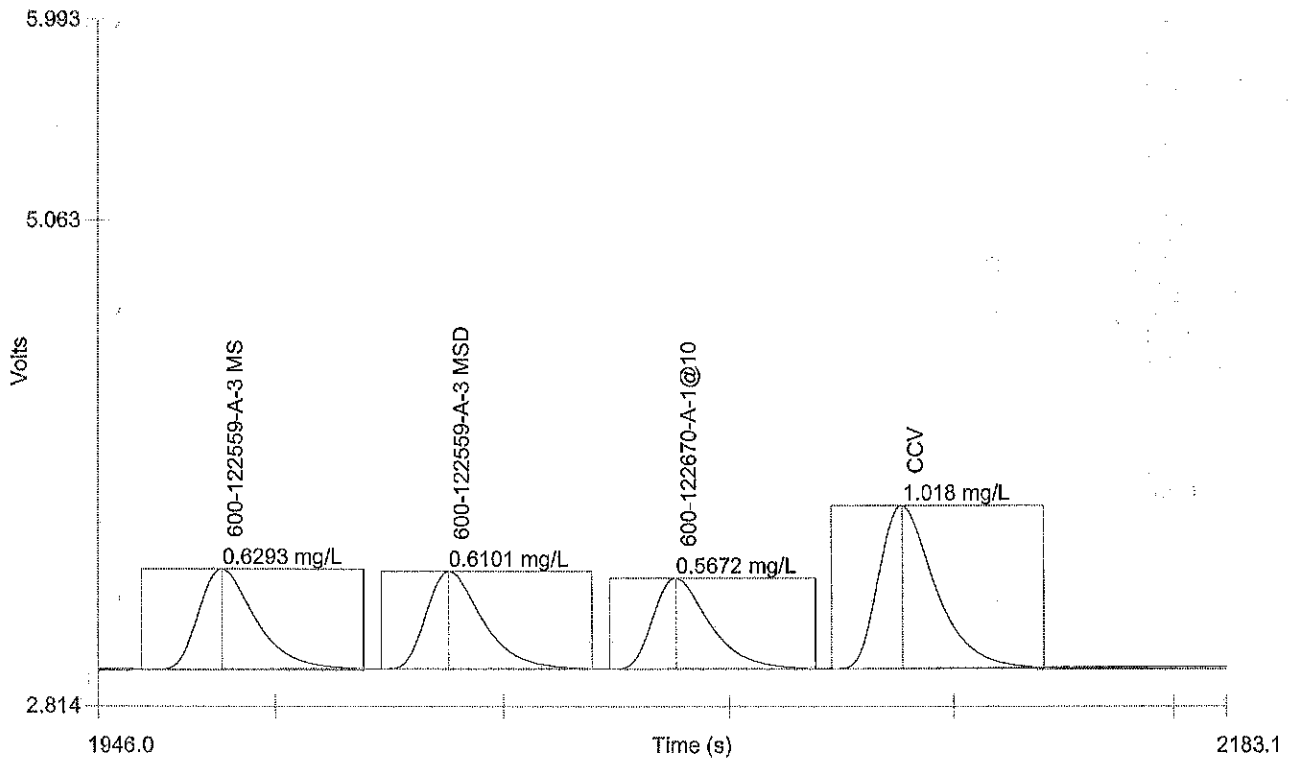
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 8 of 17



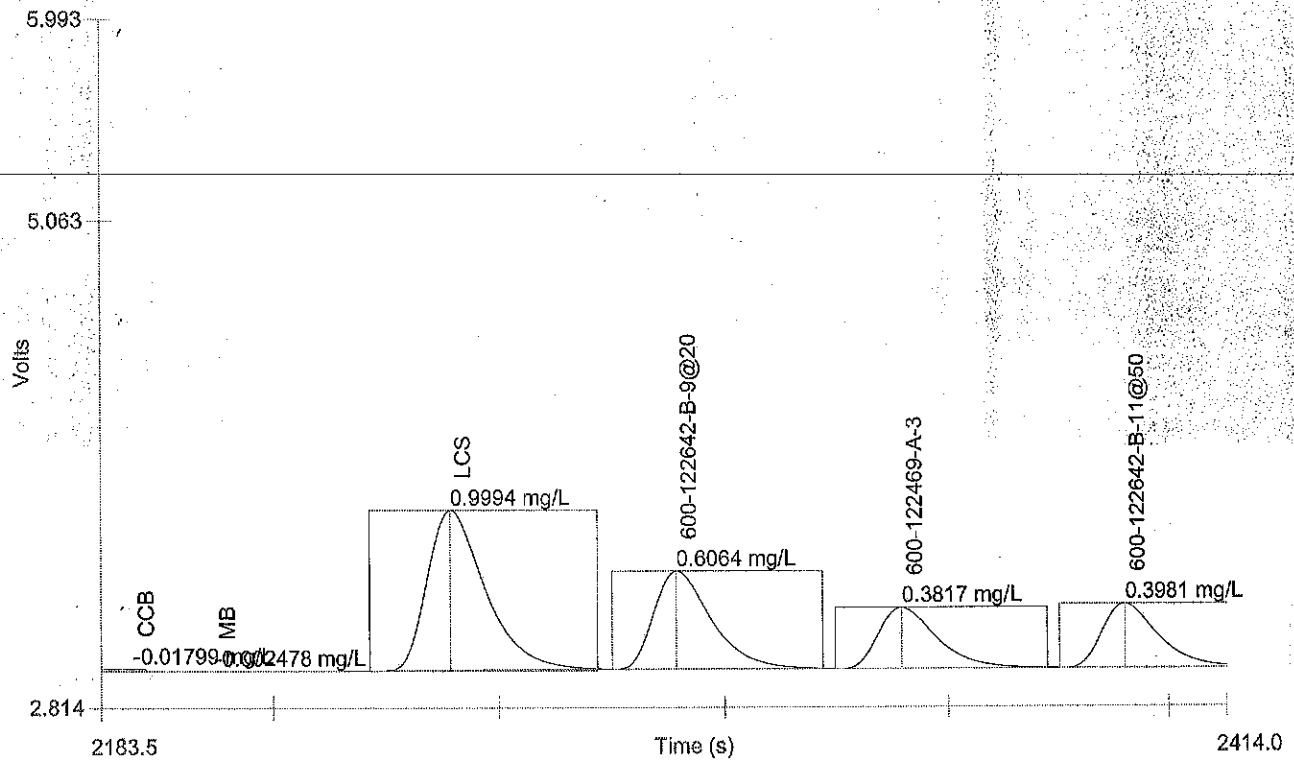
Channel 1 (NO3+NO2) : Set 9 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

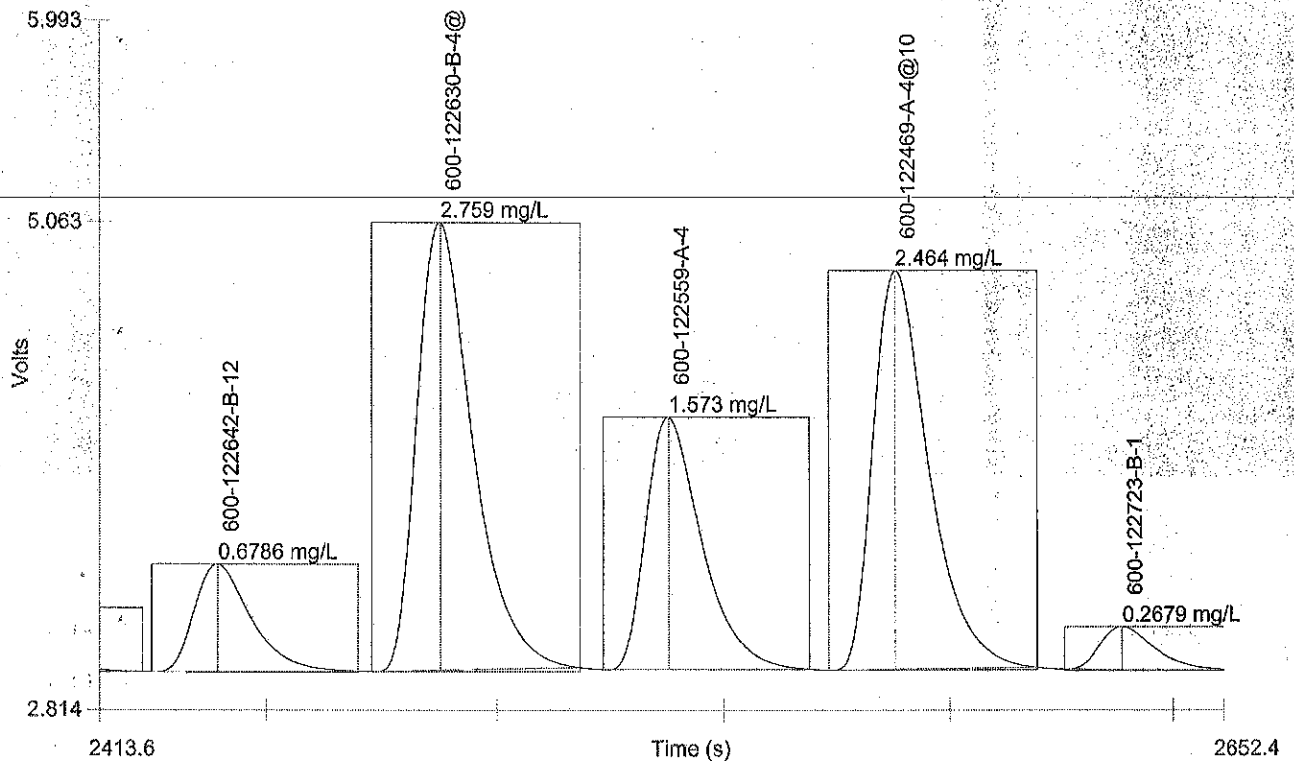
Channel 1 (NO3+NO2) : Set 10 of 17



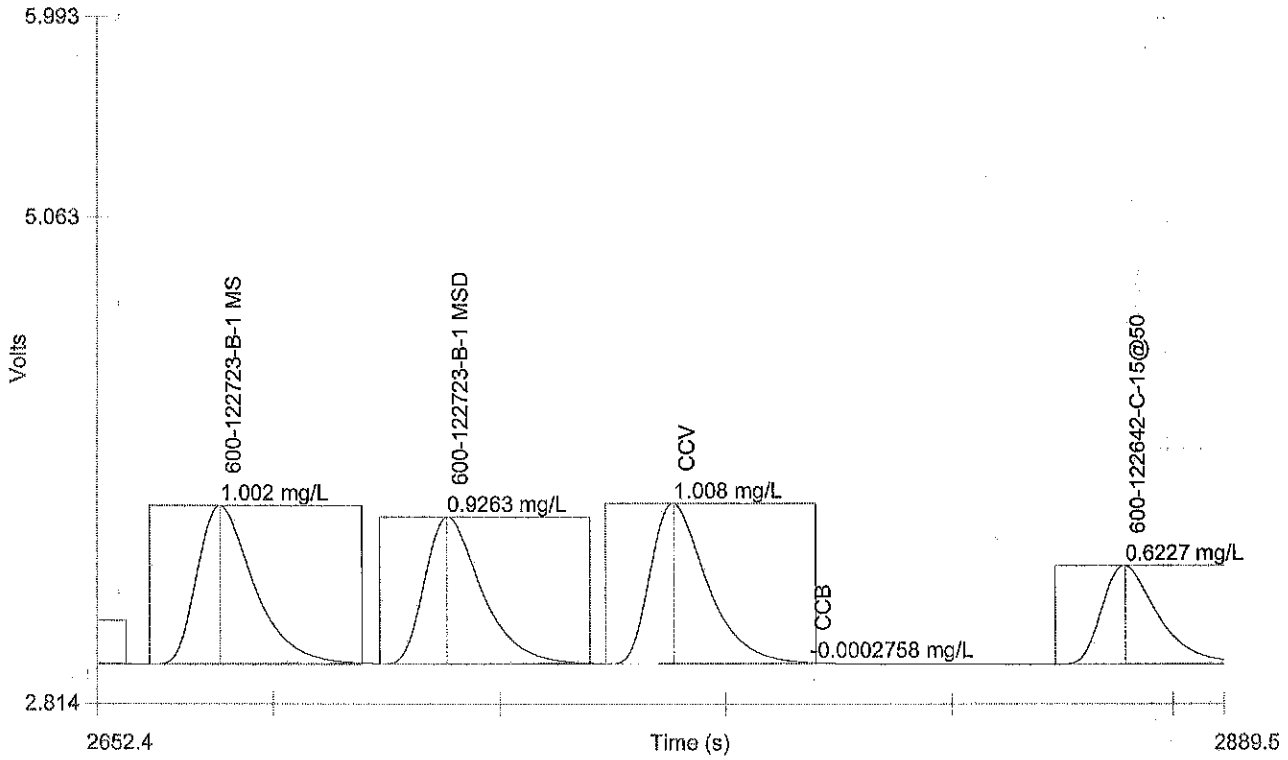
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 11 of 17



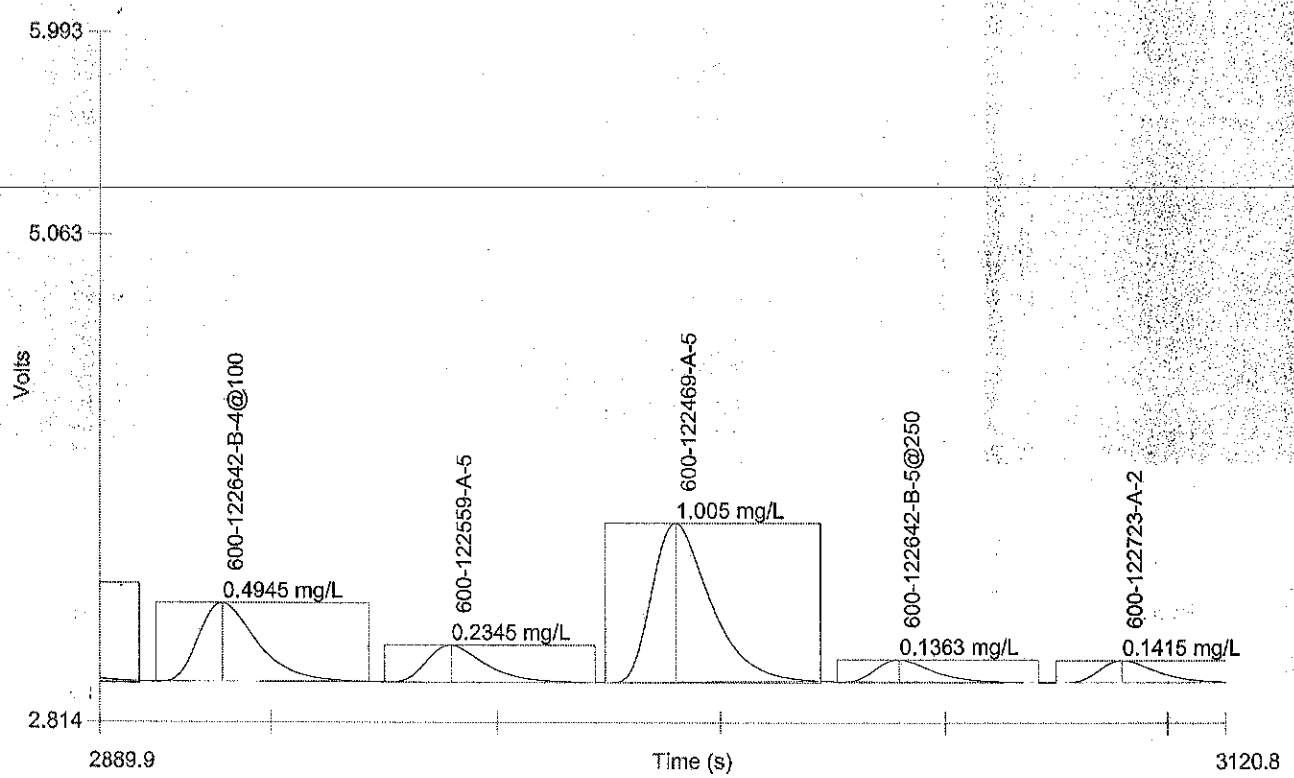
Channel 1 (NO3+NO2) : Set 12 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

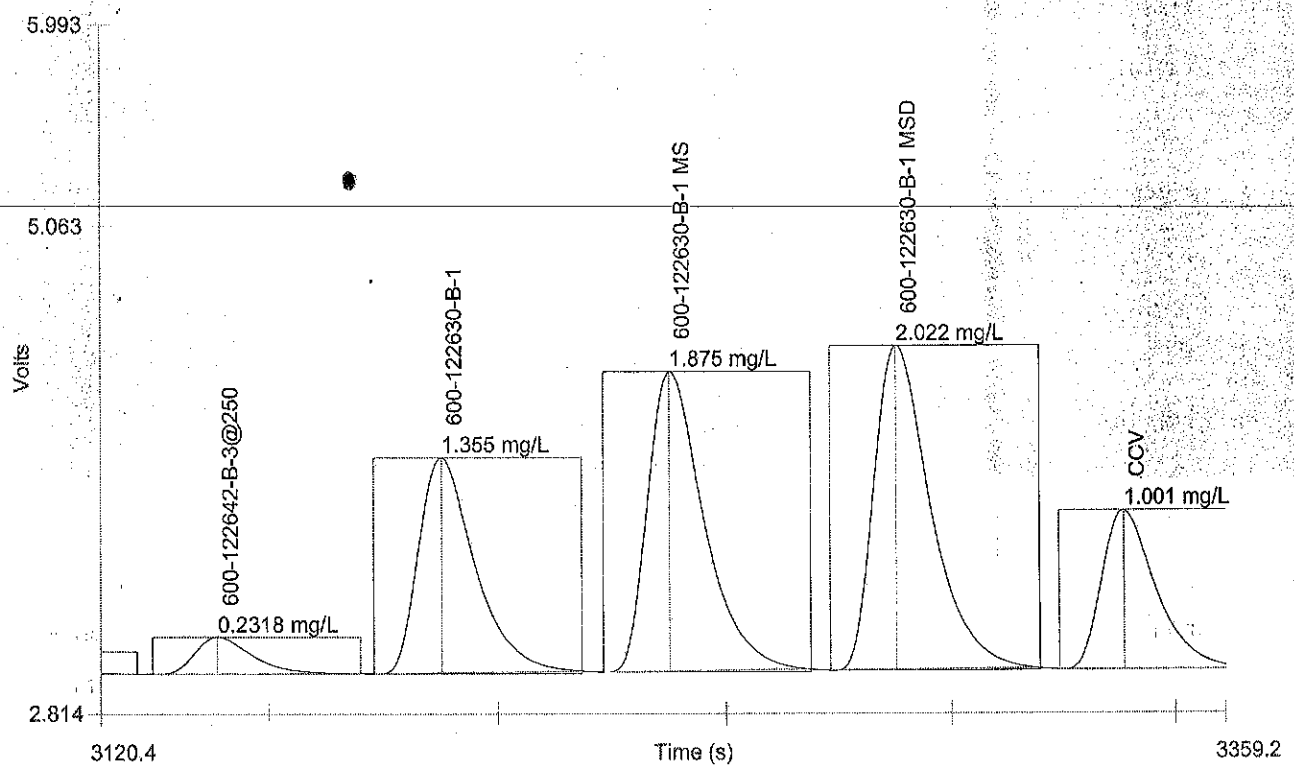
Channel 1 (NO3+NO2) : Set 13 of 17



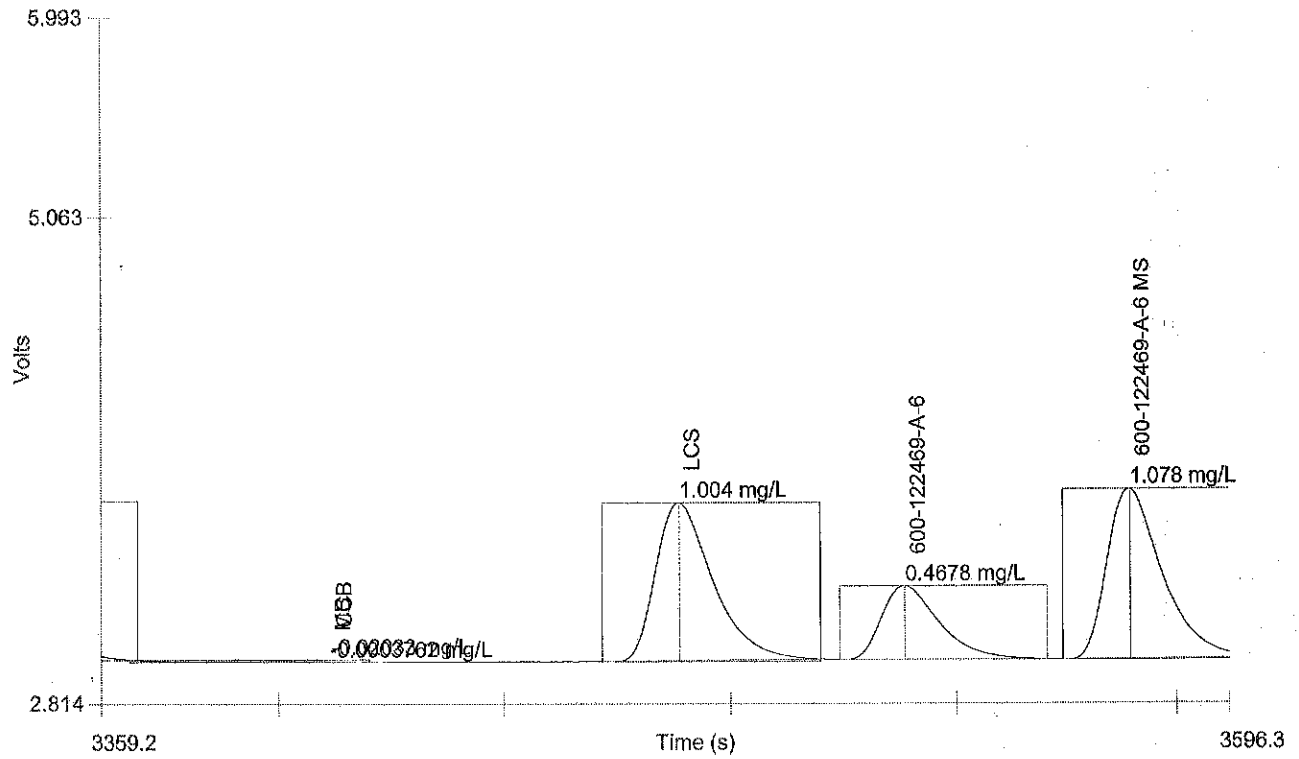
Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 14 of 17



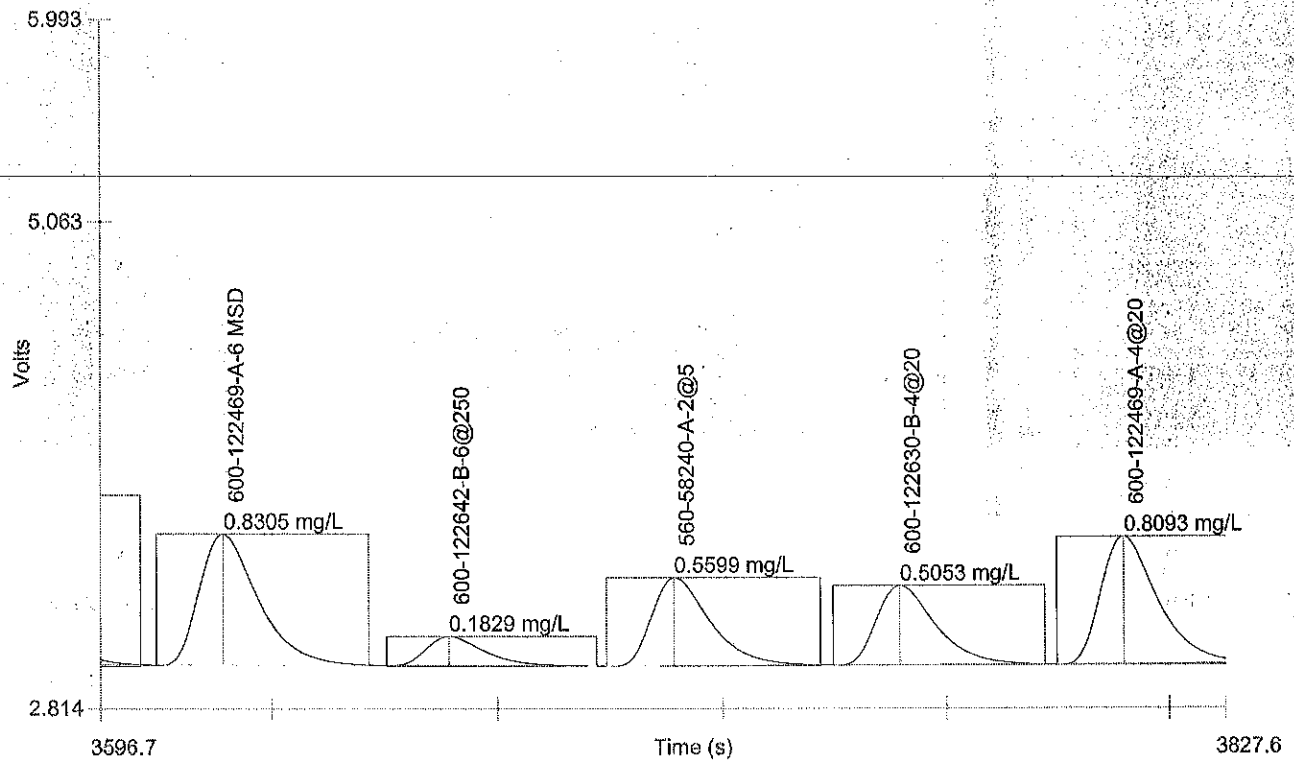
Channel 1 (NO3+NO2) : Set 15 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 16 of 17



Author: Houston_wetchem_inst

Date : 12/14/2015

Channel 1 (NO3+NO2) : Set 17 of 17

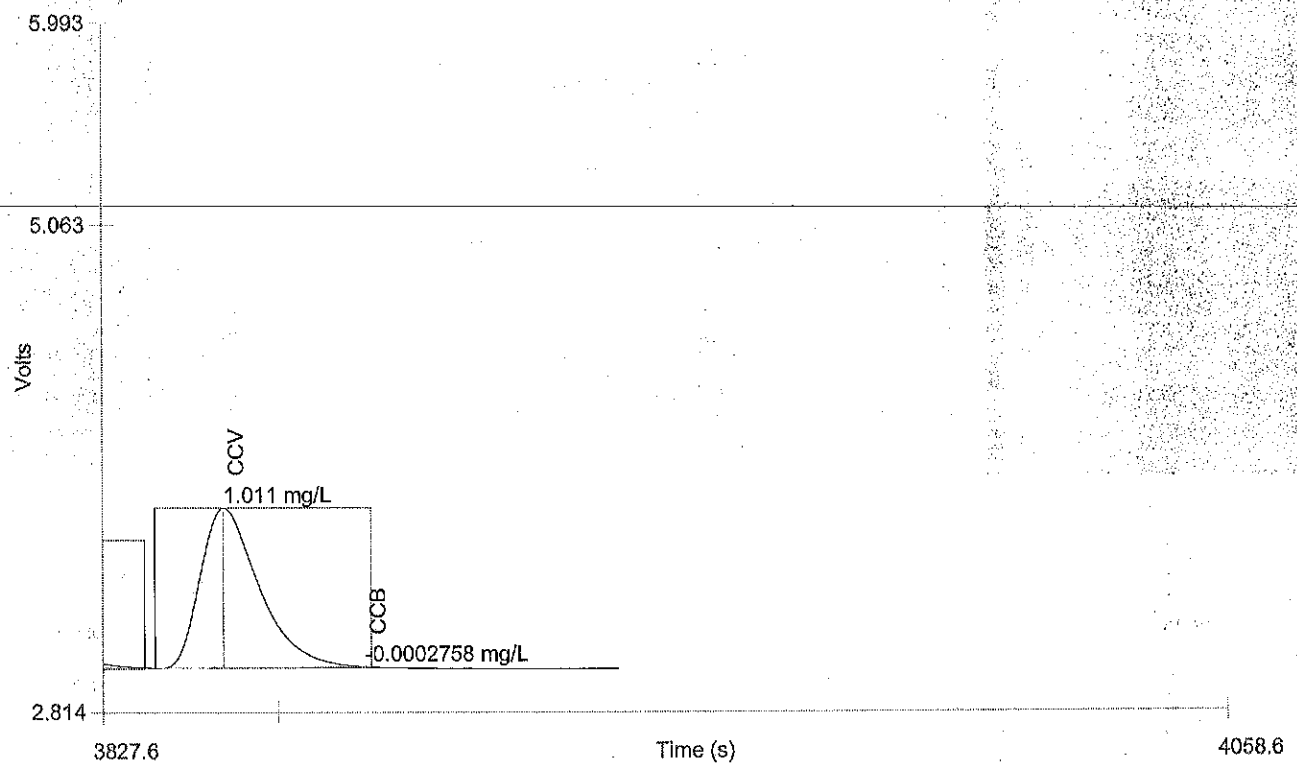
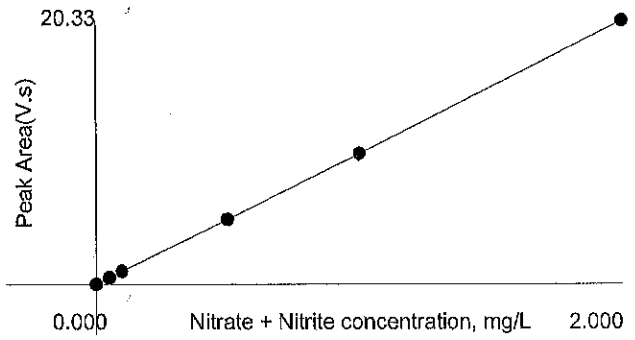


Table 1: Nitrate + Nitrite

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	2.000	1	20.33	1.506	-0.0	12/14/2015	3:18:28 PM
2	1.000	1	10.09	0.7544	-0.0	12/14/2015	3:19:14 PM
3	0.5000	1	5.024	0.3747	0.1	12/14/2015	3:20:01 PM
4	0.1000	1	1.006	0.07632	-0.1	12/14/2015	3:20:49 PM
5	0.05000	1	0.5196	0.03880	-3.2	12/14/2015	3:21:37 PM
6	0.000	1	-0.01170	-0.0005946		12/14/2015	3:22:26 PM

Figure 1: Nitrate + Nitrite



Area = 0.07684 * Conc^2 + 10.01 * Conc + 0.002920
Conc = - 7.323e-5 * Area^2 + 0.09987 * Area - 0.0002758
Correlation Coefficient (r) = 1.00000

No Weighting

TESTAMERICA HOUSTON
Orthophosphate by Colorimetry

Date/Time: 12/17/15 2345 Analyst: KD Balance ID: N/A Batch # 177969
Instrument ID: UV10 1° ID (Cal./CCV): 2009863 2° ID (LCS/ICV/MS): 1897352

Sample ID	Sample Vol. (mL or g)	ABS (880 nm)	Bkgd ABS	Final ABS (ABS - Bkgd ABS)	DF	Phosphorous (mg/L or mg/kg)	Comments
CS0 0.00 mg/L							
CS1 0.01 mg/L							
CS2 0.05 mg/L							
CS3 0.10 mg/L							
CS4 0.25 mg/L							
CS5 0.50 mg/L							
CS6 1.00 mg/L							
ICV	5 + Sol	0.456	0.000	0.456	1.0	0.523	TV = 0.5 mg/L
ICB	5	0.000	0.000	0.000		0.000	
MB	5	0.000	0.000	0.000		0.000	
LCS	5 + Sol	0.448	0.000	0.448		0.514	TV = 0.5 mg/L
600/122591B1	5	0.269	0.000	0.269	25X	0.306	
MS1B1	5 + Sol	0.748	0.000	0.748	25X	0.862	TV = 0.5 mg/L
MSD1B1	5 + Sol	0.770	0.000	0.770	25X	0.830	TV = 0.5 mg/L
600 122630A1	5	0.019	0.006	0.013	1.0	0.009	
A2	5	0.052	0.025	0.027		0.025	
A3	5	0.060	0.027	0.033		0.032	
A4	5	0.256	0.009	0.247		0.281	
CCV	5 + Sol	0.460	0.000	0.460	1.0	0.529	TV = 0.5 mg/L
CCB	5	0.000	0.000	0.000		0.000	
CCV							TV = 0.5 mg/L
CCB							

5N H2SO4 ID: 2033361 SbK titrate ID: 1883499 Color Solution ID: 2058413
Ascorbic Acid ID: 2058266 Ammonium Molybdate ID: 2048489

Reviewed By: [illegible] Date: 12/18/15

****
** EC 12-11-15 178314 SEQUENCE **
****

TOC Unit: 1010
121115 Fri Dec 11 14:21:50 2015

12/14/15

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	no rinse	Sample	1	5.000	0	1.00	No	
2	RINSE	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
3	BLK	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
4	1	0-25ppm(pam)	Std. 2	1	5.000	0	1.00	No	
5	10	0-25ppm(pam)	Std. 3	1	5.000	0	1.00	No	
6	25	0-25ppm(pam)	Std. 4	1	5.000	0	1.00	No	
7	ICV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
8	ICB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
9	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
10	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
11	600-122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
12	ms 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
13	msd 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
14	122830-J-1@500	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
15	122669-A-1@20	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
16	122723-C-1@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
17	122756-B-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
18	122613-C-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
19	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
20	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
21	122676-D-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
22	122771-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
23	122509-K-2@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
24	122793-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
25	600-122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
26	ms 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
27	msd 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
28	122870-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
29	122839-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
30	122509-L-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
31	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
32	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
33	122818-E-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
34	122559-A-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
35	122559-A-3@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
36	600-122502-C-10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
37	600-122502-D-13	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
38	600-122477-A-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
39	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
40	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
41	600-122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
42	ms 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
43	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
44	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

****
** SEQUENCE **
****

TOC Unit: 1010
121115 Fri Dec 11 14:21:50 2015

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
45	msd 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
46	600-122502-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
47	600-122676-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
48	600-122795-A-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
49	600-122559-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
50	600-122559-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
51	600-122559-A-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
52	600-122772-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
53	600-122793-A-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
54	600-122839-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
55	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
56	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
57	600-122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
58	ms 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
59	msd 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
60	600-122868-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
61	600-122578-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
62	600-122630-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
63	600-122630-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
64	600-122630-B-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
65	600-122630-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
66	600-122818-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
67	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
68	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
69	600-122818-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
70	600-122818-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
71	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
72	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

E-Possible IR failure - reboot. 11Dec2015 14:48

```
*****************************************************************
**                  OI Analytical Model 1010 TOC                 **
**                          RUN SETUP                            **
*****************************************************************
```

TOC Unit: 1010
Operator: Unknown
Data Path: C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\121115
WinTOC Version: 5.2 Firmware Version: 5.2
WinTOC Revision: rev 242 Firmware Revision: rev 365

```
*****************************************************************
**                        CONFIGURATION                          **
*****************************************************************
```

TOC Unit: 1010
Analysis Mode: TIC/TOC Spl Intro: Autosampler 88
Remote Start : OFF

Loop Size: 5 mL

Actual Volume	1mL	5mL	10mL	25mL
Loop A (uL):	1009	4970	10000	25000
Loop B (uL):	1008	4980	10000	25000

Tray Type: 88 Vial Vial Option: Preacidification
Needle Depth: 97 % Preacid Volume (uL): 500
Wash Needle Depth: 94 % Preacid Purge Time (min:sec): 2:00

	TIC	TOC	TC
Blank	----	----	----
Average:	58	723	0

Linearization Coeff: 60000

Sample Transfer Times (sec)

	Initial Fill			Loop Fill			Sample Inject
	Non-AS	AS	AS w/Sep	Non-AS	AS	AS w/Sep	(all)
1mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5mL:	9.1	9.1	6.8	5.1	6.1	4.2	9.3
10mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25mL:	0.0	0.0	0.0	n/a	n/a	n/a	0.0

Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range: 0.000 ppmC, Max Signal Range: 0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00

Conc. Alarm Setpoints (ppm C)

	Low	High
TIC:	0.000	0.000
TOC:	0.000	0.000
TC:	0.000	0.000

```
*****************************************************************
**                         CALIBRATION                           **
*****************************************************************
```

TOC Unit: 1010
CAL111015 Fri Dec 11 09:26:18 2015

Std. #	Used	Conc. (ppm)	Volume (mL)
1	Yes	0.000	5.000

RF (ugC/k-cts): 1.182
R-Squared: 0.9969

2	Yes	1.000	5.000	Offset (cts):	3231
3	Yes	10.000	5.000	Offset (ugC):	-3.819
4	Yes	25.000	5.000	Calibration Mode:	TOC
5	No	0.000	5.000	Allow Editing:	No

Rep	Std. 1	Std. 2	Std. 3	Std. 4	Std. 5
1	-	9625	42091	109522	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-

(* = unused)

****
** METHODS **
****

TOC Unit: 1010
NO RINSE Fri Jan 03 11:50:47 2014

Acid Volume:	200 uL	Rinse Volume (mL):	25
Oxidant Volume:	1000 uL	Rinses Per Rep:	0
Auto-Repeat Time:	00:00:00 (hr:min:sec)	Rinses Per Sample:	0

	TIC	TOC	TC
React: (min:sec):	00:01	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

0-25PPM(PAM) Sat Oct 31 15:28:13 2015

Acid Volume:	200 uL	Rinse Volume (mL):	20
Oxidant Volume:	1000 uL	Rinses Per Rep:	0
Auto-Repeat Time:	00:00:00 (hr:min:sec)	Rinses Per Sample:	1

	TIC	TOC	TC
React: (min:sec):	00:01	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

****
** SEQUENCE **
****

TOC Unit: 1010
121115 Fri Dec 11 14:21:50 2015

Start Pos/Vial #: 1, Stop Pos/Vial #: 72

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	no rinse	Sample	1	5.000	0	1.00	No	
2	RINSE	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
3	BLK	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
4	1	0-25ppm(pam)	Std. 2	1	5.000	0	1.00	No	
5	10	0-25ppm(pam)	Std. 3	1	5.000	0	1.00	No	
6	25	0-25ppm(pam)	Std. 4	1	5.000	0	1.00	No	
7	ICV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
8	ICB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
9	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
10	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
11	600-122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
12	ms 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
13	msd 122775-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
14	122830-J-1@500	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	
15	122669-A-1@20	0-25ppm(pam)	Sample	1	5.000	0	1.00	No	

16	122723-C-1@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
17	122756-B-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
18	122613-C-4@4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
19	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
20	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
21	122676-D-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
22	122771-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
23	122509-K-2@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
24	122793-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
25	600-122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
26	ms 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
27	msd 122905-D-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
28	122870-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
29	122839-C-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
30	122509-L-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
31	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
32	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
33	122818-E-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
34	122559-A-1@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
35	122559-A-3@2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
36	600-122502-C-10	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
37	600-122502-D-13	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
38	600-122477-A-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
39	MB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
40	LCS	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
41	600-122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
42	ms 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
43	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
44	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
45	msd 122613-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
46	600-122502-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
47	600-122676-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
48	600-122795-A-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
49	600-122559-A-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
50	600-122559-A-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
51	600-122559-A-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
52	600-122772-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
53	600-122793-A-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
54	600-122839-C-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
55	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
56	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
57	600-122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
58	ms 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
59	msd 122613-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
60	600-122868-C-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
61	600-122578-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
62	600-122630-B-1	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
63	600-122630-B-2	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
64	600-122630-B-3	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
65	600-122630-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
66	600-122818-B-4	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
67	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
68	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
69	600-122818-B-5	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
70	600-122818-B-6	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
71	CCV	0-25ppm(pam)	Sample	1	5.000	0	1.00	No
72	CCB	0-25ppm(pam)	Sample	1	5.000	0	1.00	No

Pos#	Path for Trend Data file
1	C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\TREND\2.CSV
2	C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\TREND\2.CSV

****
** RESULTS - 121115 **
****

TOC Unit: 1010

Pos/	Run	Rep	Run	Run	TICArea	TICMass	TICConc	TOCArea	TOCMass	TOCConc	TCA

```
Vial Type  #    Date      Time   (cts)   (ugC)    (ppm)     (cts)   (ugC)    (ppm)     (c
---- ---- --- --------- ----- ------- ------- ---------- ------- ------- ---------- ---

E-Possible IR failure - reboot.  11Dec2015 14:48


E-Possible IR failure - reboot.  11Dec2015 14:48

** Spl       Name:     RINSE                          Data File: gb001
             Remarks: <none>

1    Spl     1 11Dec2015 14:57     111   0.063      0.013    2154   1.691      0.340

** Spl       Name:     RINSE                          Data File: gb002
             Remarks: <none>

2    Spl     1 11Dec2015 15:08     100   0.050      0.010    1574   1.006      0.202

** Spl       Name:     BLK                            Data File: gb003
             Remarks: <none>

3    Spl     1 11Dec2015 15:18     119   0.072      0.014    1359   0.752      0.151

** Std2      Name:     1                              Data File: gb004
             Remarks: <none>

4    Std2    1 11Dec2015 15:29      -      -          -      9490   4.975      1.000

** Calibration:     RF (ugC/k-cts):   1.181
                    R-Squared:       0.9970
                    Offset (cts):      3131
                    Offset (ugC):    -3.696

** Std3      Name:     10                             Data File: gb005
             Remarks: <none>

5    Std3    1 11Dec2015 15:39      -      -          -     42729  49.750     10.000

** Calibration:     RF (ugC/k-cts):   1.183
                    R-Squared:       0.9977
                    Offset (cts):      3432
                    Offset (ugC):    -4.060

** Std4      Name:     25                             Data File: gb006
             Remarks: <none>

6    Std4    1 11Dec2015 15:50      -      -          -    110585 124.375     25.000

** Calibration:     RF (ugC/k-cts):   1.169
                    R-Squared:       0.9973
                    Offset (cts):      3202
                    Offset (ugC):    -3.743

** Spl       Name:     ICV                            Data File: gb007
             Remarks: <none>

7    Spl     1 11Dec2015 16:00     252   0.227      0.046   42652  49.018      9.853

** Spl       Name:     ICB                            Data File: gb008
             Remarks: <none>

8    Spl     1 11Dec2015 16:11     160   0.119      0.024    1085   0.423      0.085

** Spl       Name:     MB                             Data File: gb009
             Remarks: <none>

9    Spl     1 11Dec2015 16:21     113   0.064      0.013     921   0.231      0.047
```

** Spl	Name: LCS Remarks: <none>				Data File: gb010			
10	Spl	1 11Dec2015 16:32	90	0.037	0.007	42015	48.274	9.703
** Spl	Name: 600-122775-A-4 Remarks: <none>				Data File: gb011			
11	Spl	1 11Dec2015 16:42	503	0.520	0.105	7344	7.740	1.556
** Spl	Name: ms 122775-A-4 Remarks: <none>				Data File: gb012			
12	Spl	1 11Dec2015 16:53	480	0.493	0.099	50046	57.662	11.590
** Spl	Name: msd 122775-A-4 Remarks: <none>				Data File: gb013			
13	Spl	1 11Dec2015 17:03	467	0.478	0.096	49040	56.486	11.354
** Spl	Name: 122830-J-1@500 Remarks: <none>				Data File: gb014			
14	Spl	1 11Dec2015 17:14	232	0.203	0.041	106622	123.804	24.885
** Spl	Name: 122669-A-1@20 Remarks: <none>				Data File: gb015			
15	Spl	1 11Dec2015 17:24	478	0.491	0.099	5153	5.179	1.041
** Spl	Name: 122723-C-1@4 Remarks: <none>				Data File: gb016			
16	Spl	1 11Dec2015 17:35	971	1.067	0.214	24794	28.141	5.656
** Spl	Name: 122756-B-4@4 Remarks: <none>				Data File: gb017			
17	Spl	1 11Dec2015 17:45	135	0.090	0.018	11689	12.820	2.577
** Spl	Name: 122613-C-4@4 Remarks: <none>				Data File: gb018			
18	Spl	1 11Dec2015 17:56	1783	2.017	0.405	32425	37.062	7.450
** Spl	Name: CCV Remarks: <none>				Data File: gb019			
19	Spl	1 11Dec2015 18:06	164	0.124	0.025	44094	50.704	10.192
** Spl	Name: CCB Remarks: <none>				Data File: gb020			
20	Spl	1 11Dec2015 18:17	194	0.159	0.032	878	0.181	0.036
** Spl	Name: 122676-D-1@2 Remarks: <none>				Data File: gb021			
21	Spl	1 11Dec2015 18:27	5733	6.635	1.334	49703	57.261	11.510
** Spl	Name: 122771-C-1@2 Remarks: <none>				Data File: gb022			
22	Spl	1 11Dec2015 18:38	4719	5.449	1.095	57983	66.941	13.455
** Spl	Name: 122509-K-2@2 Remarks: <none>				Data File: gb023			
23	Spl	1 11Dec2015 18:48	2501	2.856	0.574	31611	36.110	7.258

```
** Spl      Name:     122793-C-1@2                    Data File: gb024
            Remarks: <none>

24   Spl    1 11Dec2015 18:58    5048   5.834      1.173   39901  45.802      9.207

** Spl      Name:     600-122905-D-6                  Data File: gb025
            Remarks: <none>

25   Spl    1 11Dec2015 19:09    3869   4.455      0.896   25385  28.832      5.795

** Spl      Name:     ms 122905-D-6                   Data File: gb026
            Remarks: <none>

26   Spl    1 11Dec2015 19:19    3570   4.106      0.825   71351  82.570     16.597

** Spl      Name:     msd 122905-D-6                  Data File: gb027
            Remarks: <none>

27   Spl    1 11Dec2015 19:30    3684   4.239      0.852   71907  83.220     16.728

** Spl      Name:     122870-C-1@2                    Data File: gb028
            Remarks: <none>

28   Spl    1 11Dec2015 19:40    7082   8.212      1.651   60982  70.447     14.160

** Spl      Name:     122839-C-1@2                    Data File: gb029
            Remarks: <none>

29   Spl    1 11Dec2015 19:51    1701   1.921      0.386   21576  24.379      4.900

** Spl      Name:     122509-L-1@2                    Data File: gb030
            Remarks: <none>

30   Spl    1 11Dec2015 20:01    2159   2.456      0.494   24192  27.437      5.515

** Spl      Name:     CCV                             Data File: gb031
            Remarks: <none>

31   Spl    1 11Dec2015 20:12     131   0.085      0.017   44730  51.448     10.341

** Spl      Name:     CCB                             Data File: gb032
            Remarks: <none>

32   Spl    1 11Dec2015 20:22     162   0.122      0.024     966   0.284      0.057

** Spl      Name:     122818-E-1@2                    Data File: gb033
            Remarks: <none>

33   Spl    1 11Dec2015 20:33    6238   7.225      1.452   51528  59.395     11.939

** Spl      Name:     122559-A-1@2                    Data File: gb034
            Remarks: <none>

34   Spl    1 11Dec2015 20:43   15911  18.533      3.725   41752  47.966      9.641

** Spl      Name:     122559-A-3@2                    Data File: gb035
            Remarks: <none>

35   Spl    1 11Dec2015 20:54    6115   7.081      1.423   76860  89.010     17.892

** Spl      Name:     600-122502-C-10                 Data File: gb036
            Remarks: <none>

36   Spl    1 11Dec2015 21:04   77648  90.709     18.233   14596  16.219      3.260

** Spl      Name:     600-122502-D-13                 Data File: gb037
            Remarks: <none>

37   Spl    1 11Dec2015 21:14   62695  73.227     14.719   28395  32.351      6.503
```

```
** Spl      Name:    600-122477-A-6                Data File: gb038
            Remarks: <none>

38   Spl    1 11Dec2015 21:25   21673  25.270      5.079    7336   7.731      1.554

** Spl      Name:    MB                            Data File: gb039
            Remarks: <none>

39   Spl    1 11Dec2015 21:35     151   0.109      0.022     901   0.208      0.042

** Spl      Name:    LCS                           Data File: gb040
            Remarks: <none>

40   Spl    1 11Dec2015 21:46     135   0.090      0.018   42675  49.045      9.858

** Spl      Name:    600-122613-B-2                Data File: gb041
            Remarks: <none>

41   Spl    1 11Dec2015 21:56     543   0.567      0.114   30409  34.705      6.976

** Spl      Name:    ms 122613-B-2                 Data File: gb042
            Remarks: <none>

42   Spl    1 11Dec2015 22:07     620   0.657      0.132   77971  90.309     18.153

** Spl      Name:    CCV                           Data File: gb043
            Remarks: <none>

43   Spl    1 11Dec2015 22:17     208   0.175      0.035   43878  50.452     10.141

** Spl      Name:    CCB                           Data File: gb044
            Remarks: <none>

44   Spl    1 11Dec2015 22:28     191   0.155      0.031     676   0.000      0.000

** Spl      Name:    msd 122613-B-2                Data File: gb045
            Remarks: <none>

45   Spl    1 11Dec2015 22:38     512   0.531      0.107   77346  89.578     18.006

** Spl      Name:    600-122502-C-2                Data File: gb046
            Remarks: <none>

46   Spl    1 11Dec2015 22:48   54319  63.435     12.751   18894  21.243      4.270

** Spl      Name:    600-122676-B-4                Data File: gb047
            Remarks: <none>

47   Spl    1 11Dec2015 22:59    2223   2.531      0.509   43567  50.088     10.068

** Spl      Name:    600-122795-A-1                Data File: gb048
            Remarks: <none>

48   Spl    1 11Dec2015 23:09    4003   4.612      0.927   33814  38.686      7.776

** Spl      Name:    600-122559-A-2                Data File: gb049
            Remarks: <none>

49   Spl    1 11Dec2015 23:20   24191  28.213      5.671    9148   9.849      1.980

** Spl      Name:    600-122559-A-4                Data File: gb050
            Remarks: <none>

50   Spl    1 11Dec2015 23:30   14066  16.376      3.292    3951   3.774      0.758

** Spl      Name:    600-122559-A-5                Data File: gb051
            Remarks: <none>

51   Spl    1 11Dec2015 23:41   14774  17.204      3.458   22373  25.311      5.088
```

** Spl Name: 600-122772-C-1 Data File: gb052
Remarks: <none>

52	Spl	1	11Dec2015 23:51	2621	2.996	0.602	11008	12.024	2.417

** Spl Name: 600-122793-A-3 Data File: gb053
Remarks: <none>

53	Spl	1	12Dec2015 00:02	1469	1.650	0.332	56852	65.619	13.190

** Spl Name: 600-122839-C-2 Data File: gb054
Remarks: <none>

54	Spl	1	12Dec2015 00:12	1042	1.150	0.231	42527	48.872	9.823

** Spl Name: CCV Data File: gb055
Remarks: <none>

55	Spl	1	12Dec2015 00:23	184	0.147	0.030	43801	50.361	10.123

** Spl Name: CCB Data File: gb056
Remarks: <none>

56	Spl	1	12Dec2015 00:33	231	0.202	0.041	675	0.000	0.000

** Spl Name: 600-122613-B-5 Data File: gb057
Remarks: <none>

57	Spl	1	12Dec2015 00:43	605	0.639	0.128	29567	33.721	6.778

** Spl Name: ms 122613-B-5 Data File: gb058
Remarks: <none>

58	Spl	1	12Dec2015 00:54	652	0.694	0.140	75777	87.744	17.637

** Spl Name: msd 122613-B-5 Data File: gb059
Remarks: <none>

59	Spl	1	12Dec2015 01:04	591	0.623	0.125	76797	88.936	17.877

** Spl Name: 600-122868-C-1 Data File: gb060
Remarks: <none>

60	Spl	1	12Dec2015 01:15	3135	3.597	0.723	49979	57.584	11.575

** Spl Name: 600-122578-B-1 Data File: gb061
Remarks: <none>

61	Spl	1	12Dec2015 01:25	7304	8.471	1.703	3171	2.862	0.575

** Spl Name: 600-122630-B-1 Data File: gb062
Remarks: <none>

62	Spl	1	12Dec2015 01:36	15003	17.472	3.512	10017	10.865	2.184

** Spl Name: 600-122630-B-2 Data File: gb063
Remarks: <none>

63	Spl	1	12Dec2015 01:46	12479	14.521	2.919	6519	6.776	1.362

** Spl Name: 600-122630-B-3 Data File: gb064
Remarks: <none>

64	Spl	1	12Dec2015 01:57	21255	24.781	4.981	6703	6.991	1.405

** Spl Name: 600-122630-B-4 Data File: gb065
Remarks: <none>

65	Spl	1	12Dec2015 02:07	18595	21.671	4.356	22796	25.805	5.187

```
** Spl        Name:     600-122818-B-4                Data File: gb066
               Remarks: <none>

66   Spl       1 12Dec2015 02:17    1597   1.799      0.362   40641  46.667      9.380

** Spl        Name:     CCV                           Data File: gb067
               Remarks: <none>

67   Spl       1 12Dec2015 02:28     135   0.090      0.018   43280  49.752     10.000

** Spl        Name:     CCB                           Data File: gb068
               Remarks: <none>

68   Spl       1 12Dec2015 02:38     228   0.199      0.040     665   0.000      0.000

** Spl        Name:     600-122818-B-5                Data File: gb069
               Remarks: <none>

69   Spl       1 12Dec2015 02:49    1275   1.423      0.286   38860  44.585      8.962

** Spl        Name:     600-122818-B-6                Data File: gb070
               Remarks: <none>

70   Spl       1 12Dec2015 02:59    4359   5.028      1.011   50034  57.648     11.588

** Spl        Name:     CCV                           Data File: gb071
               Remarks: <none>

71   Spl       1 12Dec2015 03:10     112   0.063      0.013   42727  49.106      9.870

** Spl        Name:     CCB                           Data File: gb072
               Remarks: <none>

72   Spl       1 12Dec2015 03:20     176   0.138      0.028     649   0.000      0.000

E-Possible IR failure - reboot.  12Dec2015 04:25
```

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Batch Number: 178121 Batch Start Date: 12/10/15 05:29 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	WETSNH3ICV 00020		
MB 600-178121/1		350.1, 350.1		100 mL	100 mL	<2 SU			
LCS 600-178121/2		350.1, 350.1		100 mL	100 mL	<2 SU	0.5 mL		
600-122630-B-1	MW-01	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122630-B-1 MS	MW-01	350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-122630-B-1 MSD	MW-01	350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-122630-C-3	MW-02-Dup	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122630-B-2	MW-02	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122630-B-4	MW-03	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-122661-B-1 MS		350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-122661-B-1 MSD		350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		

Batch Notes	
Pipette ID	wc47,wc53,wc63

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Batch Number: 178144 Batch Start Date: 12/10/15 07:31 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	CalcMsg	WETSNH3CAL 00012	WETSNH3ICV 00020
ICV 600-178144/9		350.1		5 mL	5 mL	<2 SU	OK		0.025 mL
ICB 600-178144/10		350.1		5 mL	5 mL	<2 SU	OK		
MB 600-178121/1-A		350.1		5 mL	5 mL	<2 SU	OK		
LCS 600-178121/2-A		350.1		5 mL	5 mL	<2 SU	OK		
600-122630-B-1-A	MW-01	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122630-C-3-A	MW-02-Dup	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122630-B-2-A	MW-02	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122630-B-4-A	MW-03	350.1	T	5 mL	5 mL	<2 SU	OK		
CCV 600-178144/21		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-178144/22		350.1		5 mL	5 mL	<2 SU	OK		
CCV 600-178144/33		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-178144/34		350.1		5 mL	5 mL	<2 SU	OK		
MB 600-178144/38		350.1		5 mL	5 mL	<2 SU	OK		
LCS 600-178144/39		350.1		5 mL	5 mL	<2 SU	OK		0.025 mL
600-122828-C-2 MSD		350.1	T	5 mL	5 mL	<2 SU	OK		0.025 mL
CCV 600-178144/45		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-178144/46		350.1		5 mL	5 mL	<2 SU	OK		
600-122630-B-1-B MS	MW-01	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122630-B-1-C MSD	MW-01	350.1	T	5 mL	5 mL	<2 SU	OK		
600-122661-B-1-B MS		350.1	T	5 mL	5 mL	<2 SU	OK		
600-122661-B-1-C MSD		350.1	T	5 mL	5 mL	<2 SU	OK		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Batch Number: 178144 Batch Start Date: 12/10/15 07:31 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	CalcMsg	WETSNH3CAL 00012	WETSNH3ICV 00020
CCB 600-178144/54		350.1		5 mL	5 mL	<2 SU	OK		
CCV 600-178144/55		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	

Batch Notes	
Pipette ID	WC47,WC53,WC63
Perform Calculation (0=No, 1=Yes)	1

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Batch Number: 178421 Batch Start Date: 12/14/15 15:17 Batch Analyst: Daniel, Kevin R

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	NO3NO2CRVE1.0 00045	NO3NO2ICV/LCS 00038		
ICV 600-178421/7		353.2		5 mL	5 mL		5 mL		
ICB 600-178421/8		353.2		5 mL	5 mL				
MB 600-178421/10		353.2		5 mL	5 mL				
LCS 600-178421/11		353.2		5 mL	5 mL		5 mL		
CCV 600-178421/20		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/21		353.2		5 mL	5 mL				
600-122630-B-2 ^5	MW-02	353.2	T	5 mL	5 mL				
CCV 600-178421/32		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/33		353.2		5 mL	5 mL				
600-122630-B-3 ^20	MW-02-Dup	353.2	T	5 mL	5 mL				
CCV 600-178421/44		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/45		353.2		5 mL	5 mL				
MB 600-178421/46		353.2		5 mL	5 mL				
LCS 600-178421/47		353.2		5 mL	5 mL		5 mL		
CCV 600-178421/58		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/59		353.2		5 mL	5 mL				
600-122630-B-1	MW-01	353.2	T	5 mL	5 mL				
600-122630-B-1 MS	MW-01	353.2	T	5 mL	5 mL		5 mL		
600-122630-B-1 MSD	MW-01	353.2	T	5 mL	5 mL		5 mL		
CCV 600-178421/70		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/71		353.2		5 mL	5 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Batch Number: 178421 Batch Start Date: 12/14/15 15:17 Batch Analyst: Daniel, Kevin R

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	NO3NO2CRVE1.0 00045	NO3NO2ICV/LCS 00038		
MB 600-178421/72		353.2		5 mL	5 mL				
LCS 600-178421/73		353.2		5 mL	5 mL		5 mL		
600-122630-B-4 ^20	MW-03	353.2	T	5 mL	5 mL				
CCV 600-178421/81		353.2		5 mL	5 mL	5 mL			
CCB 600-178421/82		353.2		5 mL	5 mL				

Batch Notes	
Pipette ID	wc62 wc45a wc40

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Batch Number: 177969 Batch Start Date: 12/04/15 23:45 Batch Analyst: Daniel, Kevin R

Batch Method: 4500 P E-1999 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WETSPHOSCS 00022	WETSPHOSIS 00020		
ICV 600-177969/1		4500 P E-1999		5 mL	5 mL		50 uL		
ICB 600-177969/2		4500 P E-1999		5 mL	5 mL				
MB 600-177969/3		4500 P E-1999		5 mL	5 mL				
LCS 600-177969/4		4500 P E-1999		5 mL	5 mL		50 uL		
600-122591-B-1 MS		4500 P E-1999	T	5 mL	5 mL		50 uL		
600-122591-B-1 MSD		4500 P E-1999	T	5 mL	5 mL		50 uL		
600-122630-A-1	MW-01	4500 P E-1999	T	5 mL	5 mL				
600-122630-A-2	MW-02	4500 P E-1999	T	5 mL	5 mL				
600-122630-A-3	MW-02-Dup	4500 P E-1999	T	5 mL	5 mL				
600-122630-A-4	MW-03	4500 P E-1999	T	5 mL	5 mL				
CCV 600-177969/12		4500 P E-1999		5 mL	5 mL	50 uL			
CCB 600-177969/13		4500 P E-1999		5 mL	5 mL				

Batch Notes	
Ammonium Molybdate Reagent ID Number	2048489
Ascorbic Acid Reagent ID Number	2058266
Potassium Antimonyl Tartrate Reagent ID	1883499
Pipette ID	wc62 wc45a
Sulfuric Acid Reagent ID Number	2033361

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-122630-1

SDG No.:

Batch Number: 178314 Batch Start Date: 12/11/15 14:57 Batch Analyst: Contreras, Enrique

Batch Method: 5310 D-2000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TOCISCAL 00300	TOCSLCS 00209	WETSTOCICV 00033			
ICV 600-178314/7		5310 D-2000		12 mL					
CCV 600-178314/31		5310 D-2000			12 mL				
LCS 600-178314/40		5310 D-2000		12 mL					
CCV 600-178314/43		5310 D-2000			12 mL				
CCV 600-178314/55		5310 D-2000			12 mL				
600-122613-B-5 MS		5310 D-2000	T			0.12 mL			
600-122613-B-5 MSD		5310 D-2000	T			0.12 mL			
CCV 600-178314/67		5310 D-2000			12 mL				

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

Test America (LAB COPY)
DateShipped: 12/3/2015
CarrierName: FedEx
AirbillNo: 775114873379

CHAIN OF CUSTODY RECORD

No: 6-120315-142940-0014
Lab: Test America
Lab Contact: Kristy Ricke
Lab Phone: 713-690-4444

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
MW-01	MW-01	Ground Water/ Duane Thomas	Grab	RSK-175, Nitrate Nitrite as N and Ammonia, TOC (EPA 415.2), Ortho-phosphate (EPA 365.1)	1024 (Ice to 4C & HCl), 1025 (Ice to 4C & H2SO4), 1026 (Ice to 4C & H2SO4), 1027 (Ice to 4C) (5)	MW-01	12/03/2015 07:55	
MW-02	MW-02	Ground Water/ Duane Thomas	Grab	RSK-175, Nitrate Nitrite as N and Ammonia, TOC (EPA 415.2), Ortho-phosphate (EPA 365.1)	1030 (Ice to 4C & HCl), 1031 (Ice to 4C & H2SO4), 1032 (Ice to 4C & H2SO4), 1033 (Ice to 4C) (5)	MW-02	12/03/2015 09:35	
MW-02-DUP	MW-02-DUP	Ground Water/ Duane Thomas	Grab	RSK-175, Nitrate Nitrite as N and Ammonia, TOC (EPA 415.2), Ortho-phosphate (EPA 365.1)	1036 (Ice to 4C & HCl), 1037 (Ice to 4C & H2SO4), 1038 (Ice to 4C & H2SO4), 1039 (Ice to 4C) (5)	MW-02-DUP	12/03/2015 09:35	
MW-03	MW-03	Ground Water/ Duane Thomas	Grab	RSK-175, Nitrate Nitrite as N and Ammonia, TOC (EPA 415.2), Ortho-phosphate (EPA 365.1)	1042 (Ice to 4C & HCl), 1043 (Ice to 4C & H2SO4), 1044 (Ice to 4C & H2SO4), 1045 (Ice to 4C) (5)	MW-03	12/03/2015 10:50	

600-122630 Chain of Custody

Special Instructions:

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	EA Engineering	12/03/15 1800		12-4-15 11:50	

Loc: 600
122630

TestAmerica Houston

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Sample Receipt Checklist

'15 DEC 4 11:50

Date/Time Received: _____

JOB NUMBER: _____ CLIENT: EA

UNPACKED BY: _____ CARRIER/DRIVER: Fedex SO

Custody Seal Present: ☑ YES ☐ NO Number of Coolers Received: _____

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
Blu	Y / N	Y / N	1.9	550	-0.3	1.6
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☑ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO Acid preserved are<pH 2: ☐ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		

COMMENTS:

TRK# 7751 1487 3579

HS-SA-WI-013 Rev. 3; 07/01/2014

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 600-122630-1

Login Number: 122630
List Number: 1
Creator: Jackson, Falynn E

List Source: TestAmerica Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

DATA VALIDATION REPORT
Jones Road Ground Water Plume Remedial Action (RA)
April 2016 Sampling Event

Site Name:	Jones Road Ground Water Plume Superfund Site Houston, Harris County, Texas
Laboratory:	TestAmerica Laboratories, Inc., Houston, TX
QA Reviewer:	Maria Briceno, Engineer I EA Engineering, Science, and Technology, Inc. (EA), PBC
Sample Delivery Group Nos.:	600-129551-1, 600-129666-1,600-129728-1, 600-129836-1
Sample Identification:	See Table 1
Matrix:	Ground Water
QC Criteria Reviewed:	Section 2.0
Laboratory Report Date:	17, 19 and 23 May 2016

1.0 INTRODUCTION

Fifteen groundwater samples, two field duplicate samples, and associated field quality control (QC) samples were collected 19 April through 22 April 2016 in support of the Jones Road Ground Water Plume Remedial Action (RA). The samples were shipped via overnight courier to TestAmerica Laboratories, Inc. (TA), Houston, Texas for analysis.

The data were validated in accordance with requirements specified in the following documents:

- *EPA 540-R-014-002 Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, 2014*
- *EPA 540-R-013-01 Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, 2014*
- *Sampling and Analysis Plan (SAP) for Remedial Action Jones Road Ground Water Plume Site, Harris County, Texas (EA 2015)*

Section 2.0 of this validation report identifies the criteria reviewed for each analytical method as appropriate based on EPA guidelines. Section 3.0 contains the definitions of the qualifiers to be applied to the data results based on the validation process. Section 4.0 provides an assessment of the overall data quality, and Section 5 provides the references to the guidelines and documents used in performing the review of the data set.

Table 1─Sample Cross-Reference provides a list of the field sample identification (ID),

laboratory sample delivery group (SDG) and sample ID, sample matrix, sample collection date, and analysis parameters. The results of these analyses are discussed in Section 4.0, Data Assessment.

2.0 DATA VALIDATION CRITERIA

The criteria listed below were evaluated as part of the validation process, as applicable to the analytical method.

- Deliverables
- Chain of custody and sample receipt
- Holding times
- Instrument performance checks (tuning)
- Calibration (initial and continuing)
- Blanks (trip blanks, method blanks and calibration blanks)
- Laboratory control sample (LCS)
- Surrogate spike recoveries
- Internal standards
- Matrix spike (MS), matrix spike duplicate (MSD), and/or laboratory duplicate
- Field QC samples
- Sample quantitation and reported detection limits
- Target compound identification
- Overall assessment of data

TABLE 1
SAMPLE CROSS-REFERENCE TABLE

Field Sample ID	Lab Sample Delivery Group/Sample ID	Matrix	Date Collected	Analysis Parameter
ER-1	600-129551-3	Water	19 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A
FB-1	600-129551-3	Water	19 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A
MW-08	600-129551-3	Water	19 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-25	600-129551-4	Water	19 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175

TB-1	600-129551-5	Water	19 April 2016	VOC 8260B
ER-2	600-129666-1	Water	20 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A
FB-2	600-129666-2	Water	20 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A
MW-07	600-129666-3	Water	20 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-23	600-129666-4	Water	20 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-24	600-129666-5	Water	20 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-24 (MS/MSD)	600-129666-5	Water	20 April 2016	Nitrate-Nitrite
TB-2	600-129666-6	Water	20 April 2016	VOC 8260B
ER-3	600-129741-1, 600-129747-1	Water	21 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A
FB-3	600-129741-2, 600-129747-2	Water	21 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A
MW-04	600-129728-1, 600-129734-1, 600-129741-3, 600-129747-3	Water	21 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-05	600-129728-2, 600-129734-2, 600-129741-4, 600-129747-4	Water	21 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175

MW-06	600-129728-3, 600-129734-3, 600-129741-5, 600-129747-5	Water	21 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-06 (MS/MSD)	600-129728-3, 600-129734-3, 600-129741-5, 600-129747-5	Water	21 April 2016	VOC 8260B
MW-09	600-129728-4, 600-129734-4, 600-129741-6, 600-129747-6	Water	21 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-09 (MS/MSD)	600-129728-4, 600-129734-4, 600-129741-6, 600-129747-6	Water	21 April 2016	RSK-175
MW-22	600-129728-5, 600-129734-5, 600-129741-7, 600-129747-7	Water	21 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-22-DUP	600-129728-6, 600-129734-6, 600-129741-8, 600-129747-8	Water	21 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-22 (MS/MSD)	600-129728-5, 600-129734-5, 600-129741-7, 600-129747-7	Water	21 April 2016	Orthophosphate
TB-3	600-129747-9	Water	21 April 2016	VOC 8260B
ER-4	600-129836-1	Water	22 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A
FB-4	600-129836-2	Water	22 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A
MW-01	600-129836-3	Water	22 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-02	600-129836-5	Water	22 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175

MW-02-DUP	600-129836-4	Water	22 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-03	600-129836-6	Water	22 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-20	600-129836-7	Water	22 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
MW-21	600-129836-8	Water	22 April 2016	VOC 8260B, Total Metals 6020A, Total Mercury 7470A, TOC 5310 D-2000, N and NH3, Nitrate-Nitrite, Orthophosphate, RSK-175
TB-4	600-129836-9	Water	22 April 2016	VOC 8260B

NOTES:
DUP= Field duplicate
MS = Matrix spike
MSD = Matrix spike duplicate
TOC = Total organic carbon
VOCs = Volatile organic compounds

3.0 GLOSSARY OF DATA QUALIFIERS

The following definitions provide a brief explanation for the data qualifiers that may be applied to the data during the data review process. The definitions are consistent with EPA guidance (2014).

No Qualifier — Indicates that the data are acceptable both qualitatively and quantitatively.

U — The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

J — The result is estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. The data are valid for project use to achieve project data quality objectives (DQOs).

J+ — The result is an estimated quantity, but the result may be biased high. The data

are valid for project use to achieve project data quality objectives (DQOs).

J- The result is an estimated quantity, but the result may be biased low. The data are valid for project use to achieve project data quality objectives (DQOs).

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate. The data are valid for project use to achieve project DQOs.

R The sample results are not usable to achieve project DQOs based on certain QC criteria outside of acceptance limits. The analyte may or may not be present in the sample.

4.0 DATA ASSESSMENT

One hundred percent of the analytical data in the sample delivery groups (SDGs) 600-129551-1, 600-129666-1,600-129728-1, and 600-129836-1 were reviewed for the criteria listed in Section 2.0. A discussion of the data is presented in this section.

4.1 Deliverables

TA re-issued reports and electronic deliverables for SDG 600-129728-1 and SDG 600-129836-1 with revised results for cis-1,2-dichloroethene and trans-1,2-dichloroethene. Cis-1,2-dichloroethene and trans-1,2-dichloroethene analytes were switched in the initial calibration of one of the volatile instruments used for the analysis of the samples. TA corrected the calibration error and reprocessed the data to correctly identify the isometric pairs in the reports. The report for SDG 600-129836-1 was re-issued a second time to adjust the reported results in two of the samples based on the reprocessing of data with the correct calibration curve. The SDG 600-129836-1 report was re-issued a third time to update the trans-1,2-dichloroethene result in sample MW-01. EA confirmed the revised results against the electronic data deliverables.

4.2 Chain of Custody and Sample Receipt

The samples were received by TA under appropriate chain of custody, in good condition and properly preserved. The cooler temperatures were within the specified EPA guidelines of $\leq$6°C.

A trip blank associated with SDG 129836 was received by the laboratory. However, it was misplaced by the laboratory and could not be located to run the requested analyses.

4.3 Holding Times

The samples were extracted and analyzed within the method-specific holding times, unless otherwise noted.

The following samples were received for phosphorus analysis outside the 48-hour holding time: MW-01, MW-02, MW-02-DUP, MW-03, MW-20, and MW-21 (SDG 129836). The orthophosphorus and orthophosphate results for these samples were qualified as estimated (J).

4.4 Instrument Performance Check

Instrument performance checks were performed as appropriate to the analytical method to ensure that the instrument is performing within the acceptable QC limits. These were performed for the VOC analysis by method SW8260B. The instrument performance checks for the four SDGs were within method control criteria.

4.5 Calibration Criteria

Initial and continuing calibrations were performed at the required frequencies per the analytical methods. The percent recoveries for the target analytes were within the control criteria as specified for each method.

4.6 Blank Detections

Method blank samples were prepared and analyzed with each analytical method batch in addition to project samples. No qualification was required based on detections in the method blank samples, unless otherwise noted.

- The calcium result in sample FB-1 (SDG 129551) was qualified (U) due to the detection of calcium in the method blank at a similar concentration.
- The calcium results in samples ER-2 and FB-2 (SDG 129666) were qualified (U) due to the detection of calcium in the method blank at a similar concentration.
- The antimony results in samples ER-1, FB-1, MW-08, and MW-25 (SDG 129551) were qualified (U) due to the detection of antimony in the method blank at a similar concentration.
- The antimony results in samples ER-2, FB-2, MW-07, MW-23, and MW-24 (SDG 129666) were qualified (U) due to the detection of antimony in the method blank at a similar concentration.
- The manganese results in samples ER-3 and FB-3 (SDG 129728) were qualified (U) due to the detection of manganese in the method blank at a similar concentration.
- The manganese results in samples ER-4 and FB-4 (SDG 129836) were qualified (U) due to the detection of manganese in the method blank at a similar concentration.

Trip blank samples were shipped to the laboratory with the samples for VOC analysis. No detections were reported in the trip blank samples.

Continuing calibration blanks were analyzed at the appropriate frequency as required by the analytical methods and within the established QC criteria. Calibration blanks were within the method control criteria.

Equipment rinse blank and field blank samples were collected with the samples for VOC and metals analyses. Detections in the field blank or rinsate did not require qualification, unless otherwise noted.

- Sample MW-08 from SDG 129551 – the aluminum result was qualified (U) due to the detection of aluminum in the rinsate at a similar concentration.
- Samples MW-04, MW-06, MW-09 from SDG 129728 – the aluminum results were qualified (U) due to the detection of aluminum in the rinsate at a similar concentration.

- Samples MW-22, MW-22 DUP, MW-04, MW-05, MW-06, and MW-09 from SDG 129728 – the antimony results were qualified (U) due to the detection of antimony in the rinsate at a similar concentration.
- Samples MW-01, MW-02, MW-02 DUP, MW-03, MW-20, and MW-21 from SDG 129836 – the antimony results were qualified (U) due to the detection of antimony in the rinsate at a similar concentration.
- Samples MW-08 and MW-25 from SDG 129551 – the chromium results were qualified (U) due to the detection of chromium in the rinsate and field blank at a similar concentration.
- The chromium result for sample MW-23 was qualified (U) due to the detection of chromium in the rinsate and field blank at a similar concentration (SDG 129666).
- The chromium results for samples MW-04, MW-05, MW-06, and MW-09 were qualified (U) due to the detection of chromium in the rinsate and field blank at a similar concentration (SDG 129728).
- The chromium results for samples MW-01, MW-02 DUP, MW-02, MW-03, MW-20, and MW-21 were qualified (U) due to the detection of chromium in the rinsate and field blank at a similar concentration (SDG 129836).
- The cobalt results for samples MW-08 and MW-25 were qualified (U) due to the detection of cobalt in the rinsate and field blank at a similar concentration (SDG 129551).
- The cobalt results for samples MW-07, MW-23, and MW-24 were qualified (U) due to detection of cobalt in the rinsate and field blank at a similar concentration (SDG 129666).
- The cobalt results for samples MW-05 and MW-09 were qualified (U) due to detection of cobalt in the rinsate and field blank at a similar concentration (SDG 129728).
- The copper results for samples MW-08 and MW-25 were qualified (U) due to the detection of copper in the rinsate and field blank at a similar concentration (SDG 129551).
- The copper results for samples MW-23 and MW-24 were qualified (U) due to the detection of copper in the rinsate and field blank at a similar concentration (SDG 129666).
- The copper results for samples MW-01, MW-02-DUP, and MW-02 were qualified (U) due to the detection of copper in the rinsate and field blank at a similar concentration (SDG 129836)/
- The manganese result for sample MW-23 was qualified (U) due to the detection of manganese in the rinsate and field blank at a similar concentration (SDG 129666).
- The nickel results for samples MW-08 and MW-25 were qualified (U) due to the detection of nickel in the rinsate and field blank at a similar concentration (SDG 129551).
- The nickel result for sample MW-23 was qualified (U) due to the detection of nickel in the field blank at a similar concentration (SDG 129666).
- The nickel result for sample MW-09 was qualified (U) due to the detection of nickel in the rinsate at a similar concentration (SDG 129728)
- The nickel result for sample MW-20 was qualified (U) due to the detection of nickel in

the rinsate at a similar concentration (SDG 129836).

- The thallium results for samples MW-07, MW-23, and MW-24 were qualified (U) due to the detection of thallium in the rinsate and field blank at a similar concentration (SDG 129666).
- The vanadium result for sample MW-23 was qualified (U) due to the detection of vanadium in the rinsate at a similar concentration (SDG 129666).
- The vanadium result for sample MW-05 was qualified (U) due to the detection of vanadium in the rinsate at a similar concentration (SDG 129728).
- The vanadium result for samples MW-01 and MW-02 DUP were qualified (U) due to the detection of vanadium in the rinsate and field blank at a similar concentration (SDG 129836).
- The zinc results for samples MW-08 and MW-25 were qualified (U) due to the detection of zinc in the rinsate and field blank at a similar concentration (SDG 129551).
- The zinc results for samples MW-23 and MW-24 were qualified (U) due to the detection of zinc in the rinsate and field blank at a similar concentration.
- The zinc results for samples MW-01, MW-02-DUP, MW-02, MW-20, and MW-21 were qualified (U) due to the detection of zinc in the rinsate at a similar concentration (SDG 129836).

4.7 Laboratory Control Samples

The laboratory control samples (LCS) were prepared and analyzed as recommended by the analytical method and project requirements. No data required qualification, unless otherwise noted.

- Vinyl chloride results were qualified (J) in samples ER-1 and FB-1 (SDG 129551);

4.8 Surrogate Recoveries

Surrogate spikes were added to the environmental samples and QC samples as required for the organic methods. The %R for surrogate compounds were within the method-specific control limits for the project samples.

4.9 Internal Standards

Internal standards were added to the environmental and QC samples as required for the organic methods to monitor instrument sensitivity and response during sample analysis. The internal standard recoveries were within the method-specific control criteria.

4.10Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Samples

MS and MSD samples were prepared and analyzed with each analytical method with the exception of the general chemistry methods (TOC, TDS, alkalinity). The MS/MSD %R and relative percent difference (RPD) met the method-specific acceptance criteria with the following exceptions:

- Sample MW-08 ─ RPD for cis-1,2-dichloroethene was above the laboratory control limit. The cis-1,2-dichloroethene result was qualified (J) in sample MW-08.

- Sample MW-08 – iron was recovered high in the MS/MSD. The iron result in sample MW-08 was qualified (J).
- Sample MW-08 – mercury was recovered low in the MS/MSD. The mercury result in sample MW-08 was qualified (UJ).
- Sample MW-08 – ethane and ethylene were recovered low in the MS/MSD. The ethane and ethylene results in sample MW-08 were qualified (UJ).
- Sample MW-06 – cis-1,2-dichloroethene was recovered low in the MS/MSD. The cis-1,2-dichloroethene result was qualified (J) in sample MW-06.
- Sample MW-06 – trichloroethene was recovered low in the MS/MSD. The trichloroethene result was qualified (J) in sample MW-06.
- Sample MW-06 – trans-1,2-dichloroethene was recovered low in the MS/MSD. The trans-1,2-dichloroethene result was qualified (J) in sample MW-06.

4.11 Field and Laboratory Duplicate Samples

Field duplicate samples were collected and analyzed at sample locations MW-02 and MW-22 for the April 2016 sampling event. The field duplicate RPDs were within the 50 percent control criteria specified in the SAP, unless otherwise noted.

- The tetrachloroethene results in samples MW-22 and MW-22 DUP were qualified as estimated (J) due to the RPD being greater than 50 percent (SDG 129728).

Laboratory duplicate samples were also run for metals analyses. The RPDs for the laboratory original and duplicate sample results were within the method control limits.

4.12 Sample Quantitation and Reported Detection Limits

Project samples were analyzed at the appropriate concentrations to achieve the project-required reporting limits. Samples analyzed for VOCs and methane required dilution due to elevated concentrations of these analytes in the samples. The reporting limits were adjusted accordingly. Data results below the reporting limit and above the method detection limit were J-qualified as estimated values. Non-detect sample results were reported at the method detection limit with a U-qualifier.

4.13Target Compound Identification

Target compound identification was performed for the method SW8260B. Mass spectra criteria were within acceptance limits for the detected target analytes.

4.14 Overall Assessment of Data

Project deliverables were reviewed for completeness and compliance with the SAP. Based on the data review, the completeness of deliverables is 100 percent. Data quality criteria exceedances that resulted in data qualification for the April 2016 sampling event include 1) samples analyzed outside the hold time; 2) detections in the method blank, field blank, and equipment rinsate; 3) LCS recoveries; 4) MS/MSD recoveries; and high RPD between the parent and field duplicate. Affected data were qualified as specified in the above sections signifying estimated data. No analytical data were R-qualified signifying rejected or unusable data. The

analytical data achieve greater than the 90 percent data completeness objective and the project DQOs. The April 2016 sample data are usable to support the Jones Road Ground Water Plume RA.

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ANALYTICAL REPORT

Job Number: 600-129836-1

Job Description: Jones Road Groundwater Plume

For:
EA Engineering, Science, and Technology
405 S. Highway 121 bypass
Building C
Suite 100
Lewisville, TX 75067

Attention: Mr. Pat Appel

Approved for release.
Cathy L Upton
Project Manager I
8/23/2016 3:41 PM

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Revision: 3

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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

July 25, 2016

Pat Appel
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405 S. Highway 121 bypass,
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Lewisville, TX 75067

RE: Notification of Revised Results for Analytes cis-1,2-Dichloroethene and trans-1,2-Dichloroethene by SW-846 8260B

To whom it may concern:

TestAmerica is committed to providing data of known high quality to its clients. Testing and data review by the analyst, secondary reviews by expert reviewers and internal audits are built into our quality system. Millions of data points are generated and ultimately delivered to clients without exception. A robust element of our data integrity process checks and prevents errors. Seldom, but on occasion, we identify erroneous data has been reported to clients. When this occurs, TestAmerica aggressively corrects these errors, performing internal critical reviews and forthrightly revises the results.

An important part of the quality program is client notification when a systematic error is found in reported results. We regret to inform you that through a series of internal checks we have recently discovered an error affecting the calculation and reporting of some of your sample results. A listing of the affected reports is provided with this notification.

During a recent question to re-evaluate data at a client's request we found that the isomeric pair of cis-1,2-dichloroethene and trans-1,2-dichloroethene were switched in the calibration of one volatile instrument used for this analysis. To correct the issue we fixed the calibration and have reprocessed the data to correctly identify the isometric pairs in the report. The report narrative will explain why the reports had to be revised.

We also conducted an analysis of the causes of the failure in order to make changes needed to prevent a recurrence of this problem. We determined that automated data systems were working as designed, but that TestAmerica's procedures for review of initial calibrations were not followed in all respects. The primary and secondary analysts were retrained to the correct procedures in July 2016. Spot surveillance by the organics department manger will perform a tertiary review of the calibration curves to make sure they are being reviewed properly. Follow up audit and surveillance will be performed in August and October by the QA Manager to demonstrate the procedures are being followed.

TestAmerica deeply regrets the difficulties that have resulted from the issue outlined in this letter. We look forward to continuing our relationship with you and standing by our promise of providing you with quality data and service. If you have any questions or comments, please feel free to contact me.

Sincerely,

Ken Busch
QA Manager

CC: client file and Chip Meador

CASE NARRATIVE

Client: EA Engineering, Science, and Technology

Project: Jones Road Groundwater Plume

Report Number: 600-129836-1

This case narrative is in the form of an exception report, where only the anomalies related to this report, method specific performance and/or QA/QC issues are discussed. If there are no issues to report, this narrative will include a statement that documents that there are no relevant data issues.

It should be noted that samples with elevated Reporting Limits (RLs) as a result of a dilution may not be able to satisfy customer reporting limits in some cases. Such increases in the RLs are unavoidable but acceptable consequence of sample dilution that enables quantification of target analytes or interferences which exceed the calibration range of the instrument.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

REVISION
This report was revised on 7/28/16 due to a data recall for the cis and trans 1,2-dichloroethene isomers, replacing the final report generated on 5/23/16. The report was revised again on 8/16/16 to update the vinyl chloride results in sample MW-01, replacing the final report generated on 7/28/16. The report was further revised on 8/23/16 to update the trans 1,2-dichloroethene isomer results in sample MW-01, replacing the final report generated on 8/16/16.

RECEIPT
Note: All samples that require thermal preservation are considered acceptable if the arrival temperature is within 2°C of the required temperature or method specified range. For samples with a specified temperature of 4°C, samples with a temperature ranging from just above freezing temperature of water to 6°C shall be acceptable. Samples that are hand delivered immediately following collection may not meet these criteria, however they will be deemed acceptable according to NELAC standards, if there is evidence that the chilling process has begun, such as arrival on ice, etc.

The samples were received on 04/25/2016; the samples arrived in good condition, properly preserved and on ice. The samples were received on 4/25/2016 9:49 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.5º C, 0.7º C, 1.9º C and 3.6º C.

Receipt Exceptions
The following samples were received outside of holding time for Orthophosphate analysis: ER-4 (600-129836-1), FB-4 (600-129836-2), MW-01 (600-129836-3), MW-02-DUP (600-129836-4), MW-02 (600-129836-5), MW-03 (600-129836-6), MW-20 (600-129836-7), MW-21 (600-129836-8) and TB-4 (600-129836-9). Per email by the client, please proceed with analysis.

A trip blank was submitted for analysis with these samples; however, it was subsequently misplaced in the laboratory and could not be located in order to run the analysis.

VOLATILE ORGANIC COMPOUNDS (GC-MS)
Samples ER-4 (600-129836-1), FB-4 (600-129836-2), MW-01 (600-129836-3), MW-02-DUP (600-129836-4), MW-02 (600-129836-5), MW-03 (600-129836-6), MW-20 (600-129836-7) and MW-21 (600-129836-8) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 05/01/2016, 05/02/2016 and 05/04/2016.

Samples MW-01 (600-129836-3)[20X], MW-01 (600-129836-3)[500X], MW-02-DUP (600-129836-4)[25X], MW-02 (600-129836-5)[25X], MW-20 (600-129836-7)[200X] and MW-20 (600-129836-7)[2000X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Method(s) 8260B: The following samples was diluted to bring the concentration of target analytes within the calibration range: MW-01 (600-129836-3) and MW-20 (600-129836-7). Elevated reporting limits (RLs) are provided.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DISSOLVED GASES
Samples MW-01 (600-129836-3), MW-02-DUP (600-129836-4), MW-02 (600-129836-5), MW-03 (600-129836-6), MW-20 (600-129836-7) and MW-21 (600-129836-8) were analyzed for dissolved gases in accordance with RSK_175. The samples were analyzed on 04/28/2016 and 04/29/2016.

Samples MW-01 (600-129836-3)[1000X], MW-02-DUP (600-129836-4)[500X], MW-02 (600-129836-5)[1000X] and MW-20

(600-129836-7)[500X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DISSOLVED METALS (ICPMS)
Samples ER-4 (600-129836-1), FB-4 (600-129836-2), MW-01 (600-129836-3), MW-02-DUP (600-129836-4), MW-02 (600-129836-5), MW-03 (600-129836-6), MW-20 (600-129836-7) and MW-21 (600-129836-8) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Methods 6020A. The samples were prepared on 04/28/2016 and analyzed on 05/09/2016.

Manganese, Dissolved was detected in method blank MB 180-174710/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

DISSOLVED MERCURY (CVAA)
Samples ER-4 (600-129836-1), FB-4 (600-129836-2), MW-01 (600-129836-3), MW-02-DUP (600-129836-4), MW-02 (600-129836-5), MW-03 (600-129836-6), MW-20 (600-129836-7) and MW-21 (600-129836-8) were analyzed for dissolved mercury (CVAA) in accordance with EPA SW-846 Methods 7470A. The samples were prepared and analyzed on 04/28/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

AMMONIA
Samples MW-01 (600-129836-3), MW-02-DUP (600-129836-4), MW-02 (600-129836-5), MW-03 (600-129836-6), MW-20 (600-129836-7) and MW-21 (600-129836-8) were analyzed for ammonia in accordance with EPA Method 350.1. The samples were prepared and analyzed on 05/10/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

NITRATE-NITRITE AS NITROGEN
Samples MW-01 (600-129836-3), MW-02-DUP (600-129836-4), MW-02 (600-129836-5), MW-03 (600-129836-6), MW-20 (600-129836-7) and MW-21 (600-129836-8) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 04/29/2016.

Nitrate Nitrite as N failed the recovery criteria low for the MSD of sample 600-129796-6 in batch 600-187527. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Refer to the QC report for details.

Samples MW-03 (600-129836-6)[5X] and MW-21 (600-129836-8)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PHOSPHORUS AS P
Samples MW-01 (600-129836-3), MW-02-DUP (600-129836-4), MW-02 (600-129836-5), MW-03 (600-129836-6), MW-20 (600-129836-7) and MW-21 (600-129836-8) were analyzed for Phosphorus as P in accordance with SM 4500 P E. The samples were analyzed on 04/25/2016.

The following samples were received outside of holding time: MW-01 (600-129836-3), MW-02-DUP (600-129836-4), MW-02 (600-129836-5), MW-03 (600-129836-6), MW-20 (600-129836-7), MW-21 (600-129836-8), (600-129836-B-5 MS) and (600-129836-B-5 MSD).

Samples MW-01 (600-129836-3)[25X], MW-02-DUP (600-129836-4)[25X] and MW-02 (600-129836-5)[25X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL ORGANIC CARBON
Samples MW-01 (600-129836-3), MW-02-DUP (600-129836-4), MW-02 (600-129836-5), MW-03 (600-129836-6), MW-20 (600-129836-7) and MW-21 (600-129836-8) were analyzed for total organic carbon in accordance with SM 5310D. The samples were analyzed on 05/10/2016 and 05/11/2016.

Samples MW-01 (600-129836-3)[100X], MW-02-DUP (600-129836-4)[4X], MW-02 (600-129836-5)[4X], MW-03 (600-129836-6)[4X] and MW-20 (600-129836-7)[4X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL HOU
RSK-175	Dissolved Gases in Water	RSK	TAL HOU
6020A	Metals (ICP/MS)	SW846	TAL PIT
7470A	Mercury (CVAA)	SW846	TAL PIT
350.1	Nitrogen, Ammonia	MCAWW	TAL HOU
353.2	Nitrogen, Nitrate-Nitrite (Colorimetric, Automated, Cadmium Reduction)	MCAWW	TAL HOU
4500 P E-1999	Orthophosphate - SM Online, 2011	SM-Online	TAL HOU
5310 D-2000	Organic Carbon, Total (TOC)	SM	TAL HOU

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM-Online = Standard Methods Online

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Sample Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-129836-1	ER-4	Water	04/22/16 11:25	04/25/16 09:49
600-129836-2	FB-4	Water	04/22/16 11:15	04/25/16 09:49
600-129836-3	MW-01	Water	04/22/16 09:05	04/25/16 09:49
600-129836-4	MW-02-DUP	Water	04/22/16 15:25	04/25/16 09:49
600-129836-5	MW-02	Water	04/22/16 15:25	04/25/16 09:49
600-129836-6	MW-03	Water	04/22/16 16:50	04/25/16 09:49
600-129836-7	MW-20	Water	04/22/16 14:00	04/25/16 09:49
600-129836-8	MW-21	Water	04/22/16 10:55	04/25/16 09:49

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

Client Sample ID: ER-4 — Lab Sample ID: 600-129836-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium, Dissolved	0.276	J	10.0	0.0980	ug/L	1		6020A	Dissolved
Calcium, Dissolved	21.5	J	500	2.84	ug/L	1		6020A	Dissolved
Chromium, Dissolved	0.982	J	2.00	0.543	ug/L	1		6020A	Dissolved
Cobalt, Dissolved	0.0900	J	0.500	0.0263	ug/L	1		6020A	Dissolved
Copper, Dissolved	0.685	J	2.00	0.244	ug/L	1		6020A	Dissolved
Potassium, Dissolved	30.2	J	500	5.82	ug/L	1		6020A	Dissolved
Magnesium, Dissolved	2.43	J	500	1.17	ug/L	1		6020A	Dissolved
Manganese, Dissolved	0.469	J B	5.00	0.0389	ug/L	1		6020A	Dissolved
Sodium, Dissolved	41.1	J	500	3.81	ug/L	1		6020A	Dissolved
Nickel, Dissolved	0.461	J	1.00	0.175	ug/L	1		6020A	Dissolved
Antimony, Dissolved	2.28		2.00	0.0187	ug/L	1		6020A	Dissolved
Vanadium, Dissolved	0.305	J	1.00	0.0824	ug/L	1		6020A	Dissolved
Zinc, Dissolved	6.12		5.00	0.961	ug/L	1		6020A	Dissolved

Client Sample ID: FB-4 — Lab Sample ID: 600-129836-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium, Dissolved	0.124	J	10.0	0.0980	ug/L	1		6020A	Dissolved
Chromium, Dissolved	0.681	J	2.00	0.543	ug/L	1		6020A	Dissolved
Cobalt, Dissolved	0.0750	J	0.500	0.0263	ug/L	1		6020A	Dissolved
Copper, Dissolved	0.278	J	2.00	0.244	ug/L	1		6020A	Dissolved
Manganese, Dissolved	0.165	J B	5.00	0.0389	ug/L	1		6020A	Dissolved
Sodium, Dissolved	5.01	J	500	3.81	ug/L	1		6020A	Dissolved
Antimony, Dissolved	0.732	J	2.00	0.0187	ug/L	1		6020A	Dissolved
Vanadium, Dissolved	0.182	J	1.00	0.0824	ug/L	1		6020A	Dissolved

Client Sample ID: MW-01 — Lab Sample ID: 600-129836-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	27.4		1.00	0.192	ug/L	1		8260B	Total/NA
Trichloroethene	20.2		1.00	0.138	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	61.3		20.0	6.66	ug/L	20		8260B	Total/NA
Vinyl chloride - DL	386		40.0	4.96	ug/L	20		8260B	Total/NA
cis-1,2-Dichloroethene - DL2	12300		500	78.5	ug/L	500		8260B	Total/NA
Ethane	3.00		2.00	0.303	ug/L	1		RSK-175	Total/NA
Methane	7430		1000	357	ug/L	1000		RSK-175	Total/NA
Ethylene	64.0		2.00	0.324	ug/L	1		RSK-175	Total/NA
Arsenic, Dissolved	129		1.00	0.291	ug/L	1		6020A	Dissolved
Barium, Dissolved	47.3		10.0	0.0980	ug/L	1		6020A	Dissolved
Calcium, Dissolved	208000		500	2.84	ug/L	1		6020A	Dissolved
Chromium, Dissolved	0.561	J	2.00	0.543	ug/L	1		6020A	Dissolved
Cobalt, Dissolved	25.2		0.500	0.0263	ug/L	1		6020A	Dissolved
Copper, Dissolved	0.417	J	2.00	0.244	ug/L	1		6020A	Dissolved
Iron, Dissolved	40900		50.0	6.09	ug/L	1		6020A	Dissolved
Potassium, Dissolved	275000		500	5.82	ug/L	1		6020A	Dissolved
Magnesium, Dissolved	37500		500	1.17	ug/L	1		6020A	Dissolved
Manganese, Dissolved	2200	B	5.00	0.0389	ug/L	1		6020A	Dissolved
Sodium, Dissolved	147000		500	3.81	ug/L	1		6020A	Dissolved
Nickel, Dissolved	23.8		1.00	0.175	ug/L	1		6020A	Dissolved
Antimony, Dissolved	0.931	J	2.00	0.0187	ug/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-01 (Continued) — Lab Sample ID: 600-129836-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vanadium, Dissolved	0.684	J	1.00	0.0824	ug/L	1		6020A	Dissolved
Zinc, Dissolved	2.89	J	5.00	0.961	ug/L	1		6020A	Dissolved
Ammonia	7.35		0.200	0.0675	mg/L	1		350.1	Total/NA
Orthophosphate	16.8	H	1.25	0.259	mg/L	25		4500 P E-1999	Total/NA
Orthophosphorus as PO4	51.6	H	3.83	0.794	mg/L	25		4500 P E-1999	Total/NA
Total Organic Carbon	1690		100	43.7	mg/L	100		5310 D-2000	Total/NA

Client Sample ID: MW-02-DUP — Lab Sample ID: 600-129836-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	1.78		1.00	0.192	ug/L	1		8260B	Total/NA
Tetrachloroethene	12.8		1.00	0.333	ug/L	1		8260B	Total/NA
Trichloroethene	3.01		1.00	0.138	ug/L	1		8260B	Total/NA
Vinyl chloride - DL	270		50.0	6.20	ug/L	25		8260B	Total/NA
cis-1,2-Dichloroethene - DL	337		25.0	3.93	ug/L	25		8260B	Total/NA
Ethane	3.75		2.00	0.303	ug/L	1		RSK-175	Total/NA
Methane	11000		500	179	ug/L	500		RSK-175	Total/NA
Ethylene	6.37		2.00	0.324	ug/L	1		RSK-175	Total/NA
Aluminum, Dissolved	6.13	J	30.0	2.57	ug/L	1		6020A	Dissolved
Arsenic, Dissolved	26.2		1.00	0.291	ug/L	1		6020A	Dissolved
Barium, Dissolved	20.1		10.0	0.0980	ug/L	1		6020A	Dissolved
Calcium, Dissolved	47800		500	2.84	ug/L	1		6020A	Dissolved
Chromium, Dissolved	1.10	J	2.00	0.543	ug/L	1		6020A	Dissolved
Cobalt, Dissolved	12.1		0.500	0.0263	ug/L	1		6020A	Dissolved
Copper, Dissolved	1.59	J	2.00	0.244	ug/L	1		6020A	Dissolved
Iron, Dissolved	7100		50.0	6.09	ug/L	1		6020A	Dissolved
Potassium, Dissolved	34100		500	5.82	ug/L	1		6020A	Dissolved
Magnesium, Dissolved	6890		500	1.17	ug/L	1		6020A	Dissolved
Manganese, Dissolved	1180	B	5.00	0.0389	ug/L	1		6020A	Dissolved
Sodium, Dissolved	53900		500	3.81	ug/L	1		6020A	Dissolved
Nickel, Dissolved	7.23		1.00	0.175	ug/L	1		6020A	Dissolved
Lead, Dissolved	0.0200	J	1.00	0.0192	ug/L	1		6020A	Dissolved
Antimony, Dissolved	0.830	J	2.00	0.0187	ug/L	1		6020A	Dissolved
Vanadium, Dissolved	0.696	J	1.00	0.0824	ug/L	1		6020A	Dissolved
Zinc, Dissolved	9.31		5.00	0.961	ug/L	1		6020A	Dissolved
Ammonia	0.555		0.200	0.0675	mg/L	1		350.1	Total/NA
Orthophosphate	4.01	H	1.25	0.259	mg/L	25		4500 P E-1999	Total/NA
Orthophosphorus as PO4	12.3	H	3.83	0.794	mg/L	25		4500 P E-1999	Total/NA
Total Organic Carbon	94.0		4.00	1.75	mg/L	4		5310 D-2000	Total/NA

Client Sample ID: MW-02 — Lab Sample ID: 600-129836-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	1.88		1.00	0.192	ug/L	1		8260B	Total/NA
Tetrachloroethene	13.0		1.00	0.333	ug/L	1		8260B	Total/NA
Trichloroethene	3.08		1.00	0.138	ug/L	1		8260B	Total/NA
Vinyl chloride - DL	237		50.0	6.20	ug/L	25		8260B	Total/NA
cis-1,2-Dichloroethene - DL	351		25.0	3.93	ug/L	25		8260B	Total/NA
Methane	16800		1000	357	ug/L	1000		RSK-175	Total/NA
Ethylene	8.82		2.00	0.324	ug/L	1		RSK-175	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-02 (Continued) — Lab Sample ID: 600-129836-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum, Dissolved	9.38	J	30.0	2.57	ug/L	1		6020A	Dissolved
Arsenic, Dissolved	37.0		1.00	0.291	ug/L	1		6020A	Dissolved
Barium, Dissolved	21.7		10.0	0.0980	ug/L	1		6020A	Dissolved
Calcium, Dissolved	52300		500	2.84	ug/L	1		6020A	Dissolved
Chromium, Dissolved	1.19	J	2.00	0.543	ug/L	1		6020A	Dissolved
Cobalt, Dissolved	12.6		0.500	0.0263	ug/L	1		6020A	Dissolved
Copper, Dissolved	1.98	J	2.00	0.244	ug/L	1		6020A	Dissolved
Iron, Dissolved	8740		50.0	6.09	ug/L	1		6020A	Dissolved
Potassium, Dissolved	37600		500	5.82	ug/L	1		6020A	Dissolved
Magnesium, Dissolved	7420		500	1.17	ug/L	1		6020A	Dissolved
Manganese, Dissolved	1250	B	5.00	0.0389	ug/L	1		6020A	Dissolved
Sodium, Dissolved	53400		500	3.81	ug/L	1		6020A	Dissolved
Nickel, Dissolved	7.49		1.00	0.175	ug/L	1		6020A	Dissolved
Lead, Dissolved	0.0970	J	1.00	0.0192	ug/L	1		6020A	Dissolved
Antimony, Dissolved	0.808	J	2.00	0.0187	ug/L	1		6020A	Dissolved
Zinc, Dissolved	6.44		5.00	0.961	ug/L	1		6020A	Dissolved
Ammonia	0.517		0.200	0.0675	mg/L	1		350.1	Total/NA
Orthophosphate	5.32	H	1.25	0.259	mg/L	25		4500 P E-1999	Total/NA
Orthophosphorus as PO4	16.3	H	3.83	0.794	mg/L	25		4500 P E-1999	Total/NA
Total Organic Carbon	89.9		4.00	1.75	mg/L	4		5310 D-2000	Total/NA

Client Sample ID: MW-03 — Lab Sample ID: 600-129836-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	2.22		1.00	0.333	ug/L	1		8260B	Total/NA
Trichloroethene	2.03		1.00	0.138	ug/L	1		8260B	Total/NA
Vinyl chloride	0.663	J	2.00	0.248	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	15.3		1.00	0.157	ug/L	1		8260B	Total/NA
Methane	3.27		1.00	0.357	ug/L	1		RSK-175	Total/NA
Aluminum, Dissolved	39.1		30.0	2.57	ug/L	1		6020A	Dissolved
Arsenic, Dissolved	13.9		1.00	0.291	ug/L	1		6020A	Dissolved
Barium, Dissolved	348		10.0	0.0980	ug/L	1		6020A	Dissolved
Cadmium, Dissolved	0.610	J	1.00	0.114	ug/L	1		6020A	Dissolved
Calcium, Dissolved	133000		500	2.84	ug/L	1		6020A	Dissolved
Chromium, Dissolved	2.03		2.00	0.543	ug/L	1		6020A	Dissolved
Cobalt, Dissolved	2.49		0.500	0.0263	ug/L	1		6020A	Dissolved
Copper, Dissolved	5.75		2.00	0.244	ug/L	1		6020A	Dissolved
Iron, Dissolved	87.2		50.0	6.09	ug/L	1		6020A	Dissolved
Potassium, Dissolved	5260		500	5.82	ug/L	1		6020A	Dissolved
Magnesium, Dissolved	15100		500	1.17	ug/L	1		6020A	Dissolved
Manganese, Dissolved	15.0	B	5.00	0.0389	ug/L	1		6020A	Dissolved
Sodium, Dissolved	60300		500	3.81	ug/L	1		6020A	Dissolved
Nickel, Dissolved	8.93		1.00	0.175	ug/L	1		6020A	Dissolved
Lead, Dissolved	0.161	J	1.00	0.0192	ug/L	1		6020A	Dissolved
Antimony, Dissolved	0.456	J	2.00	0.0187	ug/L	1		6020A	Dissolved
Selenium, Dissolved	1.83	J	5.00	0.422	ug/L	1		6020A	Dissolved
Vanadium, Dissolved	5.05		1.00	0.0824	ug/L	1		6020A	Dissolved
Zinc, Dissolved	303		5.00	0.961	ug/L	1		6020A	Dissolved
Nitrate Nitrite as N	2.42		0.250	0.0850	mg/L	5		353.2	Total/NA
Orthophosphate	0.314	H	0.0500	0.0104	mg/L	1		4500 P E-1999	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-03 (Continued) — Lab Sample ID: 600-129836-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Orthophosphorus as PO4	0.963	H	0.153	0.0318	mg/L	1		4500 P E-1999	Total/NA
Total Organic Carbon	14.1		4.00	1.75	mg/L	4		5310 D-2000	Total/NA

Client Sample ID: MW-20 — Lab Sample ID: 600-129836-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene - DL	45.8	J	200	38.4	ug/L	200		8260B	Total/NA
Tetrachloroethene - DL	4140		200	66.6	ug/L	200		8260B	Total/NA
Trichloroethene - DL	977		200	27.6	ug/L	200		8260B	Total/NA
Vinyl chloride - DL	932		400	49.6	ug/L	200		8260B	Total/NA
cis-1,2-Dichloroethene - DL2	19600		2000	314	ug/L	2000		8260B	Total/NA
Ethane	2.09		2.00	0.303	ug/L	1		RSK-175	Total/NA
Methane	2650		500	179	ug/L	500		RSK-175	Total/NA
Ethylene	19.9		2.00	0.324	ug/L	1		RSK-175	Total/NA
Arsenic, Dissolved	12.7		1.00	0.291	ug/L	1		6020A	Dissolved
Barium, Dissolved	1030		10.0	0.0980	ug/L	1		6020A	Dissolved
Calcium, Dissolved	136000		500	2.84	ug/L	1		6020A	Dissolved
Chromium, Dissolved	1.17	J	2.00	0.543	ug/L	1		6020A	Dissolved
Cobalt, Dissolved	2.07		0.500	0.0263	ug/L	1		6020A	Dissolved
Copper, Dissolved	7.16		2.00	0.244	ug/L	1		6020A	Dissolved
Potassium, Dissolved	426	J	500	5.82	ug/L	1		6020A	Dissolved
Magnesium, Dissolved	14300		500	1.17	ug/L	1		6020A	Dissolved
Manganese, Dissolved	113	B	5.00	0.0389	ug/L	1		6020A	Dissolved
Sodium, Dissolved	54600		500	3.81	ug/L	1		6020A	Dissolved
Nickel, Dissolved	2.27		1.00	0.175	ug/L	1		6020A	Dissolved
Antimony, Dissolved	0.238	J	2.00	0.0187	ug/L	1		6020A	Dissolved
Vanadium, Dissolved	2.26		1.00	0.0824	ug/L	1		6020A	Dissolved
Zinc, Dissolved	24.2		5.00	0.961	ug/L	1		6020A	Dissolved
Orthophosphate	0.0150	J H	0.0500	0.0104	mg/L	1		4500 P E-1999	Total/NA
Orthophosphorus as PO4	0.0461	J H	0.153	0.0318	mg/L	1		4500 P E-1999	Total/NA
Total Organic Carbon	5.29		4.00	1.75	mg/L	4		5310 D-2000	Total/NA

Client Sample ID: MW-21 — Lab Sample ID: 600-129836-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.477	J	1.00	0.333	ug/L	1		8260B	Total/NA
Methane	18.4		1.00	0.357	ug/L	1		RSK-175	Total/NA
Aluminum, Dissolved	11.1	J	30.0	2.57	ug/L	1		6020A	Dissolved
Arsenic, Dissolved	8.84		1.00	0.291	ug/L	1		6020A	Dissolved
Barium, Dissolved	1070		10.0	0.0980	ug/L	1		6020A	Dissolved
Calcium, Dissolved	130000		500	2.84	ug/L	1		6020A	Dissolved
Chromium, Dissolved	1.69	J	2.00	0.543	ug/L	1		6020A	Dissolved
Cobalt, Dissolved	1.12		0.500	0.0263	ug/L	1		6020A	Dissolved
Copper, Dissolved	17.2		2.00	0.244	ug/L	1		6020A	Dissolved
Iron, Dissolved	15.6	J	50.0	6.09	ug/L	1		6020A	Dissolved
Potassium, Dissolved	362	J	500	5.82	ug/L	1		6020A	Dissolved
Magnesium, Dissolved	13200		500	1.17	ug/L	1		6020A	Dissolved
Manganese, Dissolved	571	B	5.00	0.0389	ug/L	1		6020A	Dissolved
Sodium, Dissolved	43700		500	3.81	ug/L	1		6020A	Dissolved
Nickel, Dissolved	3.09		1.00	0.175	ug/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

Client Sample ID: MW-21 (Continued) — Lab Sample ID: 600-129836-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony, Dissolved	0.158	J	2.00	0.0187	ug/L	1		6020A	Dissolved
Selenium, Dissolved	3.45	J	5.00	0.422	ug/L	1		6020A	Dissolved
Vanadium, Dissolved	4.31		1.00	0.0824	ug/L	1		6020A	Dissolved
Zinc, Dissolved	20.5		5.00	0.961	ug/L	1		6020A	Dissolved
Nitrate Nitrite as N	2.74		0.100	0.0340	mg/L	2		353.2	Total/NA
Orthophosphate	0.0255	J H	0.0500	0.0104	mg/L	1		4500 P E-1999	Total/NA
Orthophosphorus as PO4	0.0783	J H	0.153	0.0318	mg/L	1		4500 P E-1999	Total/NA
Total Organic Carbon	1.28		1.00	0.437	mg/L	1		5310 D-2000	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: ER-4

Lab Sample ID: 600-129836-1

Date Collected: 04/22/16 11:25
Matrix: Water
Date Received: 04/25/16 09:49

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	0.192	U	1.00	0.192	ug/L			05/01/16 19:42	1
Tetrachloroethene	0.333	U	1.00	0.333	ug/L			05/01/16 19:42	1
Trichloroethene	0.138	U	1.00	0.138	ug/L			05/01/16 19:42	1
Vinyl chloride	0.248	U	2.00	0.248	ug/L			05/01/16 19:42	1
cis-1,2-Dichloroethene	0.157	U	1.00	0.157	ug/L			05/01/16 19:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*85*		*70 - 130*		*05/01/16 19:42*	*1*
Dibromofluoromethane	*81*		*62 - 130*		*05/01/16 19:42*	*1*
4-Bromofluorobenzene	*121*		*67 - 139*		*05/01/16 19:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*50 - 134*		*05/01/16 19:42*	*1*

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	2.57	U	30.0	2.57	ug/L		04/28/16 09:15	05/09/16 17:34	1
Arsenic, Dissolved	0.291	U	1.00	0.291	ug/L		04/28/16 09:15	05/09/16 17:34	1
Barium, Dissolved	**0.276**	**J**	10.0	0.0980	ug/L		04/28/16 09:15	05/09/16 17:34	1
Beryllium, Dissolved	0.0367	U	1.00	0.0367	ug/L		04/28/16 09:15	05/09/16 17:34	1
Cadmium, Dissolved	0.114	U	1.00	0.114	ug/L		04/28/16 09:15	05/09/16 17:34	1
Calcium, Dissolved	**21.5**	**J**	500	2.84	ug/L		04/28/16 09:15	05/09/16 17:34	1
Chromium, Dissolved	**0.982**	**J**	2.00	0.543	ug/L		04/28/16 09:15	05/09/16 17:34	1
Cobalt, Dissolved	**0.0900**	**J**	0.500	0.0263	ug/L		04/28/16 09:15	05/09/16 17:34	1
Copper, Dissolved	**0.685**	**J**	2.00	0.244	ug/L		04/28/16 09:15	05/09/16 17:34	1
Iron, Dissolved	6.09	U	50.0	6.09	ug/L		04/28/16 09:15	05/09/16 17:34	1
Silver, Dissolved	0.0362	U	1.00	0.0362	ug/L		04/28/16 09:15	05/09/16 17:34	1
Potassium, Dissolved	**30.2**	**J**	500	5.82	ug/L		04/28/16 09:15	05/09/16 17:34	1
Magnesium, Dissolved	**2.43**	**J**	500	1.17	ug/L		04/28/16 09:15	05/09/16 17:34	1
Manganese, Dissolved	**0.469**	**J B**	5.00	0.0389	ug/L		04/28/16 09:15	05/09/16 17:34	1
Sodium, Dissolved	**41.1**	**J**	500	3.81	ug/L		04/28/16 09:15	05/09/16 17:34	1
Nickel, Dissolved	**0.461**	**J**	1.00	0.175	ug/L		04/28/16 09:15	05/09/16 17:34	1
Lead, Dissolved	0.0192	U	1.00	0.0192	ug/L		04/28/16 09:15	05/09/16 17:34	1
Antimony, Dissolved	**2.28**		2.00	0.0187	ug/L		04/28/16 09:15	05/09/16 17:34	1
Selenium, Dissolved	0.422	U	5.00	0.422	ug/L		04/28/16 09:15	05/09/16 17:34	1
Thallium, Dissolved	0.0152	U	1.00	0.0152	ug/L		04/28/16 09:15	05/09/16 17:34	1
Vanadium, Dissolved	**0.305**	**J**	1.00	0.0824	ug/L		04/28/16 09:15	05/09/16 17:34	1
Zinc, Dissolved	**6.12**		5.00	0.961	ug/L		04/28/16 09:15	05/09/16 17:34	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.0521	U	0.200	0.0521	ug/L		04/28/16 09:57	04/28/16 13:55	1

Client Sample ID: FB-4

Lab Sample ID: 600-129836-2

Date Collected: 04/22/16 11:15
Matrix: Water
Date Received: 04/25/16 09:49

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	0.192	U	1.00	0.192	ug/L			05/01/16 20:07	1
Tetrachloroethene	0.333	U	1.00	0.333	ug/L			05/01/16 20:07	1
Trichloroethene	0.138	U	1.00	0.138	ug/L			05/01/16 20:07	1

Client Sample ID: FB-4

Lab Sample ID: 600-129836-2

Date Collected: 04/22/16 11:15
Matrix: Water
Date Received: 04/25/16 09:49

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.248	U	2.00	0.248	ug/L			05/01/16 20:07	1
cis-1,2-Dichloroethene	0.157	U	1.00	0.157	ug/L			05/01/16 20:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*83*		*70 - 130*		*05/01/16 20:07*	*1*
Dibromofluoromethane	*80*		*62 - 130*		*05/01/16 20:07*	*1*
4-Bromofluorobenzene	*122*		*67 - 139*		*05/01/16 20:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*50 - 134*		*05/01/16 20:07*	*1*

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	2.57	U	30.0	2.57	ug/L		04/28/16 09:15	05/09/16 17:39	1
Arsenic, Dissolved	0.291	U	1.00	0.291	ug/L		04/28/16 09:15	05/09/16 17:39	1
Barium, Dissolved	**0.124**	**J**	10.0	0.0980	ug/L		04/28/16 09:15	05/09/16 17:39	1
Beryllium, Dissolved	0.0367	U	1.00	0.0367	ug/L		04/28/16 09:15	05/09/16 17:39	1
Cadmium, Dissolved	0.114	U	1.00	0.114	ug/L		04/28/16 09:15	05/09/16 17:39	1
Calcium, Dissolved	2.84	U	500	2.84	ug/L		04/28/16 09:15	05/09/16 17:39	1
Chromium, Dissolved	**0.681**	**J**	2.00	0.543	ug/L		04/28/16 09:15	05/09/16 17:39	1
Cobalt, Dissolved	**0.0750**	**J**	0.500	0.0263	ug/L		04/28/16 09:15	05/09/16 17:39	1
Copper, Dissolved	**0.278**	**J**	2.00	0.244	ug/L		04/28/16 09:15	05/09/16 17:39	1
Iron, Dissolved	6.09	U	50.0	6.09	ug/L		04/28/16 09:15	05/09/16 17:39	1
Silver, Dissolved	0.0362	U	1.00	0.0362	ug/L		04/28/16 09:15	05/09/16 17:39	1
Potassium, Dissolved	5.82	U	500	5.82	ug/L		04/28/16 09:15	05/09/16 17:39	1
Magnesium, Dissolved	1.17	U	500	1.17	ug/L		04/28/16 09:15	05/09/16 17:39	1
Manganese, Dissolved	**0.165**	**J B**	5.00	0.0389	ug/L		04/28/16 09:15	05/09/16 17:39	1
Sodium, Dissolved	**5.01**	**J**	500	3.81	ug/L		04/28/16 09:15	05/09/16 17:39	1
Nickel, Dissolved	0.175	U	1.00	0.175	ug/L		04/28/16 09:15	05/09/16 17:39	1
Lead, Dissolved	0.0192	U	1.00	0.0192	ug/L		04/28/16 09:15	05/09/16 17:39	1
Antimony, Dissolved	**0.732**	**J**	2.00	0.0187	ug/L		04/28/16 09:15	05/09/16 17:39	1
Selenium, Dissolved	0.422	U	5.00	0.422	ug/L		04/28/16 09:15	05/09/16 17:39	1
Thallium, Dissolved	0.0152	U	1.00	0.0152	ug/L		04/28/16 09:15	05/09/16 17:39	1
Vanadium, Dissolved	**0.182**	**J**	1.00	0.0824	ug/L		04/28/16 09:15	05/09/16 17:39	1
Zinc, Dissolved	0.961	U	5.00	0.961	ug/L		04/28/16 09:15	05/09/16 17:39	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.0521	U	0.200	0.0521	ug/L		04/28/16 09:57	04/28/16 14:01	1

Client Sample ID: MW-01

Lab Sample ID: 600-129836-3

Date Collected: 04/22/16 09:05
Matrix: Water
Date Received: 04/25/16 09:49

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	**27.4**		1.00	0.192	ug/L			05/01/16 19:41	1
Trichloroethene	**20.2**		1.00	0.138	ug/L			05/01/16 19:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*83*		*70 - 130*		*05/01/16 19:41*	*1*
Dibromofluoromethane	*94*		*62 - 130*		*05/01/16 19:41*	*1*
4-Bromofluorobenzene	*88*		*67 - 139*		*05/01/16 19:41*	*1*

Client Sample ID: MW-01

Date Collected: 04/22/16 09:05
Date Received: 04/25/16 09:49

Lab Sample ID: 600-129836-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		50 - 134		05/01/16 19:41	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	**61.3**		20.0	6.66	ug/L			05/04/16 19:30	20
Vinyl chloride	**386**		40.0	4.96	ug/L			05/04/16 19:30	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	103		70 - 130		05/04/16 19:30	20
Dibromofluoromethane	89		62 - 130		05/04/16 19:30	20
4-Bromofluorobenzene	84		67 - 139		05/04/16 19:30	20
1,2-Dichloroethane-d4 (Surr)	101		50 - 134		05/04/16 19:30	20

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	**12300**		500	78.5	ug/L			05/04/16 19:54	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	93		70 - 130		05/04/16 19:54	500
Dibromofluoromethane	88		62 - 130		05/04/16 19:54	500
4-Bromofluorobenzene	84		67 - 139		05/04/16 19:54	500
1,2-Dichloroethane-d4 (Surr)	106		50 - 134		05/04/16 19:54	500

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**3.00**		2.00	0.303	ug/L			04/28/16 15:26	1
Methane	**7430**		1000	357	ug/L			04/29/16 11:53	1000
Ethylene	**64.0**		2.00	0.324	ug/L			04/28/16 15:26	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	2.57	U	30.0	2.57	ug/L		04/28/16 09:15	05/09/16 17:43	1
Arsenic, Dissolved	**129**		1.00	0.291	ug/L		04/28/16 09:15	05/09/16 17:43	1
Barium, Dissolved	**47.3**		10.0	0.0980	ug/L		04/28/16 09:15	05/09/16 17:43	1
Beryllium, Dissolved	0.0367	U	1.00	0.0367	ug/L		04/28/16 09:15	05/09/16 17:43	1
Cadmium, Dissolved	0.114	U	1.00	0.114	ug/L		04/28/16 09:15	05/09/16 17:43	1
Calcium, Dissolved	**208000**		500	2.84	ug/L		04/28/16 09:15	05/09/16 17:43	1
Chromium, Dissolved	**0.561**	**J**	2.00	0.543	ug/L		04/28/16 09:15	05/09/16 17:43	1
Cobalt, Dissolved	**25.2**		0.500	0.0263	ug/L		04/28/16 09:15	05/09/16 17:43	1
Copper, Dissolved	**0.417**	**J**	2.00	0.244	ug/L		04/28/16 09:15	05/09/16 17:43	1
Iron, Dissolved	**40900**		50.0	6.09	ug/L		04/28/16 09:15	05/09/16 17:43	1
Silver, Dissolved	0.0362	U	1.00	0.0362	ug/L		04/28/16 09:15	05/09/16 17:43	1
Potassium, Dissolved	**275000**		500	5.82	ug/L		04/28/16 09:15	05/09/16 17:43	1
Magnesium, Dissolved	**37500**		500	1.17	ug/L		04/28/16 09:15	05/09/16 17:43	1
Manganese, Dissolved	**2200**	**B**	5.00	0.0389	ug/L		04/28/16 09:15	05/09/16 17:43	1
Sodium, Dissolved	**147000**		500	3.81	ug/L		04/28/16 09:15	05/09/16 17:43	1
Nickel, Dissolved	**23.8**		1.00	0.175	ug/L		04/28/16 09:15	05/09/16 17:43	1
Lead, Dissolved	0.0192	U	1.00	0.0192	ug/L		04/28/16 09:15	05/09/16 17:43	1
Antimony, Dissolved	**0.931**	**J**	2.00	0.0187	ug/L		04/28/16 09:15	05/09/16 17:43	1
Selenium, Dissolved	0.422	U	5.00	0.422	ug/L		04/28/16 09:15	05/09/16 17:43	1

Client Sample ID: MW-01

Lab Sample ID: 600-129836-3
Date Collected: 04/22/16 09:05
Matrix: Water
Date Received: 04/25/16 09:49

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium, Dissolved	0.0152	U	1.00	0.0152	ug/L		04/28/16 09:15	05/09/16 17:43	1
Vanadium, Dissolved	**0.684**	**J**	1.00	0.0824	ug/L		04/28/16 09:15	05/09/16 17:43	1
Zinc, Dissolved	**2.89**	**J**	5.00	0.961	ug/L		04/28/16 09:15	05/09/16 17:43	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.0521	U	0.200	0.0521	ug/L		04/28/16 09:57	04/28/16 14:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**7.35**		0.200	0.0675	mg/L		05/10/16 06:56	05/10/16 11:11	1
Nitrate Nitrite as N	0.0170	U	0.0500	0.0170	mg/L			04/29/16 18:48	1
Orthophosphate	**16.8**	**H**	1.25	0.259	mg/L			04/25/16 19:55	25
Orthophosphorus as PO4	**51.6**	**H**	3.83	0.794	mg/L			04/25/16 19:55	25
Total Organic Carbon	**1690**		100	43.7	mg/L			05/11/16 09:05	100

Client Sample ID: MW-02-DUP

Lab Sample ID: 600-129836-4
Date Collected: 04/22/16 15:25
Matrix: Water
Date Received: 04/25/16 09:49

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	**1.78**		1.00	0.192	ug/L			05/01/16 17:40	1
Tetrachloroethene	**12.8**		1.00	0.333	ug/L			05/01/16 17:40	1
Trichloroethene	**3.01**		1.00	0.138	ug/L			05/01/16 17:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*87*		*70 - 130*		*05/01/16 17:40*	*1*
Dibromofluoromethane	*103*		*62 - 130*		*05/01/16 17:40*	*1*
4-Bromofluorobenzene	*79*		*67 - 139*		*05/01/16 17:40*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*50 - 134*		*05/01/16 17:40*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**270**		50.0	6.20	ug/L			05/02/16 18:52	25
cis-1,2-Dichloroethene	**337**		25.0	3.93	ug/L			05/02/16 18:52	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*90*		*70 - 130*		*05/02/16 18:52*	*25*
Dibromofluoromethane	*99*		*62 - 130*		*05/02/16 18:52*	*25*
4-Bromofluorobenzene	*96*		*67 - 139*		*05/02/16 18:52*	*25*
1,2-Dichloroethane-d4 (Surr)	*100*		*50 - 134*		*05/02/16 18:52*	*25*

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	**3.75**		2.00	0.303	ug/L			04/28/16 15:38	1
Methane	**11000**		500	179	ug/L			04/29/16 13:22	500
Ethylene	**6.37**		2.00	0.324	ug/L			04/28/16 15:38	1

Client Sample ID: MW-02-DUP

Lab Sample ID: 600-129836-4

Date Collected: 04/22/16 15:25
Date Received: 04/25/16 09:49

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	6.13	J	30.0	2.57	ug/L		04/28/16 09:15	05/09/16 17:48	1
Arsenic, Dissolved	26.2		1.00	0.291	ug/L		04/28/16 09:15	05/09/16 17:48	1
Barium, Dissolved	20.1		10.0	0.0980	ug/L		04/28/16 09:15	05/09/16 17:48	1
Beryllium, Dissolved	0.0367	U	1.00	0.0367	ug/L		04/28/16 09:15	05/09/16 17:48	1
Cadmium, Dissolved	0.114	U	1.00	0.114	ug/L		04/28/16 09:15	05/09/16 17:48	1
Calcium, Dissolved	47800		500	2.84	ug/L		04/28/16 09:15	05/09/16 17:48	1
Chromium, Dissolved	1.10	J	2.00	0.543	ug/L		04/28/16 09:15	05/09/16 17:48	1
Cobalt, Dissolved	12.1		0.500	0.0263	ug/L		04/28/16 09:15	05/09/16 17:48	1
Copper, Dissolved	1.59	J	2.00	0.244	ug/L		04/28/16 09:15	05/09/16 17:48	1
Iron, Dissolved	7100		50.0	6.09	ug/L		04/28/16 09:15	05/09/16 17:48	1
Silver, Dissolved	0.0362	U	1.00	0.0362	ug/L		04/28/16 09:15	05/09/16 17:48	1
Potassium, Dissolved	34100		500	5.82	ug/L		04/28/16 09:15	05/09/16 17:48	1
Magnesium, Dissolved	6890		500	1.17	ug/L		04/28/16 09:15	05/09/16 17:48	1
Manganese, Dissolved	1180	B	5.00	0.0389	ug/L		04/28/16 09:15	05/09/16 17:48	1
Sodium, Dissolved	53900		500	3.81	ug/L		04/28/16 09:15	05/09/16 17:48	1
Nickel, Dissolved	7.23		1.00	0.175	ug/L		04/28/16 09:15	05/09/16 17:48	1
Lead, Dissolved	0.0200	J	1.00	0.0192	ug/L		04/28/16 09:15	05/09/16 17:48	1
Antimony, Dissolved	0.830	J	2.00	0.0187	ug/L		04/28/16 09:15	05/09/16 17:48	1
Selenium, Dissolved	0.422	U	5.00	0.422	ug/L		04/28/16 09:15	05/09/16 17:48	1
Thallium, Dissolved	0.0152	U	1.00	0.0152	ug/L		04/28/16 09:15	05/09/16 17:48	1
Vanadium, Dissolved	0.696	J	1.00	0.0824	ug/L		04/28/16 09:15	05/09/16 17:48	1
Zinc, Dissolved	9.31		5.00	0.961	ug/L		04/28/16 09:15	05/09/16 17:48	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.0521	U	0.200	0.0521	ug/L		04/28/16 09:57	04/28/16 14:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.555		0.200	0.0675	mg/L		05/10/16 06:56	05/10/16 11:14	1
Nitrate Nitrite as N	0.0170	U	0.0500	0.0170	mg/L			04/29/16 18:48	1
Orthophosphate	4.01	H	1.25	0.259	mg/L			04/25/16 19:55	25
Orthophosphorus as PO4	12.3	H	3.83	0.794	mg/L			04/25/16 19:55	25
Total Organic Carbon	94.0		4.00	1.75	mg/L			05/10/16 11:36	4

Client Sample ID: MW-02

Lab Sample ID: 600-129836-5

Date Collected: 04/22/16 15:25
Date Received: 04/25/16 09:49

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	1.88		1.00	0.192	ug/L			05/01/16 18:04	1
Tetrachloroethene	13.0		1.00	0.333	ug/L			05/01/16 18:04	1
Trichloroethene	3.08		1.00	0.138	ug/L			05/01/16 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*90*		*70 - 130*		*05/01/16 18:04*	*1*
Dibromofluoromethane	*103*		*62 - 130*		*05/01/16 18:04*	*1*
4-Bromofluorobenzene	*86*		*67 - 139*		*05/01/16 18:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*50 - 134*		*05/01/16 18:04*	*1*

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

Client Sample ID: MW-02

Date Collected: 04/22/16 15:25
Date Received: 04/25/16 09:49

Lab Sample ID: 600-129836-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	**237**		50.0	6.20	ug/L			05/02/16 19:16	25
cis-1,2-Dichloroethene	**351**		25.0	3.93	ug/L			05/02/16 19:16	25

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*89*		*70 - 130*		*05/02/16 19:16*	*25*
Dibromofluoromethane	*105*		*62 - 130*		*05/02/16 19:16*	*25*
4-Bromofluorobenzene	*95*		*67 - 139*		*05/02/16 19:16*	*25*
1,2-Dichloroethane-d4 (Surr)	*112*		*50 - 134*		*05/02/16 19:16*	*25*

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	0.303	U	2.00	0.303	ug/L			04/28/16 15:49	1
Methane	**16800**		1000	357	ug/L			04/29/16 13:38	1000
Ethylene	**8.82**		2.00	0.324	ug/L			04/28/16 15:49	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	**9.38**	**J**	30.0	2.57	ug/L		04/28/16 09:15	05/09/16 18:02	1
Arsenic, Dissolved	**37.0**		1.00	0.291	ug/L		04/28/16 09:15	05/09/16 18:02	1
Barium, Dissolved	**21.7**		10.0	0.0980	ug/L		04/28/16 09:15	05/09/16 18:02	1
Beryllium, Dissolved	0.0367	U	1.00	0.0367	ug/L		04/28/16 09:15	05/09/16 18:02	1
Cadmium, Dissolved	0.114	U	1.00	0.114	ug/L		04/28/16 09:15	05/09/16 18:02	1
Calcium, Dissolved	**52300**		500	2.84	ug/L		04/28/16 09:15	05/09/16 18:02	1
Chromium, Dissolved	**1.19**	**J**	2.00	0.543	ug/L		04/28/16 09:15	05/09/16 18:02	1
Cobalt, Dissolved	**12.6**		0.500	0.0263	ug/L		04/28/16 09:15	05/09/16 18:02	1
Copper, Dissolved	**1.98**	**J**	2.00	0.244	ug/L		04/28/16 09:15	05/09/16 18:02	1
Iron, Dissolved	**8740**		50.0	6.09	ug/L		04/28/16 09:15	05/09/16 18:02	1
Silver, Dissolved	0.0362	U	1.00	0.0362	ug/L		04/28/16 09:15	05/09/16 18:02	1
Potassium, Dissolved	**37600**		500	5.82	ug/L		04/28/16 09:15	05/09/16 18:02	1
Magnesium, Dissolved	**7420**		500	1.17	ug/L		04/28/16 09:15	05/09/16 18:02	1
Manganese, Dissolved	**1250**	**B**	5.00	0.0389	ug/L		04/28/16 09:15	05/09/16 18:02	1
Sodium, Dissolved	**53400**		500	3.81	ug/L		04/28/16 09:15	05/09/16 18:02	1
Nickel, Dissolved	**7.49**		1.00	0.175	ug/L		04/28/16 09:15	05/09/16 18:02	1
Lead, Dissolved	**0.0970**	**J**	1.00	0.0192	ug/L		04/28/16 09:15	05/09/16 18:02	1
Antimony, Dissolved	**0.808**	**J**	2.00	0.0187	ug/L		04/28/16 09:15	05/09/16 18:02	1
Selenium, Dissolved	0.422	U	5.00	0.422	ug/L		04/28/16 09:15	05/09/16 18:02	1
Thallium, Dissolved	0.0152	U	1.00	0.0152	ug/L		04/28/16 09:15	05/09/16 18:02	1
Vanadium, Dissolved	0.0824	U	1.00	0.0824	ug/L		04/28/16 09:15	05/09/16 18:02	1
Zinc, Dissolved	**6.44**		5.00	0.961	ug/L		04/28/16 09:15	05/09/16 18:02	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.0521	U	0.200	0.0521	ug/L		04/28/16 09:57	04/28/16 14:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.517**		0.200	0.0675	mg/L		05/10/16 06:56	05/10/16 11:15	1
Nitrate Nitrite as N	0.0170	U	0.0500	0.0170	mg/L			04/29/16 18:48	1
Orthophosphate	**5.32**	**H**	1.25	0.259	mg/L			04/25/16 19:55	25
Orthophosphorus as PO4	**16.3**	**H**	3.83	0.794	mg/L			04/25/16 19:55	25
Total Organic Carbon	**89.9**		4.00	1.75	mg/L			05/10/16 11:36	4

Client Sample Results

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

Client Sample ID: MW-03

Date Collected: 04/22/16 16:50
Date Received: 04/25/16 09:49

Lab Sample ID: 600-129836-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	0.192	U	1.00	0.192	ug/L			05/01/16 18:29	1
Tetrachloroethene	**2.22**		1.00	0.333	ug/L			05/01/16 18:29	1
Trichloroethene	**2.03**		1.00	0.138	ug/L			05/01/16 18:29	1
Vinyl chloride	**0.663**	**J**	2.00	0.248	ug/L			05/01/16 18:29	1
cis-1,2-Dichloroethene	**15.3**		1.00	0.157	ug/L			05/01/16 18:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*94*		*70 - 130*		*05/01/16 18:29*	*1*
Dibromofluoromethane	*110*		*62 - 130*		*05/01/16 18:29*	*1*
4-Bromofluorobenzene	*87*		*67 - 139*		*05/01/16 18:29*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*50 - 134*		*05/01/16 18:29*	*1*

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	0.303	U	2.00	0.303	ug/L			04/28/16 16:27	1
Methane	**3.27**		1.00	0.357	ug/L			04/28/16 16:27	1
Ethylene	0.324	U	2.00	0.324	ug/L			04/28/16 16:27	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	**39.1**		30.0	2.57	ug/L		04/28/16 09:15	05/09/16 18:07	1
Arsenic, Dissolved	**13.9**		1.00	0.291	ug/L		04/28/16 09:15	05/09/16 18:07	1
Barium, Dissolved	**348**		10.0	0.0980	ug/L		04/28/16 09:15	05/09/16 18:07	1
Beryllium, Dissolved	0.0367	U	1.00	0.0367	ug/L		04/28/16 09:15	05/09/16 18:07	1
Cadmium, Dissolved	**0.610**	**J**	1.00	0.114	ug/L		04/28/16 09:15	05/09/16 18:07	1
Calcium, Dissolved	**133000**		500	2.84	ug/L		04/28/16 09:15	05/09/16 18:07	1
Chromium, Dissolved	**2.03**		2.00	0.543	ug/L		04/28/16 09:15	05/09/16 18:07	1
Cobalt, Dissolved	**2.49**		0.500	0.0263	ug/L		04/28/16 09:15	05/09/16 18:07	1
Copper, Dissolved	**5.75**		2.00	0.244	ug/L		04/28/16 09:15	05/09/16 18:07	1
Iron, Dissolved	**87.2**		50.0	6.09	ug/L		04/28/16 09:15	05/09/16 18:07	1
Silver, Dissolved	0.0362	U	1.00	0.0362	ug/L		04/28/16 09:15	05/09/16 18:07	1
Potassium, Dissolved	**5260**		500	5.82	ug/L		04/28/16 09:15	05/09/16 18:07	1
Magnesium, Dissolved	**15100**		500	1.17	ug/L		04/28/16 09:15	05/09/16 18:07	1
Manganese, Dissolved	**15.0**	**B**	5.00	0.0389	ug/L		04/28/16 09:15	05/09/16 18:07	1
Sodium, Dissolved	**60300**		500	3.81	ug/L		04/28/16 09:15	05/09/16 18:07	1
Nickel, Dissolved	**8.93**		1.00	0.175	ug/L		04/28/16 09:15	05/09/16 18:07	1
Lead, Dissolved	**0.161**	**J**	1.00	0.0192	ug/L		04/28/16 09:15	05/09/16 18:07	1
Antimony, Dissolved	**0.456**	**J**	2.00	0.0187	ug/L		04/28/16 09:15	05/09/16 18:07	1
Selenium, Dissolved	**1.83**	**J**	5.00	0.422	ug/L		04/28/16 09:15	05/09/16 18:07	1
Thallium, Dissolved	0.0152	U	1.00	0.0152	ug/L		04/28/16 09:15	05/09/16 18:07	1
Vanadium, Dissolved	**5.05**		1.00	0.0824	ug/L		04/28/16 09:15	05/09/16 18:07	1
Zinc, Dissolved	**303**		5.00	0.961	ug/L		04/28/16 09:15	05/09/16 18:07	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.0521	U	0.200	0.0521	ug/L		04/28/16 09:57	04/28/16 14:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.0675	U	0.200	0.0675	mg/L		05/10/16 06:56	05/10/16 11:16	1

Client Sample ID: MW-03

Lab Sample ID: 600-129836-6

Date Collected: 04/22/16 16:50
Matrix: Water
Date Received: 04/25/16 09:49

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	2.42		0.250	0.0850	mg/L			04/29/16 18:48	5
Orthophosphate	0.314	H	0.0500	0.0104	mg/L			04/25/16 19:56	1
Orthophosphorus as PO4	0.963	H	0.153	0.0318	mg/L			04/25/16 19:56	1
Total Organic Carbon	14.1		4.00	1.75	mg/L			05/10/16 11:36	4

Client Sample ID: MW-20

Lab Sample ID: 600-129836-7

Date Collected: 04/22/16 14:00
Matrix: Water
Date Received: 04/25/16 09:49

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	45.8	J	200	38.4	ug/L			05/02/16 19:39	200
Tetrachloroethene	4140		200	66.6	ug/L			05/02/16 19:39	200
Trichloroethene	977		200	27.6	ug/L			05/02/16 19:39	200
Vinyl chloride	932		400	49.6	ug/L			05/02/16 19:39	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*88*		*70 - 130*		*05/02/16 19:39*	*200*
Dibromofluoromethane	*106*		*62 - 130*		*05/02/16 19:39*	*200*
4-Bromofluorobenzene	*100*		*67 - 139*		*05/02/16 19:39*	*200*
1,2-Dichloroethane-d4 (Surr)	*109*		*50 - 134*		*05/02/16 19:39*	*200*

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	19600		2000	314	ug/L			05/04/16 15:31	2000

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*70 - 130*		*05/04/16 15:31*	*2000*
Dibromofluoromethane	*83*		*62 - 130*		*05/04/16 15:31*	*2000*
4-Bromofluorobenzene	*95*		*67 - 139*		*05/04/16 15:31*	*2000*
1,2-Dichloroethane-d4 (Surr)	*106*		*50 - 134*		*05/04/16 15:31*	*2000*

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	2.09		2.00	0.303	ug/L			04/28/16 16:38	1
Methane	2650		500	179	ug/L			04/29/16 13:49	500
Ethylene	19.9		2.00	0.324	ug/L			04/28/16 16:38	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	2.57	U	30.0	2.57	ug/L		04/28/16 09:15	05/09/16 18:12	1
Arsenic, Dissolved	12.7		1.00	0.291	ug/L		04/28/16 09:15	05/09/16 18:12	1
Barium, Dissolved	1030		10.0	0.0980	ug/L		04/28/16 09:15	05/09/16 18:12	1
Beryllium, Dissolved	0.0367	U	1.00	0.0367	ug/L		04/28/16 09:15	05/09/16 18:12	1
Cadmium, Dissolved	0.114	U	1.00	0.114	ug/L		04/28/16 09:15	05/09/16 18:12	1
Calcium, Dissolved	136000		500	2.84	ug/L		04/28/16 09:15	05/09/16 18:12	1
Chromium, Dissolved	1.17	J	2.00	0.543	ug/L		04/28/16 09:15	05/09/16 18:12	1
Cobalt, Dissolved	2.07		0.500	0.0263	ug/L		04/28/16 09:15	05/09/16 18:12	1
Copper, Dissolved	7.16		2.00	0.244	ug/L		04/28/16 09:15	05/09/16 18:12	1
Iron, Dissolved	6.09	U	50.0	6.09	ug/L		04/28/16 09:15	05/09/16 18:12	1
Silver, Dissolved	0.0362	U	1.00	0.0362	ug/L		04/28/16 09:15	05/09/16 18:12	1

Client Sample ID: MW-20

Lab Sample ID: 600-129836-7

Date Collected: 04/22/16 14:00
Matrix: Water
Date Received: 04/25/16 09:49

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium, Dissolved	**426**	**J**	500	5.82	ug/L		04/28/16 09:15	05/09/16 18:12	1
Magnesium, Dissolved	**14300**		500	1.17	ug/L		04/28/16 09:15	05/09/16 18:12	1
Manganese, Dissolved	**113**	**B**	5.00	0.0389	ug/L		04/28/16 09:15	05/09/16 18:12	1
Sodium, Dissolved	**54600**		500	3.81	ug/L		04/28/16 09:15	05/09/16 18:12	1
Nickel, Dissolved	**2.27**		1.00	0.175	ug/L		04/28/16 09:15	05/09/16 18:12	1
Lead, Dissolved	0.0192	U	1.00	0.0192	ug/L		04/28/16 09:15	05/09/16 18:12	1
Antimony, Dissolved	**0.238**	**J**	2.00	0.0187	ug/L		04/28/16 09:15	05/09/16 18:12	1
Selenium, Dissolved	0.422	U	5.00	0.422	ug/L		04/28/16 09:15	05/09/16 18:12	1
Thallium, Dissolved	0.0152	U	1.00	0.0152	ug/L		04/28/16 09:15	05/09/16 18:12	1
Vanadium, Dissolved	**2.26**		1.00	0.0824	ug/L		04/28/16 09:15	05/09/16 18:12	1
Zinc, Dissolved	**24.2**		5.00	0.961	ug/L		04/28/16 09:15	05/09/16 18:12	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.0521	U	0.200	0.0521	ug/L		04/28/16 09:57	04/28/16 14:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.0675	U	0.200	0.0675	mg/L		05/10/16 06:56	05/10/16 11:20	1
Nitrate Nitrite as N	0.0170	U	0.0500	0.0170	mg/L			04/29/16 18:48	1
Orthophosphate	**0.0150**	**J H**	0.0500	0.0104	mg/L			04/25/16 19:56	1
Orthophosphorus as PO4	**0.0461**	**J H**	0.153	0.0318	mg/L			04/25/16 19:56	1
Total Organic Carbon	**5.29**		4.00	1.75	mg/L			05/10/16 11:36	4

Client Sample ID: MW-21

Lab Sample ID: 600-129836-8

Date Collected: 04/22/16 10:55
Matrix: Water
Date Received: 04/25/16 09:49

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	0.192	U	1.00	0.192	ug/L			05/02/16 18:28	1
Tetrachloroethene	**0.477**	**J**	1.00	0.333	ug/L			05/02/16 18:28	1
Trichloroethene	0.138	U	1.00	0.138	ug/L			05/02/16 18:28	1
Vinyl chloride	0.248	U	2.00	0.248	ug/L			05/02/16 18:28	1
cis-1,2-Dichloroethene	0.157	U	1.00	0.157	ug/L			05/02/16 18:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*89*		*70 - 130*		*05/02/16 18:28*	*1*
Dibromofluoromethane	*98*		*62 - 130*		*05/02/16 18:28*	*1*
4-Bromofluorobenzene	*92*		*67 - 139*		*05/02/16 18:28*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*50 - 134*		*05/02/16 18:28*	*1*

Method: RSK-175 - Dissolved Gases in Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	0.303	U	2.00	0.303	ug/L			04/28/16 16:49	1
Methane	**18.4**		1.00	0.357	ug/L			04/28/16 16:49	1
Ethylene	0.324	U	2.00	0.324	ug/L			04/28/16 16:49	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	**11.1**	**J**	30.0	2.57	ug/L		04/28/16 09:15	05/09/16 18:17	1

Client Sample ID: MW-21

Date Collected: 04/22/16 10:55
Date Received: 04/25/16 09:49

Lab Sample ID: 600-129836-8

Matrix: Water

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic, Dissolved	**8.84**		1.00	0.291	ug/L		04/28/16 09:15	05/09/16 18:17	1
Barium, Dissolved	**1070**		10.0	0.0980	ug/L		04/28/16 09:15	05/09/16 18:17	1
Beryllium, Dissolved	0.0367	U	1.00	0.0367	ug/L		04/28/16 09:15	05/09/16 18:17	1
Cadmium, Dissolved	0.114	U	1.00	0.114	ug/L		04/28/16 09:15	05/09/16 18:17	1
Calcium, Dissolved	**130000**		500	2.84	ug/L		04/28/16 09:15	05/09/16 18:17	1
Chromium, Dissolved	**1.69**	**J**	2.00	0.543	ug/L		04/28/16 09:15	05/09/16 18:17	1
Cobalt, Dissolved	**1.12**		0.500	0.0263	ug/L		04/28/16 09:15	05/09/16 18:17	1
Copper, Dissolved	**17.2**		2.00	0.244	ug/L		04/28/16 09:15	05/09/16 18:17	1
Iron, Dissolved	**15.6**	**J**	50.0	6.09	ug/L		04/28/16 09:15	05/09/16 18:17	1
Silver, Dissolved	0.0362	U	1.00	0.0362	ug/L		04/28/16 09:15	05/09/16 18:17	1
Potassium, Dissolved	**362**	**J**	500	5.82	ug/L		04/28/16 09:15	05/09/16 18:17	1
Magnesium, Dissolved	**13200**		500	1.17	ug/L		04/28/16 09:15	05/09/16 18:17	1
Manganese, Dissolved	**571**	**B**	5.00	0.0389	ug/L		04/28/16 09:15	05/09/16 18:17	1
Sodium, Dissolved	**43700**		500	3.81	ug/L		04/28/16 09:15	05/09/16 18:17	1
Nickel, Dissolved	**3.09**		1.00	0.175	ug/L		04/28/16 09:15	05/09/16 18:17	1
Lead, Dissolved	0.0192	U	1.00	0.0192	ug/L		04/28/16 09:15	05/09/16 18:17	1
Antimony, Dissolved	**0.158**	**J**	2.00	0.0187	ug/L		04/28/16 09:15	05/09/16 18:17	1
Selenium, Dissolved	**3.45**	**J**	5.00	0.422	ug/L		04/28/16 09:15	05/09/16 18:17	1
Thallium, Dissolved	0.0152	U	1.00	0.0152	ug/L		04/28/16 09:15	05/09/16 18:17	1
Vanadium, Dissolved	**4.31**		1.00	0.0824	ug/L		04/28/16 09:15	05/09/16 18:17	1
Zinc, Dissolved	**20.5**		5.00	0.961	ug/L		04/28/16 09:15	05/09/16 18:17	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.0521	U	0.200	0.0521	ug/L		04/28/16 09:57	04/28/16 14:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.0675	U	0.200	0.0675	mg/L		05/10/16 06:56	05/10/16 11:21	1
Nitrate Nitrite as N	**2.74**		0.100	0.0340	mg/L			04/29/16 18:48	2
Orthophosphate	**0.0255**	**J H**	0.0500	0.0104	mg/L			04/25/16 19:56	1
Orthophosphorus as PO4	**0.0783**	**J H**	0.153	0.0318	mg/L			04/25/16 19:56	1
Total Organic Carbon	**1.28**		1.00	0.437	mg/L			05/11/16 09:05	1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

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

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

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

		Percent Surrogate Recovery (Acceptance Limits)			
		TOL	DBFM	BFB	12DCE
Lab Sample ID	Client Sample ID	(70-130)	(62-130)	(67-139)	(50-134)
600-129836-1	ER-4	85	81	121	99
600-129836-2	FB-4	83	80	122	98
600-129836-3	MW-01	83	94	88	97
600-129836-3 - DL	MW-01	103	89	84	101
600-129836-3 - DL2	MW-01	93	88	84	106
600-129836-4	MW-02-DUP	87	103	79	110
600-129836-4 - DL	MW-02-DUP	90	99	96	100
600-129836-5	MW-02	90	103	86	108
600-129836-5 - DL	MW-02	89	105	95	112
600-129836-6	MW-03	94	110	87	114
600-129836-7 - DL	MW-20	88	106	100	109
600-129836-7 - DL2	MW-20	101	83	95	106
600-129836-8	MW-21	89	98	92	104
LCS 600-187554/3	Lab Control Sample	79	97	96	103
LCS 600-187555/3	Lab Control Sample	86	81	127	88
LCS 600-187577/4	Lab Control Sample	74	94	90	109
LCS 600-187782/1010	Lab Control Sample	113	101	108	100
LCSD 600-187554/4	Lab Control Sample Dup	75	91	94	107
LCSD 600-187555/4	Lab Control Sample Dup	87	82	127	89
LCSD 600-187577/5	Lab Control Sample Dup	74	91	88	108
LCSD 600-187782/11	Lab Control Sample Dup	97	89	93	99
MB 600-187554/6	Method Blank	93	102	96	102
MB 600-187555/6	Method Blank	83	80	122	97
MB 600-187577/9	Method Blank	92	105	96	106
MB 600-187782/13	Method Blank	126	92	107	98

Surrogate Legend

TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane
BFB = 4-Bromofluorobenzene
12DCE = 1,2-Dichloroethane-d4 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 600-187554/6
Matrix: Water
Analysis Batch: 187554

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	0.192	U	1.00	0.192	ug/L			05/01/16 11:33	1
Tetrachloroethene	0.333	U	1.00	0.333	ug/L			05/01/16 11:33	1
Trichloroethene	0.138	U	1.00	0.138	ug/L			05/01/16 11:33	1
Vinyl chloride	0.248	U	2.00	0.248	ug/L			05/01/16 11:33	1
cis-1,2-Dichloroethene	0.157	U	1.00	0.157	ug/L			05/01/16 11:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*93*		*70 - 130*		*05/01/16 11:33*	*1*
Dibromofluoromethane	*102*		*62 - 130*		*05/01/16 11:33*	*1*
4-Bromofluorobenzene	*96*		*67 - 139*		*05/01/16 11:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*50 - 134*		*05/01/16 11:33*	*1*

Lab Sample ID: LCS 600-187554/3
Matrix: Water
Analysis Batch: 187554

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	10.0	8.540		ug/L		85	68 - 131
Tetrachloroethene	10.0	10.15		ug/L		102	47 - 150
Trichloroethene	10.0	10.49		ug/L		105	70 - 130
Vinyl chloride	10.0	10.29		ug/L		103	33 - 150
cis-1,2-Dichloroethene	10.0	8.282		ug/L		83	68 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*79*		*70 - 130*
Dibromofluoromethane	*97*		*62 - 130*
4-Bromofluorobenzene	*96*		*67 - 139*
1,2-Dichloroethane-d4 (Surr)	*103*		*50 - 134*

Lab Sample ID: LCSD 600-187554/4
Matrix: Water
Analysis Batch: 187554

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	10.0	7.974		ug/L		80	68 - 131	7	20
Tetrachloroethene	10.0	9.715		ug/L		97	47 - 150	4	20
Trichloroethene	10.0	9.940		ug/L		99	70 - 130	5	20
Vinyl chloride	10.0	8.678		ug/L		87	33 - 150	17	20
cis-1,2-Dichloroethene	10.0	8.014		ug/L		80	68 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*75*		*70 - 130*
Dibromofluoromethane	*91*		*62 - 130*
4-Bromofluorobenzene	*94*		*67 - 139*
1,2-Dichloroethane-d4 (Surr)	*107*		*50 - 134*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-187555/6 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 187555

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	0.192	U	1.00	0.192	ug/L			05/01/16 11:32	1
Tetrachloroethene	0.333	U	1.00	0.333	ug/L			05/01/16 11:32	1
Trichloroethene	0.138	U	1.00	0.138	ug/L			05/01/16 11:32	1
Vinyl chloride	0.248	U	2.00	0.248	ug/L			05/01/16 11:32	1
cis-1,2-Dichloroethene	0.157	U	1.00	0.157	ug/L			05/01/16 11:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*83*		*70 - 130*		*05/01/16 11:32*	*1*
Dibromofluoromethane	*80*		*62 - 130*		*05/01/16 11:32*	*1*
4-Bromofluorobenzene	*122*		*67 - 139*		*05/01/16 11:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*50 - 134*		*05/01/16 11:32*	*1*

Lab Sample ID: LCS 600-187555/3 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 187555

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	10.0	7.070		ug/L		71	68 - 131
Tetrachloroethene	10.0	9.310		ug/L		93	47 - 150
Trichloroethene	10.0	7.962		ug/L		80	70 - 130
Vinyl chloride	10.0	9.901		ug/L		99	33 - 150
cis-1,2-Dichloroethene	10.0	7.509		ug/L		75	68 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*86*		*70 - 130*
Dibromofluoromethane	*81*		*62 - 130*
4-Bromofluorobenzene	*127*		*67 - 139*
1,2-Dichloroethane-d4 (Surr)	*88*		*50 - 134*

Lab Sample ID: LCSD 600-187555/4 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 187555

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	10.0	7.324		ug/L		73	68 - 131	4	20
Tetrachloroethene	10.0	9.632		ug/L		96	47 - 150	3	20
Trichloroethene	10.0	8.150		ug/L		82	70 - 130	2	20
Vinyl chloride	10.0	10.56		ug/L		106	33 - 150	6	20
cis-1,2-Dichloroethene	10.0	7.728		ug/L		77	68 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*87*		*70 - 130*
Dibromofluoromethane	*82*		*62 - 130*
4-Bromofluorobenzene	*127*		*67 - 139*
1,2-Dichloroethane-d4 (Surr)	*89*		*50 - 134*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-187577/9
Matrix: Water
Analysis Batch: 187577

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	0.192	U	1.00	0.192	ug/L			05/02/16 12:07	1
Tetrachloroethene	0.333	U	1.00	0.333	ug/L			05/02/16 12:07	1
Trichloroethene	0.138	U	1.00	0.138	ug/L			05/02/16 12:07	1
Vinyl chloride	0.248	U	2.00	0.248	ug/L			05/02/16 12:07	1
cis-1,2-Dichloroethene	0.157	U	1.00	0.157	ug/L			05/02/16 12:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*92*		*70 - 130*		*05/02/16 12:07*	*1*
Dibromofluoromethane	*105*		*62 - 130*		*05/02/16 12:07*	*1*
4-Bromofluorobenzene	*96*		*67 - 139*		*05/02/16 12:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*50 - 134*		*05/02/16 12:07*	*1*

Lab Sample ID: LCS 600-187577/4
Matrix: Water
Analysis Batch: 187577

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	10.0	7.746		ug/L		77	68 - 131
Tetrachloroethene	10.0	9.305		ug/L		93	47 - 150
Trichloroethene	10.0	10.09		ug/L		101	70 - 130
Vinyl chloride	10.0	8.591		ug/L		86	33 - 150
cis-1,2-Dichloroethene	10.0	8.220		ug/L		82	68 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*74*		*70 - 130*
Dibromofluoromethane	*94*		*62 - 130*
4-Bromofluorobenzene	*90*		*67 - 139*
1,2-Dichloroethane-d4 (Surr)	*109*		*50 - 134*

Lab Sample ID: LCSD 600-187577/5
Matrix: Water
Analysis Batch: 187577

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	10.0	7.897		ug/L		79	68 - 131	2	20
Tetrachloroethene	10.0	9.375		ug/L		94	47 - 150	1	20
Trichloroethene	10.0	10.08		ug/L		101	70 - 130	0	20
Vinyl chloride	10.0	8.954		ug/L		90	33 - 150	4	20
cis-1,2-Dichloroethene	10.0	8.098		ug/L		81	68 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*74*		*70 - 130*
Dibromofluoromethane	*91*		*62 - 130*
4-Bromofluorobenzene	*88*		*67 - 139*
1,2-Dichloroethane-d4 (Surr)	*108*		*50 - 134*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 600-187782/13
Matrix: Water
Analysis Batch: 187782

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	0.192	U	1.00	0.192	ug/L			05/04/16 14:14	1
Tetrachloroethene	0.333	U	1.00	0.333	ug/L			05/04/16 14:14	1
Trichloroethene	0.138	U	1.00	0.138	ug/L			05/04/16 14:14	1
Vinyl chloride	0.248	U	2.00	0.248	ug/L			05/04/16 14:14	1
cis-1,2-Dichloroethene	0.157	U	1.00	0.157	ug/L			05/04/16 14:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*126*		*70 - 130*		*05/04/16 14:14*	*1*
Dibromofluoromethane	*92*		*62 - 130*		*05/04/16 14:14*	*1*
4-Bromofluorobenzene	*107*		*67 - 139*		*05/04/16 14:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*50 - 134*		*05/04/16 14:14*	*1*

Lab Sample ID: LCS 600-187782/1010
Matrix: Water
Analysis Batch: 187782

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	10.0	9.653		ug/L		97	68 - 131
Tetrachloroethene	10.0	9.211		ug/L		92	47 - 150
Trichloroethene	10.0	9.585		ug/L		96	70 - 130
Vinyl chloride	10.0	11.11		ug/L		111	33 - 150
cis-1,2-Dichloroethene	10.0	9.427		ug/L		94	68 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*113*		*70 - 130*
Dibromofluoromethane	*101*		*62 - 130*
4-Bromofluorobenzene	*108*		*67 - 139*
1,2-Dichloroethane-d4 (Surr)	*100*		*50 - 134*

Lab Sample ID: LCSD 600-187782/11
Matrix: Water
Analysis Batch: 187782

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
trans-1,2-Dichloroethene	10.0	9.321		ug/L		93	68 - 131	4	20
Tetrachloroethene	10.0	9.081		ug/L		91	47 - 150	1	20
Trichloroethene	10.0	9.686		ug/L		97	70 - 130	1	20
Vinyl chloride	10.0	10.92		ug/L		109	33 - 150	2	20
cis-1,2-Dichloroethene	10.0	8.821		ug/L		88	68 - 130	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*70 - 130*
Dibromofluoromethane	*89*		*62 - 130*
4-Bromofluorobenzene	*93*		*67 - 139*
1,2-Dichloroethane-d4 (Surr)	*99*		*50 - 134*

Method: RSK-175 - Dissolved Gases in Water

Lab Sample ID: MB 600-187384/2
Matrix: Water
Analysis Batch: 187384

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	0.303	U	2.00	0.303	ug/L			04/28/16 11:05	1
Methane	0.357	U	1.00	0.357	ug/L			04/28/16 11:05	1
Ethylene	0.324	U	2.00	0.324	ug/L			04/28/16 11:05	1

Lab Sample ID: LCS 600-187384/3
Matrix: Water
Analysis Batch: 187384

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	12.9	10.17		ug/L		79	70 - 130
Methane	6.88	5.924		ug/L		86	70 - 130
Ethylene	12.1	9.553		ug/L		79	70 - 130

Lab Sample ID: 600-129741-C-6 MS
Matrix: Water
Analysis Batch: 187384

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	0.303	U	9.70	10.09		ug/L		104	70 - 130
Methane	0.493	J	5.16	6.145		ug/L		110	70 - 130
Ethylene	0.324	U	9.05	9.985		ug/L		110	70 - 130

Lab Sample ID: 600-129741-C-6 MSD
Matrix: Water
Analysis Batch: 187384

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	0.303	U	9.70	9.633		ug/L		99	70 - 130	5	30
Methane	0.493	J	5.16	6.081		ug/L		108	70 - 130	1	30
Ethylene	0.324	U	9.05	9.482		ug/L		105	70 - 130	5	30

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-174710/1-A
Matrix: Water
Analysis Batch: 175736

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 174710

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	2.57	U	30.0	2.57	ug/L		04/28/16 09:15	05/09/16 17:15	1
Arsenic, Dissolved	0.291	U	1.00	0.291	ug/L		04/28/16 09:15	05/09/16 17:15	1
Barium, Dissolved	0.0980	U	10.0	0.0980	ug/L		04/28/16 09:15	05/09/16 17:15	1
Beryllium, Dissolved	0.0367	U	1.00	0.0367	ug/L		04/28/16 09:15	05/09/16 17:15	1
Cadmium, Dissolved	0.114	U	1.00	0.114	ug/L		04/28/16 09:15	05/09/16 17:15	1
Calcium, Dissolved	2.84	U	500	2.84	ug/L		04/28/16 09:15	05/09/16 17:15	1
Chromium, Dissolved	0.543	U	2.00	0.543	ug/L		04/28/16 09:15	05/09/16 17:15	1
Cobalt, Dissolved	0.0263	U	0.500	0.0263	ug/L		04/28/16 09:15	05/09/16 17:15	1
Copper, Dissolved	0.244	U	2.00	0.244	ug/L		04/28/16 09:15	05/09/16 17:15	1
Iron, Dissolved	6.09	U	50.0	6.09	ug/L		04/28/16 09:15	05/09/16 17:15	1
Silver, Dissolved	0.0362	U	1.00	0.0362	ug/L		04/28/16 09:15	05/09/16 17:15	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 180-174710/1-A
Matrix: Water
Analysis Batch: 175736

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 174710

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium, Dissolved	5.82	U	500	5.82	ug/L		04/28/16 09:15	05/09/16 17:15	1
Magnesium, Dissolved	1.17	U	500	1.17	ug/L		04/28/16 09:15	05/09/16 17:15	1
Manganese, Dissolved	0.1380	J	5.00	0.0389	ug/L		04/28/16 09:15	05/09/16 17:15	1
Sodium, Dissolved	3.81	U	500	3.81	ug/L		04/28/16 09:15	05/09/16 17:15	1
Nickel, Dissolved	0.175	U	1.00	0.175	ug/L		04/28/16 09:15	05/09/16 17:15	1
Lead, Dissolved	0.0192	U	1.00	0.0192	ug/L		04/28/16 09:15	05/09/16 17:15	1
Antimony, Dissolved	0.0187	U	2.00	0.0187	ug/L		04/28/16 09:15	05/09/16 17:15	1
Selenium, Dissolved	0.422	U	5.00	0.422	ug/L		04/28/16 09:15	05/09/16 17:15	1
Thallium, Dissolved	0.0152	U	1.00	0.0152	ug/L		04/28/16 09:15	05/09/16 17:15	1
Vanadium, Dissolved	0.0824	U	1.00	0.0824	ug/L		04/28/16 09:15	05/09/16 17:15	1
Zinc, Dissolved	0.961	U	5.00	0.961	ug/L		04/28/16 09:15	05/09/16 17:15	1

Lab Sample ID: LCS 180-174710/2-A
Matrix: Water
Analysis Batch: 175736

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 174710

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum, Dissolved	2000	1727		ug/L		86	80 - 120
Arsenic, Dissolved	40.0	38.07		ug/L		95	80 - 120
Barium, Dissolved	2000	1704		ug/L		85	80 - 120
Beryllium, Dissolved	50.0	47.42		ug/L		95	80 - 120
Cadmium, Dissolved	50.0	48.69		ug/L		97	80 - 120
Calcium, Dissolved	50000	44570		ug/L		89	80 - 120
Chromium, Dissolved	200	179.7		ug/L		90	80 - 120
Cobalt, Dissolved	500	436.6		ug/L		87	80 - 120
Copper, Dissolved	250	230.5		ug/L		92	80 - 120
Iron, Dissolved	1000	912.0		ug/L		91	80 - 120
Silver, Dissolved	50.0	42.74		ug/L		85	80 - 120
Potassium, Dissolved	50000	44120		ug/L		88	80 - 120
Magnesium, Dissolved	50000	45520		ug/L		91	80 - 120
Manganese, Dissolved	500	431.5		ug/L		86	80 - 120
Sodium, Dissolved	50000	47160		ug/L		94	80 - 120
Nickel, Dissolved	500	452.2		ug/L		90	80 - 120
Lead, Dissolved	20.0	17.00		ug/L		85	80 - 120
Antimony, Dissolved	500	438.3		ug/L		88	80 - 120
Selenium, Dissolved	10.0	10.61		ug/L		106	80 - 120
Thallium, Dissolved	50.0	43.18		ug/L		86	80 - 120
Vanadium, Dissolved	500	433.6		ug/L		87	80 - 120
Zinc, Dissolved	500	492.3		ug/L		98	80 - 120

Lab Sample ID: LCSD 180-174710/3-A
Matrix: Water
Analysis Batch: 175736

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 174710

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum, Dissolved	2000	1803		ug/L		90	80 - 120	4	20
Arsenic, Dissolved	40.0	38.09		ug/L		95	80 - 120	0	20
Barium, Dissolved	2000	1708		ug/L		85	80 - 120	0	20
Beryllium, Dissolved	50.0	48.94		ug/L		98	80 - 120	3	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 180-174710/3-A
Matrix: Water
Analysis Batch: 175736

Client Sample ID: Lab Control Sample Dup
Prep Type: Total Recoverable
Prep Batch: 174710

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium, Dissolved	50.0	48.15		ug/L		96	80 - 120	1	20
Calcium, Dissolved	50000	45410		ug/L		91	80 - 120	2	20
Chromium, Dissolved	200	174.7		ug/L		87	80 - 120	3	20
Cobalt, Dissolved	500	433.6		ug/L		87	80 - 120	1	20
Copper, Dissolved	250	229.9		ug/L		92	80 - 120	0	20
Iron, Dissolved	1000	901.7		ug/L		90	80 - 120	1	20
Silver, Dissolved	50.0	43.17		ug/L		86	80 - 120	1	20
Potassium, Dissolved	50000	44670		ug/L		89	80 - 120	1	20
Magnesium, Dissolved	50000	47580		ug/L		95	80 - 120	4	20
Manganese, Dissolved	500	452.6		ug/L		91	80 - 120	5	20
Sodium, Dissolved	50000	47680		ug/L		95	80 - 120	1	20
Nickel, Dissolved	500	452.2		ug/L		90	80 - 120	0	20
Lead, Dissolved	20.0	17.88		ug/L		89	80 - 120	5	20
Antimony, Dissolved	500	449.1		ug/L		90	80 - 120	2	20
Selenium, Dissolved	10.0	10.39		ug/L		104	80 - 120	2	20
Thallium, Dissolved	50.0	45.59		ug/L		91	80 - 120	5	20
Vanadium, Dissolved	500	421.8		ug/L		84	80 - 120	3	20
Zinc, Dissolved	500	485.4		ug/L		97	80 - 120	1	20

Lab Sample ID: PB 180-174645/1-B
Matrix: Water
Analysis Batch: 175736

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 174710

Analyte	PB Result	PB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum, Dissolved	2.57	U	30.0	2.57	ug/L		04/28/16 09:15	05/09/16 17:20	1
Arsenic, Dissolved	0.291	U	1.00	0.291	ug/L		04/28/16 09:15	05/09/16 17:20	1
Barium, Dissolved	0.0980	U	10.0	0.0980	ug/L		04/28/16 09:15	05/09/16 17:20	1
Beryllium, Dissolved	0.0367	U	1.00	0.0367	ug/L		04/28/16 09:15	05/09/16 17:20	1
Cadmium, Dissolved	0.114	U	1.00	0.114	ug/L		04/28/16 09:15	05/09/16 17:20	1
Calcium, Dissolved	2.84	U	500	2.84	ug/L		04/28/16 09:15	05/09/16 17:20	1
Chromium, Dissolved	0.543	U	2.00	0.543	ug/L		04/28/16 09:15	05/09/16 17:20	1
Cobalt, Dissolved	0.0263	U	0.500	0.0263	ug/L		04/28/16 09:15	05/09/16 17:20	1
Copper, Dissolved	0.244	U	2.00	0.244	ug/L		04/28/16 09:15	05/09/16 17:20	1
Iron, Dissolved	6.09	U	50.0	6.09	ug/L		04/28/16 09:15	05/09/16 17:20	1
Silver, Dissolved	0.0362	U	1.00	0.0362	ug/L		04/28/16 09:15	05/09/16 17:20	1
Potassium, Dissolved	5.82	U	500	5.82	ug/L		04/28/16 09:15	05/09/16 17:20	1
Magnesium, Dissolved	1.17	U	500	1.17	ug/L		04/28/16 09:15	05/09/16 17:20	1
Manganese, Dissolved	0.0389	U	5.00	0.0389	ug/L		04/28/16 09:15	05/09/16 17:20	1
Sodium, Dissolved	3.81	U	500	3.81	ug/L		04/28/16 09:15	05/09/16 17:20	1
Nickel, Dissolved	0.175	U	1.00	0.175	ug/L		04/28/16 09:15	05/09/16 17:20	1
Lead, Dissolved	0.0192	U	1.00	0.0192	ug/L		04/28/16 09:15	05/09/16 17:20	1
Antimony, Dissolved	0.0187	U	2.00	0.0187	ug/L		04/28/16 09:15	05/09/16 17:20	1
Selenium, Dissolved	0.422	U	5.00	0.422	ug/L		04/28/16 09:15	05/09/16 17:20	1
Thallium, Dissolved	0.0152	U	1.00	0.0152	ug/L		04/28/16 09:15	05/09/16 17:20	1
Vanadium, Dissolved	0.0824	U	1.00	0.0824	ug/L		04/28/16 09:15	05/09/16 17:20	1
Zinc, Dissolved	0.961	U	5.00	0.961	ug/L		04/28/16 09:15	05/09/16 17:20	1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 180-174718/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 174767 — **Prep Batch: 174718**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury, Dissolved	0.0521	U	0.200	0.0521	ug/L		04/28/16 09:57	04/28/16 13:51	1

Lab Sample ID: LCS 180-174718/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 174767 — **Prep Batch: 174718**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury, Dissolved	2.50	2.647		ug/L		106	80 - 120

Lab Sample ID: 600-129836-1 MS — **Client Sample ID: ER-4**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 174767 — **Prep Batch: 174718**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury, Dissolved	0.0521	U	1.00	1.021		ug/L		102	75 - 125

Lab Sample ID: 600-129836-1 MSD — **Client Sample ID: ER-4**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 174767 — **Prep Batch: 174718**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury, Dissolved	0.0521	U	1.00	0.9302		ug/L		93	75 - 125	9	20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 600-188184/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 188226 — **Prep Batch: 188184**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.0675	U	0.200	0.0675	mg/L		05/10/16 06:56	05/10/16 10:53	1

Lab Sample ID: LCS 600-188184/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 188226 — **Prep Batch: 188184**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	5.00	4.972		mg/L		99	90 - 110

Lab Sample ID: 600-129836-3 MS — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 188226 — **Prep Batch: 188184**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	7.35		5.00	12.06		mg/L		94	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 600-129836-3 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 188226 — **Prep Batch: 188184**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	7.35		5.00	12.24		mg/L		98	90 - 110	2	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Colorimetric, Automated, Cadmium Reduction)

Lab Sample ID: MB 600-187527/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 187527

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.0170	U	0.0500	0.0170	mg/L			04/29/16 18:48	1

Lab Sample ID: LCS 600-187527/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 187527

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	1.00	0.9980		mg/L		100	90 - 110

Lab Sample ID: 600-129796-D-6 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 187527

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	0.419	F1	1.00	1.223		mg/L		80	80 - 120

Lab Sample ID: 600-129796-D-6 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 187527

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.419	F1	1.00	1.139	F1	mg/L		72	80 - 120	7	20

Method: 4500 P E-1999 - Orthophosphate - SM Online, 2011

Lab Sample ID: MB 600-187154/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 187154

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Orthophosphate	0.0104	U	0.0500	0.0104	mg/L			04/25/16 19:55	1
Orthophosphorus as PO4	0.0318	U	0.153	0.0318	mg/L			04/25/16 19:55	1

Lab Sample ID: LCS 600-187154/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 187154

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Orthophosphate	0.500	0.5275		mg/L		105	90 - 110
Orthophosphorus as PO4	1.53	1.617		mg/L		105	90 - 110

Lab Sample ID: 600-129836-5 MS — **Client Sample ID: MW-02**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 187154

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Orthophosphate	5.32	H	12.5	17.78		mg/L		100	75 - 125		
Orthophosphorus as PO4	16.3	H	38.3	54.51		mg/L		100	75 - 125		

Lab Sample ID: 600-129836-5 MSD — **Client Sample ID: MW-02**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 187154

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Orthophosphate	5.32	H	12.5	17.73		mg/L		99	75 - 125	0	20
Orthophosphorus as PO4	16.3	H	38.3	54.38		mg/L		99	75 - 125	0	20

Method: 5310 D-2000 - Organic Carbon, Total (TOC)

Lab Sample ID: MB 600-188280/9 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 188280

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.437	U	1.00	0.437	mg/L			05/10/16 11:36	1

Lab Sample ID: LCS 600-188280/10 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 188280

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			10.0	10.85		mg/L		108	85 - 115		

Lab Sample ID: 600-130341-C-1 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 188280

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	10.8		10.0	22.08		mg/L		113	80 - 120		

Lab Sample ID: 600-130341-C-1 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 188280

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	10.8		10.0	21.81		mg/L		110	80 - 120	1	20

Lab Sample ID: MB 600-188334/9 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 188334

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.437	U	1.00	0.437	mg/L			05/11/16 09:05	1

Method: 5310 D-2000 - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCS 600-188334/10
Matrix: Water
Analysis Batch: 188334

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			10.0	10.67		mg/L		107	85 - 115		

Lab Sample ID: 600-129836-8 MS
Matrix: Water
Analysis Batch: 188334

Client Sample ID: MW-21
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	1.28		10.0	11.82		mg/L		105	80 - 120		

Lab Sample ID: 600-129836-8 MSD
Matrix: Water
Analysis Batch: 188334

Client Sample ID: MW-21
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.28		10.0	12.05		mg/L		108	80 - 120	2	20

QC Association Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

GC/MS VOA

Analysis Batch: 187554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-3	MW-01	Total/NA	Water	8260B	
600-129836-4	MW-02-DUP	Total/NA	Water	8260B	
600-129836-5	MW-02	Total/NA	Water	8260B	
600-129836-6	MW-03	Total/NA	Water	8260B	
MB 600-187554/6	Method Blank	Total/NA	Water	8260B	
LCS 600-187554/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-187554/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 187555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-1	ER-4	Total/NA	Water	8260B	
600-129836-2	FB-4	Total/NA	Water	8260B	
MB 600-187555/6	Method Blank	Total/NA	Water	8260B	
LCS 600-187555/3	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-187555/4	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 187577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-4 - DL	MW-02-DUP	Total/NA	Water	8260B	
600-129836-5 - DL	MW-02	Total/NA	Water	8260B	
600-129836-7 - DL	MW-20	Total/NA	Water	8260B	
600-129836-8	MW-21	Total/NA	Water	8260B	
MB 600-187577/9	Method Blank	Total/NA	Water	8260B	
LCS 600-187577/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-187577/5	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 187782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-3 - DL	MW-01	Total/NA	Water	8260B	
600-129836-3 - DL2	MW-01	Total/NA	Water	8260B	
600-129836-7 - DL2	MW-20	Total/NA	Water	8260B	
MB 600-187782/13	Method Blank	Total/NA	Water	8260B	
LCS 600-187782/1010	Lab Control Sample	Total/NA	Water	8260B	
LCSD 600-187782/11	Lab Control Sample Dup	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 187384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-3	MW-01	Total/NA	Water	RSK-175	
600-129836-3	MW-01	Total/NA	Water	RSK-175	
600-129836-4	MW-02-DUP	Total/NA	Water	RSK-175	
600-129836-4	MW-02-DUP	Total/NA	Water	RSK-175	
600-129836-5	MW-02	Total/NA	Water	RSK-175	
600-129836-5	MW-02	Total/NA	Water	RSK-175	
600-129836-6	MW-03	Total/NA	Water	RSK-175	
600-129836-7	MW-20	Total/NA	Water	RSK-175	
600-129836-7	MW-20	Total/NA	Water	RSK-175	
600-129836-8	MW-21	Total/NA	Water	RSK-175	
MB 600-187384/2	Method Blank	Total/NA	Water	RSK-175	

GC VOA (Continued)

Analysis Batch: 187384 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 600-187384/3	Lab Control Sample	Total/NA	Water	RSK-175	
600-129741-C-6 MS	Matrix Spike	Total/NA	Water	RSK-175	
600-129741-C-6 MSD	Matrix Spike Duplicate	Total/NA	Water	RSK-175	

Metals

Filtration Batch: 174645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-1	ER-4	Dissolved	Water	Filtration	
600-129836-2	FB-4	Dissolved	Water	Filtration	
600-129836-3	MW-01	Dissolved	Water	Filtration	
600-129836-4	MW-02-DUP	Dissolved	Water	Filtration	
600-129836-5	MW-02	Dissolved	Water	Filtration	
600-129836-6	MW-03	Dissolved	Water	Filtration	
600-129836-7	MW-20	Dissolved	Water	Filtration	
600-129836-8	MW-21	Dissolved	Water	Filtration	
PB 180-174645/1-B	Method Blank	Dissolved	Water	Filtration	
600-129836-1 MS	ER-4	Dissolved	Water	Filtration	
600-129836-1 MSD	ER-4	Dissolved	Water	Filtration	

Prep Batch: 174710

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-1	ER-4	Dissolved	Water	3005A	174645
600-129836-2	FB-4	Dissolved	Water	3005A	174645
600-129836-3	MW-01	Dissolved	Water	3005A	174645
600-129836-4	MW-02-DUP	Dissolved	Water	3005A	174645
600-129836-5	MW-02	Dissolved	Water	3005A	174645
600-129836-6	MW-03	Dissolved	Water	3005A	174645
600-129836-7	MW-20	Dissolved	Water	3005A	174645
600-129836-8	MW-21	Dissolved	Water	3005A	174645
MB 180-174710/1-A	Method Blank	Total Recoverable	Water	3005A	
PB 180-174645/1-B	Method Blank	Dissolved	Water	3005A	174645
LCS 180-174710/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 180-174710/3-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	

Prep Batch: 174718

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-1	ER-4	Dissolved	Water	7470A	174645
600-129836-2	FB-4	Dissolved	Water	7470A	174645
600-129836-3	MW-01	Dissolved	Water	7470A	174645
600-129836-4	MW-02-DUP	Dissolved	Water	7470A	174645
600-129836-5	MW-02	Dissolved	Water	7470A	174645
600-129836-6	MW-03	Dissolved	Water	7470A	174645
600-129836-7	MW-20	Dissolved	Water	7470A	174645
600-129836-8	MW-21	Dissolved	Water	7470A	174645
MB 180-174718/1-A	Method Blank	Total/NA	Water	7470A	
LCS 180-174718/2-A	Lab Control Sample	Total/NA	Water	7470A	
600-129836-1 MS	ER-4	Dissolved	Water	7470A	174645
600-129836-1 MSD	ER-4	Dissolved	Water	7470A	174645

Metals (Continued)

Analysis Batch: 174767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-1	ER-4	Dissolved	Water	7470A	174718
600-129836-2	FB-4	Dissolved	Water	7470A	174718
600-129836-3	MW-01	Dissolved	Water	7470A	174718
600-129836-4	MW-02-DUP	Dissolved	Water	7470A	174718
600-129836-5	MW-02	Dissolved	Water	7470A	174718
600-129836-6	MW-03	Dissolved	Water	7470A	174718
600-129836-7	MW-20	Dissolved	Water	7470A	174718
600-129836-8	MW-21	Dissolved	Water	7470A	174718
MB 180-174718/1-A	Method Blank	Total/NA	Water	7470A	174718
LCS 180-174718/2-A	Lab Control Sample	Total/NA	Water	7470A	174718
600-129836-1 MS	ER-4	Dissolved	Water	7470A	174718
600-129836-1 MSD	ER-4	Dissolved	Water	7470A	174718

Analysis Batch: 175736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-1	ER-4	Dissolved	Water	6020A	174710
600-129836-2	FB-4	Dissolved	Water	6020A	174710
600-129836-3	MW-01	Dissolved	Water	6020A	174710
600-129836-4	MW-02-DUP	Dissolved	Water	6020A	174710
600-129836-5	MW-02	Dissolved	Water	6020A	174710
600-129836-6	MW-03	Dissolved	Water	6020A	174710
600-129836-7	MW-20	Dissolved	Water	6020A	174710
600-129836-8	MW-21	Dissolved	Water	6020A	174710
MB 180-174710/1-A	Method Blank	Total Recoverable	Water	6020A	174710
PB 180-174645/1-B	Method Blank	Dissolved	Water	6020A	174710
LCS 180-174710/2-A	Lab Control Sample	Total Recoverable	Water	6020A	174710
LCSD 180-174710/3-A	Lab Control Sample Dup	Total Recoverable	Water	6020A	174710

General Chemistry

Analysis Batch: 187154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-3	MW-01	Total/NA	Water	4500 P E-1999	
600-129836-4	MW-02-DUP	Total/NA	Water	4500 P E-1999	
600-129836-5	MW-02	Total/NA	Water	4500 P E-1999	
600-129836-6	MW-03	Total/NA	Water	4500 P E-1999	
600-129836-7	MW-20	Total/NA	Water	4500 P E-1999	
600-129836-8	MW-21	Total/NA	Water	4500 P E-1999	
MB 600-187154/3	Method Blank	Total/NA	Water	4500 P E-1999	
LCS 600-187154/4	Lab Control Sample	Total/NA	Water	4500 P E-1999	
600-129836-5 MS	MW-02	Total/NA	Water	4500 P E-1999	
600-129836-5 MSD	MW-02	Total/NA	Water	4500 P E-1999	

Analysis Batch: 187527

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-3	MW-01	Total/NA	Water	353.2	
600-129836-4	MW-02-DUP	Total/NA	Water	353.2	
600-129836-5	MW-02	Total/NA	Water	353.2	
600-129836-6	MW-03	Total/NA	Water	353.2	
600-129836-7	MW-20	Total/NA	Water	353.2	

General Chemistry (Continued)

Analysis Batch: 187527 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-8	MW-21	Total/NA	Water	353.2	
MB 600-187527/4	Method Blank	Total/NA	Water	353.2	
LCS 600-187527/5	Lab Control Sample	Total/NA	Water	353.2	
600-129796-D-6 MS	Matrix Spike	Total/NA	Water	353.2	
600-129796-D-6 MSD	Matrix Spike Duplicate	Total/NA	Water	353.2	

Prep Batch: 188184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-3	MW-01	Total/NA	Water	350.1	
600-129836-4	MW-02-DUP	Total/NA	Water	350.1	
600-129836-5	MW-02	Total/NA	Water	350.1	
600-129836-6	MW-03	Total/NA	Water	350.1	
600-129836-7	MW-20	Total/NA	Water	350.1	
600-129836-8	MW-21	Total/NA	Water	350.1	
MB 600-188184/1-A	Method Blank	Total/NA	Water	350.1	
LCS 600-188184/2-A	Lab Control Sample	Total/NA	Water	350.1	
600-129836-3 MS	MW-01	Total/NA	Water	350.1	
600-129836-3 MSD	MW-01	Total/NA	Water	350.1	

Analysis Batch: 188226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-3	MW-01	Total/NA	Water	350.1	188184
600-129836-4	MW-02-DUP	Total/NA	Water	350.1	188184
600-129836-5	MW-02	Total/NA	Water	350.1	188184
600-129836-6	MW-03	Total/NA	Water	350.1	188184
600-129836-7	MW-20	Total/NA	Water	350.1	188184
600-129836-8	MW-21	Total/NA	Water	350.1	188184
MB 600-188184/1-A	Method Blank	Total/NA	Water	350.1	188184
LCS 600-188184/2-A	Lab Control Sample	Total/NA	Water	350.1	188184
600-129836-3 MS	MW-01	Total/NA	Water	350.1	188184
600-129836-3 MSD	MW-01	Total/NA	Water	350.1	188184

Analysis Batch: 188280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-4	MW-02-DUP	Total/NA	Water	5310 D-2000	
600-129836-5	MW-02	Total/NA	Water	5310 D-2000	
600-129836-6	MW-03	Total/NA	Water	5310 D-2000	
600-129836-7	MW-20	Total/NA	Water	5310 D-2000	
MB 600-188280/9	Method Blank	Total/NA	Water	5310 D-2000	
LCS 600-188280/10	Lab Control Sample	Total/NA	Water	5310 D-2000	
600-130341-C-1 MS	Matrix Spike	Total/NA	Water	5310 D-2000	
600-130341-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	5310 D-2000	

Analysis Batch: 188334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-129836-3	MW-01	Total/NA	Water	5310 D-2000	
600-129836-8	MW-21	Total/NA	Water	5310 D-2000	
MB 600-188334/9	Method Blank	Total/NA	Water	5310 D-2000	
LCS 600-188334/10	Lab Control Sample	Total/NA	Water	5310 D-2000	
600-129836-8 MS	MW-21	Total/NA	Water	5310 D-2000	
600-129836-8 MSD	MW-21	Total/NA	Water	5310 D-2000	

Client Sample ID: ER-4 — Lab Sample ID: 600-129836-1

Date Collected: 04/22/16 11:25 — **Matrix: Water**
Date Received: 04/25/16 09:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187555	05/01/16 19:42	PXS	TAL HOU
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	3005A			174710	04/28/16 09:15	ANA	TAL PIT
Dissolved	Analysis	6020A		1	175736	05/09/16 17:34	CNF	TAL PIT
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	7470A			174718	04/28/16 09:57	EVR	TAL PIT
Dissolved	Analysis	7470A		1	174767	04/28/16 13:55	EVR	TAL PIT

Client Sample ID: FB-4 — Lab Sample ID: 600-129836-2

Date Collected: 04/22/16 11:15 — **Matrix: Water**
Date Received: 04/25/16 09:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187555	05/01/16 20:07	PXS	TAL HOU
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	3005A			174710	04/28/16 09:15	ANA	TAL PIT
Dissolved	Analysis	6020A		1	175736	05/09/16 17:39	CNF	TAL PIT
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	7470A			174718	04/28/16 09:57	EVR	TAL PIT
Dissolved	Analysis	7470A		1	174767	04/28/16 14:01	EVR	TAL PIT

Client Sample ID: MW-01 — Lab Sample ID: 600-129836-3

Date Collected: 04/22/16 09:05 — **Matrix: Water**
Date Received: 04/25/16 09:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187554	05/01/16 19:41	WS1	TAL HOU
Total/NA	Analysis	8260B	DL	20	187782	05/04/16 19:30	WS1	TAL HOU
Total/NA	Analysis	8260B	DL2	500	187782	05/04/16 19:54	WS1	TAL HOU
Total/NA	Analysis	RSK-175		1	187384	04/28/16 15:26	JPS	TAL HOU
Total/NA	Analysis	RSK-175		1000	187384	04/29/16 11:53	JPS	TAL HOU
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	3005A			174710	04/28/16 09:15	ANA	TAL PIT
Dissolved	Analysis	6020A		1	175736	05/09/16 17:43	CNF	TAL PIT
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	7470A			174718	04/28/16 09:57	EVR	TAL PIT
Dissolved	Analysis	7470A		1	174767	04/28/16 14:03	EVR	TAL PIT
Total/NA	Prep	350.1			188184	05/10/16 06:56	SC1	TAL HOU
Total/NA	Analysis	350.1		1	188226	05/10/16 11:11	SC1	TAL HOU
Total/NA	Analysis	353.2		1	187527	04/29/16 18:48	EAS	TAL HOU
Total/NA	Analysis	4500 P E-1999		25	187154	04/25/16 19:55	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		100	188334	05/11/16 09:05	EC1	TAL HOU

Client Sample ID: MW-02-DUP

Lab Sample ID: 600-129836-4

Date Collected: 04/22/16 15:25

Matrix: Water

Date Received: 04/25/16 09:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187554	05/01/16 17:40	WS1	TAL HOU
Total/NA	Analysis	8260B	DL	25	187577	05/02/16 18:52	WS1	TAL HOU
Total/NA	Analysis	RSK-175		1	187384	04/28/16 15:38	JPS	TAL HOU
Total/NA	Analysis	RSK-175		500	187384	04/29/16 13:22	JPS	TAL HOU
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	3005A			174710	04/28/16 09:15	ANA	TAL PIT
Dissolved	Analysis	6020A		1	175736	05/09/16 17:48	CNF	TAL PIT
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	7470A			174718	04/28/16 09:57	EVR	TAL PIT
Dissolved	Analysis	7470A		1	174767	04/28/16 14:05	EVR	TAL PIT
Total/NA	Prep	350.1			188184	05/10/16 06:56	SC1	TAL HOU
Total/NA	Analysis	350.1		1	188226	05/10/16 11:14	SC1	TAL HOU
Total/NA	Analysis	353.2		1	187527	04/29/16 18:48	EAS	TAL HOU
Total/NA	Analysis	4500 P E-1999		25	187154	04/25/16 19:55	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		4	188280	05/10/16 11:36	EC1	TAL HOU

Client Sample ID: MW-02

Lab Sample ID: 600-129836-5

Date Collected: 04/22/16 15:25

Matrix: Water

Date Received: 04/25/16 09:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187554	05/01/16 18:04	WS1	TAL HOU
Total/NA	Analysis	8260B	DL	25	187577	05/02/16 19:16	WS1	TAL HOU
Total/NA	Analysis	RSK-175		1	187384	04/28/16 15:49	JPS	TAL HOU
Total/NA	Analysis	RSK-175		1000	187384	04/29/16 13:38	JPS	TAL HOU
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	3005A			174710	04/28/16 09:15	ANA	TAL PIT
Dissolved	Analysis	6020A		1	175736	05/09/16 18:02	CNF	TAL PIT
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	7470A			174718	04/28/16 09:57	EVR	TAL PIT
Dissolved	Analysis	7470A		1	174767	04/28/16 14:11	EVR	TAL PIT
Total/NA	Prep	350.1			188184	05/10/16 06:56	SC1	TAL HOU
Total/NA	Analysis	350.1		1	188226	05/10/16 11:15	SC1	TAL HOU
Total/NA	Analysis	353.2		1	187527	04/29/16 18:48	EAS	TAL HOU
Total/NA	Analysis	4500 P E-1999		25	187154	04/25/16 19:55	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		4	188280	05/10/16 11:36	EC1	TAL HOU

Client Sample ID: MW-03 — Lab Sample ID: 600-129836-6

Date Collected: 04/22/16 16:50
Date Received: 04/25/16 09:49
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187554	05/01/16 18:29	WS1	TAL HOU
Total/NA	Analysis	RSK-175		1	187384	04/28/16 16:27	JPS	TAL HOU
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	3005A			174710	04/28/16 09:15	ANA	TAL PIT
Dissolved	Analysis	6020A		1	175736	05/09/16 18:07	CNF	TAL PIT
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	7470A			174718	04/28/16 09:57	EVR	TAL PIT
Dissolved	Analysis	7470A		1	174767	04/28/16 14:13	EVR	TAL PIT
Total/NA	Prep	350.1			188184	05/10/16 06:56	SC1	TAL HOU
Total/NA	Analysis	350.1		1	188226	05/10/16 11:16	SC1	TAL HOU
Total/NA	Analysis	353.2		5	187527	04/29/16 18:48	EAS	TAL HOU
Total/NA	Analysis	4500 P E-1999		1	187154	04/25/16 19:56	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		4	188280	05/10/16 11:36	EC1	TAL HOU

Client Sample ID: MW-20 — Lab Sample ID: 600-129836-7

Date Collected: 04/22/16 14:00
Date Received: 04/25/16 09:49
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	200	187577	05/02/16 19:39	WS1	TAL HOU
Total/NA	Analysis	8260B	DL2	2000	187782	05/04/16 15:31	WS1	TAL HOU
Total/NA	Analysis	RSK-175		1	187384	04/28/16 16:38	JPS	TAL HOU
Total/NA	Analysis	RSK-175		500	187384	04/29/16 13:49	JPS	TAL HOU
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	3005A			174710	04/28/16 09:15	ANA	TAL PIT
Dissolved	Analysis	6020A		1	175736	05/09/16 18:12	CNF	TAL PIT
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	7470A			174718	04/28/16 09:57	EVR	TAL PIT
Dissolved	Analysis	7470A		1	174767	04/28/16 14:15	EVR	TAL PIT
Total/NA	Prep	350.1			188184	05/10/16 06:56	SC1	TAL HOU
Total/NA	Analysis	350.1		1	188226	05/10/16 11:20	SC1	TAL HOU
Total/NA	Analysis	353.2		1	187527	04/29/16 18:48	EAS	TAL HOU
Total/NA	Analysis	4500 P E-1999		1	187154	04/25/16 19:56	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		4	188280	05/10/16 11:36	EC1	TAL HOU

Client Sample ID: MW-21 — Lab Sample ID: 600-129836-8

Date Collected: 04/22/16 10:55
Date Received: 04/25/16 09:49
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187577	05/02/16 18:28	WS1	TAL HOU
Total/NA	Analysis	RSK-175		1	187384	04/28/16 16:49	JPS	TAL HOU

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

Client Sample ID: MW-21

Date Collected: 04/22/16 10:55
Date Received: 04/25/16 09:49

Lab Sample ID: 600-129836-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	3005A			174710	04/28/16 09:15	ANA	TAL PIT
Dissolved	Analysis	6020A		1	175736	05/09/16 18:17	CNF	TAL PIT
Dissolved	Filtration	Filtration			174645	04/27/16 14:47	ANA	TAL PIT
Dissolved	Prep	7470A			174718	04/28/16 09:57	EVR	TAL PIT
Dissolved	Analysis	7470A		1	174767	04/28/16 14:16	EVR	TAL PIT
Total/NA	Prep	350.1			188184	05/10/16 06:56	SC1	TAL HOU
Total/NA	Analysis	350.1		1	188226	05/10/16 11:21	SC1	TAL HOU
Total/NA	Analysis	353.2		2	187527	04/29/16 18:48	EAS	TAL HOU
Total/NA	Analysis	4500 P E-1999		1	187154	04/25/16 19:56	KRD	TAL HOU
Total/NA	Analysis	5310 D-2000		1	188334	05/11/16 09:05	EC1	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	RL	MDL	Units	Method
cis-1,2-Dichloroethene	1.00	0.157	ug/L	8260B
Tetrachloroethene	1.00	0.333	ug/L	8260B
trans-1,2-Dichloroethene	1.00	0.192	ug/L	8260B
Trichloroethene	1.00	0.138	ug/L	8260B
Vinyl chloride	2.00	0.248	ug/L	8260B

Method: RSK-175 - Dissolved Gases in Water

Analyte	RL	MDL	Units	Method
Ethane	2.00	0.303	ug/L	RSK-175
Ethylene	2.00	0.324	ug/L	RSK-175
Methane	1.00	0.357	ug/L	RSK-175

Method: 6020A - Metals (ICP/MS) - Dissolved

Prep: 3005A

Analyte	RL	MDL	Units	Method
Aluminum, Dissolved	30.0	2.57	ug/L	6020A
Antimony, Dissolved	2.00	0.0187	ug/L	6020A
Arsenic, Dissolved	1.00	0.291	ug/L	6020A
Barium, Dissolved	10.0	0.0980	ug/L	6020A
Beryllium, Dissolved	1.00	0.0367	ug/L	6020A
Cadmium, Dissolved	1.00	0.114	ug/L	6020A
Calcium, Dissolved	500	2.84	ug/L	6020A
Chromium, Dissolved	2.00	0.543	ug/L	6020A
Cobalt, Dissolved	0.500	0.0263	ug/L	6020A
Copper, Dissolved	2.00	0.244	ug/L	6020A
Iron, Dissolved	50.0	6.09	ug/L	6020A
Lead, Dissolved	1.00	0.0192	ug/L	6020A
Magnesium, Dissolved	500	1.17	ug/L	6020A
Manganese, Dissolved	5.00	0.0389	ug/L	6020A
Nickel, Dissolved	1.00	0.175	ug/L	6020A
Potassium, Dissolved	500	5.82	ug/L	6020A
Selenium, Dissolved	5.00	0.422	ug/L	6020A
Silver, Dissolved	1.00	0.0362	ug/L	6020A
Sodium, Dissolved	500	3.81	ug/L	6020A
Thallium, Dissolved	1.00	0.0152	ug/L	6020A
Vanadium, Dissolved	1.00	0.0824	ug/L	6020A
Zinc, Dissolved	5.00	0.961	ug/L	6020A

Method: 7470A - Mercury (CVAA) - Dissolved

Prep: 7470A

Analyte	RL	MDL	Units	Method
Mercury, Dissolved	0.200	0.0521	ug/L	7470A

General Chemistry

Analyte	RL	MDL	Units	Method
Nitrate Nitrite as N	0.0500	0.0170	mg/L	353.2
Orthophosphate	0.0500	0.0104	mg/L	4500 P E-1999
Orthophosphorus as PO4	0.153	0.0318	mg/L	4500 P E-1999
Total Organic Carbon	1.00	0.437	mg/L	5310 D-2000

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

General Chemistry

Prep: 350.1

Analyte	RL	MDL	Units	Method
Ammonia	0.200	0.0675	mg/L	350.1

Certification Summary

Client: EA Engineering, Science, and Technology
Project/Site: Jones Road Groundwater Plume

TestAmerica Job ID: 600-129836-1

Laboratory: TestAmerica Houston

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704223-16-19	10-31-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
4500 P E-1999		Water	Orthophosphorus as PO4

Laboratory: TestAmerica Pittsburgh

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704528-15-2	03-31-17

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHVOAMS07 Analysis Batch Number: 184699

Lab Sample ID: IC 600-184699/2 Client Sample ID:

Date Analyzed: 03/21/16 09:46 Lab File ID: A08101.d GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Bromomethane	4.92	Baseline	shenw	03/21/16 12:08
n-Butanol	8.21	Baseline	shenw	03/21/16 12:18
1,4-Dioxane	9.08	Baseline	shenw	03/21/16 12:08
1,2,3-Trichloropropane	12.64	Baseline	shenw	03/21/16 12:08
trans-1,4-Dichloro-2-butene	12.64	Baseline	shenw	03/21/16 12:08
1,2-Dibromo-3-Chloropropane	15.08	Baseline	shenw	03/21/16 12:08

Lab Sample ID: IC 600-184699/3 Client Sample ID:

Date Analyzed: 03/21/16 10:11 Lab File ID: A08102.d GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2-Butanone (MEK)	7.29	Baseline	shenw	03/21/16 12:19
1,2-Dibromo-3-Chloropropane	15.09	Baseline	shenw	03/21/16 12:11

Lab Sample ID: IC 600-184699/8 Client Sample ID:

Date Analyzed: 03/21/16 12:18 Lab File ID: A08107.d GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethyl acrylate	8.82	Baseline	shenw	03/21/16 12:46

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHVOAMS07 Analysis Batch Number: 187782

Lab Sample ID: IC 600-187782/2 Client Sample ID:

Date Analyzed: 05/04/16 09:41 Lab File ID: A12501.d GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	5.83	Baseline	shenw	05/04/16 12:12
Propionitrile	6.99	Baseline	shenw	05/04/16 12:12
Vinyl acetate	7.06	Baseline	shenw	05/04/16 12:12
Tetrahydrofuran	7.85	Baseline	shenw	05/04/16 12:12
1,4-Dioxane	9.09	Baseline	shenw	05/04/16 12:12
2-Chloroethyl vinyl ether	9.31	Baseline	shenw	05/04/16 12:12
1,2,3-Trichloropropane	12.64	Baseline	shenw	05/04/16 12:12
trans-1,4-Dichloro-2-butene	12.64	Baseline	shenw	05/04/16 12:12
1,2-Dibromo-3-Chloropropane	15.11	Baseline	shenw	05/04/16 12:12
Naphthalene	16.93	Baseline	shenw	05/04/16 12:12
1,2,3-Trichlorobenzene	17.14	Baseline	shenw	05/04/16 12:12

Lab Sample ID: IC 600-187782/3 Client Sample ID:

Date Analyzed: 05/04/16 10:04 Lab File ID: A12502.d GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Tetrahydrofuran	7.85	Baseline	shenw	05/04/16 12:09
n-Butanol	8.20	Baseline	shenw	05/04/16 12:09
1,4-Dioxane	9.09	Baseline	shenw	05/04/16 12:09
1,2-Dibromo-3-Chloropropane	15.09	Baseline	shenw	05/04/16 12:09
1,3,5-Trichlorobenzene	15.98	Baseline	shenw	05/04/16 12:09
1,2,3-Trichlorobenzene	17.14	Baseline	shenw	05/04/16 12:09

Lab Sample ID: IC 600-187782/4 Client Sample ID:

Date Analyzed: 05/04/16 10:28 Lab File ID: A12503.d GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
n-Butanol	8.21	Baseline	shenw	05/04/16 12:06

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHVOAMS07 Analysis Batch Number: 187782

Lab Sample ID: ICIS 600-187782/6 Client Sample ID:

Date Analyzed: 05/04/16 11:16 Lab File ID: A12505.d GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Cyclohexanone	12.45	Baseline	shenw	05/04/16 12:14

Lab Sample ID: ICV 600-187782/10 Client Sample ID:

Date Analyzed: 05/04/16 14:38 Lab File ID: A1259a.d GC Column: DB-VRX 60 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethylene oxide	4.46	Baseline	shenw	05/04/16 15:01

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHFID14 Analysis Batch Number: 179490

Lab Sample ID: IC 600-179490/2 Client Sample ID:

Date Analyzed: 12/30/15 10:34 Lab File ID: rsk123015_002.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Methane	0.75	Split Peak	saccoj	12/30/15 13:39

RSK-175

GC VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHFID14 Analysis Batch Number: 187384

Lab Sample ID: 600-129836-4 Client Sample ID: MW-02-DUP

Date Analyzed: 04/28/16 15:38 Lab File ID: rsk042816_021.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	0.98	Split Peak	saccoj	04/28/16 16:13
Ethylene	1.10	Split Peak	saccoj	04/28/16 16:13

Lab Sample ID: 600-129836-5 Client Sample ID: MW-02

Date Analyzed: 04/28/16 15:49 Lab File ID: rsk042816_022.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethylene	1.12	Split Peak	saccoj	04/28/16 16:13

Lab Sample ID: 600-129836-7 Client Sample ID: MW-20

Date Analyzed: 04/28/16 16:38 Lab File ID: rsk042816_025.d GC Column: RTX-5 ID: 0.53(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Ethane	0.90	Split Peak	saccoj	04/28/16 16:59

Method 8260B Low Level

Volatile Organic Compounds (GC/MS) by Method 8260B Low Level

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-VRX 60 ID: 0.25(mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
ER-4	600-129836-1	81	99	85	121
FB-4	600-129836-2	80	98	83	122
MW-01	600-129836-3	94	97	83	88
MW-01 DL	600-129836-3 DL	89	101	103	84
MW-01 DL2	600-129836-3 DL2	88	106	93	84
MW-02-DUP	600-129836-4	103	110	87	79
MW-02-DUP DL	600-129836-4 DL	99	100	90	96
MW-02	600-129836-5	103	108	90	86
MW-02 DL	600-129836-5 DL	105	112	89	95
MW-03	600-129836-6	110	114	94	87
MW-20 DL	600-129836-7 DL	106	109	88	100
MW-20 DL2	600-129836-7 DL2	83	106	101	95
MW-21	600-129836-8	98	104	89	92
	MB 600-187554/6	102	102	93	96
	MB 600-187555/6	80	97	83	122
	MB 600-187577/9	105	106	92	96
	MB 600-187782/13	92	98	126	107
	LCS 600-187554/3	97	103	79	96
	LCS 600-187555/3	81	88	86	127
	LCS 600-187577/4	94	109	74	90
	LCS 600-187782/1010	101	100	113	108
	LCSD 600-187554/4	91	107	75	94
	LCSD 600-187555/4	82	89	87	127
	LCSD 600-187577/5	91	108	74	88
	LCSD 600-187782/11	89	99	97	93

	QC LIMITS
DBFM = Dibromofluoromethane	62-130
DCA = 1,2-Dichloroethane-d4 (Surr)	50-134
TOL = Toluene-d8 (Surr)	70-130
BFB = 4-Bromofluorobenzene	67-139

Column to be used to flag recovery values

FORM II 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low Lab File ID: A12202.d

Lab ID: LCS 600-187554/3 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
trans-1,2-Dichloroethene	10.0	8.540	85	68-131	
Tetrachloroethene	10.0	10.15	102	47-150	
Trichloroethene	10.0	10.49	105	70-130	
Vinyl chloride	10.0	10.29	103	33-150	
cis-1,2-Dichloroethene	10.0	8.282	83	68-130	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low Lab File ID: C12101a.D

Lab ID: LCS 600-187555/3 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
trans-1,2-Dichloroethene	10.0	7.070	71	68-131	
Tetrachloroethene	10.0	9.310	93	47-150	
Trichloroethene	10.0	7.962	80	70-130	
Vinyl chloride	10.0	9.901	99	33-150	
cis-1,2-Dichloroethene	10.0	7.509	75	68-130	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low Lab File ID: A12303.d

Lab ID: LCS 600-187577/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
trans-1,2-Dichloroethene	10.0	7.746	77	68-131	
Tetrachloroethene	10.0	9.305	93	47-150	
Trichloroethene	10.0	10.09	101	70-130	
Vinyl chloride	10.0	8.591	86	33-150	
cis-1,2-Dichloroethene	10.0	8.220	82	68-130	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low Lab File ID: A1259a-LCS.d

Lab ID: LCS 600-187782/1010 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
trans-1,2-Dichloroethene	10.0	9.653	97	68-131	
Tetrachloroethene	10.0	9.211	92	47-150	
Trichloroethene	10.0	9.585	96	70-130	
Vinyl chloride	10.0	11.11	111	33-150	
cis-1,2-Dichloroethene	10.0	9.427	94	68-130	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low Lab File ID: A12203.d

Lab ID: LCSD 600-187554/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
trans-1,2-Dichloroethene	10.0	7.974	80	7	20	68-131	
Tetrachloroethene	10.0	9.715	97	4	20	47-150	
Trichloroethene	10.0	9.940	99	5	20	70-130	
Vinyl chloride	10.0	8.678	87	17	20	33-150	
cis-1,2-Dichloroethene	10.0	8.014	80	3	20	68-130	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low Lab File ID: C12102.D

Lab ID: LCSD 600-187555/4 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
trans-1,2-Dichloroethene	10.0	7.324	73	4	20	68-131	
Tetrachloroethene	10.0	9.632	96	3	20	47-150	
Trichloroethene	10.0	8.150	82	2	20	70-130	
Vinyl chloride	10.0	10.56	106	6	20	33-150	
cis-1,2-Dichloroethene	10.0	7.728	77	3	20	68-130	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low Lab File ID: A12304.d

Lab ID: LCSD 600-187577/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
trans-1,2-Dichloroethene	10.0	7.897	79	2	20	68-131	
Tetrachloroethene	10.0	9.375	94	1	20	47-150	
Trichloroethene	10.0	10.08	101	0	20	70-130	
Vinyl chloride	10.0	8.954	90	4	20	33-150	
cis-1,2-Dichloroethene	10.0	8.098	81	1	20	68-130	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low Lab File ID: A12510.d

Lab ID: LCSD 600-187782/11 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
trans-1,2-Dichloroethene	10.0	9.321	93	4	20	68-131	
Tetrachloroethene	10.0	9.081	91	1	20	47-150	
Trichloroethene	10.0	9.686	97	1	20	70-130	
Vinyl chloride	10.0	10.92	109	2	20	33-150	
cis-1,2-Dichloroethene	10.0	8.821	88	7	20	68-130	

Column to be used to flag recovery and RPD values

FORM III 8260B

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab File ID: C12105.D Lab Sample ID: MB 600-187555/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: CHVOAMS01 Date Analyzed: 05/01/2016 11:32

GC Column: DB-VRX 60 ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 600-187555/3	C12101a.D	05/01/2016 10:17
	LCSD 600-187555/4	C12102.D	05/01/2016 10:42
ER-4	600-129836-1	C12124.D	05/01/2016 19:42
FB-4	600-129836-2	C12125.D	05/01/2016 20:07

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab File ID: A12205.d Lab Sample ID: MB 600-187554/6

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: CHVOAMS07 Date Analyzed: 05/01/2016 11:33

GC Column: DB-VRX 60 ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 600-187554/3	A12202.d	05/01/2016 10:22
	LCSD 600-187554/4	A12203.d	05/01/2016 10:45
MW-02-DUP	600-129836-4	A12220.d	05/01/2016 17:40
MW-02	600-129836-5	A12221.d	05/01/2016 18:04
MW-03	600-129836-6	A12222.d	05/01/2016 18:29
MW-01	600-129836-3	A12225.d	05/01/2016 19:41

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab File ID: A12308.d Lab Sample ID: MB 600-187577/9

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: CHVOAMS07 Date Analyzed: 05/02/2016 12:07

GC Column: DB-VRX 60 ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 600-187577/4	A12303.d	05/02/2016 10:07
	LCSD 600-187577/5	A12304.d	05/02/2016 10:31
MW-21	600-129836-8	A12324.d	05/02/2016 18:28
MW-02-DUP DL	600-129836-4 DL	A12325.d	05/02/2016 18:52
MW-02 DL	600-129836-5 DL	A12326.d	05/02/2016 19:16
MW-20 DL	600-129836-7 DL	A12327.d	05/02/2016 19:39

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab File ID: A12509.d Lab Sample ID: MB 600-187782/13

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: CHVOAMS07 Date Analyzed: 05/04/2016 14:14

GC Column: DB-VRX 60 ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 600-187782/1010	A1259a-LCS.d	05/04/2016 14:38
	LCSD 600-187782/11	A12510.d	05/04/2016 15:07
MW-20 DL2	600-129836-7 DL2	A12511.d	05/04/2016 15:31
MW-01 DL	600-129836-3 DL	A12521.d	05/04/2016 19:30
MW-01 DL2	600-129836-3 DL2	A12522.d	05/04/2016 19:54

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab File ID: C02200A.D BFB Injection Date: 01/22/2016

Instrument ID: CHVOAMS01 BFB Injection Time: 11:16

Analysis Batch No.: 181051

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	15.1	
75	30.0 - 60.0 % of mass 95	44.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	0.0	(0.0) 1
174	50.0 - 120.00 % of mass 95	73.4	
175	5.0 - 9.0 % of mass 174	5.4	(7.3) 1
176	95.0 - 101.0 % of mass 174	71.2	(96.9) 1
177	5.0 - 9.0 % of mass 176	4.7	(6.6) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 600-181051/2	C02201.D	01/22/2016	11:43
	IC 600-181051/3	C02202.D	01/22/2016	12:09
	IC 600-181051/4	C02203A.D	01/22/2016	14:22
	IC 600-181051/5	C02204A.D	01/22/2016	14:48
	ICIS 600-181051/6	C02205A.D	01/22/2016	15:14
	IC 600-181051/7	C02206.D	01/22/2016	15:40
	IC 600-181051/8	C02207.D	01/22/2016	16:06

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab File ID: C12100.D BFB Injection Date: 05/01/2016

Instrument ID: CHVOAMS01 BFB Injection Time: 08:57

Analysis Batch No.: 187555

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	19.2	
75	30.0 - 60.0 % of mass 95	51.6	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	0.1	(0.2) 1
174	50.0 - 120.00 % of mass 95	67.6	
175	5.0 - 9.0 % of mass 174	5.0	(7.3) 1
176	95.0 - 101.0 % of mass 174	65.2	(96.4) 1
177	5.0 - 9.0 % of mass 176	4.3	(6.6) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 600-187555/2	C12101.D	05/01/2016	09:28
	LCS 600-187555/3	C12101a.D	05/01/2016	10:17
	LCSD 600-187555/4	C12102.D	05/01/2016	10:42
	MB 600-187555/6	C12105.D	05/01/2016	11:32
ER-4	600-129836-1	C12124.D	05/01/2016	19:42
FB-4	600-129836-2	C12125.D	05/01/2016	20:07

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab File ID: A08100.d BFB Injection Date: 03/21/2016

Instrument ID: CHVOAMS07 BFB Injection Time: 08:49

Analysis Batch No.: 184699

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	22.6	
75	30.0 - 60.0 % of mass 95	50.1	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.9	
173	Less than 2.0 % of mass 174	0.5	(0.6) 1
174	50.0 - 120.00 % of mass 95	81.5	
175	5.0 - 9.0 % of mass 174	6.2	(7.6) 1
176	95.0 - 101.0 % of mass 174	79.0	(96.9) 1
177	5.0 - 9.0 % of mass 176	5.1	(6.4) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 600-184699/2	A08101.d	03/21/2016	09:46
	IC 600-184699/3	A08102.d	03/21/2016	10:11
	IC 600-184699/4	A08103.d	03/21/2016	10:37
	IC 600-184699/5	A08104.d	03/21/2016	11:02
	ICIS 600-184699/6	A08105.d	03/21/2016	11:28
	IC 600-184699/7	A08106.d	03/21/2016	11:53
	IC 600-184699/8	A08107.d	03/21/2016	12:18

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab File ID: A12200.d BFB Injection Date: 05/01/2016

Instrument ID: CHVOAMS07 BFB Injection Time: 09:02

Analysis Batch No.: 187554

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	33.1	
75	30.0 - 60.0 % of mass 95	57.9	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.6	
173	Less than 2.0 % of mass 174	0.8	(1.0) 1
174	50.0 - 120.00 % of mass 95	86.3	
175	5.0 - 9.0 % of mass 174	6.5	(7.5) 1
176	95.0 - 101.0 % of mass 174	84.2	(97.5) 1
177	5.0 - 9.0 % of mass 176	6.1	(7.2) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 600-187554/2	A12201.d	05/01/2016	09:29
	LCS 600-187554/3	A12202.d	05/01/2016	10:22
	LCSD 600-187554/4	A12203.d	05/01/2016	10:45
	MB 600-187554/6	A12205.d	05/01/2016	11:33
MW-02-DUP	600-129836-4	A12220.d	05/01/2016	17:40
MW-02	600-129836-5	A12221.d	05/01/2016	18:04
MW-03	600-129836-6	A12222.d	05/01/2016	18:29
MW-01	600-129836-3	A12225.d	05/01/2016	19:41

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab File ID: A12300a.d BFB Injection Date: 05/02/2016

Instrument ID: CHVOAMS07 BFB Injection Time: 08:48

Analysis Batch No.: 187577

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	35.2	
75	30.0 - 60.0 % of mass 95	59.5	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	5.2	
173	Less than 2.0 % of mass 174	0.6	(0.7) 1
174	50.0 - 120.00 % of mass 95	92.1	
175	5.0 - 9.0 % of mass 174	6.8	(7.4) 1
176	95.0 - 101.0 % of mass 174	89.6	(97.4) 1
177	5.0 - 9.0 % of mass 176	5.0	(5.6) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 600-187577/2	A12301.d	05/02/2016	09:17
	LCS 600-187577/4	A12303.d	05/02/2016	10:07
	LCSD 600-187577/5	A12304.d	05/02/2016	10:31
	MB 600-187577/9	A12308.d	05/02/2016	12:07
MW-21	600-129836-8	A12324.d	05/02/2016	18:28
MW-02-DUP DL	600-129836-4 DL	A12325.d	05/02/2016	18:52
MW-02 DL	600-129836-5 DL	A12326.d	05/02/2016	19:16
MW-20 DL	600-129836-7 DL	A12327.d	05/02/2016	19:39

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab File ID: A12500.d BFB Injection Date: 05/04/2016

Instrument ID: CHVOAMS07 BFB Injection Time: 09:03

Analysis Batch No.: 187782

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0 % of mass 95	34.0	
75	30.0 - 60.0 % of mass 95	56.9	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.1	
173	Less than 2.0 % of mass 174	0.4	(0.4) 1
174	50.0 - 120.00 % of mass 95	85.2	
175	5.0 - 9.0 % of mass 174	5.7	(6.6) 1
176	95.0 - 101.0 % of mass 174	81.3	(95.5) 1
177	5.0 - 9.0 % of mass 176	4.9	(6.0) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 600-187782/2	A12501.d	05/04/2016	09:41
	IC 600-187782/3	A12502.d	05/04/2016	10:04
	IC 600-187782/4	A12503.d	05/04/2016	10:28
	IC 600-187782/5	A12504.d	05/04/2016	10:52
	ICIS 600-187782/6	A12505.d	05/04/2016	11:16
	IC 600-187782/7	A12506.d	05/04/2016	11:40
	IC 600-187782/8	A12507.d	05/04/2016	12:04
	MB 600-187782/13	A12509.d	05/04/2016	14:14
	ICV 600-187782/10	A1259a.d	05/04/2016	14:38
	LCS 600-187782/1010	A1259a-LCS.d	05/04/2016	14:38
	LCSD 600-187782/11	A12510.d	05/04/2016	15:07
MW-20 DL2	600-129836-7 DL2	A12511.d	05/04/2016	15:31
MW-01 DL	600-129836-3 DL	A12521.d	05/04/2016	19:30
MW-01 DL2	600-129836-3 DL2	A12522.d	05/04/2016	19:54

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Sample No.: CCVIS 600-187555/2 Date Analyzed: 05/01/2016 09:28

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm)

Lab File ID (Standard): C12101.D Heated Purge: (Y/N) N

Calibration ID: 8402

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		313014	8.41	155892	11.35	116189	13.97
UPPER LIMIT		626028	8.91	311784	11.85	232378	14.47
LOWER LIMIT		156507	7.91	77946	10.85	58095	13.47
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 600-187555/3		360969	8.42	173124	11.35	134051	13.97
LCSD 600-187555/4		364433	8.42	174625	11.35	138779	13.97
MB 600-187555/6		366509	8.42	175533	11.36	139204	13.97
600-129836-1	ER-4	330567	8.42	159013	11.35	126720	13.98
600-129836-2	FB-4	331253	8.42	160241	11.35	125536	13.97

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260B

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Sample No.: CCVIS 600-187554/2 Date Analyzed: 05/01/2016 09:29

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm)

Lab File ID (Standard): A12201.d Heated Purge: (Y/N) N

Calibration ID: 8969

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		353232	8.63	111644	11.64	89820	14.22
UPPER LIMIT		706464	9.13	223288	12.14	179640	14.72
LOWER LIMIT		176616	8.13	55822	11.14	44910	13.72
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 600-187554/3		354137	8.63	115585	11.64	91412	14.23
LCSD 600-187554/4		378930	8.63	122572	11.64	99369	14.23
MB 600-187554/6		303201	8.63	94454	11.64	56912	14.23
600-129836-4	MW-02-DUP	424897	8.63	128250	11.64	95174	14.23
600-129836-5	MW-02	425525	8.63	125785	11.64	93995	14.23
600-129836-6	MW-03	378748	8.63	115318	11.64	73577	14.23
600-129836-3	MW-01	429259	8.63	130194	11.64	102262	14.23

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260B

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Sample No.: CCVIS 600-187577/2 Date Analyzed: 05/02/2016 09:17

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm)

Lab File ID (Standard): A12301.d Heated Purge: (Y/N) N

Calibration ID: 8969

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		234726	8.63	76816	11.64	64033	14.22
UPPER LIMIT		469452	9.13	153632	12.14	128066	14.72
LOWER LIMIT		117363	8.13	38408	11.14	32017	13.72
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 600-187577/4		289396	8.63	98594	11.64	81252	14.23
LCSD 600-187577/5		298484	8.63	99735	11.64	83811	14.22
MB 600-187577/9		232644	8.63	72597	11.64	43832	14.23
600-129836-8	MW-21	274070	8.63	86596	11.64	55514	14.23
600-129836-4 DL	MW-02-DUP DL	255763	8.63	80907	11.64	46727	14.23
600-129836-5 DL	MW-02 DL	244984	8.63	77437	11.64	49232	14.23
600-129836-7 DL	MW-20 DL	243649	8.63	78331	11.64	45554	14.23

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260B

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Sample No.: ICIS 600-187782/6 Date Analyzed: 05/04/2016 11:16

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm)

Lab File ID (Standard): A12505.d Heated Purge: (Y/N) N

Calibration ID: 9170

		FB		CBNZd5		DCBd4	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		262912	8.63	88716	11.64	69847	14.22
UPPER LIMIT		525824	9.13	177432	12.14	139694	14.72
LOWER LIMIT		131456	8.13	44358	11.14	34924	13.72
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 600-187782/13		232542	8.63	70659	11.64	41694	14.23
ICV 600-187782/10		270704	8.63	90859	11.64	69567	14.22
LCS 600-187782/1010		270704	8.63	90859	11.64	69567	14.22
LCSD 600-187782/11		261285	8.63	87025	11.64	66520	14.22
600-129836-7 DL2	MW-20 DL2	223394	8.63	73584	11.64	42538	14.23
600-129836-3 DL	MW-01 DL	284652	8.63	83171	11.64	54393	14.23
600-129836-3 DL2	MW-01 DL2	253122	8.63	82233	11.64	46733	14.23

FB = Fluorobenzene
CBNZd5 = Chlorobenzene-d5
DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260B

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: ER-4 | Lab Sample ID: 600-129836-1

Matrix: Water | Lab File ID: C12124.D

Analysis Method: 8260B | Date Collected: 04/22/2016 11:25

Sample wt/vol: 20(mL) | Date Analyzed: 05/01/2016 19:42

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187555 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	0.192	U	1.00	0.192
127-18-4	Tetrachloroethene	0.333	U	1.00	0.333
79-01-6	Trichloroethene	0.138	U	1.00	0.138
75-01-4	Vinyl chloride	0.248	U	2.00	0.248
156-59-2	cis-1,2-Dichloroethene	0.157	U	1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	85		70-130
1868-53-7	Dibromofluoromethane	81		62-130
460-00-4	4-Bromofluorobenzene	121		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12124.D				
Lims ID:	600-129836-C-1				
Client ID:	ER-4				
Sample Type:	Client				
Inject. Date:	01-May-2016 19:42:30	ALS Bottle#:	18	Worklist Smp#:	25
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-C-1				
Misc. Info.:	600-0011852-025				
Operator ID:	ws	Instrument ID:	CHVOAMS01		

Method:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	02-May-2016 12:48:25	Calib Date:	22-Jan-2016 16:06:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK048

First Level Reviewer: somjitp Date: 02-May-2016 12:49:24

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.420	8.414	0.006	98	330567	12.5	
4 Vinyl chloride	62		4.351				ND	
30 trans-1,2-Dichloroethene	96		6.599				ND	
41 cis-1,2-Dichloroethene	96		7.232				ND	
$ 51 Dibromofluoromethane	113	7.489	7.483	0.006	92	74626	10.1	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.834	7.829	0.005	0	76570	12.3	
73 Trichloroethene	130		8.749				ND	
* 80 Chlorobenzene-d5	82	11.354	11.354	0.000	89	159013	12.5	
$ 90 Toluene-d8 (Surr)	98	9.900	9.900	0.000	93	322210	10.6	
101 Tetrachloroethene	164		10.695				ND	
* 110 1,4-Dichlorobenzene-d4	152	13.975	13.974	0.001	98	126720	12.5	
$ 119 4-Bromofluorobenzene	95	12.657	12.656	0.001	83	144688	15.2	

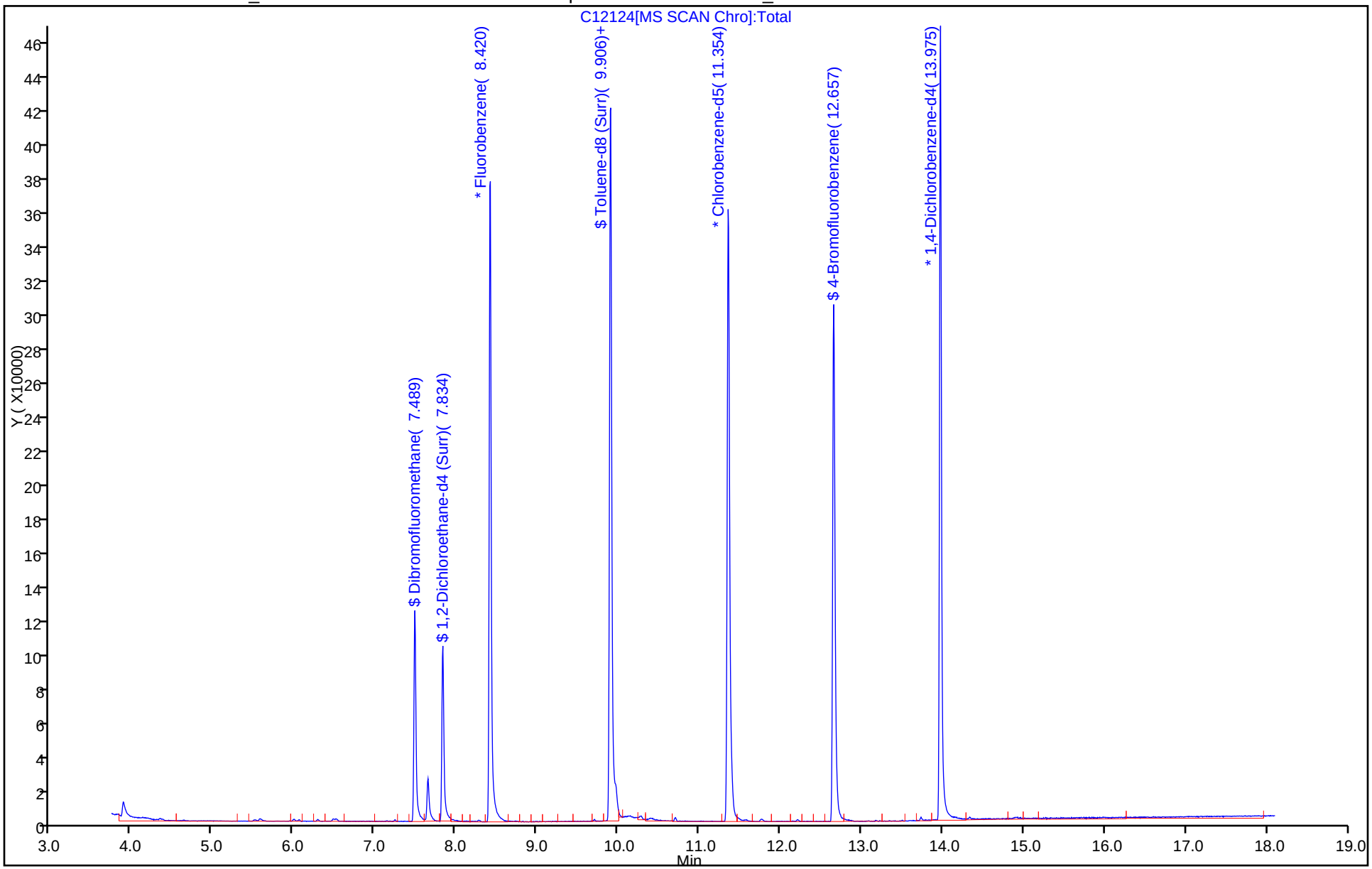
Reagents:

VOASS50PPM_00209	Amount Added: 5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 02-May-2016 12:49:25 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12124.D				
Injection Date:	01-May-2016 19:42:30	Instrument ID:	CHVOAMS01	Operator ID:	ws
Lims ID:	600-129836-C-1	Lab Sample ID:	600-129836-1	Worklist Smp#:	25
Client ID:	ER-4				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	18
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12124.D				
Lims ID:	600-129836-C-1				
Client ID:	ER-4				
Sample Type:	Client				
Inject. Date:	01-May-2016 19:42:30	ALS Bottle#:	18	Worklist Smp#:	25
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-C-1				
Misc. Info.:	600-0011852-025				
Operator ID:	ws	Instrument ID:	CHVOAMS01		

Method:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	02-May-2016 12:48:25	Calib Date:	22-Jan-2016 16:06:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK048		

First Level Reviewer: somjitp Date: 02-May-2016 12:49:24

Compound	Amount Added	Amount Recovered	% Rec.
$ 51 Dibromofluoromethane	12.5	10.1	80.52
$ 56 1,2-Dichloroethane-d4 (Surr)	12.5	12.3	98.54
$ 90 Toluene-d8 (Surr)	12.5	10.6	84.93
$ 119 4-Bromofluorobenzene	12.5	15.2	121.30

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: FB-4 | Lab Sample ID: 600-129836-2

Matrix: Water | Lab File ID: C12125.D

Analysis Method: 8260B | Date Collected: 04/22/2016 11:15

Sample wt/vol: 20(mL) | Date Analyzed: 05/01/2016 20:07

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187555 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	0.192	U	1.00	0.192
127-18-4	Tetrachloroethene	0.333	U	1.00	0.333
79-01-6	Trichloroethene	0.138	U	1.00	0.138
75-01-4	Vinyl chloride	0.248	U	2.00	0.248
156-59-2	cis-1,2-Dichloroethene	0.157	U	1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	83		70-130
1868-53-7	Dibromofluoromethane	80		62-130
460-00-4	4-Bromofluorobenzene	122		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12125.D				
Lims ID:	600-129836-C-2				
Client ID:	FB-4				
Sample Type:	Client				
Inject. Date:	01-May-2016 20:07:30	ALS Bottle#:	19	Worklist Smp#:	26
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-C-2				
Misc. Info.:	600-0011852-026				
Operator ID:	ws	Instrument ID:	CHVOAMS01		

Method:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	02-May-2016 12:48:25	Calib Date:	22-Jan-2016 16:06:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D		

Column 1 : Det: MS SCAN
Process Host: XAWRK048

First Level Reviewer: somjitp Date: 02-May-2016 12:49:39

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.420	8.414	0.006	98	331253	12.5	
4 Vinyl chloride	62		4.351				ND	
30 trans-1,2-Dichloroethene	96		6.599				ND	
41 cis-1,2-Dichloroethene	96		7.232				ND	
$ 51 Dibromofluoromethane	113	7.489	7.483	0.006	92	74190	9.99	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.834	7.829	0.005	0	76008	12.2	
73 Trichloroethene	130		8.749				ND	
* 80 Chlorobenzene-d5	82	11.354	11.354	0.000	89	160241	12.5	
$ 90 Toluene-d8 (Surr)	98	9.905	9.900	0.005	93	316419	10.3	
101 Tetrachloroethene	164		10.695				ND	
* 110 1,4-Dichlorobenzene-d4	152	13.974	13.974	0.000	98	125536	12.5	
$ 119 4-Bromofluorobenzene	95	12.656	12.656	0.000	83	143920	15.2	

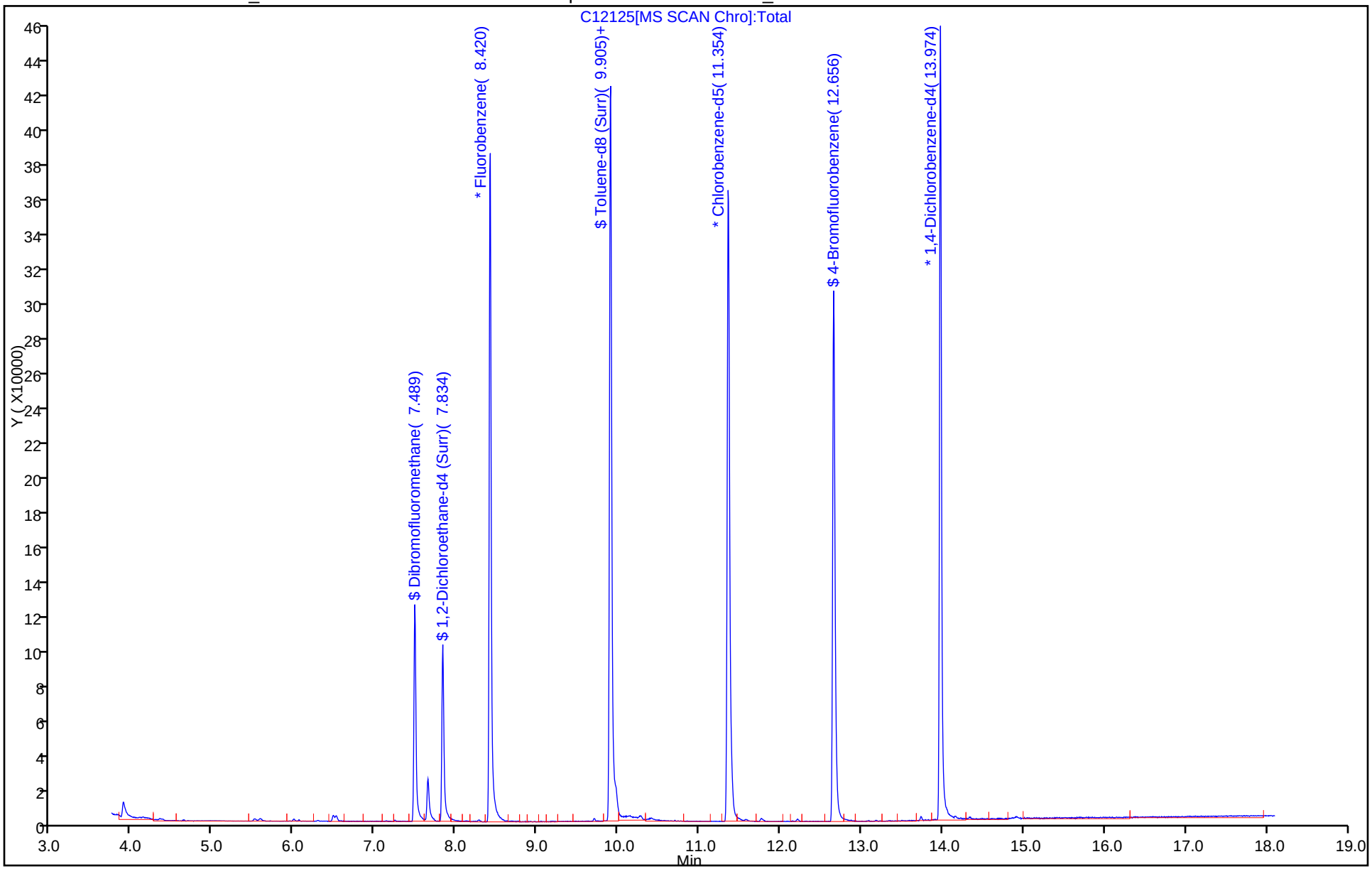
Reagents:

VOASS50PPM_00209	Amount Added: 5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 02-May-2016 12:49:41 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12125.D				
Injection Date:	01-May-2016 20:07:30	Instrument ID:	CHVOAMS01	Operator ID:	ws
Lims ID:	600-129836-C-2	Lab Sample ID:	600-129836-2	Worklist Smp#:	26
Client ID:	FB-4				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	19
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12125.D				
Lims ID:	600-129836-C-2				
Client ID:	FB-4				
Sample Type:	Client				
Inject. Date:	01-May-2016 20:07:30	ALS Bottle#:	19	Worklist Smp#:	26
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-C-2				
Misc. Info.:	600-0011852-026				
Operator ID:	ws	Instrument ID:	CHVOAMS01		

Method:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	02-May-2016 12:48:25	Calib Date:	22-Jan-2016 16:06:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK048		

First Level Reviewer: somjitp Date: 02-May-2016 12:49:39

Compound	Amount Added	Amount Recovered	% Rec.
$ 51 Dibromofluoromethane	12.5	9.99	79.88
$ 56 1,2-Dichloroethane-d4 (Surr)	12.5	12.2	97.62
$ 90 Toluene-d8 (Surr)	12.5	10.3	82.76
$ 119 4-Bromofluorobenzene	12.5	15.2	121.80

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-01 | Lab Sample ID: 600-129836-3

Matrix: Water | Lab File ID: A12225.d

Analysis Method: 8260B | Date Collected: 04/22/2016 09:05

Sample wt/vol: 20(mL) | Date Analyzed: 05/01/2016 19:41

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187554 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	27.4		1.00	0.192
79-01-6	Trichloroethene	20.2		1.00	0.138

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	83		70-130
1868-53-7	Dibromofluoromethane	94		62-130
460-00-4	4-Bromofluorobenzene	88		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12225.d				
Lims ID:	600-129836-F-3				
Client ID:	MW-01				
Sample Type:	Client				
Inject. Date:	01-May-2016 19:41:30	ALS Bottle#:	17	Worklist Smp#:	26
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-F-3				
Misc. Info.:	600-0011851-026				
Operator ID:	ws	Instrument ID:	CHVOAMS07		
Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m				
Limit Group:	VOA - 8260B_8260BLL				
Last Update:	21-Jul-2016 19:09:01	Calib Date:	21-Mar-2016 12:18:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK032				
First Level Reviewer: somjitp		Date:	02-May-2016 14:22:17		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	429259	12.5	
4 Vinyl chloride	62	4.477	4.477	0.000	99	3745707	572.5	E
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	83	281123	27.4	
40 cis-1,2-Dichloroethene	96	7.434	7.428	0.006	55	30872729	2829.1	E
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	60	89159	11.7	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.030	0.006	0	84065	12.1	
73 Trichloroethene	130	8.979	8.973	0.006	92	230387	20.2	
* 80 Chlorobenzene-d5	82	11.644	11.638	0.006	93	130194	12.5	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	281473	10.4	
101 Tetrachloroethene	164	10.981	10.981	0.000	92	572682	72.0	E
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	96	102262	12.5	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	85	96556	11.0	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

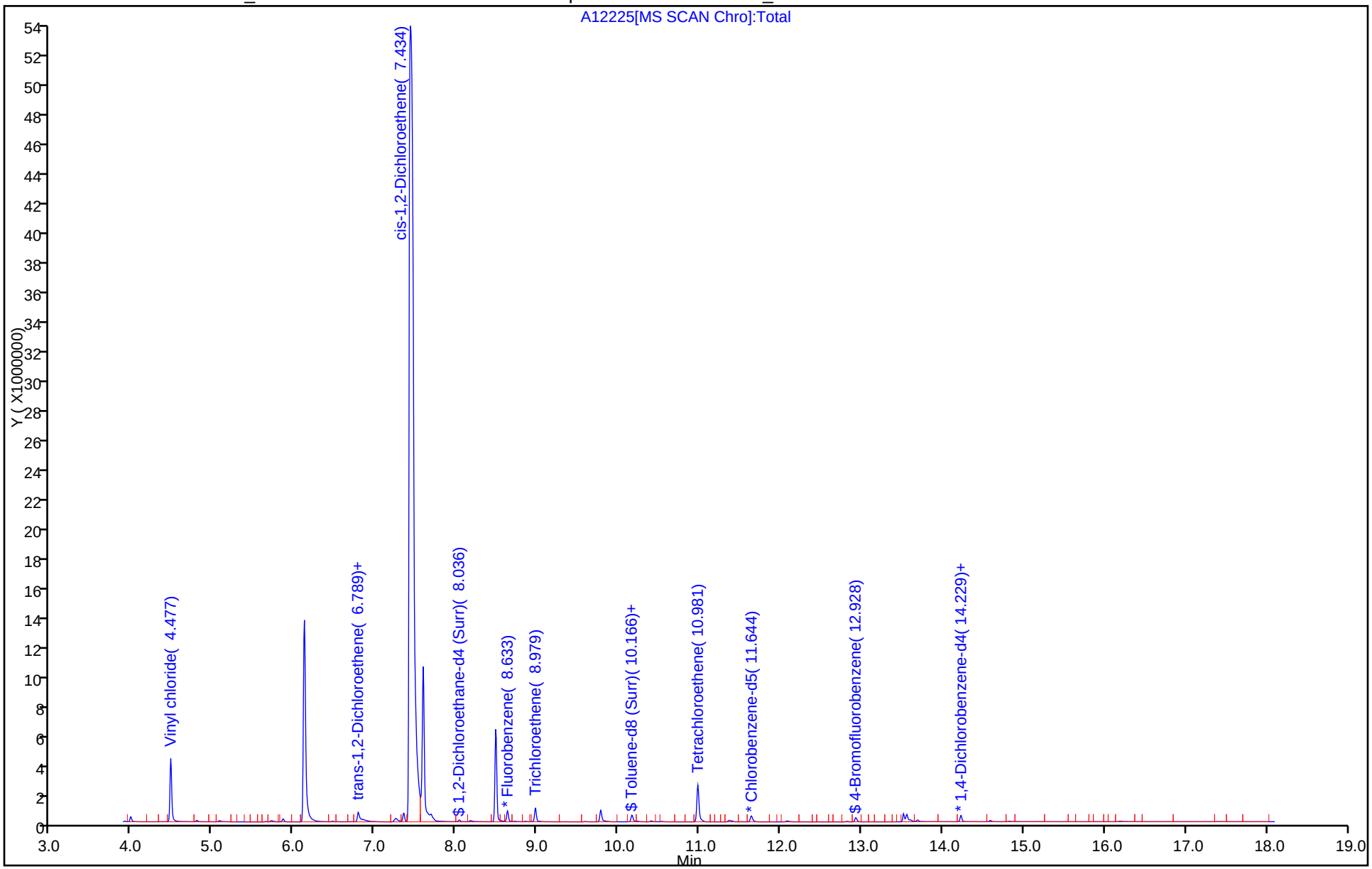
Reagents:

VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 21-Jul-2016 19:09:09 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12225.d				
Injection Date:	01-May-2016 19:41:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	600-129836-F-3	Lab Sample ID:	600-129836-3	Worklist Smp#:	26
Client ID:	MW-01				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	17
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12225.d
Lims ID: 600-129836-F-3
Client ID: MW-01
Sample Type: Client
Inject. Date: 01-May-2016 19:41:30 ALS Bottle#: 17 Worklist Smp#: 26
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: 600-129836-F-3
Misc. Info.: 600-0011851-026
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 21-Jul-2016 19:09:01 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: somjitp Date: 02-May-2016 14:22:17

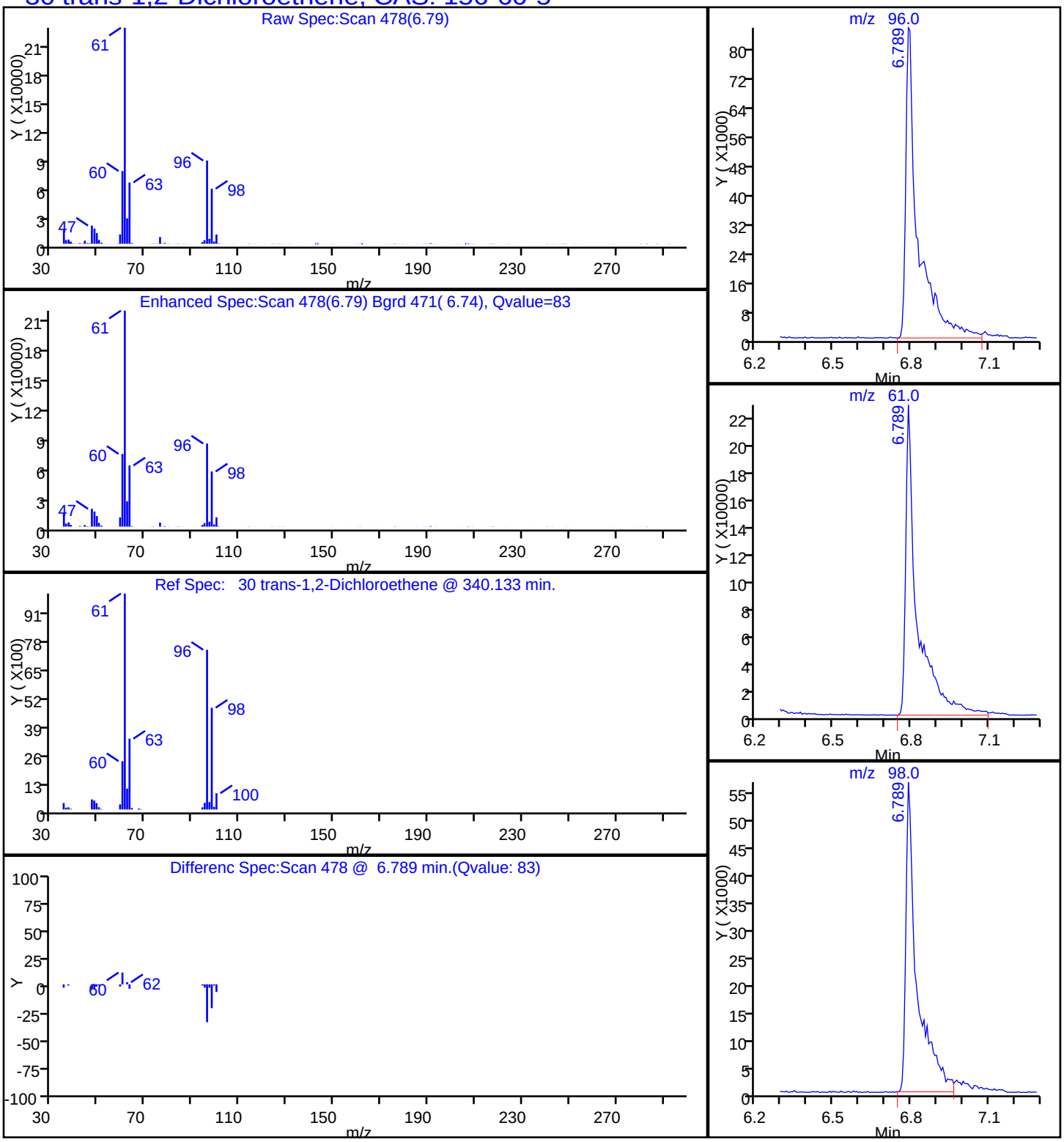
Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	11.7	93.72
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	12.1	96.54
$ 91 Toluene-d8 (Surr)	12.5	10.4	83.22
$ 119 4-Bromofluorobenzene	12.5	11.0	88.01

Report Date: 21-Jul-2016 19:09:09 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12225.d				
Injection Date:	01-May-2016 19:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-3	Lab Sample ID:	600-129836-3		
Client ID:	MW-01				
Operator ID:	ws	ALS Bottle#:	17	Worklist Smp#:	26
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

30 trans-1,2-Dichloroethene, CAS: 156-60-5

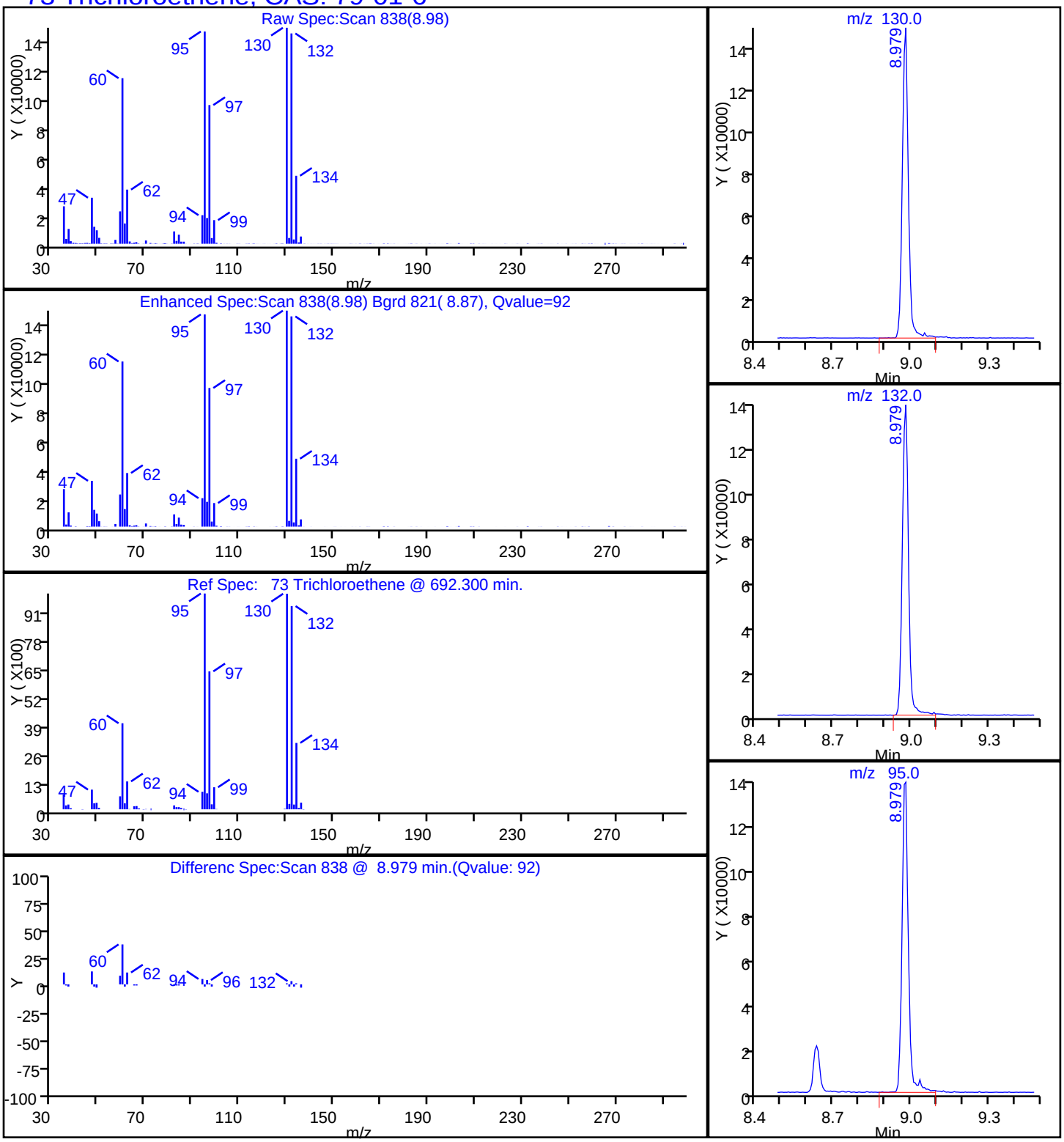


Report Date: 21-Jul-2016 19:09:09 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12225.d				
Injection Date:	01-May-2016 19:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-3	Lab Sample ID:	600-129836-3		
Client ID:	MW-01				
Operator ID:	ws	ALS Bottle#:	17	Worklist Smp#:	26
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

73 Trichloroethene, CAS: 79-01-6



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-01 DL | Lab Sample ID: 600-129836-3 DL

Matrix: Water | Lab File ID: A12521.d

Analysis Method: 8260B | Date Collected: 04/22/2016 09:05

Sample wt/vol: 20(mL) | Date Analyzed: 05/04/2016 19:30

Soil Aliquot Vol: | Dilution Factor: 20

Soil Extract Vol.: | GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187782 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
127-18-4	Tetrachloroethene	61.3		20.0	6.66
75-01-4	Vinyl chloride	386		40.0	4.96

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	103		70-130
1868-53-7	Dibromofluoromethane	89		62-130
460-00-4	4-Bromofluorobenzene	84		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12521.d				
Lims ID:	600-129836-G-3				
Client ID:	MW-01				
Sample Type:	Client				
Inject. Date:	04-May-2016 19:30:30	ALS Bottle#:	10	Worklist Smp#:	24
Purge Vol:	20.000 mL	Dil. Factor:	20.0000		
Sample Info:	600-129836-G-3				
Misc. Info.:	600-0011909-024				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	09-Aug-2016 17:42:34	Calib Date:	04-May-2016 12:04:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK047		

First Level Reviewer: shenw Date: 05-May-2016 11:01:57

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	284652	12.5	
4 Vinyl chloride	62	4.478	4.477	0.001	98	138633	19.3	
30 trans-1,2-Dichloroethene	96		6.789				ND	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	78	5519962	787.9	E
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	55	86417	11.1	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	122908	12.7	
73 Trichloroethene	130	8.973	8.973	0.000	78	6820	0.7709	
* 80 Chlorobenzene-d5	82	11.644	11.638	0.006	91	83171	12.5	
$ 91 Toluene-d8 (Surr)	98	10.172	10.166	0.006	96	230405	12.8	
101 Tetrachloroethene	164	10.987	10.981	0.006	90	17218	3.07	
* 110 1,4-Dichlorobenzene-d4	152	14.230	14.223	0.007	96	54393	12.5	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	89	49398	10.5	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

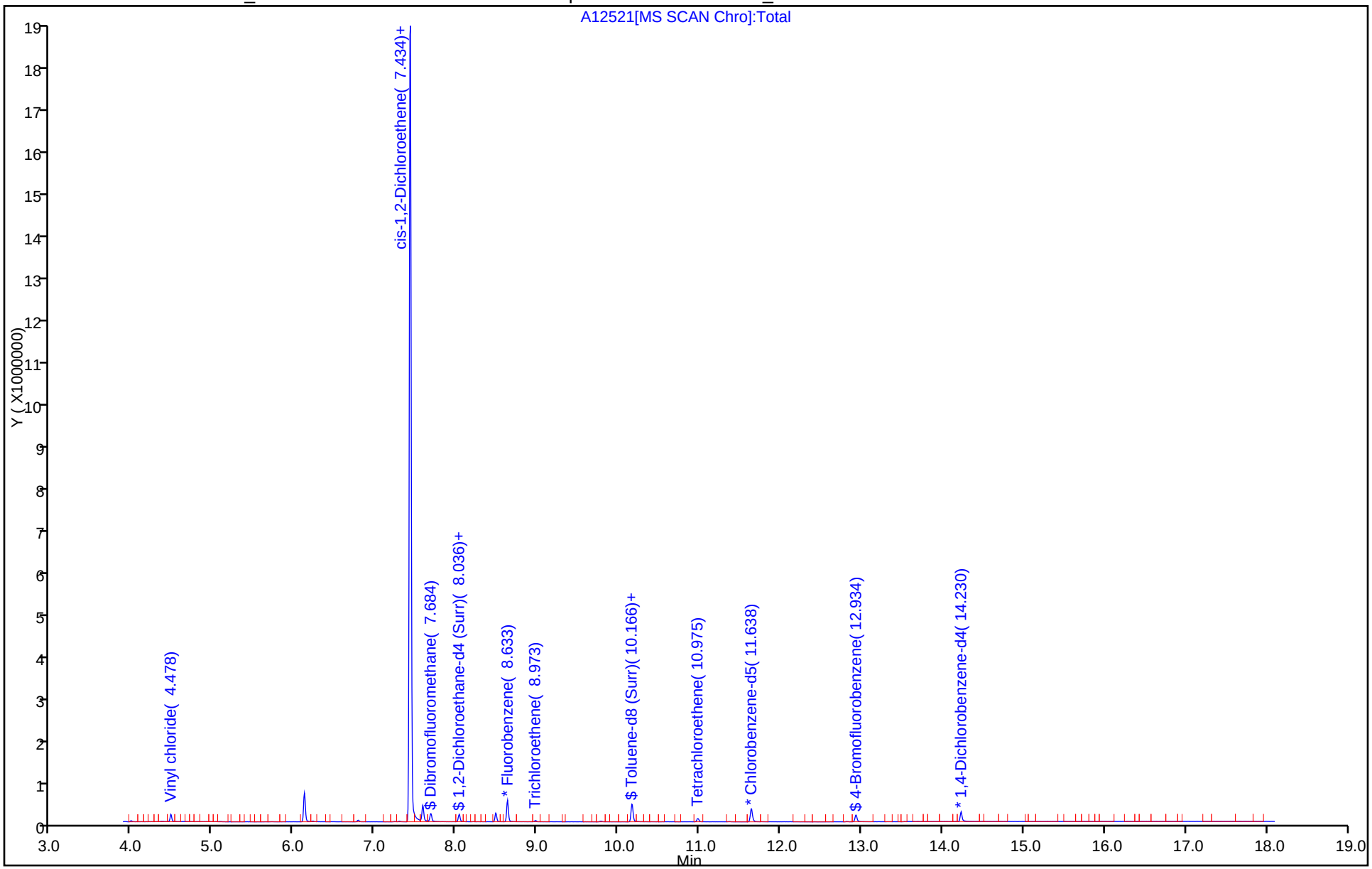
Reagents:

VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 09-Aug-2016 17:43:06 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12521.d				
Injection Date:	04-May-2016 19:30:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	600-129836-G-3	Lab Sample ID:	600-129836-3	Worklist Smp#:	24
Client ID:	MW-01				
Purge Vol:	20.000 mL	Dil. Factor:	20.0000	ALS Bottle#:	10
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12521.d				
Lims ID:	600-129836-G-3				
Client ID:	MW-01				
Sample Type:	Client				
Inject. Date:	04-May-2016 19:30:30	ALS Bottle#:	10	Worklist Smp#:	24
Purge Vol:	20.000 mL	Dil. Factor:	20.0000		
Sample Info:	600-129836-G-3				
Misc. Info.:	600-0011909-024				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	09-Aug-2016 17:42:34	Calib Date:	04-May-2016 12:04:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK047		

First Level Reviewer: shenw Date: 05-May-2016 11:01:57

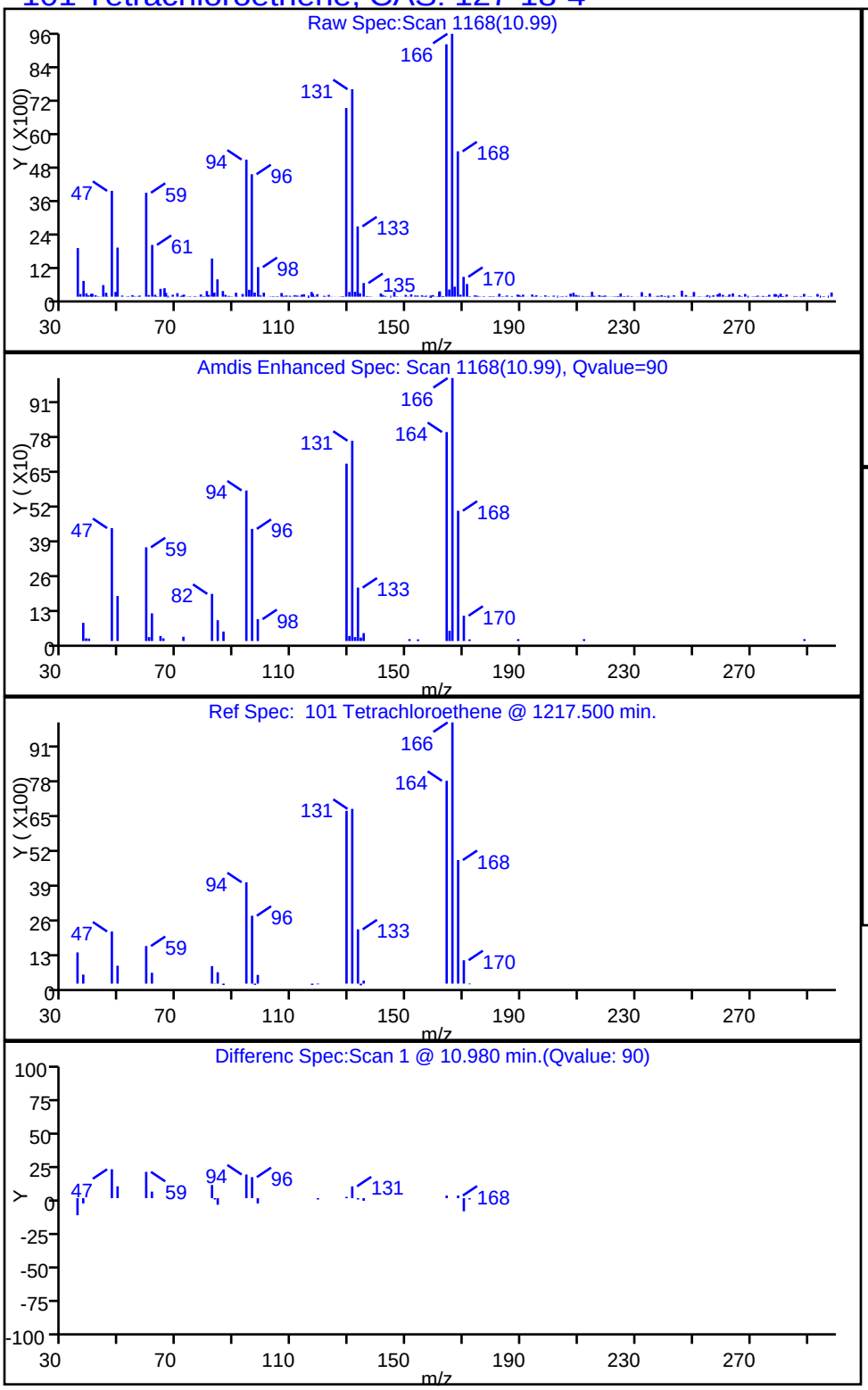
Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	11.1	89.06
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	12.7	101.22
$ 91 Toluene-d8 (Surr)	12.5	12.8	102.62
$ 119 4-Bromofluorobenzene	12.5	10.5	84.27

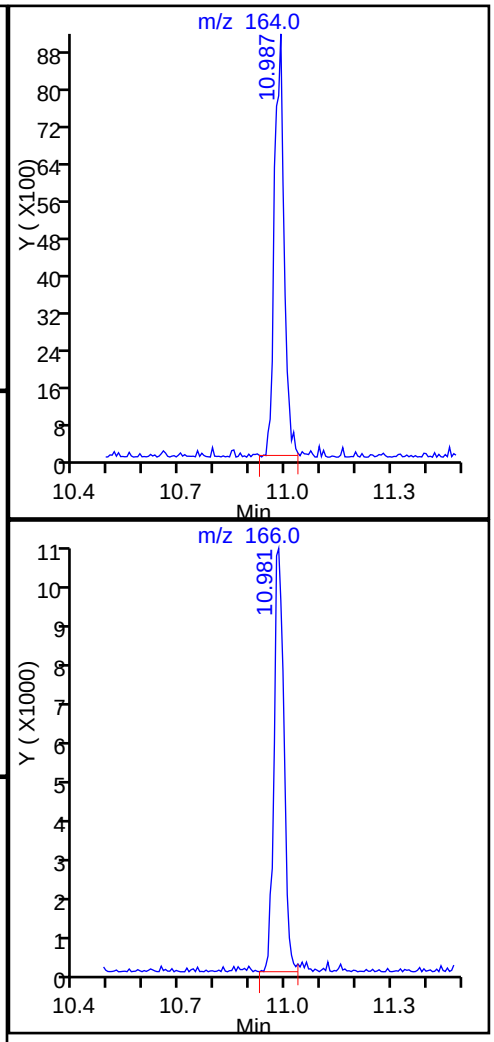
Report Date: 09-Aug-2016 17:43:06 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12521.d				
Injection Date:	04-May-2016 19:30:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-3	Lab Sample ID:	600-129836-3		
Client ID:	MW-01				
Operator ID:	ws	ALS Bottle#:	10	Worklist Smp#:	24
Purge Vol:	20.000 mL	Dil. Factor:	20.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

101 Tetrachloroethene, CAS: 127-18-4



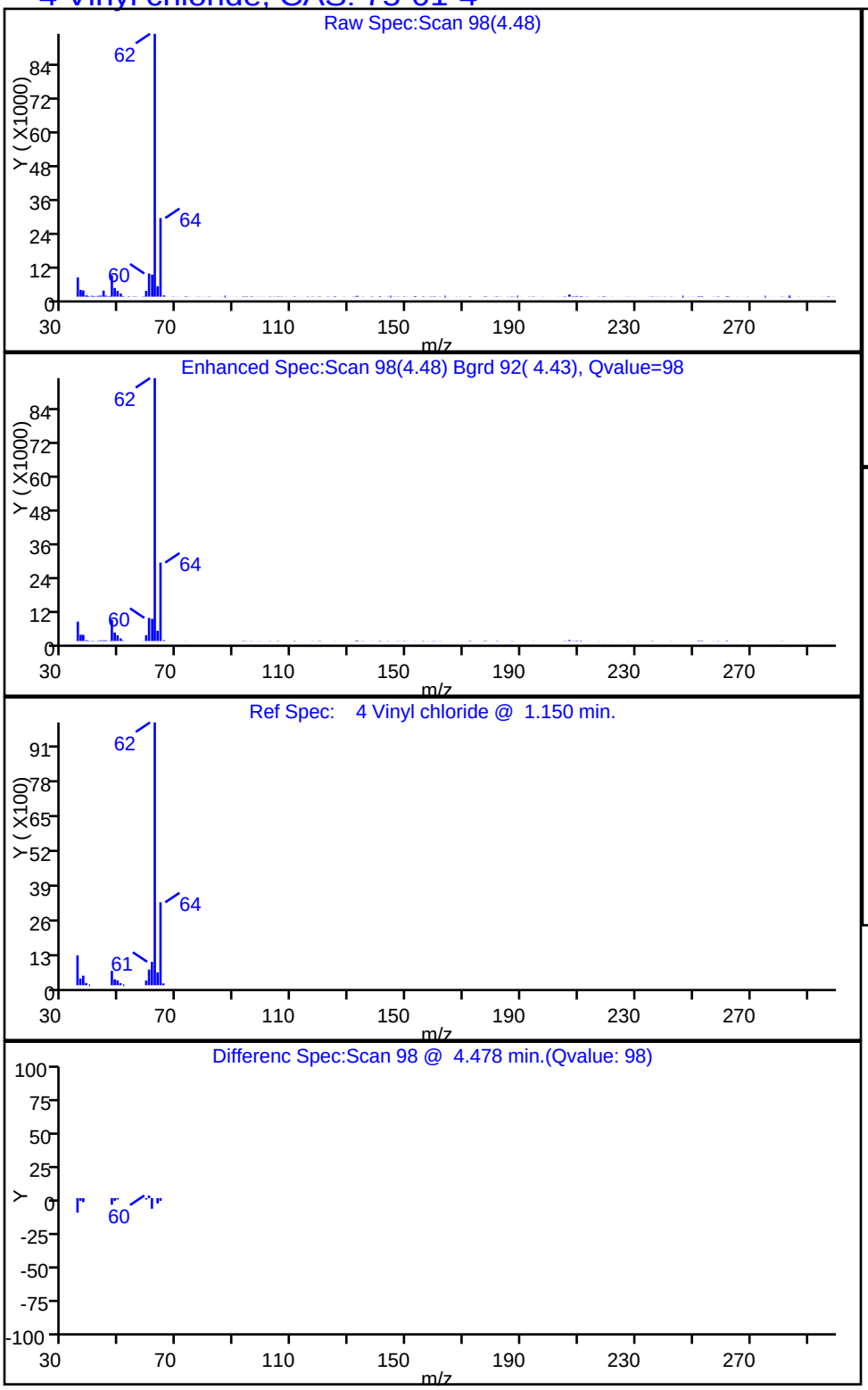


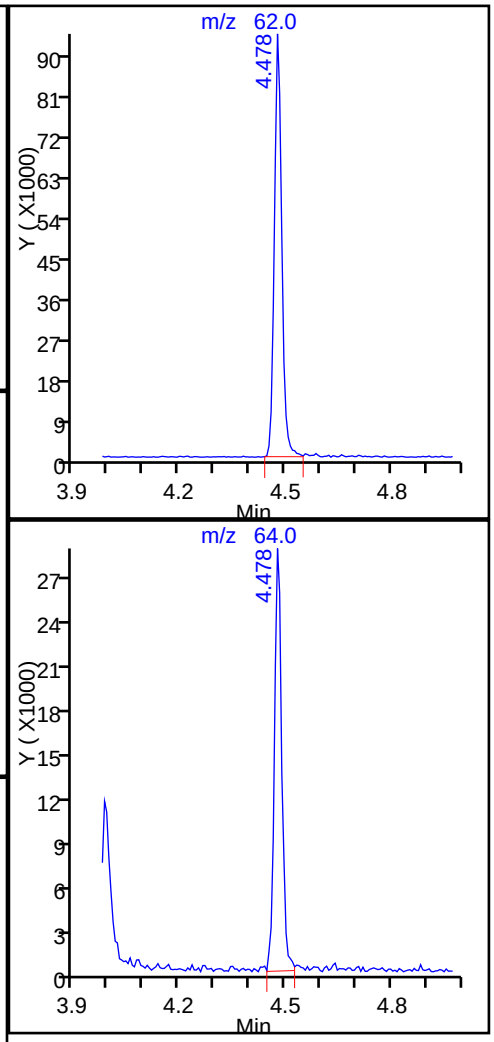
Report Date: 09-Aug-2016 17:43:06 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12521.d				
Injection Date:	04-May-2016 19:30:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-3	Lab Sample ID:	600-129836-3		
Client ID:	MW-01				
Operator ID:	ws	ALS Bottle#:	10	Worklist Smp#:	24
Purge Vol:	20.000 mL	Dil. Factor:	20.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

4 Vinyl chloride, CAS: 75-01-4





FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-01 DL2 | Lab Sample ID: 600-129836-3 DL2

Matrix: Water | Lab File ID: A12522.d

Analysis Method: 8260B | Date Collected: 04/22/2016 09:05

Sample wt/vol: 20(mL) | Date Analyzed: 05/04/2016 19:54

Soil Aliquot Vol: | Dilution Factor: 500

Soil Extract Vol.: | GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187782 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	12300		500	78.5

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	93		70-130
1868-53-7	Dibromofluoromethane	88		62-130
460-00-4	4-Bromofluorobenzene	84		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12522.d				
Lims ID:	600-129836-G-3				
Client ID:	MW-01				
Sample Type:	Client				
Inject. Date:	04-May-2016 19:54:30	ALS Bottle#:	11	Worklist Smp#:	25
Purge Vol:	20.000 mL	Dil. Factor:	500.0000		
Sample Info:	600-129836-G-3				
Misc. Info.:	600-0011909-025				
Operator ID:	ws	Instrument ID:	CHVOAMS07		
Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m				
Limit Group:	VOA - 8260B_8260BLL				
Last Update:	09-Aug-2016 17:54:55	Calib Date:	04-May-2016 12:04:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK047				
First Level Reviewer: shenw		Date:	05-May-2016 11:02:17		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	253122	12.5	
4 Vinyl chloride	62	4.477	4.477	0.000	97	5733	0.8975	
30 trans-1,2-Dichloroethene	96		6.789				ND	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	92	152924	24.5	
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	90	75647	11.0	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	114170	13.2	
73 Trichloroethene	130		8.973				ND	
* 80 Chlorobenzene-d5	82	11.644	11.638	0.006	93	82233	12.5	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	206131	11.6	
101 Tetrachloroethene	164		10.981				ND	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	95	46733	12.5	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	90	42386	10.5	

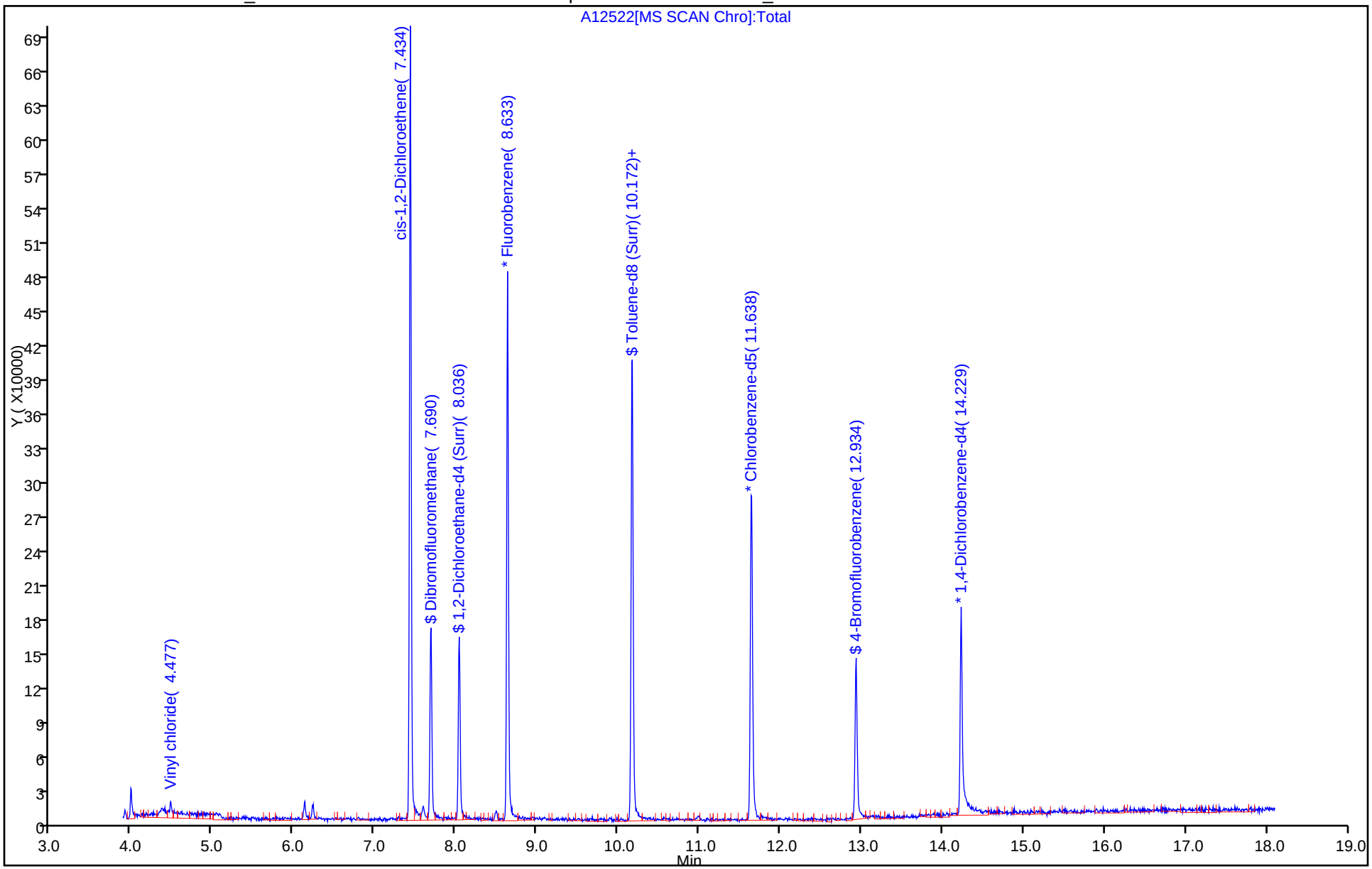
Reagents:

VOASS50PPM_00209	Amount Added: 5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 09-Aug-2016 17:54:58 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12522.d				
Injection Date:	04-May-2016 19:54:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	600-129836-G-3	Lab Sample ID:	600-129836-3	Worklist Smp#:	25
Client ID:	MW-01				
Purge Vol:	20.000 mL	Dil. Factor:	500.0000	ALS Bottle#:	11
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12522.d				
Lims ID:	600-129836-G-3				
Client ID:	MW-01				
Sample Type:	Client				
Inject. Date:	04-May-2016 19:54:30	ALS Bottle#:	11	Worklist Smp#:	25
Purge Vol:	20.000 mL	Dil. Factor:	500.0000		
Sample Info:	600-129836-G-3				
Misc. Info.:	600-0011909-025				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	09-Aug-2016 17:54:55	Calib Date:	04-May-2016 12:04:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK047		

First Level Reviewer: shenw Date: 05-May-2016 11:02:17

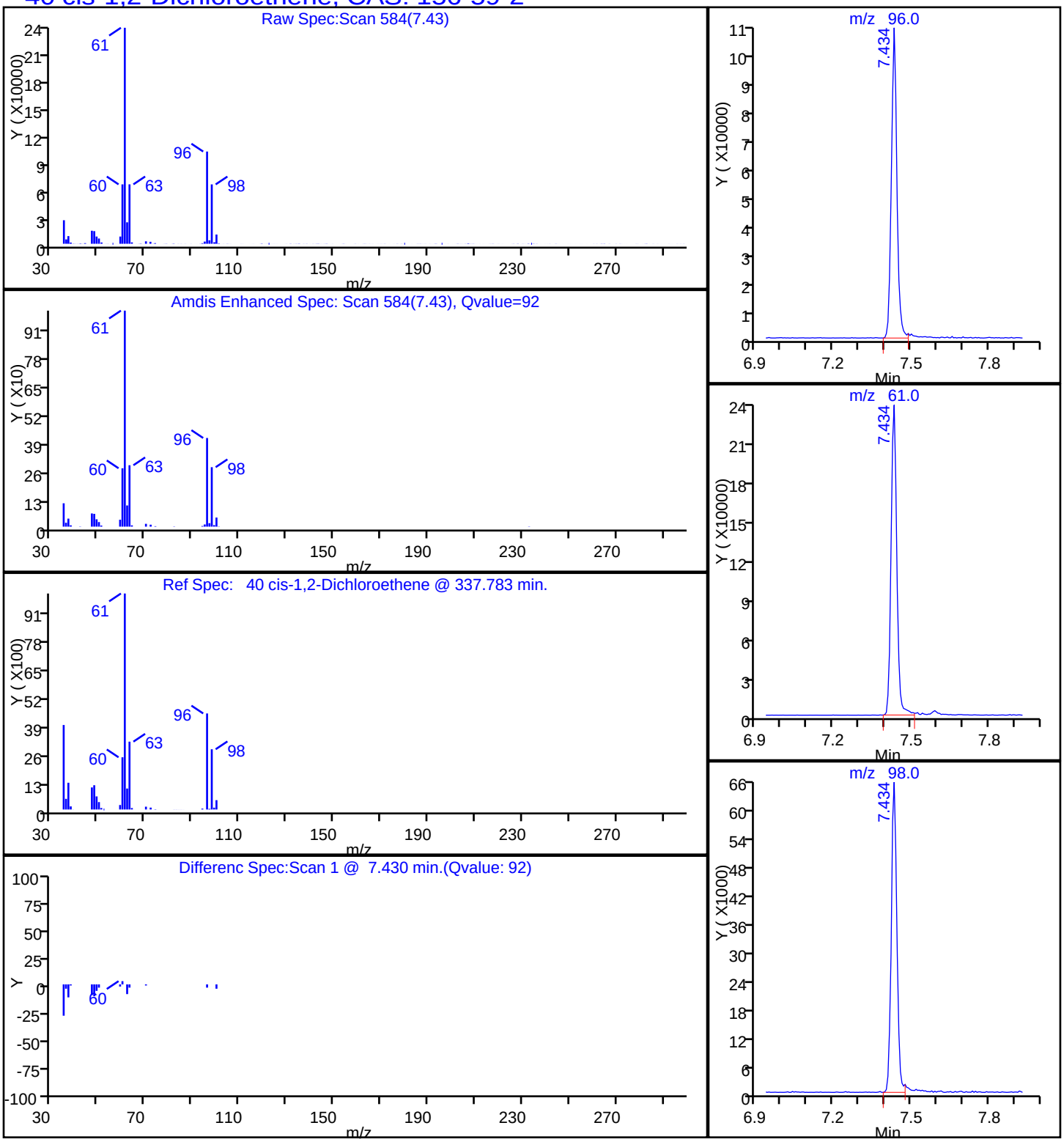
Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	11.0	87.67
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	13.2	105.74
$ 91 Toluene-d8 (Surr)	12.5	11.6	92.86
$ 119 4-Bromofluorobenzene	12.5	10.5	84.16

Report Date: 09-Aug-2016 17:54:58 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12522.d				
Injection Date:	04-May-2016 19:54:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-3	Lab Sample ID:	600-129836-3		
Client ID:	MW-01				
Operator ID:	ws	ALS Bottle#:	11	Worklist Smp#:	25
Purge Vol:	20.000 mL	Dil. Factor:	500.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

40 cis-1,2-Dichloroethene, CAS: 156-59-2



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-02-DUP | Lab Sample ID: 600-129836-4

Matrix: Water | Lab File ID: A12220.d

Analysis Method: 8260B | Date Collected: 04/22/2016 15:25

Sample wt/vol: 20(mL) | Date Analyzed: 05/01/2016 17:40

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187554 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	1.78		1.00	0.192
127-18-4	Tetrachloroethene	12.8		1.00	0.333
79-01-6	Trichloroethene	3.01		1.00	0.138

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	87		70-130
1868-53-7	Dibromofluoromethane	103		62-130
460-00-4	4-Bromofluorobenzene	79		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	110		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12220.d				
Lims ID:	600-129836-F-4				
Client ID:	MW-02-DUP				
Sample Type:	Client				
Inject. Date:	01-May-2016 17:40:30	ALS Bottle#:	12	Worklist Smp#:	21
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-F-4				
Misc. Info.:	600-0011851-021				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	21-Jul-2016 19:09:01	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK032		

First Level Reviewer: baxterj Date: 21-Jul-2016 19:05:21

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	424897	12.5	
4 Vinyl chloride	62	4.477	4.477	0.000	98	1607194	248.2	E
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	84	18058	1.78	
40 cis-1,2-Dichloroethene	96	7.434	7.428	0.006	84	4255551	394.0	E
$ 52 Dibromofluoromethane	113	7.683	7.684	-0.001	74	96749	12.8	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.030	0.006	0	94679	13.7	
73 Trichloroethene	130	8.979	8.973	0.006	82	33968	3.01	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	92	128250	12.5	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	289607	10.9	
101 Tetrachloroethene	164	10.981	10.981	0.000	86	100315	12.8	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	96	95174	12.5	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	89	80921	9.91	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

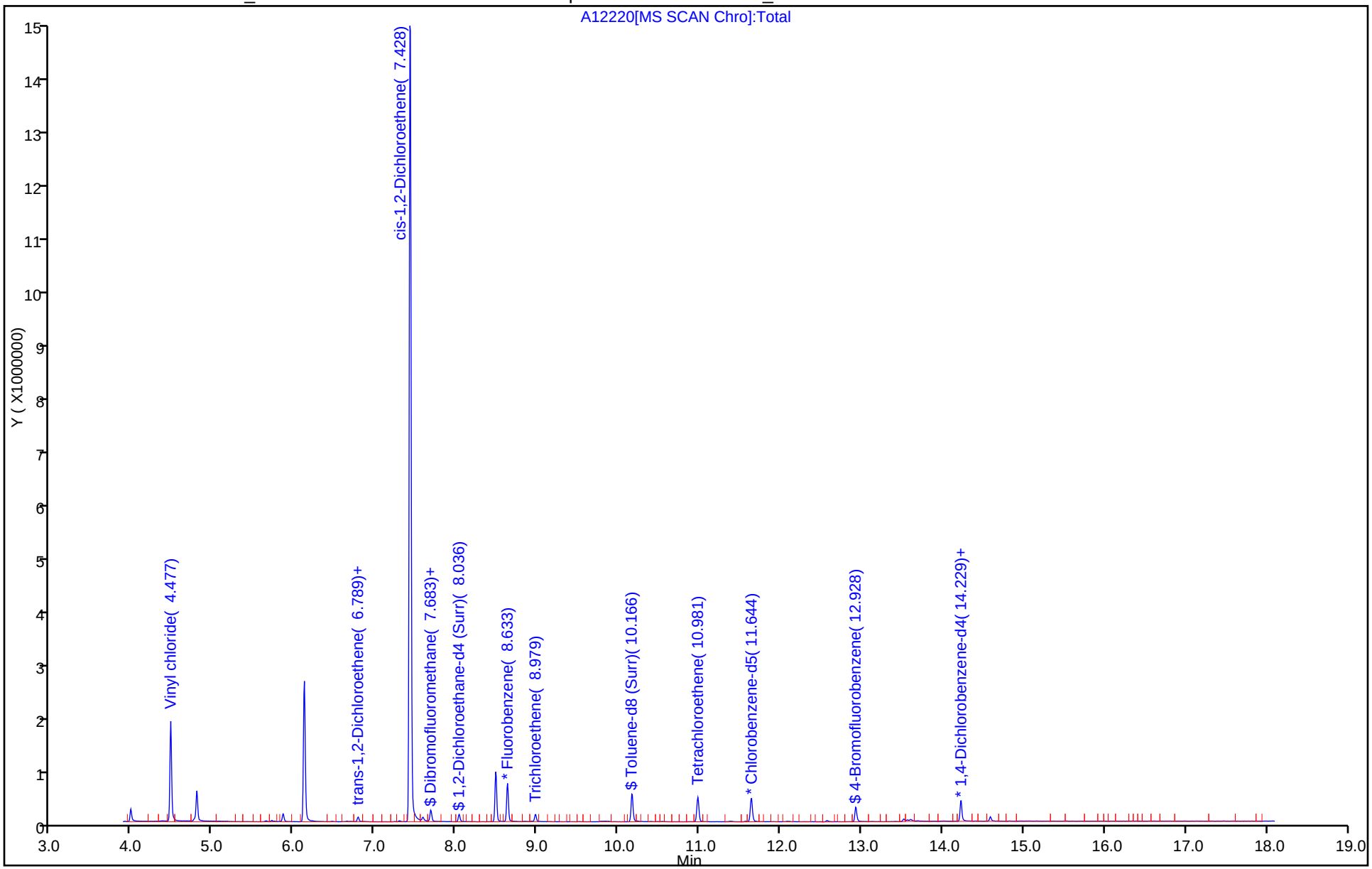
Reagents:

VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 21-Jul-2016 19:09:02 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12220.d				
Injection Date:	01-May-2016 17:40:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	600-129836-F-4	Lab Sample ID:	600-129836-4	Worklist Smp#:	21
Client ID:	MW-02-DUP				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12220.d				
Lims ID:	600-129836-F-4				
Client ID:	MW-02-DUP				
Sample Type:	Client				
Inject. Date:	01-May-2016 17:40:30	ALS Bottle#:	12	Worklist Smp#:	21
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-F-4				
Misc. Info.:	600-0011851-021				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	21-Jul-2016 19:09:01	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :		Det: MS SCAN	
Process Host:	XAWRK032		

First Level Reviewer: baxterj Date: 21-Jul-2016 19:05:21

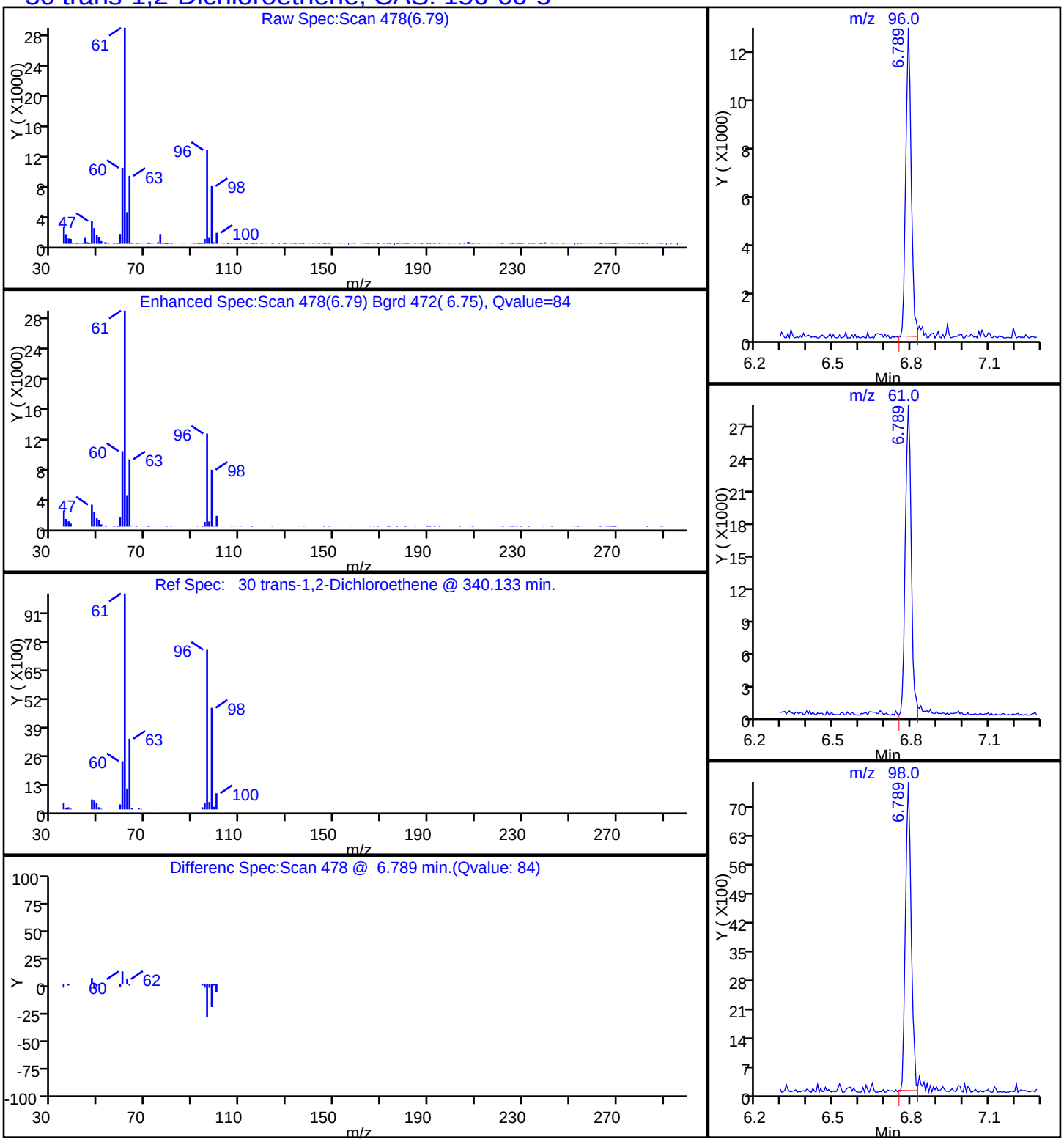
Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	12.8	102.74
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	13.7	109.85
$ 91 Toluene-d8 (Surr)	12.5	10.9	86.92
$ 119 4-Bromofluorobenzene	12.5	9.91	79.25

Report Date: 21-Jul-2016 19:09:02 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12220.d				
Injection Date:	01-May-2016 17:40:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-4	Lab Sample ID:	600-129836-4		
Client ID:	MW-02-DUP				
Operator ID:	ws	ALS Bottle#:	12	Worklist Smp#:	21
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

30 trans-1,2-Dichloroethene, CAS: 156-60-5

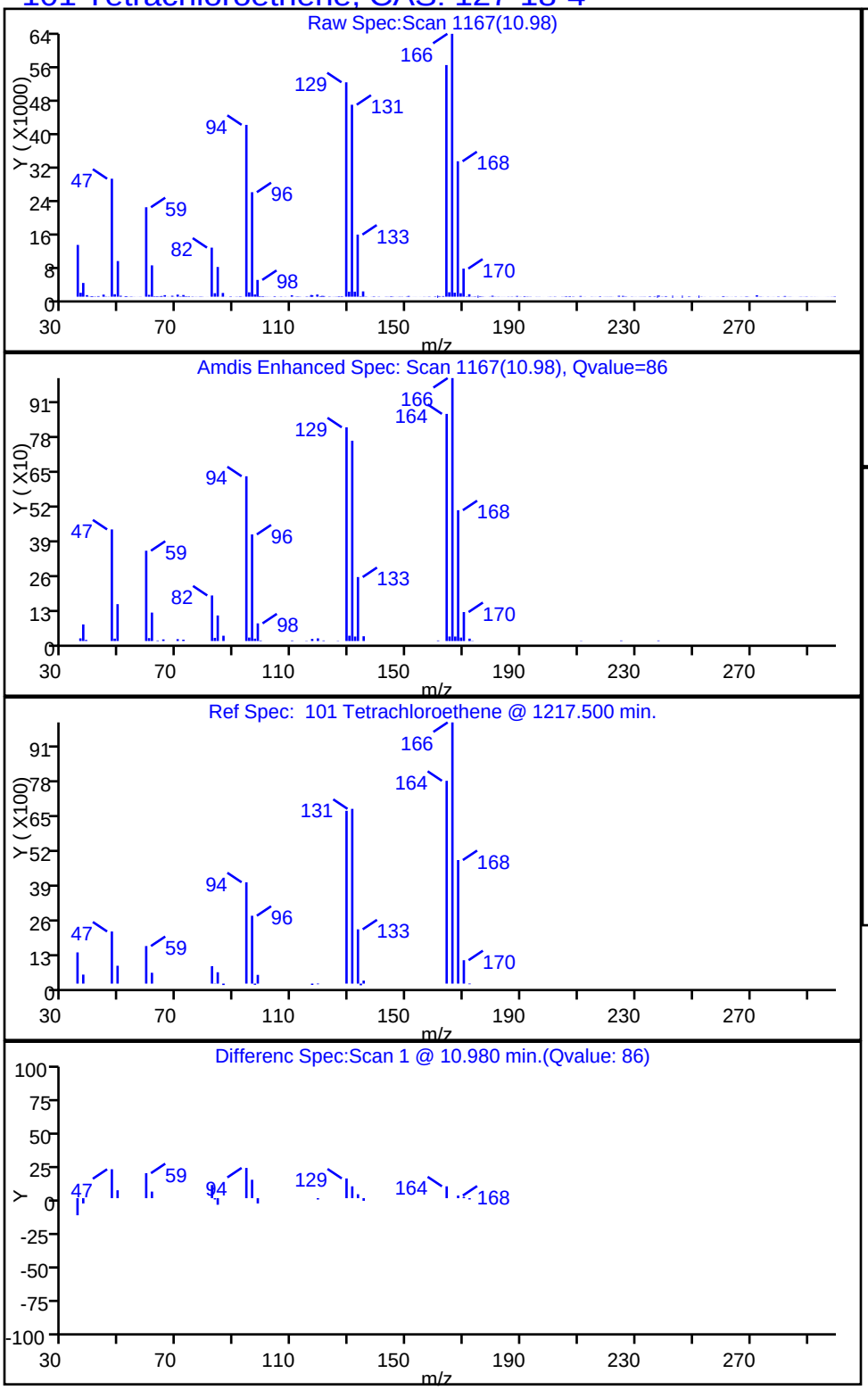


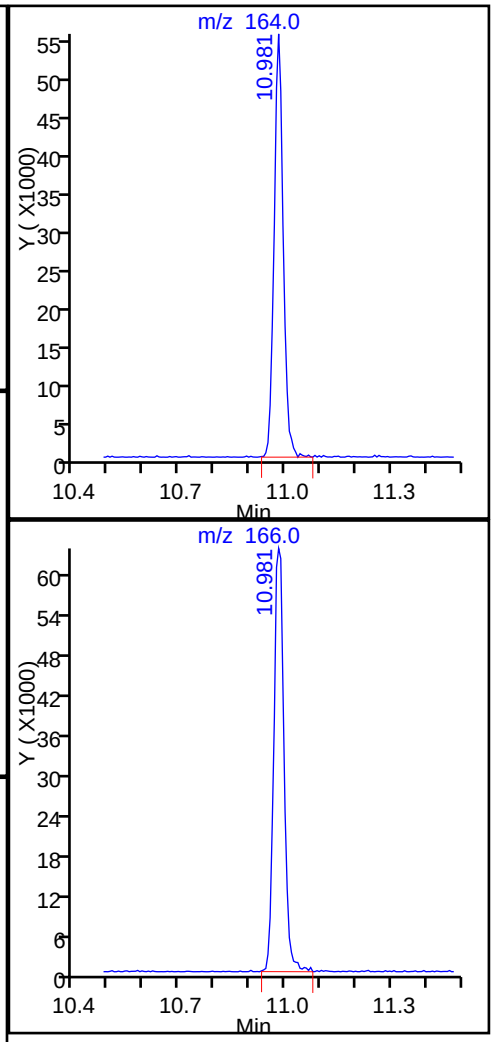
Report Date: 21-Jul-2016 19:09:03 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12220.d				
Injection Date:	01-May-2016 17:40:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-4	Lab Sample ID:	600-129836-4		
Client ID:	MW-02-DUP				
Operator ID:	ws	ALS Bottle#:	12	Worklist Smp#:	21
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

101 Tetrachloroethene, CAS: 127-18-4



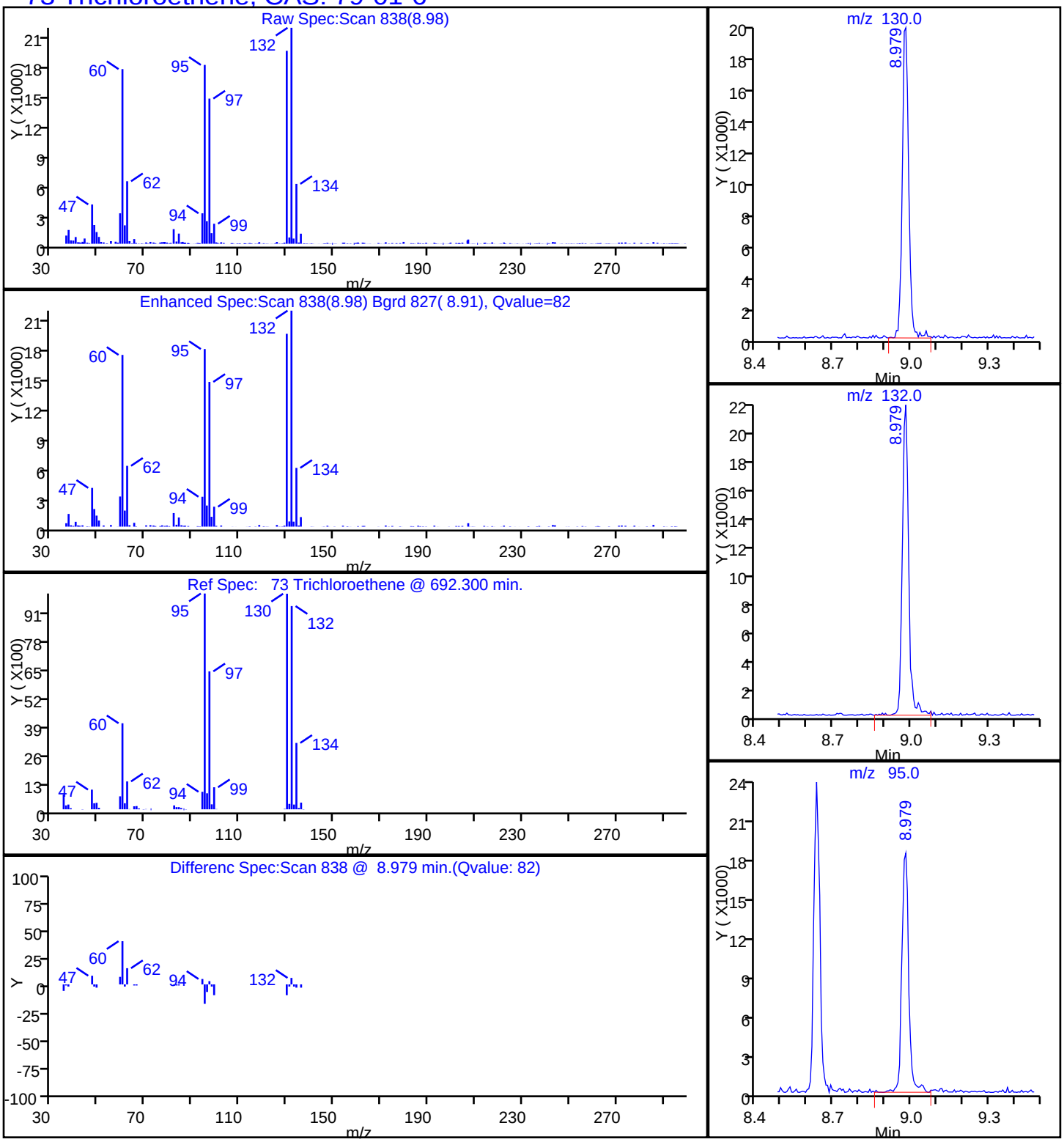


Report Date: 21-Jul-2016 19:09:03 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12220.d				
Injection Date:	01-May-2016 17:40:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-4	Lab Sample ID:	600-129836-4		
Client ID:	MW-02-DUP				
Operator ID:	ws	ALS Bottle#:	12	Worklist Smp#:	21
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

73 Trichloroethene, CAS: 79-01-6



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID: MW-02-DUP DL
Lab Sample ID: 600-129836-4 DL
Matrix: Water
Lab File ID: A12325.d
Analysis Method: 8260B
Date Collected: 04/22/2016 15:25
Sample wt/vol: 20(mL)
Date Analyzed: 05/02/2016 18:52
Soil Aliquot Vol:
Dilution Factor: 25
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187577
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-01-4	Vinyl chloride	270		50.0	6.20
156-59-2	cis-1,2-Dichloroethene	337		25.0	3.93

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	90		70-130
1868-53-7	Dibromofluoromethane	99		62-130
460-00-4	4-Bromofluorobenzene	96		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12325.d				
Lims ID:	600-129836-G-4				
Client ID:	MW-02-DUP				
Sample Type:	Client				
Inject. Date:	02-May-2016 18:52:30	ALS Bottle#:	17	Worklist Smp#:	26
Purge Vol:	20.000 mL	Dil. Factor:	25.0000		
Sample Info:	600-129836-G-4				
Misc. Info.:	600-0011863-026				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	22-Jul-2016 09:00:17	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK027		

First Level Reviewer: shenw Date: 03-May-2016 09:30:27

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	255763	12.5	
4 Vinyl chloride	62	4.478	4.477	0.001	96	42149	10.8	
30 trans-1,2-Dichloroethene	96		6.789				ND	
40 cis-1,2-Dichloroethene	96	7.434	7.428	0.006	79	87531	13.5	
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	91	55915	12.3	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.030	0.006	0	51815	12.5	
73 Trichloroethene	130	8.985	8.973	0.012	46	1164	0.1711	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	93	80907	12.5	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	188611	11.2	
101 Tetrachloroethene	164	10.987	10.981	0.006	92	2234	0.4521	
* 110 1,4-Dichlorobenzene-d4	152	14.230	14.223	0.007	96	46727	12.5	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	88	48048	12.0	

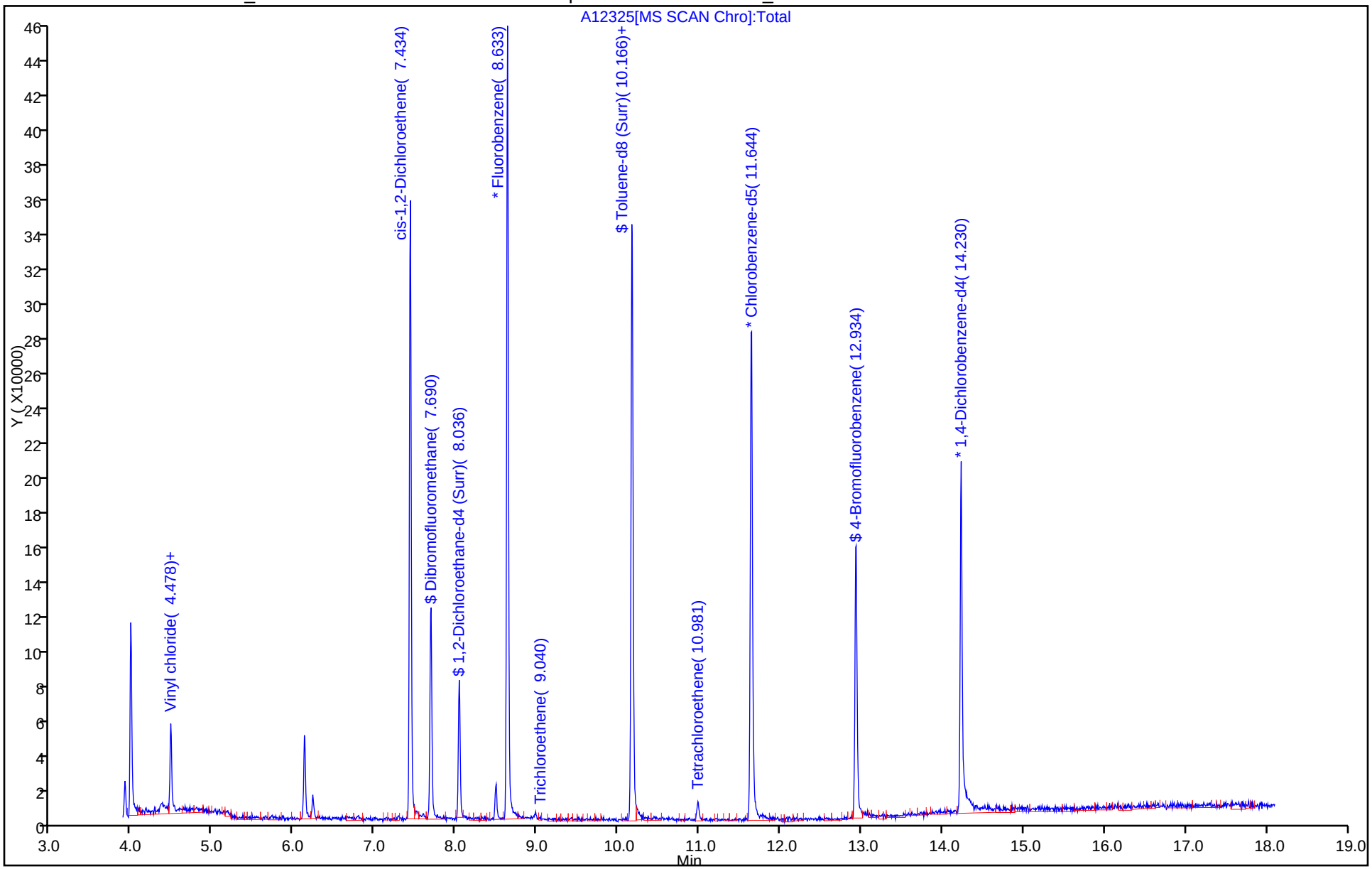
Reagents:

VOASS50PPM_00209	Amount Added: 5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 22-Jul-2016 09:00:25 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12325.d				
Injection Date:	02-May-2016 18:52:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	600-129836-G-4	Lab Sample ID:	600-129836-4	Worklist Smp#:	26
Client ID:	MW-02-DUP				
Purge Vol:	20.000 mL	Dil. Factor:	25.0000	ALS Bottle#:	17
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12325.d				
Lims ID:	600-129836-G-4				
Client ID:	MW-02-DUP				
Sample Type:	Client				
Inject. Date:	02-May-2016 18:52:30	ALS Bottle#:	17	Worklist Smp#:	26
Purge Vol:	20.000 mL	Dil. Factor:	25.0000		
Sample Info:	600-129836-G-4				
Misc. Info.:	600-0011863-026				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	22-Jul-2016 09:00:17	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK027		

First Level Reviewer: shenw Date: 03-May-2016 09:30:27

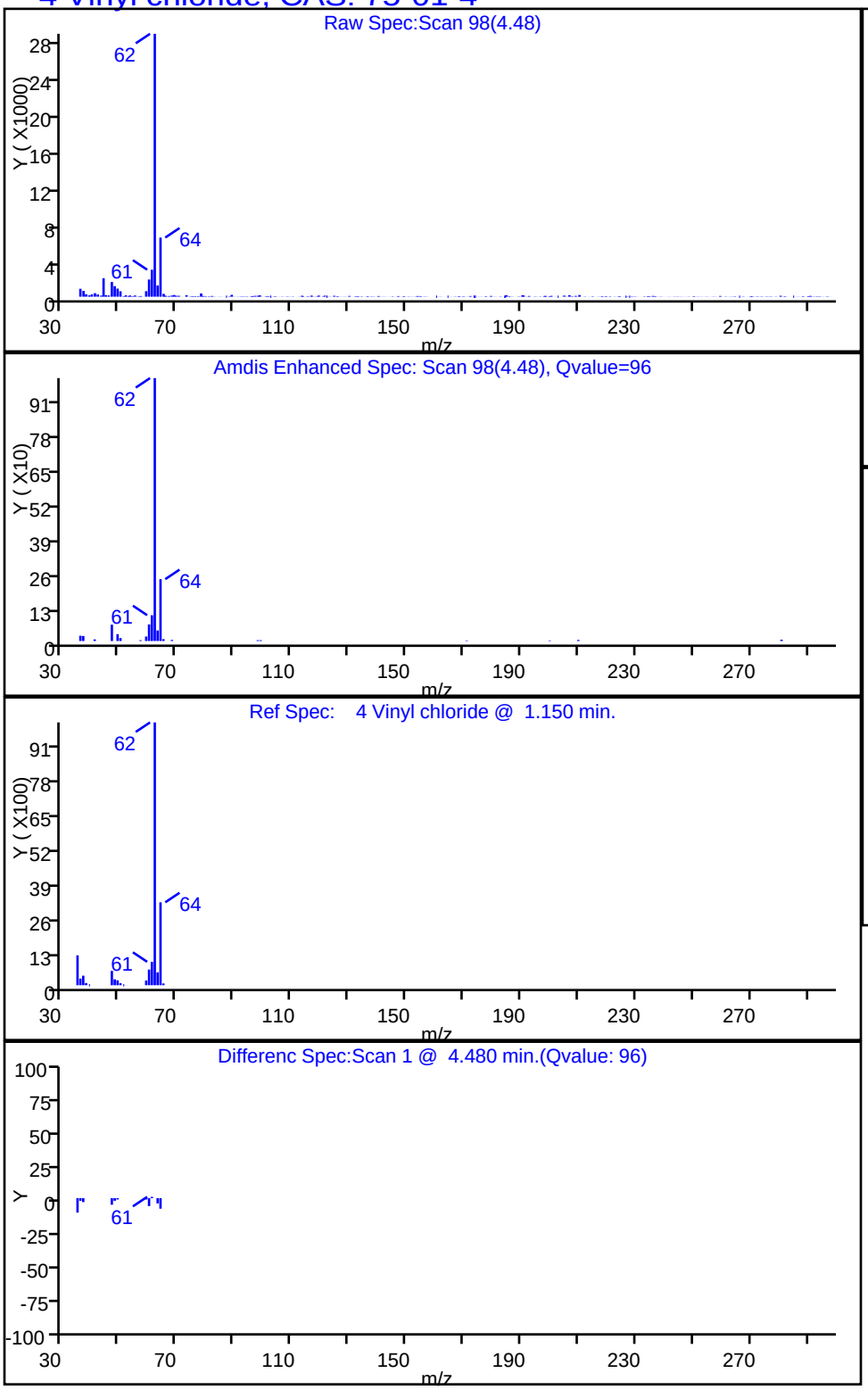
Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	12.3	98.64
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	12.5	99.87
$ 91 Toluene-d8 (Surr)	12.5	11.2	89.73
$ 119 4-Bromofluorobenzene	12.5	12.0	95.85

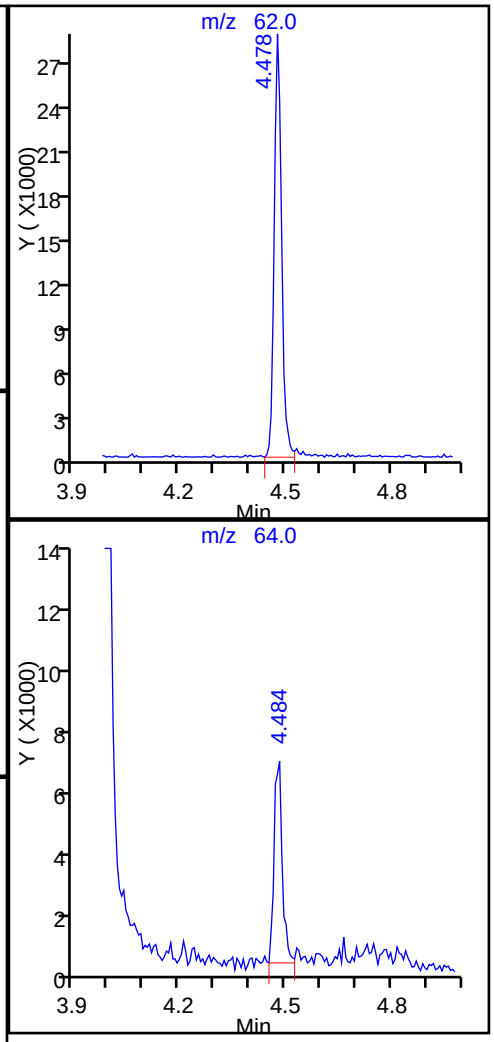
Report Date: 22-Jul-2016 09:00:25 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12325.d				
Injection Date:	02-May-2016 18:52:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-4	Lab Sample ID:	600-129836-4		
Client ID:	MW-02-DUP				
Operator ID:	ws	ALS Bottle#:	17	Worklist Smp#:	26
Purge Vol:	20.000 mL	Dil. Factor:	25.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

4 Vinyl chloride, CAS: 75-01-4



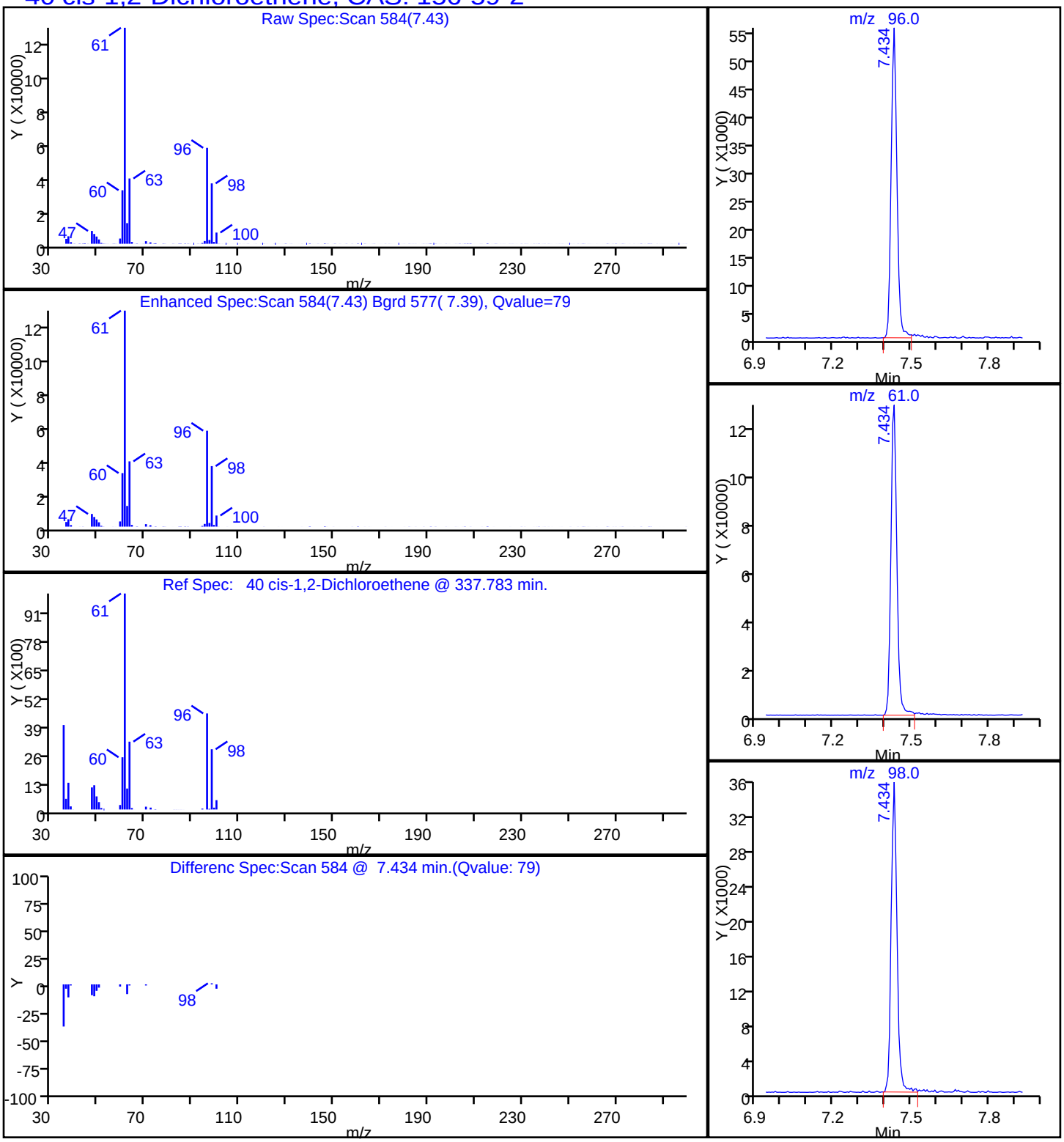


Report Date: 22-Jul-2016 09:00:26 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12325.d				
Injection Date:	02-May-2016 18:52:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-4	Lab Sample ID:	600-129836-4		
Client ID:	MW-02-DUP				
Operator ID:	ws	ALS Bottle#:	17	Worklist Smp#:	26
Purge Vol:	20.000 mL	Dil. Factor:	25.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

40 cis-1,2-Dichloroethene, CAS: 156-59-2



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-02 | Lab Sample ID: 600-129836-5

Matrix: Water | Lab File ID: A12221.d

Analysis Method: 8260B | Date Collected: 04/22/2016 15:25

Sample wt/vol: 20(mL) | Date Analyzed: 05/01/2016 18:04

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187554 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	1.88		1.00	0.192
127-18-4	Tetrachloroethene	13.0		1.00	0.333
79-01-6	Trichloroethene	3.08		1.00	0.138

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	90		70-130
1868-53-7	Dibromofluoromethane	103		62-130
460-00-4	4-Bromofluorobenzene	86		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12221.d				
Lims ID:	600-129836-F-5				
Client ID:	MW-02				
Sample Type:	Client				
Inject. Date:	01-May-2016 18:04:30	ALS Bottle#:	13	Worklist Smp#:	22
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-F-5				
Misc. Info.:	600-0011851-022				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	21-Jul-2016 19:09:01	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK032		

First Level Reviewer: somjitp Date: 02-May-2016 14:20:10

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	96	425525	12.5	
4 Vinyl chloride	62	4.477	4.477	0.000	98	1643444	253.4	E
30 trans-1,2-Dichloroethene	96	6.795	6.789	0.006	87	19089	1.88	
40 cis-1,2-Dichloroethene	96	7.434	7.428	0.006	84	4285167	396.1	E
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	91	97573	12.9	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.030	0.006	0	93509	13.5	
73 Trichloroethene	130	8.979	8.973	0.006	87	34906	3.08	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	92	125785	12.5	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	96	293965	11.2	
101 Tetrachloroethene	164	10.981	10.981	0.000	91	99595	13.0	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	96	93995	12.5	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	88	87054	10.8	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

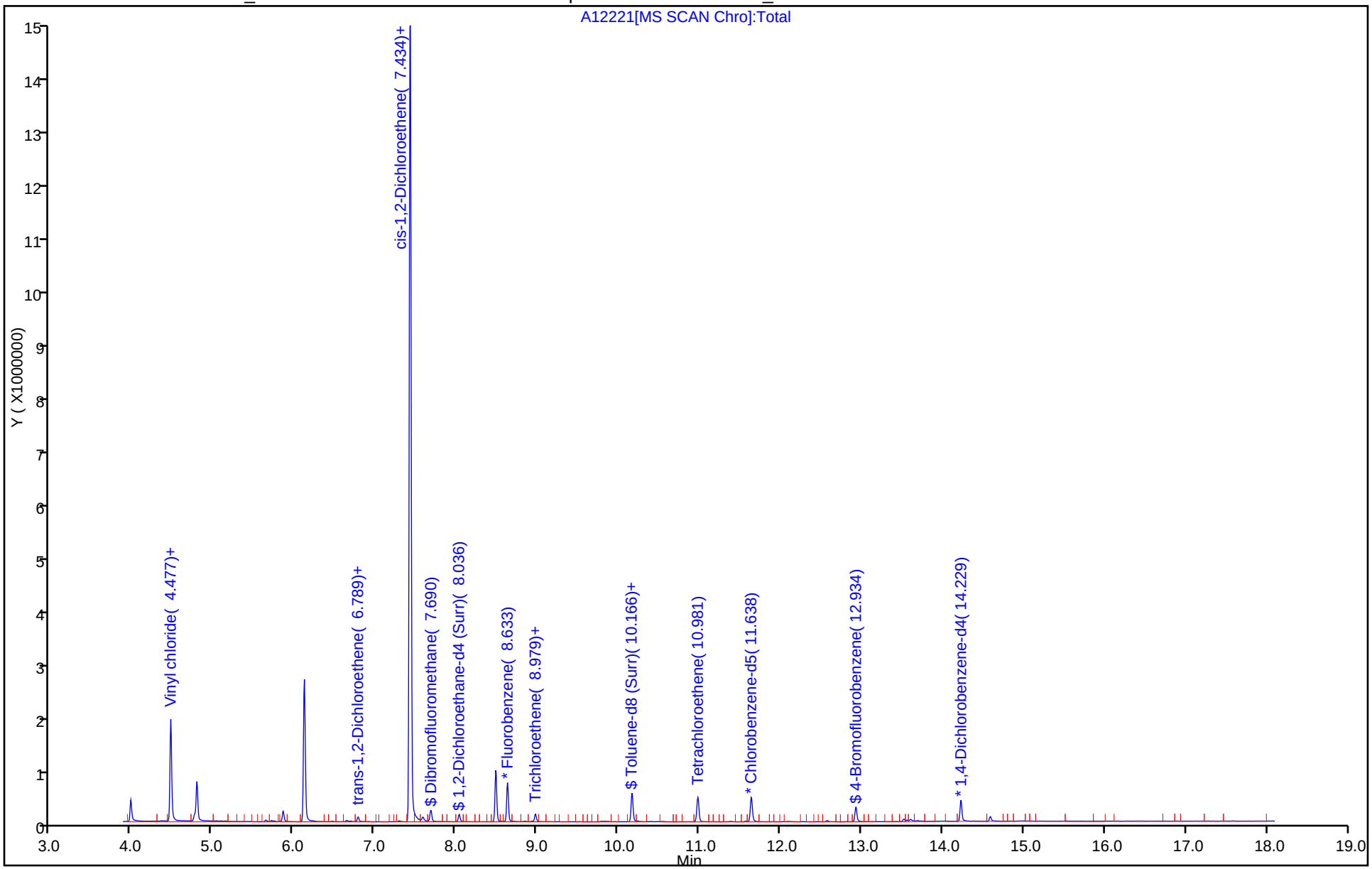
Reagents:

VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 21-Jul-2016 19:09:03 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12221.d				
Injection Date:	01-May-2016 18:04:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	600-129836-F-5	Lab Sample ID:	600-129836-5	Worklist Smp#:	22
Client ID:	MW-02				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12221.d				
Lims ID:	600-129836-F-5				
Client ID:	MW-02				
Sample Type:	Client				
Inject. Date:	01-May-2016 18:04:30	ALS Bottle#:	13	Worklist Smp#:	22
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-F-5				
Misc. Info.:	600-0011851-022				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	21-Jul-2016 19:09:01	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK032		

First Level Reviewer: somjitp Date: 02-May-2016 14:20:10

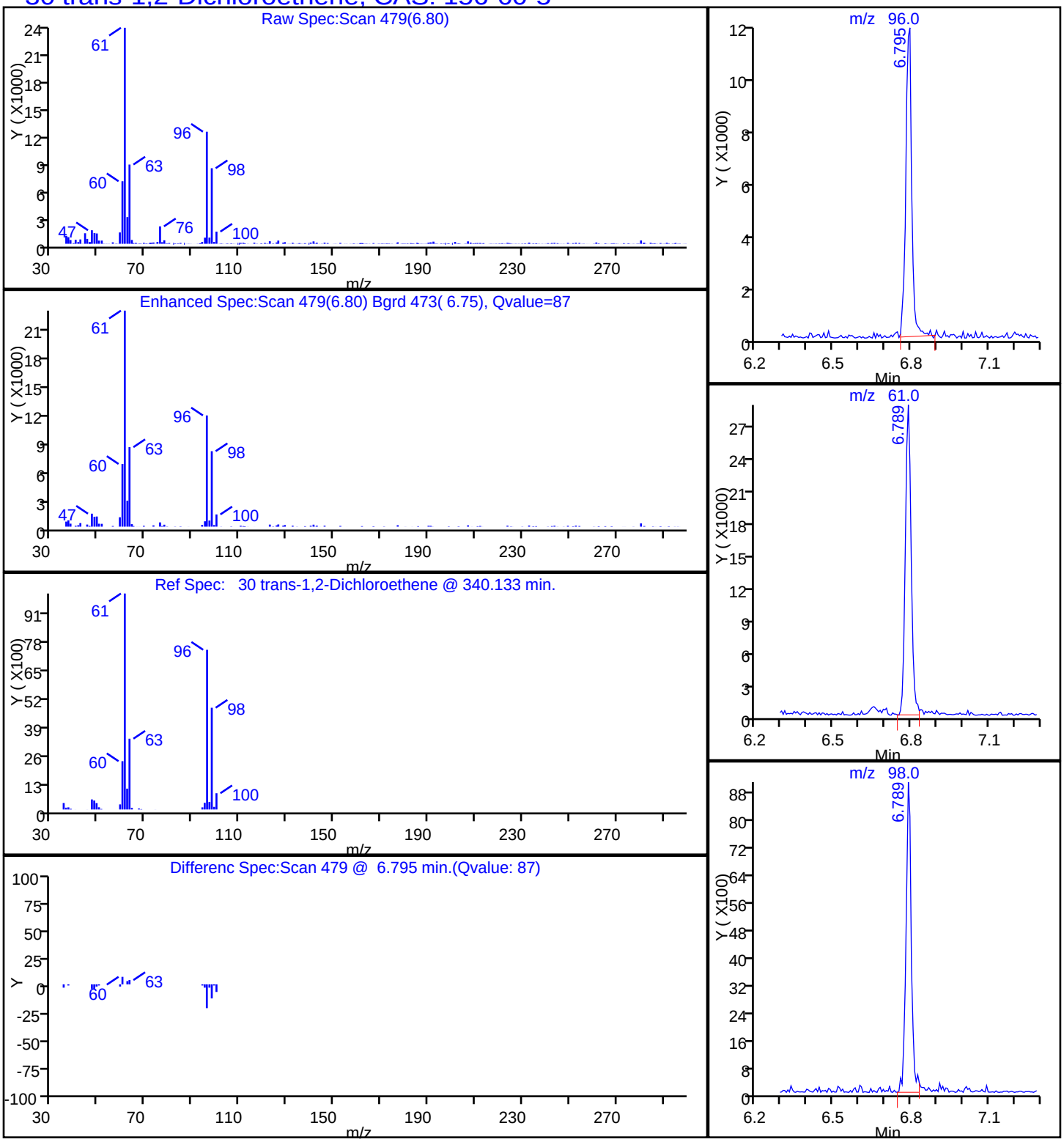
Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	12.9	103.46
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	13.5	108.33
$ 91 Toluene-d8 (Surr)	12.5	11.2	89.96
$ 119 4-Bromofluorobenzene	12.5	10.8	86.33

Report Date: 21-Jul-2016 19:09:04 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12221.d				
Injection Date:	01-May-2016 18:04:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-5	Lab Sample ID:	600-129836-5		
Client ID:	MW-02				
Operator ID:	ws	ALS Bottle#:	13	Worklist Smp#:	22
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

30 trans-1,2-Dichloroethene, CAS: 156-60-5

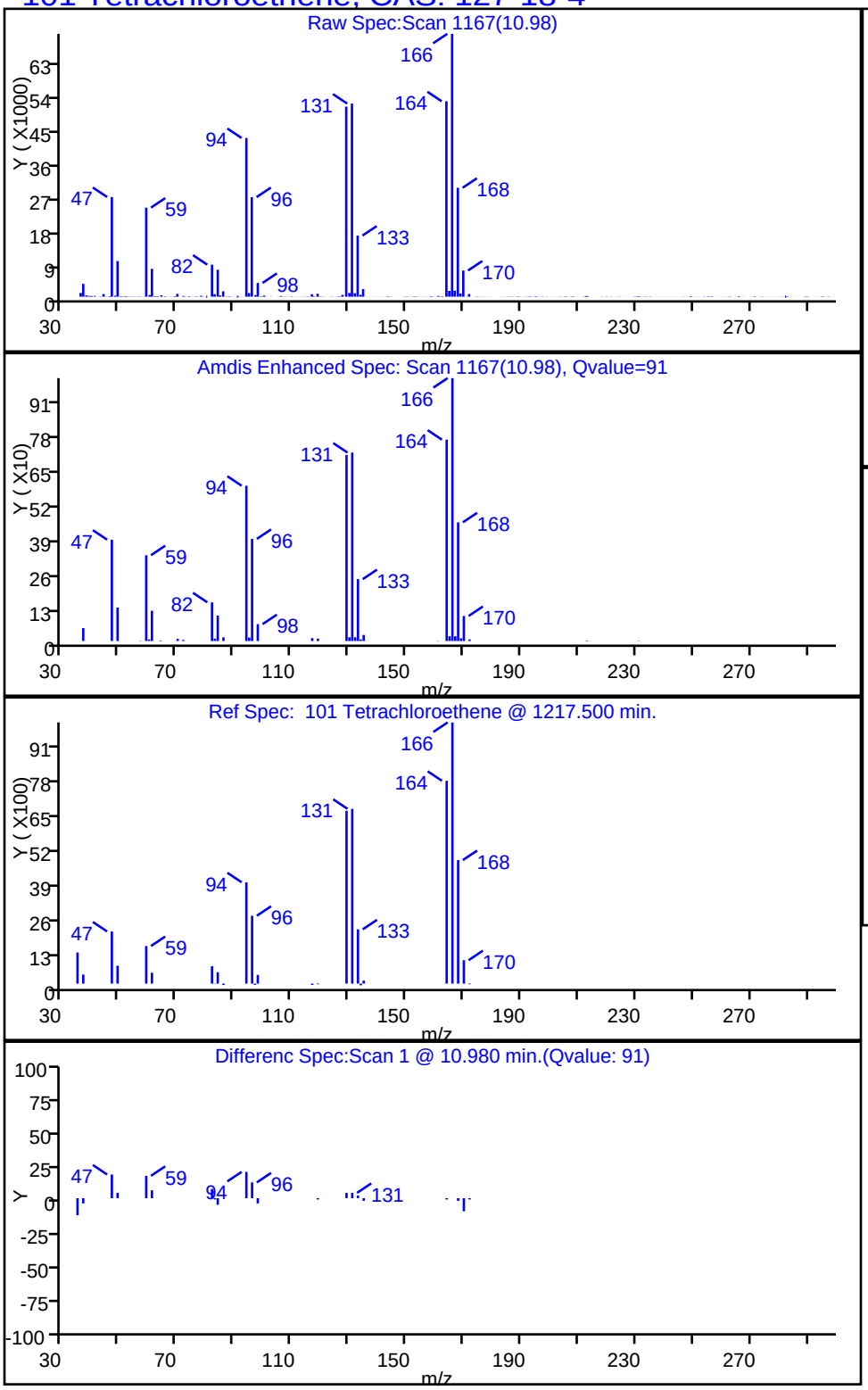


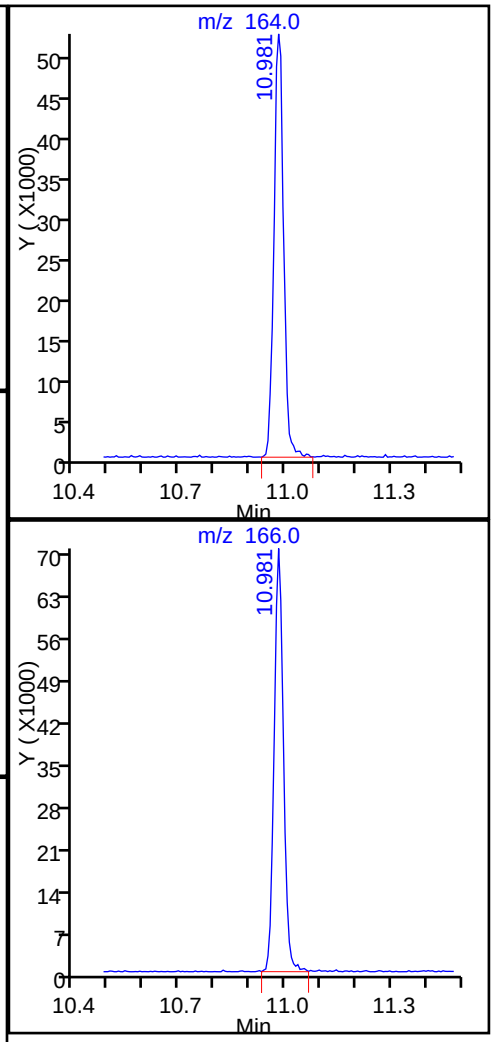
Report Date: 21-Jul-2016 19:09:04 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12221.d				
Injection Date:	01-May-2016 18:04:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-5	Lab Sample ID:	600-129836-5		
Client ID:	MW-02				
Operator ID:	ws	ALS Bottle#:	13	Worklist Smp#:	22
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

101 Tetrachloroethene, CAS: 127-18-4



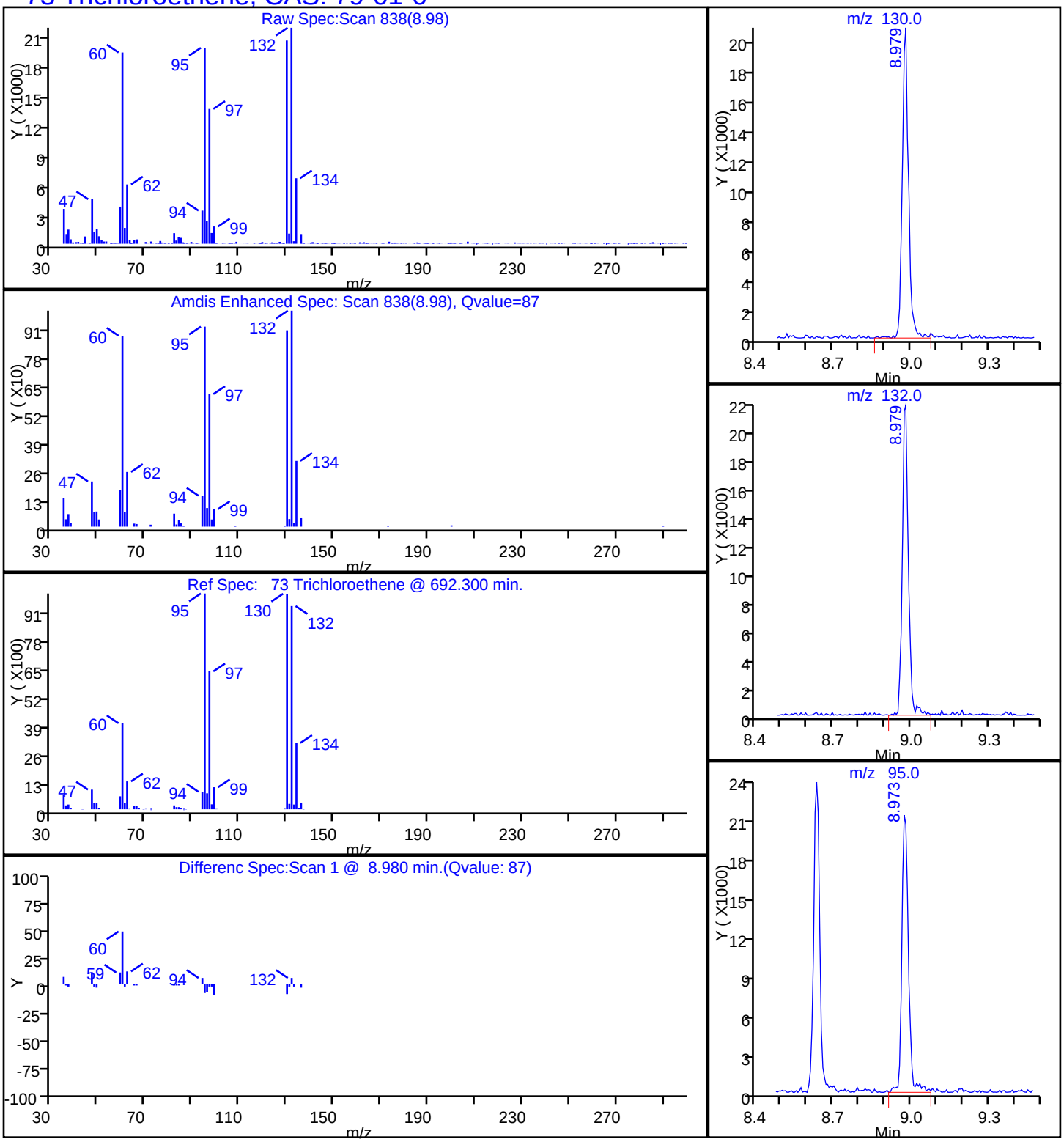


Report Date: 21-Jul-2016 19:09:04 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12221.d				
Injection Date:	01-May-2016 18:04:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-5	Lab Sample ID:	600-129836-5		
Client ID:	MW-02				
Operator ID:	ws	ALS Bottle#:	13	Worklist Smp#:	22
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

73 Trichloroethene, CAS: 79-01-6



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID: MW-02 DL
Lab Sample ID: 600-129836-5 DL
Matrix: Water
Lab File ID: A12326.d
Analysis Method: 8260B
Date Collected: 04/22/2016 15:25
Sample wt/vol: 20(mL)
Date Analyzed: 05/02/2016 19:16
Soil Aliquot Vol:
Dilution Factor: 25
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187577
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-01-4	Vinyl chloride	237		50.0	6.20
156-59-2	cis-1,2-Dichloroethene	351		25.0	3.93

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	89		70-130
1868-53-7	Dibromofluoromethane	105		62-130
460-00-4	4-Bromofluorobenzene	95		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	112		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12326.d				
Lims ID:	600-129836-G-5				
Client ID:	MW-02				
Sample Type:	Client				
Inject. Date:	02-May-2016 19:16:30	ALS Bottle#:	18	Worklist Smp#:	27
Purge Vol:	20.000 mL	Dil. Factor:	25.0000		
Sample Info:	600-129836-G-5				
Misc. Info.:	600-0011863-027				
Operator ID:	ws	Instrument ID:	CHVOAMS07		
Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m				
Limit Group:	VOA - 8260B_8260BLL				
Last Update:	22-Jul-2016 09:00:17	Calib Date:	21-Mar-2016 12:18:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK027				
First Level Reviewer: shenw		Date:	03-May-2016 09:31:07		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	244984	12.5	
4 Vinyl chloride	62	4.477	4.477	0.000	98	35410	9.48	
30 trans-1,2-Dichloroethene	96	6.783	6.789	-0.006	74	590	0.1009	
40 cis-1,2-Dichloroethene	96	7.434	7.428	0.006	92	87366	14.0	
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	90	56939	13.1	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.030	0.006	0	55522	14.0	
73 Trichloroethene	130	8.985	8.973	0.012	64	1010	0.1550	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	93	77437	12.5	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	178799	11.1	
101 Tetrachloroethene	164	10.987	10.981	0.006	88	2567	0.5427	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	96	49232	12.5	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	88	49923	11.8	

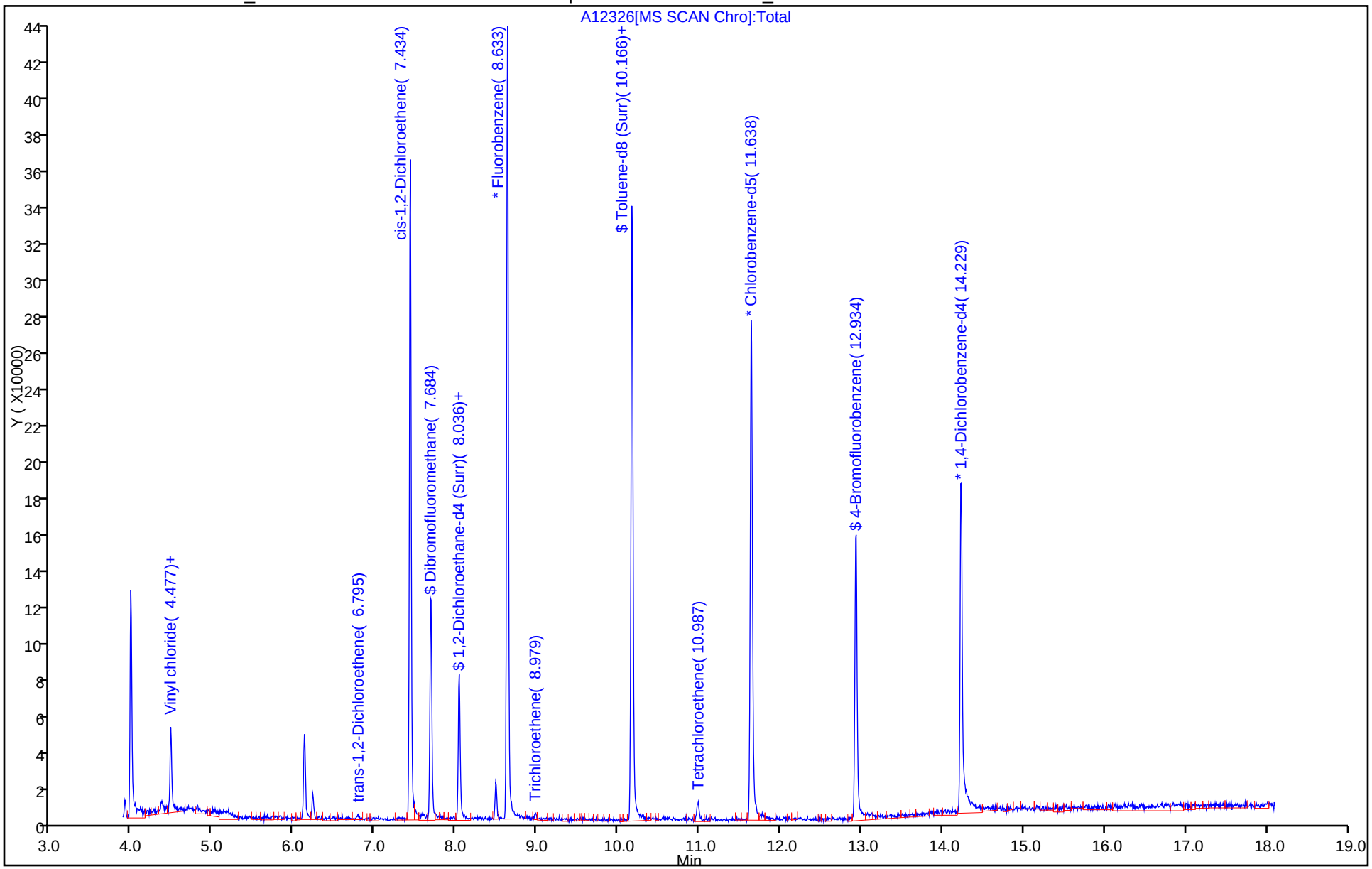
Reagents:

VOASS50PPM_00209	Amount Added: 5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 22-Jul-2016 09:00:33 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12326.d				
Injection Date:	02-May-2016 19:16:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	600-129836-G-5	Lab Sample ID:	600-129836-5	Worklist Smp#:	27
Client ID:	MW-02				
Purge Vol:	20.000 mL	Dil. Factor:	25.0000	ALS Bottle#:	18
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12326.d				
Lims ID:	600-129836-G-5				
Client ID:	MW-02				
Sample Type:	Client				
Inject. Date:	02-May-2016 19:16:30	ALS Bottle#:	18	Worklist Smp#:	27
Purge Vol:	20.000 mL	Dil. Factor:	25.0000		
Sample Info:	600-129836-G-5				
Misc. Info.:	600-0011863-027				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	22-Jul-2016 09:00:17	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :		Det: MS SCAN	
Process Host:	XAWRK027		

First Level Reviewer: shenw Date: 03-May-2016 09:31:07

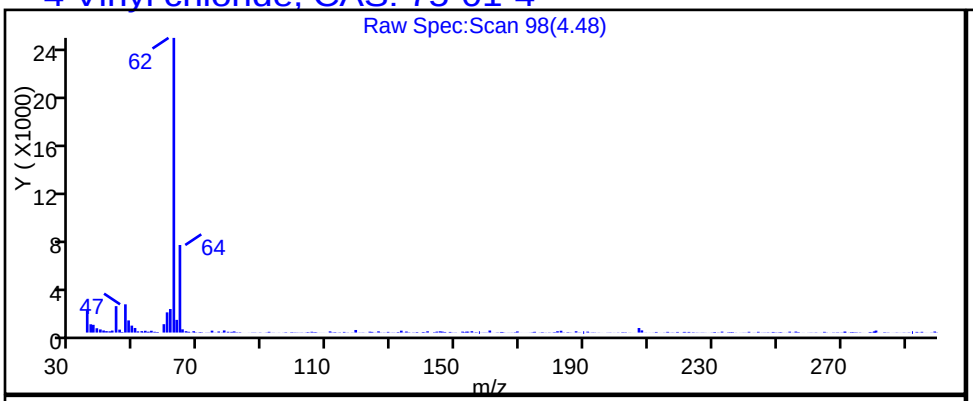
Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	13.1	104.87
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	14.0	111.72
$ 91 Toluene-d8 (Surr)	12.5	11.1	88.87
$ 119 4-Bromofluorobenzene	12.5	11.8	94.52

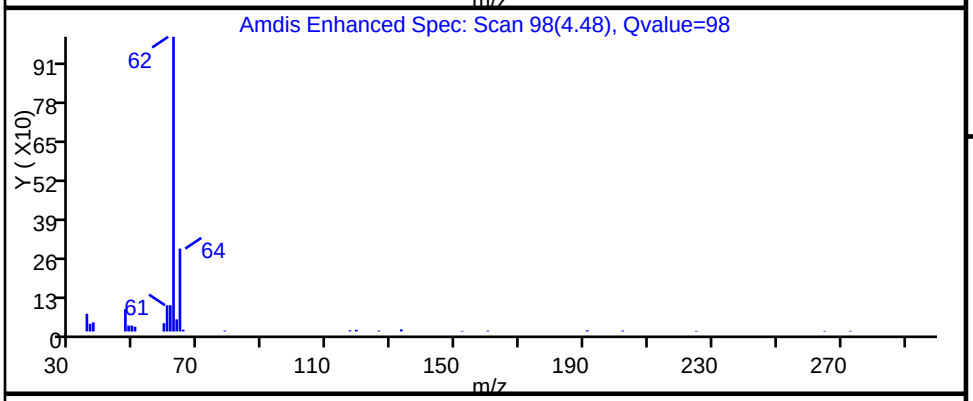
Report Date: 22-Jul-2016 09:00:33 Chrom Revision: 2.2 20-Apr-2016 13:59:46

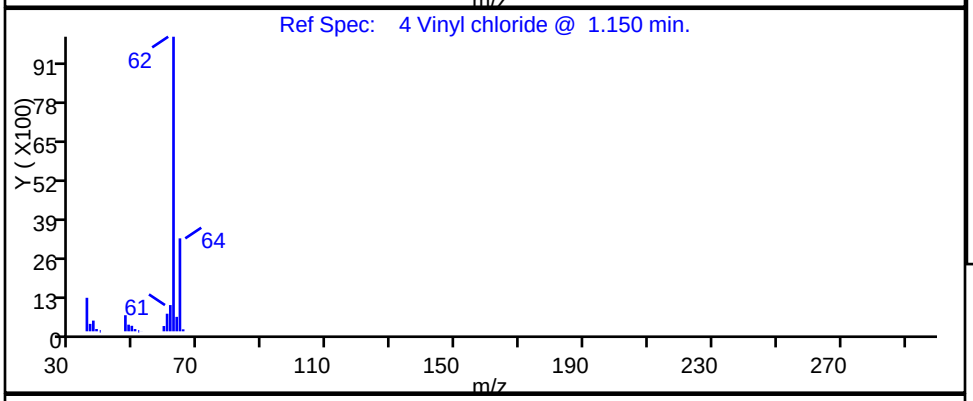
TestAmerica Houston

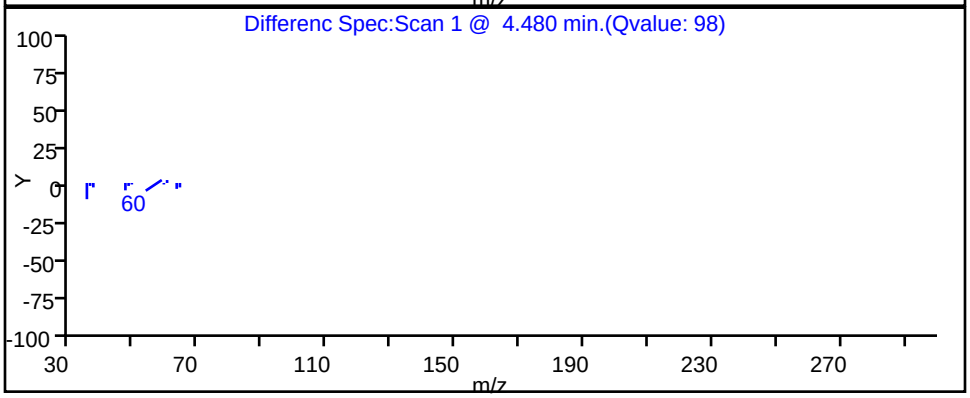
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12326.d				
Injection Date:	02-May-2016 19:16:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-5	Lab Sample ID:	600-129836-5		
Client ID:	MW-02				
Operator ID:	ws	ALS Bottle#:	18	Worklist Smp#:	27
Purge Vol:	20.000 mL	Dil. Factor:	25.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

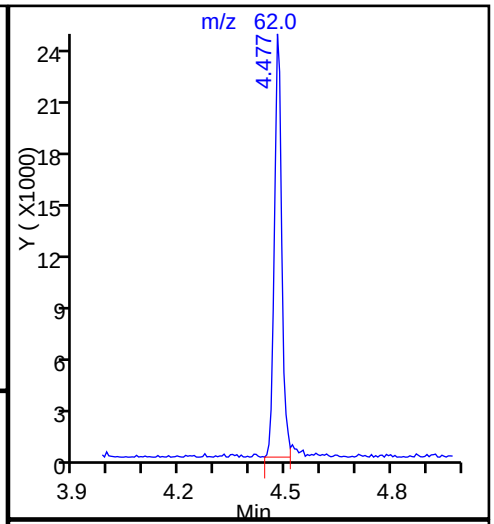
4 Vinyl chloride, CAS: 75-01-4

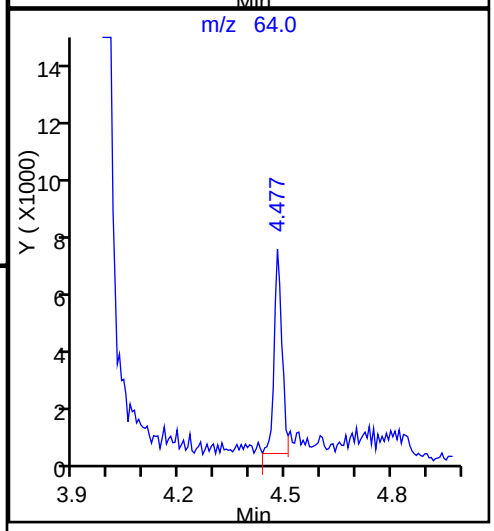










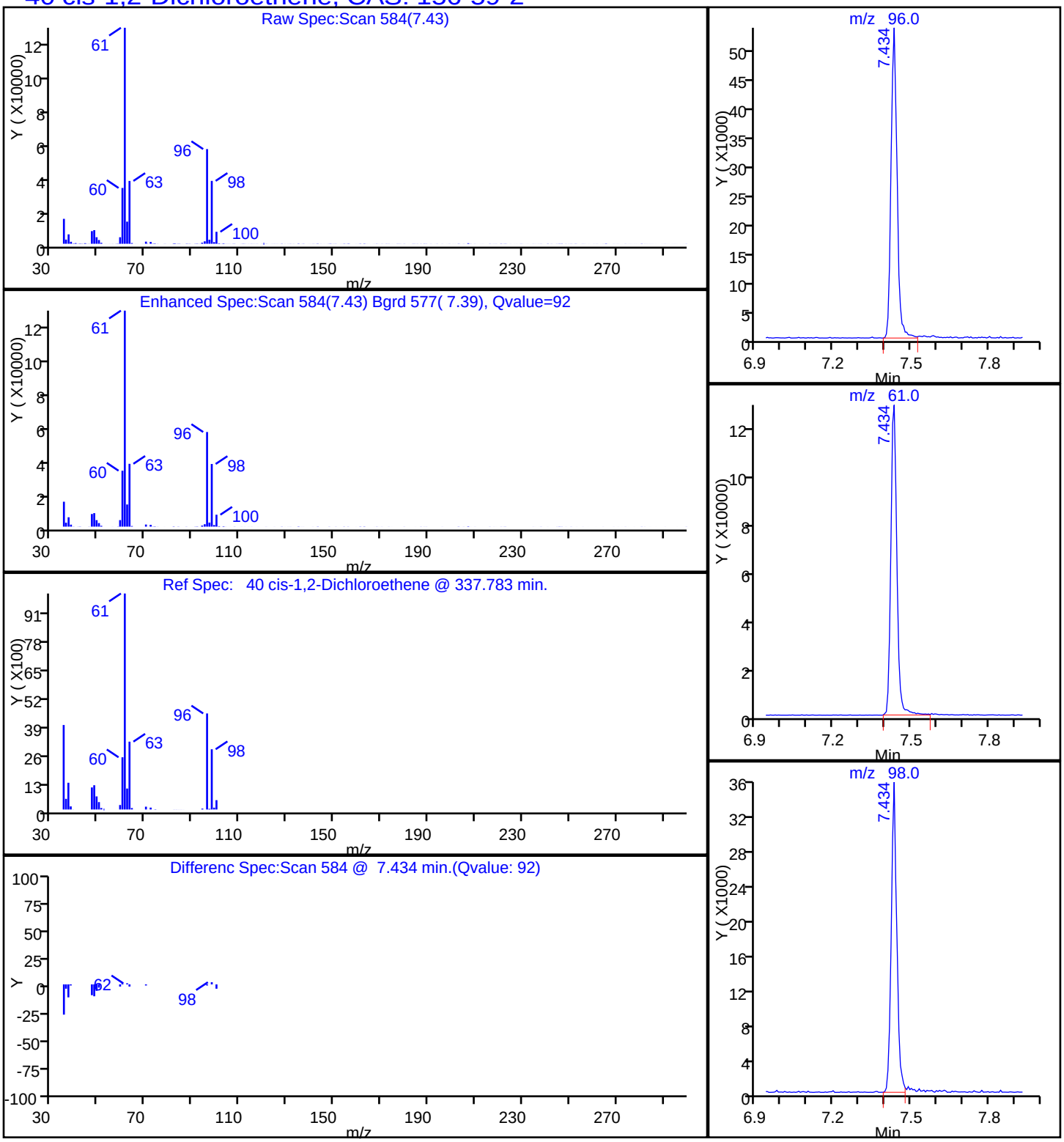


Report Date: 22-Jul-2016 09:00:33 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12326.d				
Injection Date:	02-May-2016 19:16:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-5	Lab Sample ID:	600-129836-5		
Client ID:	MW-02				
Operator ID:	ws	ALS Bottle#:	18	Worklist Smp#:	27
Purge Vol:	20.000 mL	Dil. Factor:	25.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

40 cis-1,2-Dichloroethene, CAS: 156-59-2



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID: MW-03
Lab Sample ID: 600-129836-6
Matrix: Water
Lab File ID: A12222.d
Analysis Method: 8260B
Date Collected: 04/22/2016 16:50
Sample wt/vol: 20(mL)
Date Analyzed: 05/01/2016 18:29
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187554
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	0.192	U	1.00	0.192
127-18-4	Tetrachloroethene	2.22		1.00	0.333
79-01-6	Trichloroethene	2.03		1.00	0.138
75-01-4	Vinyl chloride	0.663	J	2.00	0.248
156-59-2	cis-1,2-Dichloroethene	15.3		1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	94		70-130
1868-53-7	Dibromofluoromethane	110		62-130
460-00-4	4-Bromofluorobenzene	87		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	114		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12222.d				
Lims ID:	600-129836-F-6				
Client ID:	MW-03				
Sample Type:	Client				
Inject. Date:	01-May-2016 18:29:30	ALS Bottle#:	14	Worklist Smp#:	23
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-F-6				
Misc. Info.:	600-0011851-023				
Operator ID:	ws	Instrument ID:	CHVOAMS07		
Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m				
Limit Group:	VOA - 8260B_8260BLL				
Last Update:	21-Jul-2016 19:09:01	Calib Date:	21-Mar-2016 12:18:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK032				
First Level Reviewer: somjitp		Date:	02-May-2016 14:20:26		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.632	8.633	-0.001	95	378748	12.5	
4 Vinyl chloride	62	4.483	4.477	0.006	89	3830	0.6635	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	76	1018	0.1126	
40 cis-1,2-Dichloroethene	96	7.434	7.428	0.006	92	147408	15.3	
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	90	92474	13.8	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.030	0.006	0	87282	14.2	
73 Trichloroethene	130	8.973	8.973	0.000	90	20458	2.03	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	92	115318	12.5	
$ 91 Toluene-d8 (Surr)	98	10.172	10.166	0.006	96	280547	11.7	
101 Tetrachloroethene	164	10.987	10.981	0.006	90	15665	2.22	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	96	73577	12.5	
$ 119 4-Bromofluorobenzene	95	12.927	12.928	-0.001	88	69036	10.9	

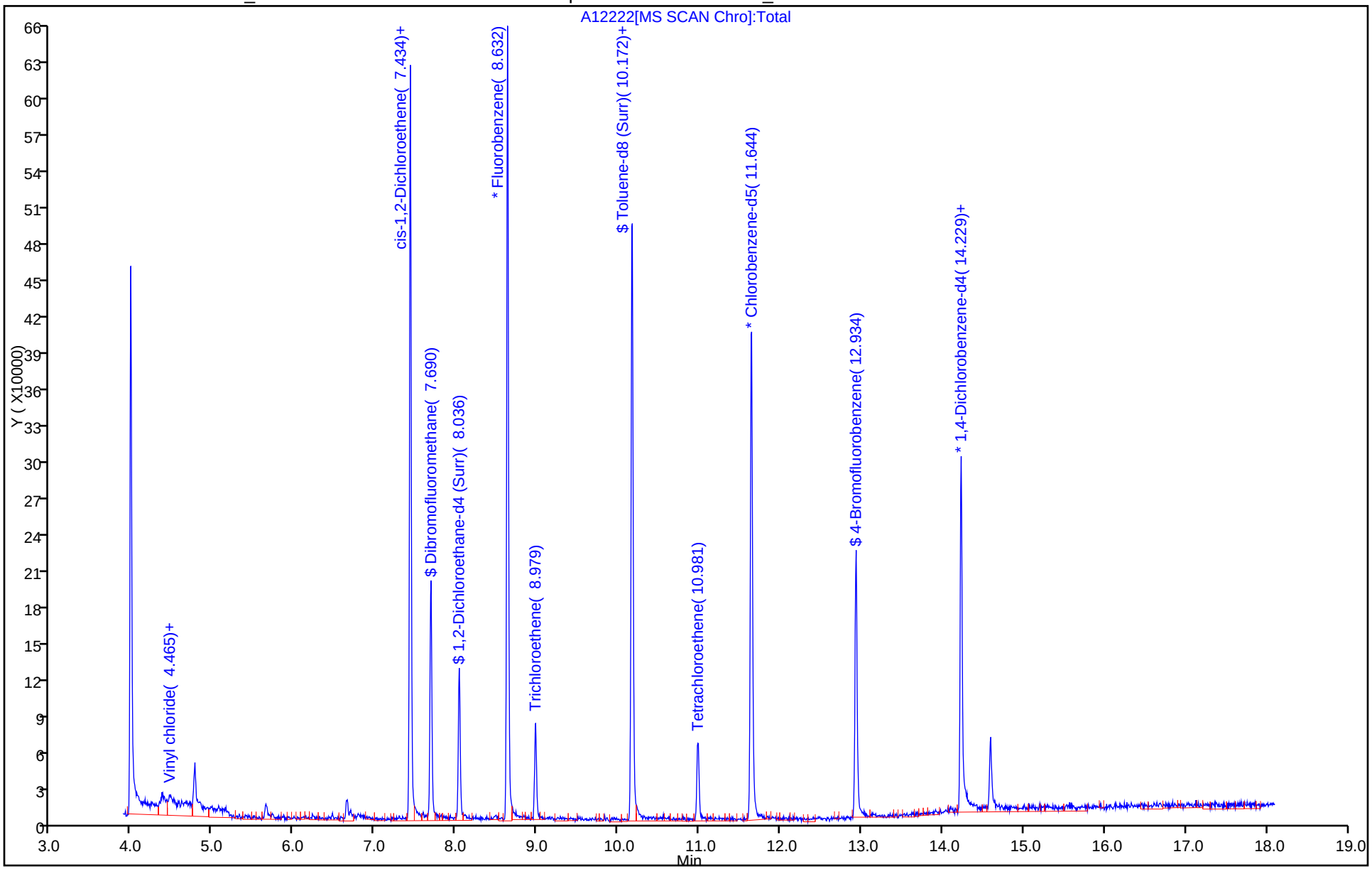
Reagents:

VOASS50PPM_00209	Amount Added: 5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 21-Jul-2016 19:09:05 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12222.d				
Injection Date:	01-May-2016 18:29:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	600-129836-F-6	Lab Sample ID:	600-129836-6	Worklist Smp#:	23
Client ID:	MW-03				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12222.d				
Lims ID:	600-129836-F-6				
Client ID:	MW-03				
Sample Type:	Client				
Inject. Date:	01-May-2016 18:29:30	ALS Bottle#:	14	Worklist Smp#:	23
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-F-6				
Misc. Info.:	600-0011851-023				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	21-Jul-2016 19:09:01	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :		Det: MS SCAN	
Process Host:	XAWRK032		

First Level Reviewer: somjitp Date: 02-May-2016 14:20:26

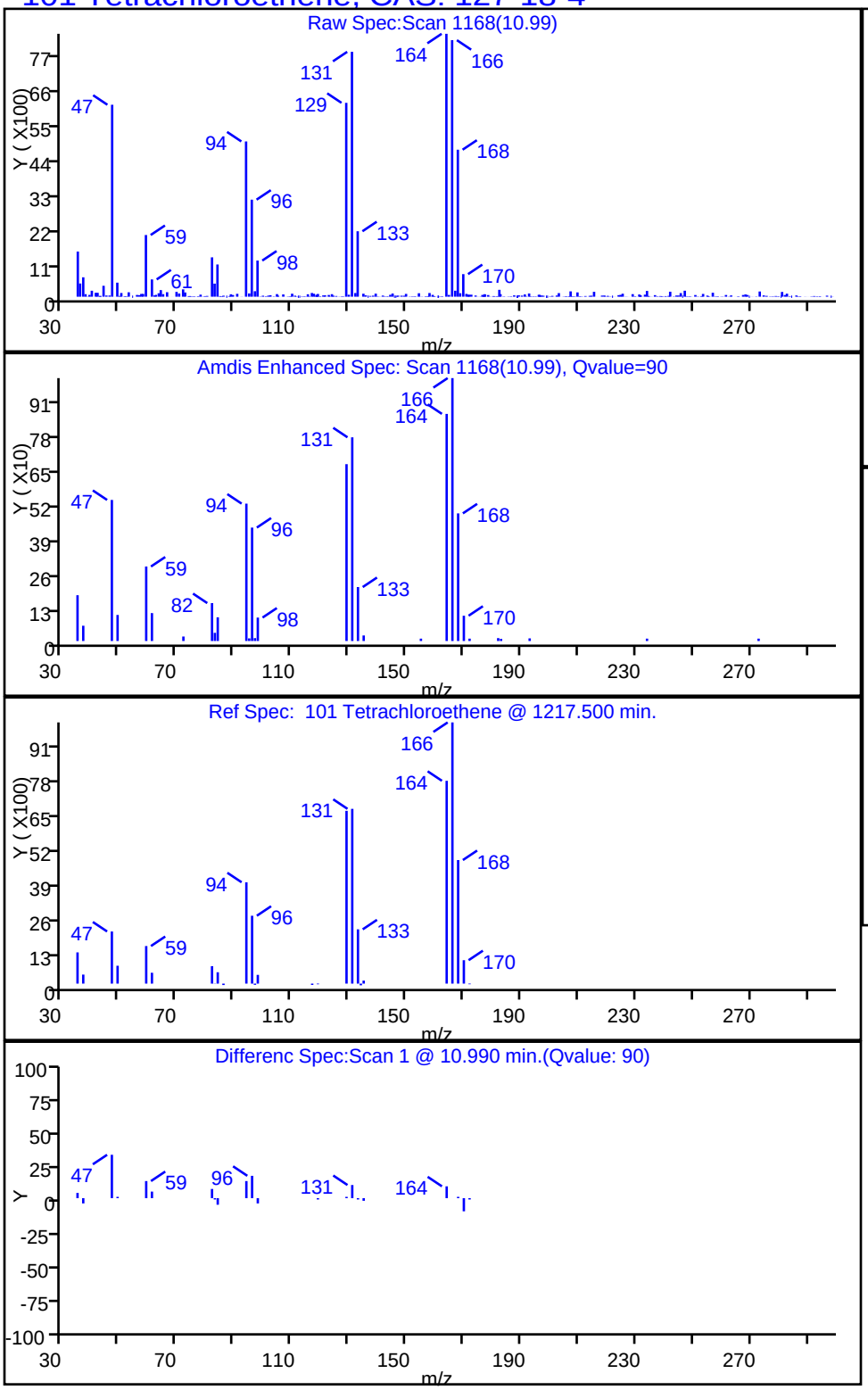
Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	13.8	110.16
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	14.2	113.60
$ 91 Toluene-d8 (Surr)	12.5	11.7	93.64
$ 119 4-Bromofluorobenzene	12.5	10.9	87.46

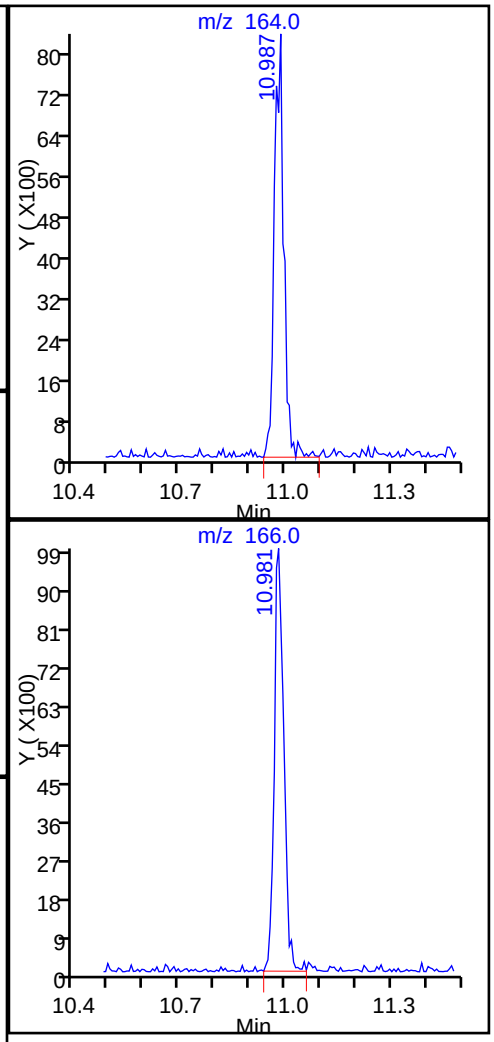
Report Date: 21-Jul-2016 19:09:05 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12222.d				
Injection Date:	01-May-2016 18:29:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-6	Lab Sample ID:	600-129836-6		
Client ID:	MW-03				
Operator ID:	ws	ALS Bottle#:	14	Worklist Smp#:	23
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

101 Tetrachloroethene, CAS: 127-18-4



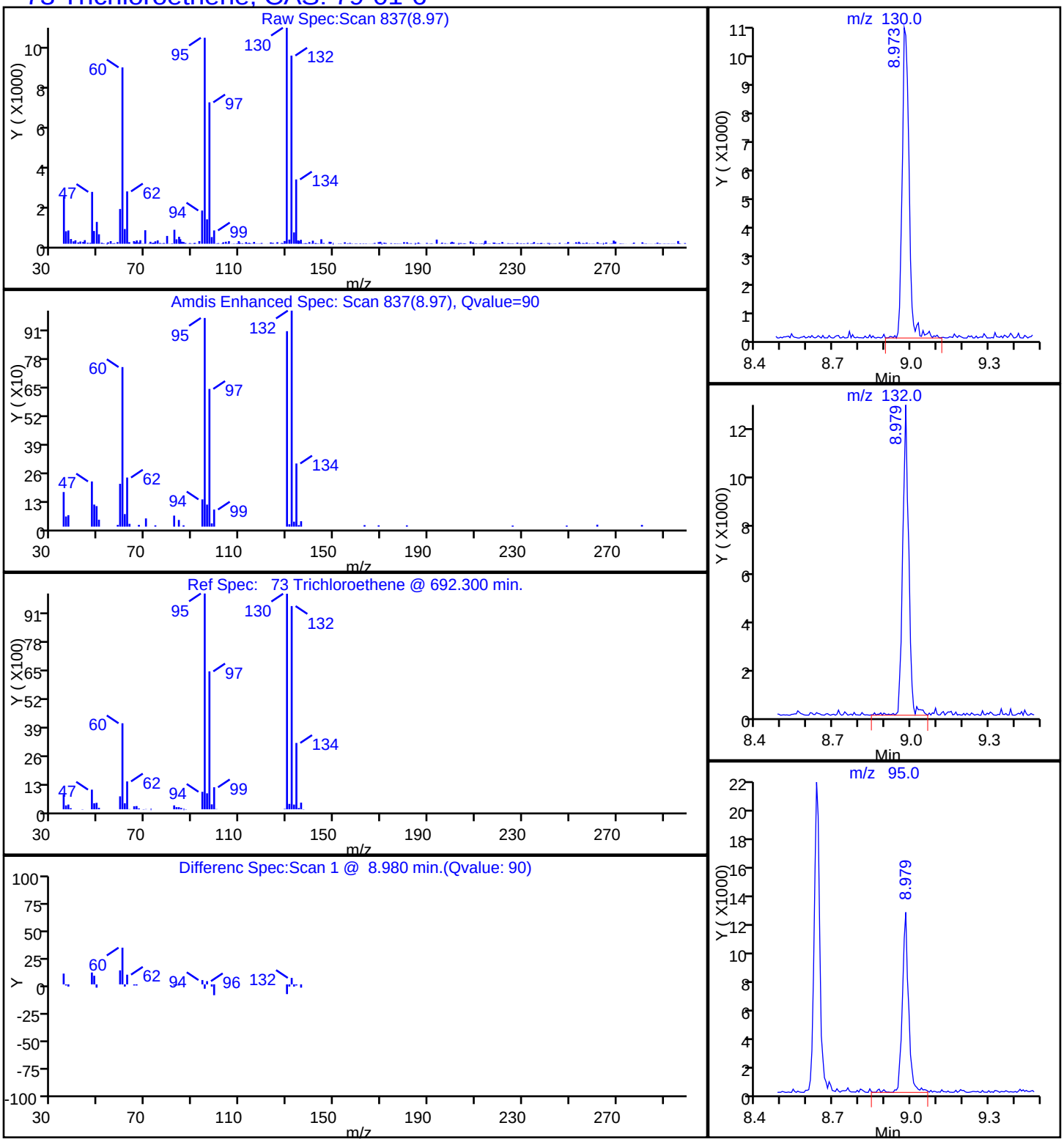


Report Date: 21-Jul-2016 19:09:05 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12222.d				
Injection Date:	01-May-2016 18:29:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-6	Lab Sample ID:	600-129836-6		
Client ID:	MW-03				
Operator ID:	ws	ALS Bottle#:	14	Worklist Smp#:	23
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

73 Trichloroethene, CAS: 79-01-6

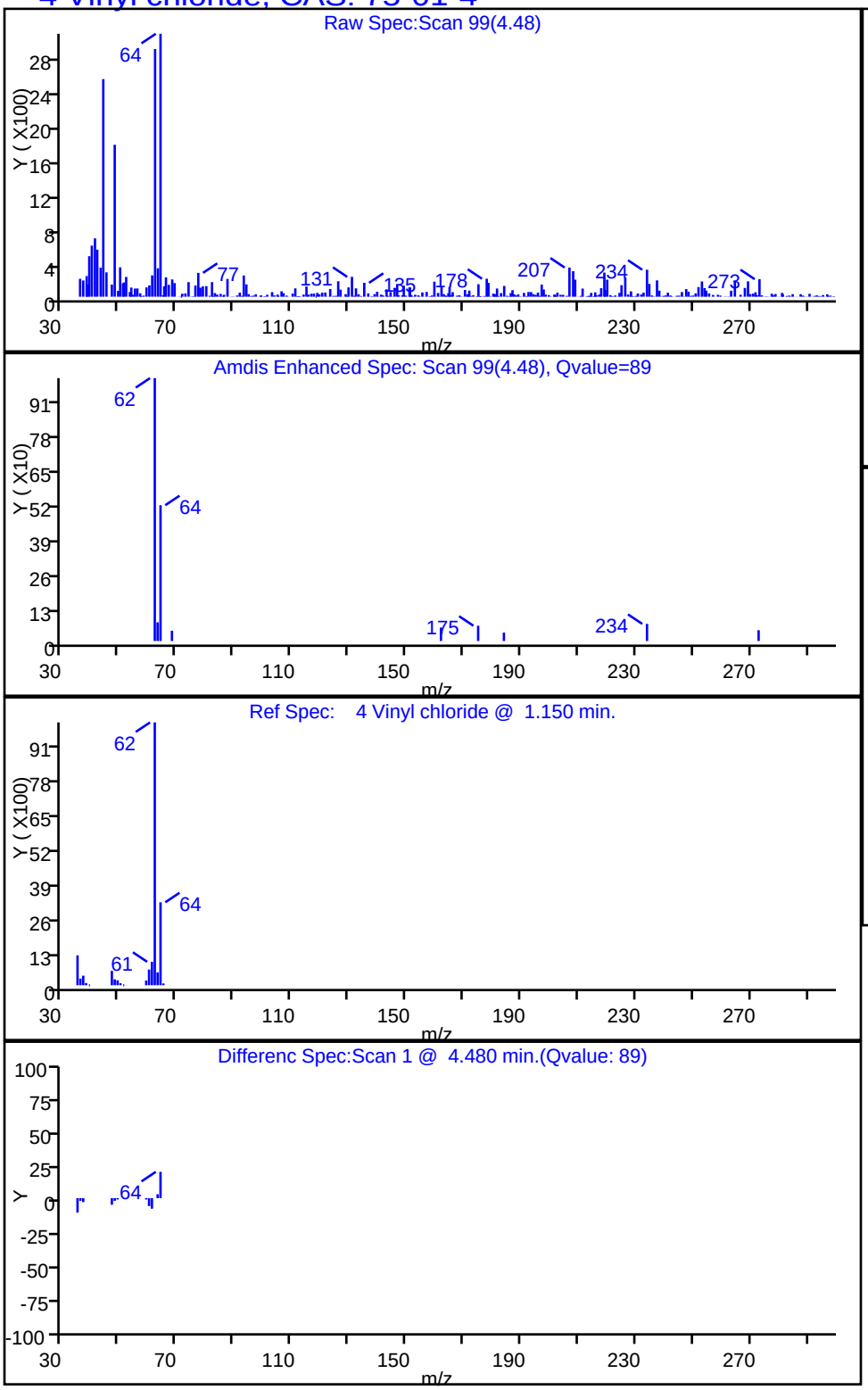


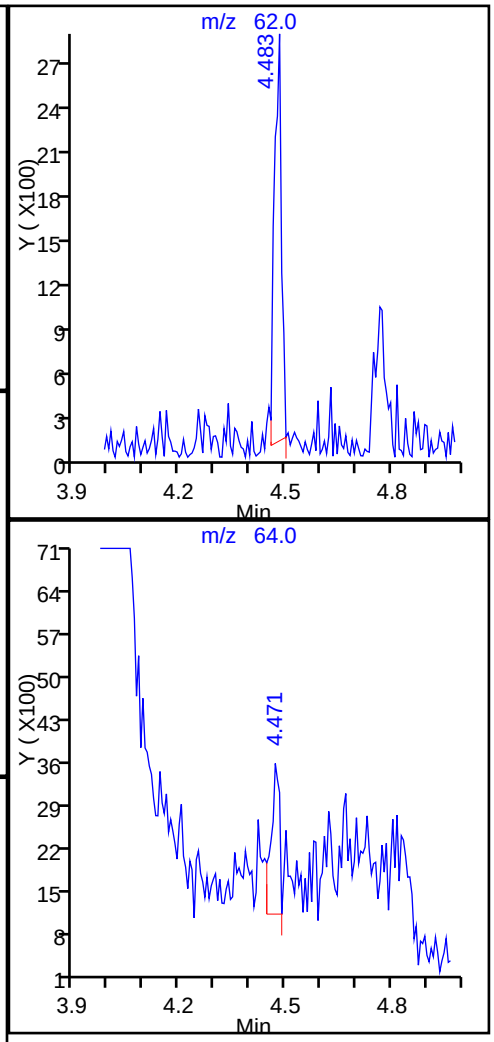
Report Date: 21-Jul-2016 19:09:05 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12222.d				
Injection Date:	01-May-2016 18:29:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-6	Lab Sample ID:	600-129836-6		
Client ID:	MW-03				
Operator ID:	ws	ALS Bottle#:	14	Worklist Smp#:	23
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

4 Vinyl chloride, CAS: 75-01-4



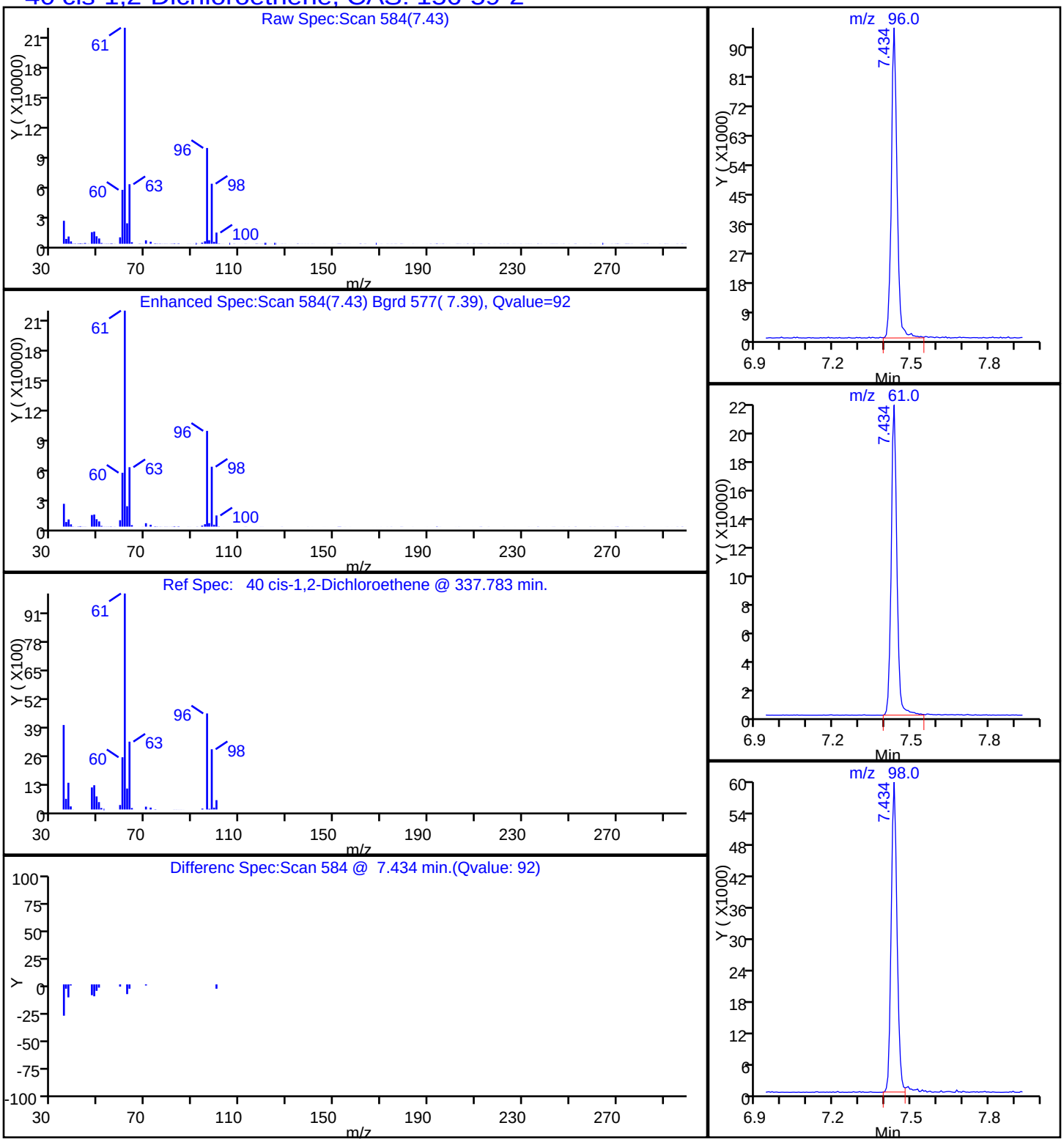


Report Date: 21-Jul-2016 19:09:05 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12222.d				
Injection Date:	01-May-2016 18:29:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-F-6	Lab Sample ID:	600-129836-6		
Client ID:	MW-03				
Operator ID:	ws	ALS Bottle#:	14	Worklist Smp#:	23
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

40 cis-1,2-Dichloroethene, CAS: 156-59-2



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-20 DL | Lab Sample ID: 600-129836-7 DL

Matrix: Water | Lab File ID: A12327.d

Analysis Method: 8260B | Date Collected: 04/22/2016 14:00

Sample wt/vol: 20(mL) | Date Analyzed: 05/02/2016 19:39

Soil Aliquot Vol: | Dilution Factor: 200

Soil Extract Vol.: | GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187577 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	45.8	J	200	38.4
127-18-4	Tetrachloroethene	4140		200	66.6
79-01-6	Trichloroethene	977		200	27.6
75-01-4	Vinyl chloride	932		400	49.6

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	88		70-130
1868-53-7	Dibromofluoromethane	106		62-130
460-00-4	4-Bromofluorobenzene	100		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	109		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12327.d				
Lims ID:	600-129836-G-7				
Client ID:	MW-20				
Sample Type:	Client				
Inject. Date:	02-May-2016 19:39:30	ALS Bottle#:	19	Worklist Smp#:	28
Purge Vol:	20.000 mL	Dil. Factor:	200.0000		
Sample Info:	600-129836-G-7				
Misc. Info.:	600-0011863-028				
Operator ID:	ws	Instrument ID:	CHVOAMS07		
Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m				
Limit Group:	VOA - 8260B_8260BLL				
Last Update:	22-Jul-2016 09:00:17	Calib Date:	21-Mar-2016 12:18:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK027				
First Level Reviewer: shenw		Date:	03-May-2016 09:31:28		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	-0.001	95	243649	12.5	
4 Vinyl chloride	62	4.477	4.477	0.000	98	17307	4.66	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	80	1333	0.2292	
40 cis-1,2-Dichloroethene	96	7.434	7.428	0.006	92	665349	107.4	E
$ 52 Dibromofluoromethane	113	7.683	7.684	-0.001	90	57235	13.2	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.030	0.006	0	53870	13.6	
73 Trichloroethene	130	8.979	8.973	0.006	90	31676	4.89	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	93	78331	12.5	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	96	179206	11.0	
101 Tetrachloroethene	164	10.981	10.981	0.000	88	99089	20.7	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	96	45554	12.5	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	87	48749	12.5	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

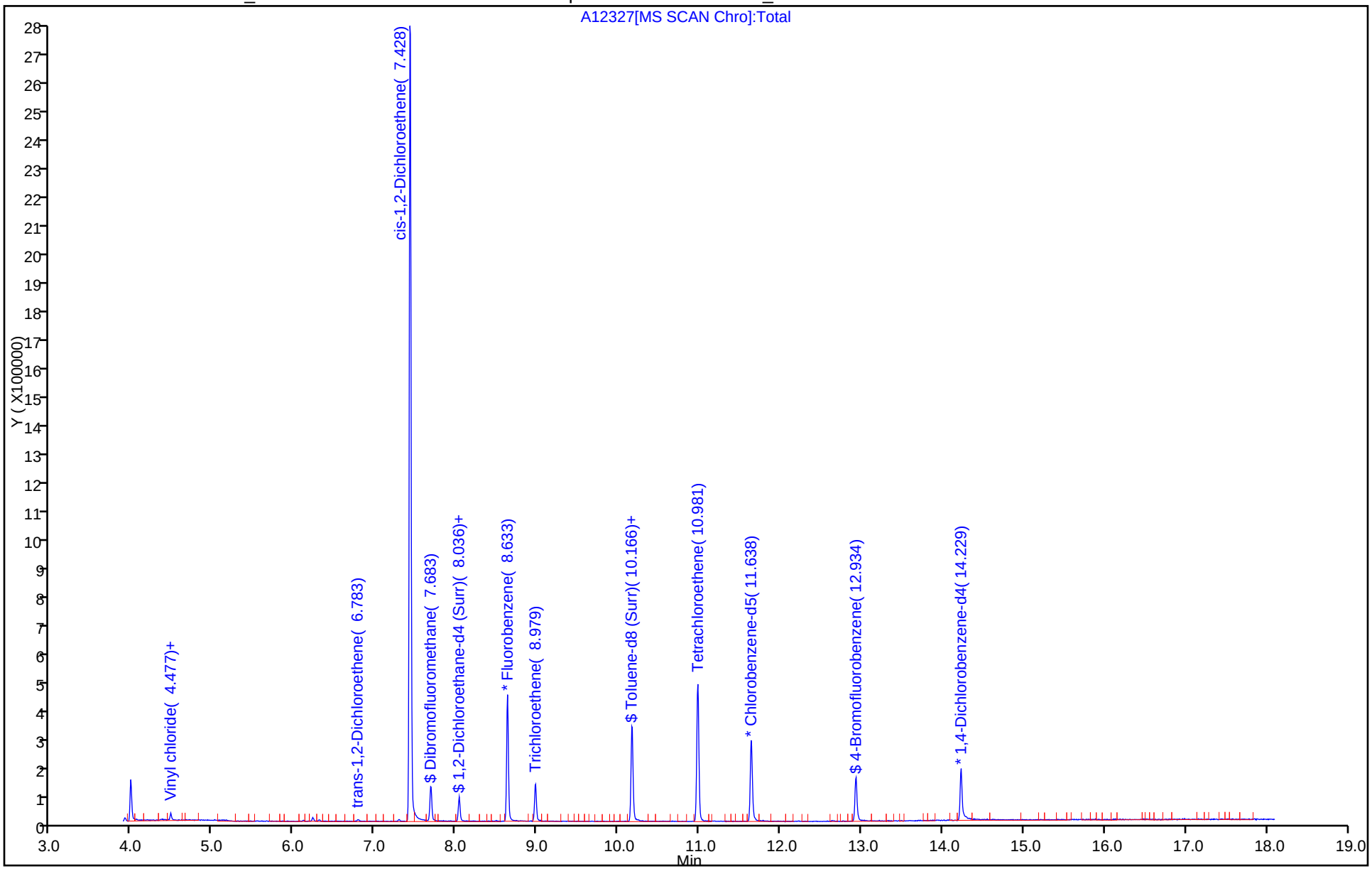
Reagents:

VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 22-Jul-2016 09:00:41 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12327.d				
Injection Date:	02-May-2016 19:39:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	600-129836-G-7	Lab Sample ID:	600-129836-7	Worklist Smp#:	28
Client ID:	MW-20				
Purge Vol:	20.000 mL	Dil. Factor:	200.0000	ALS Bottle#:	19
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12327.d				
Lims ID:	600-129836-G-7				
Client ID:	MW-20				
Sample Type:	Client				
Inject. Date:	02-May-2016 19:39:30	ALS Bottle#:	19	Worklist Smp#:	28
Purge Vol:	20.000 mL	Dil. Factor:	200.0000		
Sample Info:	600-129836-G-7				
Misc. Info.:	600-0011863-028				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	22-Jul-2016 09:00:17	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :		Det: MS SCAN	
Process Host:	XAWRK027		

First Level Reviewer: shenw Date: 03-May-2016 09:31:28

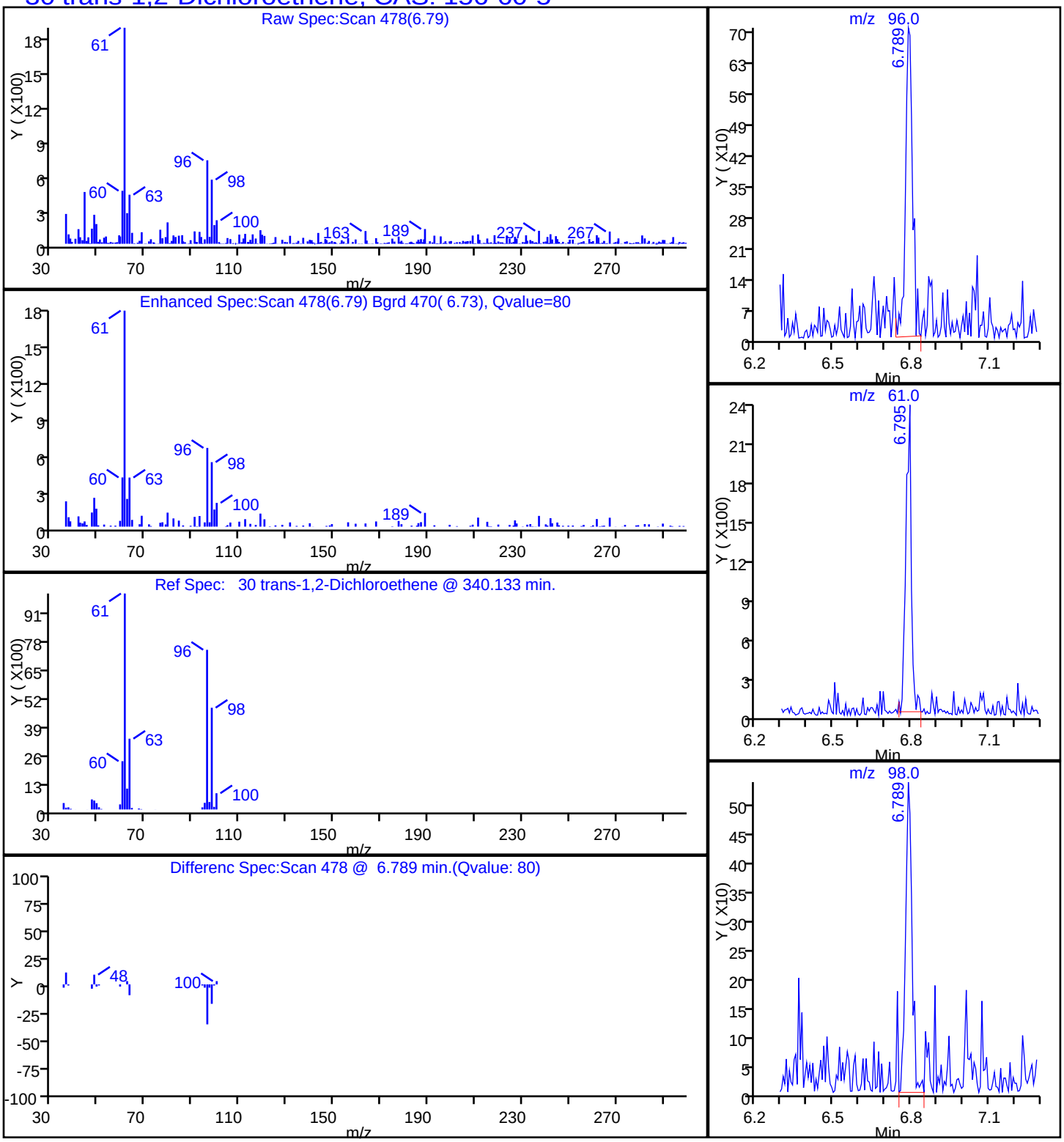
Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	13.2	105.99
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	13.6	108.99
$ 91 Toluene-d8 (Surr)	12.5	11.0	88.06
$ 119 4-Bromofluorobenzene	12.5	12.5	99.75

Report Date: 22-Jul-2016 09:00:42 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12327.d				
Injection Date:	02-May-2016 19:39:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-7	Lab Sample ID:	600-129836-7		
Client ID:	MW-20				
Operator ID:	ws	ALS Bottle#:	19	Worklist Smp#:	28
Purge Vol:	20.000 mL	Dil. Factor:	200.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

30 trans-1,2-Dichloroethene, CAS: 156-60-5

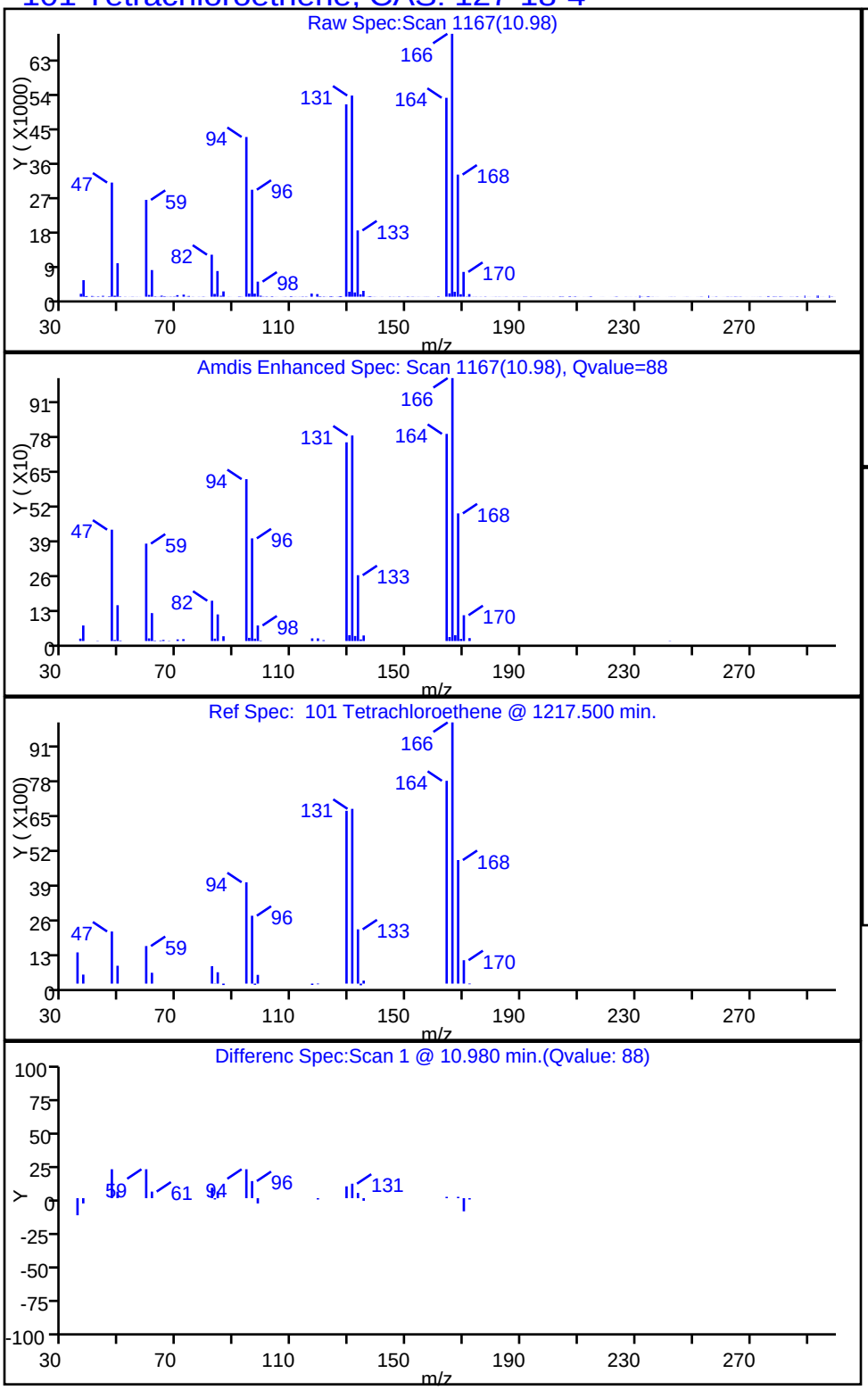


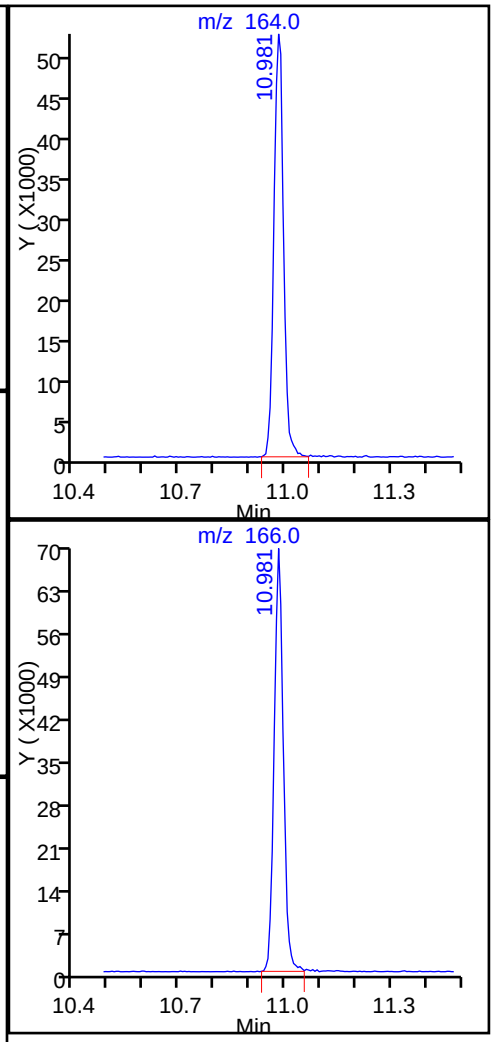
Report Date: 22-Jul-2016 09:00:44 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12327.d				
Injection Date:	02-May-2016 19:39:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-7	Lab Sample ID:	600-129836-7		
Client ID:	MW-20				
Operator ID:	ws	ALS Bottle#:	19	Worklist Smp#:	28
Purge Vol:	20.000 mL	Dil. Factor:	200.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

101 Tetrachloroethene, CAS: 127-18-4



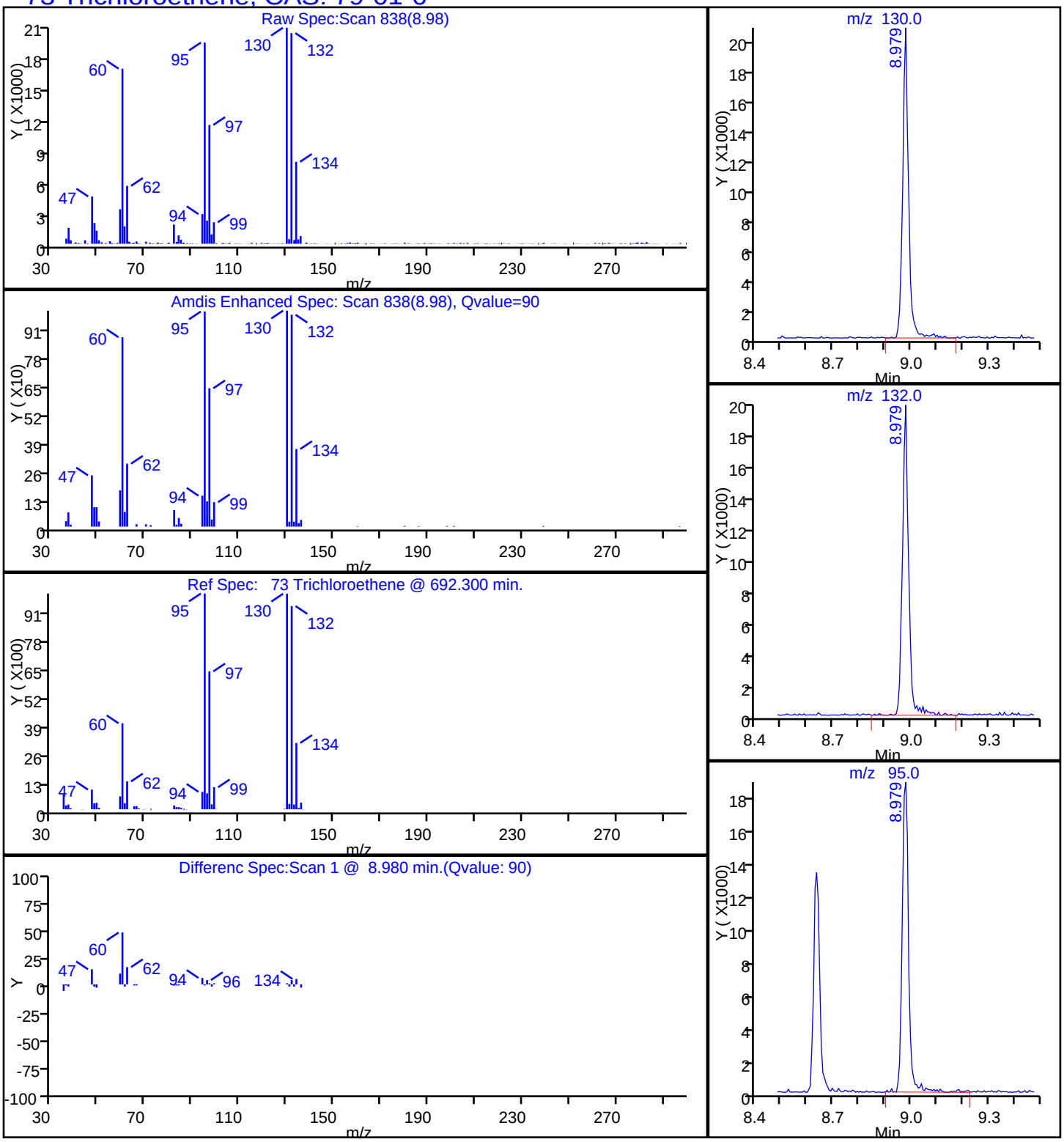


Report Date: 22-Jul-2016 09:00:44 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12327.d				
Injection Date:	02-May-2016 19:39:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-7	Lab Sample ID:	600-129836-7		
Client ID:	MW-20				
Operator ID:	ws	ALS Bottle#:	19	Worklist Smp#:	28
Purge Vol:	20.000 mL	Dil. Factor:	200.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

73 Trichloroethene, CAS: 79-01-6

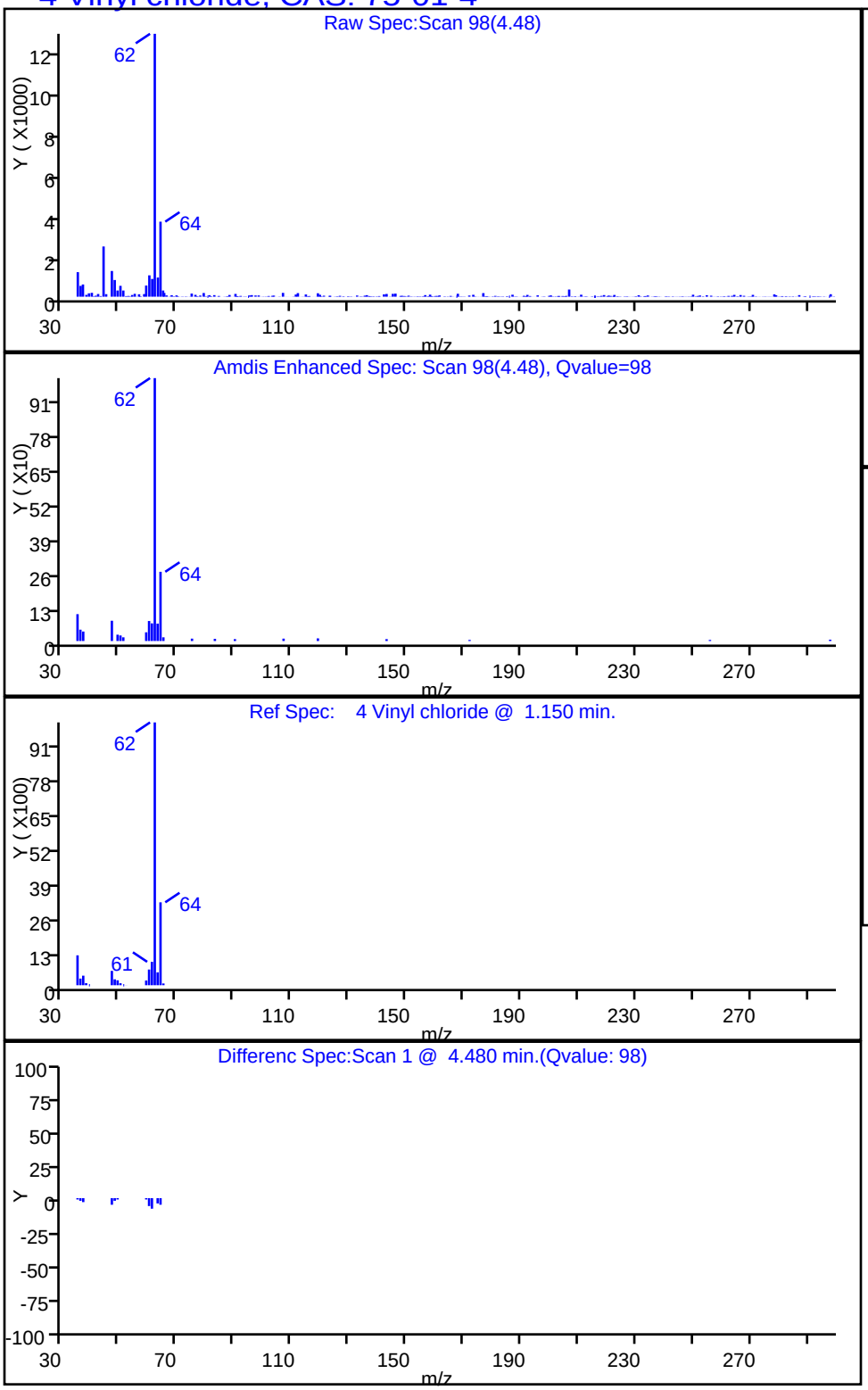


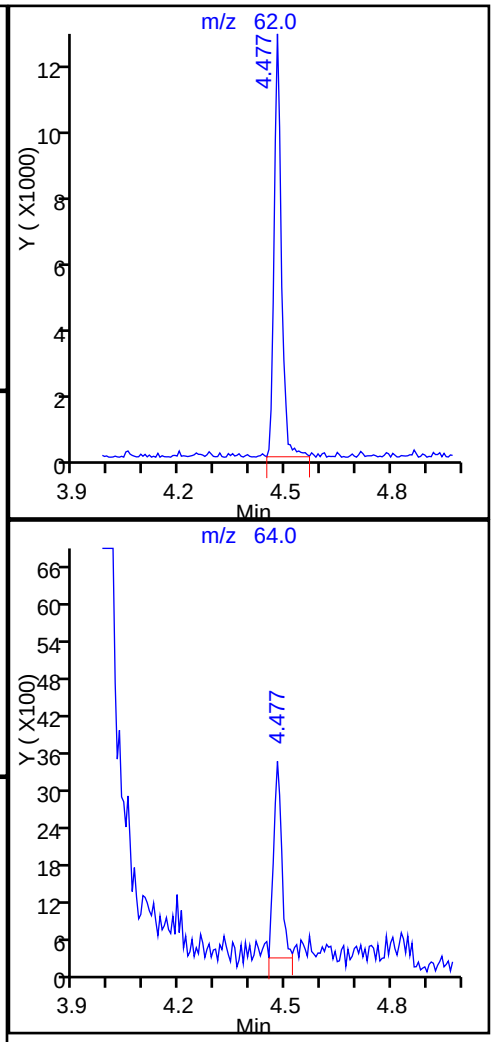
Report Date: 22-Jul-2016 09:00:41 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12327.d				
Injection Date:	02-May-2016 19:39:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-7	Lab Sample ID:	600-129836-7		
Client ID:	MW-20				
Operator ID:	ws	ALS Bottle#:	19	Worklist Smp#:	28
Purge Vol:	20.000 mL	Dil. Factor:	200.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

4 Vinyl chloride, CAS: 75-01-4





FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-20 DL2 | Lab Sample ID: 600-129836-7 DL2

Matrix: Water | Lab File ID: A12511.d

Analysis Method: 8260B | Date Collected: 04/22/2016 14:00

Sample wt/vol: 20(mL) | Date Analyzed: 05/04/2016 15:31

Soil Aliquot Vol: | Dilution Factor: 2000

Soil Extract Vol.: | GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187782 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-59-2	cis-1,2-Dichloroethene	19600		2000	314

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	101		70-130
1868-53-7	Dibromofluoromethane	83		62-130
460-00-4	4-Bromofluorobenzene	95		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12511.d				
Lims ID:	600-129836-G-7				
Client ID:	MW-20				
Sample Type:	Client				
Inject. Date:	04-May-2016 15:31:30	ALS Bottle#:	1	Worklist Smp#:	14
Purge Vol:	20.000 mL	Dil. Factor:	2000.0000		
Sample Info:	600-129836-G-7				
Misc. Info.:	600-0011909-012				
Operator ID:	ws	Instrument ID:	CHVOAMS07		
Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m				
Limit Group:	VOA - 8260B_8260BLL				
Last Update:	02-Aug-2016 16:07:34	Calib Date:	04-May-2016 12:04:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK026				

First Level Reviewer: shenw Date: 05-May-2016 10:53:49

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	223394	12.5	
4 Vinyl chloride	62	4.477	4.477	0.000	94	2081	0.3691	
30 trans-1,2-Dichloroethene	96		6.789				ND	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	91	53774	9.78	
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	91	63448	10.4	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	100731	13.2	
73 Trichloroethene	130	8.979	8.973	0.006	83	3435	0.4947	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	93	73584	12.5	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	96	201259	12.7	
101 Tetrachloroethene	164	10.981	10.981	0.000	85	8465	1.70	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	96	42538	12.5	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	87	43471	11.9	

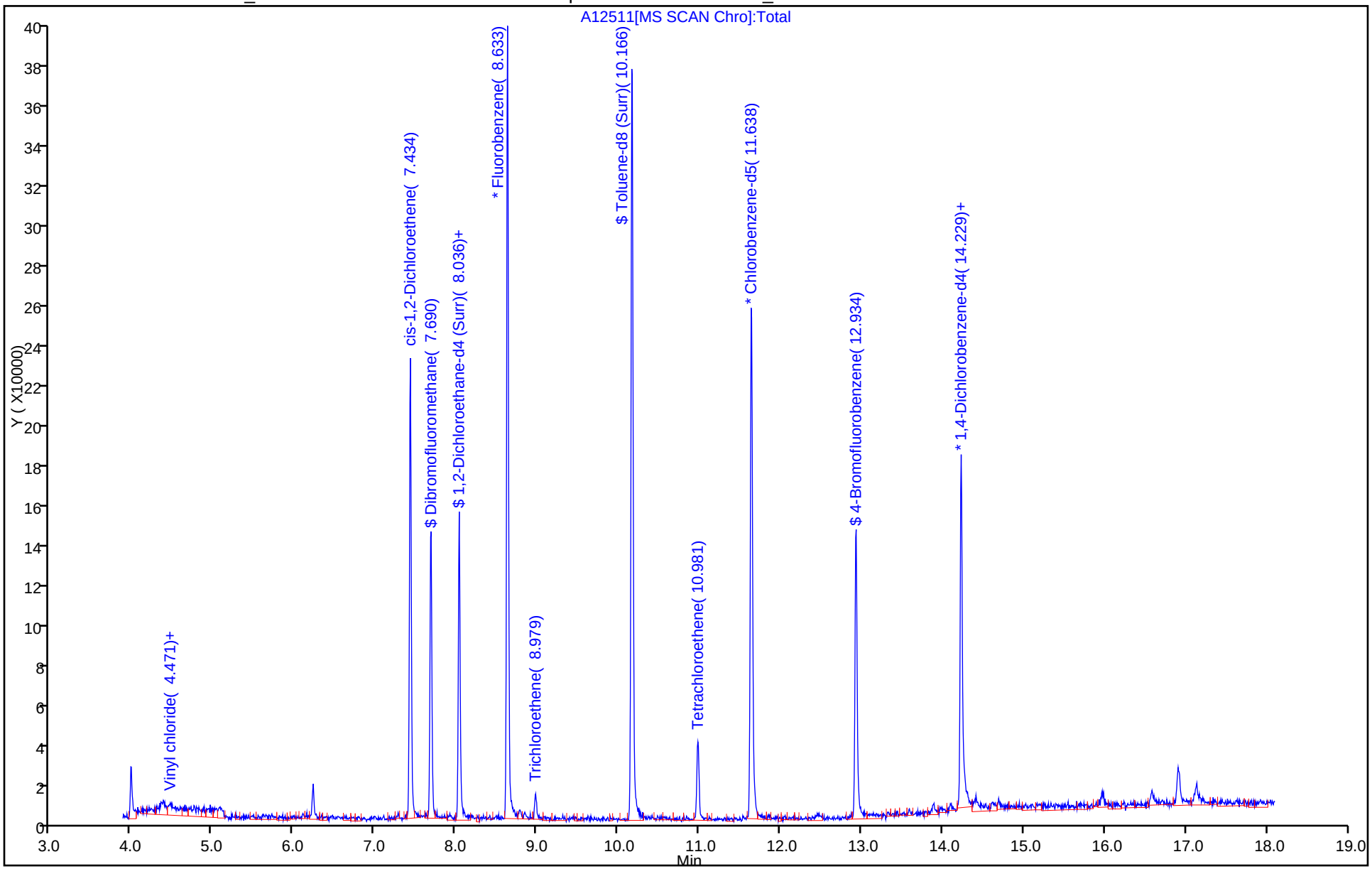
Reagents:

VOASS50PPM_00209	Amount Added: 5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 02-Aug-2016 16:07:47 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12511.d				
Injection Date:	04-May-2016 15:31:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	600-129836-G-7	Lab Sample ID:	600-129836-7	Worklist Smp#:	14
Client ID:	MW-20				
Purge Vol:	20.000 mL	Dil. Factor:	2000.0000	ALS Bottle#:	1
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12511.d				
Lims ID:	600-129836-G-7				
Client ID:	MW-20				
Sample Type:	Client				
Inject. Date:	04-May-2016 15:31:30	ALS Bottle#:	1	Worklist Smp#:	14
Purge Vol:	20.000 mL	Dil. Factor:	2000.0000		
Sample Info:	600-129836-G-7				
Misc. Info.:	600-0011909-012				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	02-Aug-2016 16:07:34	Calib Date:	04-May-2016 12:04:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK026		

First Level Reviewer: shenw Date: 05-May-2016 10:53:49

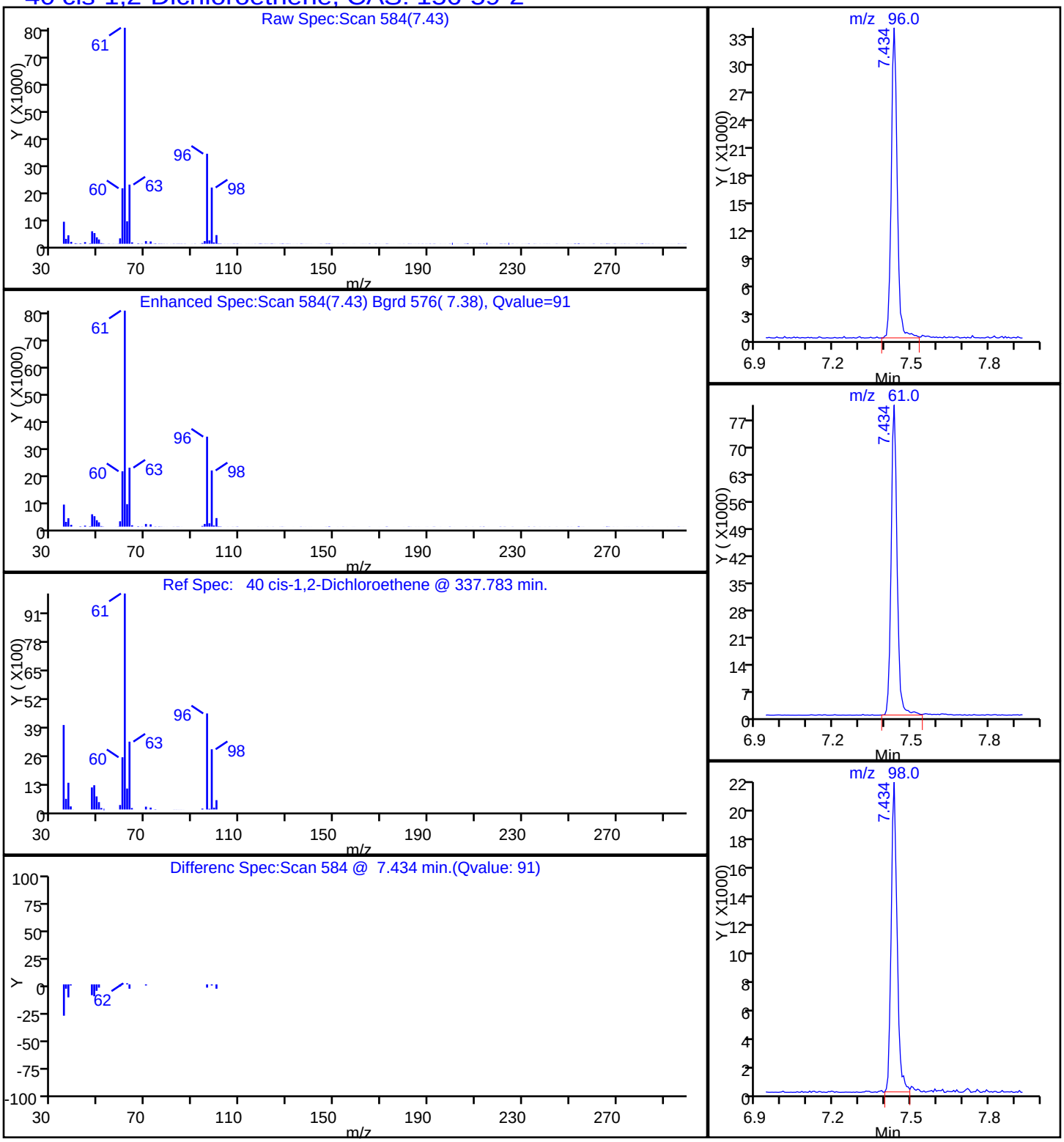
Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	10.4	83.32
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	13.2	105.71
$ 91 Toluene-d8 (Surr)	12.5	12.7	101.32
$ 119 4-Bromofluorobenzene	12.5	11.9	94.83

Report Date: 02-Aug-2016 16:07:47 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12511.d				
Injection Date:	04-May-2016 15:31:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-7	Lab Sample ID:	600-129836-7		
Client ID:	MW-20				
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	14
Purge Vol:	20.000 mL	Dil. Factor:	2000.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

40 cis-1,2-Dichloroethene, CAS: 156-59-2



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-21 | Lab Sample ID: 600-129836-8

Matrix: Water | Lab File ID: A12324.d

Analysis Method: 8260B | Date Collected: 04/22/2016 10:55

Sample wt/vol: 20(mL) | Date Analyzed: 05/02/2016 18:28

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: DB-VRX 60 ID: 0.25(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187577 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	0.192	U	1.00	0.192
127-18-4	Tetrachloroethene	0.477	J	1.00	0.333
79-01-6	Trichloroethene	0.138	U	1.00	0.138
75-01-4	Vinyl chloride	0.248	U	2.00	0.248
156-59-2	cis-1,2-Dichloroethene	0.157	U	1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	89		70-130
1868-53-7	Dibromofluoromethane	98		62-130
460-00-4	4-Bromofluorobenzene	92		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12324.d				
Lims ID:	600-129836-G-8				
Client ID:	MW-21				
Sample Type:	Client				
Inject. Date:	02-May-2016 18:28:30	ALS Bottle#:	16	Worklist Smp#:	25
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-G-8				
Misc. Info.:	600-0011863-025				
Operator ID:	ws	Instrument ID:	CHVOAMS07		
Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m				
Limit Group:	VOA - 8260B_8260BLL				
Last Update:	22-Jul-2016 09:00:17	Calib Date:	21-Mar-2016 12:18:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK027				
First Level Reviewer: baxterj		Date:	22-Jul-2016 08:57:16		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	96	274070	12.5	
4 Vinyl chloride	62		4.477				ND	
30 trans-1,2-Dichloroethene	96		6.789				ND	
40 cis-1,2-Dichloroethene	96	7.428	7.428	0.000	71	964	0.1384	
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	91	59723	12.3	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.037	8.030	0.006	0	58069	13.1	
73 Trichloroethene	130	8.979	8.973	0.006	65	890	0.1221	
* 80 Chlorobenzene-d5	82	11.644	11.638	0.006	93	86596	12.5	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	94	200571	11.1	
101 Tetrachloroethene	164	10.987	10.981	0.006	90	2521	0.4766	
* 110 1,4-Dichlorobenzene-d4	152	14.230	14.223	0.007	96	55514	12.5	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	89	54731	11.5	

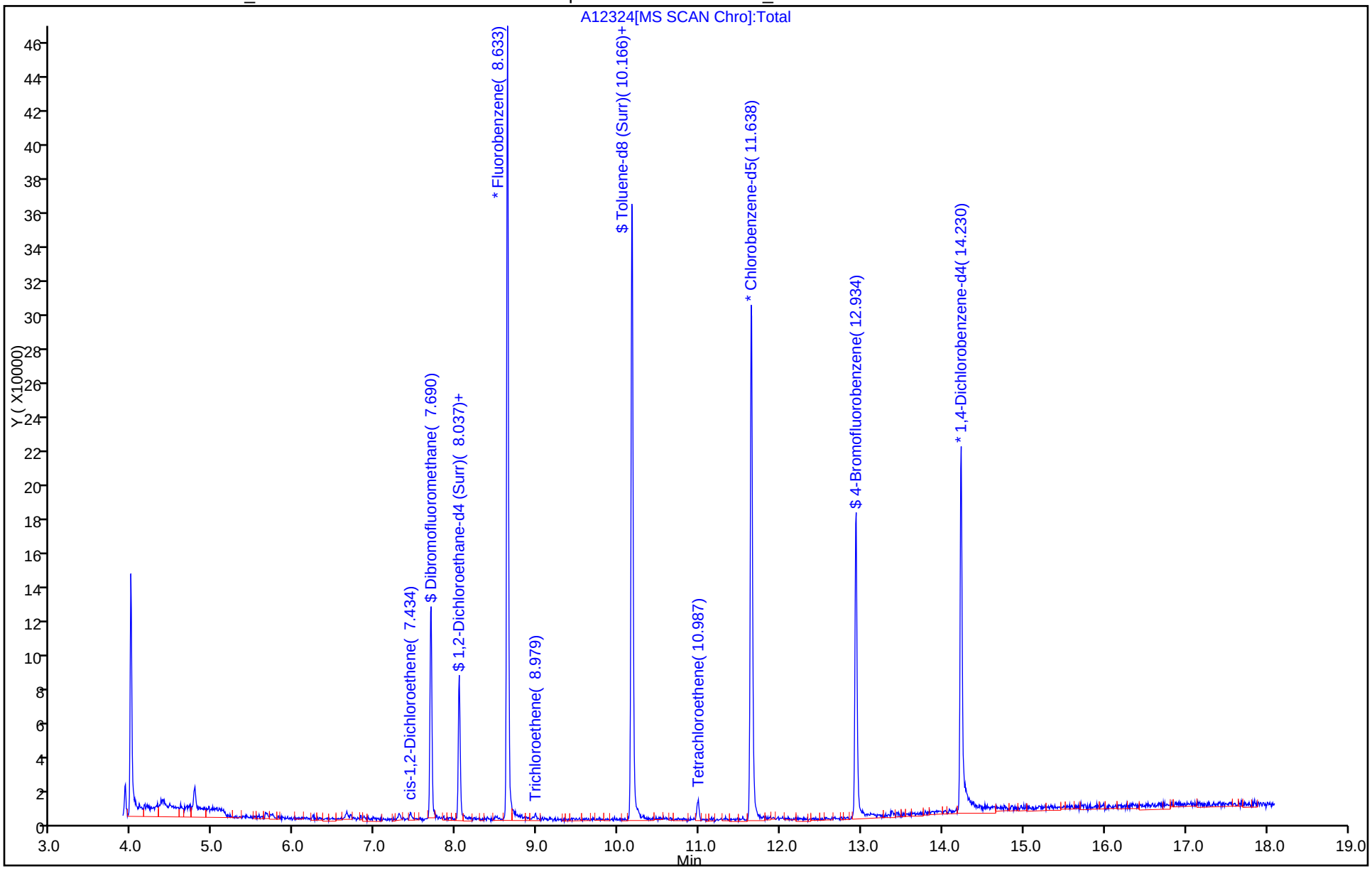
Reagents:

VOASS50PPM_00209	Amount Added: 5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added: 5.00	Units: uL	Run Reagent

Report Date: 22-Jul-2016 09:00:20 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12324.d				
Injection Date:	02-May-2016 18:28:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	600-129836-G-8	Lab Sample ID:	600-129836-8	Worklist Smp#:	25
Client ID:	MW-21				
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12324.d				
Lims ID:	600-129836-G-8				
Client ID:	MW-21				
Sample Type:	Client				
Inject. Date:	02-May-2016 18:28:30	ALS Bottle#:	16	Worklist Smp#:	25
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	600-129836-G-8				
Misc. Info.:	600-0011863-025				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	22-Jul-2016 09:00:17	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK027		

First Level Reviewer: baxterj Date: 22-Jul-2016 08:57:16

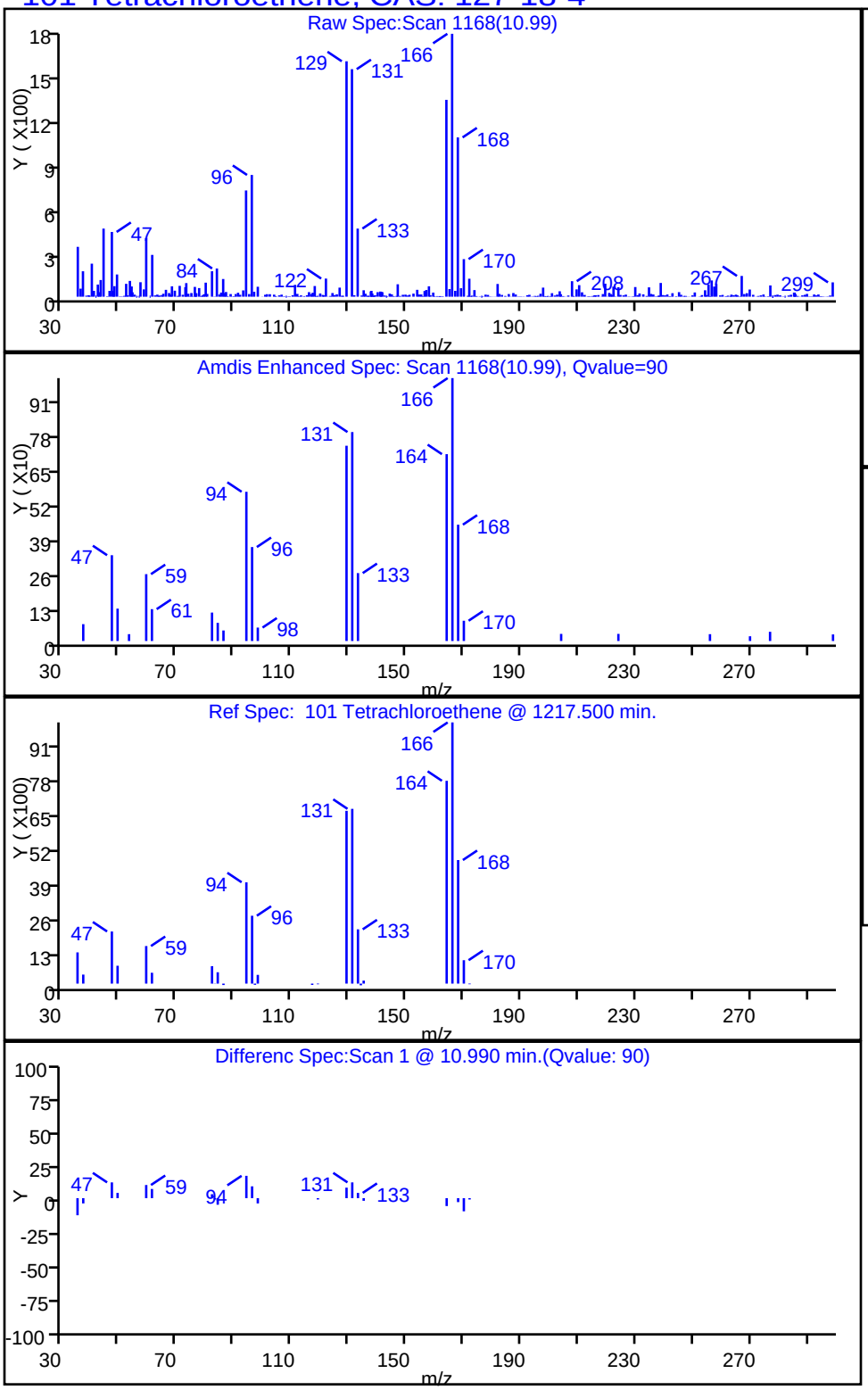
Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	12.3	98.32
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	13.1	104.45
$ 91 Toluene-d8 (Surr)	12.5	11.1	89.15
$ 119 4-Bromofluorobenzene	12.5	11.5	91.90

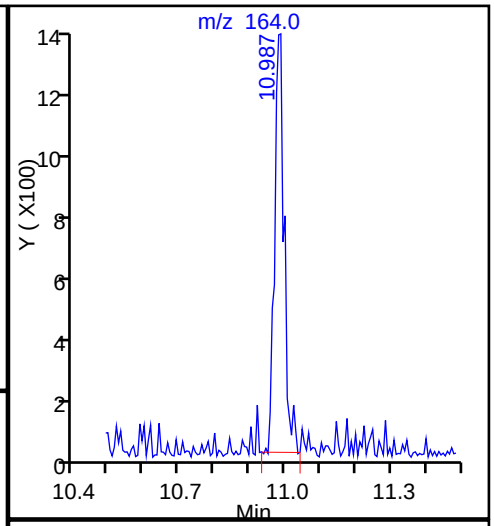
Report Date: 22-Jul-2016 09:00:21 Chrom Revision: 2.2 20-Apr-2016 13:59:46

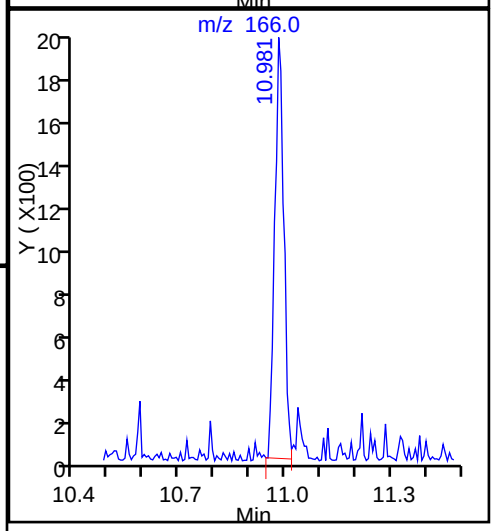
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12324.d				
Injection Date:	02-May-2016 18:28:30	Instrument ID:	CHVOAMS07		
Lims ID:	600-129836-G-8	Lab Sample ID:	600-129836-8		
Client ID:	MW-21				
Operator ID:	ws	ALS Bottle#:	16	Worklist Smp#:	25
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

101 Tetrachloroethene, CAS: 127-18-4







FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-181051/2	C02201.D
Level 2	IC 600-181051/3	C02202.D
Level 3	IC 600-181051/4	C02203A.D
Level 4	IC 600-181051/5	C02204A.D
Level 5	ICIS 600-181051/6	C02205A.D
Level 6	IC 600-181051/7	C02206.D
Level 7	IC 600-181051/8	C02207.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.1850 0.2290	0.1903 0.2248	0.1849	0.2142	0.2159	Ave		0.2063				9.2		15.0			
Chloromethane	0.2864 0.2723	0.2667 0.2608	0.2469	0.2709	0.2647	Ave		0.2670			0.1000	4.5		15.0			
Vinyl chloride	0.1882 0.1555	0.1927 +++++	0.1874	0.2083	0.1869	Ave		0.1865				9.2		15.0			
Butadiene	0.1771 0.1817	0.1678 0.1569	0.1636	0.1866	0.1885	Ave		0.1746				6.9		15.0			
Bromomethane	0.1209 0.1932	0.1217 0.2092	0.1457	0.1631	0.1713	Lin1	-0.074	0.2016							0.9950		0.9900
Chloroethane	0.2048 0.2222	0.2001 0.2111	0.1932	0.2195	0.2187	Ave		0.2099				5.2		15.0			
Dichlorofluoromethane	0.4720 0.5528	0.4880 0.5341	0.4823	0.5399	0.5501	Ave		0.5170				6.7		15.0			
Acrolein	0.0165 0.0153	0.0168 0.0156	0.0152	0.0162	0.0155	Ave		0.0159				4.1		15.0			
Acetonitrile	0.0275 0.0158	0.0248 0.0157	0.0172	0.0169	0.0161	Lin1	0.0653	0.0156							0.9990		0.9900
Trichlorofluoromethane	0.3480 0.4405	0.3521 0.4614	0.3650	0.4274	0.4321	Ave		0.4038				11.7		15.0			
Isopropyl alcohol	0.0101 0.0066	0.0089 0.0068	0.0068	0.0070	0.0065	Lin2	0.0187	0.0065							0.9960		0.9900
Acetone	0.0836 0.0288	0.0602 0.0326	0.0402	0.0326	0.0295	Lin1	0.0497	0.0302							0.9930		0.9900
Ethyl ether	0.1564 0.1659	0.1791 0.1679	0.1553	0.1704	0.1668	Ave		0.1660				4.9		15.0			
t-Butanol	0.0106 0.0115	0.0135 0.0116	0.0110	0.0121	0.0115	Ave		0.0117				7.9		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloroethene	0.2514 0.2712	0.2968 0.2707	0.2570	0.2838	0.2747	Ave		0.2722				5.6		15.0			
Acrylonitrile	0.0311 0.0354	0.0389 0.0348	0.0328	0.0361	0.0358	Ave		0.0350				7.1		15.0			
Iodomethane	0.3101 0.4092	0.3508 0.3946	0.3560	0.4147	0.4154	Ave		0.3787				10.7		15.0			
Methylene Chloride	+++++ 0.3116	0.8013 0.3005	0.4566	0.3798	0.3341	Lin1	0.4521	0.2897							0.9980		0.9900
Methyl acetate	0.1091 0.0929	0.1185 0.0874	0.0958	0.0988	0.0944	Ave		0.0995				10.7		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.1994 0.2117	0.2238 0.2113	0.2015	0.2217	0.2174	Ave		0.2124				4.4		15.0			
3-Chloro-1-propene	0.1558 0.1709	0.1768 0.1349	0.1596	0.1801	0.1757	Ave		0.1648				9.7		15.0			
Carbon disulfide	0.9580 0.9212	0.9741 0.9359	0.8388	0.9302	0.9192	Ave		0.9253				4.7		15.0			
trans-1,2-Dichloroethene	0.2896 0.3014	0.3259 0.3023	0.2897	0.3155	0.3067	Ave		0.3045				4.3		15.0			
Methyl tert-butyl ether	0.5203 0.5659	0.6197 0.5809	0.5285	0.5832	0.5729	Ave		0.5673				6.0		15.0			
Propionitrile	0.0149 0.0181	0.0191 0.0184	0.0163	0.0183	0.0180	Ave		0.0176				8.3		15.0			
1,1-Dichloroethane	0.5072 0.5225	0.5737 0.5142	0.5079	0.5499	0.5357	Ave		0.5302			0.1000	4.7		15.0			
Vinyl acetate	0.2813 0.2833	0.3440 0.2722	0.2755	0.2959	0.2872	Ave		0.2913				8.4		15.0			
2-Chloro-1,3-butadiene	0.4360 0.4400	0.4907 0.4197	0.4306	0.4736	0.4565	Ave		0.4496				5.6		15.0			
Hexane	0.4354 0.4001	0.4785 0.3606	0.4180	0.4568	0.4358	Ave		0.4265				9.0		15.0			
Isopropyl ether	0.8377 0.7991	0.9560 0.7199	0.8192	0.8886	0.8281	Ave		0.8355				8.8		15.0			
2-Butanone (MEK)	0.0114 0.0163	0.0165 0.0158	0.0142	0.0171	0.0165	Ave		0.0154				12.9		15.0			
Methacrylonitrile	0.0183 0.0214	0.0237 0.0206	0.0210	0.0231	0.0225	Ave		0.0215				8.4		15.0			
cis-1,2-Dichloroethene	0.3194 0.3331	0.3662 0.3337	0.3260	0.3516	0.3410	Ave		0.3387				4.7		15.0			
Ethyl acetate	0.0784 0.0875	0.0985 0.0922	0.0816	0.0856	0.0878	Ave		0.0874				7.6		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorobromomethane	0.1080 0.1251	0.1277 0.1261	0.1165	0.1307	0.1270	Ave		0.1230				6.5		15.0			
Chloroform	0.4910 0.4912	0.5457 0.4769	0.4886	0.5301	0.5081	Ave		0.5045				5.0		15.0			
Tert-butyl ethyl ether	0.7176 0.7482	0.8488 0.7128	0.7299	0.8007	0.7693	Ave		0.7610				6.5		15.0			
Isobutyl alcohol	0.0059 0.0074	0.0092 0.0077	0.0087	0.0085	0.0080	Ave		0.0079				13.4		15.0			
2,2-Dichloropropane	0.4633 0.4403	0.5028 0.4390	0.4499	0.4894	0.4703	Ave		0.4650				5.2		15.0			
Tetrahydrofuran	0.0520 0.0338	0.0452 0.0349	0.0396	0.0367	0.0350	Lin2	0.0184	0.0345							0.9990		0.9900
1,2-Dichloroethane	0.2434 0.2645	0.2974 0.2754	0.2442	0.2729	0.2649	Ave		0.2661				7.0		15.0			
1,1,1-Trichloroethane	0.4174 0.4428	0.4721 0.4483	0.4252	0.4644	0.4520	Ave		0.4460				4.4		15.0			
n-Butanol	0.0031 0.0037	0.0042 0.0037	0.0038	0.0038	0.0036	Ave		0.0037				9.4		15.0			
1,1-Dichloropropene	0.4153 0.4346	0.4684 0.4354	0.4154	0.4591	0.4429	Ave		0.4388				4.6		15.0			
Cyclohexane	0.4992 0.4981	0.5367 0.4982	0.4780	0.5268	0.5093	Ave		0.5066				3.9		15.0			
Carbon tetrachloride	0.3347 0.3613	0.3803 0.3649	0.3371	0.3774	0.3685	Ave		0.3606				5.0		15.0			
Benzene	1.3256 1.2553	1.4067 1.2055	1.2388	1.3375	1.2885	Ave		1.2940				5.3		15.0			
Tert-amyl methyl ether	0.6442 0.6836	0.7528 0.6991	0.6559	0.7087	0.6951	Ave		0.6914				5.2		15.0			
Isooctane	1.0160 1.0042	1.1325 0.9714	1.0017	1.0887	1.0490	Ave		1.0377				5.4		15.0			
Ethyl acrylate	0.2373 0.2582	0.3088 0.2635	0.2567	0.2765	0.2676	Ave		0.2669				8.3		15.0			
n-Heptane	0.3879 0.3850	0.4516 0.3735	0.3945	0.4321	0.4123	Ave		0.4053				6.9		15.0			
Dibromomethane	0.1150 0.1279	0.1390 0.1294	0.1222	0.1324	0.1304	Ave		0.1280				6.0		15.0			
1,2-Dichloropropane	0.2817 0.2909	0.3185 0.2774	0.2867	0.3167	0.3032	Ave		0.2964				5.6		15.0			
2-Nitropropane	0.0341 0.0406	0.0519 0.0405	0.0422	0.0448	0.0408	Ave		0.0421				12.8		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Trichloroethene	0.3103 0.3350	0.3563 0.3337	0.3233	0.3525	0.3433	Ave		0.3363				4.8		15.0			
Bromodichloromethane	0.3432 0.3819	0.4030 0.3920	0.3530	0.3920	0.3868	Ave		0.3789				5.8		15.0			
Methyl methacrylate	0.1738 0.1393	0.1625 0.1422	0.1373	0.1428	0.1421	Ave		0.1486				9.4		15.0			
1,4-Dioxane	+++++ 0.0009	0.0011 0.0010	0.0009	0.0009	0.0010	Ave		0.0010				7.1		15.0			
2-Chloroethyl vinyl ether	0.1015 0.1907	0.1460 0.1968	0.1429	0.1805	0.1849	Lin2	-0.091	0.1884							0.9960		0.9900
Methylcyclohexane	0.5709 0.5838	0.6369 0.5795	0.5642	0.6171	0.6002	Ave		0.5932				4.4		15.0			
cis-1,3-Dichloropropene	0.8258 0.8692	0.9591 0.8404	0.8525	0.9551	0.9242	Ave		0.8895				6.3		15.0			
4-Methyl-2-pentanone (MIBK)	0.1249 0.1225	0.1518 0.1286	0.1198	0.1284	0.1216	Ave		0.1282				8.5		15.0			
trans-1,3-Dichloropropene	0.6183 0.6877	0.7231 0.6791	0.6531	0.7445	0.7179	Ave		0.6891				6.3		15.0			
1,1,2-Trichloroethane	0.3362 0.3629	0.4031 0.3610	0.3537	0.3940	0.3781	Ave		0.3699				6.3		15.0			
Ethyl methacrylate	0.4308 0.4470	0.5114 0.4229	0.4353	0.4921	0.4681	Ave		0.4582				7.3		15.0			
Toluene	1.5889 1.5352	1.7594 1.3919	1.6029	1.7496	1.6564	Ave		1.6120				7.9		15.0			
1,3-Dichloropropane	0.6192 0.6632	0.7272 0.6531	0.6605	0.7341	0.7017	Ave		0.6798				6.2		15.0			
2-Hexanone	0.2221 0.1499	0.1888 0.1577	0.1630	0.1816	0.1672	Ave		0.1757				13.9		15.0			
n-Butyl acetate	0.3858 0.3628	0.5290 0.1346	0.3806	0.4128	0.3891	Qua	-0.152	0.5062	-0.007361						0.9960		0.9900
Dibromochloromethane	0.3781 0.4521	0.4553 0.4638	0.4039	0.4696	0.4607	Ave		0.4405				8.0		15.0			
1,2-Dibromoethane	0.3142 0.3567	0.3741 0.3620	0.3381	0.3777	0.3683	Ave		0.3559				6.3		15.0			
Tetrachloroethene	0.4481 0.4743	0.5280 0.4536	0.4699	0.5242	0.5037	Ave		0.4860				6.7		15.0			
1-Chlorohexane	0.6816 0.6037	0.7194 0.5775	0.6300	0.6830	0.6428	Ave		0.6483				7.6		15.0			
1,1,1,2-Tetrachloroethane	0.5330 0.5673	0.6056 0.5659	0.5513	0.6095	0.5877	Ave		0.5743				4.9		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorobenzene	1.8443 1.8357	2.0500 1.7535	1.8426	2.0149	1.9380	Ave		1.8970			0.3000	5.7		15.0			
Ethylbenzene	0.9993 0.9972	1.1093 0.9534	1.0129	1.1063	1.0569	Ave		1.0336				5.7		15.0			
m-Xylene & p-Xylene	2.5344 2.4332	2.7682 2.3390	2.4972	2.7194	2.5643	Ave		2.5508				5.9		15.0			
Bromoform	0.1715 0.2299	0.2086 0.2487	0.1788	0.2120	0.2149	Ave		0.2092			0.1000	12.9		15.0			
Styrene	1.9558 2.0395	2.1975 1.9317	2.0151	2.2303	2.1527	Ave		2.0747				5.7		15.0			
1,1,2,2-Tetrachloroethane	0.4325 0.4116	0.5025 0.3697	0.4215	0.4579	0.4370	Ave		0.4332			0.3000	9.5		15.0			
o-Xylene	1.2766 1.2558	1.4176 1.1656	1.2746	1.4016	1.3284	Ave		1.3029				6.7		15.0			
trans-1,4-Dichloro-2-butene	0.0634 0.0942	0.0862 0.0968	0.0763	0.0904	0.0911	Ave		0.0855				13.8		15.0			
1,2,3-Trichloropropane	0.0971 0.1171	0.1193 0.1209	0.1050	0.1182	0.1147	Ave		0.1132				7.8		15.0			
Isopropylbenzene	3.0669 3.0671	3.3330 2.9726	2.9783	3.2528	3.1170	Ave		3.1125				4.4		15.0			
Bromobenzene	0.6753 0.7159	0.7501 0.7015	0.6779	0.7459	0.7213	Ave		0.7125				4.2		15.0			
N-Propylbenzene	0.8981 0.9229	1.0003 0.8798	0.8908	0.9788	0.9433	Ave		0.9306				4.9		15.0			
2-Chlorotoluene	0.7879 0.7959	0.8650 0.7596	0.7772	0.8418	0.8096	Ave		0.8053				4.6		15.0			
4-Chlorotoluene	2.3744 2.4315	2.6941 2.2819	2.3873	2.6028	2.5046	Ave		2.4681				5.8		15.0			
1,3,5-Trimethylbenzene	2.8874 2.7253	3.0901 2.5181	2.7179	2.9534	2.7816	Ave		2.8105				6.6		15.0			
Alpha Methyl Styrene	1.7217 2.0003	2.0336 1.7159	2.3093	1.9976	2.0273	Ave		1.9722				10.4		15.0			
tert-Butylbenzene	2.3803 2.3310	2.5839 2.1609	2.2967	2.4831	2.3763	Ave		2.3732				5.7		15.0			
1,2,4-Trimethylbenzene	2.9276 2.8469	3.2255 2.5848	2.8825	3.1204	2.9346	Ave		2.9317				7.0		15.0			
sec-Butylbenzene	3.5685 3.5135	3.8927 3.1859	3.5415	3.7966	3.5990	Ave		3.5854				6.3		15.0			
Benzyl chloride	0.9691 0.8913	1.0701 0.8194	0.9289	0.9993	0.9592	Ave		0.9482				8.4		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,3-Dichlorobenzene	1.4482 1.4361	1.5947 1.2837	1.4164	1.5603	1.4773	Ave		1.4595				7.0		15.0			
1,4-Dichlorobenzene	1.4629 1.3654	1.6385 1.1403	1.4613	1.5648	1.4771	Ave		1.4443				11.0		15.0			
4-Isopropyltoluene	3.1468 2.9559	3.4178 2.4770	3.1279	3.3262	3.1475	Ave		3.0856				9.9		15.0			
1,2,3-Trimethylbenzene	3.2215 3.0758	3.4769 2.7486	3.0975	3.3264	3.1875	Ave		3.1620				7.2		15.0			
1,2-Dichlorobenzene	1.1965 1.2312	1.3589 1.1393	1.2145	1.3223	1.2548	Ave		1.2454				6.0		15.0			
n-Butylbenzene	2.8583 2.7802	3.1625 2.4934	2.8259	3.0857	2.9278	Ave		2.8762				7.6		15.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.0614	0.0689 0.0629	0.0585	0.0623	0.0619	Ave		0.0626				5.5		15.0			
1,3,5-Trichlorobenzene	1.0175 1.0347	1.1438 0.9194	1.0373	1.1136	1.0739	Ave		1.0486				7.0		15.0			
1,2,4-Trichlorobenzene	0.5588 0.6164	0.6799 0.5502	0.6234	0.6580	0.6374	Ave		0.6177				7.8		15.0			
Naphthalene	0.7374 0.8043	0.9370 0.7255	0.9137	0.8817	0.8477	Ave		0.8353				9.9		15.0			
Hexachlorobutadiene	0.1664 0.1567	0.1810 0.1428	0.1656	0.1737	0.1639	Ave		0.1643				7.4		15.0			
1,2,3-Trichlorobenzene	0.3898 0.3132	0.3616 0.2666	0.3625	0.3448	0.3328	Ave		0.3387				11.8		15.0			
Dibromofluoromethane	0.2822 0.2764	0.2933 0.2791	0.2631	0.2886	0.2798	Ave		0.2804				3.4		15.0			
1,2-Dichloroethane-d4 (Surr)	0.2500 0.2283	0.2472 0.2356	0.2171	0.2355	0.2316	Ave		0.2351				4.8		15.0			
Toluene-d8 (Surr)	2.7665 2.1996	2.5502 2.0733	2.2720	2.4756	2.3644	Ave		2.3859				9.8		15.0			
4-Bromofluorobenzene	1.5094 0.9690	1.1414 0.9501	0.9388	1.0203	0.9756	Lin2	0.2686	0.9236							0.9940		0.9900

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-181051/2	C02201.D
Level 2	IC 600-181051/3	C02202.D
Level 3	IC 600-181051/4	C02203A.D
Level 4	IC 600-181051/5	C02204A.D
Level 5	ICIS 600-181051/6	C02205A.D
Level 6	IC 600-181051/7	C02206.D
Level 7	IC 600-181051/8	C02207.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	2823 135413	5678 323735	11120	32274	64588	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chloromethane	FB	Ave	4369 161054	7960 375574	14848	40830	79187	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	2871 91940	5750 +++++	11271	31390	55925	0.500 20.0	1.00 +++++	2.00	5.00	10.0
Butadiene	FB	Ave	2702 107471	5009 225959	9840	28119	56396	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Bromomethane	FB	Lin1	1844 114283	3633 301336	8761	24578	51251	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chloroethane	FB	Ave	3125 131391	5971 304061	11617	33073	65432	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	7201 326935	14562 769316	28999	81357	164576	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Acrolein	FB	Ave	1260 45286	2513 112656	4556	12171	23127	2.50 100	5.00 250	10.0	25.0	50.0
Acetonitrile	FB	Lin1	4203 93375	7409 226825	10328	25507	48311	5.00 200	10.0 500	20.0	50.0	100
Trichlorofluoromethane	FB	Ave	5309 260552	10509 664539	21949	64410	129286	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isopropyl alcohol	FB	Lin2	1546 39233	2648 97555	4115	10612	19384	5.00 200	10.0 500	20.0	50.0	100
Acetone	FB	Lin1	2550 34082	3595 93895	4833	9840	17652	1.00 40.0	2.00 100	4.00	10.0	20.0
Ethyl ether	FB	Ave	2386 98127	5346 241895	9339	25684	49911	0.500 20.0	1.00 50.0	2.00	5.00	10.0
t-Butanol	FB	Ave	1614 68238	4023 167162	6641	18190	34339	5.00 200	10.0 500	20.0	50.0	100
1,1-Dichloroethene	FB	Ave	3836 160395	8856 389853	15453	42765	82186	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Acrylonitrile	FB	Ave	4752 209150	11605 501850	19731	54460	107163	5.00 200	10.0 500	20.0	50.0	100
Iodomethane	FB	Ave	4731 242006	10470 568300	21407	62497	124284	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Methylene Chloride	FB	Lin1	+++++ 184295	23914 432770	27458	57234	99943	+++++ 20.0	1.00 50.0	2.00	5.00	10.0
Methyl acetate	FB	Ave	8324 274585	17675 629476	28800	74461	141221	2.50 100	5.00 250	10.0	25.0	50.0
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Ave	3042 125215	6678 304322	12119	33413	65036	0.500 20.0	1.00 50.0	2.00	5.00	10.0
3-Chloro-1-propene	FB	Ave	2377 101071	5276 194293	9597	27138	52570	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Carbon disulfide	FB	Ave	14617 544834	29071 1347998	50436	140175	275007	0.500 20.0	1.00 50.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	4419 178243	9727 435388	17423	47548	91765	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Methyl tert-butyl ether	FB	Ave	7938 334692	18494 836726	31780	87891	171397	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Propionitrile	FB	Ave	2273 106898	5695 264938	9814	27590	53716	5.00 200	10.0 500	20.0	50.0	100
1,1-Dichloroethane	FB	Ave	7738 309054	17120 740625	30541	82860	160282	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Vinyl acetate	FB	Ave	8585 335126	20532 784190	33129	89178	171821	1.00 40.0	2.00 100	4.00	10.0	20.0
2-Chloro-1,3-butadiene	FB	Ave	6652 260218	14645 604532	25893	71370	136570	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Hexane	FB	Ave	6643 236648	14281 519378	25133	68835	130396	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isopropyl ether	FB	Ave	12781 472621	28531 1036908	49258	133904	247766	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Butanone (MEK)	FB	Ave	348 19276	987 45629	1708	5141	9866	1.00 40.0	2.00 100	4.00	10.0	20.0
Methacrylonitrile	FB	Ave	2795 126479	7075 296895	12626	34802	67286	5.00 200	10.0 500	20.0	50.0	100
cis-1,2-Dichloroethene	FB	Ave	4874 197027	10927 480657	19604	52989	102021	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethyl acetate	FB	Ave	2391 103487	5879 265738	9809	25794	52522	1.00 40.0	2.00 100	4.00	10.0	20.0
Chlorobromomethane	FB	Ave	1648 74009	3812 181658	7003	19690	37990	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chloroform	FB	Ave	7491 290500	16286 686952	29378	79882	152009	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Tert-butyl ethyl ether	FB	Ave	10949 442542	25331 1026669	43887	120665	230148	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isobutyl alcohol	FB	Ave	2268 109307	6871 276721	13029	31866	59509	12.5 500	25.0 1250	50.0	125	250
2,2-Dichloropropane	FB	Ave	7069 260424	15005 632312	27056	73751	140701	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Lin2	1588 40009	2695 100435	4757	11046	20918	1.00 40.0	2.00 100	4.00	10.0	20.0
1,2-Dichloroethane	FB	Ave	3714 156414	8875 396695	14687	41126	79257	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,1,1-Trichloroethane	FB	Ave	6369 261891	14089 645756	25569	69977	135231	0.500 20.0	1.00 50.0	2.00	5.00	10.0
n-Butanol	FB	Ave	1173 54459	3163 134380	5772	14497	26840	12.5 500	25.0 1250	50.0	125	250
1,1-Dichloropropene	FB	Ave	6337 257060	13979 627192	24981	69188	132512	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Cyclohexane	FB	Ave	7617 294568	16016 717526	28741	79379	152372	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	5106 213671	11350 525545	20271	56866	110254	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Benzene	FB	Ave	20226 742442	41981 1736401	74490	201550	385502	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Tert-amyl methyl ether	FB	Ave	9829 404318	22465 1007002	39442	106802	207967	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isooctane	FB	Ave	15502 593938	33798 1399148	60232	164066	313842	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethyl acrylate	FB	Ave	3621 152685	9216 379601	15433	41671	80061	0.500 20.0	1.00 50.0	2.00	5.00	10.0
n-Heptane	FB	Ave	5918 227732	13477 538001	23724	65118	123344	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Dibromomethane	FB	Ave	1754 75673	4147 186337	7346	19949	39011	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dichloropropane	FB	Ave	4298 172038	9505 399537	17240	47726	90706	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Nitropropane	FB	Ave	1040 48041	3098 116724	5079	13493	24420	1.00 40.0	2.00 100	4.00	10.0	20.0
Trichloroethene	FB	Ave	4734 198120	10632 480582	19439	53120	102706	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Bromodichloromethane	FB	Ave	5237 225889	12027 564548	21229	59074	115737	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Methyl methacrylate	FB	Ave	5305 164831	9696 409710	16515	43027	85019	1.00 40.0	2.00 100	4.00	10.0	20.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,4-Dioxane	FB	Ave	+++++ 11232	638 28008	1036	2798	5700	+++++ 400	20.0 1000	40.0	100	200
2-Chloroethyl vinyl ether	CBNZ d5	Lin2	1672 126254	4708 333505	9176	28616	59129	1.00 40.0	2.00 100	4.00	10.0	20.0
Methylcyclohexane	FB	Ave	8710 345307	19006 834632	33929	92990	179559	0.500 20.0	1.00 50.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	6802 287747	15469 712018	27380	75691	147783	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	3812 144872	9058 370352	14410	38706	72779	1.00 40.0	2.00 100	4.00	10.0	20.0
trans-1,3-Dichloropropene	CBNZ d5	Ave	5093 227675	11662 575393	20976	58998	114804	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,1,2-Trichloroethane	CBNZ d5	Ave	2769 120139	6502 305833	11359	31225	60467	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Ave	3548 147965	8248 358334	13980	38996	74855	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Toluene	CBNZ d5	Ave	13087 508216	28377 1179245	51481	138656	264868	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	5100 219536	11729 553367	21213	58176	112204	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Hexanone	CBNZ d5	Ave	3658 99217	6090 267138	10468	28780	53468	1.00 40.0	2.00 100	4.00	10.0	20.0
n-Butyl acetate	CBNZ d5	Qua	3178 120114	8532 114040	12225	32717	62218	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Dibromochloromethane	CBNZ d5	Ave	3114 149658	7343 392928	12972	37215	73671	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dibromoethane	CBNZ d5	Ave	2588 118076	6034 306676	10859	29936	58899	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	3691 157029	8516 384276	15093	41543	80542	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Ave	5614 199843	11603 489278	20235	54129	102794	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	4390 187810	9768 479450	17705	48304	93973	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	15191 607701	33063 1485594	59179	159684	309907	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	8231 330127	17891 807728	32530	87675	169002	0.500 20.0	1.00 50.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	20875 805491	44646 1981697	80204	215512	410051	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Bromoform	DCBd 4	Ave	1472 78236	3556 210682	6186	18076	36725	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Styrene	CBNZ d5	Ave	16109 675164	35442 1636594	64721	176754	344232	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,1,2,2-Tetrachloroethane	CBNZ d5	Ave	3562 136275	8105 313224	13536	36286	69873	0.500 20.0	1.00 50.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	10515 415730	22864 987500	40936	111078	212425	0.500 20.0	1.00 50.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	544 32048	1470 82045	2638	7710	15577	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	833 39834	2034 102461	3633	10084	19606	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	26318 1043652	56813 2518229	103025	277412	532724	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	5795 243590	12786 594241	23449	63615	123282	0.500 20.0	1.00 50.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	7707 314037	17051 745316	30813	83472	161228	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	6761 270843	14745 643486	26886	71790	138370	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	20376 827378	45923 1933169	82581	221979	428061	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	24778 927360	52672 2133203	94018	251874	475409	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Alpha Methyl Styrene	DCBd 4	Ave	14773 680588	34661 1453464	79875	170341	346454	0.500 20.0	1.000 50.0	2.00	5.00	10.00
tert-Butylbenzene	DCBd 4	Ave	20426 793196	44044 1830669	79448	211764	406139	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	25123 968732	54981 2189770	99709	266115	501546	0.500 20.0	1.00 50.0	2.00	5.00	10.0
sec-Butylbenzene	DCBd 4	Ave	30623 1195560	66353 2698938	122505	323790	615110	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Benzyl chloride	DCBd 4	Ave	8316 303300	18241 694188	32133	85223	163930	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	12428 488680	27182 1087484	48996	133066	252480	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	12554 464600	27930 966019	50550	133452	252455	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Ave	27004 1005838	58259 2098386	108198	283670	537932	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	27645 1046636	59265 2328539	107149	283690	544769	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	10268 418960	23164 965200	42010	112770	214465	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 181051

SDG No.:

Instrument ID: CHVOAMS01 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 01/22/2016 11:43 Calibration End Date: 01/22/2016 16:06 Calibration ID: 8402

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
n-Butylbenzene	DCBd 4	Ave	24528 946022	53907 2112305	97754	263155	500385	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	+++++ 20881	1175 53255	2023	5316	10573	+++++ 20.0	1.00 50.0	2.00	5.00	10.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	8732 352097	19497 778892	35881	94970	183537	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	4795 209734	11590 466098	21565	56119	108939	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Ave	6328 273684	15972 614581	31608	75192	144886	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Ave	1428 53336	3086 120960	5729	14816	28015	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	3345 106560	6164 225820	12539	29405	56881	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Dibromofluoromethane	FB	Ave	4305 163501	8754 402070	15823	43483	83708	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	3815 135021	7378 339371	13056	35487	69289	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Ave	22787 728160	41130 1756535	72969	196195	378089	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Bromofluorobenzene	DCBd 4	Lin2	12953 329729	19455 804898	32475	87013	166736	0.500 20.0	1.00 50.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD
Qua = Quadratic ISTD

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02201.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 22-Jan-2016 11:43:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 600-0010400-002
Operator ID: yx Instrument ID: CHVOAMS01
Sublist: chrom-8260W20_1*sub30

Method: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jan-2016 16:40:16 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: xiey Date: 22-Jan-2016 12:53:09

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.415	8.419	-0.004	100	381437	12.5	12.5	
2 Dichlorodifluoromethane	85	3.901	3.900	0.001	96	2823	0.5000	0.4485	
3 Chloromethane	50	4.136	4.141	-0.005	95	4369	0.5000	0.5363	
4 Vinyl chloride	62	4.351	4.355	-0.004	97	2871	0.5000	0.5045	
5 Butadiene	39	4.476	4.481	-0.005	89	2702	0.5000	0.5071	
6 Bromomethane	94	4.795	4.795	0.000	93	1844	0.5000	0.6666	
9 Chloroethane	64	4.931	4.936	-0.005	97	3125	0.5000	0.4878	
11 Dichlorofluoromethane	67	4.973	4.978	-0.005	97	7201	0.5000	0.4564	
10 Ethanol	45		5.120				ND	ND	
14 Acrolein	56	5.465	5.464	0.001	97	1260	2.50	2.60	
15 Acetonitrile	41	5.481	5.474	0.007	35	4203	5.00	4.65	
16 Trichlorofluoromethane	101	5.475	5.474	0.001	99	5309	0.5000	0.4309	
17 Isopropyl alcohol	45	5.507	5.506	0.001	95	1546	5.00	4.92	
18 Acetone	43	5.570	5.569	0.001	95	2550	1.00	1.12	
19 Ethyl ether	59	5.664	5.668	-0.004	88	2386	0.5000	0.4711	
21 2-Methyl-2-propanol	59	5.941	5.940	0.001	41	1614	5.00	4.53	
22 1,1-Dichloroethene	96	5.946	5.945	0.001	96	3836	0.5000	0.4618	
23 Acrylonitrile	52	5.977	5.977	0.000	99	4752	5.00	4.45	
24 Iodomethane	142	5.993	5.997	-0.004	97	4731	0.5000	0.4094	
25 Methylene Chloride	84	6.061	6.060	0.001	89	20724	0.5000	0.7835	
26 Methyl acetate	43	6.077	6.076	0.001	96	8324	2.50	2.74	
27 1,1,2-Trichloro-1,2,2-trif	151	6.093	6.097	-0.004	90	3042	0.5000	0.4693	
28 3-Chloro-1-propene	76	6.134	6.139	-0.005	94	2377	0.5000	0.4726	
29 Carbon disulfide	76	6.291	6.290	0.001	99	14617	0.5000	0.5177	
30 trans-1,2-Dichloroethene	96	6.605	6.604	0.001	79	4419	0.5000	0.4756	
31 Methyl tert-butyl ether	73	6.668	6.672	-0.004	93	7938	0.5000	0.4585	
32 Propionitrile	54	6.793	6.792	0.001	7	2273	5.00	4.24	
33 1,1-Dichloroethane	63	6.799	6.798	0.001	70	7738	0.5000	0.4783	
34 Vinyl acetate	43	6.861	6.860	0.001	97	8585	1.00	0.9657	
36 2-Chloro-1,3-butadiene	53	7.081	7.080	0.001	90	6652	0.5000	0.4849	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 Hexane	57	7.091	7.096	-0.005	89	6643	0.5000	0.5105	
38 Isopropyl ether	45	7.097	7.101	-0.004	92	12781	0.5000	0.5013	
39 2-Butanone (MEK)	72	7.107	7.106	0.001	71	348	1.00	0.7404	
40 Methacrylonitrile	66	7.186	7.185	0.001	89	2795	5.00	4.26	
41 cis-1,2-Dichloroethene	96	7.238	7.237	0.001	78	4874	0.5000	0.4715	
42 Ethyl acetate	43	7.332	7.331	0.001	94	2391	1.00	0.8969	
44 Chlorobromomethane	128	7.369	7.368	0.001	89	1648	0.5000	0.4390	
45 Chloroform	83	7.395	7.394	0.001	70	7491	0.5000	0.4866	
46 Tert-butyl ethyl ether	59	7.400	7.404	-0.004	95	10949	0.5000	0.4715	
48 Isobutyl alcohol	43	7.431	7.431	0.000	62	2268	12.5	9.41	
49 2,2-Dichloropropane	77	7.452	7.457	-0.005	63	7069	0.5000	0.4982	
$ 51 Dibromofluoromethane	113	7.489	7.488	0.001	93	4305	0.5000	0.5032	
S 47 1,2-Dichloroethene, Total	96				0		1.00	0.9472	
53 Tetrahydrofuran	42	7.646	7.650	-0.004	87	1588	1.00	0.9759	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.829	7.833	-0.004	0	3815	0.5000	0.5319	
57 1,2-Dichloroethane	62	7.892	7.891	0.001	51	3714	0.5000	0.4574	
58 1,1,1-Trichloroethane	97	7.970	7.974	-0.004	70	6369	0.5000	0.4679	
59 n-Butanol	56	7.981	7.980	0.001	52	1173	12.5	10.3	
61 1,1-Dichloropropene	75	8.101	8.100	0.001	98	6337	0.5000	0.4733	
62 Cyclohexane	84	8.195	8.194	0.001	86	7617	0.5000	0.4927	
63 Carbon tetrachloride	119	8.253	8.257	-0.004	97	5106	0.5000	0.4640	
64 Benzene	78	8.274	8.278	-0.004	95	20226	0.5000	0.5122	
66 Tert-amyl methyl ether	73	8.357	8.356	0.001	98	9829	0.5000	0.4659	
67 Isooctane	57	8.566	8.565	0.001	95	15502	0.5000	0.4896	
68 Ethyl acrylate	55	8.613	8.607	0.006	93	3621	0.5000	0.4445	
69 n-Heptane	43	8.624	8.628	-0.004	90	5918	0.5000	0.4785	
70 Dibromomethane	93	8.708	8.712	-0.004	89	1754	0.5000	0.4490	
71 1,2-Dichloropropane	63	8.723	8.722	0.001	93	4298	0.5000	0.4751	
72 2-Nitropropane	43	8.729	8.733	-0.004	69	1040	1.00	0.8089	
73 Trichloroethene	130	8.755	8.754	0.001	96	4734	0.5000	0.4613	
74 Dichlorobromomethane	83	8.797	8.796	0.001	98	5237	0.5000	0.4530	
75 Methyl methacrylate	41	8.838	8.843	-0.005	88	5305	1.00	1.17	
76 1,4-Dioxane	58		8.858				ND	ND	
78 Methylcyclohexane	83	9.178	9.177	0.001	86	8710	0.5000	0.4812	
79 4-Methyl-2-pentanone (MIBK	43	9.346	9.350	-0.004	93	3812	1.00	0.9742	
* 80 Chlorobenzene-d5	82	11.354	11.353	0.001	85	205917	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.074	9.073	0.001	58	1672	1.00	1.02	
85 cis-1,3-Dichloropropene	75	9.288	9.287	0.001	97	6802	0.5000	0.4642	
88 trans-1,3-Dichloropropene	75	9.644	9.643	0.001	89	5093	0.5000	0.4486	
89 1,1,2-Trichloroethane	97	9.801	9.800	0.001	86	2769	0.5000	0.4545	
$ 90 Toluene-d8 (Surr)	98	9.905	9.904	0.001	92	22787	0.5000	0.5798	
92 Ethyl methacrylate	69	9.958	9.957	0.001	85	3548	0.5000	0.4700	
93 Toluene	92	9.973	9.972	0.001	99	13087	0.5000	0.4928	
94 1,3-Dichloropropane	76	10.015	10.014	0.001	90	5100	0.5000	0.4554	
95 2-Hexanone	43	10.115	10.108	0.006	91	3658	1.00	1.26	
97 Chlorodibromomethane	129	10.303	10.307	-0.004	89	3114	0.5000	0.4291	
98 n-Butyl acetate	43	10.381	10.380	0.001	98	3178	0.5000	0.6892	
99 Ethylene Dibromide	107	10.559	10.558	0.001	96	2588	0.5000	0.4414	
101 Tetrachloroethene	164	10.700	10.699	0.001	96	3691	0.5000	0.4610	
S 100 Xylenes, Total	106				0		1.00	0.9867	
102 1-Chlorohexane	55	11.255	11.254	0.001	93	5614	0.5000	0.5257	
103 1,1,1,2-Tetrachloroethane	131	11.307	11.306	0.001	86	4390	0.5000	0.4640	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.391	11.395	-0.004	96	15191	0.5000	0.4861	
105 Ethylbenzene	106	11.568	11.568	0.000	98	8231	0.5000	0.4834	
106 m-Xylene & p-Xylene	91	11.762	11.761	0.001	0	20875	0.5000	0.4968	
107 Styrene	104	12.128	12.127	0.001	94	16109	0.5000	0.4713	
109 o-Xylene	106	12.201	12.206	-0.005	97	10515	0.5000	0.4899	
108 1,1,2,2-Tetrachloroethane	83	12.201	12.206	-0.005	53	3562	0.5000	0.4991	
* 110 1,4-Dichlorobenzene-d4	152	13.974	13.973	0.001	95	214535	12.5	12.5	
115 Bromoform	173	11.945	11.949	-0.004	89	1472	0.5000	0.4100	
116 trans-1,4-Dichloro-2-buten	53	12.358	12.357	0.001	1	544	0.5000	0.3707	
117 1,2,3-Trichloropropane	110	12.363	12.363	0.000	83	833	0.5000	0.4288	
118 Isopropylbenzene	105	12.594	12.598	-0.004	95	26318	0.5000	0.4927	
$ 119 4-Bromofluorobenzene	95	12.656	12.655	0.001	87	12953	0.5000	0.5263	
120 Bromobenzene	156	12.902	12.901	0.001	93	5795	0.5000	0.4739	
121 N-Propylbenzene	120	13.059	13.058	0.001	99	7707	0.5000	0.4826	
122 2-Chlorotoluene	126	13.179	13.178	0.001	97	6761	0.5000	0.4892	
123 4-Chlorotoluene	91	13.253	13.252	0.001	97	20376	0.5000	0.4810	
124 1,3,5-Trimethylbenzene	105	13.336	13.335	0.001	95	24778	0.5000	0.5137	
111 Alpha Methyl Styrene	118	13.451	13.450	0.001	91	14773	0.5000	0.4364	
126 tert-Butylbenzene	119	13.634	13.633	0.001	93	20426	0.5000	0.5015	
128 1,2,4-Trimethylbenzene	105	13.734	13.733	0.001	97	25123	0.5000	0.4993	
130 sec-Butylbenzene	105	13.844	13.848	-0.004	94	30623	0.5000	0.4976	
131 Benzyl chloride	91	13.933	13.932	0.000	97	8316	0.5000	0.5110	
132 1,3-Dichlorobenzene	146	13.938	13.937	0.001	96	12428	0.5000	0.4961	
133 1,4-Dichlorobenzene	146	14.000	14.000	0.000	93	12554	0.5000	0.5064	
134 4-Isopropyltoluene	119	14.006	14.010	-0.004	96	27004	0.5000	0.5099	
135 1,2,3-Trimethylbenzene	105	14.152	14.156	-0.004	98	27645	0.5000	0.5094	
137 1,2-Dichlorobenzene	146	14.351	14.350	0.001	97	10268	0.5000	0.4804	
138 n-Butylbenzene	91	14.408	14.413	-0.005	97	24528	0.5000	0.4969	
139 1,2-Dibromo-3-Chloropropan	157	14.820	14.821	-0.001	1	0	0.5000	0	
140 1,3,5-Trichlorobenzene	180	15.664	15.663	0.001	97	8732	0.5000	0.4852	
141 1,2,4-Trichlorobenzene	180	16.255	16.249	0.006	92	4795	0.5000	0.4523	
142 Naphthalene	128	16.542	16.541	0.001	97	6328	0.5000	0.4414	
143 Hexachlorobutadiene	190	16.579	16.583	-0.004	93	1428	0.5000	0.5063	
144 1,2,3-Trichlorobenzene	180	16.778	16.777	0.001	90	3345	0.5000	0.5754	
S 145 1,3-Dichloropropene, Total	1				0			0.9129	
S 146 Trihalomethanes, Total	1				0			1.78	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

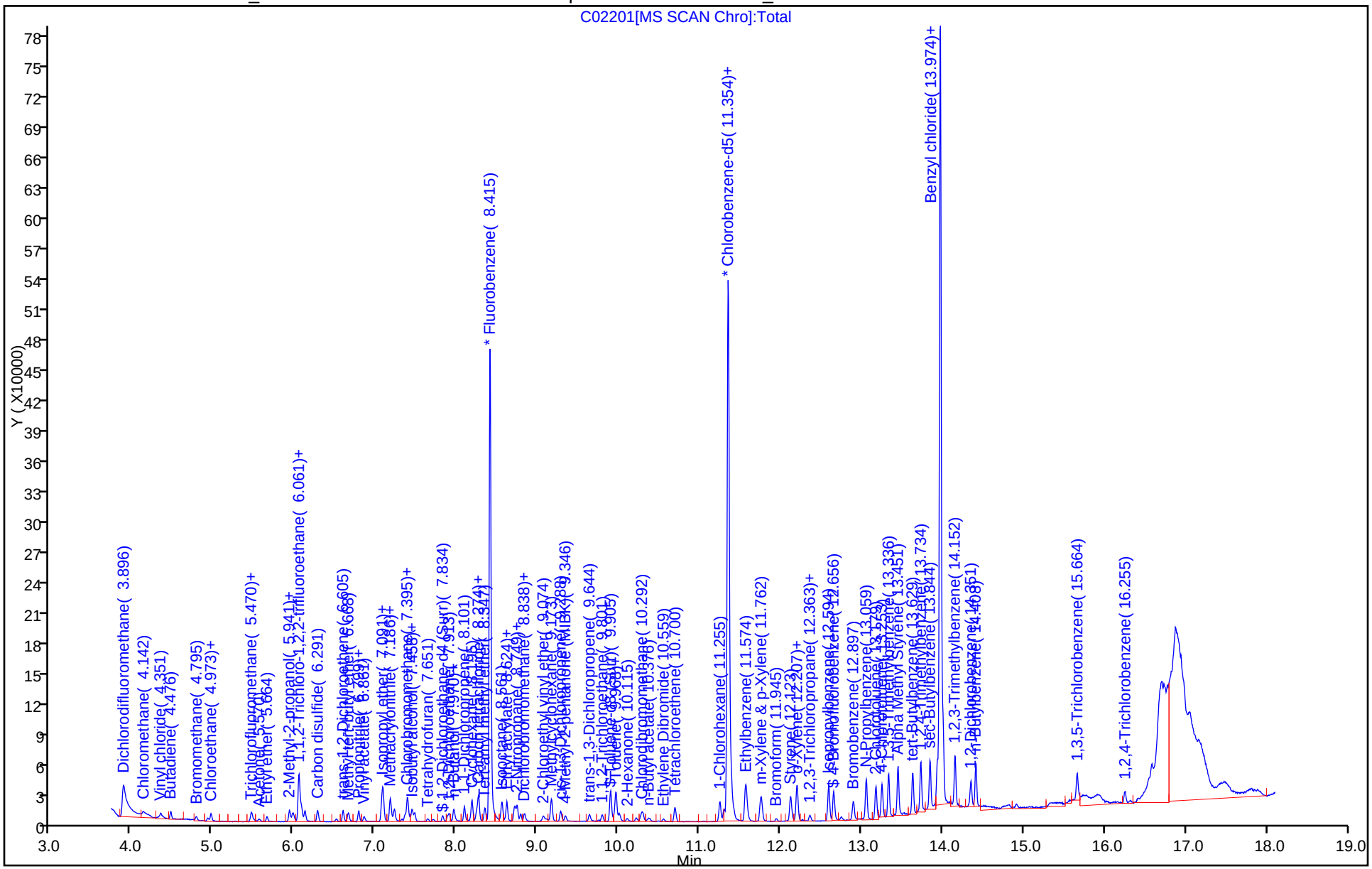
Reagents:

VOAIS50PPM_00164	Amount Added:	5.00	Units: uL
VOASTDst_00022	Amount Added:	0.20	Units: uL
VOASTDGASPT_00151	Amount Added:	0.20	Units: uL
aMeStyaene50T_00001	Amount Added:	0.20	Units: uL

Report Date: 22-Jan-2016 16:40:16 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02201.D				
Injection Date:	22-Jan-2016 11:43:30	Instrument ID:	CHVOAMS01	Operator ID:	yx
Lims ID:	ic			Worklist Smp#:	2
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02202.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 22-Jan-2016 12:09:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 600-0010400-003
Operator ID: yx Instrument ID: CHVOAMS01
Sublist: chrom-8260W20_1*sub30

Method: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jan-2016 16:40:17 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: xiey Date: 22-Jan-2016 12:55:20

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.420	8.419	0.001	100	373033	12.5	12.5	
2 Dichlorodifluoromethane	85	3.901	3.900	0.001	99	5678	1.00	0.9223	
3 Chloromethane	50	4.142	4.141	0.001	98	7960	1.00	1.00	
4 Vinyl chloride	62	4.356	4.355	0.001	97	5750	1.00	1.03	
5 Butadiene	39	4.481	4.481	0.000	89	5009	1.00	0.9613	
6 Bromomethane	94	4.795	4.795	0.000	89	3633	1.00	0.9707	
9 Chloroethane	64	4.936	4.936	0.000	98	5971	1.00	0.9531	
11 Dichlorofluoromethane	67	4.978	4.978	0.000	97	14562	1.00	0.9438	
10 Ethanol	45		5.120				ND	ND	
14 Acrolein	56	5.465	5.464	0.001	95	2513	5.00	5.31	
15 Acetonitrile	41	5.480	5.474	0.006	48	7409	10.0	11.8	
16 Trichlorofluoromethane	101	5.475	5.474	0.001	99	10509	1.00	0.8721	
17 Isopropyl alcohol	45	5.501	5.506	-0.005	96	2648	10.0	10.8	
18 Acetone	43	5.569	5.569	0.000	96	3595	2.00	2.34	
19 Ethyl ether	59	5.669	5.668	0.001	88	5346	1.00	1.08	
21 2-Methyl-2-propanol	59	5.941	5.940	0.001	46	4023	10.0	11.5	
22 1,1-Dichloroethene	96	5.946	5.945	0.001	96	8856	1.00	1.09	
23 Acrylonitrile	52	5.983	5.977	0.005	99	11605	10.0	11.1	
24 Iodomethane	142	5.998	5.997	0.001	98	10470	1.00	0.9265	
25 Methylene Chloride	84	6.061	6.060	0.001	89	23914	1.00	1.21	
26 Methyl acetate	43	6.077	6.076	0.001	97	17675	5.00	5.95	
27 1,1,2-Trichloro-1,2,2-trif	151	6.098	6.097	0.001	92	6678	1.00	1.05	
28 3-Chloro-1-propene	76	6.139	6.139	0.000	92	5276	1.00	1.07	
29 Carbon disulfide	76	6.291	6.290	0.001	99	29071	1.00	1.05	
30 trans-1,2-Dichloroethene	96	6.605	6.604	0.001	98	9727	1.00	1.07	
31 Methyl tert-butyl ether	73	6.673	6.672	0.001	93	18494	1.00	1.09	
32 Propionitrile	54	6.798	6.792	0.006	45	5695	10.0	10.9	
33 1,1-Dichloroethane	63	6.798	6.798	0.000	96	17120	1.00	1.08	
34 Vinyl acetate	43	6.866	6.860	0.006	97	20532	2.00	2.36	
36 2-Chloro-1,3-butadiene	53	7.081	7.080	0.001	89	14645	1.00	1.09	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 Hexane	57	7.091	7.096	-0.005	92	14281	1.00	1.12	
38 Isopropyl ether	45	7.102	7.101	0.001	92	28531	1.00	1.14	
39 2-Butanone (MEK)	72	7.107	7.106	0.001	90	987	2.00	2.15	
40 Methacrylonitrile	66	7.185	7.185	0.000	89	7075	10.0	11.0	
41 cis-1,2-Dichloroethene	96	7.238	7.237	0.001	78	10927	1.00	1.08	
42 Ethyl acetate	43	7.332	7.331	0.001	97	5879	2.00	2.26	
44 Chlorobromomethane	128	7.368	7.368	0.000	91	3812	1.00	1.04	
45 Chloroform	83	7.395	7.394	0.001	93	16286	1.00	1.08	
46 Tert-butyl ethyl ether	59	7.405	7.404	0.001	96	25331	1.00	1.12	
48 Isobutyl alcohol	43	7.431	7.431	0.000	91	6871	25.0	29.1	
49 2,2-Dichloropropane	77	7.457	7.457	0.000	72	15005	1.00	1.08	
$ 51 Dibromofluoromethane	113	7.489	7.488	0.001	93	8754	1.00	1.05	
S 47 1,2-Dichloroethene, Total	96				0		2.00	2.15	
53 Tetrahydrofuran	42	7.646	7.650	-0.004	84	2695	2.00	2.09	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.834	7.833	0.001	0	7378	1.00	1.05	
57 1,2-Dichloroethane	62	7.892	7.891	0.001	96	8875	1.00	1.12	
58 1,1,1-Trichloroethane	97	7.970	7.974	-0.004	98	14089	1.00	1.06	
59 n-Butanol	56	7.980	7.980	0.000	22	3163	25.0	28.5	
61 1,1-Dichloropropene	75	8.101	8.100	0.001	98	13979	1.00	1.07	
62 Cyclohexane	84	8.195	8.194	0.001	86	16016	1.00	1.06	
63 Carbon tetrachloride	119	8.252	8.257	-0.005	98	11350	1.00	1.05	
64 Benzene	78	8.279	8.278	0.001	95	41981	1.00	1.09	
66 Tert-amyl methyl ether	73	8.357	8.356	0.001	99	22465	1.00	1.09	
67 Isooctane	57	8.566	8.565	0.001	95	33798	1.00	1.09	
68 Ethyl acrylate	55	8.613	8.607	0.006	96	9216	1.00	1.16	
69 n-Heptane	43	8.624	8.628	-0.004	88	13477	1.00	1.11	
70 Dibromomethane	93	8.713	8.712	0.001	90	4147	1.00	1.09	
71 1,2-Dichloropropane	63	8.723	8.722	0.001	93	9505	1.00	1.07	
72 2-Nitropropane	43	8.734	8.733	0.001	62	3098	2.00	2.46	
73 Trichloroethene	130	8.754	8.754	0.000	98	10632	1.00	1.06	
74 Dichlorobromomethane	83	8.796	8.796	0.000	99	12027	1.00	1.06	
75 Methyl methacrylate	41	8.843	8.843	0.000	88	9696	2.00	2.19	
76 1,4-Dioxane	58	8.864	8.858	0.006	89	638	20.0	22.4	
78 Methylcyclohexane	83	9.178	9.177	0.001	86	19006	1.00	1.07	
79 4-Methyl-2-pentanone (MIBK	43	9.345	9.350	-0.005	93	9058	2.00	2.37	
* 80 Chlorobenzene-d5	82	11.354	11.353	0.001	85	201605	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.074	9.073	0.001	94	4708	2.00	2.03	
85 cis-1,3-Dichloropropene	75	9.288	9.287	0.001	97	15469	1.00	1.08	
88 trans-1,3-Dichloropropene	75	9.644	9.643	0.001	91	11662	1.00	1.05	
89 1,1,2-Trichloroethane	97	9.801	9.800	0.000	90	6502	1.00	1.09	
$ 90 Toluene-d8 (Surr)	98	9.905	9.904	0.001	92	41130	1.00	1.07	
92 Ethyl methacrylate	69	9.957	9.957	0.000	88	8248	1.00	1.12	
93 Toluene	92	9.973	9.972	0.001	99	28377	1.00	1.09	
94 1,3-Dichloropropane	76	10.015	10.014	0.001	90	11729	1.00	1.07	
95 2-Hexanone	43	10.109	10.108	0.001	92	6090	2.00	2.15	
97 Chlorodibromomethane	129	10.308	10.307	0.001	89	7343	1.00	1.03	
98 n-Butyl acetate	43	10.381	10.380	0.001	97	8532	1.00	1.37	
99 Ethylene Dibromide	107	10.559	10.558	0.001	97	6034	1.00	1.05	
101 Tetrachloroethene	164	10.700	10.699	0.001	97	8516	1.00	1.09	
S 100 Xylenes, Total	106				0		2.00	2.17	
102 1-Chlorohexane	55	11.254	11.254	0.000	93	11603	1.00	1.11	
103 1,1,1,2-Tetrachloroethane	131	11.307	11.306	0.001	89	9768	1.00	1.05	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.390	11.395	-0.005	96	33063	1.00	1.08	
105 Ethylbenzene	106	11.568	11.568	0.000	98	17891	1.00	1.07	
106 m-Xylene & p-Xylene	91	11.762	11.761	0.001	0	44646	1.00	1.09	
107 Styrene	104	12.128	12.127	0.001	95	35442	1.00	1.06	
109 o-Xylene	106	12.206	12.206	0.000	96	22864	1.00	1.09	
108 1,1,2,2-Tetrachloroethane	83	12.206	12.206	0.000	53	8105	1.00	1.16	
* 110 1,4-Dichlorobenzene-d4	152	13.974	13.973	0.001	95	213070	12.5	12.5	
115 Bromoform	173	11.950	11.949	0.001	92	3556	1.00	1.00	
116 trans-1,4-Dichloro-2-buten	53	12.363	12.357	0.006	68	1470	1.00	1.01	
117 1,2,3-Trichloropropane	110	12.363	12.363	0.000	84	2034	1.00	1.05	
118 Isopropylbenzene	105	12.593	12.598	-0.005	95	56813	1.00	1.07	
$ 119 4-Bromofluorobenzene	95	12.656	12.655	0.001	87	19455	1.00	0.9450	
120 Bromobenzene	156	12.902	12.901	0.001	93	12786	1.00	1.05	
121 N-Propylbenzene	120	13.059	13.058	0.001	99	17051	1.00	1.07	
122 2-Chlorotoluene	126	13.179	13.178	0.001	97	14745	1.00	1.07	
123 4-Chlorotoluene	91	13.252	13.252	0.000	97	45923	1.00	1.09	
124 1,3,5-Trimethylbenzene	105	13.336	13.335	0.001	95	52672	1.00	1.10	
111 Alpha Methyl Styrene	118	13.451	13.450	0.001	91	34661	1.00	1.03	
126 tert-Butylbenzene	119	13.634	13.633	0.001	93	44044	1.00	1.09	
128 1,2,4-Trimethylbenzene	105	13.734	13.733	0.001	97	54981	1.00	1.10	
130 sec-Butylbenzene	105	13.843	13.848	-0.005	94	66353	1.00	1.09	
131 Benzyl chloride	91	13.932	13.932	0.000	96	18241	1.00	1.13	
132 1,3-Dichlorobenzene	146	13.938	13.937	0.001	96	27182	1.00	1.09	
133 1,4-Dichlorobenzene	146	14.000	14.000	0.000	93	27930	1.00	1.13	
134 4-Isopropyltoluene	119	14.011	14.010	0.001	97	58259	1.00	1.11	
135 1,2,3-Trimethylbenzene	105	14.152	14.156	-0.004	98	59265	1.00	1.10	
137 1,2-Dichlorobenzene	146	14.351	14.350	0.001	97	23164	1.00	1.09	
138 n-Butylbenzene	91	14.408	14.413	-0.005	98	53907	1.00	1.10	
139 1,2-Dibromo-3-Chloropropan	157	14.821	14.821	0.000	86	1175	1.00	1.10	
140 1,3,5-Trichlorobenzene	180	15.658	15.663	-0.005	97	19497	1.00	1.09	
141 1,2,4-Trichlorobenzene	180	16.249	16.249	0.000	93	11590	1.00	1.10	
142 Naphthalene	128	16.542	16.541	0.001	97	15972	1.00	1.12	
143 Hexachlorobutadiene	190	16.584	16.583	0.001	95	3086	1.00	1.10	
144 1,2,3-Trichlorobenzene	180	16.778	16.777	0.001	94	6164	1.00	1.07	
S 145 1,3-Dichloropropene, Total	1				0			2.13	
S 146 Trihalomethanes, Total	1				0			4.18	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

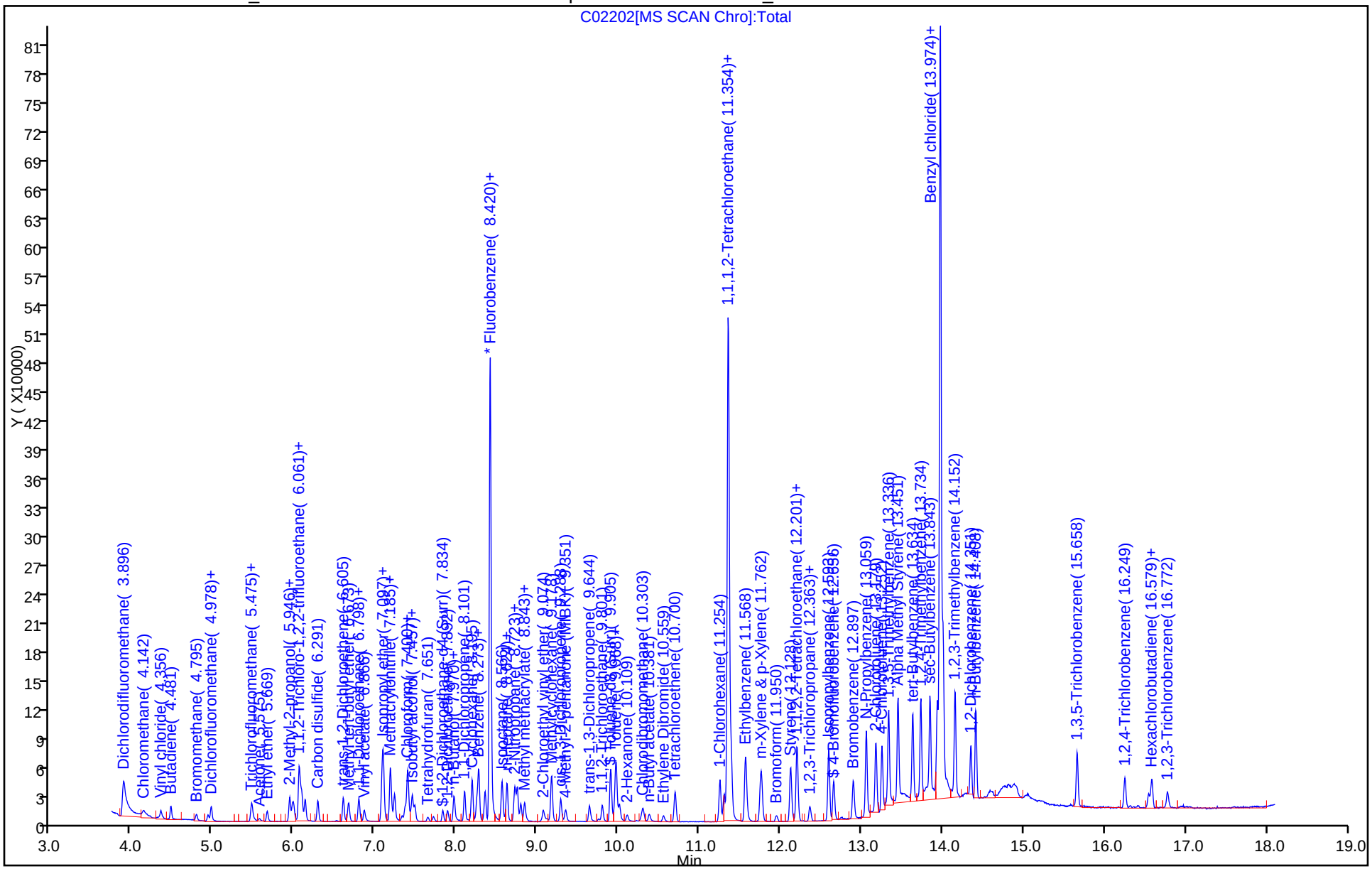
Reagents:

VOASTDGASPT_00151	Amount Added:	0.40	Units: uL
VOAIS50PPM_00164	Amount Added:	5.00	Units: uL
VOASTDst_00022	Amount Added:	0.40	Units: uL
aMeStyaene50T_00001	Amount Added:	0.40	Units: uL

Report Date: 22-Jan-2016 16:40:17 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02202.D				
Injection Date:	22-Jan-2016 12:09:30	Instrument ID:	CHVOAMS01	Operator ID:	yx
Lims ID:	ic			Worklist Smp#:	3
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02203A.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 22-Jan-2016 14:22:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 600-0010400-004
Operator ID: yx Instrument ID: CHVOAMS01
Sublist: chrom-8260W20_1*sub30

Method: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jan-2016 16:40:18 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: xiey Date: 22-Jan-2016 14:50:08

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.421	8.419	0.002	99	375820	12.5	12.5	
2 Dichlorodifluoromethane	85	3.902	3.900	0.002	61	11120	2.00	1.79	
3 Chloromethane	50	4.143	4.141	0.002	99	14848	2.00	1.85	
4 Vinyl chloride	62	4.357	4.355	0.002	80	11271	2.00	2.01	
5 Butadiene	39	4.478	4.481	-0.003	89	9840	2.00	1.87	
6 Bromomethane	94	4.797	4.795	0.002	80	8761	2.00	1.81	
9 Chloroethane	64	4.938	4.936	0.002	98	11617	2.00	1.84	
11 Dichlorofluoromethane	67	4.974	4.978	-0.004	98	28999	2.00	1.87	
10 Ethanol	45		5.120				ND	ND	
14 Acrolein	56	5.466	5.464	0.002	97	4556	10.0	9.55	
15 Acetonitrile	41	5.482	5.474	0.008	74	10328	20.0	17.9	
16 Trichlorofluoromethane	101	5.477	5.474	0.003	100	21949	2.00	1.81	
17 Isopropyl alcohol	45	5.503	5.506	-0.003	98	4115	20.0	18.2	
18 Acetone	43	5.571	5.569	0.002	96	4833	4.00	3.68	
19 Ethyl ether	59	5.665	5.668	-0.003	88	9339	2.00	1.87	
21 2-Methyl-2-propanol	59	5.942	5.940	0.002	45	6641	20.0	18.9	
22 1,1-Dichloroethene	96	5.947	5.945	0.002	96	15453	2.00	1.89	
23 Acrylonitrile	52	5.979	5.977	0.002	99	19731	20.0	18.7	
24 Iodomethane	142	5.994	5.997	-0.003	98	21407	2.00	1.88	
25 Methylene Chloride	84	6.062	6.060	0.002	89	27458	2.00	1.59	
26 Methyl acetate	43	6.078	6.076	0.002	97	28800	10.0	9.62	
27 1,1,2-Trichloro-1,2,2-trif	151	6.094	6.097	-0.003	92	12119	2.00	1.90	
28 3-Chloro-1-propene	76	6.136	6.139	-0.003	93	9597	2.00	1.94	
29 Carbon disulfide	76	6.292	6.290	0.002	99	50436	2.00	1.81	
30 trans-1,2-Dichloroethene	96	6.606	6.604	0.002	99	17423	2.00	1.90	
31 Methyl tert-butyl ether	73	6.674	6.672	0.002	93	31780	2.00	1.86	
32 Propionitrile	54	6.795	6.792	0.003	99	9814	20.0	18.6	
33 1,1-Dichloroethane	63	6.800	6.798	0.002	96	30541	2.00	1.92	
34 Vinyl acetate	43	6.863	6.860	0.003	97	33129	4.00	3.78	
36 2-Chloro-1,3-butadiene	53	7.082	7.080	0.002	89	25893	2.00	1.92	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 Hexane	57	7.093	7.096	-0.003	89	25133	2.00	1.96	
38 Isopropyl ether	45	7.103	7.101	0.002	93	49258	2.00	1.96	
39 2-Butanone (MEK)	72	7.114	7.106	0.008	91	1708	4.00	3.69	
40 Methacrylonitrile	66	7.187	7.185	0.002	89	12626	20.0	19.5	
41 cis-1,2-Dichloroethene	96	7.239	7.237	0.002	78	19604	2.00	1.92	
42 Ethyl acetate	43	7.333	7.331	0.002	98	9809	4.00	3.73	
44 Chlorobromomethane	128	7.370	7.368	0.002	89	7003	2.00	1.89	
45 Chloroform	83	7.396	7.394	0.002	92	29378	2.00	1.94	
46 Tert-butyl ethyl ether	59	7.406	7.404	0.002	95	43887	2.00	1.92	
48 Isobutyl alcohol	43	7.433	7.431	0.002	94	13029	50.0	54.8	
49 2,2-Dichloropropane	77	7.459	7.457	0.002	78	27056	2.00	1.94	
$ 51 Dibromofluoromethane	113	7.490	7.488	0.002	93	15823	2.00	1.88	
S 47 1,2-Dichloroethene, Total	96				0		4.00	3.83	
53 Tetrahydrofuran	42	7.647	7.650	-0.003	87	4757	4.00	4.05	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.835	7.833	0.002	0	13056	2.00	1.85	
57 1,2-Dichloroethane	62	7.893	7.891	0.002	97	14687	2.00	1.84	
58 1,1,1-Trichloroethane	97	7.971	7.974	-0.003	98	25569	2.00	1.91	
59 n-Butanol	56	7.982	7.980	0.002	84	5772	50.0	51.7	
61 1,1-Dichloropropene	75	8.102	8.100	0.002	98	24981	2.00	1.89	
62 Cyclohexane	84	8.196	8.194	0.002	86	28741	2.00	1.89	
63 Carbon tetrachloride	119	8.254	8.257	-0.003	98	20271	2.00	1.87	
64 Benzene	78	8.280	8.278	0.002	94	74490	2.00	1.91	
66 Tert-amyl methyl ether	73	8.358	8.356	0.002	98	39442	2.00	1.90	
67 Isooctane	57	8.568	8.565	0.003	95	60232	2.00	1.93	
68 Ethyl acrylate	55	8.615	8.607	0.008	94	15433	2.00	1.92	
69 n-Heptane	43	8.625	8.628	-0.003	89	23724	2.00	1.95	
70 Dibromomethane	93	8.714	8.712	0.002	90	7346	2.00	1.91	
71 1,2-Dichloropropane	63	8.724	8.722	0.002	96	17240	2.00	1.93	
72 2-Nitropropane	43	8.735	8.733	0.002	91	5079	4.00	4.01	
73 Trichloroethene	130	8.756	8.754	0.002	98	19439	2.00	1.92	
74 Dichlorobromomethane	83	8.798	8.796	0.002	99	21229	2.00	1.86	
75 Methyl methacrylate	41	8.845	8.843	0.002	87	16515	4.00	3.70	
76 1,4-Dioxane	58	8.860	8.858	0.002	51	1036	40.0	36.1	
78 Methylcyclohexane	83	9.174	9.177	-0.003	85	33929	2.00	1.90	
79 4-Methyl-2-pentanone (MIBK	43	9.347	9.350	-0.003	94	14410	4.00	3.74	
* 80 Chlorobenzene-d5	82	11.355	11.353	0.002	85	200733	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.075	9.073	0.002	93	9176	4.00	3.51	
85 cis-1,3-Dichloropropene	75	9.289	9.287	0.002	97	27380	2.00	1.92	
88 trans-1,3-Dichloropropene	75	9.645	9.643	0.002	91	20976	2.00	1.90	
89 1,1,2-Trichloroethane	97	9.802	9.800	0.002	90	11359	2.00	1.91	
$ 90 Toluene-d8 (Surr)	98	9.906	9.904	0.002	92	72969	2.00	1.90	
92 Ethyl methacrylate	69	9.954	9.957	-0.003	87	13980	2.00	1.90	
93 Toluene	92	9.974	9.972	0.002	100	51481	2.00	1.99	
94 1,3-Dichloropropane	76	10.016	10.014	0.002	88	21213	2.00	1.94	
95 2-Hexanone	43	10.110	10.108	0.002	94	10468	4.00	3.71	
97 Chlorodibromomethane	129	10.304	10.307	-0.003	89	12972	2.00	1.83	
98 n-Butyl acetate	43	10.382	10.380	0.002	97	12225	2.00	1.86	
99 Ethylene Dibromide	107	10.560	10.558	0.002	97	10859	2.00	1.90	
101 Tetrachloroethene	164	10.701	10.699	0.002	97	15093	2.00	1.93	
S 100 Xylenes, Total	106				0		4.00	3.91	
102 1-Chlorohexane	55	11.256	11.254	0.002	93	20235	2.00	1.94	
103 1,1,1,2-Tetrachloroethane	131	11.308	11.306	0.002	92	17705	2.00	1.92	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.392	11.395	-0.003	97	59179	2.00	1.94	
105 Ethylbenzene	106	11.570	11.568	0.002	97	32530	2.00	1.96	
106 m-Xylene & p-Xylene	91	11.763	11.761	0.002	0	80204	2.00	1.96	
107 Styrene	104	12.124	12.127	-0.003	94	64721	2.00	1.94	
109 o-Xylene	106	12.203	12.206	-0.004	97	40936	2.00	1.96	
108 1,1,2,2-Tetrachloroethane	83	12.203	12.206	-0.004	89	13536	2.00	1.95	
* 110 1,4-Dichlorobenzene-d4	152	13.970	13.973	-0.003	95	216198	12.5	12.5	
115 Bromoform	173	11.951	11.949	0.002	76	6186	2.00	1.71	
116 trans-1,4-Dichloro-2-buten	53	12.365	12.357	0.008	69	2638	2.00	1.78	
117 1,2,3-Trichloropropane	110	12.365	12.363	0.002	84	3633	2.00	1.86	
118 Isopropylbenzene	105	12.595	12.598	-0.003	95	103025	2.00	1.91	
$ 119 4-Bromofluorobenzene	95	12.658	12.655	0.003	87	32475	2.00	1.74	
120 Bromobenzene	156	12.898	12.901	-0.003	93	23449	2.00	1.90	
121 N-Propylbenzene	120	13.060	13.058	0.002	99	30813	2.00	1.91	
122 2-Chlorotoluene	126	13.181	13.178	0.003	97	26886	2.00	1.93	
123 4-Chlorotoluene	91	13.254	13.252	0.002	97	82581	2.00	1.93	
124 1,3,5-Trimethylbenzene	105	13.337	13.335	0.002	95	94018	2.00	1.93	
111 Alpha Methyl Styrene	118	13.453	13.450	0.003	91	79875	2.00	2.34	
126 tert-Butylbenzene	119	13.636	13.633	0.003	93	79448	2.00	1.94	
128 1,2,4-Trimethylbenzene	105	13.735	13.733	0.002	97	99709	2.00	1.97	
130 sec-Butylbenzene	105	13.845	13.848	-0.003	94	122505	2.00	1.98	
131 Benzyl chloride	91	13.934	13.932	0.002	98	32133	2.00	1.96	
132 1,3-Dichlorobenzene	146	13.939	13.937	0.002	97	48996	2.00	1.94	
133 1,4-Dichlorobenzene	146	14.002	14.000	0.002	94	50550	2.00	2.02	
134 4-Isopropyltoluene	119	14.007	14.010	-0.003	97	108198	2.00	2.03	
135 1,2,3-Trimethylbenzene	105	14.153	14.156	-0.003	98	107149	2.00	1.96	
137 1,2-Dichlorobenzene	146	14.352	14.350	0.002	98	42010	2.00	1.95	
138 n-Butylbenzene	91	14.410	14.413	-0.003	97	97754	2.00	1.97	
139 1,2-Dibromo-3-Chloropropan	157	14.823	14.821	0.002	86	2023	2.00	1.87	
140 1,3,5-Trichlorobenzene	180	15.660	15.663	-0.003	97	35881	2.00	1.98	
141 1,2,4-Trichlorobenzene	180	16.251	16.249	0.002	94	21565	2.00	2.02	
142 Naphthalene	128	16.544	16.541	0.003	97	31608	2.00	2.19	
143 Hexachlorobutadiene	190	16.580	16.583	-0.003	96	5729	2.00	2.02	
144 1,2,3-Trichlorobenzene	180	16.779	16.777	0.002	95	12539	2.00	2.14	
S 145 1,3-Dichloropropene, Total	1				0			3.81	
S 146 Trihalomethanes, Total	1				0			7.34	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

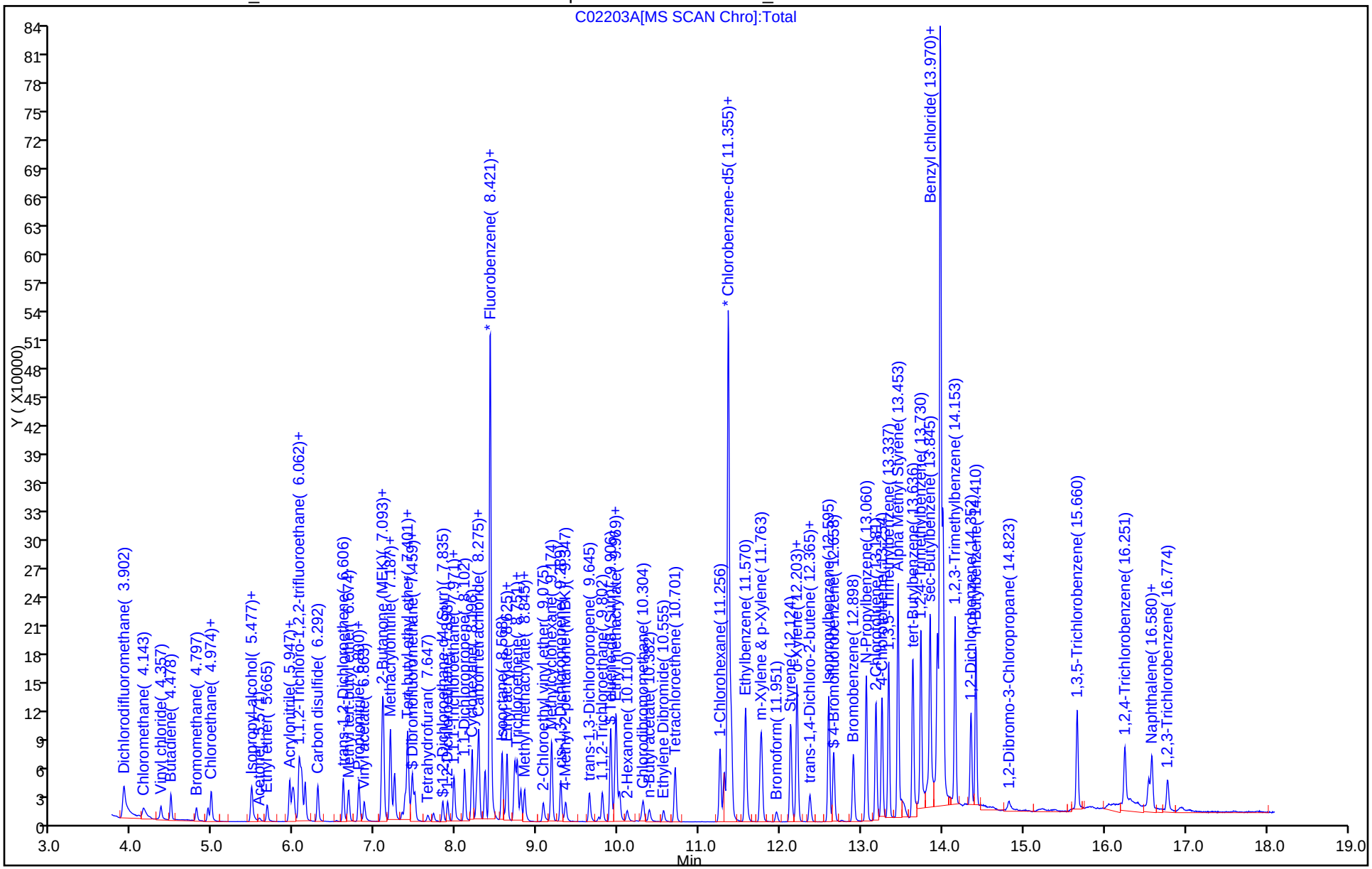
Reagents:

VOASTDst_00022	Amount Added:	0.80	Units: uL
VOAIS50PPM_00164	Amount Added:	5.00	Units: uL
VOASTDGASPT_00151	Amount Added:	0.80	Units: uL
aMeStyaene50T_00001	Amount Added:	0.80	Units: uL

Report Date: 22-Jan-2016 16:40:19 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02203A.D				
Injection Date:	22-Jan-2016 14:22:30	Instrument ID:	CHVOAMS01	Operator ID:	yx
Lims ID:	ic			Worklist Smp#:	4
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02204A.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 22-Jan-2016 14:48:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 600-0010400-005
Operator ID: yx Instrument ID: CHVOAMS01
Sublist: chrom-8260W20_1*sub30

Method: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jan-2016 16:40:20 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: xiey Date: 22-Jan-2016 15:46:37

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.419	8.419	0.000	99	376737	12.5	12.5	
2 Dichlorodifluoromethane	85	3.900	3.900	0.000	100	32274	5.00	5.19	
3 Chloromethane	50	4.141	4.141	0.000	100	40830	5.00	5.07	
4 Vinyl chloride	62	4.355	4.355	0.000	99	31390	5.00	5.58	
5 Butadiene	39	4.481	4.481	0.000	90	28119	5.00	5.34	
6 Bromomethane	94	4.795	4.795	0.000	90	24578	5.00	4.41	
9 Chloroethane	64	4.936	4.936	0.000	98	33073	5.00	5.23	
11 Dichlorofluoromethane	67	4.978	4.978	0.000	97	81357	5.00	5.22	
10 Ethanol	45		5.120				ND	ND	
14 Acrolein	56	5.464	5.464	0.000	99	12171	25.0	25.4	
15 Acetonitrile	41	5.474	5.474	0.000	38	25507	50.0	50.2	
16 Trichlorofluoromethane	101	5.474	5.474	0.000	99	64410	5.00	5.29	
17 Isopropyl alcohol	45	5.506	5.506	0.000	99	10612	50.0	51.2	
18 Acetone	43	5.569	5.569	0.000	98	9840	10.0	9.17	
19 Ethyl ether	59	5.668	5.668	0.000	88	25684	5.00	5.13	
21 2-Methyl-2-propanol	59	5.940	5.940	0.000	100	18190	50.0	51.7	
22 1,1-Dichloroethene	96	5.945	5.945	0.000	97	42765	5.00	5.21	
23 Acrylonitrile	52	5.977	5.977	0.000	99	54460	50.0	51.6	
24 Iodomethane	142	5.997	5.997	0.000	98	62497	5.00	5.48	
25 Methylene Chloride	84	6.060	6.060	0.000	90	57234	5.00	4.99	
26 Methyl acetate	43	6.076	6.076	0.000	97	74461	25.0	24.8	
27 1,1,2-Trichloro-1,2,2-trif	151	6.097	6.097	0.000	92	33413	5.00	5.22	
28 3-Chloro-1-propene	76	6.139	6.139	0.000	93	27138	5.00	5.46	
29 Carbon disulfide	76	6.290	6.290	0.000	98	140175	5.00	5.03	
30 trans-1,2-Dichloroethene	96	6.604	6.604	0.000	98	47548	5.00	5.18	
31 Methyl tert-butyl ether	73	6.672	6.672	0.000	93	87891	5.00	5.14	
32 Propionitrile	54	6.792	6.792	0.000	99	27590	50.0	52.1	
33 1,1-Dichloroethane	63	6.798	6.798	0.000	96	82860	5.00	5.19	
34 Vinyl acetate	43	6.860	6.860	0.000	97	89178	10.0	10.2	
36 2-Chloro-1,3-butadiene	53	7.080	7.080	0.000	89	71370	5.00	5.27	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 Hexane	57	7.096	7.096	0.000	93	68835	5.00	5.36	
38 Isopropyl ether	45	7.101	7.101	0.000	92	133904	5.00	5.32	
39 2-Butanone (MEK)	72	7.106	7.106	0.000	92	5141	10.0	11.1	
40 Methacrylonitrile	66	7.185	7.185	0.000	89	34802	50.0	53.7	
41 cis-1,2-Dichloroethene	96	7.237	7.237	0.000	78	52989	5.00	5.19	
42 Ethyl acetate	43	7.331	7.331	0.000	98	25794	10.0	9.80	
44 Chlorobromomethane	128	7.368	7.368	0.000	90	19690	5.00	5.31	
45 Chloroform	83	7.394	7.394	0.000	92	79882	5.00	5.25	
46 Tert-butyl ethyl ether	59	7.404	7.404	0.000	95	120665	5.00	5.26	
48 Isobutyl alcohol	43	7.431	7.431	0.000	94	31866	125.0	133.8	
49 2,2-Dichloropropane	77	7.457	7.457	0.000	85	73751	5.00	5.26	
$ 51 Dibromofluoromethane	113	7.488	7.488	0.000	93	43483	5.00	5.15	
S 47 1,2-Dichloroethene, Total	96				0		10.0	10.4	
53 Tetrahydrofuran	42	7.650	7.650	0.000	86	11046	10.0	10.1	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.833	7.833	0.000	0	35487	5.00	5.01	
57 1,2-Dichloroethane	62	7.891	7.891	0.000	97	41126	5.00	5.13	
58 1,1,1-Trichloroethane	97	7.974	7.974	0.000	98	69977	5.00	5.21	
59 n-Butanol	56	7.980	7.980	0.000	90	14497	125.0	129.5	
61 1,1-Dichloropropene	75	8.100	8.100	0.000	99	69188	5.00	5.23	
62 Cyclohexane	84	8.194	8.194	0.000	87	79379	5.00	5.20	
63 Carbon tetrachloride	119	8.257	8.257	0.000	98	56866	5.00	5.23	
64 Benzene	78	8.278	8.278	0.000	94	201550	5.00	5.17	
66 Tert-amyl methyl ether	73	8.356	8.356	0.000	99	106802	5.00	5.13	
67 Isooctane	57	8.565	8.565	0.000	95	164066	5.00	5.25	
68 Ethyl acrylate	55	8.607	8.607	0.000	94	41671	5.00	5.18	
69 n-Heptane	43	8.628	8.628	0.000	89	65118	5.00	5.33	
70 Dibromomethane	93	8.712	8.712	0.000	89	19949	5.00	5.17	
71 1,2-Dichloropropane	63	8.722	8.722	0.000	96	47726	5.00	5.34	
72 2-Nitropropane	43	8.733	8.733	0.000	93	13493	10.0	10.6	
73 Trichloroethene	130	8.754	8.754	0.000	96	53120	5.00	5.24	
74 Dichlorobromomethane	83	8.796	8.796	0.000	99	59074	5.00	5.17	
75 Methyl methacrylate	41	8.843	8.843	0.000	88	43027	10.0	9.61	
76 1,4-Dioxane	58	8.858	8.858	0.000	89	2798	100.0	97.2	
78 Methylcyclohexane	83	9.177	9.177	0.000	85	92990	5.00	5.20	
79 4-Methyl-2-pentanone (MIBK	43	9.350	9.350	0.000	94	38706	10.0	10.0	
* 80 Chlorobenzene-d5	82	11.353	11.353	0.000	91	198125	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.073	9.073	0.000	92	28616	10.0	10.1	
85 cis-1,3-Dichloropropene	75	9.287	9.287	0.000	97	75691	5.00	5.37	
88 trans-1,3-Dichloropropene	75	9.643	9.643	0.000	91	58998	5.00	5.40	
89 1,1,2-Trichloroethane	97	9.800	9.800	0.000	90	31225	5.00	5.33	
$ 90 Toluene-d8 (Surr)	98	9.904	9.904	0.000	92	196195	5.00	5.19	
92 Ethyl methacrylate	69	9.957	9.957	0.000	87	38996	5.00	5.37	
93 Toluene	92	9.972	9.972	0.000	99	138656	5.00	5.43	
94 1,3-Dichloropropane	76	10.014	10.014	0.000	89	58176	5.00	5.40	
95 2-Hexanone	43	10.108	10.108	0.000	94	28780	10.0	10.3	
97 Chlorodibromomethane	129	10.307	10.307	0.000	90	37215	5.00	5.33	
98 n-Butyl acetate	43	10.380	10.380	0.000	98	32717	5.00	4.70	
99 Ethylene Dibromide	107	10.558	10.558	0.000	99	29936	5.00	5.31	
101 Tetrachloroethene	164	10.699	10.699	0.000	98	41543	5.00	5.39	
S 100 Xylenes, Total	106				0		10.0	10.7	
102 1-Chlorohexane	55	11.254	11.254	0.000	93	54129	5.00	5.27	
103 1,1,1,2-Tetrachloroethane	131	11.306	11.306	0.000	94	48304	5.00	5.31	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.395	11.395	0.000	96	159684	5.00	5.31	
105 Ethylbenzene	106	11.568	11.568	0.000	98	87675	5.00	5.35	
106 m-Xylene & p-Xylene	91	11.761	11.761	0.000	0	215512	5.00	5.33	
107 Styrene	104	12.127	12.127	0.000	94	176754	5.00	5.38	
109 o-Xylene	106	12.206	12.206	0.000	96	111078	5.00	5.38	
108 1,1,2,2-Tetrachloroethane	83	12.206	12.206	0.000	53	36286	5.00	5.28	
* 110 1,4-Dichlorobenzene-d4	152	13.973	13.973	0.000	94	213208	12.5	12.5	
115 Bromoform	173	11.949	11.949	0.000	95	18076	5.00	5.07	
116 trans-1,4-Dichloro-2-buten	53	12.357	12.357	0.000	86	7710	5.00	5.29	
117 1,2,3-Trichloropropane	110	12.363	12.363	0.000	84	10084	5.00	5.22	
118 Isopropylbenzene	105	12.598	12.598	0.000	95	277412	5.00	5.23	
$ 119 4-Bromofluorobenzene	95	12.655	12.655	0.000	87	87013	5.00	5.23	
120 Bromobenzene	156	12.901	12.901	0.000	93	63615	5.00	5.23	
121 N-Propylbenzene	120	13.058	13.058	0.000	99	83472	5.00	5.26	
122 2-Chlorotoluene	126	13.178	13.178	0.000	97	71790	5.00	5.23	
123 4-Chlorotoluene	91	13.252	13.252	0.000	97	221979	5.00	5.27	
124 1,3,5-Trimethylbenzene	105	13.335	13.335	0.000	95	251874	5.00	5.25	
111 Alpha Methyl Styrene	118	13.450	13.450	0.000	91	170341	5.00	5.06	
126 tert-Butylbenzene	119	13.633	13.633	0.000	93	211764	5.00	5.23	
128 1,2,4-Trimethylbenzene	105	13.733	13.733	0.000	97	266115	5.00	5.32	
130 sec-Butylbenzene	105	13.848	13.848	0.000	94	323790	5.00	5.29	
131 Benzyl chloride	91	13.932	13.932	0.000	99	85223	5.00	5.27	
132 1,3-Dichlorobenzene	146	13.937	13.937	0.000	97	133066	5.00	5.35	
133 1,4-Dichlorobenzene	146	14.000	14.000	0.000	95	133452	5.00	5.42	
134 4-Isopropyltoluene	119	14.010	14.010	0.000	97	283670	5.00	5.39	
135 1,2,3-Trimethylbenzene	105	14.156	14.156	0.000	98	283690	5.00	5.26	
137 1,2-Dichlorobenzene	146	14.350	14.350	0.000	97	112770	5.00	5.31	
138 n-Butylbenzene	91	14.413	14.413	0.000	97	263155	5.00	5.36	
139 1,2-Dibromo-3-Chloropropan	157	14.821	14.821	0.000	87	5316	5.00	4.98	
140 1,3,5-Trichlorobenzene	180	15.663	15.663	0.000	97	94970	5.00	5.31	
141 1,2,4-Trichlorobenzene	180	16.249	16.249	0.000	94	56119	5.00	5.33	
142 Naphthalene	128	16.541	16.541	0.000	97	75192	5.00	5.28	
143 Hexachlorobutadiene	190	16.583	16.583	0.000	96	14816	5.00	5.29	
144 1,2,3-Trichlorobenzene	180	16.777	16.777	0.000	95	29405	5.00	5.09	
S 145 1,3-Dichloropropene, Total	1				0			10.8	
S 146 Trihalomethanes, Total	1				0			20.8	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

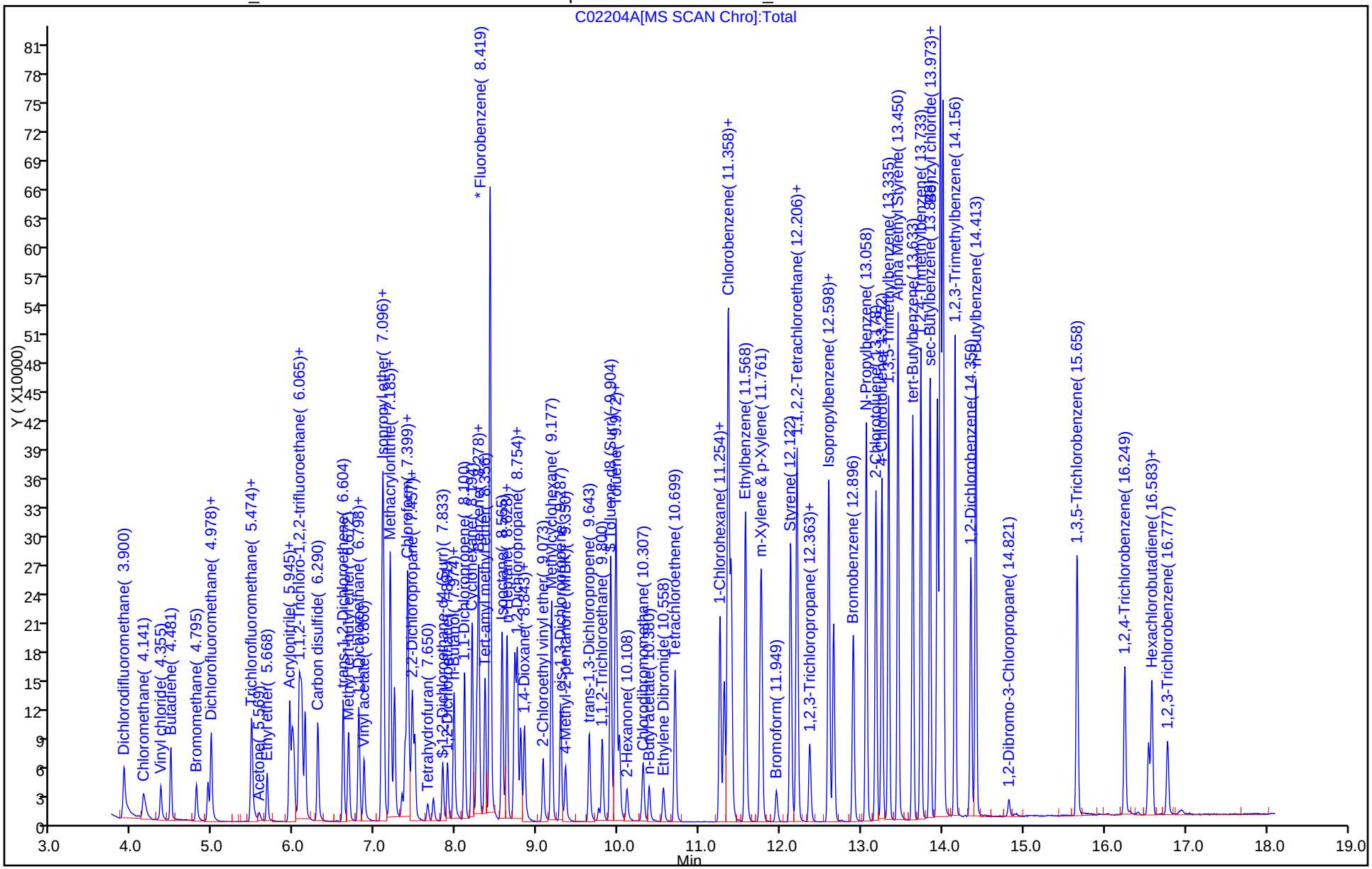
Reagents:

VOASTDst_00022	Amount Added:	2.00	Units: uL
VOAIS50PPM_00164	Amount Added:	5.00	Units: uL
VOASTDGASPT_00151	Amount Added:	2.00	Units: uL
aMeStyaene50T_00001	Amount Added:	2.00	Units: uL

Report Date: 22-Jan-2016 16:40:20 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02204A.D				
Injection Date:	22-Jan-2016 14:48:30	Instrument ID:	CHVOAMS01	Operator ID:	yx
Lims ID:	ic			Worklist Smp#:	5
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02205A.D
Lims ID: icis
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 22-Jan-2016 15:14:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: icis
Misc. Info.: 600-0010400-006
Operator ID: yx Instrument ID: CHVOAMS01
Sublist: chrom-8260W20_1*sub30

Method: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jan-2016 16:40:21 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: xiey Date: 22-Jan-2016 16:07:26

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.417	8.417	0.000	100	373979	12.5	12.5	
2 Dichlorodifluoromethane	85	3.903	3.903	0.000	100	64588	10.0	10.5	
3 Chloromethane	50	4.144	4.144	0.000	99	79187	10.0	9.91	
4 Vinyl chloride	62	4.353	4.353	0.000	99	55925	10.0	10.0	
5 Butadiene	39	4.479	4.479	0.000	89	56396	10.0	10.8	
6 Bromomethane	94	4.792	4.792	0.000	90	51251	10.0	8.86	
9 Chloroethane	64	4.934	4.934	0.000	99	65432	10.0	10.4	
11 Dichlorofluoromethane	67	4.976	4.976	0.000	97	164576	10.0	10.6	
10 Ethanol	45		5.120				ND	ND	
14 Acrolein	56	5.462	5.462	0.000	99	23127	50.0	48.7	
15 Acetonitrile	41	5.472	5.472	0.000	98	48311	100.0	99.6	
16 Trichlorofluoromethane	101	5.478	5.478	0.000	99	129286	10.0	10.7	
17 Isopropyl alcohol	45	5.504	5.504	0.000	98	19384	100.0	96.7	
18 Acetone	43	5.572	5.572	0.000	99	17652	20.0	17.9	
19 Ethyl ether	59	5.666	5.666	0.000	89	49911	10.0	10.1	
21 2-Methyl-2-propanol	59	5.938	5.938	0.000	100	34339	100.0	98.2	
22 1,1-Dichloroethene	96	5.943	5.943	0.000	96	82186	10.0	10.1	
23 Acrylonitrile	52	5.975	5.975	0.000	100	107163	100.0	102.3	
24 Iodomethane	142	5.995	5.995	0.000	98	124284	10.0	11.0	
25 Methylene Chloride	84	6.063	6.063	0.000	89	99943	10.0	9.97	
26 Methyl acetate	43	6.074	6.074	0.000	97	141221	50.0	47.4	
27 1,1,2-Trichloro-1,2,2-trif	151	6.095	6.095	0.000	92	65036	10.0	10.2	
28 3-Chloro-1-propene	76	6.137	6.137	0.000	93	52570	10.0	10.7	
29 Carbon disulfide	76	6.294	6.294	0.000	98	275007	10.0	9.93	
30 trans-1,2-Dichloroethene	96	6.607	6.607	0.000	98	91765	10.0	10.1	
31 Methyl tert-butyl ether	73	6.670	6.670	0.000	93	171397	10.0	10.1	
32 Propionitrile	54	6.790	6.790	0.000	99	53716	100.0	102.2	
33 1,1-Dichloroethane	63	6.801	6.801	0.000	96	160282	10.0	10.1	
34 Vinyl acetate	43	6.858	6.858	0.000	97	171821	20.0	19.7	
36 2-Chloro-1,3-butadiene	53	7.078	7.078	0.000	89	136570	10.0	10.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 Hexane	57	7.094	7.094	0.000	93	130396	10.0	10.2	
38 Isopropyl ether	45	7.099	7.099	0.000	91	247766	10.0	9.91	
39 2-Butanone (MEK)	72	7.104	7.104	0.000	91	9866	20.0	21.4	
40 Methacrylonitrile	66	7.183	7.183	0.000	89	67286	100.0	104.5	
41 cis-1,2-Dichloroethene	96	7.240	7.240	0.000	78	102021	10.0	10.1	
42 Ethyl acetate	43	7.329	7.329	0.000	98	52522	20.0	20.1	
44 Chlorobromomethane	128	7.366	7.366	0.000	94	37990	10.0	10.3	
45 Chloroform	83	7.397	7.397	0.000	92	152009	10.0	10.1	
46 Tert-butyl ethyl ether	59	7.402	7.402	0.000	95	230148	10.0	10.1	
48 Isobutyl alcohol	43	7.428	7.428	0.000	93	59509	250.0	251.7	
49 2,2-Dichloropropane	77	7.460	7.460	0.000	85	140701	10.0	10.1	
$ 51 Dibromofluoromethane	113	7.486	7.486	0.000	93	83708	10.0	9.98	
S 47 1,2-Dichloroethene, Total	96				0		20.0	20.1	
53 Tetrahydrofuran	42	7.648	7.648	0.000	87	20918	20.0	19.7	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.831	7.831	0.000	0	69289	10.0	9.85	
57 1,2-Dichloroethane	62	7.894	7.894	0.000	97	79257	10.0	9.95	
58 1,1,1-Trichloroethane	97	7.972	7.972	0.000	98	135231	10.0	10.1	
59 n-Butanol	56	7.978	7.978	0.000	89	26840	250.0	241.5	
61 1,1-Dichloropropene	75	8.103	8.103	0.000	99	132512	10.0	10.1	
62 Cyclohexane	84	8.197	8.197	0.000	86	152372	10.0	10.1	
63 Carbon tetrachloride	119	8.255	8.255	0.000	98	110254	10.0	10.2	
64 Benzene	78	8.276	8.276	0.000	94	385502	10.0	9.96	
66 Tert-amyl methyl ether	73	8.354	8.354	0.000	99	207967	10.0	10.1	
67 Isooctane	57	8.563	8.563	0.000	95	313842	10.0	10.1	
68 Ethyl acrylate	55	8.605	8.605	0.000	94	80061	10.0	10.0	
69 n-Heptane	43	8.626	8.626	0.000	88	123344	10.0	10.2	
70 Dibromomethane	93	8.710	8.710	0.000	91	39011	10.0	10.2	
71 1,2-Dichloropropane	63	8.726	8.726	0.000	97	90706	10.0	10.2	
72 2-Nitropropane	43	8.736	8.736	0.000	90	24420	20.0	19.4	
73 Trichloroethene	130	8.752	8.752	0.000	96	102706	10.0	10.2	
74 Dichlorobromomethane	83	8.794	8.794	0.000	99	115737	10.0	10.2	
75 Methyl methacrylate	41	8.841	8.841	0.000	87	85019	20.0	19.1	
76 1,4-Dioxane	58	8.856	8.856	0.000	90	5700	200.0	199.4	
78 Methylcyclohexane	83	9.175	9.175	0.000	85	179559	10.0	10.1	
79 4-Methyl-2-pentanone (MIBK	43	9.348	9.348	0.000	94	72779	20.0	19.0	
* 80 Chlorobenzene-d5	82	11.356	11.356	0.000	85	199887	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.071	9.071	0.000	92	59129	20.0	20.1	
85 cis-1,3-Dichloropropene	75	9.285	9.285	0.000	97	147783	10.0	10.4	
88 trans-1,3-Dichloropropene	75	9.641	9.641	0.000	91	114804	10.0	10.4	
89 1,1,2-Trichloroethane	97	9.803	9.803	0.000	90	60467	10.0	10.2	
$ 90 Toluene-d8 (Surr)	98	9.902	9.902	0.000	92	378089	10.0	9.91	
92 Ethyl methacrylate	69	9.955	9.955	0.000	87	74855	10.0	10.2	
93 Toluene	92	9.970	9.970	0.000	99	264868	10.0	10.3	
94 1,3-Dichloropropane	76	10.012	10.012	0.000	88	112204	10.0	10.3	
95 2-Hexanone	43	10.106	10.106	0.000	94	53468	20.0	19.0	
97 Chlorodibromomethane	129	10.305	10.305	0.000	90	73671	10.0	10.5	
98 n-Butyl acetate	43	10.378	10.378	0.000	98	62218	10.0	9.23	
99 Ethylene Dibromide	107	10.556	10.556	0.000	98	58899	10.0	10.3	
101 Tetrachloroethene	164	10.697	10.697	0.000	98	80542	10.0	10.4	
S 100 Xylenes, Total	106				0		20.0	20.2	
102 1-Chlorohexane	55	11.252	11.252	0.000	92	102794	10.0	9.92	
103 1,1,1,2-Tetrachloroethane	131	11.304	11.304	0.000	94	93973	10.0	10.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.393	11.393	0.000	96	309907	10.0	10.2	
105 Ethylbenzene	106	11.571	11.571	0.000	97	169002	10.0	10.2	
106 m-Xylene & p-Xylene	91	11.759	11.759	0.000	0	410051	10.0	10.1	
107 Styrene	104	12.125	12.125	0.000	94	344232	10.0	10.4	
109 o-Xylene	106	12.204	12.204	0.000	97	212425	10.0	10.2	
108 1,1,2,2-Tetrachloroethane	83	12.204	12.204	0.000	94	69873	10.0	10.1	
* 110 1,4-Dichlorobenzene-d4	152	13.971	13.971	0.000	94	213638	12.5	12.5	
115 Bromoform	173	11.947	11.947	0.000	96	36725	10.0	10.3	
116 trans-1,4-Dichloro-2-buten	53	12.355	12.355	0.000	93	15577	10.0	10.7	
117 1,2,3-Trichloropropane	110	12.366	12.366	0.000	84	19606	10.0	10.1	
118 Isopropylbenzene	105	12.596	12.596	0.000	95	532724	10.0	10.0	
$ 119 4-Bromofluorobenzene	95	12.653	12.653	0.000	87	166736	10.0	10.3	
120 Bromobenzene	156	12.899	12.899	0.000	93	123282	10.0	10.1	
121 N-Propylbenzene	120	13.061	13.061	0.000	99	161228	10.0	10.1	
122 2-Chlorotoluene	126	13.176	13.176	0.000	97	138370	10.0	10.1	
123 4-Chlorotoluene	91	13.250	13.250	0.000	97	428061	10.0	10.1	
124 1,3,5-Trimethylbenzene	105	13.333	13.333	0.000	96	475409	10.0	9.90	
111 Alpha Methyl Styrene	118	13.448	13.448	0.000	91	346454	10.0	10.3	
126 tert-Butylbenzene	119	13.631	13.631	0.000	93	406139	10.0	10.0	
128 1,2,4-Trimethylbenzene	105	13.731	13.731	0.000	97	501546	10.0	10.0	
130 sec-Butylbenzene	105	13.846	13.846	0.000	94	615110	10.0	10.0	
131 Benzyl chloride	91	13.935	13.935	0.000	98	163930	10.0	10.1	
132 1,3-Dichlorobenzene	146	13.940	13.940	0.000	97	252480	10.0	10.1	
133 1,4-Dichlorobenzene	146	13.998	13.998	0.000	95	252455	10.0	10.2	
134 4-Isopropyltoluene	119	14.008	14.008	0.000	97	537932	10.0	10.2	
135 1,2,3-Trimethylbenzene	105	14.154	14.154	0.000	98	544769	10.0	10.1	
137 1,2-Dichlorobenzene	146	14.353	14.353	0.000	97	214465	10.0	10.1	
138 n-Butylbenzene	91	14.411	14.411	0.000	97	500385	10.0	10.2	
139 1,2-Dibromo-3-Chloropropan	157	14.819	14.819	0.000	87	10573	10.0	9.88	
140 1,3,5-Trichlorobenzene	180	15.661	15.661	0.000	97	183537	10.0	10.2	
141 1,2,4-Trichlorobenzene	180	16.246	16.246	0.000	94	108939	10.0	10.3	
142 Naphthalene	128	16.539	16.539	0.000	97	144886	10.0	10.1	
143 Hexachlorobutadiene	190	16.581	16.581	0.000	96	28015	10.0	9.98	
144 1,2,3-Trichlorobenzene	180	16.775	16.775	0.000	95	56881	10.0	9.82	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

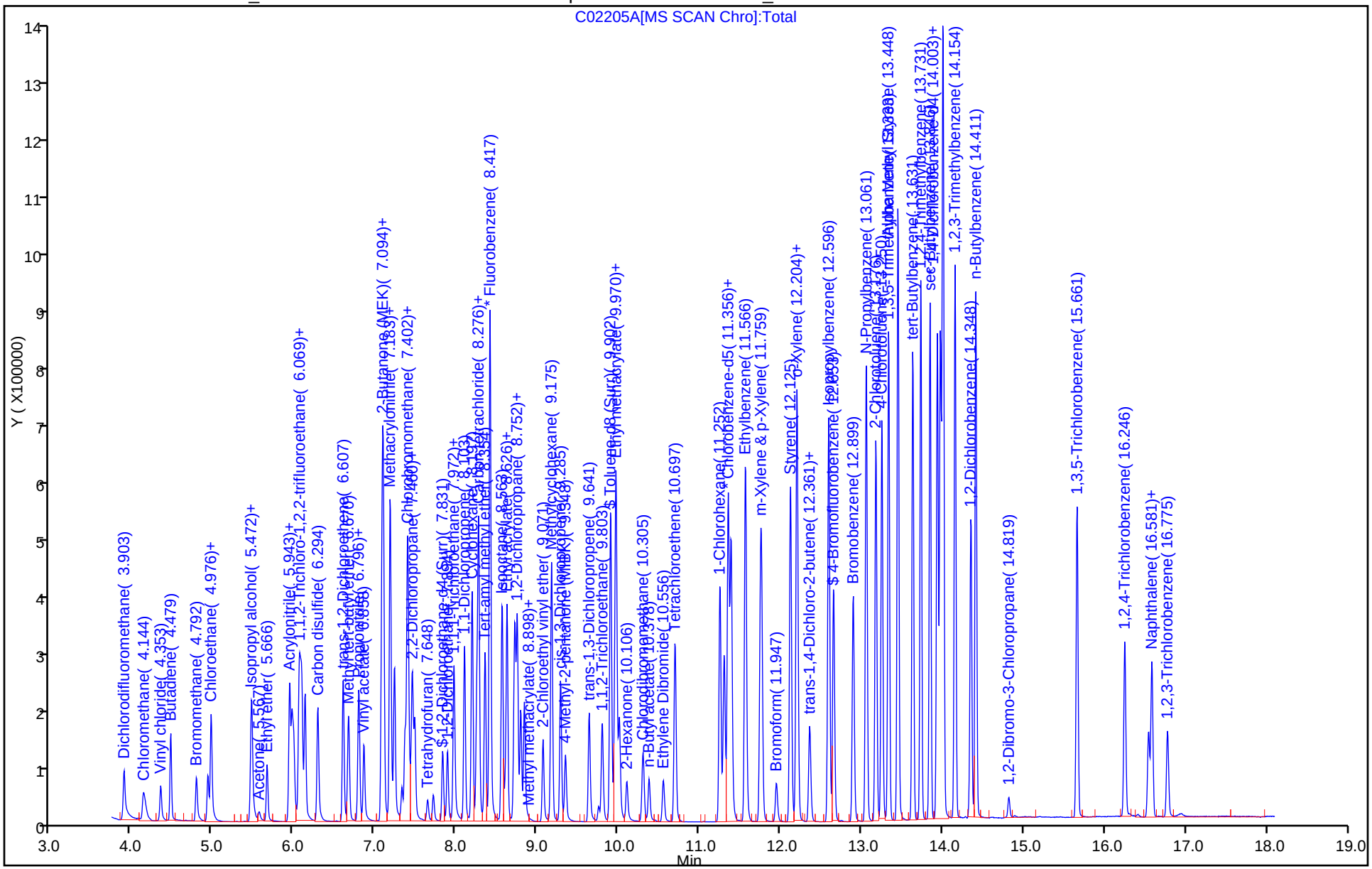
Reagents:

VOASTDst_00022	Amount Added:	4.00	Units: uL
VOAIS50PPM_00164	Amount Added:	5.00	Units: uL
VOASTDGASPT_00151	Amount Added:	4.00	Units: uL
aMeStyaene50T_00001	Amount Added:	4.00	Units: uL

Report Date: 22-Jan-2016 16:40:22 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02205A.D				
Injection Date:	22-Jan-2016 15:14:30	Instrument ID:	CHVOAMS01	Operator ID:	yx
Lims ID:	icis			Worklist Smp#:	6
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02206.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 22-Jan-2016 15:40:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 600-0010400-007
Operator ID: yx Instrument ID: CHVOAMS01
Sublist: chrom-8260W20_1*sub30

Method: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jan-2016 16:40:23 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: xiey Date: 22-Jan-2016 16:27:05

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.420	8.417	0.003	100	369651	12.5	12.5	
2 Dichlorodifluoromethane	85	3.901	3.903	-0.002	100	135413	20.0	22.2	
3 Chloromethane	50	4.142	4.144	-0.002	99	161054	20.0	20.4	
4 Vinyl chloride	62	4.351	4.353	-0.002	99	91940	20.0	16.7	
5 Butadiene	39	4.477	4.479	-0.002	90	107471	20.0	20.8	
6 Bromomethane	94	4.796	4.792	0.004	90	114283	20.0	19.5	
9 Chloroethane	64	4.932	4.934	-0.002	99	131391	20.0	21.2	
11 Dichlorofluoromethane	67	4.973	4.976	-0.003	97	326935	20.0	21.4	
10 Ethanol	45		5.120				ND	ND	
14 Acrolein	56	5.460	5.462	-0.002	98	45286	100.0	96.5	
15 Acetonitrile	41	5.470	5.472	-0.002	98	93375	200.0	198.8	
16 Trichlorofluoromethane	101	5.476	5.478	-0.002	99	260552	20.0	21.8	
17 Isopropyl alcohol	45	5.502	5.504	-0.002	99	39233	200.0	201.0	
18 Acetone	43	5.570	5.572	-0.002	99	34082	40.0	36.5	
19 Ethyl ether	59	5.664	5.666	-0.002	88	98127	20.0	20.0	
21 2-Methyl-2-propanol	59	5.941	5.938	0.003	100	68238	200.0	197.5	
22 1,1-Dichloroethene	96	5.946	5.943	0.003	96	160395	20.0	19.9	
23 Acrylonitrile	52	5.972	5.975	-0.002	100	209150	200.0	202.1	
24 Iodomethane	142	5.993	5.995	-0.002	98	242006	20.0	21.6	
25 Methylene Chloride	84	6.061	6.063	-0.002	88	184295	20.0	19.9	
26 Methyl acetate	43	6.072	6.074	-0.002	97	274585	100.0	93.3	
27 1,1,2-Trichloro-1,2,2-trif	151	6.093	6.095	-0.002	94	125215	20.0	19.9	
28 3-Chloro-1-propene	76	6.135	6.137	-0.002	93	101071	20.0	20.7	
29 Carbon disulfide	76	6.291	6.294	-0.003	98	544834	20.0	19.9	
30 trans-1,2-Dichloroethene	96	6.605	6.607	-0.002	98	178243	20.0	19.8	
31 Methyl tert-butyl ether	73	6.673	6.670	0.003	93	334692	20.0	19.9	
32 Propionitrile	54	6.788	6.790	-0.002	99	106898	200.0	205.7	
33 1,1-Dichloroethane	63	6.799	6.801	-0.002	96	309054	20.0	19.7	
34 Vinyl acetate	43	6.862	6.858	0.004	96	335126	40.0	38.9	
36 2-Chloro-1,3-butadiene	53	7.076	7.078	-0.002	88	260218	20.0	19.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 Hexane	57	7.092	7.094	-0.002	93	236648	20.0	18.8	
38 Isopropyl ether	45	7.102	7.099	0.003	92	472621	20.0	19.1	
39 2-Butanone (MEK)	72	7.102	7.104	-0.002	89	19276	40.0	42.3	
40 Methacrylonitrile	66	7.186	7.183	0.003	89	126479	200.0	198.8	
41 cis-1,2-Dichloroethene	96	7.238	7.240	-0.002	78	197027	20.0	19.7	
42 Ethyl acetate	43	7.327	7.329	-0.002	98	103487	40.0	40.1	
44 Chlorobromomethane	128	7.369	7.366	0.003	93	74009	20.0	20.3	
45 Chloroform	83	7.395	7.397	-0.002	92	290500	20.0	19.5	
46 Tert-butyl ethyl ether	59	7.405	7.402	0.003	95	442542	20.0	19.7	
48 Isobutyl alcohol	43	7.426	7.428	-0.002	92	109307	500.0	467.8	
49 2,2-Dichloropropane	77	7.458	7.460	-0.002	85	260424	20.0	18.9	
$ 51 Dibromofluoromethane	113	7.489	7.486	0.003	93	163501	20.0	19.7	
S 47 1,2-Dichloroethene, Total	96				0		40.0	39.5	
53 Tetrahydrofuran	42	7.646	7.648	-0.002	85	40009	40.0	38.7	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.834	7.831	0.003	0	135021	20.0	19.4	
57 1,2-Dichloroethane	62	7.892	7.894	-0.002	97	156414	20.0	19.9	
58 1,1,1-Trichloroethane	97	7.970	7.972	-0.002	98	261891	20.0	19.9	
59 n-Butanol	56	7.976	7.978	-0.002	86	54459	500.0	495.7	
61 1,1-Dichloropropene	75	8.101	8.103	-0.002	99	257060	20.0	19.8	
62 Cyclohexane	84	8.195	8.197	-0.002	86	294568	20.0	19.7	
63 Carbon tetrachloride	119	8.253	8.255	-0.002	98	213671	20.0	20.0	
64 Benzene	78	8.279	8.276	0.003	94	742442	20.0	19.4	
66 Tert-amyl methyl ether	73	8.357	8.354	0.003	99	404318	20.0	19.8	
67 Isooctane	57	8.567	8.563	0.004	95	593938	20.0	19.4	
68 Ethyl acrylate	55	8.603	8.605	-0.002	94	152685	20.0	19.3	
69 n-Heptane	43	8.624	8.626	-0.002	88	227732	20.0	19.0	
70 Dibromomethane	93	8.708	8.710	-0.002	93	75673	20.0	20.0	
71 1,2-Dichloropropane	63	8.723	8.726	-0.003	95	172038	20.0	19.6	
72 2-Nitropropane	43	8.734	8.736	-0.002	90	48041	40.0	38.6	
73 Trichloroethene	130	8.755	8.752	0.003	98	198120	20.0	19.9	
74 Dichlorobromomethane	83	8.797	8.794	0.003	99	225889	20.0	20.2	
75 Methyl methacrylate	41	8.839	8.841	-0.002	87	164831	40.0	37.5	
76 1,4-Dioxane	58	8.859	8.856	0.003	89	11232	400.0	397.5	
78 Methylcyclohexane	83	9.178	9.175	0.003	85	345307	20.0	19.7	
79 4-Methyl-2-pentanone (MIBK	43	9.346	9.348	-0.002	94	144872	40.0	38.2	
* 80 Chlorobenzene-d5	82	11.354	11.356	-0.002	85	206905	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.069	9.071	-0.002	92	126254	40.0	41.0	
85 cis-1,3-Dichloropropene	75	9.288	9.285	0.003	97	287747	20.0	19.5	
88 trans-1,3-Dichloropropene	75	9.639	9.641	-0.002	91	227675	20.0	20.0	
89 1,1,2-Trichloroethane	97	9.801	9.803	-0.002	90	120139	20.0	19.6	
$ 90 Toluene-d8 (Surr)	98	9.905	9.902	0.003	91	728160	20.0	18.4	
92 Ethyl methacrylate	69	9.953	9.955	-0.002	87	147965	20.0	19.5	
93 Toluene	92	9.973	9.970	0.003	99	508216	20.0	19.0	
94 1,3-Dichloropropane	76	10.010	10.012	-0.002	88	219536	20.0	19.5	
95 2-Hexanone	43	10.104	10.106	-0.002	94	99217	40.0	34.1	
97 Chlorodibromomethane	129	10.303	10.305	-0.002	90	149658	20.0	20.5	
98 n-Butyl acetate	43	10.376	10.378	-0.002	98	120114	20.0	21.1	
99 Ethylene Dibromide	107	10.554	10.556	-0.002	98	118076	20.0	20.0	
101 Tetrachloroethene	164	10.700	10.697	0.003	98	157029	20.0	19.5	
S 100 Xylenes, Total	106				0		40.0	38.4	
102 1-Chlorohexane	55	11.255	11.252	0.003	92	199843	20.0	18.6	
103 1,1,1,2-Tetrachloroethane	131	11.307	11.304	0.003	94	187810	20.0	19.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.391	11.393	-0.002	96	607701	20.0	19.4	
105 Ethylbenzene	106	11.569	11.571	-0.002	97	330127	20.0	19.3	
106 m-Xylene & p-Xylene	91	11.762	11.759	0.003	0	805491	20.0	19.1	
107 Styrene	104	12.123	12.125	-0.002	94	675164	20.0	19.7	
109 o-Xylene	106	12.202	12.204	-0.002	96	415730	20.0	19.3	
108 1,1,2,2-Tetrachloroethane	83	12.202	12.204	-0.002	53	136275	20.0	19.0	
* 110 1,4-Dichlorobenzene-d4	152	13.975	13.971	0.004	94	212673	12.5	12.5	
115 Bromoform	173	11.950	11.947	0.003	96	78236	20.0	22.0	
116 trans-1,4-Dichloro-2-buten	53	12.353	12.355	-0.002	91	32048	20.0	22.0	
117 1,2,3-Trichloropropane	110	12.364	12.366	-0.002	83	39834	20.0	20.7	
118 Isopropylbenzene	105	12.594	12.596	-0.002	95	1043652	20.0	19.7	
$ 119 4-Bromofluorobenzene	95	12.657	12.653	0.004	87	329729	20.0	20.7	
120 Bromobenzene	156	12.897	12.899	-0.002	93	243590	20.0	20.1	
121 N-Propylbenzene	120	13.059	13.061	-0.002	99	314037	20.0	19.8	
122 2-Chlorotoluene	126	13.180	13.176	0.004	97	270843	20.0	19.8	
123 4-Chlorotoluene	91	13.253	13.250	0.003	97	827378	20.0	19.7	
124 1,3,5-Trimethylbenzene	105	13.336	13.333	0.003	95	927360	20.0	19.4	
111 Alpha Methyl Styrene	118	13.452	13.448	0.004	91	680588	20.0	20.3	
126 tert-Butylbenzene	119	13.635	13.631	0.004	92	793196	20.0	19.6	
128 1,2,4-Trimethylbenzene	105	13.734	13.731	0.003	97	968732	20.0	19.4	
130 sec-Butylbenzene	105	13.844	13.846	-0.002	94	1195560	20.0	19.6	
131 Benzyl chloride	91	13.933	13.935	-0.002	99	303300	20.0	18.8	
132 1,3-Dichlorobenzene	146	13.938	13.940	-0.002	97	488680	20.0	19.7	
133 1,4-Dichlorobenzene	146	14.001	13.998	0.003	94	464600	20.0	18.9	
134 4-Isopropyltoluene	119	14.011	14.008	0.003	97	1005838	20.0	19.2	
135 1,2,3-Trimethylbenzene	105	14.152	14.154	-0.002	98	1046636	20.0	19.5	
137 1,2-Dichlorobenzene	146	14.351	14.353	-0.002	97	418960	20.0	19.8	
138 n-Butylbenzene	91	14.409	14.411	-0.002	97	946022	20.0	19.3	
139 1,2-Dibromo-3-Chloropropan	157	14.817	14.819	-0.002	87	20881	20.0	19.6	
140 1,3,5-Trichlorobenzene	180	15.659	15.661	-0.002	97	352097	20.0	19.7	
141 1,2,4-Trichlorobenzene	180	16.250	16.246	0.004	94	209734	20.0	20.0	
142 Naphthalene	128	16.543	16.539	0.004	96	273684	20.0	19.3	
143 Hexachlorobutadiene	190	16.584	16.581	0.003	96	53336	20.0	19.1	
144 1,2,3-Trichlorobenzene	180	16.778	16.775	0.003	96	106560	20.0	18.5	
S 145 1,3-Dichloropropene, Total	1				0			39.5	
S 146 Trihalomethanes, Total	1				0			82.1	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

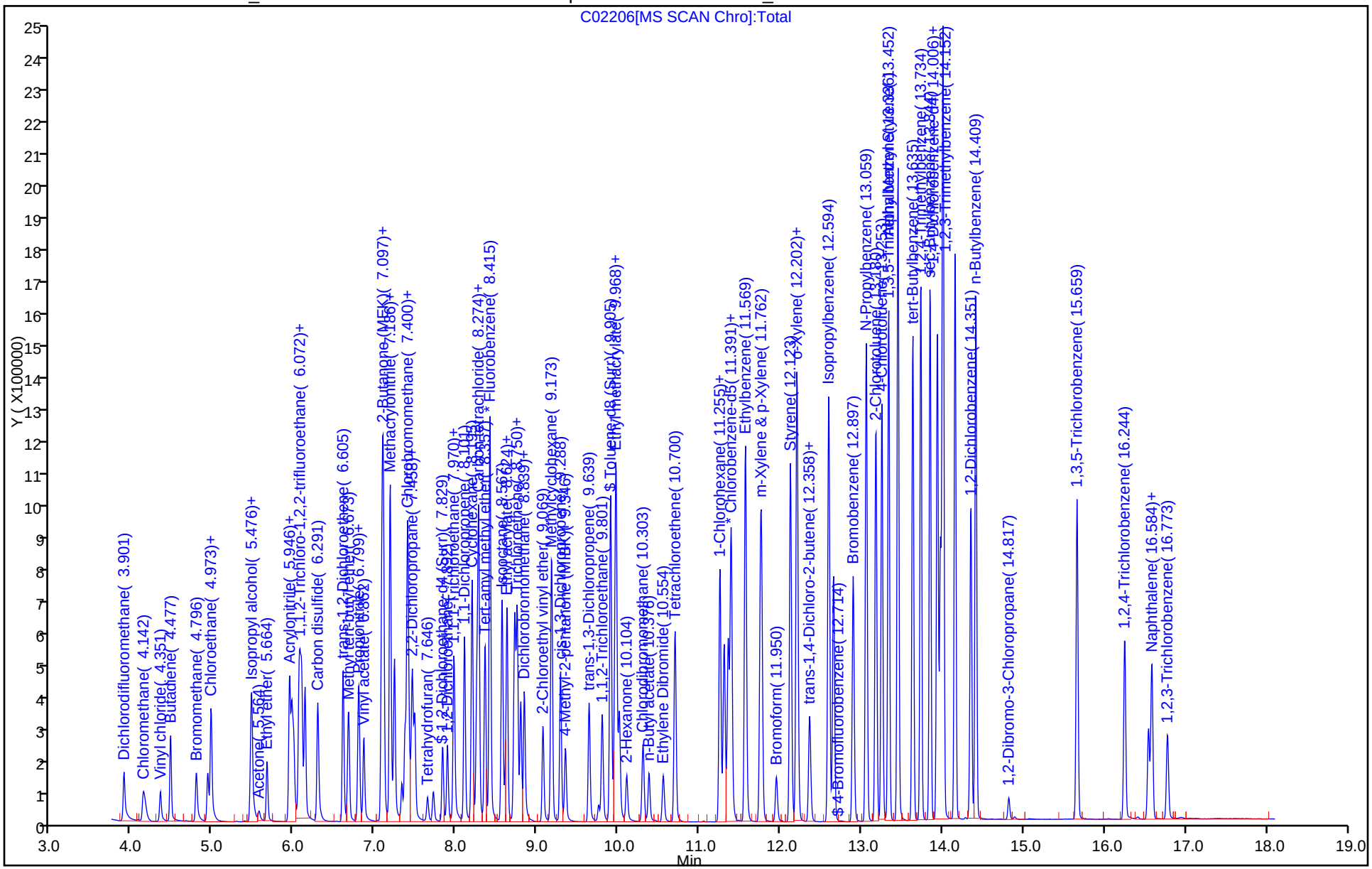
Reagents:

VOASTDst_00022	Amount Added:	8.00	Units: uL
VOAIS50PPM_00164	Amount Added:	5.00	Units: uL
VOASTDGASPT_00151	Amount Added:	8.00	Units: uL
aMeStyaene50T_00001	Amount Added:	8.00	Units: uL

Report Date: 22-Jan-2016 16:40:23 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02206.D				
Injection Date:	22-Jan-2016 15:40:30	Instrument ID:	CHVOAMS01	Operator ID:	yx
Lims ID:	ic			Worklist Smp#:	7
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02207.D
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 22-Jan-2016 16:06:30 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ic
Misc. Info.: 600-0010400-008
Operator ID: yx Instrument ID: CHVOAMS01
Sublist: chrom-8260W20_1*sub30

Method: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jan-2016 16:40:24 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: xiey Date: 22-Jan-2016 16:31:13

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.419	8.417	0.002	99	360087	12.5	12.5	
2 Dichlorodifluoromethane	85	3.900	3.903	-0.003	100	323735	50.0	54.5	
3 Chloromethane	50	4.141	4.144	-0.003	99	375574	50.0	48.8	
4 Vinyl chloride	62	4.345	4.353	-0.008	99	128602	50.0	23.9	
5 Butadiene	39	4.470	4.479	-0.009	90	225959	50.0	44.9	
6 Bromomethane	94	4.789	4.792	-0.003	90	301336	50.0	52.2	
9 Chloroethane	64	4.930	4.934	-0.004	99	304061	50.0	50.3	
11 Dichlorofluoromethane	67	4.972	4.976	-0.004	97	769316	50.0	51.7	
10 Ethanol	45		5.120				ND	ND	
14 Acrolein	56	5.459	5.462	-0.003	99	112656	250.0	246.4	
15 Acetonitrile	41	5.469	5.472	-0.003	98	226825	500.0	502.1	
16 Trichlorofluoromethane	101	5.474	5.478	-0.004	99	664539	50.0	57.1	
17 Isopropyl alcohol	45	5.506	5.504	0.002	100	97555	500.0	517.5	
18 Acetone	43	5.569	5.572	-0.004	99	93895	100.0	106.3	
19 Ethyl ether	59	5.668	5.666	0.002	87	241895	50.0	50.6	
21 2-Methyl-2-propanol	59	5.940	5.938	0.002	97	167162	500.0	496.6	
22 1,1-Dichloroethene	96	5.945	5.943	0.002	96	389853	50.0	49.7	
23 Acrylonitrile	52	5.971	5.975	-0.003	100	501850	500.0	497.7	
24 Iodomethane	142	5.992	5.995	-0.003	98	568300	50.0	52.1	
25 Methylene Chloride	84	6.060	6.063	-0.003	87	432770	50.0	50.3	
26 Methyl acetate	43	6.076	6.074	0.002	97	629476	250.0	219.5	
27 1,1,2-Trichloro-1,2,2-trif	151	6.092	6.095	-0.003	94	304322	50.0	49.7	
28 3-Chloro-1-propene	76	6.133	6.137	-0.004	92	194293	50.0	40.9	
29 Carbon disulfide	76	6.290	6.294	-0.004	98	1347998	50.0	50.6	
30 trans-1,2-Dichloroethene	96	6.604	6.607	-0.003	98	435388	50.0	49.6	
31 Methyl tert-butyl ether	73	6.672	6.670	0.002	93	836726	50.0	51.2	
32 Propionitrile	54	6.787	6.790	-0.003	99	264938	500.0	523.3	
33 1,1-Dichloroethane	63	6.798	6.801	-0.003	96	740625	50.0	48.5	
34 Vinyl acetate	43	6.860	6.858	0.002	96	784190	100.0	93.4	
36 2-Chloro-1,3-butadiene	53	7.080	7.078	0.002	89	604532	50.0	46.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 Hexane	57	7.090	7.094	-0.004	92	519378	50.0	42.3	
38 Isopropyl ether	45	7.101	7.099	0.002	92	1036908	50.0	43.1	
39 2-Butanone (MEK)	72	7.106	7.104	0.002	88	45629	100.0	102.8	
40 Methacrylonitrile	66	7.185	7.183	0.002	88	296895	500.0	479.0	
41 cis-1,2-Dichloroethene	96	7.237	7.240	-0.003	78	480657	50.0	49.3	
42 Ethyl acetate	43	7.331	7.329	0.002	98	265738	100.0	105.6	
44 Chlorobromomethane	128	7.368	7.366	0.002	93	181658	50.0	51.3	
45 Chloroform	83	7.394	7.397	-0.003	92	686952	50.0	47.3	
46 Tert-butyl ethyl ether	59	7.404	7.402	0.002	95	1026669	50.0	46.8	
48 Isobutyl alcohol	43	7.430	7.428	0.002	91	276721	1250.0	1215.6	
49 2,2-Dichloropropane	77	7.457	7.460	-0.003	84	632312	50.0	47.2	
$ 51 Dibromofluoromethane	113	7.488	7.486	0.002	93	402070	50.0	49.8	
S 47 1,2-Dichloroethene, Total	96				0		100.0	98.9	
53 Tetrahydrofuran	42	7.645	7.648	-0.003	86	100435	100.0	100.5	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.833	7.831	0.002	0	339371	50.0	50.1	
57 1,2-Dichloroethane	62	7.891	7.894	-0.003	97	396695	50.0	51.7	
58 1,1,1-Trichloroethane	97	7.969	7.972	-0.003	97	645756	50.0	50.3	
59 n-Butanol	56	7.980	7.978	0.002	86	134380	1250.0	1255.6	
61 1,1-Dichloropropene	75	8.100	8.103	-0.003	99	627192	50.0	49.6	
62 Cyclohexane	84	8.194	8.197	-0.003	86	717526	50.0	49.2	
63 Carbon tetrachloride	119	8.252	8.255	-0.003	98	525545	50.0	50.6	
64 Benzene	78	8.278	8.276	0.002	94	1736401	50.0	46.6	
66 Tert-amyl methyl ether	73	8.356	8.354	0.002	98	1007002	50.0	50.6	
67 Isooctane	57	8.565	8.563	0.002	90	1399148	50.0	46.8	
68 Ethyl acrylate	55	8.607	8.605	0.002	95	379601	50.0	49.4	
69 n-Heptane	43	8.628	8.626	0.002	88	538001	50.0	46.1	
70 Dibromomethane	93	8.712	8.710	0.002	93	186337	50.0	50.5	
71 1,2-Dichloropropane	63	8.722	8.726	-0.004	96	399537	50.0	46.8	
72 2-Nitropropane	43	8.733	8.736	-0.003	91	116724	100.0	96.2	
73 Trichloroethene	130	8.754	8.752	0.002	98	480582	50.0	49.6	
74 Dichlorobromomethane	83	8.796	8.794	0.002	99	564548	50.0	51.7	
75 Methyl methacrylate	41	8.837	8.841	-0.004	89	409710	100.0	95.7	
76 1,4-Dioxane	58	8.863	8.856	0.007	90	28008	1000.0	1017.5	
78 Methylcyclohexane	83	9.177	9.175	0.002	85	834632	50.0	48.8	
79 4-Methyl-2-pentanone (MIBK	43	9.350	9.348	0.002	94	370352	100.0	100.3	
* 80 Chlorobenzene-d5	82	11.358	11.356	0.002	76	211809	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.067	9.071	-0.004	84	333505	100.0	104.9	
85 cis-1,3-Dichloropropene	75	9.287	9.285	0.002	95	712018	50.0	47.2	
88 trans-1,3-Dichloropropene	75	9.638	9.641	-0.003	91	575393	50.0	49.3	
89 1,1,2-Trichloroethane	97	9.800	9.803	-0.003	77	305833	50.0	48.8	
$ 90 Toluene-d8 (Surr)	98	9.904	9.902	0.002	89	1756535	50.0	43.4	
92 Ethyl methacrylate	69	9.951	9.955	-0.004	55	358334	50.0	46.2	
93 Toluene	92	9.972	9.970	0.002	99	1179245	50.0	43.2	
94 1,3-Dichloropropane	76	10.014	10.012	0.002	56	553367	50.0	48.0	
95 2-Hexanone	43	10.103	10.106	-0.003	94	267138	100.0	89.7	
97 Chlorodibromomethane	129	10.307	10.305	0.002	90	392928	50.0	52.6	
98 n-Butyl acetate	43	9.758	10.378	-0.620	93	114040	50.0	18.7	
99 Ethylene Dibromide	107	10.553	10.556	-0.003	98	306676	50.0	50.9	
101 Tetrachloroethene	164	10.699	10.697	0.002	97	384276	50.0	46.7	
S 100 Xylenes, Total	106				0		100.0	90.6	
102 1-Chlorohexane	55	11.254	11.252	0.002	92	489278	50.0	44.5	
103 1,1,1,2-Tetrachloroethane	131	11.306	11.304	0.002	94	479450	50.0	49.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.390	11.393	-0.003	94	1485594	50.0	46.2	
105 Ethylbenzene	106	11.567	11.571	-0.004	97	807728	50.0	46.1	
106 m-Xylene & p-Xylene	91	11.761	11.759	0.002	0	1981697	50.0	45.8	
107 Styrene	104	12.122	12.125	-0.003	92	1636594	50.0	46.6	
109 o-Xylene	106	12.206	12.204	0.002	91	987500	50.0	44.7	
108 1,1,2,2-Tetrachloroethane	83	12.206	12.204	0.002	94	313224	50.0	42.7	
* 110 1,4-Dichlorobenzene-d4	152	13.973	13.971	0.002	97	211790	12.5	12.5	
115 Bromoform	173	11.949	11.947	0.002	96	210682	50.0	59.4	
116 trans-1,4-Dichloro-2-buten	53	12.357	12.355	0.002	92	82045	50.0	56.6	
117 1,2,3-Trichloropropane	110	12.362	12.366	-0.004	83	102461	50.0	53.4	
118 Isopropylbenzene	105	12.598	12.596	0.002	95	2518229	50.0	47.8	
$ 119 4-Bromofluorobenzene	95	12.655	12.653	0.002	87	804898	50.0	51.1	
120 Bromobenzene	156	12.901	12.899	0.002	92	594241	50.0	49.2	
121 N-Propylbenzene	120	13.058	13.061	-0.003	98	745316	50.0	47.3	
122 2-Chlorotoluene	126	13.178	13.176	0.002	97	643486	50.0	47.2	
123 4-Chlorotoluene	91	13.252	13.250	0.002	97	1933169	50.0	46.2	
124 1,3,5-Trimethylbenzene	105	13.335	13.333	0.002	95	2133203	50.0	44.8	
111 Alpha Methyl Styrene	118	13.450	13.448	0.002	91	1453464	50.0	43.5	
126 tert-Butylbenzene	119	13.633	13.631	0.002	93	1830669	50.0	45.5	
128 1,2,4-Trimethylbenzene	105	13.733	13.731	0.002	97	2189770	50.0	44.1	
130 sec-Butylbenzene	105	13.848	13.846	0.002	94	2698938	50.0	44.4	
131 Benzyl chloride	91	13.931	13.935	-0.004	98	694188	50.0	43.2	
132 1,3-Dichlorobenzene	146	13.942	13.940	0.002	96	1087484	50.0	44.0	
133 1,4-Dichlorobenzene	146	13.999	13.998	0.001	94	966019	50.0	39.5	
134 4-Isopropyltoluene	119	14.010	14.008	0.002	97	2098386	50.0	40.1	
135 1,2,3-Trimethylbenzene	105	14.156	14.154	0.002	98	2328539	50.0	43.5	
137 1,2-Dichlorobenzene	146	14.350	14.353	-0.003	97	965200	50.0	45.7	
138 n-Butylbenzene	91	14.413	14.411	0.002	97	2112305	50.0	43.3	
139 1,2-Dibromo-3-Chloropropan	157	14.821	14.819	0.002	88	53255	50.0	50.2	
140 1,3,5-Trichlorobenzene	180	15.663	15.661	0.002	97	778892	50.0	43.8	
141 1,2,4-Trichlorobenzene	180	16.248	16.246	0.002	94	466098	50.0	44.5	
142 Naphthalene	128	16.541	16.539	0.002	97	614581	50.0	43.4	
143 Hexachlorobutadiene	190	16.583	16.581	0.002	97	120960	50.0	43.4	
144 1,2,3-Trichlorobenzene	180	16.777	16.775	0.002	96	225820	50.0	39.3	
S 145 1,3-Dichloropropene, Total	1				0			96.5	
S 146 Trihalomethanes, Total	1				0			211.1	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

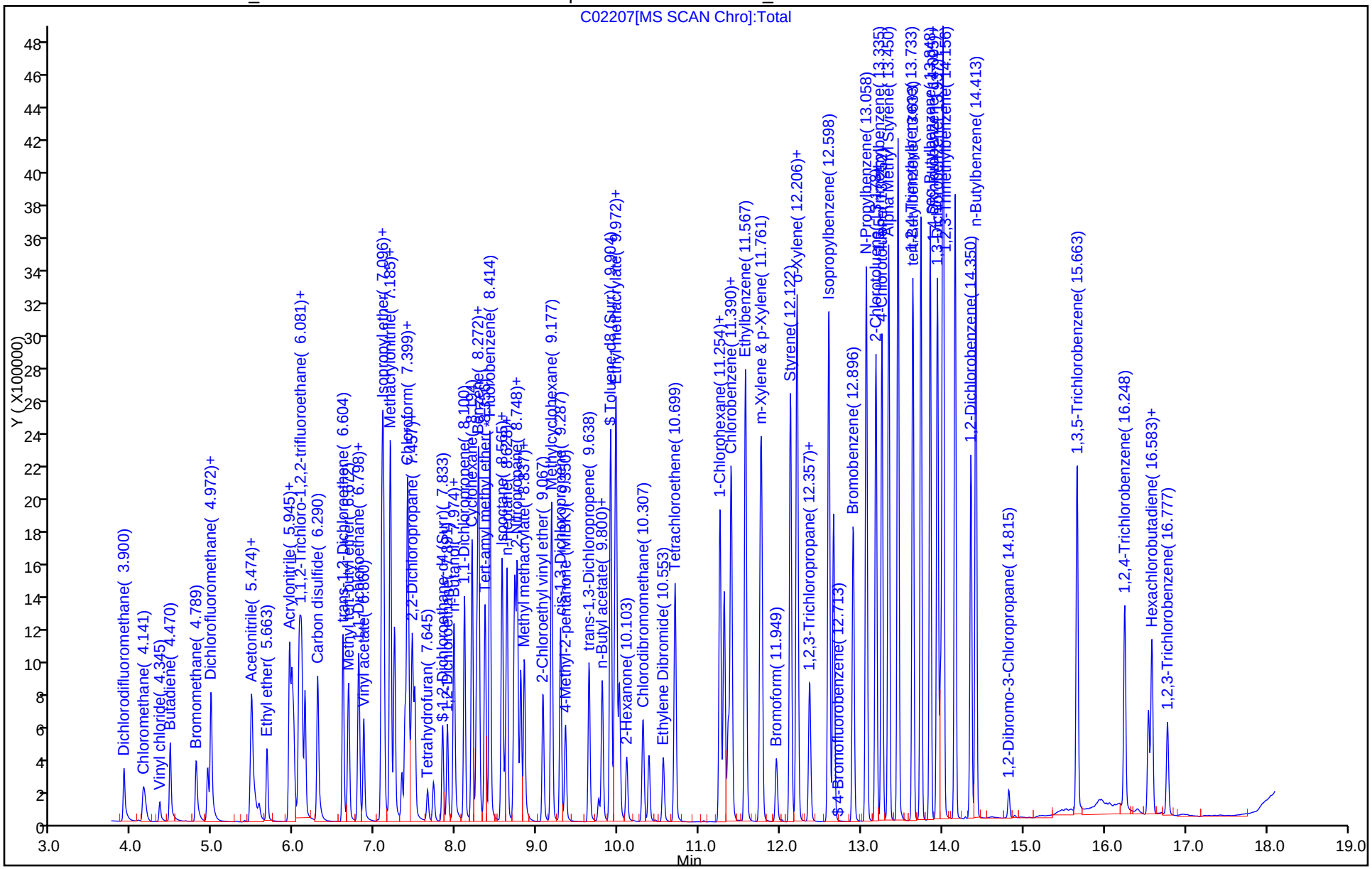
Reagents:

VOASTDst_00022	Amount Added: 20.00	Units: uL
VOAIS50PPM_00164	Amount Added: 5.00	Units: uL
VOASTDGASPT_00151	Amount Added: 20.00	Units: uL
aMeStyaene50T_00001	Amount Added: 20.00	Units: uL

Report Date: 22-Jan-2016 16:40:24 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02207.D				
Injection Date:	22-Jan-2016 16:06:30	Instrument ID:	CHVOAMS01	Operator ID:	yx
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-184699/2	A08101.d
Level 2	IC 600-184699/3	A08102.d
Level 3	IC 600-184699/4	A08103.d
Level 4	IC 600-184699/5	A08104.d
Level 5	ICIS 600-184699/6	A08105.d
Level 6	IC 600-184699/7	A08106.d
Level 7	IC 600-184699/8	A08107.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.0635 0.0703	0.0746 0.0680	0.0802	0.0733	0.0760	Ave		0.0723				7.6		15.0			
Chloromethane	0.1209 0.0957	0.1037 0.1105	0.0938	0.0916	0.0956	Ave		0.1017			0.1000	10.5		15.0			
Vinyl chloride	0.1724 0.1829	0.1879 0.1886	0.2084	0.1983	0.1951	Ave		0.1905				6.1		15.0			
Butadiene	0.1058 0.1042	0.0952 0.1152	0.1173	0.1110	0.1157	Ave		0.1092				7.3		15.0			
Bromomethane	0.0345 0.0292	0.0198 0.0344	0.0173	0.0199	0.0246	Lin	-0.050	0.0347							0.9950		0.9900
Chloroethane	0.1917 0.1125	0.1486 0.1175	0.1270	0.1210	0.1150	Lin2	0.0390	0.1118							0.9990		0.9900
Dichlorofluoromethane	0.4405 0.3872	0.4539 0.3497	0.3739	0.3869	0.3752	Ave		0.3953				9.5		15.0			
Acrolein	0.0195 0.0189	0.0174 0.0197	0.0169	0.0185	0.0172	Ave		0.0183				6.2		15.0			
Acetonitrile	0.0095 0.0097	0.0091 0.0092	0.0103	0.0101	0.0091	Ave		0.0096				5.2		15.0			
Trichlorofluoromethane	0.3685 0.3427	0.3807 0.3283	0.4026	0.3848	0.3841	Ave		0.3702				7.0		15.0			
Isopropyl alcohol	0.0047 0.0035	0.0049 0.0035	0.0041	0.0035	0.0034	Lin1	0.0086	0.0035							0.9990		0.9900
Acetone	0.0603 0.0212	0.0357 0.0211	0.0251	0.0238	0.0216	Lin1	0.0339	0.0205							0.9980		0.9900
Ethyl ether	0.1485 0.1990	0.1858 0.1990	0.1715	0.1976	0.1899	Ave		0.1845				10.1		15.0			
t-Butanol	0.0148 0.0199	0.0186 0.0199	0.0171	0.0198	0.0190	Ave		0.0184				10.1		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1-Dichloroethene	0.2435 0.2685	0.2689 0.2405	0.2401	0.2594	0.2620	Ave		0.2547				5.1		15.0			
Acrylonitrile	0.0272 0.0351	0.0346 0.0341	0.0347	0.0366	0.0340	Ave		0.0337				9.0		15.0			
Iodomethane	0.0951 0.1367	0.0600 0.1749	0.0561	0.0765	0.0992	Lin	-0.373	0.1773							0.9900		0.9900
Methylene Chloride	0.4823 0.2509	0.4131 0.2309	0.3194	0.2867	0.2574	Lin2	0.1261	0.2504							0.9910		0.9900
Methyl acetate	0.0754 0.0752	0.0807 0.0723	0.0733	0.0815	0.0745	Ave		0.0761				4.7		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.2653 0.2565	0.2686 0.2338	0.2465	0.2605	0.2502	Ave		0.2545				4.7		15.0			
3-Chloro-1-propene	0.1512 0.1606	0.1450 0.1360	0.1387	0.1553	0.1563	Ave		0.1490				6.3		15.0			
Carbon disulfide	0.8915 0.8115	0.8483 0.7374	0.7774	0.7994	0.7982	Ave		0.8091				6.1		15.0			
trans-1,2-Dichloroethene	0.3053 0.3168	0.3085 0.2984	0.2789	0.2829	0.2982	Ave		0.2984				4.6		15.0			
Methyl tert-butyl ether	0.3256 0.4546	0.4220 0.4440	0.3980	0.4390	0.4316	Ave		0.4164				10.5		15.0			
Propionitrile	0.0077 0.0135	0.0122 0.0130	0.0124	0.0134	0.0132	Lin2	-0.027	0.0137							0.9970		0.9900
1,1-Dichloroethane	0.7424 0.6951	0.7161 0.6480	0.6700	0.7168	0.6851	Ave		0.6962			0.1000	4.6		15.0			
Vinyl acetate	0.1667 0.2949	0.2279 0.2755	0.2334	0.2773	0.2735	Lin2	-0.118	0.2824							0.9980		0.9900
2-Chloro-1,3-butadiene	0.4683 0.7236	0.5244 0.6734	0.5529	0.6509	0.6781	Lin2	-0.119	0.6760							0.9950		0.9900
Hexane	0.5288 0.6646	0.6112 0.5768	0.6092	0.6607	0.6761	Ave		0.6182				8.6		15.0			
Isopropyl ether	0.8846 1.0995	1.0611 0.9441	1.0643	1.1326	1.1063	Ave		1.0418				8.8		15.0			
2-Butanone (MEK)	0.0120 0.0108	0.0119 0.0101	0.0127	0.0117	0.0101	Ave		0.0113				8.9		15.0			
Methacrylonitrile	0.0103 0.0151	0.0153 0.0146	0.0142	0.0154	0.0153	Ave		0.0143				12.6		15.0			
cis-1,2-Dichloroethene	0.3252 0.3191	0.3333 0.3029	0.3118	0.3193	0.3127	Ave		0.3178				3.1		15.0			
Ethyl acetate	0.0783 0.0998	0.0891 0.0990	0.0889	0.0988	0.0930	Ave		0.0924				8.4		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorobromomethane	0.1091 0.0929	0.1113 0.0862	0.0976	0.0982	0.0929	Ave		0.0983				9.2		15.0			
Chloroform	0.5765 0.5402	0.5889 0.5024	0.5278	0.5644	0.5395	Ave		0.5485				5.5		15.0			
Tert-butyl ethyl ether	0.6677 0.9251	0.8472 0.8760	0.8255	0.9142	0.8854	Ave		0.8487				10.3		15.0			
Isobutyl alcohol	0.0060 0.0057	0.0071 0.0052	0.0063	0.0059	0.0057	Ave		0.0060				9.8		15.0			
2,2-Dichloropropane	0.5078 0.5297	0.5448 0.4891	0.5178	0.5251	0.5233	Ave		0.5197				3.4		15.0			
Tetrahydrofuran	0.0219 0.0237	0.0274 0.0242	0.0246	0.0231	0.0225	Ave		0.0239				7.5		15.0			
1,2-Dichloroethane	0.2988 0.3053	0.3249 0.2874	0.3003	0.3155	0.2958	Ave		0.3040				4.1		15.0			
1,1,1-Trichloroethane	0.5175 0.5366	0.5430 0.5065	0.4920	0.5229	0.5128	Ave		0.5187				3.4		15.0			
n-Butanol	0.0010 0.0015	0.0008 0.0016	0.0010	0.0012	0.0012	Lin	-0.049	0.0017							0.9970		0.9900
1,1-Dichloropropene	0.3331 0.4458	0.3605 0.4080	0.3582	0.4074	0.4270	Ave		0.3914				10.5		15.0			
Cyclohexane	0.3490 0.4844	0.4050 0.4399	0.3951	0.4558	0.4676	Ave		0.4281				11.1		15.0			
Carbon tetrachloride	0.4217 0.4805	0.4399 0.4454	0.4322	0.4574	0.4602	Ave		0.4482				4.4		15.0			
Benzene	1.3174 1.2573	1.3137 1.1193	1.2200	1.2624	1.2366	Ave		1.2467				5.4		15.0			
Tert-amyl methyl ether	0.3323 0.4978	0.4400 0.4797	0.4288	0.4890	0.4660	Ave		0.4476				12.7		15.0			
Isooctane	1.1347 1.3844	1.2920 1.2360	1.2173	1.2849	1.3449	Ave		1.2706				6.6		15.0			
Ethyl acrylate	0.2475 0.2640	0.2347 0.2580	0.2334	0.2540	0.2542	Ave		0.2494				4.7		15.0			
2-Nitropropane	0.1952 0.2437	0.2139 0.2125	0.2124	0.2389	0.2393	Ave		0.2223				8.3		15.0			
n-Heptane	0.3903 0.4874	0.4278 0.4249	0.4248	0.4778	0.4786	Ave		0.4445				8.3		15.0			
Dibromomethane	0.0963 0.0848	0.0946 0.0822	0.0872	0.0904	0.0822	Ave		0.0882				6.5		15.0			
1,2-Dichloropropane	0.3693 0.3373	0.3492 0.3083	0.3390	0.3379	0.3299	Ave		0.3387				5.5		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Trichloroethene	0.3320 0.3446	0.3379 0.3201	0.3370	0.3241	0.3321	Ave		0.3325				2.5		15.0			
Bromodichloromethane	0.2653 0.3133	0.3002 0.2966	0.2987	0.3200	0.3077	Ave		0.3003				5.8		15.0			
1,4-Dioxane	0.0009 0.0006	0.0009 0.0005	0.0008	0.0006	0.0006	Lin1	0.0056	0.0005							0.9960		0.9900
2-Chloroethyl vinyl ether	0.1184 0.2158	0.1246 0.2267	0.1380	0.1746	0.1874	Lin1	-0.185	0.2204							0.9950		0.9900
Methylcyclohexane	0.3602 0.5082	0.4219 0.4564	0.4283	0.4736	0.4846	Ave		0.4476				11.0		15.0			
Methyl methacrylate	0.0905 0.1143	0.1042 0.0995	0.0957	0.1118	0.1124	Ave		0.1040				8.8		15.0			
cis-1,3-Dichloropropene	0.8829 1.0698	0.9221 1.0111	0.8965	0.9493	1.0151	Ave		0.9638				7.2		15.0			
4-Methyl-2-pentanone (MIBK)	0.0540 0.0850	0.0700 0.0816	0.0675	0.0827	0.0790	Ave		0.0742				14.9		15.0			
trans-1,3-Dichloropropene	0.4263 0.6382	0.6044 0.6469	0.4890	0.5428	0.5802	Ave		0.5611				14.4		15.0			
1,1,2-Trichloroethane	0.3259 0.3825	0.4419 0.3544	0.3944	0.3741	0.3719	Ave		0.3779				9.5		15.0			
Ethyl methacrylate	0.2322 0.4577	0.2816 0.4538	0.2991	0.3758	0.4140	Lin1	-0.169	0.4524							0.9980		0.9900
Toluene	2.0148 2.4252	2.1670 2.1724	2.1680	2.3049	2.3932	Ave		2.2351				6.5		15.0			
1,3-Dichloropropane	0.6658 0.7225	0.7451 0.6579	0.7610	0.7428	0.7220	Ave		0.7167				5.6		15.0			
2-Hexanone	0.0777 0.1467	0.1023 0.1520	0.1114	0.1336	0.1269	Lin2	-0.068	0.1402							0.9940		0.9900
Dibromochloromethane	0.4023 0.4448	0.4416 0.4462	0.4033	0.4211	0.4231	Ave		0.4260				4.4		15.0			
n-Butyl acetate	0.2443 0.4513	0.2920 0.4652	0.2808	0.3633	0.3937	Lin1	-0.180	0.4551							0.9960		0.9900
1,2-Dibromoethane	0.2903 0.3244	0.3662 0.3226	0.3075	0.3201	0.3114	Ave		0.3203				7.3		15.0			
Tetrachloroethene	0.7587 0.7968	0.8324 0.7444	0.7212	0.7246	0.7663	Ave		0.7635				5.2		15.0			
1-Chlorohexane	0.8001 1.1559	0.8486 1.0221	0.9307	1.0186	1.1140	Ave		0.9843				13.4		15.0			
1,1,1,2-Tetrachloroethane	0.7145 0.7052	0.7554 0.6576	0.6775	0.6907	0.7081	Ave		0.7013				4.4		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorobenzene	2.3161 2.1433	2.3365 1.9742	2.1852	2.1478	2.1125	Ave		2.1736			0.3000	5.7		15.0			
Ethylbenzene	1.1130 1.2980	1.1688 1.1870	1.0866	1.1485	1.2580	Ave		1.1800				6.4		15.0			
m-Xylene & p-Xylene	2.2619 3.0144	2.4734 2.7987	2.3919	2.7320	2.9444	Ave		2.6595				10.8		15.0			
Bromoform	0.2758 0.2347	0.2702 0.2389	0.2286	0.2292	0.2254	Ave		0.2433			0.1000	8.6		15.0			
Styrene	0.9499 1.9206	1.1724 1.9723	1.1822	1.4815	1.7047	Lin1	-0.816	1.9345							0.9960		0.9900
Cyclohexanone	0.0041 0.0068	0.0057 0.0080	0.0059	0.0059	0.0063	Lin1	-0.129	0.0075							0.9910		0.9900
1,1,2,2-Tetrachloroethane	0.5028 0.4353	0.5282 0.3917	0.4470	0.4702	0.4680	Ave		0.4633			0.3000	9.7		15.0			
o-Xylene	1.0519 1.4854	1.2471 1.3904	1.2135	1.4145	1.4511	Ave		1.3220				11.8		15.0			
trans-1,4-Dichloro-2-butene	0.0695 0.1053	0.0777 0.1075	0.0856	0.0926	0.0850	Lin2	-0.016	0.0979							0.9910		0.9900
1,2,3-Trichloropropane	0.1455 0.1228	0.1626 0.1205	0.1519	0.1367	0.1269	Ave		0.1381				11.5		15.0			
Isopropylbenzene	3.3849 4.7344	3.8339 3.9925	3.7359	4.4136	4.8041	Ave		4.1285				13.0		15.0			
Bromobenzene	0.7921 0.8711	0.8839 0.8152	0.7929	0.8248	0.8446	Ave		0.8321				4.3		15.0			
N-Propylbenzene	0.8797 1.2804	0.9828 1.1136	0.9324	1.1591	1.2775	Ave		1.0893				14.9		15.0			
2-Chlorotoluene	0.9865 1.0613	0.9706 0.9554	0.8646	1.0173	1.0785	Ave		0.9906				7.3		15.0			
4-Chlorotoluene	2.7285 3.2608	2.8608 2.9046	2.6709	3.2017	3.2303	Ave		2.9796				8.3		15.0			
1,3,5-Trimethylbenzene	2.8069 3.8731	3.1914 3.4050	3.1714	3.6551	3.8641	Ave		3.4238				11.6		15.0			
tert-Butylbenzene	2.5925 3.1514	2.8035 2.8301	2.5238	2.9367	3.1344	Ave		2.8532				8.5		15.0			
1,2,4-Trimethylbenzene	2.7027 3.9005	3.2116 3.5113	3.1151	3.6787	3.8661	Ave		3.4266				12.8		15.0			
sec-Butylbenzene	3.8908 4.7068	4.2091 4.1646	4.0328	4.4863	4.7498	Ave		4.3200				7.7		15.0			
Benzyl chloride	0.4797 0.7389	0.5957 0.7640	0.5612	0.6404	0.6641	Lin2	-0.118	0.7003							0.9930		0.9900

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,3-Dichlorobenzene	1.7301 2.0080	2.0187 1.8756	1.8266	1.9494	1.9683	Ave		1.9110				5.5		15.0			
1,4-Dichlorobenzene	2.1111 2.0425	2.1639 1.8199	1.8941	2.0097	2.0333	Ave		2.0107				5.9		15.0			
4-Isopropyltoluene	3.8253 4.1017	4.0306 3.6453	3.6290	3.8529	4.0827	Ave		3.8811				5.1		15.0			
1,2,3-Trimethylbenzene	3.2157 3.7729	3.3671 3.4527	3.0572	3.5446	3.7356	Ave		3.4494				7.6		15.0			
1,2-Dichlorobenzene	1.7023 1.6299	1.6690 1.5067	1.5202	1.5454	1.5863	Ave		1.5943				4.7		15.0			
n-Butylbenzene	2.7305 3.5088	2.6742 3.1769	2.6418	3.1124	3.4912	Ave		3.0480				12.2		15.0			
1,2-Dibromo-3-Chloropropane	0.0702 0.0559	0.0631 0.0582	0.0489	0.0560	0.0551	Ave		0.0582				11.6		15.0			
1,3,5-Trichlorobenzene	1.2532 1.2183	1.2814 1.1181	1.1048	1.1821	1.2254	Ave		1.1976				5.5		15.0			
1,2,4-Trichlorobenzene	0.6744 0.7536	0.6187 0.7219	0.6022	0.7106	0.7067	Ave		0.6840				8.1		15.0			
Naphthalene	0.4251 0.8808	0.6636 0.9125	0.6638	0.7565	0.8247	Lin2	-0.219	0.8535							0.9950		0.9900
Hexachlorobutadiene	0.3677 0.2322	0.2668 0.2017	0.2497	0.2157	0.2354	Lin2	0.0731	0.2123							0.9940		0.9900
1,2,3-Trichlorobenzene	0.4753 0.4785	0.4938 0.4400	0.4566	0.4734	0.4689	Ave		0.4695				3.6		15.0			
Dibromofluoromethane	0.2056 0.2244	0.2239 0.2143	0.2310	0.2277	0.2245	Ave		0.2216				3.9		15.0			
1,2-Dichloroethane-d4 (Surr)	0.2230 0.1977	0.2177 0.1869	0.2056	0.2002	0.1889	Ave		0.2029				6.7		15.0			
Toluene-d8 (Surr)	2.5377 2.8465	2.4907 2.6176	2.3380	2.5505	2.8050	Ave		2.5980				6.8		15.0			
4-Bromofluorobenzene	1.2725 1.0631	1.0682 0.9520	1.0222	1.0336	1.0982	Ave		1.0728				9.3		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-184699/2	A08101.d
Level 2	IC 600-184699/3	A08102.d
Level 3	IC 600-184699/4	A08103.d
Level 4	IC 600-184699/5	A08104.d
Level 5	ICIS 600-184699/6	A08105.d
Level 6	IC 600-184699/7	A08106.d
Level 7	IC 600-184699/8	A08107.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	1011 46643	2343 118830	4967	11516	24711	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chloromethane	FB	Ave	1924 63559	3254 192958	5810	14380	31057	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Vinyl chloride	FB	Ave	2743 121466	5897 329396	12909	31140	63395	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Butadiene	FB	Ave	1684 69201	2989 201242	7266	17427	37611	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Bromomethane	FB	Lin	549 19387	621 60015	1073	3118	8000	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chloroethane	FB	Lin2	3051 74683	4663 205164	7862	18995	37372	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	7009 257110	14246 610740	23156	60752	121943	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Acrolein	FB	Ave	1553 62901	2735 171638	5221	14524	27971	2.50 100	5.00 250	10.0	25.0	50.0
Acetonitrile	FB	Ave	1518 64283	2846 160278	6369	15868	29499	5.00 200	10.0 500	20.0	50.0	100
Trichlorofluoromethane	FB	Ave	5864 227547	11948 573428	24934	60422	124832	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isopropyl alcohol	FB	Lin1	740 23046	1543 61534	2539	5528	10904	5.00 200	10.0 500	20.0	50.0	100
Acetone	FB	Lin1	1920 28157	2243 73769	3109	7483	14009	1.00 40.0	2.00 100	4.00	10.0	20.0
Ethyl ether	FB	Ave	2363 132135	5833 347615	10619	31022	61728	0.500 20.0	1.00 50.0	2.00	5.00	10.0
t-Butanol	FB	Ave	2363 132135	5833 347615	10619	31022	61728	5.00 200	10.0 500	20.0	50.0	100
1,1-Dichloroethene	FB	Ave	3875 178301	8439 420057	14869	40732	85163	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Acrylonitrile	FB	Ave	4322 232735	10863 595868	21462	57429	110586	5.00 200	10.0 500	20.0	50.0	100
Iodomethane	FB	Lin	1513 90759	1884 305508	3476	12010	32246	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Methylene Chloride	FB	Lin2	7675 166610	12966 403337	19782	45022	83668	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Methyl acetate	FB	Ave	6003 249505	12672 631112	22684	64029	121105	2.50 100	5.00 250	10.0	25.0	50.0
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Ave	4221 170305	8432 408394	15264	40915	81308	0.500 20.0	1.00 50.0	2.00	5.00	10.0
3-Chloro-1-propene	FB	Ave	2406 106605	4551 237561	8589	24383	50793	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Carbon disulfide	FB	Ave	14186 538808	26626 1287868	48144	125525	259434	0.500 20.0	1.00 50.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	4858 210329	9683 521232	17274	44417	96906	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Methyl tert-butyl ether	FB	Ave	5181 301833	13245 775408	24647	68937	140271	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Propionitrile	FB	Lin2	1223 89332	3817 226495	7699	21105	42842	5.00 200	10.0 500	20.0	50.0	100
1,1-Dichloroethane	FB	Ave	11813 461487	22477 1131843	41492	112567	222673	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Vinyl acetate	FB	Lin2	5304 391534	14304 962217	28913	87097	177786	1.00 40.0	2.00 100	4.00	10.0	20.0
2-Chloro-1,3-butadiene	FB	Lin2	7452 480420	16460 1176135	34240	102213	220399	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Hexane	FB	Ave	8415 441238	19185 1007410	37730	103747	219747	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isopropyl ether	FB	Ave	14076 730010	33304 1648943	65911	177858	359575	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Butanone (MEK)	FB	Ave	383 14284	744 35304	1567	3683	6555	1.00 40.0	2.00 100	4.00	10.0	20.0
Methacrylonitrile	FB	Ave	1644 99978	4793 254241	8815	24195	49683	5.00 200	10.0 500	20.0	50.0	100
cis-1,2-Dichloroethene	FB	Ave	5175 211837	10462 528992	19311	50148	101646	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethyl acetate	FB	Ave	2491 132466	5591 345971	11009	31017	60451	1.00 40.0	2.00 100	4.00	10.0	20.0
Chlorobromomethane	FB	Ave	1736 61688	3494 150536	6044	15424	30209	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chloroform	FB	Ave	9173 358671	18485 877419	32688	88633	175335	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Tert-butyl ethyl ether	FB	Ave	10625 614189	26591 1529911	51123	143559	287784	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isobutyl alcohol	FB	Ave	2374 95184	5568 228498	9789	23093	46458	12.5 500	25.0 1250	50.0	125	250
2,2-Dichloropropane	FB	Ave	8081 351669	17099 854282	32070	82456	170065	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Ave	696 31494	1720 84437	3043	7263	14619	1.00 40.0	2.00 100	4.00	10.0	20.0
1,2-Dichloroethane	FB	Ave	4754 202720	10197 502001	18595	49545	96139	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,1,1-Trichloroethane	FB	Ave	8234 356304	17042 884662	30467	82111	166652	0.500 20.0	1.00 50.0	2.00	5.00	10.0
n-Butanol	FB	Lin	410 24210	594 71655	1603	4788	9763	12.5 500	25.0 1250	50.0	125	250
1,1-Dichloropropene	FB	Ave	5300 295962	11315 712529	22183	63976	138782	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Cyclohexane	FB	Ave	5553 321620	12712 768252	24471	71575	151982	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	6711 319020	13808 777923	26767	71831	149562	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Benzene	FB	Ave	20964 834785	41233 1954968	75552	198237	401910	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Tert-amyl methyl ether	FB	Ave	5288 330496	13810 837841	26556	76785	151448	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isooctane	FB	Ave	18056 919149	40552 2158659	75384	201778	437114	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethyl acrylate	FB	Ave	3938 175309	7367 450681	14457	39891	82620	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Nitropropane	FB	Ave	6211 323579	13426 742141	26310	75038	155552	1.00 40.0	2.00 100	4.00	10.0	20.0
n-Heptane	FB	Ave	6211 323579	13426 742141	26310	75038	155552	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Dibromomethane	FB	Ave	1532 56321	2970 143506	5399	14202	26708	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dichloropropane	FB	Ave	5876 223928	10959 538467	20992	53067	107222	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	5283 228808	10605 559006	20868	50887	107929	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Bromodichloromethane	FB	Ave	4222 208009	9422 518105	18499	50254	99997	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,4-Dioxane	FB	Lin1	275 7585	582 19069	1022	1924	3761	10.0 400	20.0 1000	40.0	100	200

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
2-Chloroethyl vinyl ether	CBNZ d5	Lin1	1035 86536	2256 237370	5034	16931	36436	1.00 40.0	2.00 100	4.00	10.0	20.0
Methylcyclohexane	FB	Ave	5731 337392	13243 797180	26526	74367	157508	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Methyl methacrylate	FB	Ave	2879 151734	6538 347525	11858	35118	73037	1.00 40.0	2.00 100	4.00	10.0	20.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	3860 214479	8347 529430	16347	46036	98682	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	1718 112883	4394 285077	8357	25958	51334	1.00 40.0	2.00 100	4.00	10.0	20.0
trans-1,3-Dichloropropene	CBNZ d5	Ave	1864 127945	5471 338728	8917	26324	56401	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,1,2-Trichloroethane	CBNZ d5	Ave	1425 76691	4000 185576	7192	18140	36155	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Lin1	1015 91763	2549 237622	5454	18222	40250	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Toluene	CBNZ d5	Ave	8809 486200	19615 1137535	39532	111772	232658	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	2911 144850	6744 344520	13876	36019	70187	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Hexanone	CBNZ d5	Lin2	679 58827	1852 159180	4064	12956	24664	1.00 40.0	2.00 100	4.00	10.0	20.0
Dibromochloromethane	CBNZ d5	Ave	1759 89171	3997 233621	7354	20419	41134	0.500 20.0	1.00 50.0	2.00	5.00	10.0
n-Butyl acetate	CBNZ d5	Lin1	1068 90477	2643 243616	5121	17619	38271	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dibromoethane	CBNZ d5	Ave	1269 65037	3315 168935	5607	15521	30268	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	3317 159739	7535 389790	13150	35141	74498	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Ave	3498 231735	7681 535215	16971	49394	108302	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	3124 141387	6838 344353	12353	33493	68842	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	10126 429699	21149 1033780	39845	104153	205367	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	4866 260228	10580 621555	19814	55693	122301	0.500 20.0	1.00 50.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	9889 604340	22388 1465502	43615	132487	286243	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Bromoform	DCBd 4	Ave	813 37315	1738 111260	3088	8185	16288	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Styrene	CBNZ d5	Lin1	4153 385036	10612 1032754	21557	71845	165718	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Lin1	906 68507	2584 209417	5388	14258	30506	25.0 1000	50.0 2500	100	250	500
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	1482 69204	3397 182424	6039	16793	33822	0.500 20.0	1.00 50.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	4599 297787	11288 728042	22128	68597	141070	0.500 20.0	1.00 50.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Lin2	205 16734	500 50047	1157	3306	6143	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Ave	429 19531	1046 56113	2052	4881	9170	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	9978 752706	24657 1859408	50470	157617	347169	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	2335 138490	5685 379659	10712	29454	61036	0.500 20.0	1.00 50.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	2593 203568	6321 518637	12596	41392	92319	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	2908 168737	6242 444945	11681	36329	77936	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	8043 518424	18399 1352732	36083	114337	233437	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	8274 615773	20525 1585791	42844	130531	279240	0.500 20.0	1.00 50.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	7642 501027	18030 1318048	34096	104875	226510	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	7967 620126	20655 1635331	42084	131371	279387	0.500 20.0	1.00 50.0	2.00	5.00	10.0
sec-Butylbenzene	DCBd 4	Ave	11469 748325	27070 1939562	54482	160212	343249	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Benzyl chloride	DCBd 4	Lin2	1414 117468	3831 355832	7581	22870	47994	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	5100 319247	12983 873533	24677	69615	142237	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	6223 324738	13917 847577	25589	71769	146937	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Ave	11276 652119	25922 1697704	49027	137595	295039	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	9479 599838	21655 1607997	41302	126584	269955	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dichlorobenzene	DCBd 4	Ave	5018 259133	10734 701693	20537	55190	114636	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 184699

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/21/2016 09:46 Calibration End Date: 03/21/2016 12:18 Calibration ID: 8787

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
n-Butylbenzene	DCBd 4	Ave	8049 557854	17199 1479591	35690	111150	252292	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	207 8890	406 27101	660	2000	3983	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	3694 193699	8241 520725	14926	42216	88555	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	1988 119807	3979 336218	8136	25378	51070	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Lin2	1253 140032	4268 424986	8967	27016	59597	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Lin2	1084 36922	1716 93919	3373	7703	17014	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	1401 76068	3176 204905	6168	16907	33883	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Dibromofluoromethane	FB	Ave	3271 149013	7029 374319	14303	35754	72967	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	3549 131244	6834 326457	12735	31431	61380	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Ave	11095 570663	22545 1370673	42632	123684	272690	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Bromofluorobenzene	DCBd 4	Ave	3751 169026	6870 443360	13810	36911	79359	0.500 20.0	1.00 50.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD
Lin = Linear ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08101.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Mar-2016 09:46:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011198-002
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub32

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 14-Jun-2016 16:57:32 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK006

First Level Reviewer: shenw Date: 21-Mar-2016 10:13:28

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.001	98	397814	12.5	12.5	
2 Dichlorodifluoromethane	85	4.009	4.003	0.006	95	1011	0.5000	0.4394	
3 Chloromethane	50	4.246	4.246	0.000	96	1924	0.5000	0.5946	
4 Vinyl chloride	62	4.478	4.477	0.001	95	2743	0.5000	0.4524	
5 Butadiene	39	4.605	4.605	0.000	77	1684	0.5000	0.4845	
8 Ethanol	45		4.836				ND	ND	
7 Bromomethane	94	4.922	4.928	-0.006	1	549	0.5000	1.94	M
9 Chloroethane	64	5.080	5.080	0.000	89	3051	0.5000	0.5091	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	96	7009	0.5000	0.5571	
14 Acrolein	56	5.621	5.615	0.006	25	1553	2.50	2.67	
15 Acetonitrile	41	5.615	5.615	0.000	65	1518	5.00	4.99	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	98	5864	0.5000	0.4977	
17 Isopropyl alcohol	45	5.646	5.652	-0.006	25	740	5.00	4.24	
18 Acetone	43	5.731	5.725	0.006	93	1920	1.00	1.29	
19 Ethyl ether	59	5.828	5.828	0.000	94	2363	0.5000	0.4025	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	67	2363	5.00	4.02	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	90	3875	0.5000	0.4780	
23 Acrylonitrile	52	6.144	6.138	0.006	99	4322	5.00	4.02	
24 Iodomethane	142	6.169	6.163	0.006	94	1513	0.5000	2.37	
25 Methylene Chloride	84	6.230	6.229	0.001	98	7675	0.5000	0.4596	
26 Methyl acetate	43	6.248	6.248	0.000	99	6003	2.50	2.48	
27 1,1,2-Trichloro-1,2,2-trif	151	6.260	6.266	-0.006	91	4221	0.5000	0.5212	
28 3-Chloro-1-propene	76	6.303	6.309	-0.006	95	2406	0.5000	0.5074	
29 Carbon disulfide	76	6.467	6.473	-0.006	99	14186	0.5000	0.5509	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	90	4858	0.5000	0.5115	
31 Methyl tert-butyl ether	73	6.850	6.856	-0.006	94	5181	0.5000	0.3910	
32 Propionitrile	54	6.984	6.966	0.018	21	1223	5.00	4.77	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	11813	0.5000	0.5331	
34 Vinyl acetate	43	7.051	7.045	0.006	97	5304	1.00	1.01	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	89	7452	0.5000	0.5224	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 Hexane	57	7.282	7.288	-0.006	85	8415	0.5000	0.4277	
38 Isopropyl ether	45	7.294	7.294	0.000	85	14076	0.5000	0.4246	
37 2-Butanone (MEK)	72	7.312	7.294	0.018	67	383	1.00	1.06	
39 Methacrylonitrile	66	7.379	7.373	0.006	91	1644	5.00	3.61	
40 cis-1,2-Dichloroethene	96	7.428	7.434	-0.006	63	5175	0.5000	0.5117	
43 Ethyl acetate	43	7.531	7.519	0.012	96	2491	1.00	0.8471	
45 Chlorobromomethane	128	7.562	7.562	0.000	98	1736	0.5000	0.5548	
S 46 1,2-Dichloroethene, Total	96				0		1.00	1.02	
48 Chloroform	83	7.586	7.592	-0.006	91	9173	0.5000	0.5255	
49 Tert-butyl ethyl ether	59	7.604	7.598	0.006	97	10625	0.5000	0.3934	
50 Isobutyl alcohol	43	7.598	7.604	-0.006	47	2374	12.5	12.4	
51 2,2-Dichloropropane	77	7.653	7.659	-0.006	89	8081	0.5000	0.4886	
$ 52 Dibromofluoromethane	113	7.684	7.683	0.001	93	3271	0.5000	0.4637	
53 Tetrahydrofuran	42	7.854	7.848	0.006	79	696	1.00	0.9148	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	3549	0.5000	0.5497	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	96	4754	0.5000	0.4914	
59 n-Butanol	56	8.213	8.170	0.043	12	410	12.5	37.6	M
60 1,1,1-Trichloroethane	97	8.170	8.176	-0.006	97	8234	0.5000	0.4988	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	95	5300	0.5000	0.4255	
62 Cyclohexane	84	8.408	8.407	0.001	87	5553	0.5000	0.4076	
63 Carbon tetrachloride	119	8.468	8.468	0.000	98	6711	0.5000	0.4705	
64 Benzene	78	8.487	8.486	0.001	97	20964	0.5000	0.5284	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	91	5288	0.5000	0.3712	
68 Isooctane	57	8.785	8.785	0.000	93	18056	0.5000	0.4465	
69 Ethyl acrylate	55	8.846	8.821	0.025	38	3938	0.5000	0.4961	
70 n-Heptane	43	8.846	8.845	0.001	87	6211	0.5000	0.4390	
67 2-Nitropropane	43	8.846	8.845	0.001	89	6211	1.00	0.8781	
71 Dibromomethane	93	8.931	8.937	-0.006	54	1532	0.5000	0.5455	
72 1,2-Dichloropropane	63	8.955	8.949	0.006	96	5876	0.5000	0.5451	
73 Trichloroethene	130	8.979	8.973	0.006	97	5283	0.5000	0.4992	
74 Dichlorobromomethane	83	9.022	9.022	0.000	98	4222	0.5000	0.4418	
76 1,4-Dioxane	58	9.077	9.083	-0.006	1	275	10.0	5.58	M
75 Methyl methacrylate	41	9.417	9.417	0.000	47	2879	1.00	0.8695	
78 Methylcyclohexane	83	9.411	9.417	-0.006	90	5731	0.5000	0.4023	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.582	0.006	92	1718	1.00	0.7271	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	88	109302	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.308	9.302	0.006	74	1035	1.00	1.37	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	95	3860	0.5000	0.4580	
88 trans-1,3-Dichloropropene	75	9.892	9.892	0.000	81	1864	0.5000	0.3799	
89 1,1,2-Trichloroethane	97	10.062	10.056	0.006	91	1425	0.5000	0.4313	
$ 91 Toluene-d8 (Surr)	98	10.172	10.166	0.006	94	11095	0.5000	0.4884	
92 Ethyl methacrylate	69	10.220	10.214	0.006	51	1015	0.5000	0.6294	
93 Toluene	92	10.239	10.239	0.000	98	8809	0.5000	0.4507	
94 1,3-Dichloropropane	76	10.287	10.275	0.012	86	2911	0.5000	0.4645	
95 2-Hexanone	43	10.385	10.366	0.019	47	679	1.00	1.04	
97 Chlorodibromomethane	129	10.579	10.585	-0.006	91	1759	0.5000	0.4722	
98 n-Butyl acetate	43	10.665	10.652	0.013	74	1068	0.5000	0.6629	
99 Ethylene Dibromide	107	10.835	10.835	0.000	95	1269	0.5000	0.4530	
S 100 Xylenes, Total	106				0		1.00	0.8231	
101 Tetrachloroethene	164	10.981	10.981	0.000	93	3317	0.5000	0.4968	
102 1-Chlorohexane	55	11.534	11.534	0.000	84	3498	0.5000	0.4064	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	78	3124	0.5000	0.5094	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.674	11.674	0.000	96	10126	0.5000	0.5328	
105 Ethylbenzene	106	11.851	11.851	0.000	98	4866	0.5000	0.4716	
106 m-Xylene & p-Xylene	91	12.046	12.045	0.001	0	9889	0.5000	0.4252	
107 Styrene	104	12.411	12.410	0.000	95	4153	0.5000	0.6673	
108 Cyclohexanone	55	12.453	12.453	0.000	48	906	25.0	30.8	
109 o-Xylene	106	12.496	12.489	0.007	97	4599	0.5000	0.3979	
* 110 1,4-Dichlorobenzene-d4	152	14.230	14.223	0.007	97	73694	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	71	813	0.5000	0.5669	
115 1,1,2,2-Tetrachloroethane	83	12.484	12.483	0.001	51	1482	0.5000	0.5426	
116 trans-1,4-Dichloro-2-buten	53	12.636	12.635	0.001	28	205	0.5000	0.5184	M
117 1,2,3-Trichloropropane	110	12.636	12.642	-0.006	1	429	0.5000	0.5268	M
118 Isopropylbenzene	105	12.873	12.873	0.000	97	9978	0.5000	0.4100	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	88	3751	0.5000	0.5931	
120 Bromobenzene	156	13.171	13.165	0.006	95	2335	0.5000	0.4760	
121 N-Propylbenzene	120	13.323	13.323	0.000	99	2593	0.5000	0.4038	
122 2-Chlorotoluene	126	13.439	13.439	0.000	96	2908	0.5000	0.4979	
123 4-Chlorotoluene	91	13.512	13.512	0.000	98	8043	0.5000	0.4579	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	95	8274	0.5000	0.4099	
128 tert-Butylbenzene	119	13.883	13.883	0.000	95	7642	0.5000	0.4543	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	97	7967	0.5000	0.3944	
131 sec-Butylbenzene	105	14.096	14.096	0.000	95	11469	0.5000	0.4503	
132 Benzyl chloride	91	14.187	14.181	0.006	51	1414	0.5000	0.5115	
133 1,3-Dichlorobenzene	146	14.193	14.187	0.006	87	5100	0.5000	0.4527	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	89	6223	0.5000	0.5250	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	11276	0.5000	0.4928	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	98	9479	0.5000	0.4661	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	94	5018	0.5000	0.5339	
139 n-Butylbenzene	91	14.674	14.673	0.001	97	8049	0.5000	0.4479	
140 1,2-Dibromo-3-Chloropropan	157	15.081	15.087	-0.006	1	207	0.5000	0.6032	M
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	94	3694	0.5000	0.5232	
142 1,2,4-Trichlorobenzene	180	16.590	16.565	0.025	38	1988	0.5000	0.4930	
143 Naphthalene	128	16.882	16.870	0.012	46	1253	0.5000	0.5056	
144 Hexachlorobutadiene	190	16.918	16.906	0.012	57	1084	0.5000	0.5216	
145 1,2,3-Trichlorobenzene	180	17.131	17.113	0.018	46	1401	0.5000	0.5062	
S 146 1,3-Dichloropropene, Total	1				0			0.8379	
S 147 Trihalomethanes, Total	1				0			2.01	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

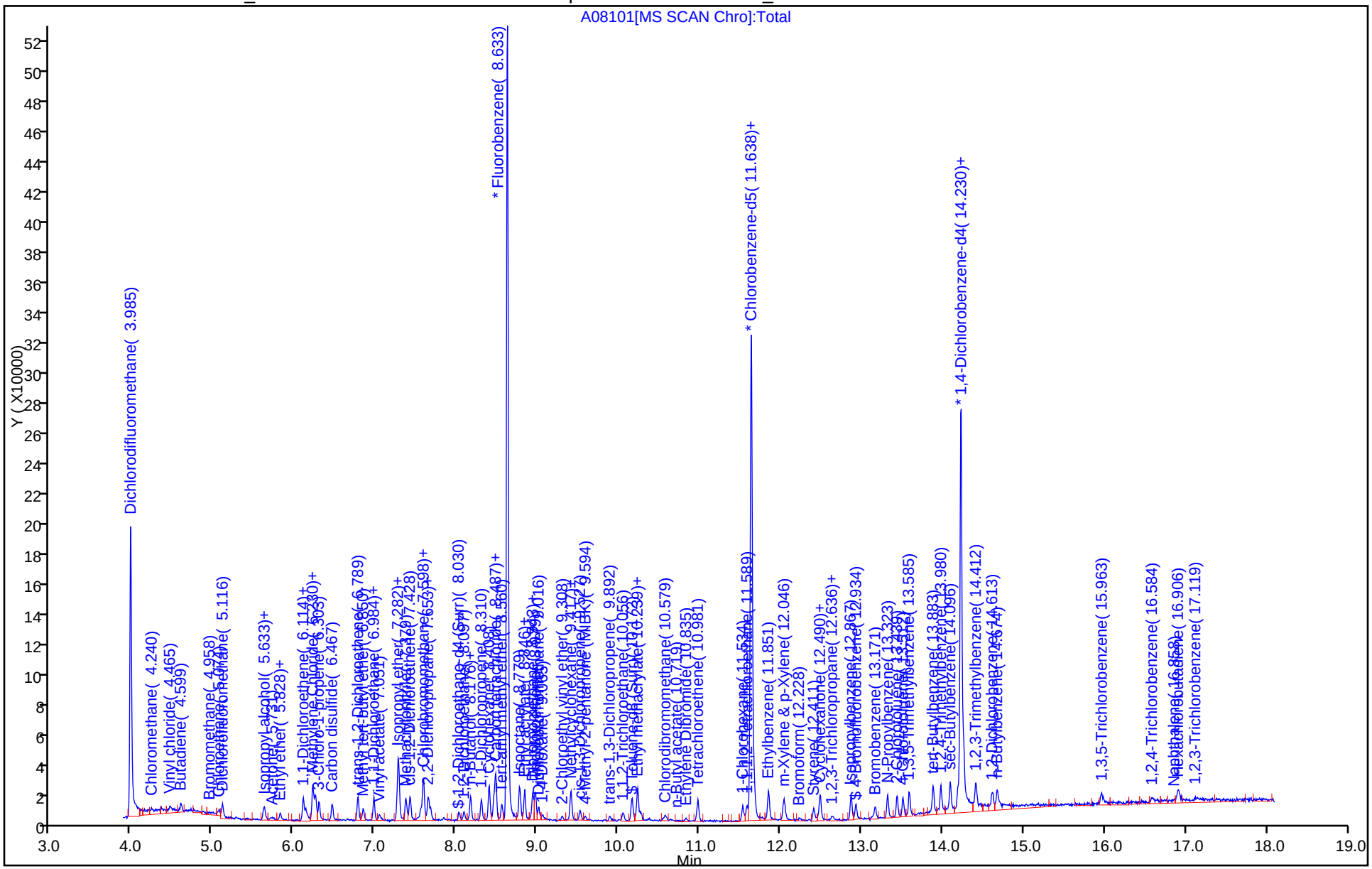
Reagents:

VOAIS50PPM_00168	Amount Added:	5.00	Units: uL
VOASTDPT2_00053	Amount Added:	0.20	Units: uL
VOASTDGASPT_00159	Amount Added:	0.20	Units: uL

Report Date: 14-Jun-2016 16:57:36 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08101.d				
Injection Date:	21-Mar-2016 09:46:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



Manual Integration/User Assign Peak Report

TestAmerica Houston

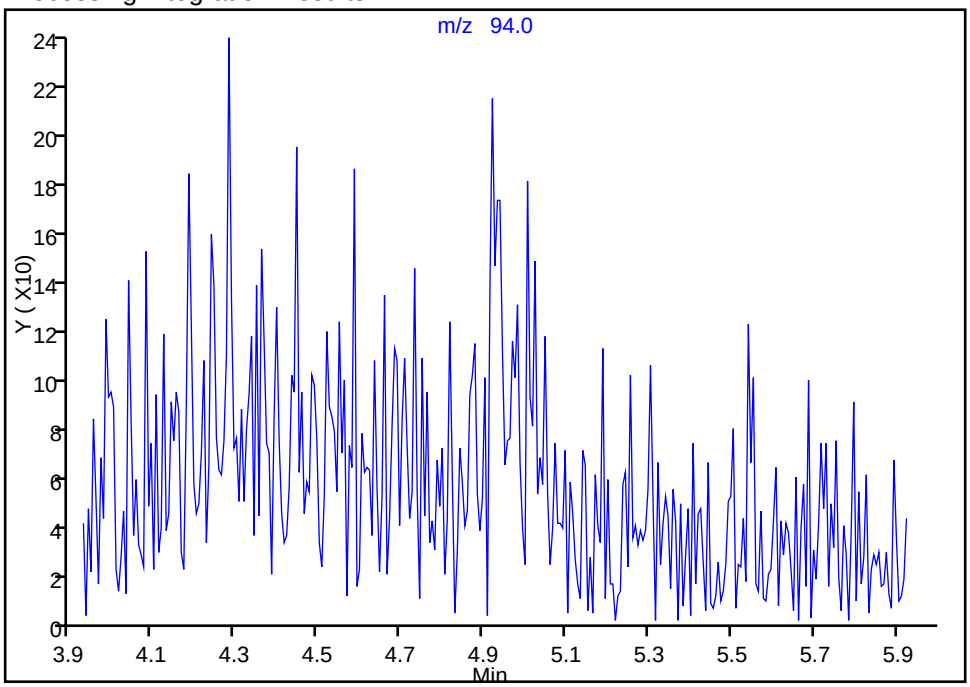
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08101.d				
Injection Date:	21-Mar-2016 09:46:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

7 Bromomethane, CAS: 74-83-9

Signal: 1

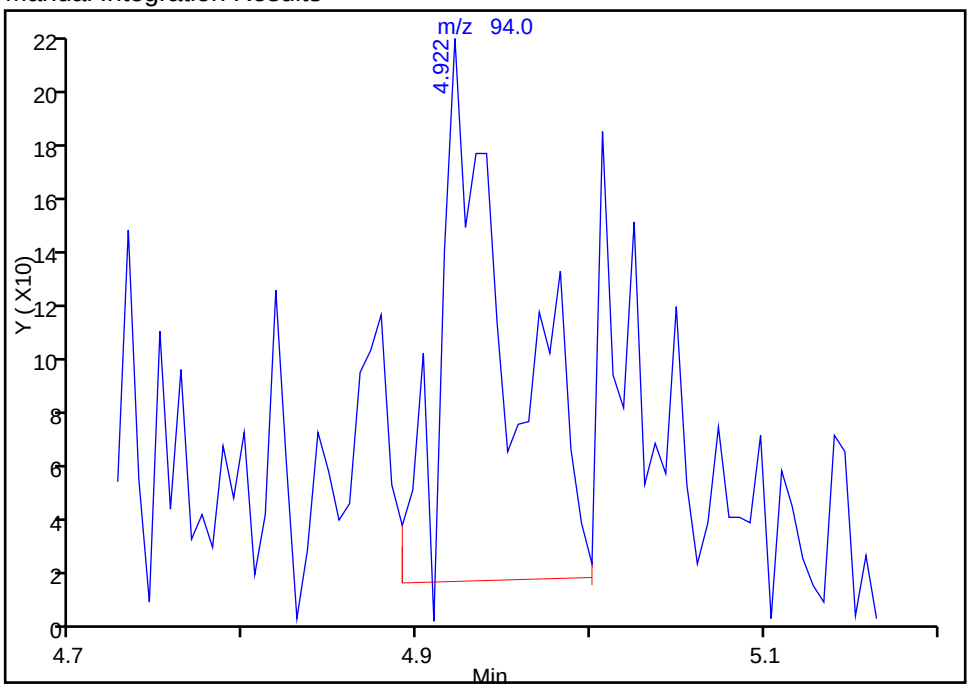
Processing Integration Results

Not Detected
Expected RT: 4.93



Manual Integration Results

RT: 4.92
Area: 549
Amount: 1.935230
Amount Units: ug/l



Reviewer: shenw, 21-Mar-2016 12:08:20
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

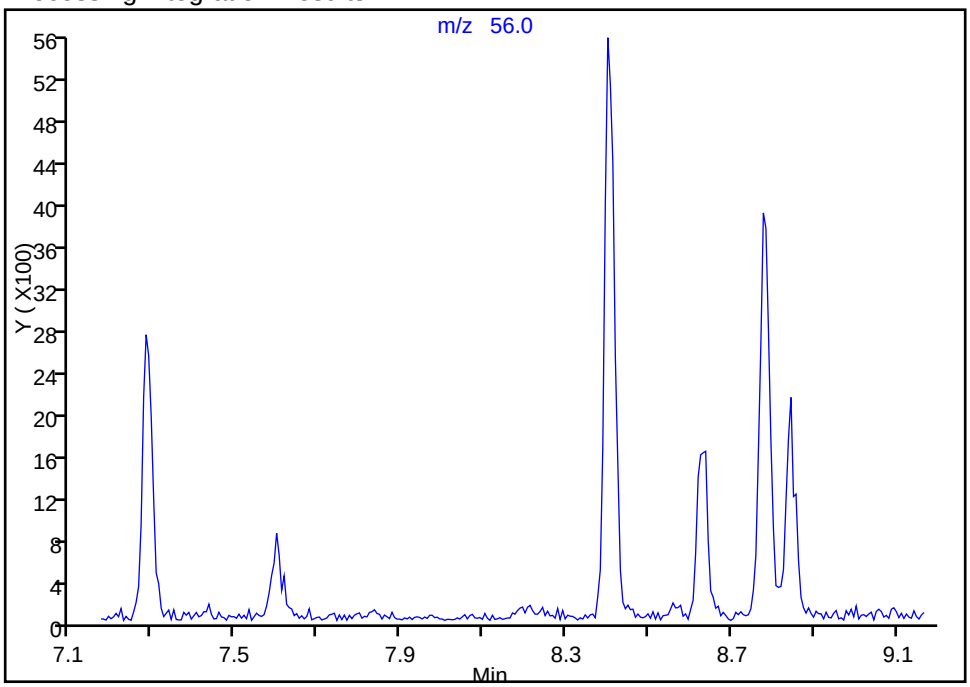
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08101.d				
Injection Date:	21-Mar-2016 09:46:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

59 n-Butanol, CAS: 71-36-3

Signal: 1

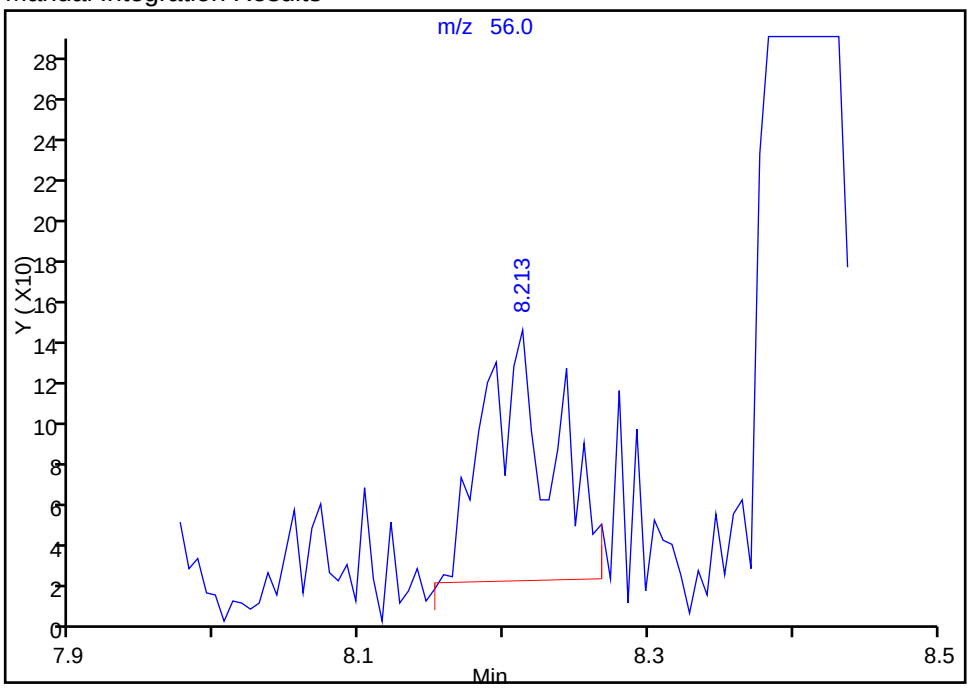
Not Detected
Expected RT: 8.17

Processing Integration Results



RT: 8.21
Area: 410
Amount: 37.634453
Amount Units: ug/l

Manual Integration Results



Reviewer: shenw, 21-Mar-2016 12:18:47
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

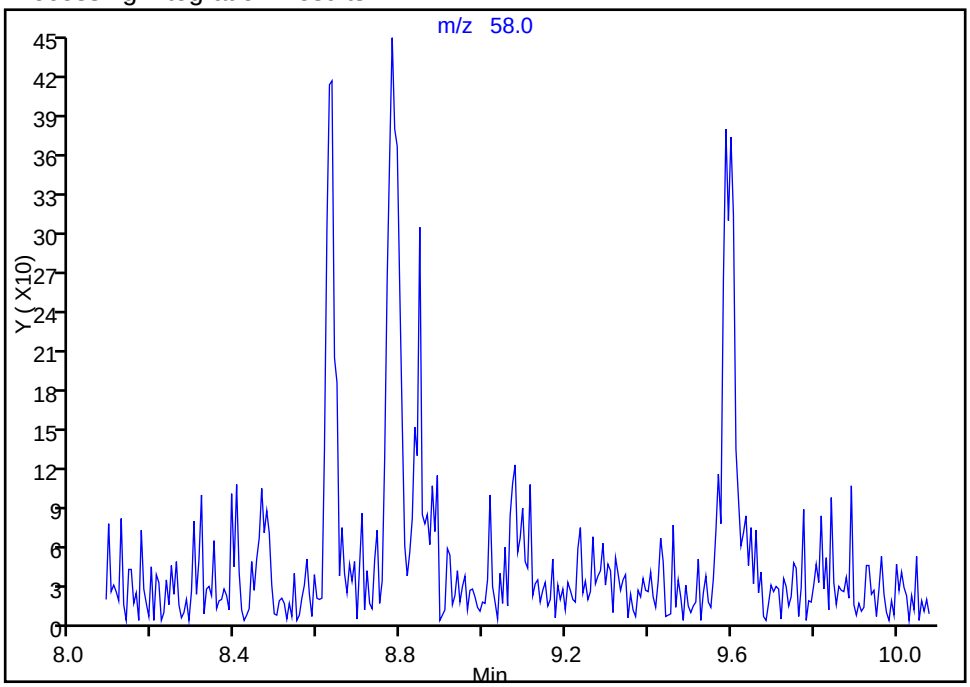
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08101.d				
Injection Date:	21-Mar-2016 09:46:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

76 1,4-Dioxane, CAS: 123-91-1

Signal: 1

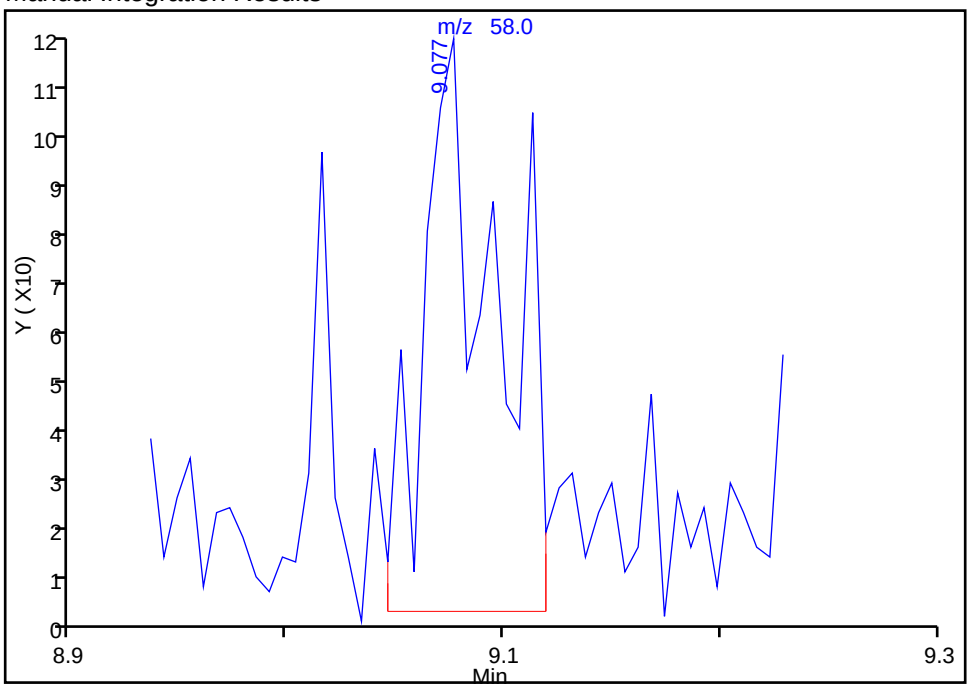
Not Detected
Expected RT: 9.08

Processing Integration Results



Manual Integration Results

RT: 9.08
Area: 275
Amount: 5.582864
Amount Units: ug/l



Reviewer: shenw, 21-Mar-2016 12:08:20
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

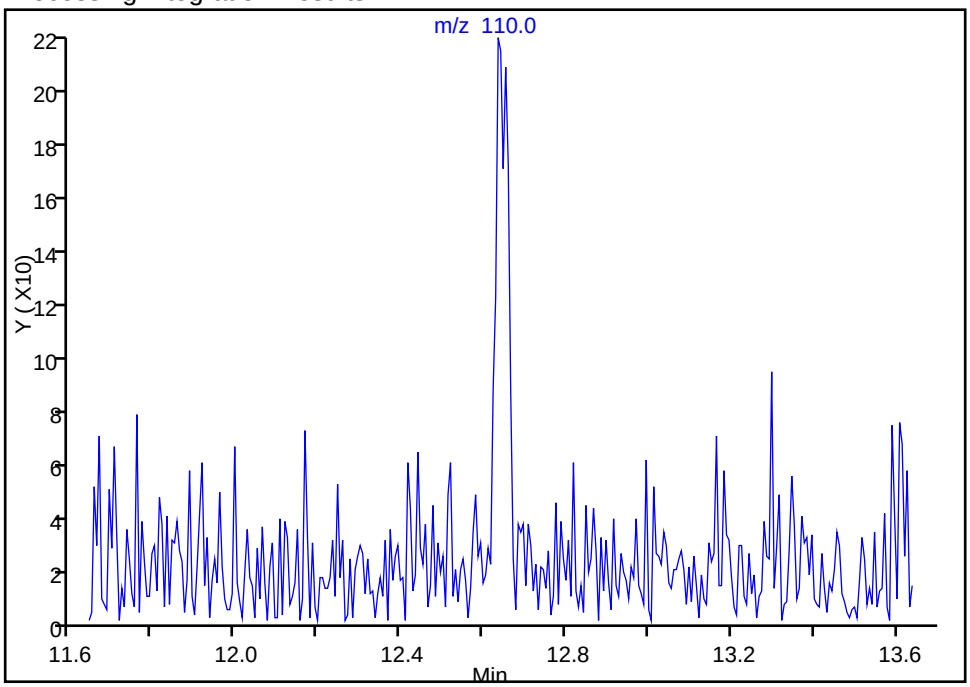
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08101.d				
Injection Date:	21-Mar-2016 09:46:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

117 1,2,3-Trichloropropane, CAS: 96-18-4

Signal: 1

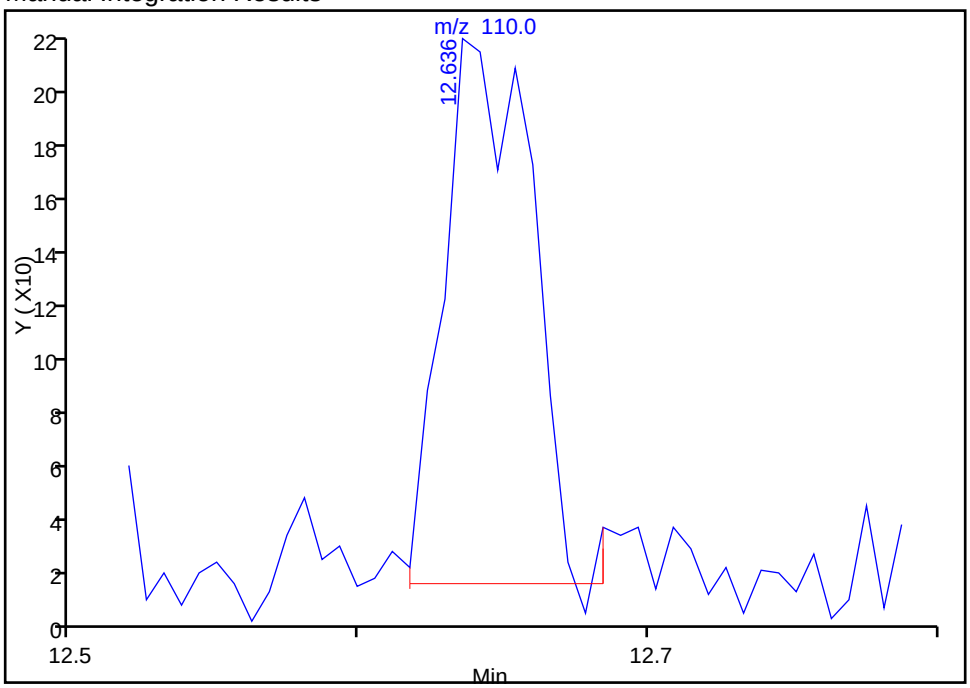
Processing Integration Results

Not Detected
Expected RT: 12.64



Manual Integration Results

RT: 12.64
Area: 429
Amount: 0.526770
Amount Units: ug/l



Reviewer: shenw, 21-Mar-2016 12:08:20
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

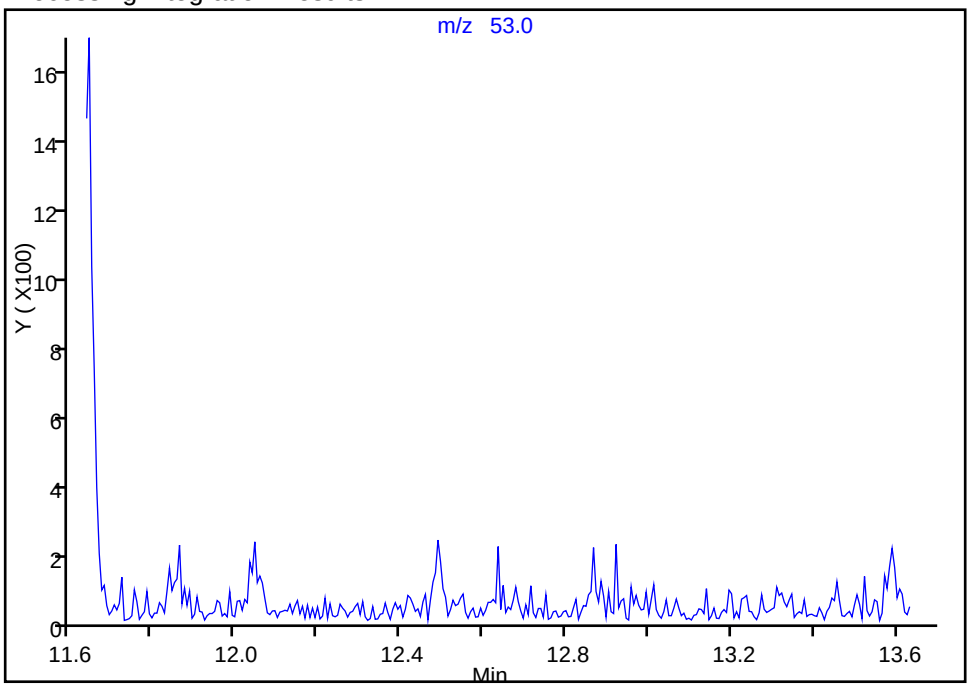
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08101.d				
Injection Date:	21-Mar-2016 09:46:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

116 trans-1,4-Dichloro-2-butene, CAS: 110-57-6

Signal: 1

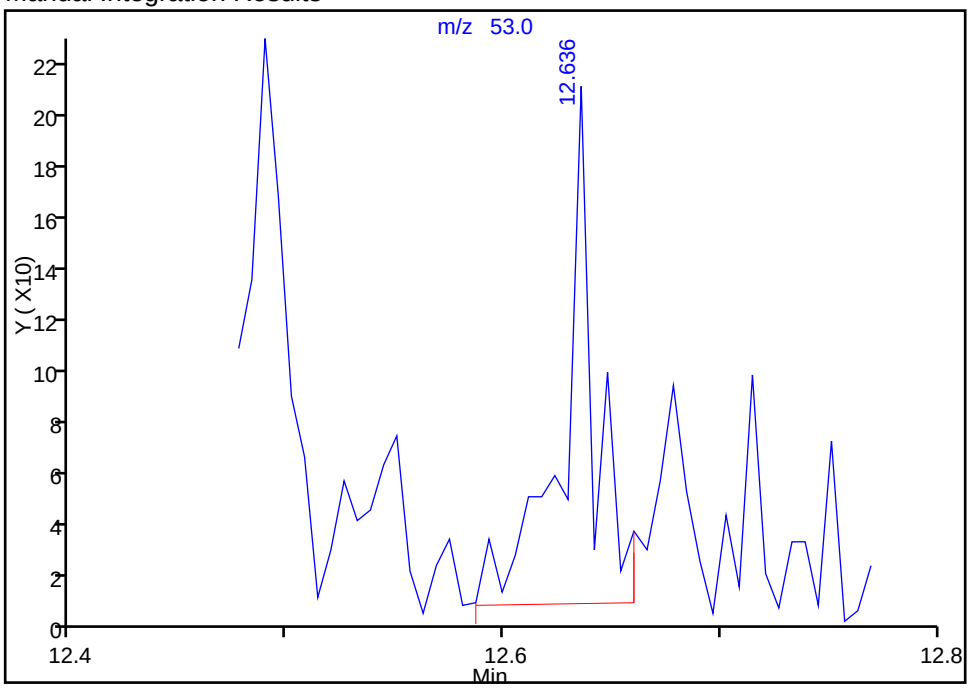
Processing Integration Results

Not Detected
Expected RT: 12.64



Manual Integration Results

RT: 12.64
Area: 205
Amount: 0.518406
Amount Units: ug/l



Reviewer: shenw, 21-Mar-2016 12:08:20
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

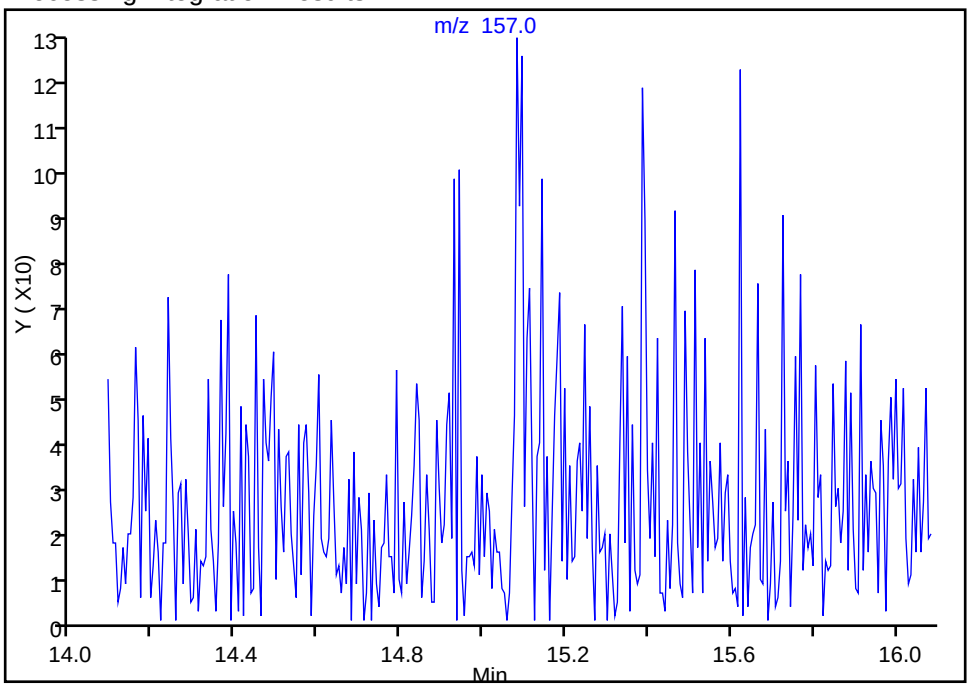
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08101.d				
Injection Date:	21-Mar-2016 09:46:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

140 1,2-Dibromo-3-Chloropropane, CAS: 96-12-8

Signal: 1

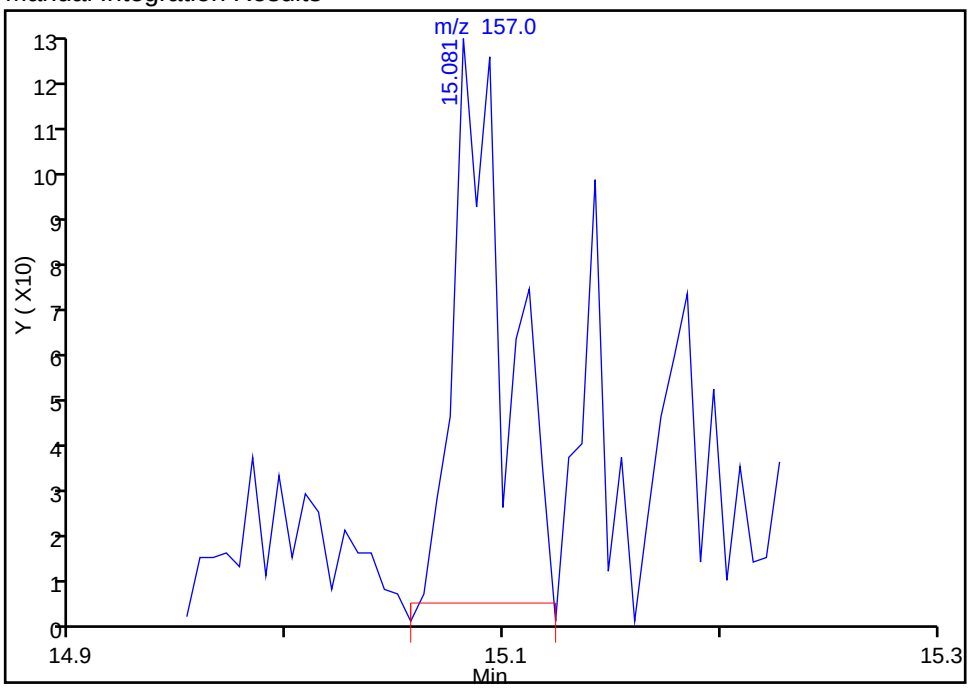
Processing Integration Results

Not Detected
Expected RT: 15.09



Manual Integration Results

RT: 15.08
Area: 207
Amount: 0.603241
Amount Units: ug/l



Reviewer: shenw, 21-Mar-2016 12:08:20
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08102.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Mar-2016 10:11:30 ALS Bottle#: 1 Worklist Smp#: 3
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011198-003
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub32

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 14-Jun-2016 16:57:44 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK006

First Level Reviewer: shenw Date: 21-Mar-2016 12:09:27

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.001	98	392340	12.5	12.5	
2 Dichlorodifluoromethane	85	4.009	4.003	0.006	92	2343	1.00	1.03	
3 Chloromethane	50	4.246	4.246	0.000	98	3254	1.00	1.02	
4 Vinyl chloride	62	4.478	4.477	0.001	97	5897	1.00	0.9862	
5 Butadiene	39	4.605	4.605	0.000	78	2989	1.00	0.8719	
8 Ethanol	45		4.836				ND	ND	
7 Bromomethane	94	4.928	4.928	0.000	71	621	1.00	2.01	
9 Chloroethane	64	5.080	5.080	0.000	98	4663	1.00	0.9806	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	14246	1.00	1.15	
14 Acrolein	56	5.621	5.615	0.006	95	2735	5.00	4.76	
15 Acetonitrile	41	5.627	5.615	0.012	90	2846	10.0	9.48	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	99	11948	1.00	1.03	
17 Isopropyl alcohol	45	5.664	5.652	0.012	98	1543	10.0	11.7	
18 Acetone	43	5.731	5.725	0.006	98	2243	2.00	1.84	
19 Ethyl ether	59	5.828	5.828	0.000	92	5833	1.00	1.01	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	93	5833	10.0	10.1	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	93	8439	1.00	1.06	
23 Acrylonitrile	52	6.144	6.138	0.006	96	10863	10.0	10.3	
24 Iodomethane	142	6.169	6.163	0.006	96	1884	1.00	2.45	
25 Methylene Chloride	84	6.230	6.229	0.001	97	12966	1.00	1.15	
26 Methyl acetate	43	6.248	6.248	0.000	99	12672	5.00	5.30	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.266	0.000	92	8432	1.00	1.06	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	92	4551	1.00	0.9731	
29 Carbon disulfide	76	6.473	6.473	0.000	99	26626	1.00	1.05	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	91	9683	1.00	1.03	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	96	13245	1.00	1.01	
32 Propionitrile	54	6.984	6.966	0.018	38	3817	10.0	10.9	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	96	22477	1.00	1.03	
34 Vinyl acetate	43	7.051	7.045	0.006	97	14304	2.00	2.03	
35 2-Chloro-1,3-butadiene	53	7.276	7.270	0.006	92	16460	1.00	0.9518	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 Hexane	57	7.288	7.288	0.000	90	19185	1.00	0.9887	
38 Isopropyl ether	45	7.288	7.294	-0.006	98	33304	1.00	1.02	
37 2-Butanone (MEK)	72	7.294	7.294	0.000	67	744	2.00	2.09	M
39 Methacrylonitrile	66	7.379	7.373	0.006	91	4793	10.0	10.7	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	71	10462	1.00	1.05	
43 Ethyl acetate	43	7.525	7.519	0.006	98	5591	2.00	1.93	
45 Chlorobromomethane	128	7.568	7.562	0.006	94	3494	1.00	1.13	
S 46 1,2-Dichloroethene, Total	96				0		2.00	2.08	
48 Chloroform	83	7.592	7.592	0.000	93	18485	1.00	1.07	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	99	26591	1.00	1.00	
50 Isobutyl alcohol	43	7.611	7.604	0.007	46	5568	25.0	29.6	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	89	17099	1.00	1.05	
$ 52 Dibromofluoromethane	113	7.690	7.683	0.007	92	7029	1.00	1.01	
53 Tetrahydrofuran	42	7.854	7.848	0.006	91	1720	2.00	2.29	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	6834	1.00	1.07	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	95	10197	1.00	1.07	
59 n-Butanol	56	8.189	8.170	0.019	24	594	25.0	41.3	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	96	17042	1.00	1.05	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	96	11315	1.00	0.9210	
62 Cyclohexane	84	8.408	8.407	0.001	88	12712	1.00	0.9460	
63 Carbon tetrachloride	119	8.468	8.468	0.000	95	13808	1.00	0.9815	
64 Benzene	78	8.493	8.486	0.007	98	41233	1.00	1.05	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	91	13810	1.00	0.9829	
68 Isooctane	57	8.785	8.785	0.000	94	40552	1.00	1.02	
69 Ethyl acrylate	55	8.846	8.821	0.025	32	7367	1.00	0.9410	
70 n-Heptane	43	8.846	8.845	0.001	88	13426	1.00	0.9623	
67 2-Nitropropane	43	8.846	8.845	0.001	85	13426	2.00	1.92	
71 Dibromomethane	93	8.937	8.937	0.000	84	2970	1.00	1.07	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	94	10959	1.00	1.03	
73 Trichloroethene	130	8.979	8.973	0.006	95	10605	1.00	1.02	
74 Dichlorobromomethane	83	9.022	9.022	0.000	96	9422	1.00	1.00	
76 1,4-Dioxane	58	9.101	9.083	0.018	32	582	20.0	23.6	
75 Methyl methacrylate	41	9.417	9.417	0.000	49	6538	2.00	2.00	
78 Methylcyclohexane	83	9.417	9.417	0.000	93	13243	1.00	0.9426	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.582	0.006	96	4394	2.00	1.89	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	88	113146	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	91	2256	2.00	1.97	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	95	8347	1.00	0.9568	
88 trans-1,3-Dichloropropene	75	9.886	9.892	-0.006	93	5471	1.00	1.08	
89 1,1,2-Trichloroethane	97	10.062	10.056	0.006	94	4000	1.00	1.17	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	94	22545	1.00	0.9587	
92 Ethyl methacrylate	69	10.214	10.214	0.000	88	2549	1.00	1.00	
93 Toluene	92	10.239	10.239	0.000	97	19615	1.00	0.9695	
94 1,3-Dichloropropane	76	10.281	10.275	0.006	95	6744	1.00	1.04	
95 2-Hexanone	43	10.385	10.366	0.019	97	1852	2.00	1.94	
97 Chlorodibromomethane	129	10.585	10.585	0.000	90	3997	1.00	1.04	
98 n-Butyl acetate	43	10.658	10.652	0.006	94	2643	1.00	1.04	
99 Ethylene Dibromide	107	10.841	10.835	0.006	96	3315	1.00	1.14	
S 100 Xylenes, Total	106				0		2.00	1.87	
101 Tetrachloroethene	164	10.981	10.981	0.000	97	7535	1.00	1.09	
102 1-Chlorohexane	55	11.528	11.534	-0.006	84	7681	1.00	0.8621	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	86	6838	1.00	1.08	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.681	11.674	0.007	95	21149	1.00	1.07	
105 Ethylbenzene	106	11.851	11.851	0.000	98	10580	1.00	0.99	
106 m-Xylene & p-Xylene	91	12.046	12.045	0.001	0	22388	1.00	0.9300	
107 Styrene	104	12.411	12.410	0.001	96	10612	1.00	1.03	
108 Cyclohexanone	55	12.453	12.453	0.000	80	2584	50.0	55.0	
109 o-Xylene	106	12.496	12.489	0.007	97	11288	1.00	0.9433	
* 110 1,4-Dichlorobenzene-d4	152	14.230	14.223	0.007	96	80392	12.5	12.5	
114 Bromoform	173	12.228	12.234	-0.006	92	1738	1.00	1.11	
115 1,1,2,2-Tetrachloroethane	83	12.484	12.483	0.001	53	3397	1.00	1.14	
116 trans-1,4-Dichloro-2-buten	53	12.636	12.635	0.001	60	500	1.00	0.9576	
117 1,2,3-Trichloropropane	110	12.648	12.642	0.006	88	1046	1.00	1.18	
118 Isopropylbenzene	105	12.873	12.873	0.000	97	24657	1.00	0.9286	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	87	6870	1.00	1.00	
120 Bromobenzene	156	13.165	13.165	0.000	94	5685	1.00	1.06	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	6321	1.00	0.9022	
122 2-Chlorotoluene	126	13.439	13.439	0.000	96	6242	1.00	0.9798	
123 4-Chlorotoluene	91	13.512	13.512	0.000	99	18399	1.00	0.9601	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	95	20525	1.00	0.9321	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	18030	1.00	0.9826	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	20655	1.00	0.9373	
131 sec-Butylbenzene	105	14.096	14.096	0.000	95	27070	1.00	0.9743	
132 Benzyl chloride	91	14.187	14.181	0.006	58	3831	1.00	1.02	
133 1,3-Dichlorobenzene	146	14.193	14.187	0.006	97	12983	1.00	1.06	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	93	13917	1.00	1.08	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	25922	1.00	1.04	
136 1,2,3-Trimethylbenzene	105	14.406	14.412	-0.006	98	21655	1.00	0.9761	
138 1,2-Dichlorobenzene	146	14.607	14.613	-0.006	98	10734	1.00	1.05	
139 n-Butylbenzene	91	14.674	14.673	0.001	97	17199	1.00	0.8774	
140 1,2-Dibromo-3-Chloropropan	157	15.087	15.087	0.000	5	406	1.00	1.08	M
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	97	8241	1.00	1.07	
142 1,2,4-Trichlorobenzene	180	16.566	16.565	0.001	92	3979	1.00	0.9045	
143 Naphthalene	128	16.888	16.870	0.018	93	4268	1.00	1.03	
144 Hexachlorobutadiene	190	16.912	16.906	0.006	95	1716	1.00	0.9123	
145 1,2,3-Trichlorobenzene	180	17.125	17.113	0.012	92	3176	1.00	1.05	
S 146 1,3-Dichloropropene, Total	1				0			2.03	
S 147 Trihalomethanes, Total	1				0			4.22	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

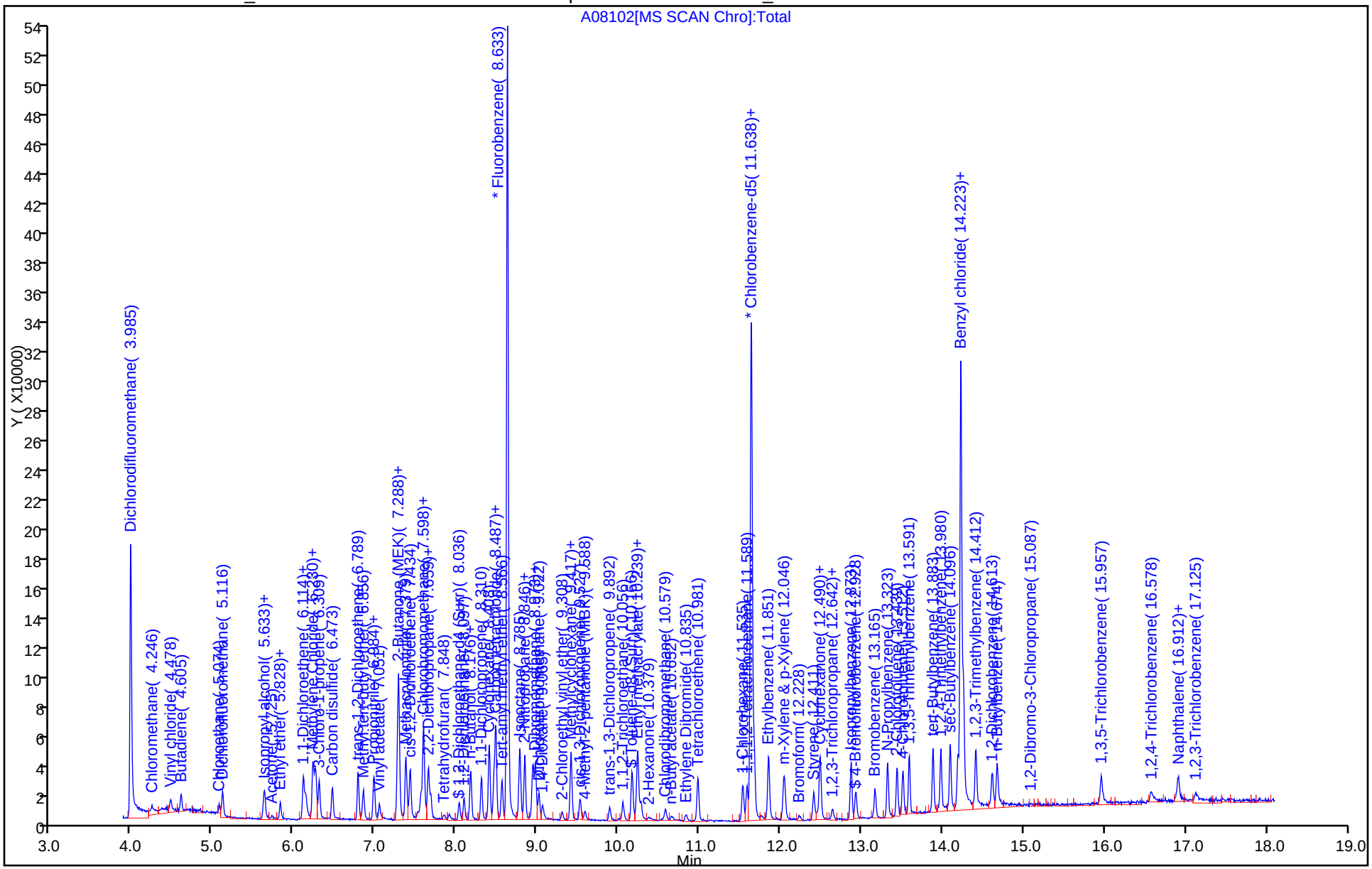
Reagents:

VOAIS50PPM_00168	Amount Added:	5.00	Units: uL
VOASTDPT2_00053	Amount Added:	0.40	Units: uL
VOASTDGASPT_00159	Amount Added:	0.40	Units: uL

Report Date: 14-Jun-2016 16:57:47 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08102.d				
Injection Date:	21-Mar-2016 10:11:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



Manual Integration/User Assign Peak Report

TestAmerica Houston

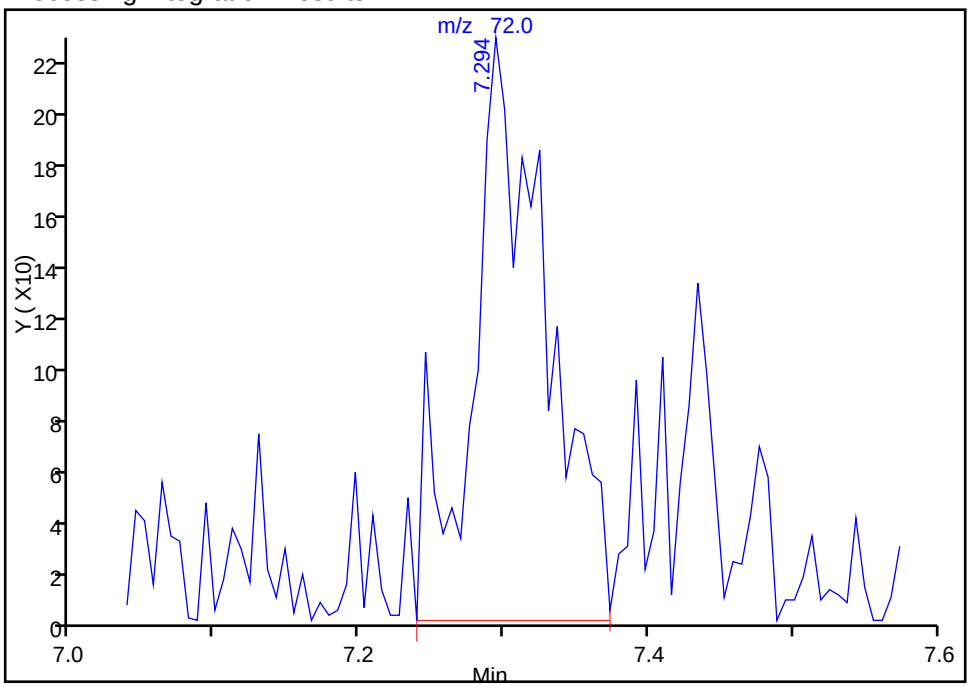
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08102.d				
Injection Date:	21-Mar-2016 10:11:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

37 2-Butanone (MEK), CAS: 78-93-3

Signal: 1

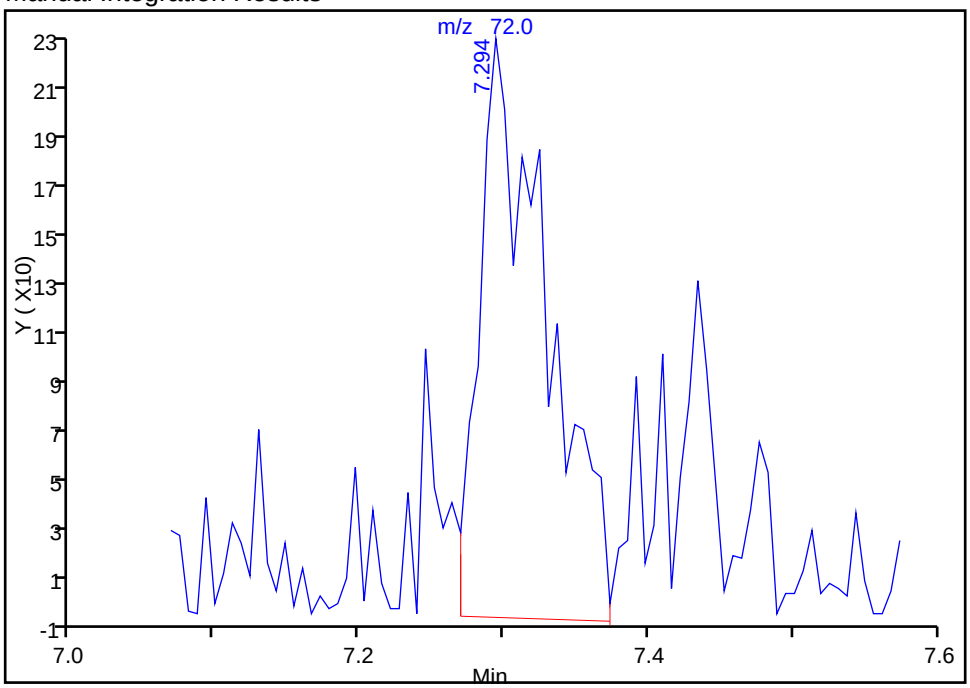
Processing Integration Results

RT: 7.29
Area: 816
Amount: 2.220370
Amount Units: ug/l



Manual Integration Results

RT: 7.29
Area: 744
Amount: 2.094710
Amount Units: ug/l



Reviewer: shenw, 21-Mar-2016 12:19:34

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

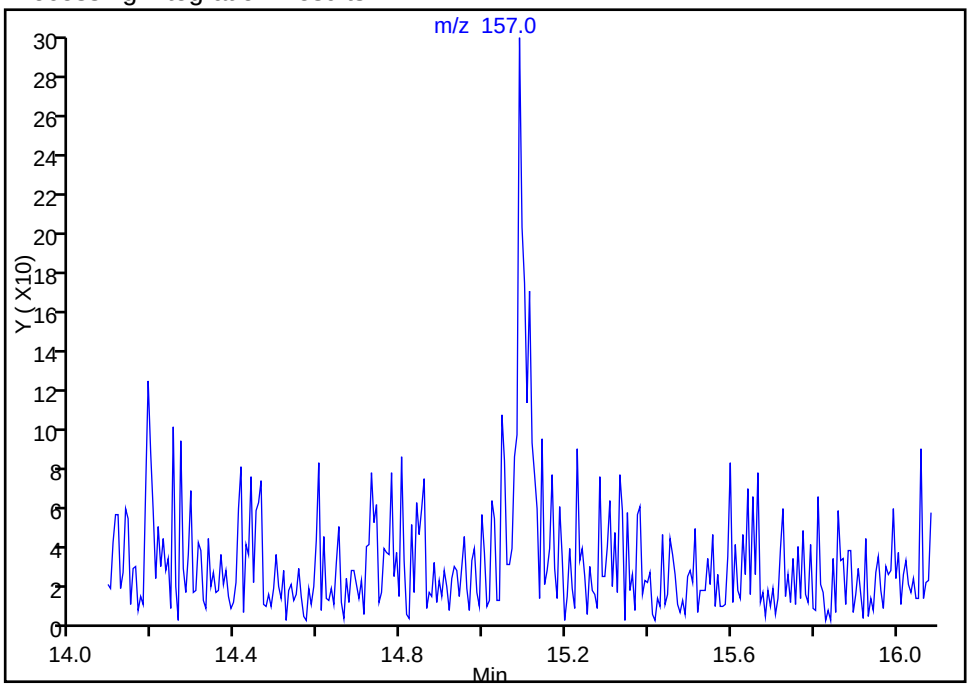
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08102.d				
Injection Date:	21-Mar-2016 10:11:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

140 1,2-Dibromo-3-Chloropropane, CAS: 96-12-8

Signal: 1

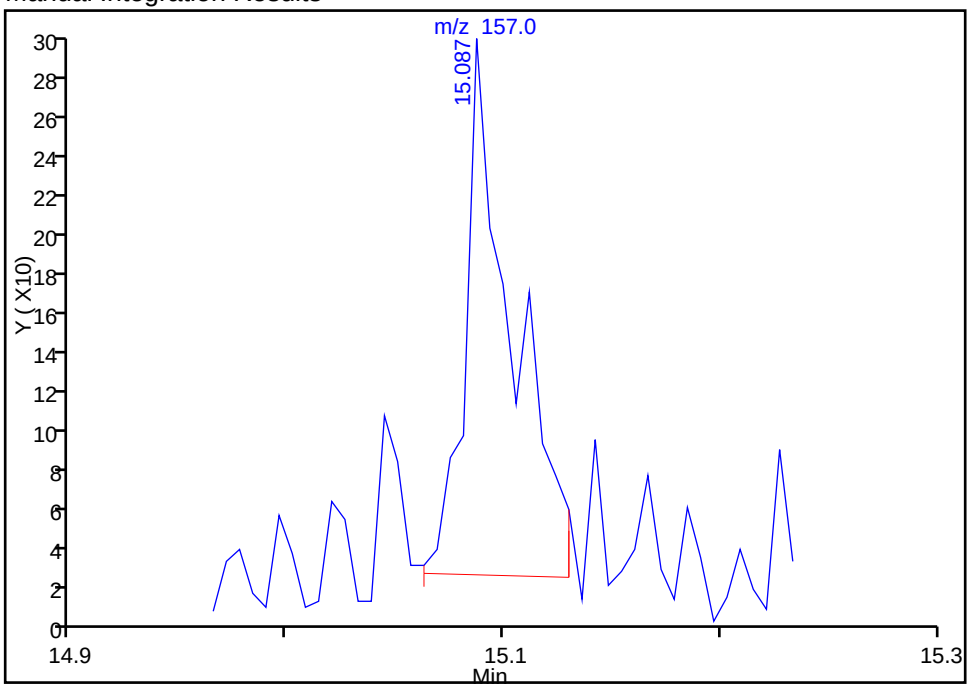
Not Detected
Expected RT: 15.09

Processing Integration Results



RT: 15.09
Area: 406
Amount: 1.084590
Amount Units: ug/l

Manual Integration Results



Reviewer: shenw, 21-Mar-2016 12:11:22
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08103.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Mar-2016 10:37:30 ALS Bottle#: 2 Worklist Smp#: 4
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011198-004
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub32

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 14-Jun-2016 16:57:52 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK006

First Level Reviewer: shenw Date: 21-Mar-2016 12:13:45

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.001	98	387058	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.003	0.000	95	4967	2.00	2.22	
3 Chloromethane	50	4.246	4.246	0.000	97	5810	2.00	1.85	
4 Vinyl chloride	62	4.478	4.477	0.001	98	12909	2.00	2.19	
5 Butadiene	39	4.605	4.605	0.000	79	7266	2.00	2.15	
8 Ethanol	45		4.836				ND	ND	
7 Bromomethane	94	4.934	4.928	0.006	85	1073	2.00	2.44	
9 Chloroethane	64	5.074	5.080	-0.006	98	7862	2.00	1.92	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	96	23156	2.00	1.89	
14 Acrolein	56	5.615	5.615	0.000	98	5221	10.0	9.21	
15 Acetonitrile	41	5.621	5.615	0.006	90	6369	20.0	21.5	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	96	24934	2.00	2.17	
17 Isopropyl alcohol	45	5.652	5.652	0.000	95	2539	20.0	21.2	
18 Acetone	43	5.725	5.725	0.000	90	3109	4.00	3.25	
19 Ethyl ether	59	5.828	5.828	0.000	97	10619	2.00	1.86	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	93	10619	20.0	18.6	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	90	14869	2.00	1.89	
23 Acrylonitrile	52	6.144	6.138	0.006	100	21462	20.0	20.5	
24 Iodomethane	142	6.169	6.163	0.006	99	3476	2.00	2.74	
25 Methylene Chloride	84	6.230	6.229	0.001	97	19782	2.00	2.05	
26 Methyl acetate	43	6.248	6.248	0.000	99	22684	10.0	9.62	
27 1,1,2-Trichloro-1,2,2-trif	151	6.272	6.266	0.006	94	15264	2.00	1.94	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	93	8589	2.00	1.86	
29 Carbon disulfide	76	6.473	6.473	0.000	99	48144	2.00	1.92	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	88	17274	2.00	1.87	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	95	24647	2.00	1.91	
32 Propionitrile	54	6.978	6.966	0.012	45	7699	20.0	20.1	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	41492	2.00	1.92	
34 Vinyl acetate	43	7.051	7.045	0.006	97	28913	4.00	3.72	
35 2-Chloro-1,3-butadiene	53	7.276	7.270	0.006	91	34240	2.00	1.81	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 Hexane	57	7.288	7.288	0.000	87	37730	2.00	1.97	
38 Isopropyl ether	45	7.294	7.294	0.000	95	65911	2.00	2.04	
37 2-Butanone (MEK)	72	7.300	7.294	0.006	65	1567	4.00	4.47	
39 Methacrylonitrile	66	7.379	7.373	0.006	91	8815	20.0	19.9	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	84	19311	2.00	1.96	
43 Ethyl acetate	43	7.525	7.519	0.006	99	11009	4.00	3.85	
45 Chlorobromomethane	128	7.562	7.562	0.000	94	6044	2.00	1.99	
S 46 1,2-Dichloroethene, Total	96				0		4.00	3.83	
48 Chloroform	83	7.592	7.592	0.000	94	32688	2.00	1.92	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	98	51123	2.00	1.95	
50 Isobutyl alcohol	43	7.605	7.604	0.001	34	9789	50.0	52.7	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	89	32070	2.00	1.99	
$ 52 Dibromofluoromethane	113	7.684	7.683	0.001	94	14303	2.00	2.08	
53 Tetrahydrofuran	42	7.848	7.848	0.000	95	3043	4.00	4.11	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	12735	2.00	2.03	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	97	18595	2.00	1.98	
59 n-Butanol	56	8.182	8.170	0.012	23	1603	50.0	61.1	
60 1,1,1-Trichloroethane	97	8.182	8.176	0.006	97	30467	2.00	1.90	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	98	22183	2.00	1.83	
62 Cyclohexane	84	8.408	8.407	0.001	86	24471	2.00	1.85	
63 Carbon tetrachloride	119	8.468	8.468	0.000	95	26767	2.00	1.93	
64 Benzene	78	8.487	8.486	0.001	98	75552	2.00	1.96	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	91	26556	2.00	1.92	
68 Isooctane	57	8.785	8.785	0.000	94	75384	2.00	1.92	
69 Ethyl acrylate	55	8.840	8.821	0.019	44	14457	2.00	1.87	
70 n-Heptane	43	8.846	8.845	0.001	92	26310	2.00	1.91	
67 2-Nitropropane	43	8.846	8.845	0.001	84	26310	4.00	3.82	
71 Dibromomethane	93	8.937	8.937	0.000	88	5399	2.00	1.98	
72 1,2-Dichloropropane	63	8.943	8.949	-0.006	96	20992	2.00	2.00	
73 Trichloroethene	130	8.979	8.973	0.006	94	20868	2.00	2.03	
74 Dichlorobromomethane	83	9.022	9.022	0.000	98	18499	2.00	1.99	
76 1,4-Dioxane	58	9.083	9.083	0.000	27	1022	40.0	49.9	
75 Methyl methacrylate	41	9.417	9.417	0.000	48	11858	4.00	3.68	
78 Methylcyclohexane	83	9.417	9.417	0.000	94	26526	2.00	1.91	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.582	0.006	95	8357	4.00	3.64	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	88	113964	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.308	9.302	0.006	89	5034	4.00	3.34	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	94	16347	2.00	1.86	
88 trans-1,3-Dichloropropene	75	9.892	9.892	0.000	95	8917	2.00	1.74	
89 1,1,2-Trichloroethane	97	10.062	10.056	0.006	95	7192	2.00	2.09	
$ 91 Toluene-d8 (Surr)	98	10.172	10.166	0.006	93	42632	2.00	1.80	
92 Ethyl methacrylate	69	10.214	10.214	0.000	89	5454	2.00	1.70	
93 Toluene	92	10.239	10.239	0.000	96	39532	2.00	1.94	
94 1,3-Dichloropropane	76	10.275	10.275	0.000	95	13876	2.00	2.12	
95 2-Hexanone	43	10.373	10.366	0.007	94	4064	4.00	3.66	
97 Chlorodibromomethane	129	10.585	10.585	0.000	89	7354	2.00	1.89	
98 n-Butyl acetate	43	10.652	10.652	0.000	97	5121	2.00	1.63	
99 Ethylene Dibromide	107	10.841	10.835	0.006	97	5607	2.00	1.92	
S 100 Xylenes, Total	106				0		4.00	3.63	
101 Tetrachloroethene	164	10.981	10.981	0.000	97	13150	2.00	1.89	
102 1-Chlorohexane	55	11.535	11.534	0.001	87	16971	2.00	1.89	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	89	12353	2.00	1.93	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.674	11.674	0.000	94	39845	2.00	2.01	
105 Ethylbenzene	106	11.857	11.851	0.006	98	19814	2.00	1.84	
106 m-Xylene & p-Xylene	91	12.052	12.045	0.007	0	43615	2.00	1.80	
107 Styrene	104	12.411	12.410	0.001	96	21557	2.00	1.64	
108 Cyclohexanone	55	12.453	12.453	0.000	84	5388	100.0	95.6	
109 o-Xylene	106	12.490	12.489	0.001	98	22128	2.00	1.84	
* 110 1,4-Dichlorobenzene-d4	152	14.230	14.223	0.007	95	84435	12.5	12.5	
114 Bromoform	173	12.240	12.234	0.006	93	3088	2.00	1.88	
115 1,1,2,2-Tetrachloroethane	83	12.484	12.483	0.001	51	6039	2.00	1.93	
116 trans-1,4-Dichloro-2-buten	53	12.630	12.635	-0.005	64	1157	2.00	1.91	
117 1,2,3-Trichloropropane	110	12.642	12.642	0.000	86	2052	2.00	2.20	
118 Isopropylbenzene	105	12.873	12.873	0.000	96	50470	2.00	1.81	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	88	13810	2.00	1.91	
120 Bromobenzene	156	13.165	13.165	0.000	95	10712	2.00	1.91	
121 N-Propylbenzene	120	13.323	13.323	0.000	99	12596	2.00	1.71	
122 2-Chlorotoluene	126	13.439	13.439	0.000	95	11681	2.00	1.75	
123 4-Chlorotoluene	91	13.512	13.512	0.000	99	36083	2.00	1.79	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	95	42844	2.00	1.85	
128 tert-Butylbenzene	119	13.883	13.883	0.000	93	34096	2.00	1.77	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	42084	2.00	1.82	
131 sec-Butylbenzene	105	14.096	14.096	0.000	94	54482	2.00	1.87	
132 Benzyl chloride	91	14.187	14.181	0.006	60	7581	2.00	1.77	
133 1,3-Dichlorobenzene	146	14.187	14.187	0.000	96	24677	2.00	1.91	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	70	25589	2.00	1.88	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	49027	2.00	1.87	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	98	41302	2.00	1.77	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	97	20537	2.00	1.91	
139 n-Butylbenzene	91	14.674	14.673	0.001	97	35690	2.00	1.73	
140 1,2-Dibromo-3-Chloropropan	157	15.093	15.087	0.006	44	660	2.00	1.68	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	96	14926	2.00	1.85	
142 1,2,4-Trichlorobenzene	180	16.572	16.565	0.007	94	8136	2.00	1.76	
143 Naphthalene	128	16.882	16.870	0.012	96	8967	2.00	1.81	
144 Hexachlorobutadiene	190	16.906	16.906	0.000	95	3373	2.00	2.01	
145 1,2,3-Trichlorobenzene	180	17.131	17.113	0.018	85	6168	2.00	1.94	
S 146 1,3-Dichloropropene, Total	1				0			3.60	
S 147 Trihalomethanes, Total	1				0			7.69	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

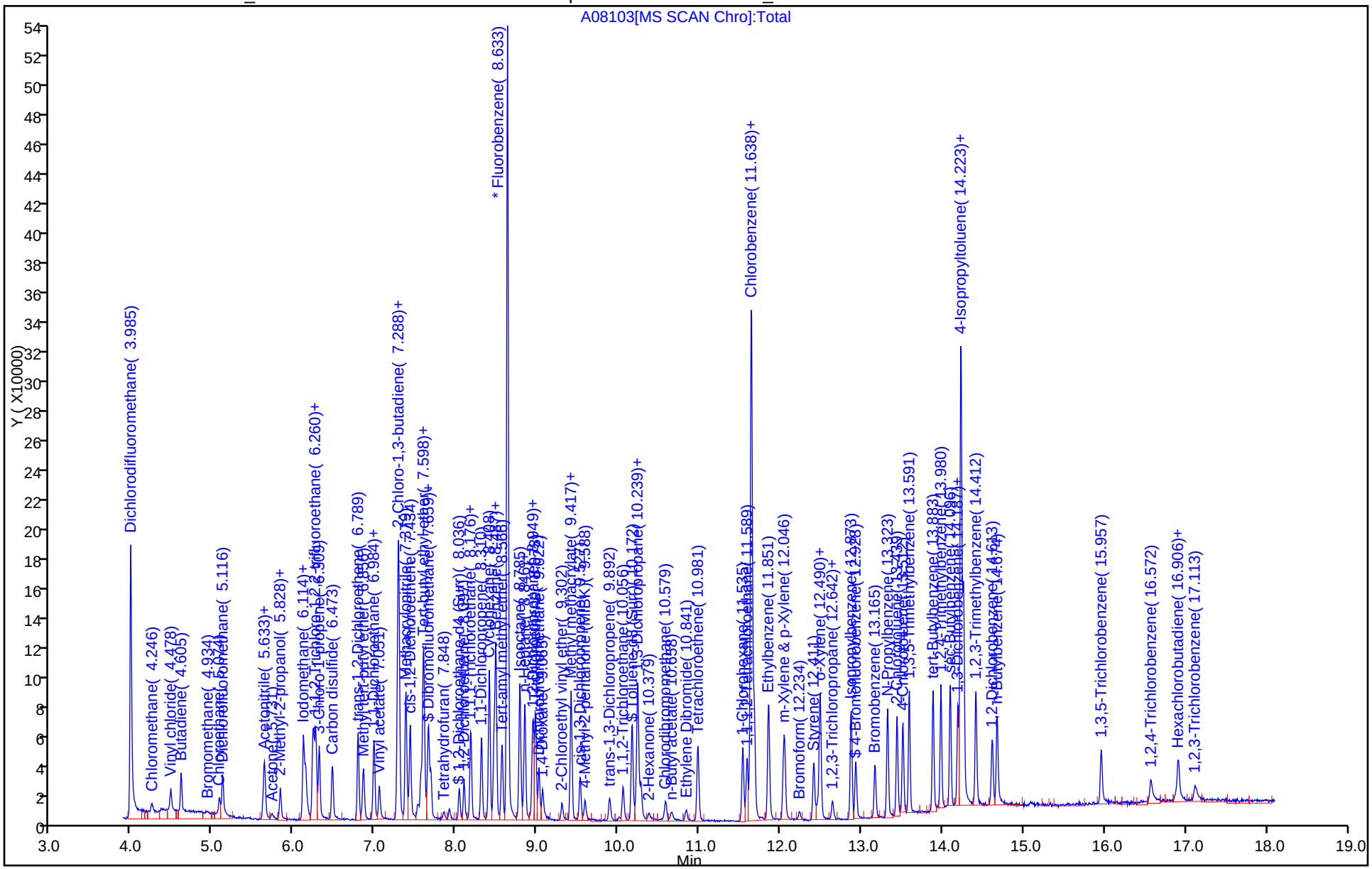
Reagents:

VOAIS50PPM_00168	Amount Added:	5.00	Units: uL
VOASTDPT2_00053	Amount Added:	0.80	Units: uL
VOASTDGASPT_00159	Amount Added:	0.80	Units: uL

Report Date: 14-Jun-2016 16:57:54 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08103.d				
Injection Date:	21-Mar-2016 10:37:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08104.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Mar-2016 11:02:30 ALS Bottle#: 3 Worklist Smp#: 5
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011198-005
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub32

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 14-Jun-2016 16:57:58 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK006

First Level Reviewer: shenw Date: 21-Mar-2016 12:14:54

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	98	392584	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.003	0.000	98	11516	5.00	5.07	
3 Chloromethane	50	4.246	4.246	0.000	98	14380	5.00	4.50	
4 Vinyl chloride	62	4.478	4.478	0.000	97	31140	5.00	5.20	
5 Butadiene	39	4.605	4.605	0.000	80	17427	5.00	5.08	
8 Ethanol	45		4.836				ND	ND	
7 Bromomethane	94	4.928	4.928	0.000	90	3118	5.00	4.30	
9 Chloroethane	64	5.074	5.074	0.000	98	18995	5.00	5.06	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	96	60752	5.00	4.89	
14 Acrolein	56	5.615	5.615	0.000	95	14524	25.0	25.3	
15 Acetonitrile	41	5.621	5.621	0.000	79	15868	50.0	52.8	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	99	60422	5.00	5.20	
17 Isopropyl alcohol	45	5.652	5.652	0.000	96	5528	50.0	48.4	
18 Acetone	43	5.719	5.719	0.000	96	7483	10.0	9.98	
19 Ethyl ether	59	5.828	5.828	0.000	94	31022	5.00	5.35	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	94	31022	50.0	53.5	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	90	40732	5.00	5.09	
23 Acrylonitrile	52	6.138	6.138	0.000	100	57429	50.0	54.2	
24 Iodomethane	142	6.169	6.169	0.000	99	12010	5.00	4.26	
25 Methylene Chloride	84	6.230	6.230	0.000	98	45022	5.00	5.22	
26 Methyl acetate	43	6.248	6.248	0.000	99	64029	25.0	26.8	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.266	0.000	94	40915	5.00	5.12	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	94	24383	5.00	5.21	
29 Carbon disulfide	76	6.473	6.473	0.000	100	125525	5.00	4.94	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	87	44417	5.00	4.74	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	96	68937	5.00	5.27	
32 Propionitrile	54	6.966	6.966	0.000	89	21105	50.0	51.1	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	96	112567	5.00	5.15	
34 Vinyl acetate	43	7.045	7.045	0.000	97	87097	10.0	10.2	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	91	102213	5.00	4.99	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 Hexane	57	7.288	7.288	0.000	86	103747	5.00	5.34	
38 Isopropyl ether	45	7.294	7.294	0.000	95	177858	5.00	5.44	
37 2-Butanone (MEK)	72	7.294	7.294	0.000	80	3683	10.0	10.4	
39 Methacrylonitrile	66	7.379	7.379	0.000	91	24195	50.0	53.8	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	67	50148	5.00	5.02	
43 Ethyl acetate	43	7.525	7.525	0.000	98	31017	10.0	10.7	
45 Chlorobromomethane	128	7.568	7.568	0.000	93	15424	5.00	4.99	
S 46 1,2-Dichloroethene, Total	96				0		10.0	9.76	
48 Chloroform	83	7.592	7.592	0.000	94	88633	5.00	5.14	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	99	143559	5.00	5.39	
50 Isobutyl alcohol	43	7.604	7.604	0.000	33	23093	125.0	122.7	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	89	82456	5.00	5.05	
$ 52 Dibromofluoromethane	113	7.690	7.690	0.000	92	35754	5.00	5.14	
53 Tetrahydrofuran	42	7.848	7.848	0.000	91	7263	10.0	9.67	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	31431	5.00	4.93	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	97	49545	5.00	5.19	
59 n-Butanol	56	8.182	8.182	0.000	25	4788	125.0	121.9	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	98	82111	5.00	5.04	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	97	63976	5.00	5.20	
62 Cyclohexane	84	8.408	8.408	0.000	87	71575	5.00	5.32	
63 Carbon tetrachloride	119	8.468	8.468	0.000	98	71831	5.00	5.10	
64 Benzene	78	8.487	8.487	0.000	98	198237	5.00	5.06	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	93	76785	5.00	5.46	
68 Isooctane	57	8.785	8.785	0.000	93	201778	5.00	5.06	
69 Ethyl acrylate	55	8.821	8.821	0.000	97	39891	5.00	5.09	
70 n-Heptane	43	8.846	8.846	0.000	93	75038	5.00	5.37	
67 2-Nitropropane	43	8.846	8.846	0.000	82	75038	10.0	10.7	
71 Dibromomethane	93	8.937	8.937	0.000	93	14202	5.00	5.12	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	95	53067	5.00	4.99	
73 Trichloroethene	130	8.973	8.973	0.000	93	50887	5.00	4.87	
74 Dichlorobromomethane	83	9.022	9.022	0.000	99	50254	5.00	5.33	
76 1,4-Dioxane	58	9.077	9.077	0.000	26	1924	100.0	101.3	
75 Methyl methacrylate	41	9.417	9.417	0.000	47	35118	10.0	10.7	
78 Methylcyclohexane	83	9.417	9.417	0.000	93	74367	5.00	5.29	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.588	0.000	93	25958	10.0	11.1	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	88	121235	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	90	16931	10.0	8.76	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	95	46036	5.00	4.92	
88 trans-1,3-Dichloropropene	75	9.892	9.892	0.000	94	26324	5.00	4.84	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	95	18140	5.00	4.95	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	94	123684	5.00	4.91	
92 Ethyl methacrylate	69	10.214	10.214	0.000	86	18222	5.00	4.53	
93 Toluene	92	10.239	10.239	0.000	98	111772	5.00	5.16	
94 1,3-Dichloropropane	76	10.275	10.275	0.000	94	36019	5.00	5.18	
95 2-Hexanone	43	10.373	10.373	0.000	96	12956	10.0	10.0	
97 Chlorodibromomethane	129	10.585	10.585	0.000	91	20419	5.00	4.94	
98 n-Butyl acetate	43	10.652	10.652	0.000	96	17619	5.00	4.39	
99 Ethylene Dibromide	107	10.835	10.835	0.000	98	15521	5.00	5.00	
S 100 Xylenes, Total	106				0		10.0	10.5	
101 Tetrachloroethene	164	10.981	10.981	0.000	98	35141	5.00	4.75	
102 1-Chlorohexane	55	11.534	11.534	0.000	89	49394	5.00	5.17	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	89	33493	5.00	4.92	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.674	11.674	0.000	94	104153	5.00	4.94	
105 Ethylbenzene	106	11.851	11.851	0.000	99	55693	5.00	4.87	
106 m-Xylene & p-Xylene	91	12.046	12.046	0.000	0	132487	5.00	5.14	
107 Styrene	104	12.411	12.411	0.000	95	71845	5.00	4.25	
108 Cyclohexanone	55	12.453	12.453	0.000	85	14258	250.0	212.3	
109 o-Xylene	106	12.490	12.490	0.000	97	68597	5.00	5.35	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	96	89279	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	96	8185	5.00	4.71	
115 1,1,2,2-Tetrachloroethane	83	12.490	12.490	0.000	51	16793	5.00	5.07	
116 trans-1,4-Dichloro-2-buten	53	12.642	12.642	0.000	69	3306	5.00	4.89	
117 1,2,3-Trichloropropane	110	12.642	12.642	0.000	89	4881	5.00	4.95	
118 Isopropylbenzene	105	12.873	12.873	0.000	96	157617	5.00	5.35	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	90	36911	5.00	4.82	
120 Bromobenzene	156	13.165	13.165	0.000	96	29454	5.00	4.96	
121 N-Propylbenzene	120	13.323	13.323	0.000	99	41392	5.00	5.32	
122 2-Chlorotoluene	126	13.439	13.439	0.000	96	36329	5.00	5.13	
123 4-Chlorotoluene	91	13.506	13.506	0.000	99	114337	5.00	5.37	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	95	130531	5.00	5.34	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	104875	5.00	5.15	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	131371	5.00	5.37	
131 sec-Butylbenzene	105	14.096	14.096	0.000	94	160212	5.00	5.19	
132 Benzyl chloride	91	14.181	14.181	0.000	97	22870	5.00	4.74	
133 1,3-Dichlorobenzene	146	14.187	14.187	0.000	97	69615	5.00	5.10	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	95	71769	5.00	5.00	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	97	137595	5.00	4.96	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	98	126584	5.00	5.14	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	97	55190	5.00	4.85	
139 n-Butylbenzene	91	14.674	14.674	0.000	98	111150	5.00	5.11	
140 1,2-Dibromo-3-Chloropropan	157	15.087	15.087	0.000	76	2000	5.00	4.81	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	97	42216	5.00	4.94	
142 1,2,4-Trichlorobenzene	180	16.566	16.566	0.000	93	25378	5.00	5.19	
143 Naphthalene	128	16.870	16.870	0.000	97	27016	5.00	4.69	
144 Hexachlorobutadiene	190	16.906	16.906	0.000	97	7703	5.00	4.74	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	94	16907	5.00	5.04	
S 146 1,3-Dichloropropene, Total	1				0			9.76	
S 147 Trihalomethanes, Total	1				0			20.1	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

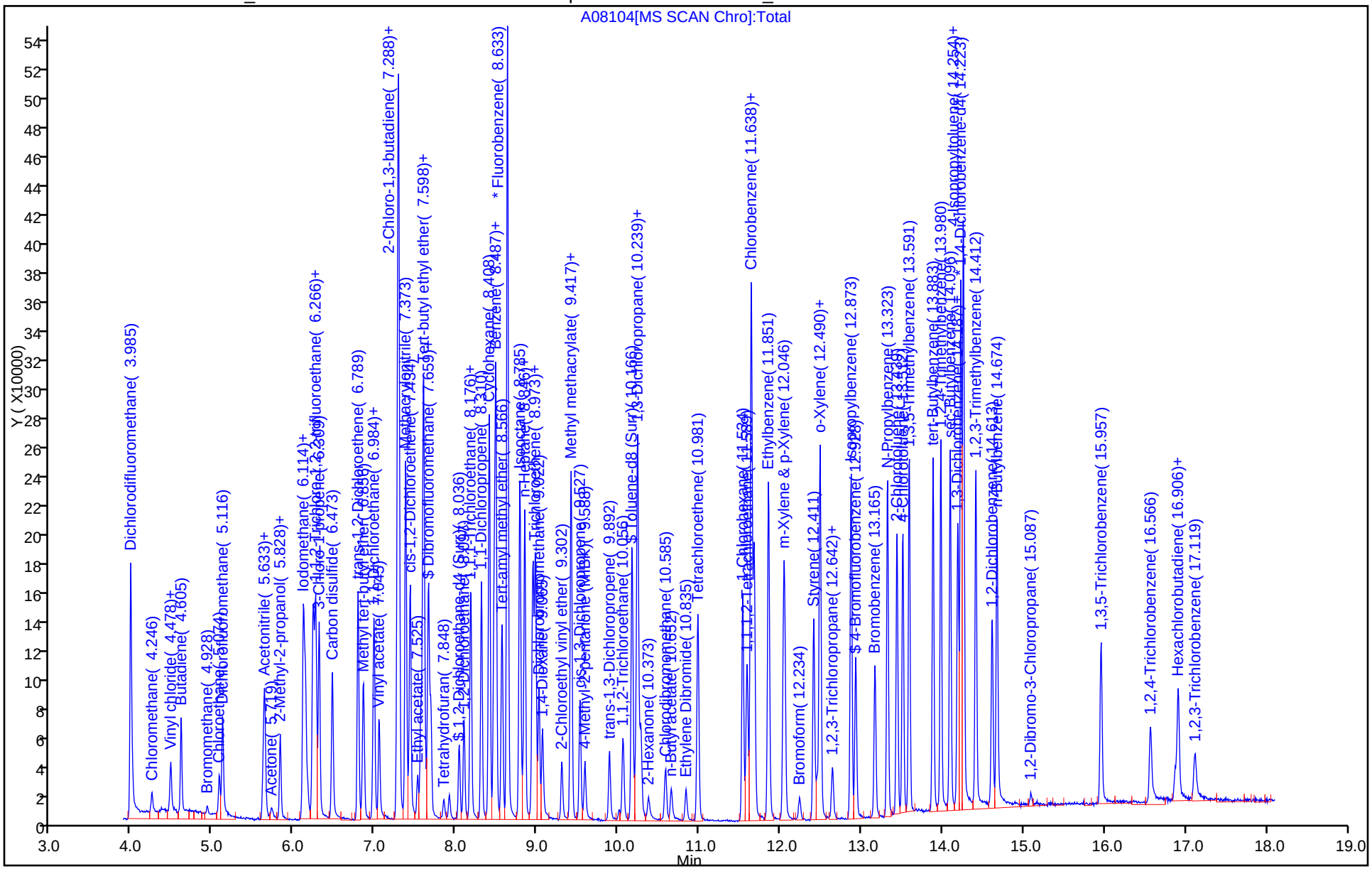
Reagents:

VOAIS50PPM_00168	Amount Added:	5.00	Units: uL
VOASTDPT2_00053	Amount Added:	2.00	Units: uL
VOASTDGASPT_00159	Amount Added:	2.00	Units: uL

Report Date: 14-Jun-2016 16:58:00 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08104.d				
Injection Date:	21-Mar-2016 11:02:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08105.d
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 21-Mar-2016 11:28:30 ALS Bottle#: 4 Worklist Smp#: 6
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ICIS
Misc. Info.: 600-0011198-006
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub32

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 14-Jun-2016 16:58:05 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK006

First Level Reviewer: shenw Date: 21-Mar-2016 12:03:35

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	98	406270	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.003	0.000	98	24711	10.0	10.5	
3 Chloromethane	50	4.246	4.246	0.000	99	31057	10.0	9.40	
4 Vinyl chloride	62	4.477	4.477	0.000	97	63395	10.0	10.2	
5 Butadiene	39	4.605	4.605	0.000	81	37611	10.0	10.6	
8 Ethanol	45		4.836				ND	ND	
7 Bromomethane	94	4.928	4.928	0.000	92	8000	10.0	8.54	
9 Chloroethane	64	5.080	5.080	0.000	99	37372	10.0	9.94	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	121943	10.0	9.49	
14 Acrolein	56	5.615	5.615	0.000	99	27971	50.0	47.0	
15 Acetonitrile	41	5.615	5.615	0.000	96	29499	100.0	94.9	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	99	124832	10.0	10.4	
17 Isopropyl alcohol	45	5.652	5.652	0.000	98	10904	100.0	94.5	
18 Acetone	43	5.725	5.725	0.000	97	14009	20.0	19.4	
19 Ethyl ether	59	5.828	5.828	0.000	94	61728	10.0	10.3	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	95	61728	100.0	103.0	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	91	85163	10.0	10.3	
23 Acrylonitrile	52	6.138	6.138	0.000	100	110586	100.0	100.8	
24 Iodomethane	142	6.163	6.163	0.000	99	32246	10.0	7.70	
25 Methylene Chloride	84	6.229	6.229	0.000	97	83668	10.0	9.78	
26 Methyl acetate	43	6.248	6.248	0.000	99	121105	50.0	48.9	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.266	0.000	93	81308	10.0	9.83	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	93	50793	10.0	10.5	
29 Carbon disulfide	76	6.473	6.473	0.000	99	259434	10.0	9.87	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	89	96906	10.0	10.0	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	96	140271	10.0	10.4	
32 Propionitrile	54	6.966	6.966	0.000	99	42842	100.0	98.4	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	96	222673	10.0	9.84	
34 Vinyl acetate	43	7.045	7.045	0.000	97	177786	20.0	19.8	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	91	220399	10.0	10.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 Hexane	57	7.288	7.288	0.000	92	219747	10.0	10.9	
38 Isopropyl ether	45	7.294	7.294	0.000	95	359575	10.0	10.6	
37 2-Butanone (MEK)	72	7.294	7.294	0.000	74	6555	20.0	17.8	
39 Methacrylonitrile	66	7.373	7.373	0.000	91	49683	100.0	106.8	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	67	101646	10.0	9.84	
43 Ethyl acetate	43	7.519	7.519	0.000	99	60451	20.0	20.1	
45 Chlorobromomethane	128	7.562	7.562	0.000	93	30209	10.0	9.45	
S 46 1,2-Dichloroethene, Total	96				0		20.0	19.8	
48 Chloroform	83	7.592	7.592	0.000	94	175335	10.0	9.83	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	99	287784	10.0	10.4	
50 Isobutyl alcohol	43	7.604	7.604	0.000	85	46458	250.0	238.5	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	89	170065	10.0	10.1	
$ 52 Dibromofluoromethane	113	7.683	7.683	0.000	93	72967	10.0	10.1	
53 Tetrahydrofuran	42	7.848	7.848	0.000	91	14619	20.0	18.8	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	61380	10.0	9.31	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	97	96139	10.0	9.73	
59 n-Butanol	56	8.170	8.170	0.000	25	9763	250.0	211.3	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	97	166652	10.0	9.88	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	98	138782	10.0	10.9	
62 Cyclohexane	84	8.407	8.407	0.000	87	151982	10.0	10.9	
63 Carbon tetrachloride	119	8.468	8.468	0.000	97	149562	10.0	10.3	
64 Benzene	78	8.486	8.486	0.000	97	401910	10.0	9.92	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	94	151448	10.0	10.4	
68 Isooctane	57	8.785	8.785	0.000	93	437114	10.0	10.6	
69 Ethyl acrylate	55	8.821	8.821	0.000	97	82620	10.0	10.2	
70 n-Heptane	43	8.845	8.845	0.000	91	155552	10.0	10.8	
67 2-Nitropropane	43	8.845	8.845	0.000	82	155552	20.0	21.5	
71 Dibromomethane	93	8.937	8.937	0.000	93	26708	10.0	9.31	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	96	107222	10.0	9.74	
73 Trichloroethene	130	8.973	8.973	0.000	93	107929	10.0	9.99	
74 Dichlorobromomethane	83	9.022	9.022	0.000	99	99997	10.0	10.2	
76 1,4-Dioxane	58	9.083	9.083	0.000	84	3761	200.0	200.5	
75 Methyl methacrylate	41	9.417	9.417	0.000	47	73037	20.0	21.6	
78 Methylcyclohexane	83	9.417	9.417	0.000	92	157508	10.0	10.8	
79 4-Methyl-2-pentanone (MIBK	43	9.582	9.582	0.000	94	51334	20.0	21.3	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	88	121519	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	90	36436	20.0	17.8	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	95	98682	10.0	10.5	
88 trans-1,3-Dichloropropene	75	9.892	9.892	0.000	93	56401	10.0	10.3	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	94	36155	10.0	9.84	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	94	272690	10.0	10.8	
92 Ethyl methacrylate	69	10.214	10.214	0.000	91	40250	10.0	9.52	
93 Toluene	92	10.239	10.239	0.000	98	232658	10.0	10.7	
94 1,3-Dichloropropane	76	10.275	10.275	0.000	94	70187	10.0	10.1	
95 2-Hexanone	43	10.366	10.366	0.000	93	24664	20.0	18.6	
97 Chlorodibromomethane	129	10.585	10.585	0.000	90	41134	10.0	9.93	
98 n-Butyl acetate	43	10.652	10.652	0.000	96	38271	10.0	9.05	
99 Ethylene Dibromide	107	10.835	10.835	0.000	100	30268	10.0	9.72	
S 100 Xylenes, Total	106				0		20.0	22.0	
101 Tetrachloroethene	164	10.981	10.981	0.000	98	74498	10.0	10.0	
102 1-Chlorohexane	55	11.534	11.534	0.000	89	108302	10.0	11.3	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	92	68842	10.0	10.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.674	11.674	0.000	94	205367	10.0	9.72	
105 Ethylbenzene	106	11.851	11.851	0.000	98	122301	10.0	10.7	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	286243	10.0	11.1	
107 Styrene	104	12.410	12.410	0.000	95	165718	10.0	9.23	
108 Cyclohexanone	55	12.453	12.453	0.000	83	30506	500.0	433.8	
109 o-Xylene	106	12.489	12.489	0.000	97	141070	10.0	11.0	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	96	90332	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	96	16288	10.0	9.27	
115 1,1,2,2-Tetrachloroethane	83	12.483	12.483	0.000	51	33822	10.0	10.1	
116 trans-1,4-Dichloro-2-buten	53	12.635	12.635	0.000	71	6143	10.0	8.85	
117 1,2,3-Trichloropropane	110	12.642	12.642	0.000	88	9170	10.0	9.19	
118 Isopropylbenzene	105	12.873	12.873	0.000	96	347169	10.0	11.6	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	88	79359	10.0	10.2	
120 Bromobenzene	156	13.165	13.165	0.000	96	61036	10.0	10.2	
121 N-Propylbenzene	120	13.323	13.323	0.000	99	92319	10.0	11.7	
122 2-Chlorotoluene	126	13.439	13.439	0.000	96	77936	10.0	10.9	
123 4-Chlorotoluene	91	13.512	13.512	0.000	98	233437	10.0	10.8	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	95	279240	10.0	11.3	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	226510	10.0	11.0	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	279387	10.0	11.3	
131 sec-Butylbenzene	105	14.096	14.096	0.000	94	343249	10.0	11.0	
132 Benzyl chloride	91	14.181	14.181	0.000	98	47994	10.0	9.65	
133 1,3-Dichlorobenzene	146	14.187	14.187	0.000	97	142237	10.0	10.3	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	94	146937	10.0	10.1	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	97	295039	10.0	10.5	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	269955	10.0	10.8	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	97	114636	10.0	9.95	
139 n-Butylbenzene	91	14.673	14.673	0.000	98	252292	10.0	11.5	
140 1,2-Dibromo-3-Chloropropan	157	15.087	15.087	0.000	83	3983	10.0	9.47	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	97	88555	10.0	10.2	
142 1,2,4-Trichlorobenzene	180	16.565	16.565	0.000	93	51070	10.0	10.3	
143 Naphthalene	128	16.870	16.870	0.000	97	59597	10.0	9.92	
144 Hexachlorobutadiene	190	16.906	16.906	0.000	98	17014	10.0	10.7	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	95	33883	10.0	9.99	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

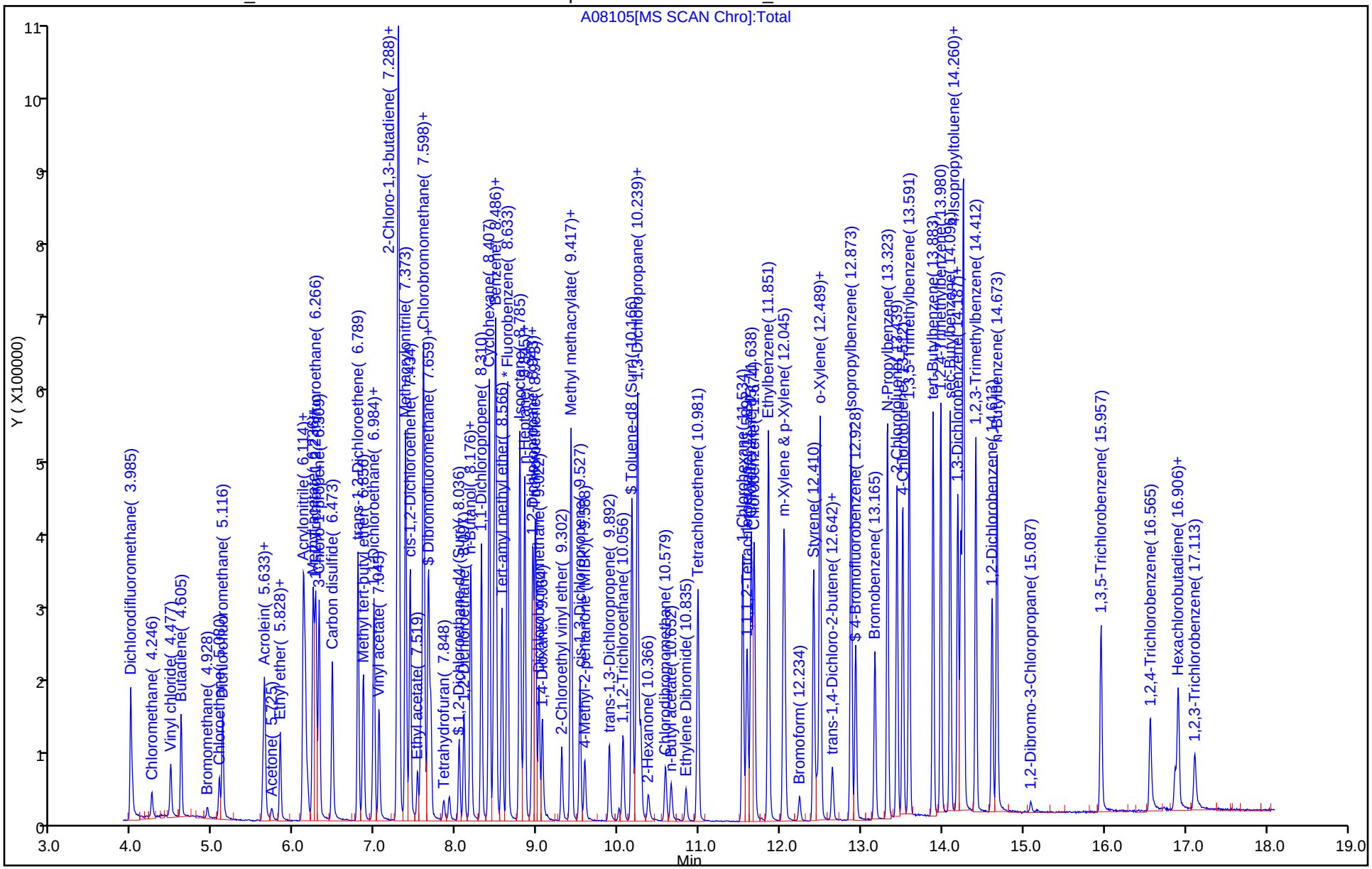
Reagents:

VOAIS50PPM_00168	Amount Added:	5.00	Units: uL
VOASTDPT2_00053	Amount Added:	4.00	Units: uL
VOASTDGASPT_00159	Amount Added:	4.00	Units: uL

Report Date: 14-Jun-2016 16:58:08 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08105.d				
Injection Date:	21-Mar-2016 11:28:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	ICIS			Worklist Smp#:	6
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08106.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Mar-2016 11:53:30 ALS Bottle#: 5 Worklist Smp#: 7
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011198-007
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub32

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 14-Jun-2016 16:58:11 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK006

First Level Reviewer: shenw Date: 21-Mar-2016 12:16:18

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.632	8.633	0.000	98	414966	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.003	0.000	99	46643	20.0	19.4	
3 Chloromethane	50	4.240	4.246	-0.006	98	63559	20.0	18.8	
4 Vinyl chloride	62	4.477	4.477	0.000	97	121466	20.0	19.2	
5 Butadiene	39	4.605	4.605	0.000	81	69201	20.0	19.1	
8 Ethanol	45		4.836				ND	ND	
7 Bromomethane	94	4.928	4.928	0.000	90	19387	20.0	18.3	
9 Chloroethane	64	5.074	5.080	-0.006	99	74683	20.0	19.8	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	257110	20.0	19.6	
14 Acrolein	56	5.615	5.615	0.000	99	62901	100.0	103.5	
15 Acetonitrile	41	5.615	5.615	0.000	95	64283	200.0	202.5	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	99	227547	20.0	18.5	
17 Isopropyl alcohol	45	5.651	5.652	-0.001	98	23046	200.0	198.2	
18 Acetone	43	5.724	5.725	-0.001	95	28157	40.0	39.8	
19 Ethyl ether	59	5.828	5.828	0.000	94	132135	20.0	21.6	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	95	132135	200.0	215.8	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	91	178301	20.0	21.1	
23 Acrylonitrile	52	6.138	6.138	0.000	100	232735	200.0	207.8	
24 Iodomethane	142	6.163	6.163	-0.001	99	90759	20.0	17.5	
25 Methylene Chloride	84	6.229	6.229	0.000	97	166610	20.0	19.5	
26 Methyl acetate	43	6.242	6.248	-0.006	99	249505	100.0	98.7	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.266	0.000	92	170305	20.0	20.2	
28 3-Chloro-1-propene	76	6.309	6.309	-0.001	94	106605	20.0	21.6	
29 Carbon disulfide	76	6.473	6.473	0.000	99	538808	20.0	20.1	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	91	210329	20.0	21.2	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	96	301833	20.0	21.8	
32 Propionitrile	54	6.966	6.966	0.000	99	89332	200.0	198.8	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	461487	20.0	20.0	
34 Vinyl acetate	43	7.045	7.045	0.000	97	391534	40.0	42.2	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	91	480420	20.0	21.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 Hexane	57	7.288	7.288	0.000	89	441238	20.0	21.5	
38 Isopropyl ether	45	7.294	7.294	0.000	95	730010	20.0	21.1	
37 2-Butanone (MEK)	72	7.294	7.294	0.000	89	14284	40.0	38.0	
39 Methacrylonitrile	66	7.373	7.373	0.000	91	99978	200.0	210.5	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	75	211837	20.0	20.1	
43 Ethyl acetate	43	7.519	7.519	0.000	98	132466	40.0	43.2	
45 Chlorobromomethane	128	7.562	7.562	0.000	94	61688	20.0	18.9	
S 46 1,2-Dichloroethene, Total	96				0		40.0	41.3	
48 Chloroform	83	7.592	7.592	0.000	94	358671	20.0	19.7	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	99	614189	20.0	21.8	
50 Isobutyl alcohol	43	7.604	7.604	0.000	61	95184	500.0	478.4	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	89	351669	20.0	20.4	
$ 52 Dibromofluoromethane	113	7.683	7.683	0.000	93	149013	20.0	20.3	
53 Tetrahydrofuran	42	7.842	7.848	-0.006	92	31494	40.0	39.7	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	131244	20.0	19.5	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	97	202720	20.0	20.1	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	98	356304	20.0	20.7	
59 n-Butanol	56	8.176	8.170	0.006	24	24210	500.0	470.3	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	97	295962	20.0	22.8	
62 Cyclohexane	84	8.407	8.407	0.000	87	321620	20.0	22.6	
63 Carbon tetrachloride	119	8.468	8.468	0.000	97	319020	20.0	21.4	
64 Benzene	78	8.486	8.486	0.000	97	834785	20.0	20.2	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	95	330496	20.0	22.2	
68 Isooctane	57	8.785	8.785	0.000	93	919149	20.0	21.8	
69 Ethyl acrylate	55	8.821	8.821	0.000	95	175309	20.0	21.2	
70 n-Heptane	43	8.845	8.845	0.000	91	323579	20.0	21.9	
67 2-Nitropropane	43	8.845	8.845	0.000	81	323579	40.0	43.9	
71 Dibromomethane	93	8.931	8.937	-0.006	93	56321	20.0	19.2	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	96	223928	20.0	19.9	
73 Trichloroethene	130	8.979	8.973	0.006	95	228808	20.0	20.7	
74 Dichlorobromomethane	83	9.022	9.022	0.000	99	208009	20.0	20.9	
76 1,4-Dioxane	58	9.083	9.083	0.000	86	7585	400.0	405.7	
75 Methyl methacrylate	41	9.417	9.417	0.000	47	151734	40.0	43.9	
78 Methylcyclohexane	83	9.417	9.417	0.000	93	337392	20.0	22.7	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.582	0.006	93	112883	40.0	45.8	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	88	125301	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	90	86536	40.0	40.0	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	96	214479	20.0	22.2	
88 trans-1,3-Dichloropropene	75	9.886	9.892	-0.006	93	127945	20.0	22.7	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	94	76691	20.0	20.2	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	93	570663	20.0	21.9	
92 Ethyl methacrylate	69	10.214	10.214	0.000	90	91763	20.0	20.6	
93 Toluene	92	10.239	10.239	-0.001	98	486200	20.0	21.7	
94 1,3-Dichloropropane	76	10.275	10.275	0.000	94	144850	20.0	20.2	
95 2-Hexanone	43	10.366	10.366	0.000	93	58827	40.0	42.3	
97 Chlorodibromomethane	129	10.585	10.585	0.000	91	89171	20.0	20.9	
98 n-Butyl acetate	43	10.652	10.652	0.000	95	90477	20.0	20.2	
99 Ethylene Dibromide	107	10.835	10.835	0.000	99	65037	20.0	20.3	
S 100 Xylenes, Total	106				0		40.0	45.1	
101 Tetrachloroethene	164	10.981	10.981	0.000	98	159739	20.0	20.9	
102 1-Chlorohexane	55	11.534	11.534	0.000	90	231735	20.0	23.5	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	92	141387	20.0	20.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.674	11.674	0.000	94	429699	20.0	19.7	
105 Ethylbenzene	106	11.851	11.851	0.000	98	260228	20.0	22.0	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	604340	20.0	22.7	
107 Styrene	104	12.410	12.410	0.000	95	385036	20.0	20.3	
108 Cyclohexanone	55	12.447	12.453	-0.006	83	68507	1000.0	924.7	
109 o-Xylene	106	12.489	12.489	0.000	97	297787	20.0	22.5	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	95	99367	12.5	12.5	
114 Bromoform	173	12.240	12.234	0.006	96	37315	20.0	19.3	
115 1,1,2,2-Tetrachloroethane	83	12.483	12.483	0.000	51	69204	20.0	18.8	
116 trans-1,4-Dichloro-2-buten	53	12.635	12.635	0.000	76	16734	20.0	21.7	
117 1,2,3-Trichloropropane	110	12.642	12.642	0.000	87	19531	20.0	17.8	
118 Isopropylbenzene	105	12.873	12.873	0.000	96	752706	20.0	22.9	
$ 119 4-Bromofluorobenzene	95	12.927	12.928	-0.001	90	169026	20.0	19.8	
120 Bromobenzene	156	13.165	13.165	0.000	95	138490	20.0	20.9	
121 N-Propylbenzene	120	13.323	13.323	0.000	99	203568	20.0	23.5	
122 2-Chlorotoluene	126	13.438	13.439	-0.001	96	168737	20.0	21.4	
123 4-Chlorotoluene	91	13.511	13.512	-0.001	98	518424	20.0	21.9	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	95	615773	20.0	22.6	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	501027	20.0	22.1	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	620126	20.0	22.8	
131 sec-Butylbenzene	105	14.095	14.096	-0.001	94	748325	20.0	21.8	
132 Benzyl chloride	91	14.181	14.181	0.000	98	117468	20.0	21.3	
133 1,3-Dichlorobenzene	146	14.187	14.187	0.000	98	319247	20.0	21.0	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	94	324738	20.0	20.3	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	97	652119	20.0	21.1	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	599838	20.0	21.9	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	97	259133	20.0	20.4	
139 n-Butylbenzene	91	14.673	14.673	0.000	98	557854	20.0	23.0	
140 1,2-Dibromo-3-Chloropropan	157	15.087	15.087	0.000	83	8890	20.0	19.2	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	98	193699	20.0	20.3	
142 1,2,4-Trichlorobenzene	180	16.565	16.565	0.000	94	119807	20.0	22.0	
143 Naphthalene	128	16.870	16.870	0.000	97	140032	20.0	20.9	
144 Hexachlorobutadiene	190	16.906	16.906	0.000	97	36922	20.0	21.5	
145 1,2,3-Trichlorobenzene	180	17.107	17.113	-0.006	96	76068	20.0	20.4	
S 146 1,3-Dichloropropene, Total	1				0			44.9	
S 147 Trihalomethanes, Total	1				0			80.7	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

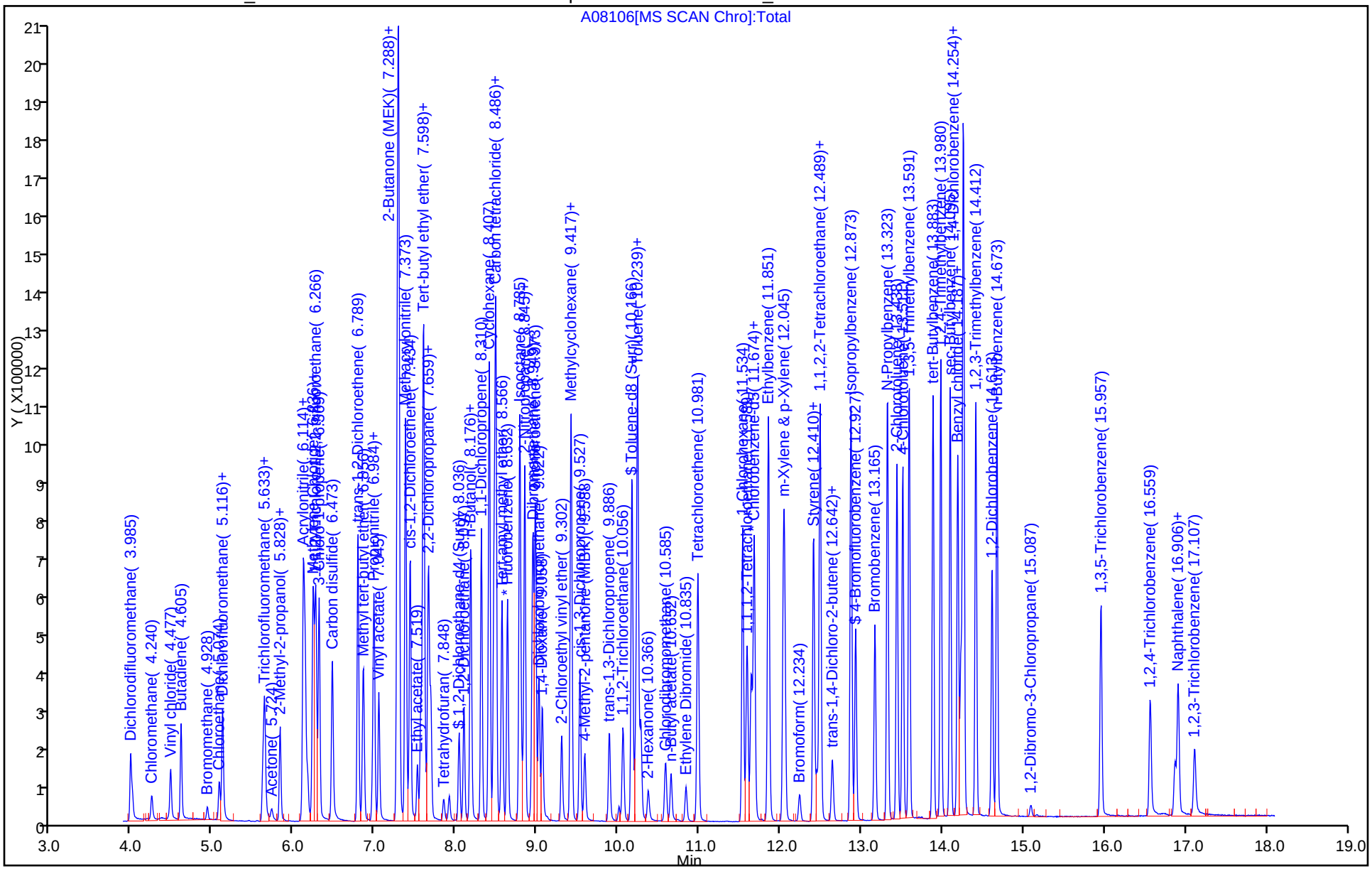
Reagents:

VOAIS50PPM_00168	Amount Added:	5.00	Units: uL
VOASTDPT2_00053	Amount Added:	8.00	Units: uL
VOASTDGASPT_00159	Amount Added:	8.00	Units: uL

Report Date: 14-Jun-2016 16:58:12 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08106.d				
Injection Date:	21-Mar-2016 11:53:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Mar-2016 12:18:30 ALS Bottle#: 6 Worklist Smp#: 8
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011198-008
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub32

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 14-Jun-2016 16:58:16 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK006

First Level Reviewer: shenw Date: 21-Mar-2016 12:43:19

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.001	98	436636	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.003	0.000	99	118830	50.0	47.1	
3 Chloromethane	50	4.240	4.246	-0.006	99	192958	50.0	54.3	
4 Vinyl chloride	62	4.477	4.477	0.000	97	329396	50.0	49.5	
5 Butadiene	39	4.605	4.605	0.000	80	201242	50.0	52.7	
8 Ethanol	45		4.836				ND	ND	
7 Bromomethane	94	4.928	4.928	0.000	91	60015	50.0	51.0	
9 Chloroethane	64	5.074	5.080	-0.006	98	205164	50.0	52.2	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	610740	50.0	44.2	
14 Acrolein	56	5.609	5.615	-0.006	99	171638	250.0	268.5	
15 Acetonitrile	41	5.615	5.615	0.000	97	160278	500.0	479.9	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	99	573428	50.0	44.3	
17 Isopropyl alcohol	45	5.652	5.652	0.000	99	61534	500.0	506.7	
18 Acetone	43	5.719	5.725	-0.006	97	73769	100.0	101.5	
19 Ethyl ether	59	5.828	5.828	0.000	92	347615	50.0	53.9	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	95	347615	500.0	539.4	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	91	420057	50.0	47.2	
23 Acrylonitrile	52	6.132	6.138	-0.006	99	595868	500.0	505.6	
24 Iodomethane	142	6.163	6.163	0.000	99	305508	50.0	51.4	
25 Methylene Chloride	84	6.230	6.229	0.001	98	403337	50.0	45.6	
26 Methyl acetate	43	6.242	6.248	-0.006	99	631112	250.0	237.3	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.266	0.000	92	408394	50.0	45.9	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	94	237561	50.0	45.6	
29 Carbon disulfide	76	6.473	6.473	0.000	99	1287868	50.0	45.6	
30 trans-1,2-Dichloroethene	96	6.783	6.789	-0.006	88	521232	50.0	50.0	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	95	775408	50.0	53.3	
32 Propionitrile	54	6.966	6.966	0.000	99	226495	500.0	476.2	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	1131843	50.0	46.5	
34 Vinyl acetate	43	7.045	7.045	0.000	97	962217	100.0	98.0	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	91	1176135	50.0	50.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 Hexane	57	7.282	7.288	-0.006	87	1007410	50.0	46.7	
38 Isopropyl ether	45	7.294	7.294	0.000	96	1648943	50.0	45.3	
37 2-Butanone (MEK)	72	7.288	7.294	-0.006	83	35304	100.0	89.3	
39 Methacrylonitrile	66	7.373	7.373	0.000	90	254241	500.0	508.8	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	72	528992	50.0	47.7	
43 Ethyl acetate	43	7.519	7.519	0.000	98	345971	100.0	107.2	
45 Chlorobromomethane	128	7.562	7.562	0.000	95	150536	50.0	43.8	
S 46 1,2-Dichloroethene, Total	96				0		100.0	97.7	
48 Chloroform	83	7.592	7.592	0.000	93	877419	50.0	45.8	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	99	1529911	50.0	51.6	
50 Isobutyl alcohol	43	7.611	7.604	0.007	80	228498	1250.0	1091.4	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	88	854282	50.0	47.1	
$ 52 Dibromofluoromethane	113	7.684	7.683	0.001	93	374319	50.0	48.4	
53 Tetrahydrofuran	42	7.842	7.848	-0.006	92	84437	100.0	101.1	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	326457	50.0	46.1	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	97	502001	50.0	47.3	
59 n-Butanol	56	8.170	8.170	0.000	80	71655	1250.0	1268.9	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	98	884662	50.0	48.8	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	97	712529	50.0	52.1	
62 Cyclohexane	84	8.407	8.407	0.000	87	768252	50.0	51.4	
63 Carbon tetrachloride	119	8.468	8.468	0.000	97	777923	50.0	49.7	
64 Benzene	78	8.487	8.486	0.001	97	1954968	50.0	44.9	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	95	837841	50.0	53.6	
68 Isooctane	57	8.785	8.785	0.000	93	2158659	50.0	48.6	
69 Ethyl acrylate	55	8.815	8.821	-0.006	96	450681	50.0	51.7	M
70 n-Heptane	43	8.845	8.845	0.000	92	742141	50.0	47.8	
67 2-Nitropropane	43	8.845	8.845	0.000	81	742141	100.0	95.6	
71 Dibromomethane	93	8.931	8.937	-0.006	92	143506	50.0	46.6	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	96	538467	50.0	45.5	
73 Trichloroethene	130	8.979	8.973	0.006	95	559006	50.0	48.1	
74 Dichlorobromomethane	83	9.022	9.022	0.000	100	518105	50.0	49.4	
76 1,4-Dioxane	58	9.077	9.083	-0.006	91	19069	1000.0	983.4	
75 Methyl methacrylate	41	9.417	9.417	0.000	47	347525	100.0	95.6	
78 Methylcyclohexane	83	9.417	9.417	0.000	92	797180	50.0	51.0	
79 4-Methyl-2-pentanone (MIBK	43	9.582	9.582	0.000	93	285077	100.0	109.9	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	87	130909	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	90	237370	100.0	103.7	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	96	529430	50.0	52.5	
88 trans-1,3-Dichloropropene	75	9.886	9.892	-0.006	93	338728	50.0	57.6	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	95	185576	50.0	46.9	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	93	1370673	50.0	50.4	
92 Ethyl methacrylate	69	10.208	10.214	-0.006	91	237622	50.0	50.5	
93 Toluene	92	10.239	10.239	0.000	98	1137535	50.0	48.6	
94 1,3-Dichloropropane	76	10.275	10.275	0.000	93	344520	50.0	45.9	
95 2-Hexanone	43	10.366	10.366	0.000	93	159180	100.0	108.9	
97 Chlorodibromomethane	129	10.579	10.585	-0.006	91	233621	50.0	52.4	
98 n-Butyl acetate	43	10.646	10.652	-0.006	96	243616	50.0	51.5	
99 Ethylene Dibromide	107	10.835	10.835	0.000	98	168935	50.0	50.4	
S 100 Xylenes, Total	106				0		100.0	105.2	
101 Tetrachloroethene	164	10.981	10.981	0.000	99	389790	50.0	48.7	
102 1-Chlorohexane	55	11.534	11.534	0.000	90	535215	50.0	51.9	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	94	344353	50.0	46.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.674	11.674	0.000	94	1033780	50.0	45.4	
105 Ethylbenzene	106	11.851	11.851	0.000	98	621555	50.0	50.3	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	1465502	50.0	52.6	
107 Styrene	104	12.410	12.410	0.000	95	1032754	50.0	51.4	
108 Cyclohexanone	55	12.447	12.453	-0.006	88	209417	2500.0	2672.7	
109 o-Xylene	106	12.490	12.489	0.001	97	728042	50.0	52.6	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	94	116432	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	97	111260	50.0	49.1	
115 1,1,2,2-Tetrachloroethane	83	12.483	12.483	0.000	51	182424	50.0	42.3	
116 trans-1,4-Dichloro-2-buten	53	12.636	12.635	0.001	87	50047	50.0	55.1	
117 1,2,3-Trichloropropane	110	12.642	12.642	0.000	87	56113	50.0	43.6	
118 Isopropylbenzene	105	12.873	12.873	0.000	96	1859408	50.0	48.4	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	91	443360	50.0	44.4	
120 Bromobenzene	156	13.165	13.165	0.000	95	379659	50.0	49.0	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	518637	50.0	51.1	
122 2-Chlorotoluene	126	13.439	13.439	0.000	96	444945	50.0	48.2	
123 4-Chlorotoluene	91	13.512	13.512	0.000	98	1352732	50.0	48.7	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	95	1585791	50.0	49.7	
128 tert-Butylbenzene	119	13.883	13.883	0.000	93	1318048	50.0	49.6	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	1635331	50.0	51.2	
131 sec-Butylbenzene	105	14.096	14.096	0.000	94	1939562	50.0	48.2	
132 Benzyl chloride	91	14.181	14.181	0.000	99	355832	50.0	54.7	
133 1,3-Dichlorobenzene	146	14.193	14.187	0.006	98	873533	50.0	49.1	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	93	847577	50.0	45.3	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	1697704	50.0	47.0	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	98	1607997	50.0	50.0	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	98	701693	50.0	47.3	
139 n-Butylbenzene	91	14.674	14.673	0.001	97	1479591	50.0	52.1	
140 1,2-Dibromo-3-Chloropropan	157	15.093	15.087	0.006	87	27101	50.0	50.0	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	98	520725	50.0	46.7	
142 1,2,4-Trichlorobenzene	180	16.559	16.565	-0.006	94	336218	50.0	52.8	
143 Naphthalene	128	16.864	16.870	-0.006	97	424986	50.0	53.7	
144 Hexachlorobutadiene	190	16.906	16.906	0.000	98	93919	50.0	47.1	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	96	204905	50.0	46.9	
S 146 1,3-Dichloropropene, Total	1				0			110.1	
S 147 Trihalomethanes, Total	1				0			196.7	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

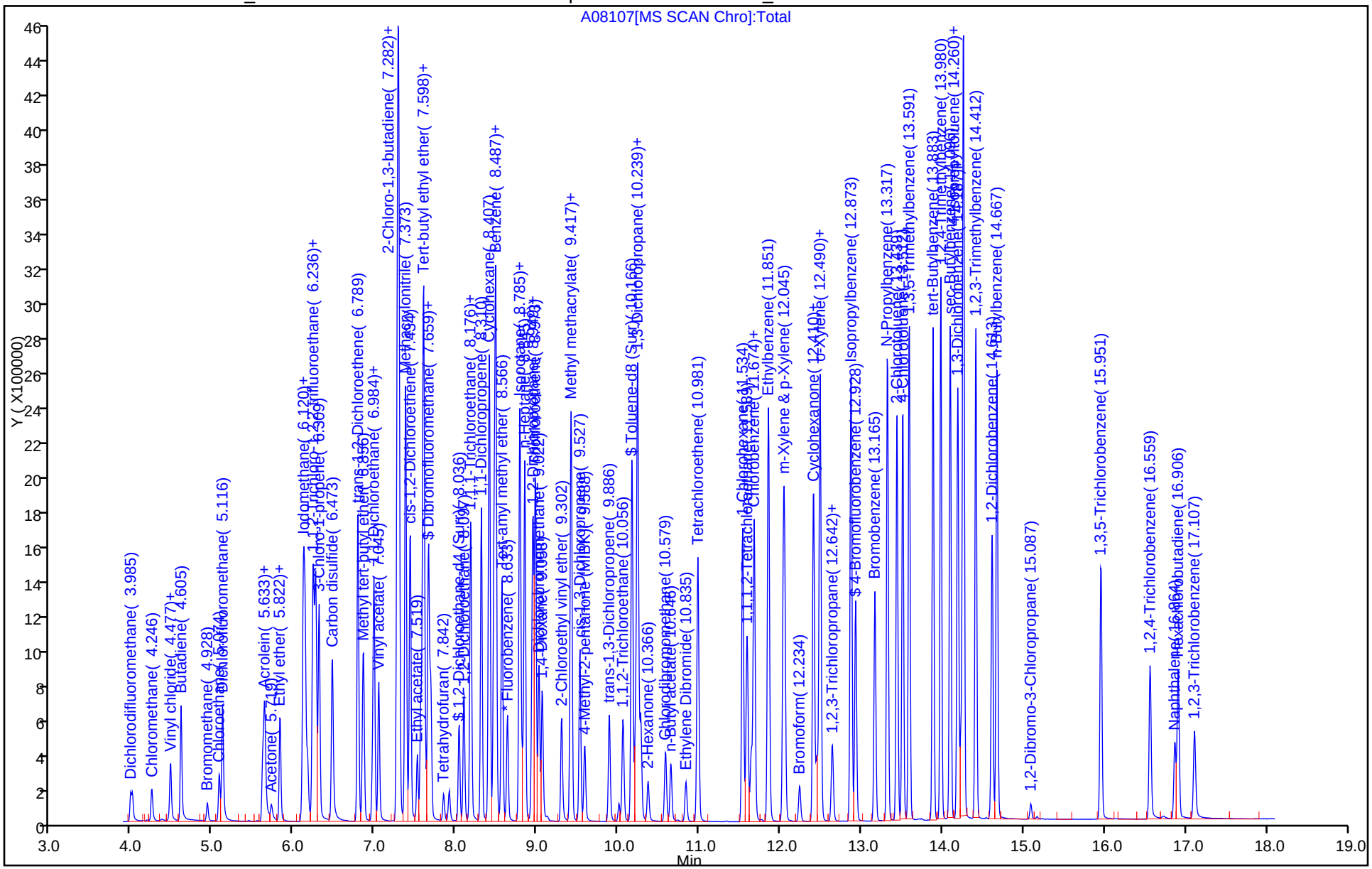
Reagents:

VOAIS50PPM_00168	Amount Added: 5.00	Units: uL
VOASTDPT2_00053	Amount Added: 20.00	Units: uL
VOASTDGASPT_00159	Amount Added: 20.00	Units: uL

Report Date: 14-Jun-2016 16:58:18 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d				
Injection Date:	21-Mar-2016 12:18:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



Manual Integration/User Assign Peak Report

TestAmerica Houston

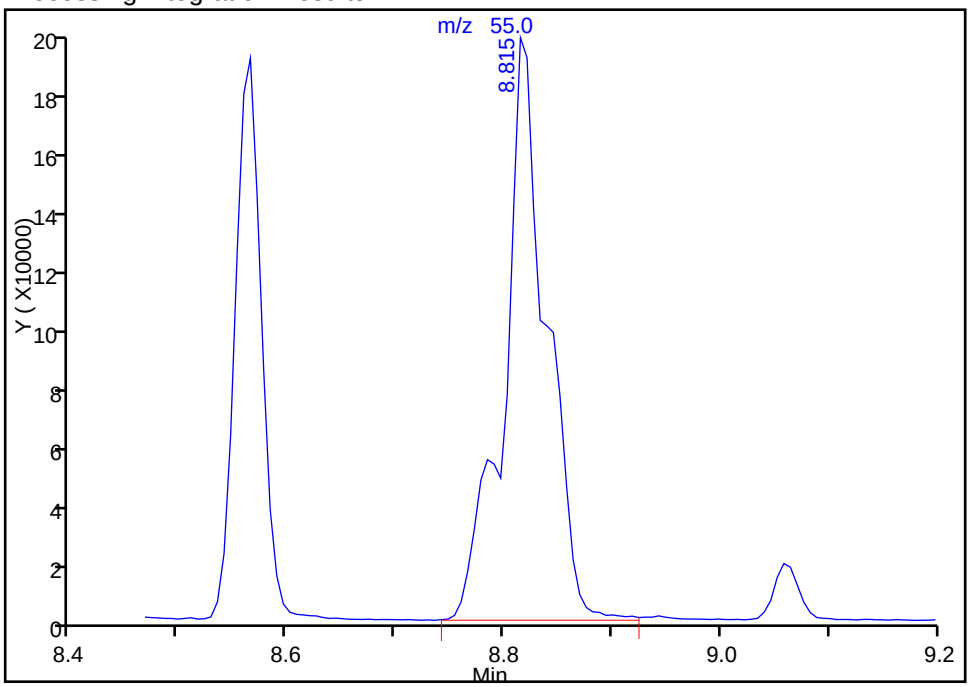
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d				
Injection Date:	21-Mar-2016 12:18:30	Instrument ID:	CHVOAMS07		
Lims ID:	ic				
Client ID:					
Operator ID:	ws	ALS Bottle#:	6	Worklist Smp#:	8
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

69 Ethyl acrylate, CAS: 140-88-5

Signal: 1

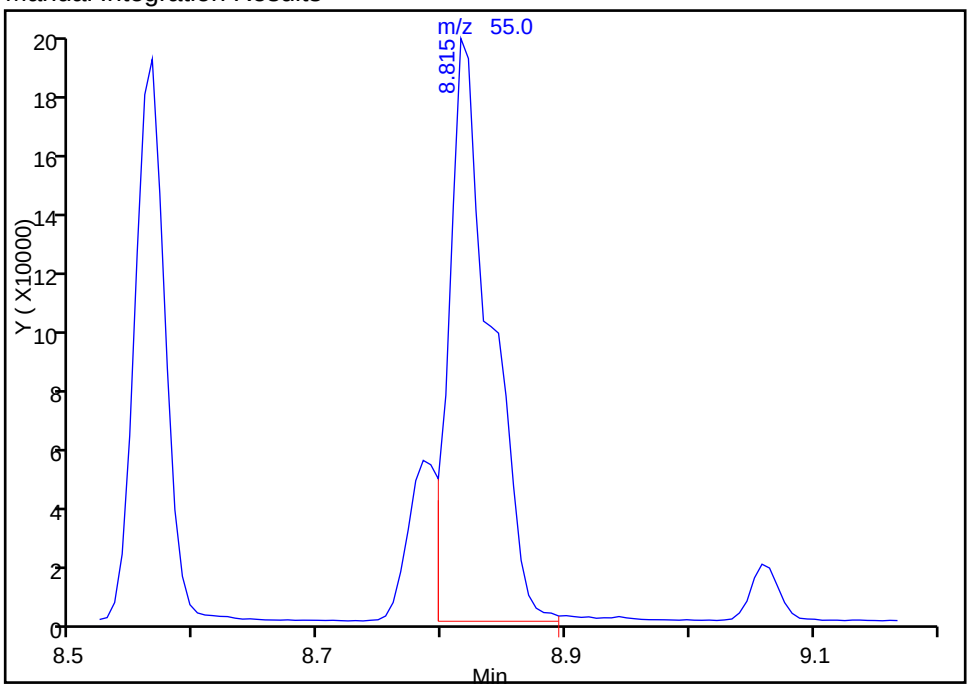
Processing Integration Results

RT: 8.82
Area: 527982
Amount: 59.102260
Amount Units: ug/l



Manual Integration Results

RT: 8.82
Area: 450681
Amount: 51.728068
Amount Units: ug/l



Reviewer: shenw, 21-Mar-2016 12:46:11

Audit Action: Manually Integrated Audit Reason: Baseline

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-187782/2	A12501.d
Level 2	IC 600-187782/3	A12502.d
Level 3	IC 600-187782/4	A12503.d
Level 4	IC 600-187782/5	A12504.d
Level 5	ICIS 600-187782/6	A12505.d
Level 6	IC 600-187782/7	A12506.d
Level 7	IC 600-187782/8	A12507.d

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.1914 0.2570	0.2636 0.2543	0.2545	0.2751	0.2656	Ave		0.2516				11.0		15.0			
Chloromethane	0.3876 0.2805	0.3208 0.2738	0.2513	0.2849	0.2845	Ave		0.2976			0.1000	15.0		15.0			
Ethylene oxide	0.0355 0.0050	0.0238 0.0051	0.0142	0.0066	0.0048	Lin	0.1230	0.0047							0.9930		0.9900
Vinyl chloride	0.2600 0.3126	0.3620 0.3256	0.3108	0.3148	0.3224	Ave		0.3154				9.5		15.0			
Butadiene	0.3548 0.4170	0.5078 0.4258	0.4571	0.4366	0.4278	Ave		0.4324				10.6		15.0			
Bromomethane	0.0637 0.0631	0.0589 0.0756	0.0485	0.0562	0.0569	Ave		0.0604				13.9		15.0			
Chloroethane	0.2054 0.1597	0.1788 0.1635	0.1903	0.1647	0.1768	Ave		0.1770				9.3		15.0			
Dichlorofluoromethane	0.5687 0.5327	0.7118 0.5606	0.6236	0.6497	0.5973	Ave		0.6063				10.1		15.0			
Acrolein	0.0233 0.0113	0.0141 0.0116	0.0112	0.0104	0.0106	Lin1	0.0185	0.0112							0.9950		0.9900
Acetonitrile	0.0186 0.0112	0.0150 0.0104	0.0120	0.0119	0.0090	Lin2	0.0428	0.0102							0.9900		0.9900
Trichlorofluoromethane	0.5419 0.6566	0.8957 0.6439	0.7877	0.7436	0.7201	Lin1	0.0977	0.6588							0.9960		0.9900
Isopropyl alcohol	0.0121 0.0047	0.0090 0.0047	0.0047	0.0045	0.0045	Lin1	0.0332	0.0045							0.9930		0.9900
Acetone	0.0616 0.0285	0.0522 0.0276	0.0489	0.0373	0.0323	Lin1	0.0480	0.0280							0.9930		0.9900
Ethyl ether	0.2269 0.1964	0.2003 0.1911	0.2037	0.1557	0.1917	Ave		0.1951				10.9		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
t-Butanol	0.0227 0.0196	0.0200 0.0191	0.0204	0.0156	0.0192	Ave		0.0195				10.9		15.0			
1,1-Dichloroethene	0.3289 0.2337	0.2753 0.2321	0.2664	0.2441	0.2281	Ave		0.2584				13.9		15.0			
Acrylonitrile	0.0389 0.0374	0.0376 0.0366	0.0336	0.0350	0.0386	Ave		0.0368				5.2		15.0			
Iodomethane	0.1308 0.2615	0.1161 0.3229	0.1488	0.1850	0.2187	Lin	-0.557	0.3262							0.9930		0.9900
Methylene Chloride	0.5717 0.2104	0.3591 0.1982	0.2785	0.2447	0.2236	Lin2	0.1815	0.1977							0.9950		0.9900
Methyl acetate	0.1202 0.1058	0.1040 0.1009	0.1116	0.1013	0.1065	Ave		0.1072				6.3		15.0			
1,1,2-Trichloro-1,2,2-trifluoroethane	0.3541 0.3146	0.4135 0.3088	0.3743	0.3504	0.3322	Ave		0.3497				10.4		15.0			
3-Chloro-1-propene	0.1426 0.1248	0.1251 0.1144	0.1547	0.1403	0.1245	Ave		0.1323				10.5		15.0			
Carbon disulfide	0.9336 0.6946	0.7077 0.6871	0.7463	0.7047	0.6895	Ave		0.7376				12.0		15.0			
trans-1,2-Dichloroethene	0.3688 0.2693	0.2814 0.2789	0.2680	0.2553	0.2610	Ave		0.2832				13.7		15.0			
Methyl tert-butyl ether	0.4238 0.4547	0.3835 0.4443	0.4137	0.3893	0.4250	Ave		0.4192				6.3		15.0			
Propionitrile	0.0124 0.0132	0.0120 0.0131	0.0123	0.0109	0.0127	Ave		0.0124				6.2		15.0			
1,1-Dichloroethane	1.0052 0.7698	0.8212 0.7280	0.8156	0.7677	0.7658	Ave		0.8105			0.1000	11.3		15.0			
Vinyl acetate	0.2697 0.3519	0.2541 0.3509	0.2700	0.2908	0.3342	Ave		0.3031				13.7		15.0			
2-Chloro-1,3-butadiene	0.7867 1.1686	0.9200 1.1631	0.9635	1.0451	1.1308	Ave		1.0254				14.0		15.0			
Hexane	0.4534 0.7200	0.6195 0.7151	0.6968	0.6883	0.7150	Ave		0.6583				14.7		15.0			
Isopropyl ether	1.2606 1.4725	1.3757 1.3853	1.5041	1.5095	1.5144	Ave		1.4317				6.6		15.0			
2-Butanone (MEK)	0.0060 0.0111	0.0143 0.0113	0.0120	0.0125	0.0122	Lin1	0	0.0115							0.9960		0.9900
Methacrylonitrile	0.0110 0.0118	0.0089 0.0114	0.0120	0.0104	0.0113	Ave		0.0110				9.6		15.0			
cis-1,2-Dichloroethene	0.3994 0.2782	0.2878 0.2775	0.3267	0.2930	0.2909	Ave		0.3077				14.2		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Chlorobromomethane	0.1159 0.0926	0.1289 0.0865	0.1056	0.1016	0.0962	Ave		0.1039				14.0		15.0			
Chloroform	0.7289 0.6366	0.6894 0.6075	0.7157	0.6274	0.6496	Ave		0.6650				7.0		15.0			
Tert-butyl ethyl ether	0.9554 1.1354	0.9776 1.1146	1.0293	1.0528	1.0715	Ave		1.0481				6.3		15.0			
Ethyl acetate	0.1443 0.1183	0.1294 0.1125	0.1549	0.1274	0.1210	Ave		0.1297				11.6		15.0			
Isobutyl alcohol	0.0133 0.0093	0.0098 0.0090	0.0117	0.0091	0.0097	Lin1	0.0543	0.0091							0.9980		0.9900
2,2-Dichloropropane	0.8620 0.7267	0.7466 0.6959	0.8006	0.7615	0.7247	Ave		0.7597				7.3		15.0			
Tetrahydrofuran	0.0418 0.0293	0.0337 0.0313	0.0282	0.0255	0.0280	Lin1	0.0041	0.0300							0.9950		0.9900
1,2-Dichloroethane	0.6499 0.5377	0.5704 0.4980	0.5677	0.5070	0.5041	Ave		0.5478				9.9		15.0			
1,1,1-Trichloroethane	0.9376 0.8263	0.9047 0.7920	0.8559	0.7937	0.8046	Ave		0.8450				6.8		15.0			
n-Butanol	+++++ 0.0015	0.0010 0.0017	0.0005	0.0010	0.0012	Lin	-0.081	0.0017							0.9970		0.9900
1,1-Dichloropropene	0.4346 0.4525	0.3562 0.4450	0.3949	0.4002	0.4263	Ave		0.4157				8.2		15.0			
Cyclohexane	0.2713 0.4055	0.3431 0.4158	0.3595	0.3800	0.3878	Ave		0.3661				13.3		15.0			
Carbon tetrachloride	0.8882 0.8534	0.9090 0.8196	0.9223	0.8689	0.8508	Ave		0.8732				4.1		15.0			
Benzene	1.0461 1.0238	0.9645 0.9934	1.0550	1.0087	1.0156	Ave		1.0153				3.0		15.0			
Tert-amyl methyl ether	0.3437 0.4381	0.3942 0.4496	0.4038	0.4072	0.4319	Ave		0.4098				8.6		15.0			
Isooctane	1.1138 1.3647	1.3313 1.3698	1.3864	1.2876	1.3410	Ave		1.3135				7.1		15.0			
Ethyl acrylate	0.1174 0.3461	0.2603 0.3475	0.3122	0.2949	0.3402	Lin2	-0.110	0.3491							0.9960		0.9900
2-Nitropropane	0.2259 0.3465	0.2861 0.3386	0.3447	0.3355	0.3436	Ave		0.3173				14.3		15.0			
n-Heptane	0.4518 0.6930	0.5722 0.6772	0.6895	0.6710	0.6873	Ave		0.6346				14.3		15.0			
Dibromomethane	0.1291 0.0965	0.1338 0.0937	0.1039	0.1010	0.1012	Ave		0.1085				14.9		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2-Dichloropropane	0.3577 0.3000	0.2960 0.2878	0.3058	0.3008	0.2993	Ave		0.3068				7.5		15.0			
Trichloroethene	0.5019 0.3690	0.3901 0.3561	0.3913	0.3554	0.3558	Ave		0.3885				13.5		15.0			
Bromodichloromethane	0.4686 0.3860	0.4204 0.3651	0.4260	0.3949	0.3811	Ave		0.4060				8.6		15.0			
Methyl methacrylate	0.0927 0.1607	0.0930 0.1534	0.1141	0.1330	0.1461	Lin1	-0.100	0.1551							0.9980		0.9900
1,4-Dioxane	0.0010 0.0006	0.0009 0.0006	+++++	0.0006	0.0007	Lin1	0.0049	0.0006							0.9950		0.9900
2-Chloroethyl vinyl ether	0.1293 0.1450	0.0806 0.1562	0.1048	0.1057	0.1327	Lin1	-0.101	0.1500							0.9920		0.9900
Methylcyclohexane	0.2658 0.4159	0.3224 0.4246	0.3664	0.3782	0.4007	Lin2	-0.076	0.4098							0.9990		0.9900
cis-1,3-Dichloropropene	1.0025 0.8822	0.7595 0.8557	0.8375	0.7598	0.8516	Ave		0.8498				9.7		15.0			
4-Methyl-2-pentanone (MIBK)	0.1204 0.1273	0.0971 0.1248	0.1108	0.1039	0.1213	Ave		0.1151				9.9		15.0			
trans-1,3-Dichloropropene	0.6441 0.5757	0.5775 0.5877	0.5715	0.4857	0.5231	Ave		0.5665				8.9		15.0			
1,1,2-Trichloroethane	0.4725 0.2770	0.4109 0.2786	0.3279	0.2840	0.2774	Lin2	0.1064	0.2738							0.9960		0.9900
Ethyl methacrylate	0.1862 0.3505	0.2512 0.3460	0.2486	0.2685	0.2770	Lin1	-0.117	0.3399							0.9940		0.9900
Toluene	1.9552 1.9640	1.7744 1.8605	2.0245	1.8875	1.9308	Ave		1.9138				4.3		15.0			
1,3-Dichloropropane	0.5476 0.5804	0.5772 0.5159	0.6893	0.5608	0.5958	Ave		0.5810				9.4		15.0			
2-Hexanone	0.1405 0.1877	0.1001 0.1987	0.1240	0.1355	0.1720	Lin1	-0.149	0.1924							0.9930		0.9900
Dibromochloromethane	0.6768 0.4891	0.6087 0.4879	0.6382	0.4893	0.4979	Ave		0.5554				14.9		15.0			
n-Butyl acetate	0.2850 0.4822	0.2663 0.5464	0.3639	0.3561	0.4063	Lin	-0.698	0.5518							0.9970		0.9900
1,2-Dibromoethane	0.4742 0.2759	0.3340 0.2646	0.3121	0.2562	0.2767	Lin2	0.1023	0.2568							0.9940		0.9900
Tetrachloroethene	1.0667 0.7525	0.8899 0.7714	0.8942	0.7377	0.7933	Ave		0.8437				13.8		15.0			
1-Chlorohexane	0.9992 1.3879	1.0142 1.3613	1.1813	1.3200	1.3373	Ave		1.2287				13.5		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,1,1,2-Tetrachloroethane	1.0482 0.8133	0.9538 0.7560	0.9811	0.7962	0.7865	Ave		0.8764				13.1		15.0			
Chlorobenzene	2.4425 1.7900	2.0796 1.6994	2.1388	1.8023	1.8203	Ave		1.9676			0.3000	13.4		15.0			
Ethylbenzene	1.2545 1.1024	1.0194 1.0721	1.1289	0.9538	1.1012	Ave		1.0903				8.6		15.0			
m-Xylene & p-Xylene	2.6026 2.9076	2.3034 2.8251	2.6862	2.7087	2.7858	Ave		2.6885				7.3		15.0			
Bromoform	0.4627 0.2607	0.4082 0.2540	0.3339	0.2988	0.2946	Lin2	0.1040	0.2729			0.1000				0.9930		0.9900
Styrene	1.3200 1.5703	1.0941 1.6536	1.1479	1.2199	1.4342	Lin1	-0.459	1.6021							0.9950		0.9900
Cyclohexanone	+++++ 0.0076	0.0054 0.0086	0.0061	0.0049	0.0066	Lin	-0.664	0.0087							0.9970		0.9900
1,1,2,2-Tetrachloroethane	0.5134 0.2915	0.3541 0.2712	0.3544	0.2921	0.3098	Lin2	0.1100	0.2801		*	0.3000				0.9930		0.9900
o-Xylene	1.1216 1.2563	1.0437 1.2207	1.1614	1.2029	1.2574	Ave		1.1806				6.6		15.0			
trans-1,4-Dichloro-2-butene	0.1292 0.1365	+++++ 0.1385	0.1122	0.1052	0.1098	Ave		0.1219				11.9		15.0			
1,2,3-Trichloropropane	0.1083 0.1176	0.1766 0.1101	0.1873	0.1185	0.1306	Lin	0.1026	0.1089							0.9980		0.9900
Isopropylbenzene	4.0350 4.1646	3.9084 3.8929	4.2268	4.1434	4.2765	Ave		4.0925				3.7		15.0			
Bromobenzene	1.0446 0.7931	0.8888 0.7877	0.8372	0.7892	0.8171	Ave		0.8511				10.9		15.0			
N-Propylbenzene	1.2181 1.0843	0.9951 1.0594	0.9857	1.1012	1.1021	Ave		1.0780				7.2		15.0			
2-Chlorotoluene	1.0506 0.9246	0.8171 0.8834	1.0363	0.9624	0.9320	Ave		0.9438				8.7		15.0			
4-Chlorotoluene	2.8581 2.9425	2.5388 2.8816	3.3364	2.8347	3.0532	Ave		2.9208				8.3		15.0			
1,3,5-Trimethylbenzene	3.2343 3.6418	3.2958 3.4930	3.6274	3.7476	3.7210	Ave		3.5373				5.8		15.0			
tert-Butylbenzene	2.9371 2.9854	2.5636 2.9403	3.1081	3.0275	2.9971	Ave		2.9370				5.9		15.0			
1,2,4-Trimethylbenzene	3.5430 3.5650	2.9778 3.5142	3.5542	3.6165	3.6148	Ave		3.4836				6.5		15.0			
sec-Butylbenzene	3.7507 3.9703	3.8177 3.9659	4.4482	4.1062	4.0992	Ave		4.0226				5.7		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Benzyl chloride	0.7867 0.6745	0.7226 0.7074	0.6264	0.5529	0.6372	Ave		0.6725				11.3		15.0			
1,3-Dichlorobenzene	1.8329 1.7780	1.8925 1.7462	1.8360	1.6951	1.7710	Ave		1.7931				3.7		15.0			
1,4-Dichlorobenzene	2.5425 1.8008	2.1484 1.7550	2.1957	1.9320	1.9094	Ave		2.0406				13.5		15.0			
4-Isopropyltoluene	4.4196 3.9499	3.9467 3.8779	4.6504	4.1545	4.0095	Ave		4.1441				7.0		15.0			
1,2,3-Trimethylbenzene	3.4565 3.2331	3.0569 3.2089	3.3151	3.2768	3.3219	Ave		3.2670				3.7		15.0			
1,2-Dichlorobenzene	1.6733 1.3509	1.4636 1.3315	1.6596	1.3418	1.3800	Ave		1.4573				10.3		15.0			
n-Butylbenzene	2.6012 3.0829	2.4289 3.0826	2.7284	2.7767	2.9739	Ave		2.8107				8.9		15.0			
1,2-Dibromo-3-Chloropropane	0.1590 0.0508	0.1186 0.0502	0.0853	0.0511	0.0534	Lin1	0.0597	0.0482							0.9960		0.9900
1,3,5-Trichlorobenzene	1.4507 1.0606	1.2577 1.0858	1.2283	1.1214	1.1034	Ave		1.1868				11.6		15.0			
1,2,4-Trichlorobenzene	0.7261 0.6132	0.5515 0.6215	0.5943	0.5136	0.5990	Ave		0.6028				11.0		15.0			
Naphthalene	0.9050 0.5654	0.3873 0.5961	0.5740	0.4119	0.5420	Lin1	-0.006	0.5720							0.9900		0.9900
Hexachlorobutadiene	0.6575 0.2787	0.4498 0.2602	0.4549	0.3581	0.2694	Lin1	0.2323	0.2614							0.9940		0.9900
1,2,3-Trichlorobenzene	0.8861 0.3574	0.5547 0.3489	0.3894	0.3500	0.3801	Lin1	0.2237	0.3430							0.9970		0.9900
Dibromofluoromethane	0.3983 0.3140	0.3552 0.2980	0.3666	0.3345	0.3197	Ave		0.3409				10.2		15.0			
1,2-Dichloroethane-d4 (Surr)	0.5026 0.3925	0.4437 0.3814	0.4436	0.4303	0.3919	Ave		0.4266				9.9		15.0			
Toluene-d8 (Surr)	2.8800 2.7679	2.5017 2.6973	2.8405	2.5691	2.6401	Ave		2.6995				5.2		15.0			
4-Bromofluorobenzene	1.2007 1.0648	0.9583 0.9952	1.1635	1.0775	1.0838	Ave		1.0777				7.9		15.0			

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-187782/2	A12501.d
Level 2	IC 600-187782/3	A12502.d
Level 3	IC 600-187782/4	A12503.d
Level 4	IC 600-187782/5	A12504.d
Level 5	ICIS 600-187782/6	A12505.d
Level 6	IC 600-187782/7	A12506.d
Level 7	IC 600-187782/8	A12507.d

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	1874 112996	4973 303582	9739	27345	55855	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chloromethane	FB	Ave	3796 123351	6054 326779	9619	28314	59837	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethylene oxide	FB	Lin	3477 22072	4483 60559	5423	6514	10132	5.00 200	10.0 500	20.0	50.0	100
Vinyl chloride	FB	Ave	2546 137456	6830 388617	11895	31287	67801	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Butadiene	FB	Ave	3474 183354	9582 508222	17492	43395	89983	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Bromomethane	FB	Ave	624 27753	1111 90205	1857	5589	11971	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chloroethane	FB	Ave	2011 70237	3374 195203	7282	16374	37191	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Dichlorofluoromethane	FB	Ave	5569 234242	13431 669148	23866	64579	125621	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Acrolein	FB	Lin1	1141 24851	1326 69514	2139	5192	11108	2.50 100	5.00 250	10.0	25.0	50.0
Acetonitrile	FB	Lin2	1821 49123	2838 124047	4608	11860	19010	5.00 200	10.0 500	20.0	50.0	100
Trichlorofluoromethane	FB	Lin1	5307 288724	16901 768506	30145	73912	151457	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isopropyl alcohol	FB	Lin1	1188 20645	1701 55819	1797	4461	9476	5.00 200	10.0 500	20.0	50.0	100
Acetone	FB	Lin1	1207 25074	1971 65957	3746	7415	13571	1.00 40.0	2.00 100	4.00	10.0	20.0
Ethyl ether	FB	Ave	2222 86363	3779 228067	7795	15473	40315	0.500 20.0	1.00 50.0	2.00	5.00	10.0
t-Butanol	FB	Ave	2222 86363	3779 228067	7795	15473	40315	5.00 200	10.0 500	20.0	50.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,1-Dichloroethene	FB	Ave	3221 102774	5194 277067	10196	24266	47983	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Acrylonitrile	FB	Ave	3808 164618	7090 436552	12873	34756	81247	5.00 200	10.0 500	20.0	50.0	100
Iodomethane	FB	Lin	1281 115012	2190 385385	5693	18387	45990	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Methylene Chloride	FB	Lin2	5599 92528	6775 236618	10657	24318	47034	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Methyl acetate	FB	Ave	5887 232636	9815 602030	21356	50329	111980	2.50 100	5.00 250	10.0	25.0	50.0
1,1,2-Trichloro-1,2,2-trifluoroetha ne	FB	Ave	3468 138328	7802 368547	14325	34828	69881	0.500 20.0	1.00 50.0	2.00	5.00	10.0
3-Chloro-1-propene	FB	Ave	1396 54874	2360 136575	5919	13941	26187	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Carbon disulfide	FB	Ave	9143 305427	13353 820137	28559	70037	145017	0.500 20.0	1.00 50.0	2.00	5.00	10.0
trans-1,2-Dichloroethene	FB	Ave	3612 118403	5309 332839	10256	25378	54888	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Methyl tert-butyl ether	FB	Ave	4150 199953	7236 530366	15831	38691	89395	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Propionitrile	FB	Ave	1216 58157	2261 155976	4704	10879	26737	5.00 200	10.0 500	20.0	50.0	100
1,1-Dichloroethane	FB	Ave	9844 338512	15496 868906	31212	76300	161077	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Vinyl acetate	FB	Ave	5283 309517	9589 837646	20669	57796	140564	1.00 40.0	2.00 100	4.00	10.0	20.0
2-Chloro-1,3-butadiene	FB	Ave	7704 513895	17359 1388316	36872	103877	237832	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Hexane	FB	Ave	4440 316612	11689 853536	26667	68411	150386	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isopropyl ether	FB	Ave	12345 647521	25957 1653540	57561	150032	318531	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Butanone (MEK)	FB	Lin1	118 9774	539 26997	921	2489	5121	1.00 40.0	2.00 100	4.00	10.0	20.0
Methacrylonitrile	FB	Ave	1079 51841	1685 136634	4608	10354	23836	5.00 200	10.0 500	20.0	50.0	100
cis-1,2-Dichloroethene	FB	Ave	3911 122343	5431 331227	12504	29123	61183	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chlorobromomethane	FB	Ave	1135 40727	2433 103196	4041	10100	20227	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chloroform	FB	Ave	7138 279929	13008 725135	27389	62356	136634	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Tert-butyl ethyl ether	FB	Ave	9356 499260	18446 1330420	39392	104636	225378	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethyl acetate	FB	Ave	2827 104056	4884 268513	11854	25332	50902	1.00 40.0	2.00 100	4.00	10.0	20.0
Isobutyl alcohol	FB	Lin1	3249 102611	4637 268513	11238	22661	51061	12.5 500	25.0 1250	50.0	125	250
2,2-Dichloropropane	FB	Ave	8441 319545	14088 830649	30640	75691	152436	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Tetrahydrofuran	FB	Lin1	819 25728	1271 74633	2155	5063	11768	1.00 40.0	2.00 100	4.00	10.0	20.0
1,2-Dichloroethane	FB	Ave	6364 236448	10762 594446	21727	50392	106036	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,1,1-Trichloroethane	FB	Ave	9182 363371	17070 945371	32757	78887	169239	0.500 20.0	1.00 50.0	2.00	5.00	10.0
n-Butanol	FB	Lin	+++++ 16049	481 49760	498	2413	6060	+++++ 500	25.0 1250	50.0	125	250
1,1-Dichloropropene	FB	Ave	4256 198988	6721 531145	15111	39776	89672	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Cyclohexane	FB	Ave	2657 178301	6473 496243	13757	37768	81573	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Carbon tetrachloride	FB	Ave	8698 375292	17151 978313	35296	86357	178951	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Benzene	FB	Ave	10244 450222	18199 1185750	40374	100260	213618	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Tert-amyl methyl ether	FB	Ave	3366 192638	7439 536588	15455	40471	90851	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isooctane	FB	Ave	10907 600100	25121 1635020	53056	127974	282058	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethyl acrylate	FB	Lin2	1150 152213	4911 414830	11948	29311	71544	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Nitropropane	FB	Ave	4424 304722	10797 808358	26386	66694	144550	1.00 40.0	2.00 100	4.00	10.0	20.0
n-Heptane	FB	Ave	4424 304722	10797 808358	26386	66694	144550	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Dibromomethane	FB	Ave	1264 42420	2525 111813	3978	10042	21289	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dichloropropane	FB	Ave	3503 131914	5586 343521	11702	29892	62960	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Trichloroethene	FB	Ave	4915 162261	7360 425034	14974	35326	74835	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Bromodichloromethane	FB	Ave	4589 169734	7933 435781	16304	39254	80163	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Methyl methacrylate	FB	Lin1	1816 141341	3509 366161	8737	26444	61460	1.00 40.0	2.00 100	4.00	10.0	20.0
1,4-Dioxane	FB	Lin1	203 5483	337 13963	+++++	1110	2962	10.0 400	20.0 1000	+++++	100	200
2-Chloroethyl vinyl ether	CBNZ d5	Lin1	782 44305	961 127953	2524	7080	18840	1.00 40.0	2.00 100	4.00	10.0	20.0
Methylcyclohexane	FB	Lin2	2603 182904	6083 506825	14023	37587	84280	0.500 20.0	1.00 50.0	2.00	5.00	10.0
cis-1,3-Dichloropropene	CBNZ d5	Ave	3032 134731	4527 350576	10081	25441	60440	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Methyl-2-pentanone (MIBK)	FB	Ave	2359 111975	3665 297852	8480	20655	51024	1.00 40.0	2.00 100	4.00	10.0	20.0
trans-1,3-Dichloropropene	CBNZ d5	Ave	1948 87930	3442 240761	6879	16263	37123	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,1,2-Trichloroethane	CBNZ d5	Lin2	1429 42306	2449 114150	3947	9508	19691	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethyl methacrylate	CBNZ d5	Lin1	563 53526	1497 141750	2993	8992	19660	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Toluene	CBNZ d5	Ave	5913 299956	10576 762192	24369	63202	137036	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,3-Dichloropropane	CBNZ d5	Ave	1656 88649	3440 211336	8297	18777	42287	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Hexanone	CBNZ d5	Lin1	850 57337	1193 162809	2986	9071	24410	1.00 40.0	2.00 100	4.00	10.0	20.0
Dibromochloromethane	CBNZ d5	Ave	2047 74699	3628 199890	7682	16384	35339	0.500 20.0	1.00 50.0	2.00	5.00	10.0
n-Butyl acetate	CBNZ d5	Lin	862 73642	1587 223860	4380	11924	28835	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dibromoethane	CBNZ d5	Lin2	1434 42132	1991 108407	3757	8578	19638	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Tetrachloroethene	CBNZ d5	Ave	3226 114929	5304 316036	10764	24702	56305	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1-Chlorohexane	CBNZ d5	Ave	3022 211965	6045 557704	14220	44198	94911	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,1,1,2-Tetrachloroethane	CBNZ d5	Ave	3170 124211	5685 309708	11810	26660	55819	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Chlorobenzene	CBNZ d5	Ave	7387 273386	12395 696202	25745	60348	129190	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Ethylbenzene	CBNZ d5	Ave	3794 168363	6076 439209	13589	31938	78155	0.500 20.0	1.00 50.0	2.00	5.00	10.0
m-Xylene & p-Xylene	CBNZ d5	Ave	7871 444079	13729 1157385	32334	90699	197717	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Bromoform	DCBd 4	Lin2	931 33813	1697 93699	2959	7552	16462	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Styrene	CBNZ d5	Lin1	3992 239826	6521 677454	13817	40847	101792	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Cyclohexanone	CBNZ d5	Lin	+++++ 58135	1615 175744	3681	8148	23421	+++++ 1000	50.0 2500	100	250	500
1,1,2,2-Tetrachloroethane	DCBd 4	Lin2	1033 37801	1472 100054	3141	7383	17313	0.500 20.0	1.00 50.0	2.00	5.00	10.0
o-Xylene	CBNZ d5	Ave	3392 191878	6221 500103	13980	40277	89239	0.500 20.0	1.00 50.0	2.00	5.00	10.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	260 17707	+++++ 51086	994	2660	6138	0.500 20.0	+++++ 50.0	2.00	5.00	10.0
1,2,3-Trichloropropane	DCBd 4	Lin	218 15246	734 40599	1660	2996	7296	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Isopropylbenzene	DCBd 4	Ave	8119 540064	16249 1436048	37461	104734	238959	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Bromobenzene	DCBd 4	Ave	2102 102852	3695 290587	7420	19949	45659	0.500 20.0	1.00 50.0	2.00	5.00	10.0
N-Propylbenzene	DCBd 4	Ave	2451 140617	4137 390797	8736	27834	61580	0.500 20.0	1.00 50.0	2.00	5.00	10.0
2-Chlorotoluene	DCBd 4	Ave	2114 119899	3397 325887	9184	24326	52080	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Chlorotoluene	DCBd 4	Ave	5751 381586	10555 1062971	29570	71654	170605	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	6508 472265	13702 1288535	32149	94728	207922	0.500 20.0	1.00 50.0	2.00	5.00	10.0
tert-Butylbenzene	DCBd 4	Ave	5910 387143	10658 1084653	27546	76526	167468	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	7129 462312	12380 1296358	31500	91414	201984	0.500 20.0	1.00 50.0	2.00	5.00	10.0
sec-Butylbenzene	DCBd 4	Ave	7547 514870	15872 1462956	39423	103792	229056	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Benzyl chloride	DCBd 4	Ave	1583 87471	3004 260948	5552	13976	35605	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,3-Dichlorobenzene	DCBd 4	Ave	3688 230571	7868 644135	16272	42847	98959	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,4-Dichlorobenzene	DCBd 4	Ave	5116 233533	8932 647412	19460	48836	106691	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Isopropyltoluene	DCBd 4	Ave	8893 512226	16408 1430518	41215	105013	224042	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	6955 419271	12709 1183722	29381	82829	185621	0.500 20.0	1.00 50.0	2.00	5.00	10.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 187782

SDG No.:

Instrument ID: CHVOAMS07 GC Column: DB-VRX 60 ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 05/04/2016 09:41 Calibration End Date: 05/04/2016 12:04 Calibration ID: 9170

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichlorobenzene	DCBd 4	Ave	3367 175179	6085 491190	14709	33918	77111	0.500 20.0	1.00 50.0	2.00	5.00	10.0
n-Butylbenzene	DCBd 4	Ave	5234 399796	10098 1137127	24181	70186	166175	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Lin1	320 6592	493 18521	756	1292	2983	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	2919 137534	5229 400544	10886	28346	61657	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	1461 79523	2293 229281	5267	12983	33472	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Naphthalene	DCBd 4	Lin1	1821 73327	1610 219900	5087	10412	30284	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Hexachlorobutadiene	DCBd 4	Lin1	1323 36142	1870 96000	4032	9051	15054	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2,3-Trichlorobenzene	DCBd 4	Lin1	1783 46349	2306 128698	3451	8847	21239	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Dibromofluoromethane	FB	Ave	3900 138066	6702 355666	14031	33243	67246	0.500 20.0	1.00 50.0	2.00	5.00	10.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	4922 172582	8373 455189	16978	42771	82419	0.500 20.0	1.00 50.0	2.00	5.00	10.0
Toluene-d8 (Surr)	CBNZ d5	Ave	8710 422743	14911 1105033	34191	86024	187376	0.500 20.0	1.00 50.0	2.00	5.00	10.0
4-Bromofluorobenzene	DCBd 4	Ave	2416 138078	3984 367111	10312	27237	60558	0.500 20.0	1.00 50.0	2.00	5.00	10.0

Curve Type Legend:

Ave = Average ISTD
Lin = Linear ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 04-May-2016 09:41:30 ALS Bottle#: 2 Worklist Smp#: 2
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011909-002
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub26

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 01-Aug-2016 09:48:44 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: shenw Date: 04-May-2016 10:10:36

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	-0.001	95	244820	12.5	12.5	
2 Dichlorodifluoromethane	85	4.009	4.009	0.000	44	1874	0.5000	0.3803	
3 Chloromethane	50	4.246	4.246	0.000	74	3796	0.5000	0.6512	
6 Ethylene oxide	44	4.471	4.465	0.006	56	3477	5.00	11.5	
4 Vinyl chloride	62	4.477	4.477	0.000	74	2546	0.5000	0.4121	
5 Butadiene	39	4.611	4.605	0.006	87	3474	0.5000	0.4102	
7 Bromomethane	94	4.934	4.934	0.000	37	624	0.5000	0.5273	
9 Chloroethane	64	5.080	5.080	0.000	41	2011	0.5000	0.5800	
8 Ethanol	45	5.098	5.080	0.018	57	759	NC	NC	
11 Dichlorofluoromethane	67	5.122	5.116	0.006	96	5569	0.5000	0.4689	
14 Acrolein	56	5.621	5.615	0.006	52	1141	2.50	3.56	
15 Acetonitrile	41	5.621	5.621	0.000	60	1821	5.00	4.90	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	98	5307	0.5000	0.2630	
17 Isopropyl alcohol	45	5.645	5.652	-0.007	26	1188	5.00	6.13	
18 Acetone	43	5.834	5.828	0.006	64	1207	1.00	0.4884	M
21 2-Methyl-2-propanol	59	5.840	5.828	0.012	54	2222	5.00	5.82	
19 Ethyl ether	59	5.840	5.828	0.012	65	2222	0.5000	0.5815	
22 1,1-Dichloroethene	96	6.108	6.114	-0.006	86	3221	0.5000	0.6365	
23 Acrylonitrile	52	6.144	6.138	0.006	95	3808	5.00	5.28	
24 Iodomethane	142	6.163	6.169	-0.006	73	1281	0.5000	1.91	
25 Methylene Chloride	84	6.230	6.236	-0.006	85	5599	0.5000	0.5279	
26 Methyl acetate	43	6.254	6.248	0.006	99	5887	2.50	2.80	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.272	-0.006	87	3468	0.5000	0.5063	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	79	1396	0.5000	0.5387	
29 Carbon disulfide	76	6.473	6.473	0.000	95	9143	0.5000	0.6329	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	81	3612	0.5000	0.6511	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	88	4150	0.5000	0.5055	
32 Propionitrile	54	6.990	6.966	0.024	20	1216	5.00	5.02	M
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	9844	0.5000	0.6201	
34 Vinyl acetate	43	7.057	7.045	0.012	89	5283	1.00	0.8900	M

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
35 2-Chloro-1,3-butadiene	53	7.276	7.270	0.006	83	7704	0.5000	0.3836	
36 Hexane	57	7.288	7.288	0.000	77	4440	0.5000	0.3444	
38 Isopropyl ether	45	7.288	7.288	0.000	76	12345	0.5000	0.4402	
37 2-Butanone (MEK)	72	7.282	7.300	-0.018	74	118	1.00	0.5622	
39 Methacrylonitrile	66	7.373	7.379	-0.006	92	1079	5.00	5.01	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	66	3911	0.5000	0.6491	
45 Chlorobromomethane	128	7.568	7.562	0.006	84	1135	0.5000	0.5578	
S 46 1,2-Dichloroethene, Total	96				0		1.00	1.30	
48 Chloroform	83	7.586	7.592	-0.006	86	7138	0.5000	0.5480	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	96	9356	0.5000	0.4558	
43 Ethyl acetate	43	7.598	7.598	0.000	38	2827	1.00	1.11	
50 Isobutyl alcohol	43	7.598	7.598	0.000	40	3249	12.5	12.3	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	89	8441	0.5000	0.5673	
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	88	3900	0.5000	0.5841	
53 Tetrahydrofuran	42	7.848	7.848	0.000	82	819	1.00	1.26	M
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	4922	0.5000	0.5891	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	98	6364	0.5000	0.5931	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	91	9182	0.5000	0.5548	
59 n-Butanol	56		8.176				ND	ND	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	82	4256	0.5000	0.5228	
62 Cyclohexane	84	8.401	8.407	-0.006	90	2657	0.5000	0.3705	
63 Carbon tetrachloride	119	8.462	8.468	-0.006	95	8698	0.5000	0.5086	
64 Benzene	78	8.493	8.487	0.006	85	10244	0.5000	0.5151	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	66	3366	0.5000	0.4194	
68 Isooctane	57	8.785	8.785	0.000	95	10907	0.5000	0.4240	
69 Ethyl acrylate	55	8.791	8.839	-0.048	37	1150	0.5000	0.4829	
70 n-Heptane	43	8.845	8.845	0.000	80	4424	0.5000	0.3560	
67 2-Nitropropane	43	8.845	8.845	0.000	92	4424	1.00	0.7119	
71 Dibromomethane	93	8.931	8.931	0.000	56	1264	0.5000	0.5950	
72 1,2-Dichloropropane	63	8.943	8.949	-0.006	72	3503	0.5000	0.5830	
73 Trichloroethene	130	8.979	8.973	0.006	88	4915	0.5000	0.6459	
74 Dichlorobromomethane	83	9.028	9.022	0.006	80	4589	0.5000	0.5771	
75 Methyl methacrylate	41	9.071	9.064	0.007	57	1816	1.00	1.24	
76 1,4-Dioxane	58	9.089	9.071	0.018	1	203	10.0	9.15	M
78 Methylcyclohexane	83	9.411	9.417	-0.006	85	2603	0.5000	0.5101	
79 4-Methyl-2-pentanone (MIBK	43	9.600	9.588	0.012	48	2359	1.00	1.05	
* 80 Chlorobenzene-d5	82	11.644	11.638	0.006	91	75608	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.314	9.302	0.012	40	782	1.00	1.54	M
85 cis-1,3-Dichloropropene	75	9.521	9.527	-0.006	60	3032	0.5000	0.5898	
88 trans-1,3-Dichloropropene	75	9.892	9.892	0.000	82	1948	0.5000	0.5685	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	77	1429	0.5000	0.4743	
$ 91 Toluene-d8 (Surr)	98	10.172	10.166	0.006	96	8710	0.5000	0.5334	
92 Ethyl methacrylate	69	10.220	10.214	0.006	18	563	0.5000	0.6169	
93 Toluene	92	10.245	10.239	0.006	90	5913	0.5000	0.5108	
94 1,3-Dichloropropane	76	10.275	10.281	-0.006	38	1656	0.5000	0.4712	
95 2-Hexanone	43	10.391	10.366	0.025	52	850	1.00	1.50	
97 Chlorodibromomethane	129	10.585	10.585	0.000	59	2047	0.5000	0.6093	
98 n-Butyl acetate	43	10.671	10.652	0.018	77	862	0.5000	1.52	
99 Ethylene Dibromide	107	10.835	10.829	0.006	72	1434	0.5000	0.5248	
S 100 Xylenes, Total	106				0		1.00	0.9590	
101 Tetrachloroethene	164	10.975	10.981	-0.006	92	3226	0.5000	0.6322	
102 1-Chlorohexane	55	11.540	11.534	0.006	69	3022	0.5000	0.4066	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
103 1,1,1,2-Tetrachloroethane	131	11.589	11.583	0.006	65	3170	0.5000	0.5980	
104 Chlorobenzene	112	11.674	11.674	0.000	91	7387	0.5000	0.6207	
105 Ethylbenzene	106	11.857	11.851	0.006	95	3794	0.5000	0.5753	
106 m-Xylene & p-Xylene	91	12.058	12.045	0.013	0	7871	0.5000	0.4840	
107 Styrene	104	12.417	12.410	0.006	53	3992	0.5000	0.6982	
108 Cyclohexanone	55		12.453				25.0	ND	
109 o-Xylene	106	12.483	12.490	-0.007	97	3392	0.5000	0.4750	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	95	50304	12.5	12.5	
114 Bromoform	173	12.240	12.234	0.006	25	931	0.5000	0.4665	
115 1,1,2,2-Tetrachloroethane	83	12.490	12.483	0.007	52	1033	0.5000	0.5236	
117 1,2,3-Trichloropropane	110	12.642	12.636	0.006	1	218	0.5000	-0.4446	M
116 trans-1,4-Dichloro-2-buten	53	12.642	12.636	0.006	20	260	0.5000	0.5299	M
118 Isopropylbenzene	105	12.879	12.867	0.012	95	8119	0.5000	0.4930	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	84	2416	0.5000	0.5571	
120 Bromobenzene	156	13.171	13.165	0.006	73	2102	0.5000	0.6137	
121 N-Propylbenzene	120	13.329	13.323	0.006	95	2451	0.5000	0.5650	
122 2-Chlorotoluene	126	13.439	13.439	0.000	93	2114	0.5000	0.5566	
123 4-Chlorotoluene	91	13.524	13.512	0.012	95	5751	0.5000	0.4893	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	94	6508	0.5000	0.4572	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	5910	0.5000	0.5000	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	94	7129	0.5000	0.5085	
131 sec-Butylbenzene	105	14.096	14.096	0.000	96	7547	0.5000	0.4662	
132 Benzyl chloride	91	14.187	14.181	0.006	45	1583	0.5000	0.5849	
133 1,3-Dichlorobenzene	146	14.193	14.187	0.006	86	3688	0.5000	0.5111	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	88	5116	0.5000	0.6230	
135 4-Isopropyltoluene	119	14.266	14.260	0.006	95	8893	0.5000	0.5332	
136 1,2,3-Trimethylbenzene	105	14.418	14.412	0.006	95	6955	0.5000	0.5290	
138 1,2-Dichlorobenzene	146	14.619	14.613	0.006	87	3367	0.5000	0.5741	
139 n-Butylbenzene	91	14.674	14.667	0.007	93	5234	0.5000	0.4627	
140 1,2-Dibromo-3-Chloropropan	157	15.112	15.099	0.013	1	320	0.5000	0.4116	M
141 1,3,5-Trichlorobenzene	180	15.969	15.957	0.012	58	2919	0.5000	0.6111	
142 1,2,4-Trichlorobenzene	180	16.614	16.566	0.048	21	1461	0.5000	0.6023	
143 Naphthalene	128	16.931	16.870	0.060	1	1821	0.5000	0.8012	M
144 Hexachlorobutadiene	190	16.918	16.912	0.006	76	1323	0.5000	0.3691	
145 1,2,3-Trichlorobenzene	180	17.137	17.113	0.024	32	1783	0.5000	0.6396	M
S 146 1,3-Dichloropropene, Total	1				0			1.16	
S 147 Trihalomethanes, Total	1				0			2.20	

QC Flag Legend

Processing Flags

NC - Not Calibrated

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

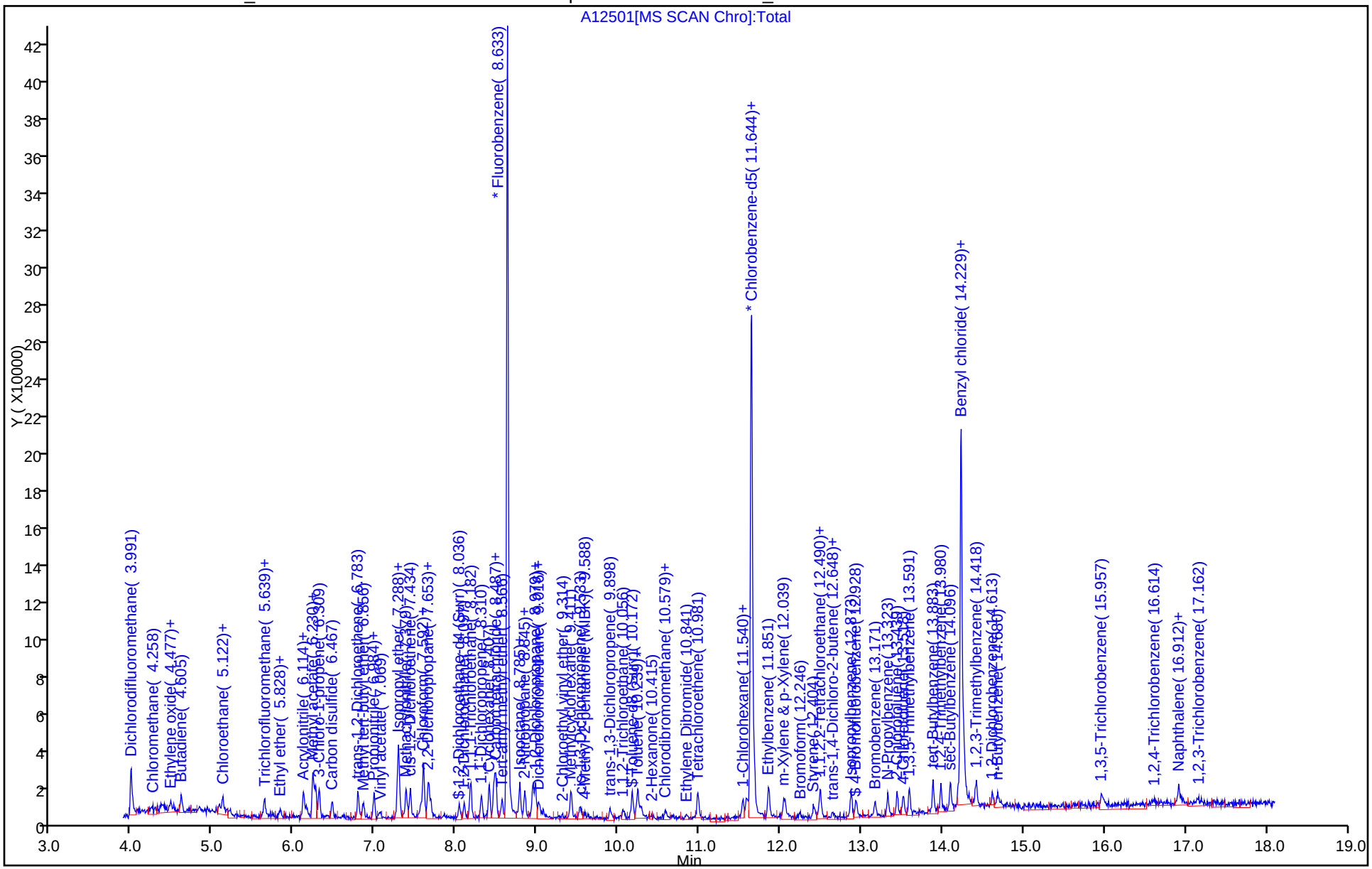
Reagents:

VOAIS50PPM_00171	Amount Added:	5.00	Units: uL
VOASTDPT2_00056	Amount Added:	0.20	Units: uL
VOASTDGASPT_00165	Amount Added:	0.20	Units: uL
EOxideStd_00071	Amount Added:	0.20	Units: uL

Report Date: 01-Aug-2016 09:48:48 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



Manual Integration/User Assign Peak Report

TestAmerica Houston

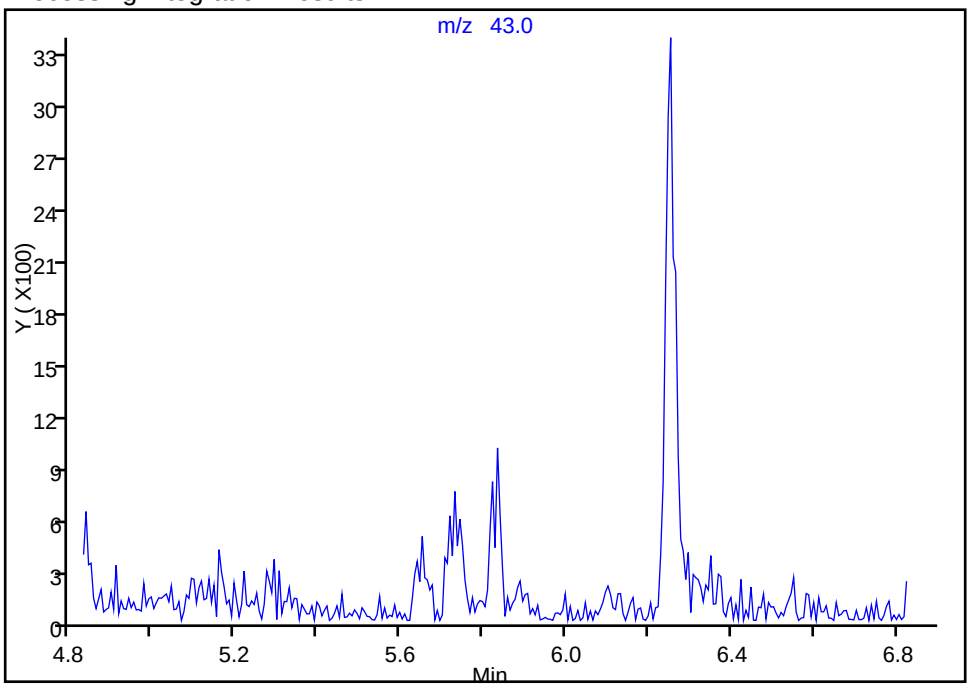
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

18 Acetone, CAS: 67-64-1

Signal: 1

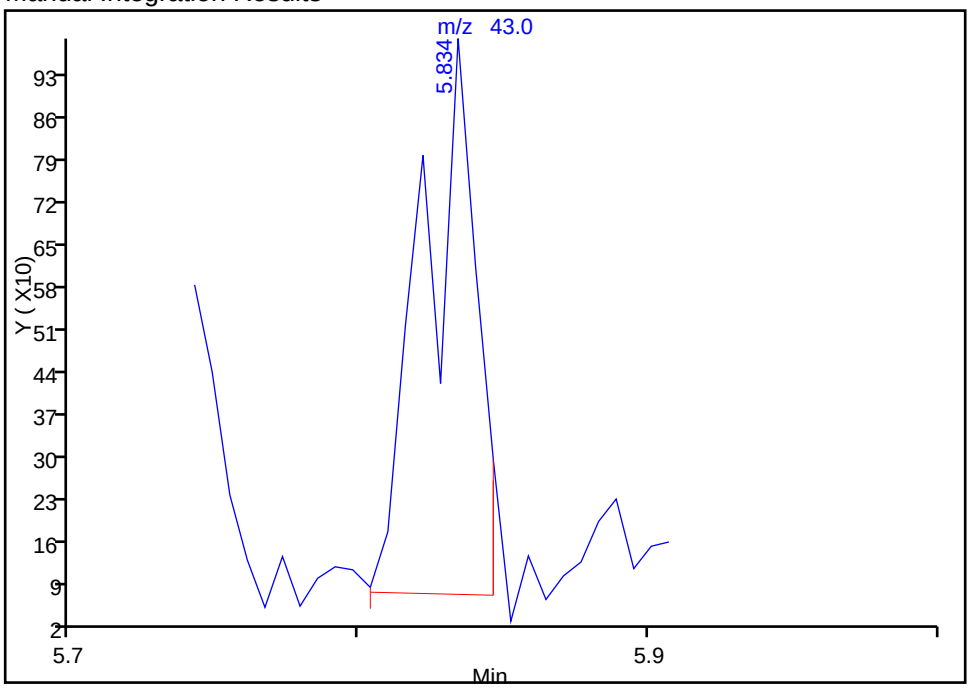
Processing Integration Results

Not Detected
Expected RT: 5.83



Manual Integration Results

RT: 5.83
Area: 1207
Amount: 0.488378
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

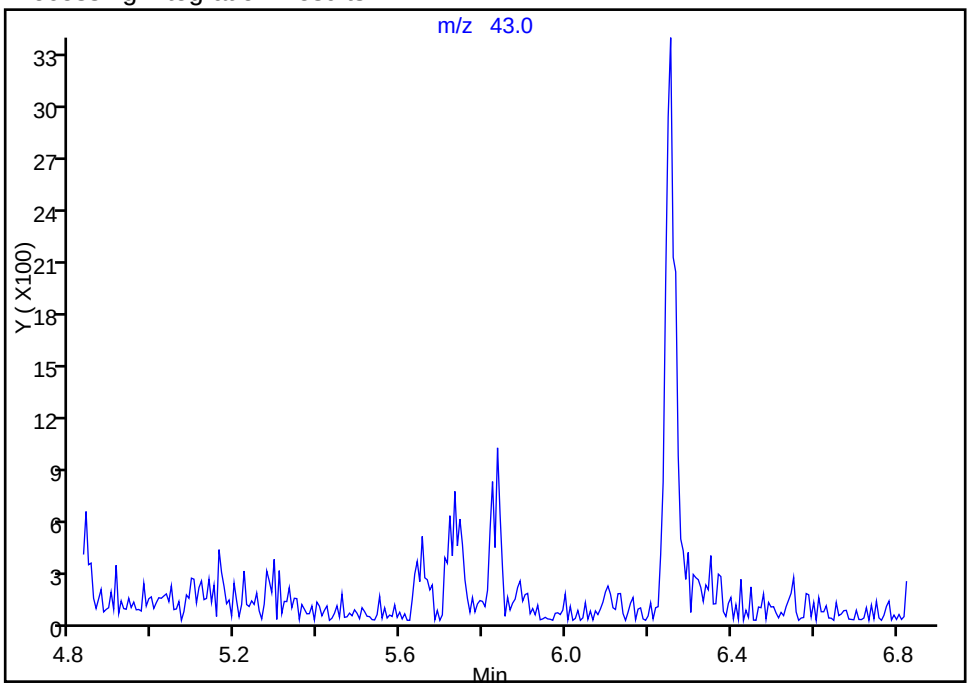
18 Acetone, CAS: 67-64-1

Signal: 1

Processing Integration Results

Not Detected

Expected RT: 5.83



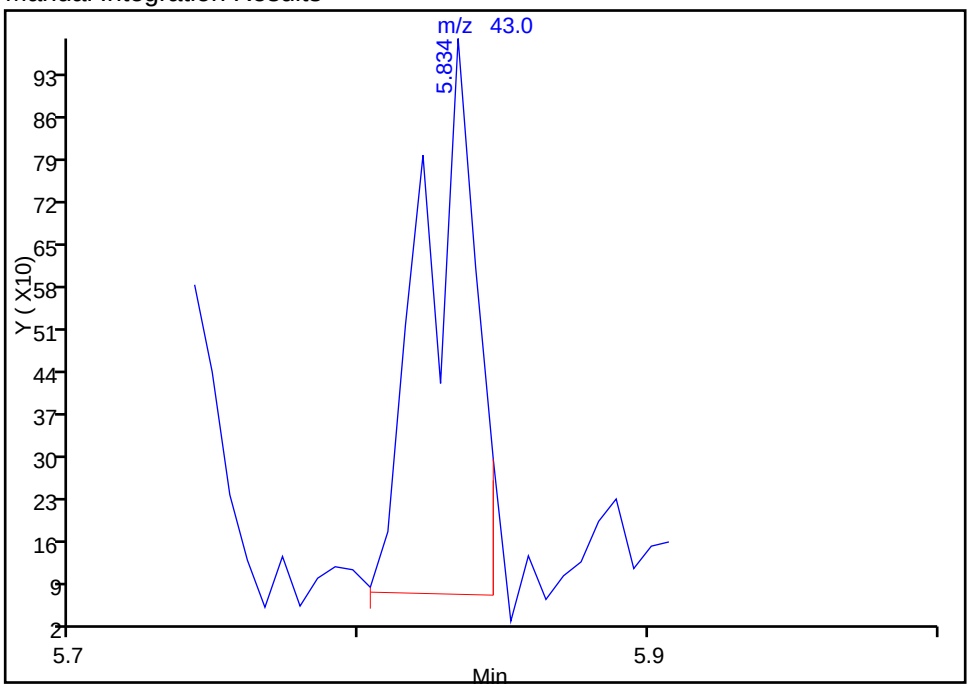
Manual Integration Results

RT: 5.83

Area: 1207

Amount: 0.488378

Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

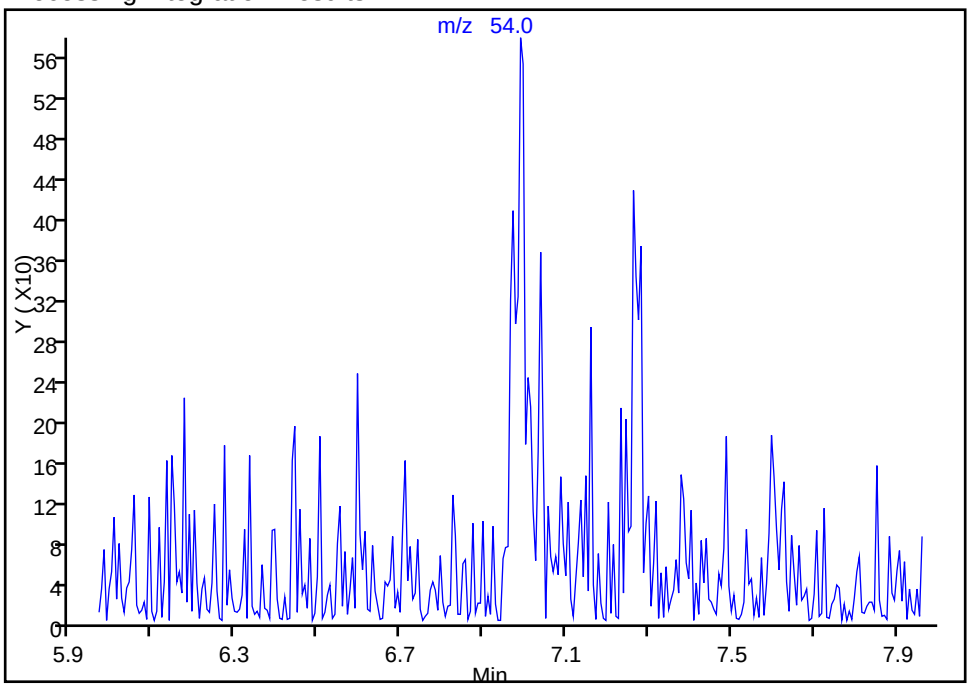
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

32 Propionitrile, CAS: 107-12-0

Signal: 1

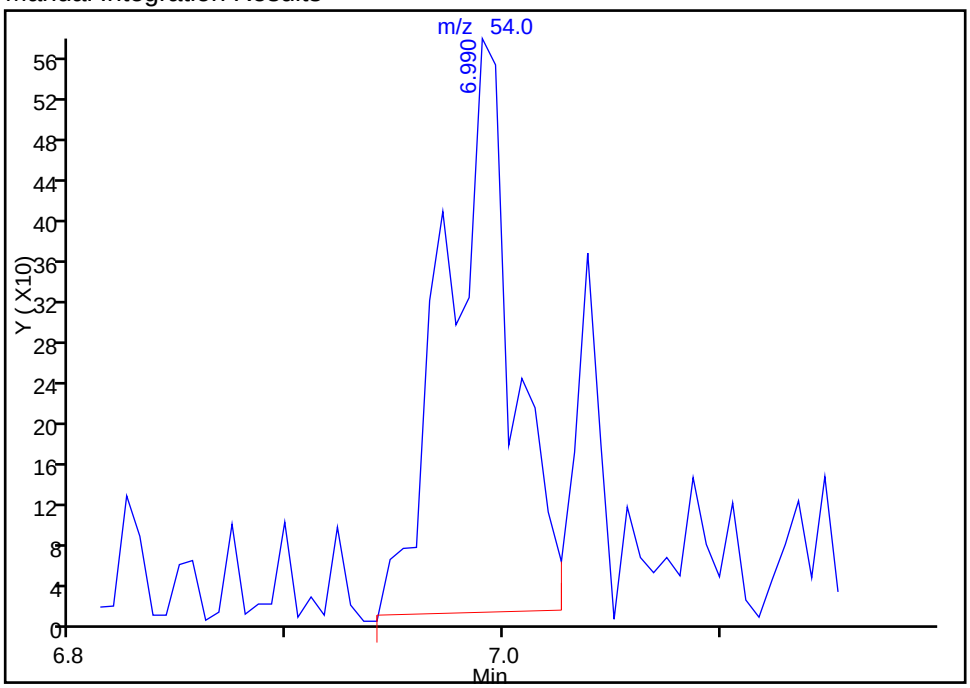
Not Detected
Expected RT: 6.97

Processing Integration Results



Manual Integration Results

RT: 6.99
Area: 1216
Amount: 5.016095
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

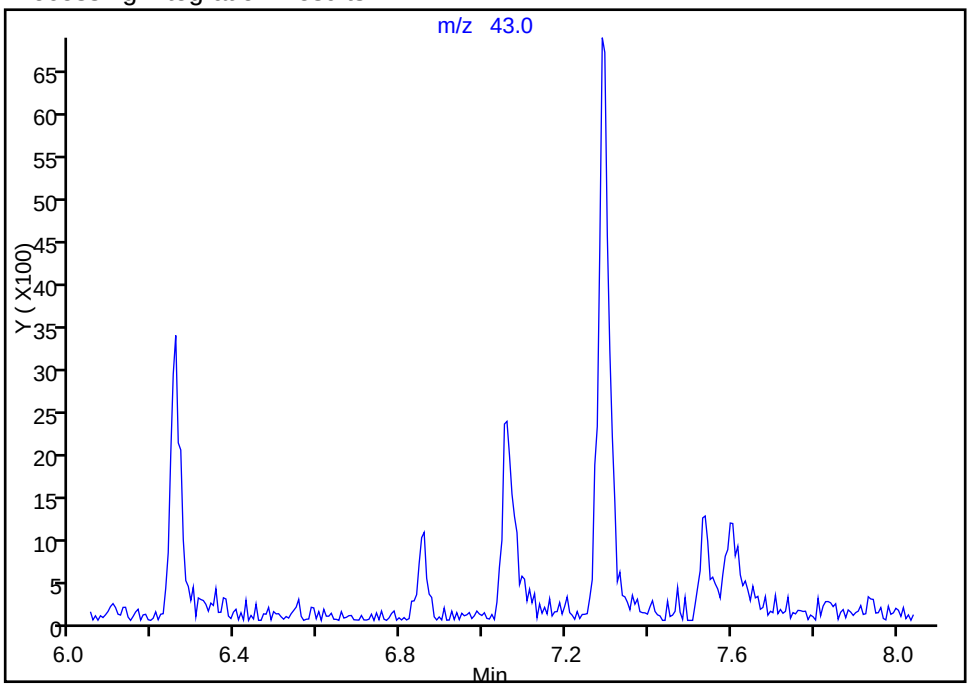
34 Vinyl acetate, CAS: 108-05-4

Signal: 1

Processing Integration Results

Not Detected

Expected RT: 7.04



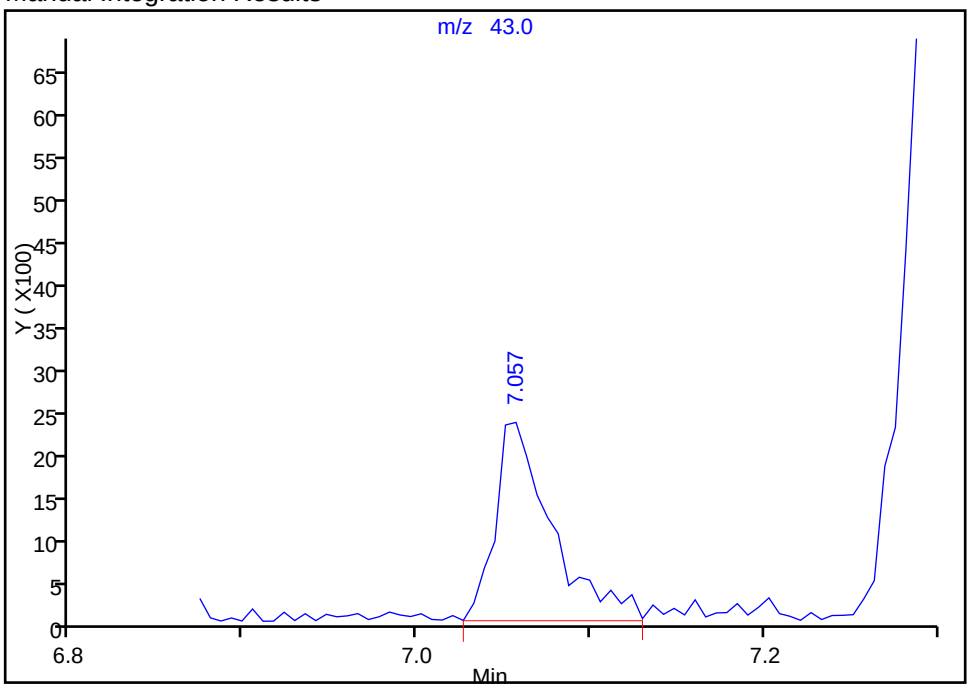
Manual Integration Results

RT: 7.06

Area: 5283

Amount: 0.889977

Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

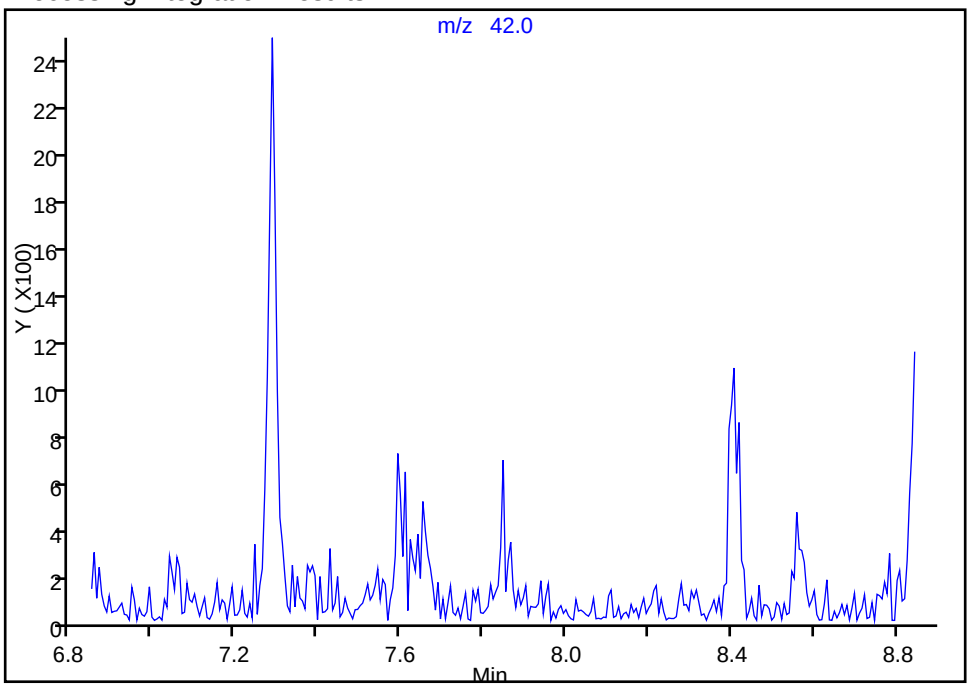
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

53 Tetrahydrofuran, CAS: 109-99-9

Signal: 1

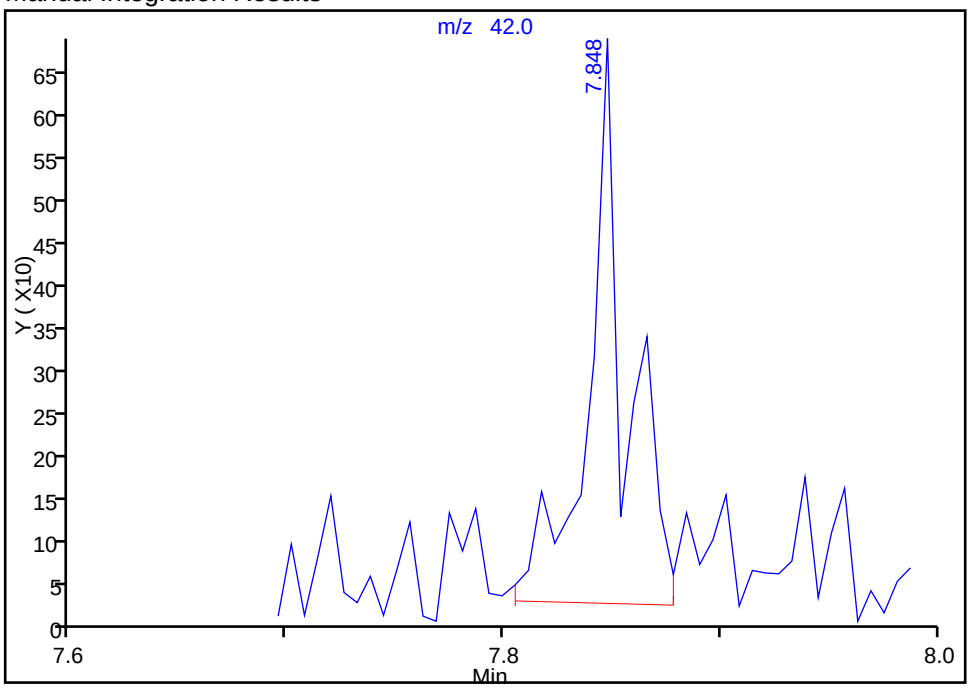
Processing Integration Results

Not Detected
Expected RT: 7.85



Manual Integration Results

RT: 7.85
Area: 819
Amount: 1.260110
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

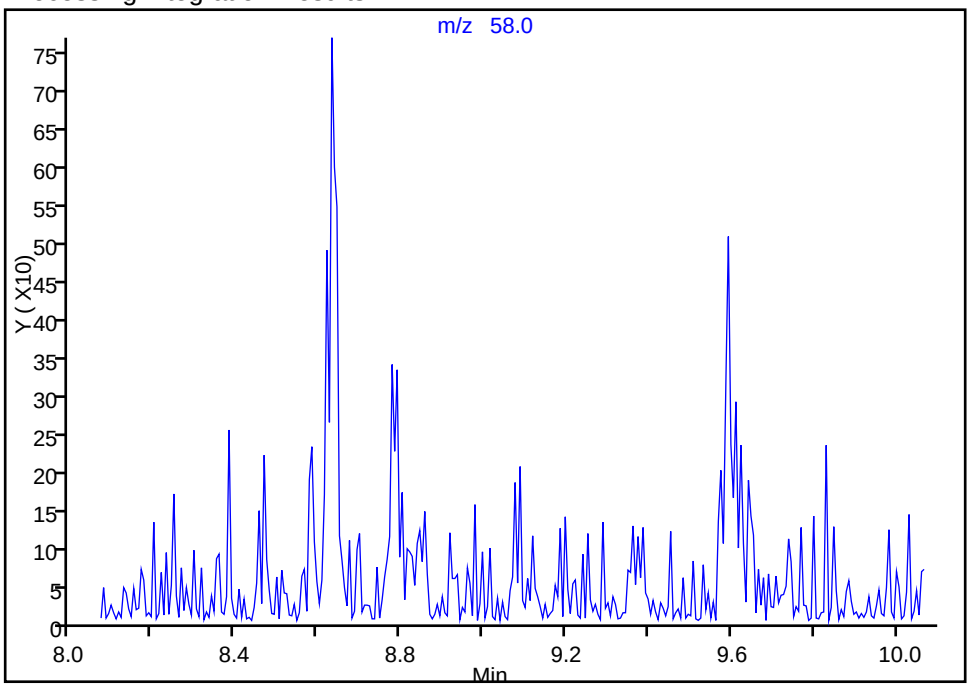
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

76 1,4-Dioxane, CAS: 123-91-1

Signal: 1

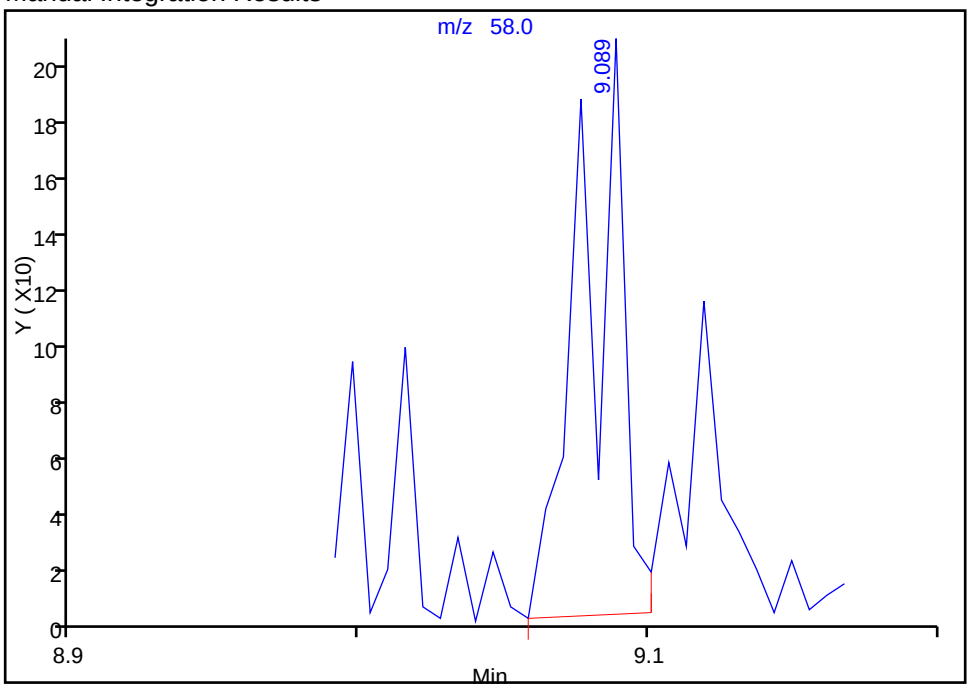
Processing Integration Results

Not Detected
Expected RT: 9.07



Manual Integration Results

RT: 9.09
Area: 203
Amount: 9.145018
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

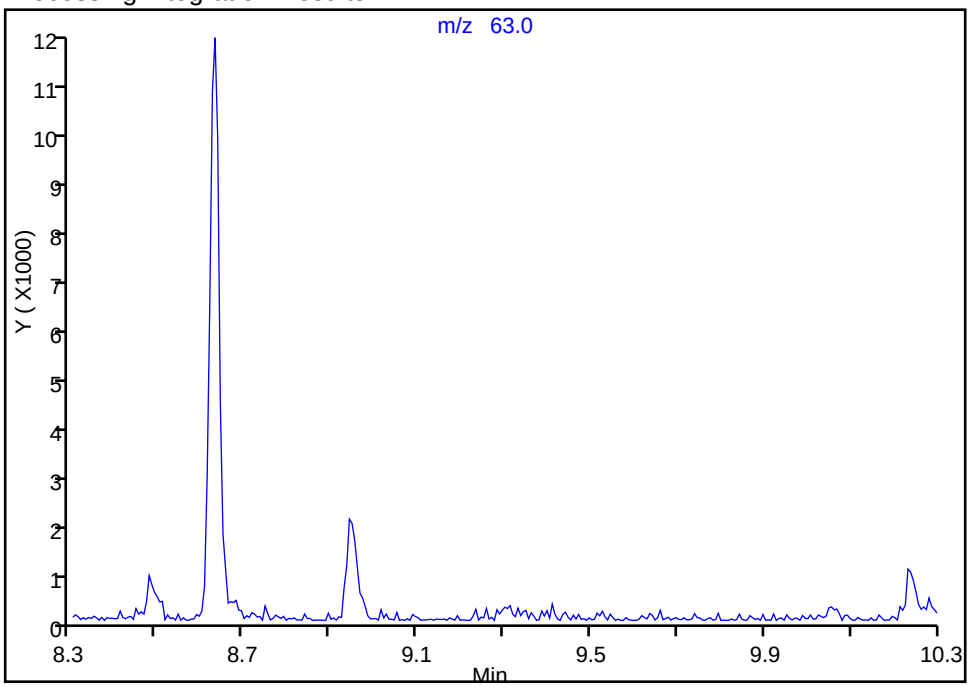
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

84 2-Chloroethyl vinyl ether, CAS: 110-75-8

Signal: 1

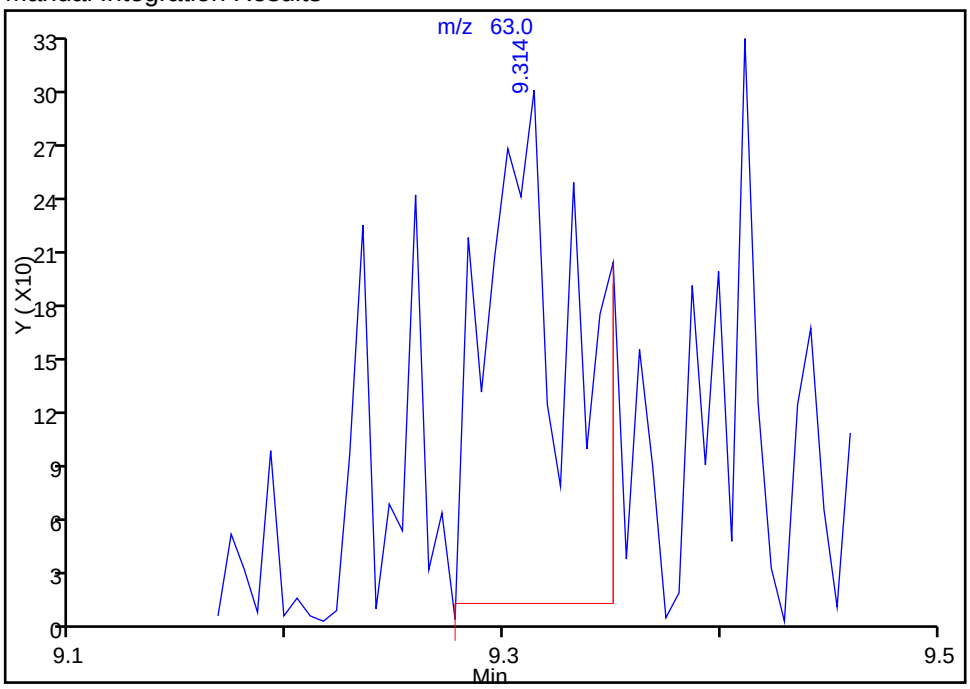
Not Detected
Expected RT: 9.30

Processing Integration Results



RT: 9.31
Area: 782
Amount: 1.535560
Amount Units: ug/l

Manual Integration Results



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

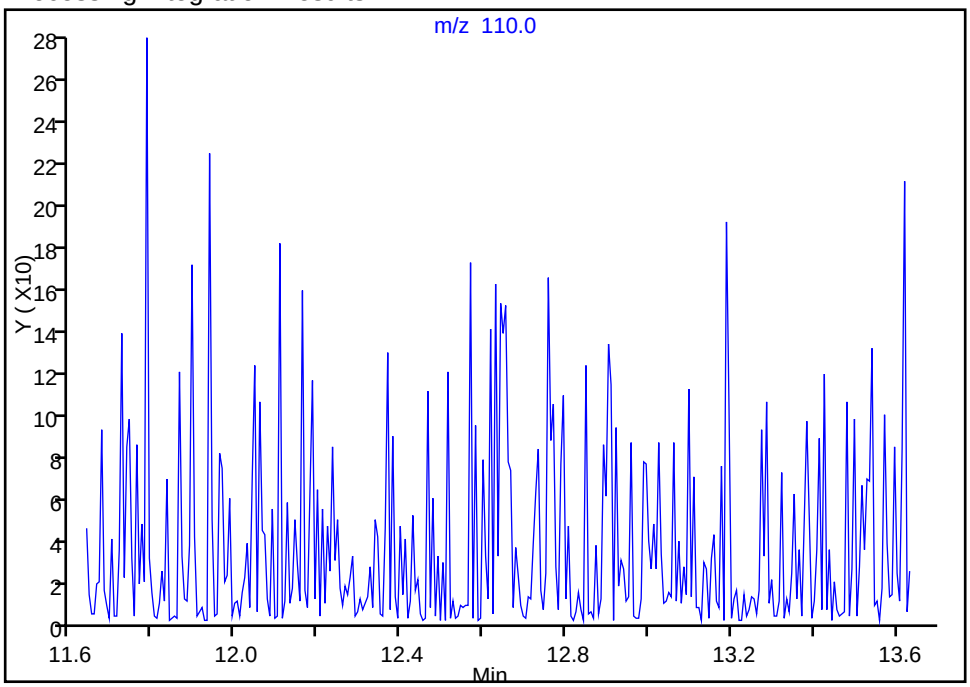
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

117 1,2,3-Trichloropropane, CAS: 96-18-4

Signal: 1

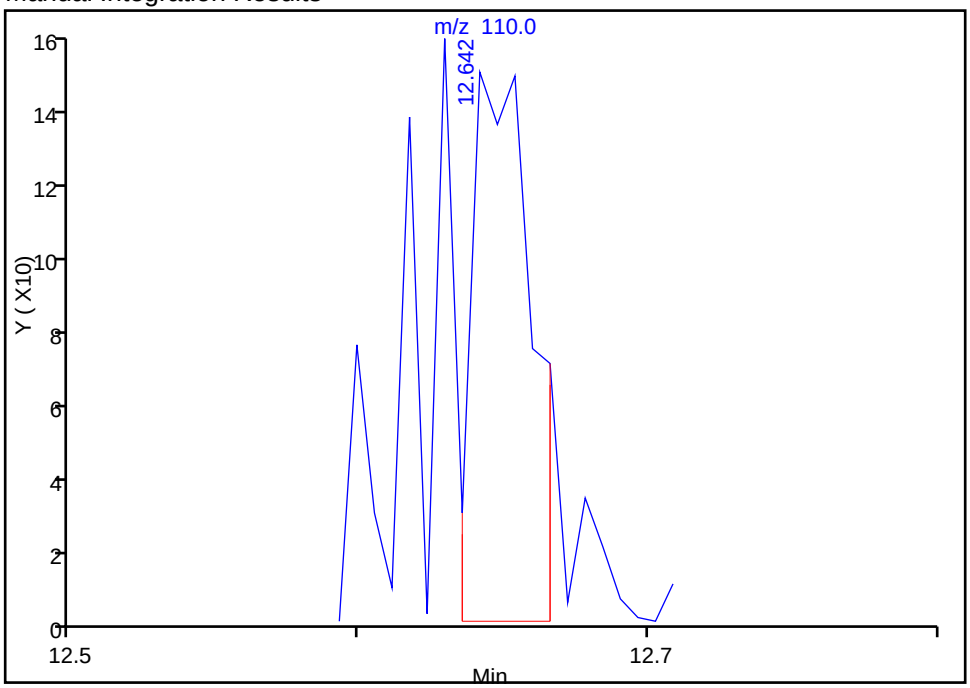
Not Detected
Expected RT: 12.64

Processing Integration Results



Manual Integration Results

RT: 12.64
Area: 218
Amount: -0.444604
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

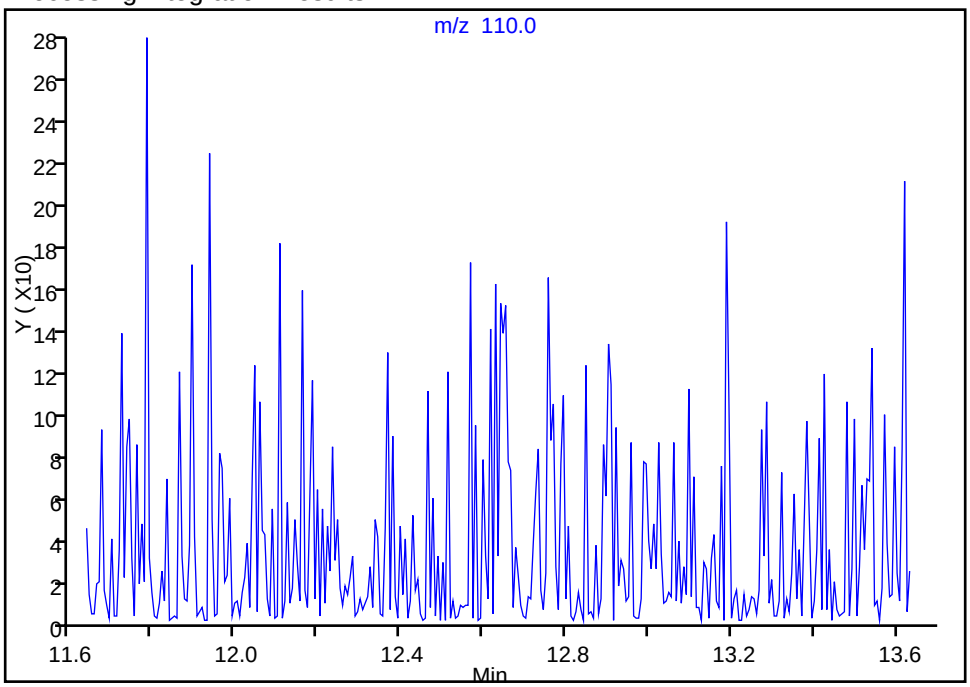
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

117 1,2,3-Trichloropropane, CAS: 96-18-4

Signal: 1

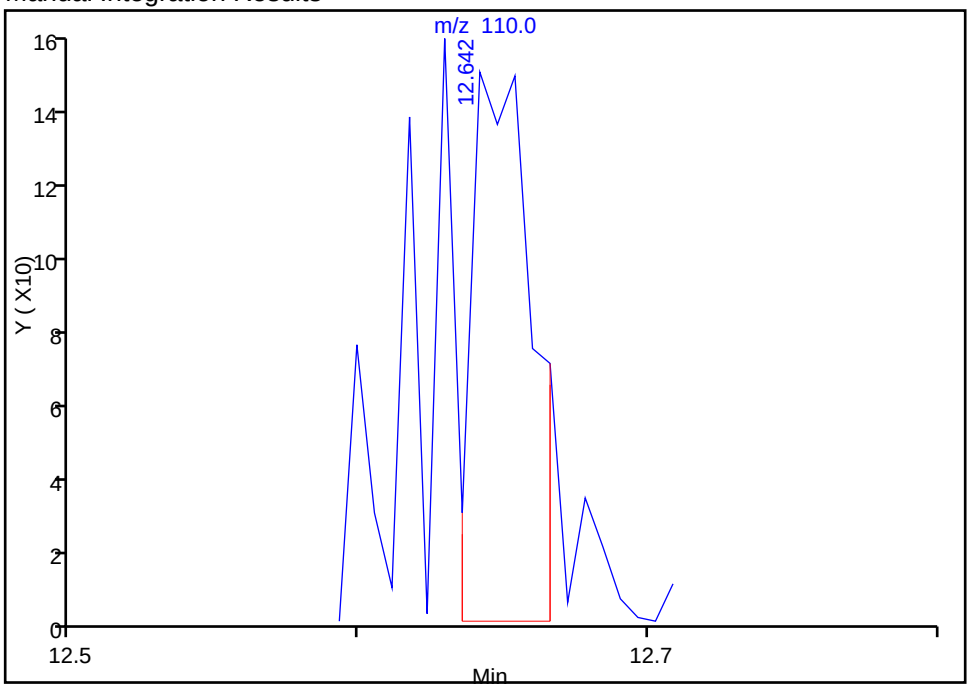
Processing Integration Results

Not Detected
Expected RT: 12.64



Manual Integration Results

RT: 12.64
Area: 218
Amount: -0.444604
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

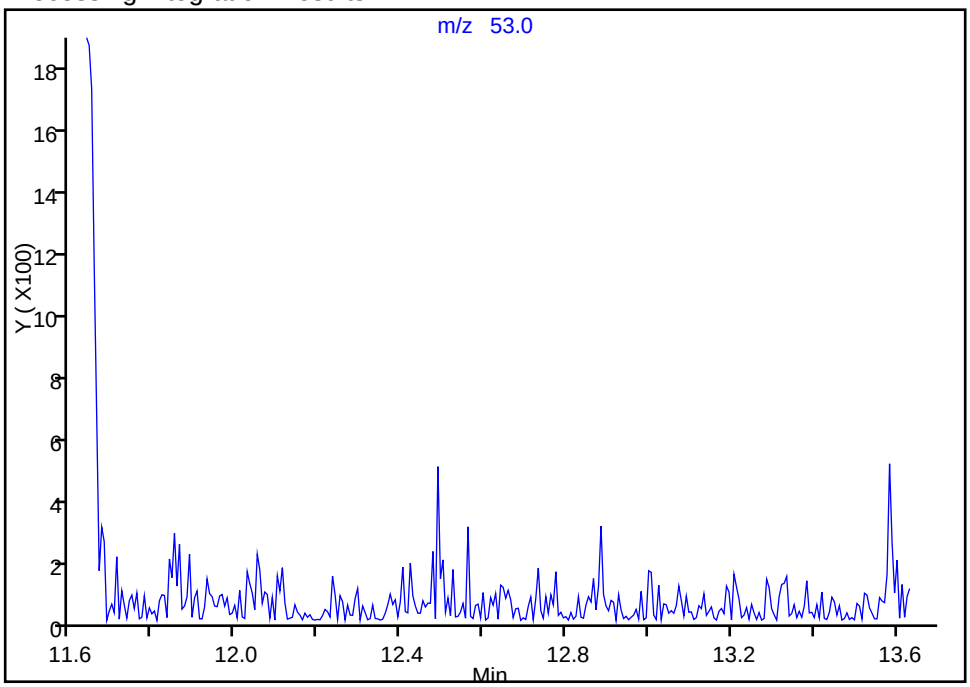
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

116 trans-1,4-Dichloro-2-butene, CAS: 110-57-6

Signal: 1

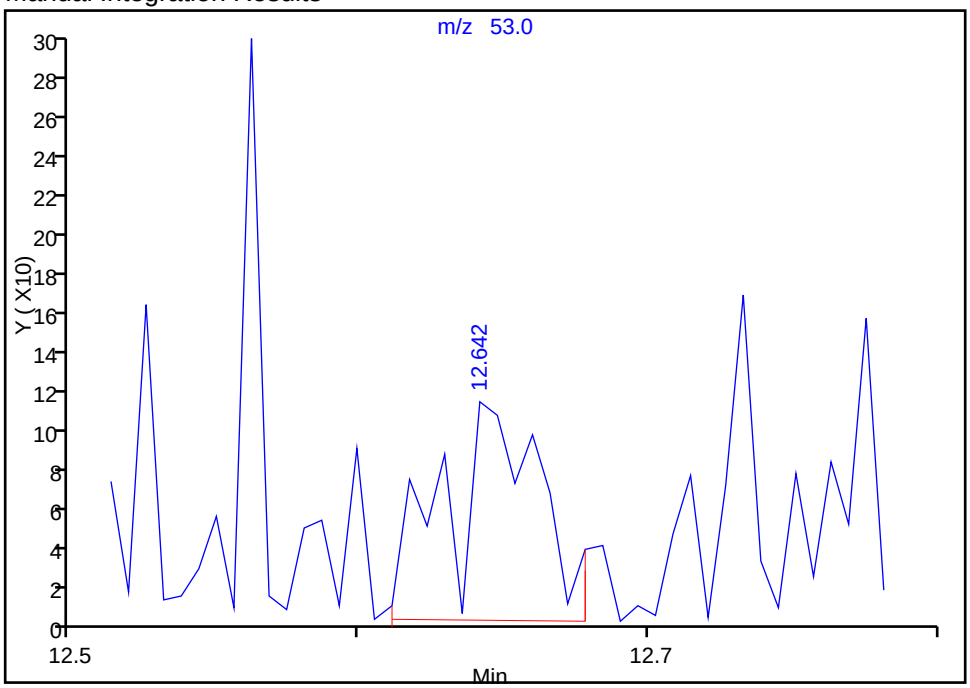
Processing Integration Results

Not Detected
Expected RT: 12.64



Manual Integration Results

RT: 12.64
Area: 260
Amount: 0.529943
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

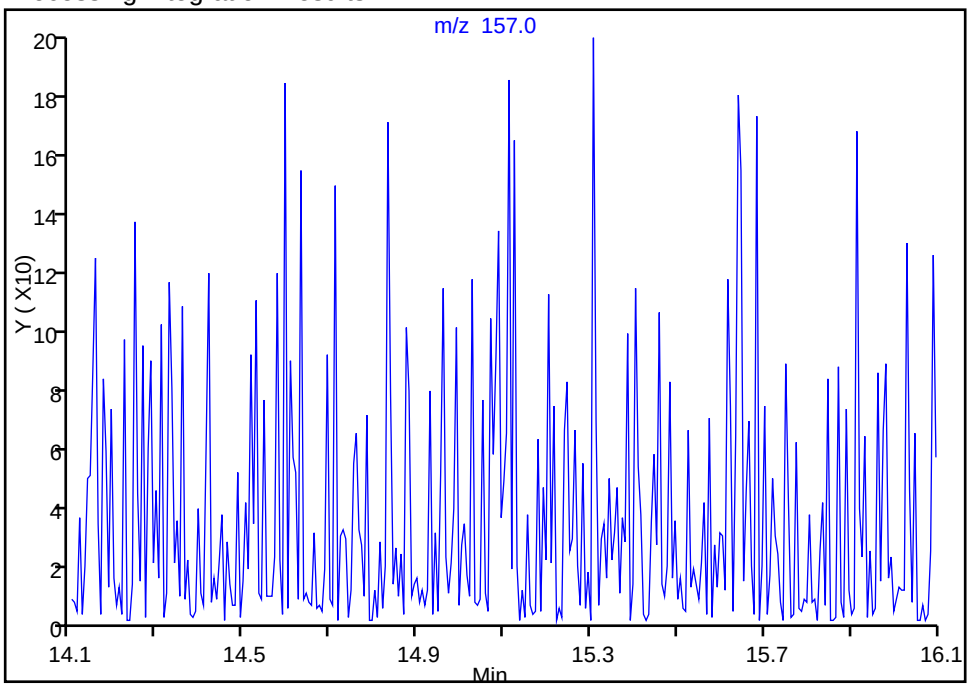
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

140 1,2-Dibromo-3-Chloropropane, CAS: 96-12-8

Signal: 1

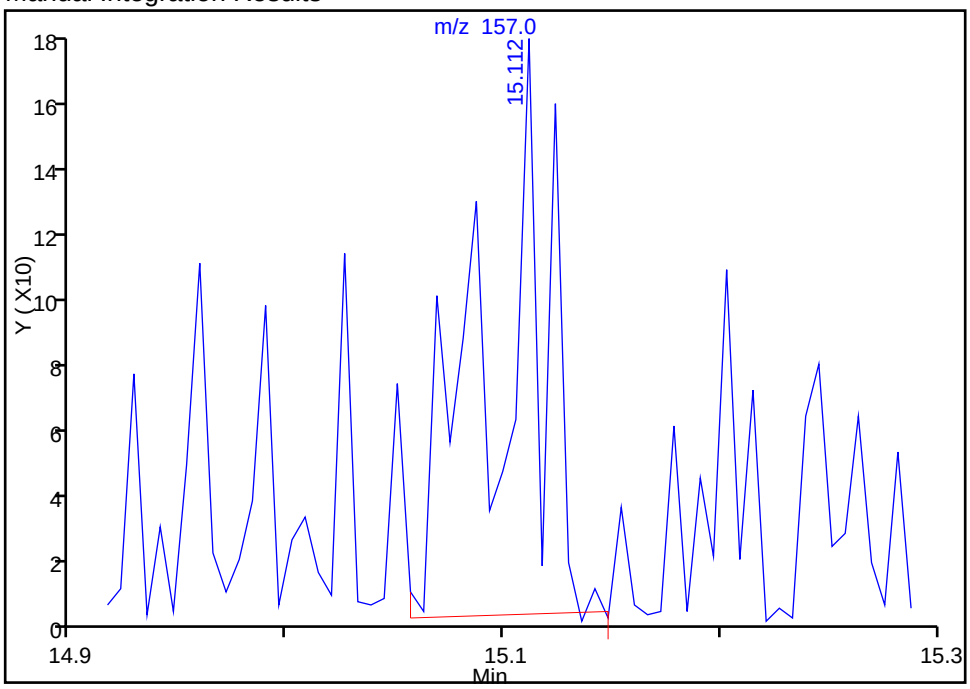
Not Detected
Expected RT: 15.10

Processing Integration Results



Manual Integration Results

RT: 15.11
Area: 320
Amount: 0.411628
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

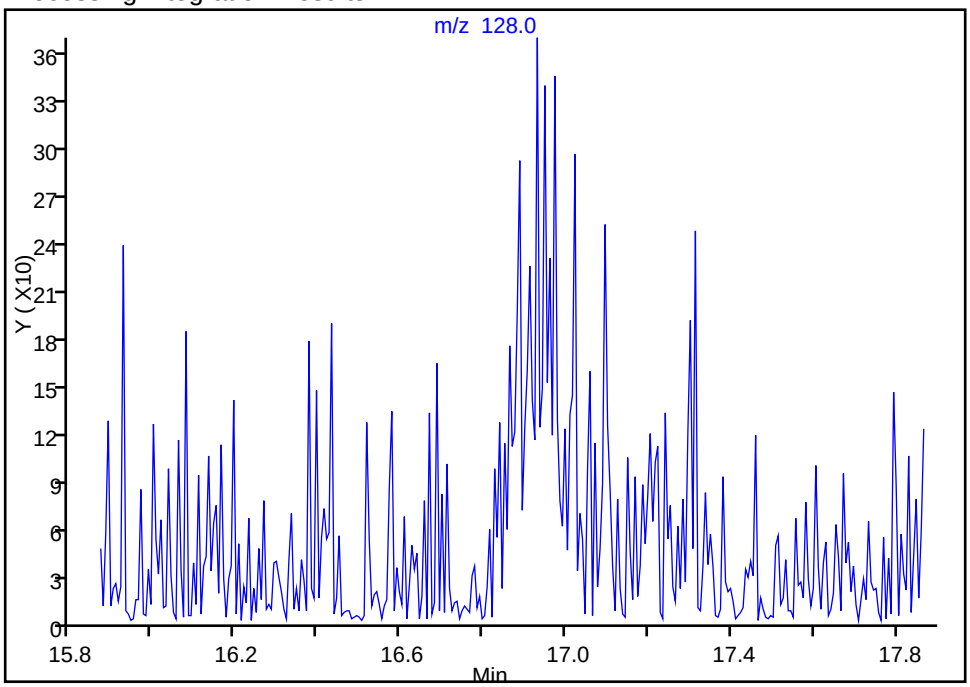
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

143 Naphthalene, CAS: 91-20-3

Signal: 1

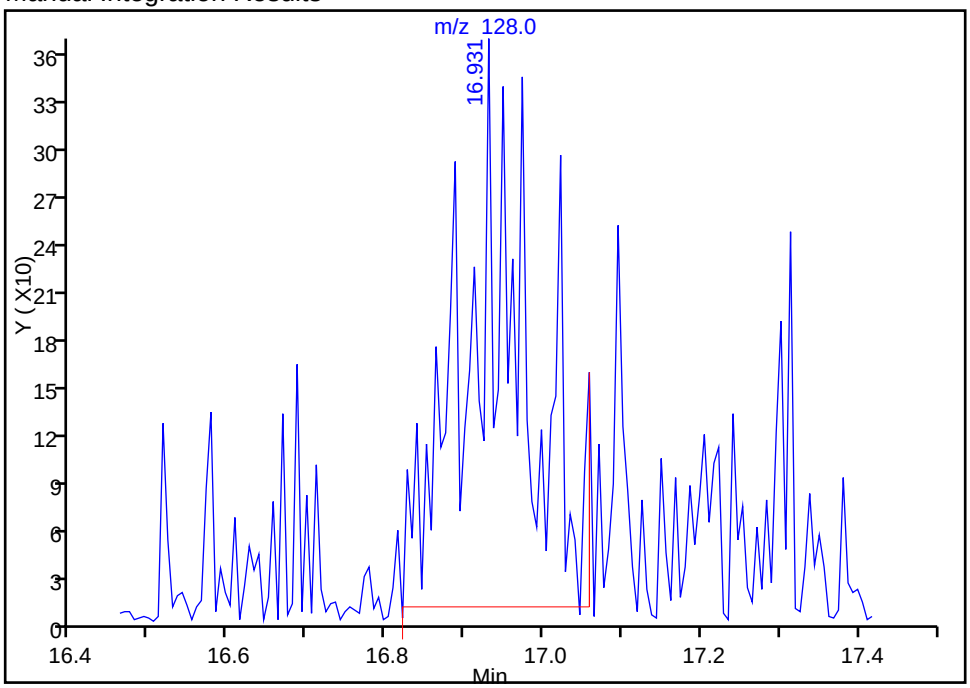
Not Detected
Expected RT: 16.87

Processing Integration Results



Manual Integration Results

RT: 16.93
Area: 1821
Amount: 0.801168
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

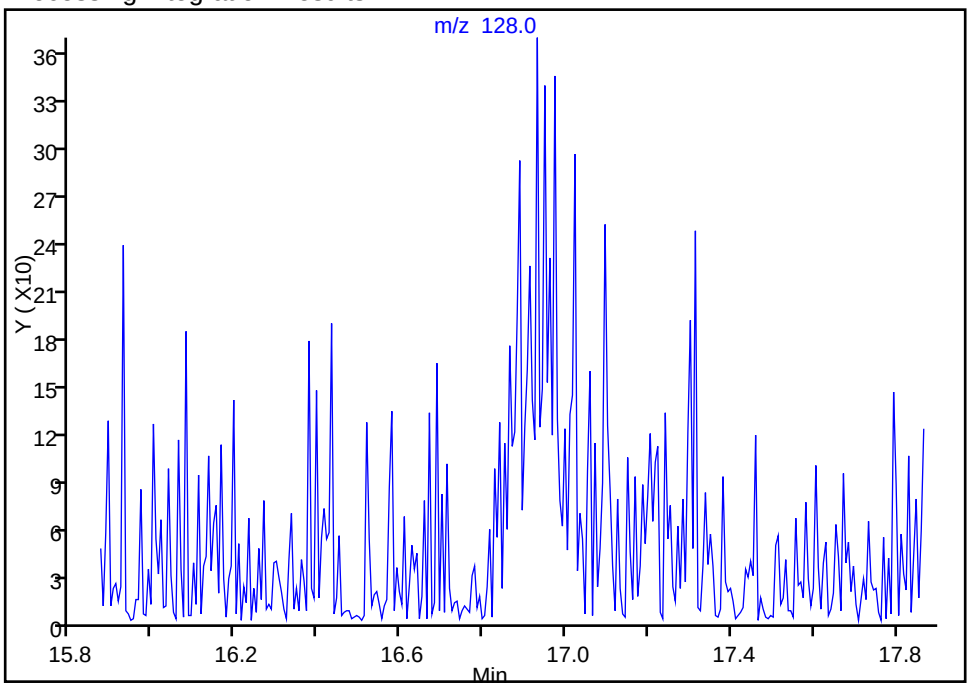
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

143 Naphthalene, CAS: 91-20-3

Signal: 1

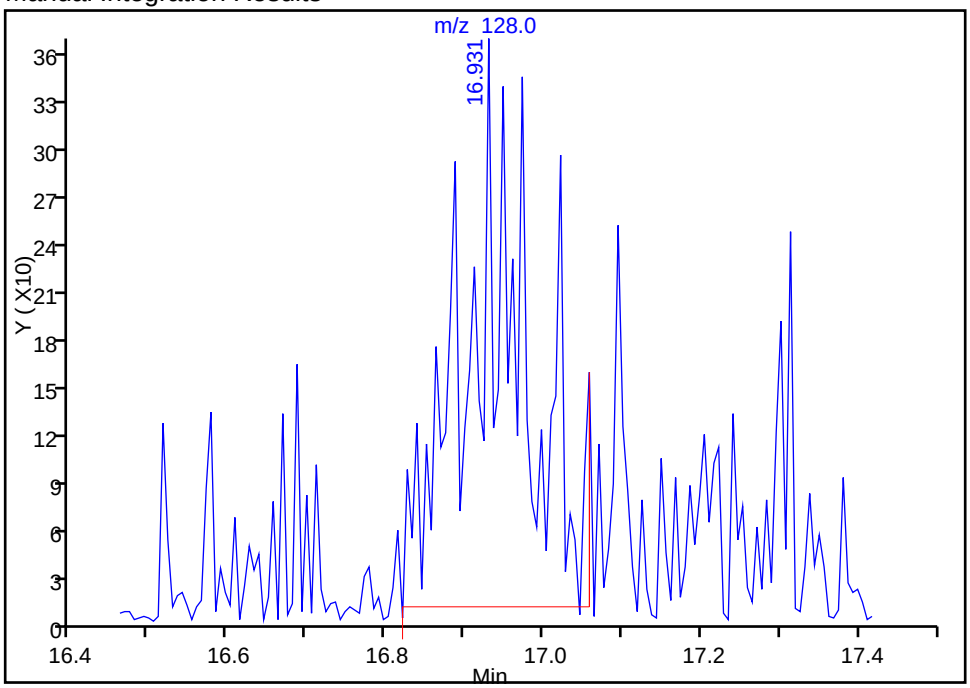
Not Detected
Expected RT: 16.87

Processing Integration Results



Manual Integration Results

RT: 16.93
Area: 1821
Amount: 0.801168
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

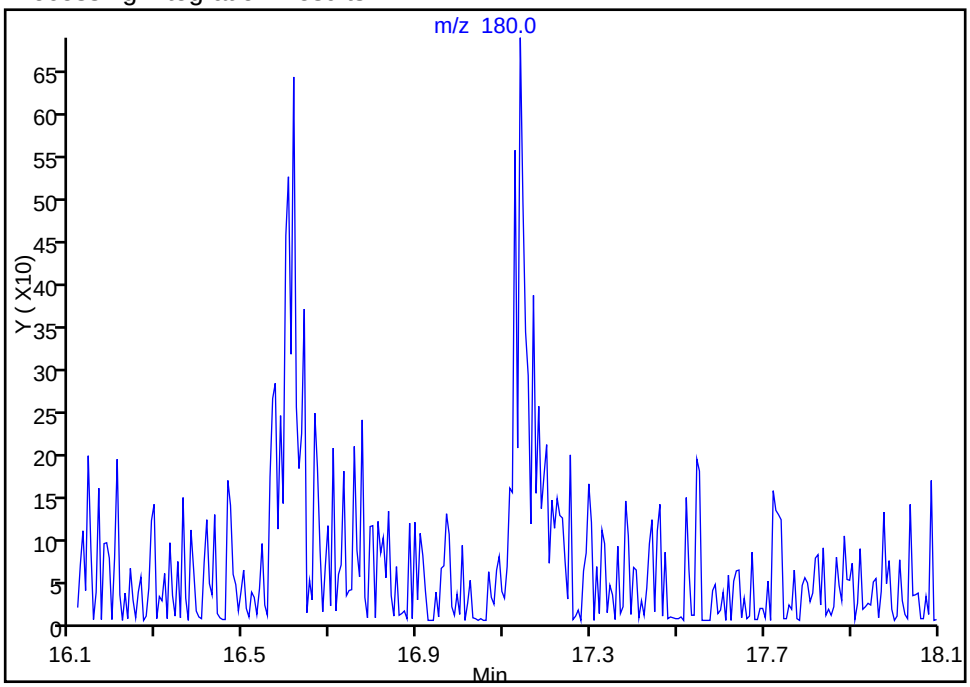
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12501.d				
Injection Date:	04-May-2016 09:41:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	2
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

145 1,2,3-Trichlorobenzene, CAS: 87-61-6

Signal: 1

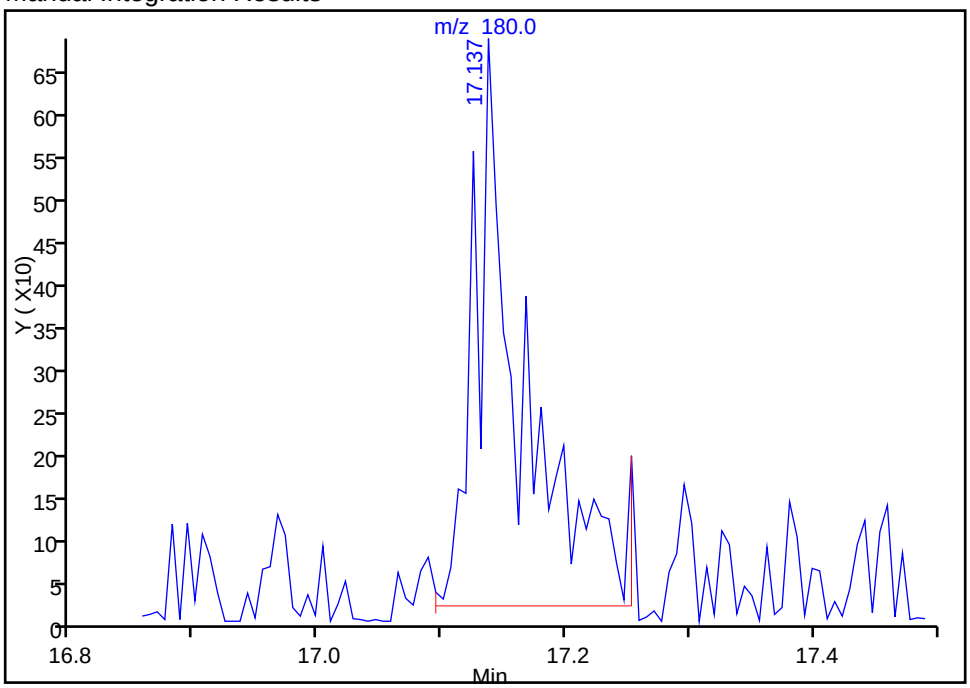
Processing Integration Results

Not Detected
Expected RT: 17.11



Manual Integration Results

RT: 17.14
Area: 1783
Amount: 0.639585
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:12:35
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12502.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 04-May-2016 10:04:30 ALS Bottle#: 1 Worklist Smp#: 3
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011909-003
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub26

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 01-Aug-2016 09:49:13 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: shenw Date: 04-May-2016 11:25:51

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	-0.001	95	235861	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.009	-0.006	66	4973	1.00	1.05	
3 Chloromethane	50	4.246	4.246	0.000	98	6054	1.00	1.08	
6 Ethylene oxide	44	4.453	4.465	-0.012	89	4483	10.0	24.2	
4 Vinyl chloride	62	4.477	4.477	0.000	98	6830	1.00	1.15	
5 Butadiene	39	4.605	4.605	0.000	95	9582	1.00	1.17	
7 Bromomethane	94	4.928	4.934	-0.006	64	1111	1.00	0.9745	
9 Chloroethane	64	5.074	5.080	-0.006	79	3374	1.00	1.01	
8 Ethanol	45	5.086	5.080	0.006	22	743	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	13431	1.00	1.17	
14 Acrolein	56	5.621	5.615	0.006	23	1326	5.00	4.64	
15 Acetonitrile	41	5.627	5.621	0.006	31	2838	10.0	10.5	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	97	16901	1.00	1.21	
17 Isopropyl alcohol	45	5.652	5.652	0.000	26	1701	10.0	12.7	
19 Ethyl ether	59	5.828	5.828	0.000	88	3779	1.00	1.03	
18 Acetone	43	5.828	5.828	0.000	49	1971	2.00	2.02	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	89	3779	10.0	10.3	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	86	5194	1.00	1.07	
23 Acrylonitrile	52	6.144	6.138	0.006	94	7090	10.0	10.2	
24 Iodomethane	142	6.169	6.169	0.000	93	2190	1.00	2.06	
25 Methylene Chloride	84	6.236	6.236	0.000	85	6775	1.00	0.8981	
26 Methyl acetate	43	6.254	6.248	0.006	93	9815	5.00	4.85	
27 1,1,2-Trichloro-1,2,2-trif	151	6.272	6.272	0.000	87	7802	1.00	1.18	
28 3-Chloro-1-propene	76	6.315	6.309	0.006	80	2360	1.00	0.9452	
29 Carbon disulfide	76	6.473	6.473	0.000	91	13353	1.00	0.9594	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	82	5309	1.00	0.99	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	84	7236	1.00	0.9148	
32 Propionitrile	54	6.990	6.966	0.024	39	2261	10.0	9.68	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	15496	1.00	1.01	
34 Vinyl acetate	43	7.057	7.045	0.012	96	9589	2.00	1.68	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	89	17359	1.00	0.8972	
36 Hexane	57	7.288	7.288	0.000	80	11689	1.00	0.9410	
38 Isopropyl ether	45	7.294	7.288	0.006	78	25957	1.00	0.9608	
37 2-Butanone (MEK)	72	7.306	7.300	0.006	83	539	2.00	2.53	
39 Methacrylonitrile	66	7.379	7.379	0.000	91	1685	10.0	8.12	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	84	5431	1.00	0.9356	
45 Chlorobromomethane	128	7.562	7.562	0.000	88	2433	1.00	1.24	
S 46 1,2-Dichloroethene, Total	96				0		2.00	1.93	
48 Chloroform	83	7.592	7.592	0.000	87	13008	1.00	1.04	
50 Isobutyl alcohol	43	7.604	7.598	0.006	36	4637	25.0	21.1	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	98	18446	1.00	0.9327	
43 Ethyl acetate	43	7.604	7.598	0.006	36	4884	2.00	2.00	
51 2,2-Dichloropropane	77	7.653	7.659	-0.006	88	14088	1.00	0.9828	
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	87	6702	1.00	1.04	
53 Tetrahydrofuran	42	7.848	7.848	0.000	81	1271	2.00	2.11	M
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	8373	1.00	1.04	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	96	10762	1.00	1.04	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	94	17070	1.00	1.07	
59 n-Butanol	56	8.201	8.176	0.025	24	481	25.0	62.3	M
61 1,1-Dichloropropene	75	8.310	8.310	0.000	78	6721	1.00	0.8569	
62 Cyclohexane	84	8.413	8.407	0.006	90	6473	1.00	0.9370	
63 Carbon tetrachloride	119	8.462	8.468	-0.006	97	17151	1.00	1.04	
64 Benzene	78	8.486	8.487	-0.001	88	18199	1.00	0.9500	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	79	7439	1.00	0.9621	
68 Isooctane	57	8.779	8.785	-0.007	97	25121	1.00	1.01	
69 Ethyl acrylate	55	8.845	8.839	0.006	40	4911	1.00	1.06	
70 n-Heptane	43	8.845	8.845	0.000	91	10797	1.00	0.9017	
67 2-Nitropropane	43	8.845	8.845	0.000	90	10797	2.00	1.80	
71 Dibromomethane	93	8.931	8.931	0.000	47	2525	1.00	1.23	
72 1,2-Dichloropropane	63	8.943	8.949	-0.006	68	5586	1.00	0.9650	
73 Trichloroethene	130	8.979	8.973	0.006	90	7360	1.00	1.00	
74 Dichlorobromomethane	83	9.022	9.022	0.000	93	7933	1.00	1.04	
75 Methyl methacrylate	41	9.077	9.064	0.013	67	3509	2.00	1.84	
76 1,4-Dioxane	58	9.089	9.071	0.018	1	337	20.0	21.7	M
78 Methylcyclohexane	83	9.411	9.417	-0.006	85	6083	1.00	0.9725	
79 4-Methyl-2-pentanone (MIBK	43	9.600	9.588	0.012	81	3665	2.00	1.69	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	92	74504	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.320	9.302	0.018	56	961	2.00	1.75	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	75	4527	1.00	0.8937	
88 trans-1,3-Dichloropropene	75	9.886	9.892	-0.006	86	3442	1.00	1.02	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	81	2449	1.00	1.11	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	96	14911	1.00	0.9267	
92 Ethyl methacrylate	69	10.226	10.214	0.012	35	1497	1.00	1.08	
93 Toluene	92	10.239	10.239	0.000	96	10576	1.00	0.9271	
94 1,3-Dichloropropane	76	10.287	10.281	0.006	79	3440	1.00	0.99	
95 2-Hexanone	43	10.378	10.366	0.012	59	1193	2.00	1.81	
97 Chlorodibromomethane	129	10.579	10.585	-0.006	82	3628	1.00	1.10	
98 n-Butyl acetate	43	10.664	10.652	0.012	63	1587	1.00	1.75	
99 Ethylene Dibromide	107	10.835	10.829	0.006	68	1991	1.00	0.9023	
S 100 Xylenes, Total	106				0		2.00	1.74	
101 Tetrachloroethene	164	10.975	10.981	-0.006	91	5304	1.00	1.05	
102 1-Chlorohexane	55	11.534	11.534	0.000	77	6045	1.00	0.8254	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
103 1,1,1,2-Tetrachloroethane	131	11.589	11.583	0.006	79	5685	1.00	1.09	
104 Chlorobenzene	112	11.674	11.674	0.000	92	12395	1.00	1.06	
105 Ethylbenzene	106	11.851	11.851	0.000	98	6076	1.00	0.9350	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	13729	1.00	0.8568	
107 Styrene	104	12.404	12.410	-0.006	89	6521	1.00	0.9692	
108 Cyclohexanone	55	12.465	12.453	0.012	58	1615	50.0	107.0	
109 o-Xylene	106	12.489	12.490	-0.001	97	6221	1.00	0.8841	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	95	51968	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	69	1697	1.00	1.11	
115 1,1,2,2-Tetrachloroethane	83	12.489	12.483	0.006	53	1472	1.00	0.8713	
117 1,2,3-Trichloropropane	110	12.642	12.636	0.006	89	734	1.00	0.6789	
116 trans-1,4-Dichloro-2-buten	53		12.636				ND	ND	
118 Isopropylbenzene	105	12.873	12.867	0.006	97	16249	1.00	0.9550	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	89	3984	1.00	0.8892	
120 Bromobenzene	156	13.171	13.165	0.006	84	3695	1.00	1.04	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	4137	1.00	0.9231	
122 2-Chlorotoluene	126	13.439	13.439	0.000	92	3397	1.00	0.8658	
123 4-Chlorotoluene	91	13.512	13.512	0.000	95	10555	1.00	0.8692	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	94	13702	1.00	0.9317	
128 tert-Butylbenzene	119	13.883	13.883	0.000	91	10658	1.00	0.8729	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	97	12380	1.00	0.8548	
131 sec-Butylbenzene	105	14.096	14.096	0.000	97	15872	1.00	0.9491	
132 Benzyl chloride	91	14.181	14.181	0.000	55	3004	1.00	1.07	
133 1,3-Dichlorobenzene	146	14.193	14.187	0.006	94	7868	1.00	1.06	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	55	8932	1.00	1.05	
135 4-Isopropyltoluene	119	14.266	14.260	0.006	96	16408	1.00	0.9524	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	97	12709	1.00	0.9357	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	91	6085	1.00	1.00	
139 n-Butylbenzene	91	14.680	14.667	0.013	96	10098	1.00	0.8642	
140 1,2-Dibromo-3-Chloropropan	157	15.093	15.099	-0.006	1	493	1.00	1.22	M
141 1,3,5-Trichlorobenzene	180	15.975	15.957	0.018	76	5229	1.00	1.06	M
142 1,2,4-Trichlorobenzene	180	16.584	16.566	0.018	54	2293	1.00	0.9150	
143 Naphthalene	128	16.894	16.870	0.024	61	1610	1.00	0.6871	
144 Hexachlorobutadiene	190	16.912	16.912	0.000	92	1870	1.00	0.8321	
145 1,2,3-Trichlorobenzene	180	17.137	17.113	0.024	36	2306	1.00	0.9650	M
S 146 1,3-Dichloropropene, Total	1				0			1.91	
S 147 Trihalomethanes, Total	1				0			4.28	

QC Flag Legend

Processing Flags

NC - Not Calibrated

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

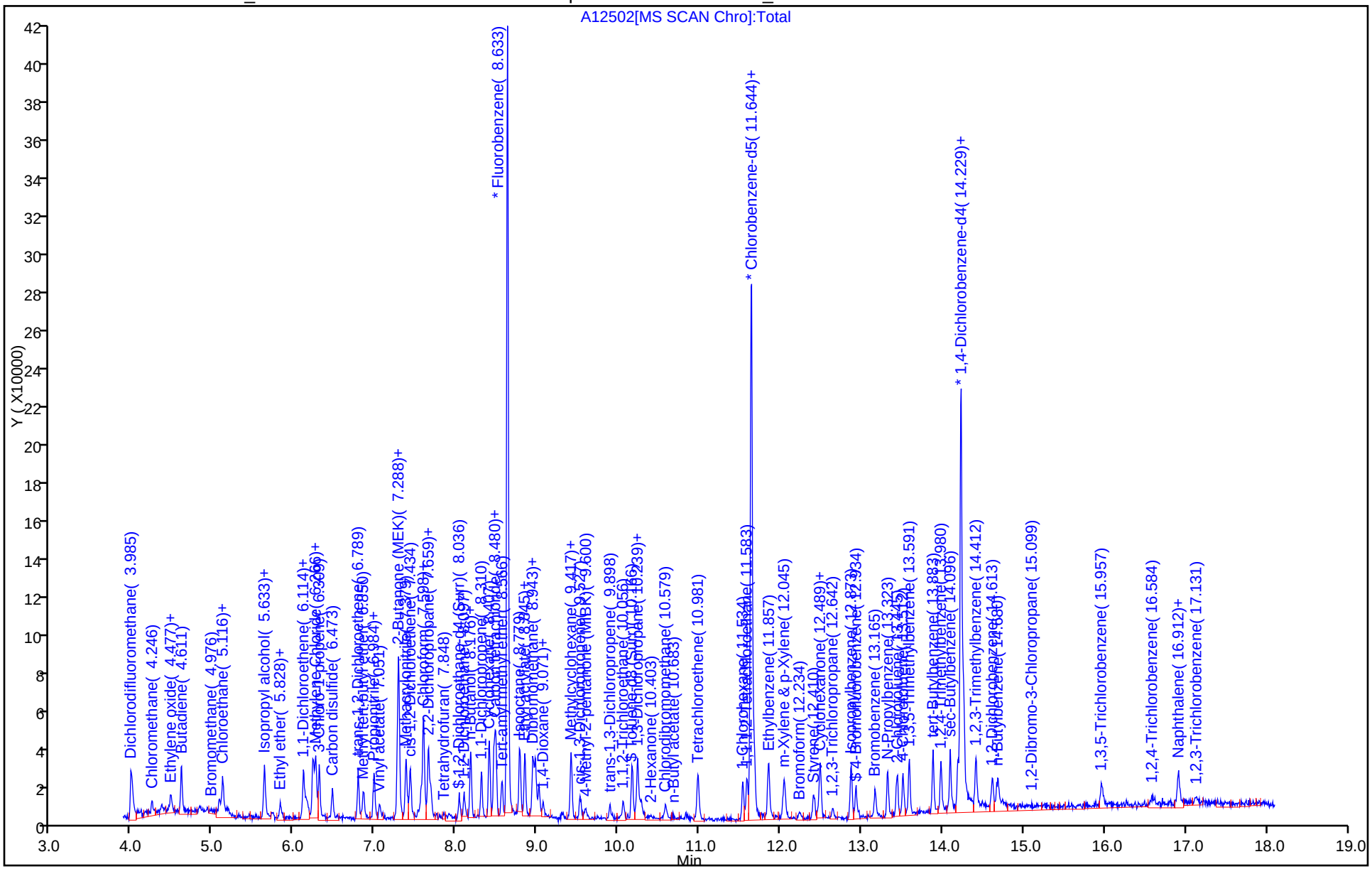
Reagents:

VOAIS50PPM_00171	Amount Added:	5.00	Units: uL
VOASTDPT2_00056	Amount Added:	0.40	Units: uL
VOASTDGASPT_00165	Amount Added:	0.40	Units: uL
EOxideStd_00071	Amount Added:	0.40	Units: uL

Report Date: 01-Aug-2016 09:49:16 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12502.d				
Injection Date:	04-May-2016 10:04:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



Manual Integration/User Assign Peak Report

TestAmerica Houston

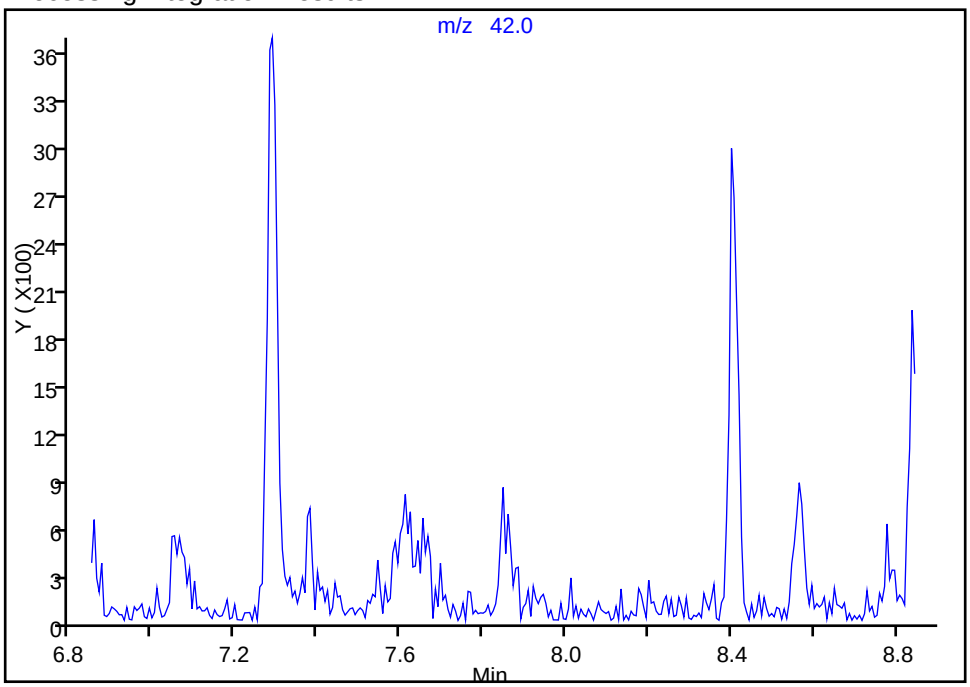
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12502.d				
Injection Date:	04-May-2016 10:04:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

53 Tetrahydrofuran, CAS: 109-99-9

Signal: 1

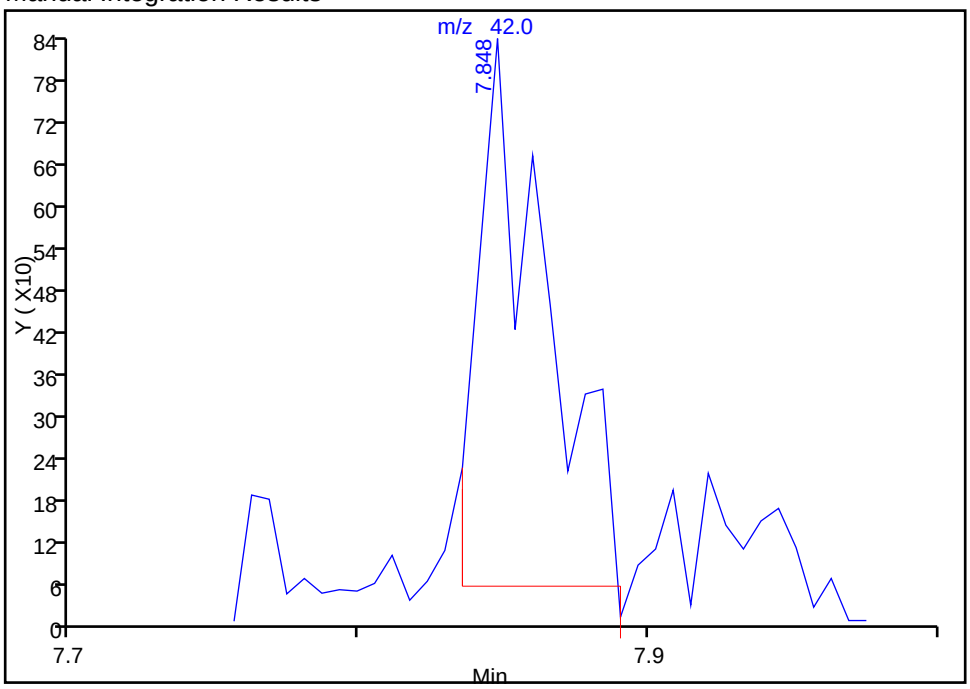
Not Detected
Expected RT: 7.85

Processing Integration Results



RT: 7.85
Area: 1271
Amount: 2.112492
Amount Units: ug/l

Manual Integration Results



Reviewer: shenw, 04-May-2016 12:09:15
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

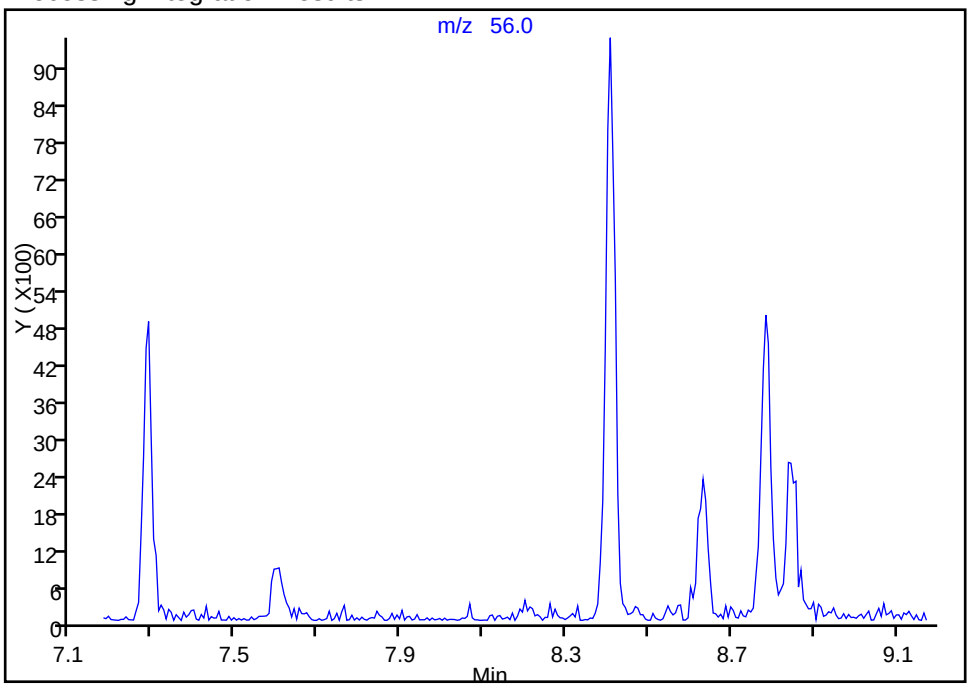
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12502.d				
Injection Date:	04-May-2016 10:04:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

59 n-Butanol, CAS: 71-36-3

Signal: 1

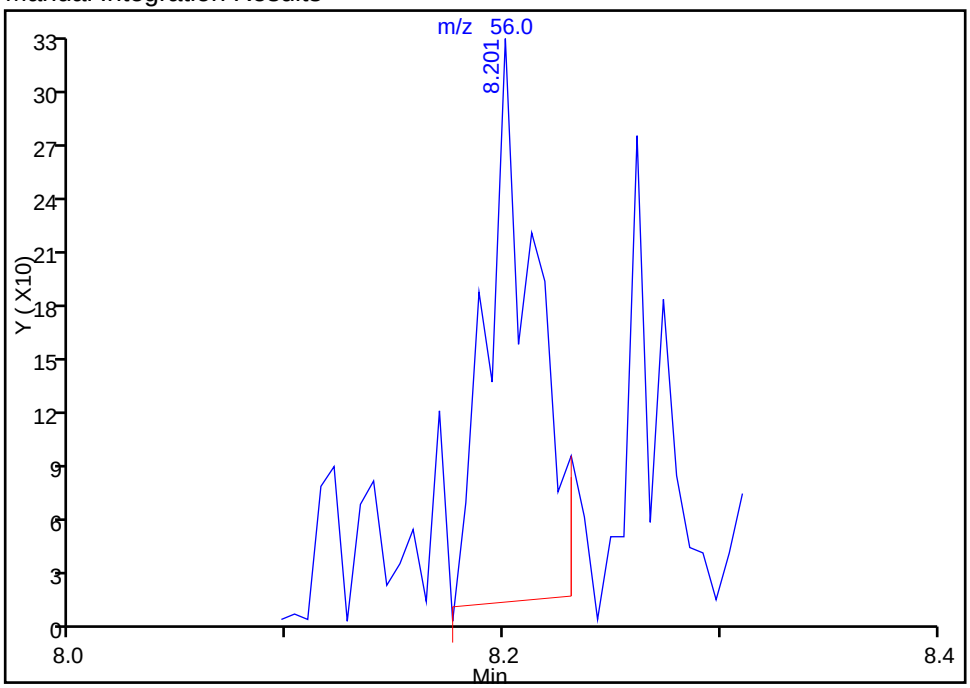
Processing Integration Results

Not Detected
Expected RT: 8.18



Manual Integration Results

RT: 8.20
Area: 481
Amount: 62.296298
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:09:15
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

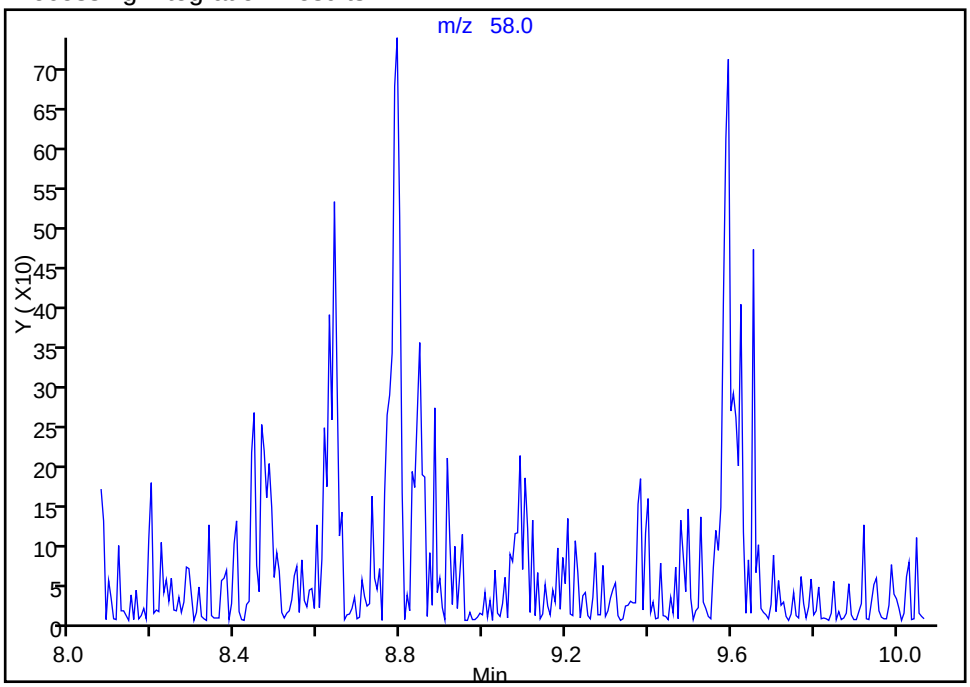
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12502.d				
Injection Date:	04-May-2016 10:04:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

76 1,4-Dioxane, CAS: 123-91-1

Signal: 1

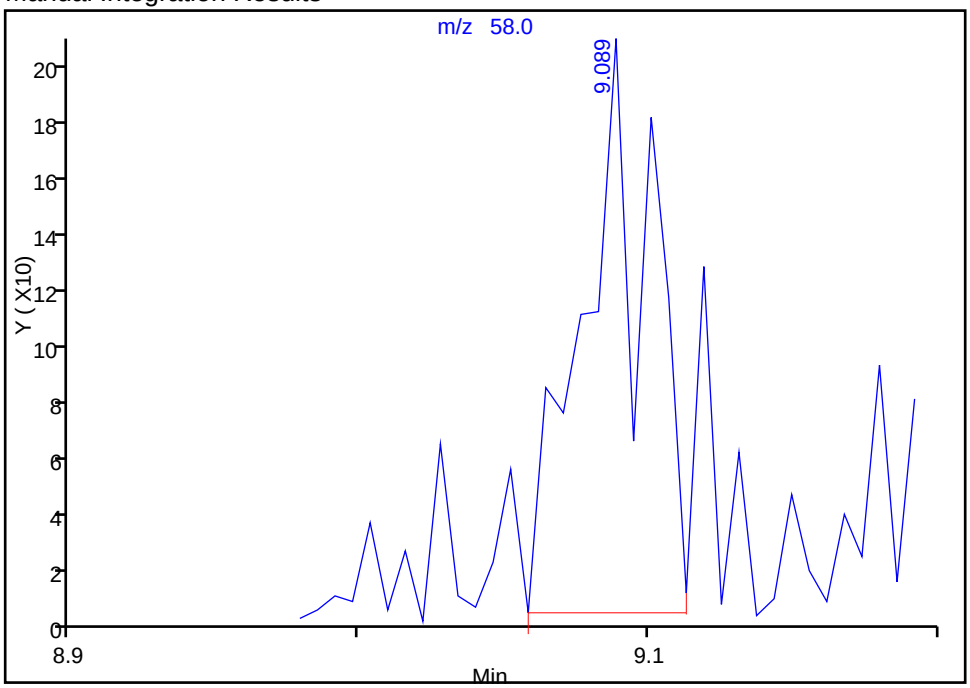
Processing Integration Results

Not Detected
Expected RT: 9.07



Manual Integration Results

RT: 9.09
Area: 337
Amount: 21.738661
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:09:15
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

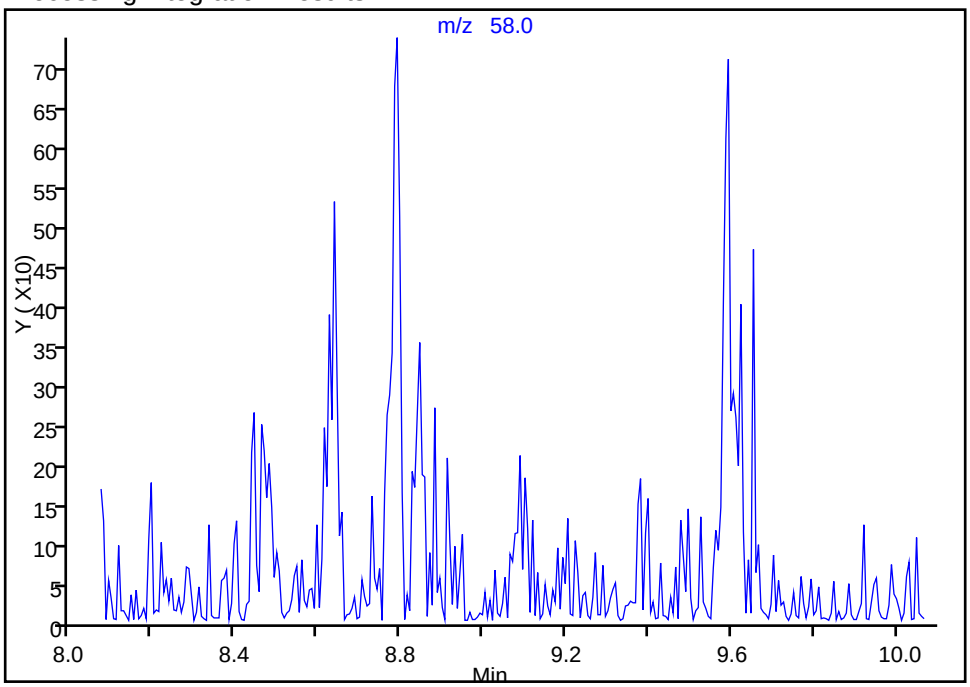
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12502.d				
Injection Date:	04-May-2016 10:04:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

76 1,4-Dioxane, CAS: 123-91-1

Signal: 1

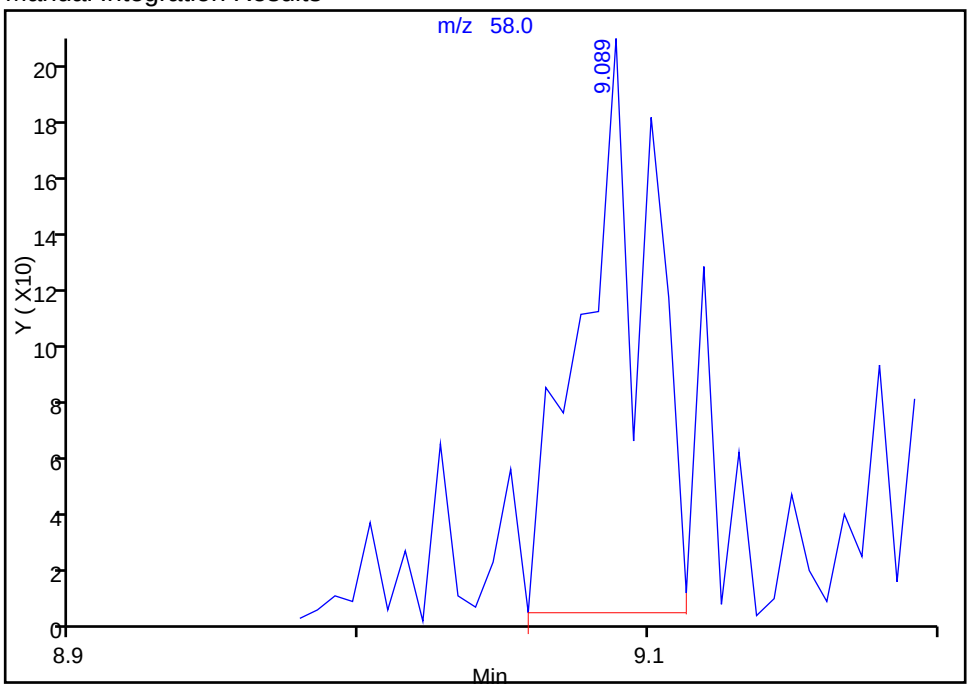
Processing Integration Results

Not Detected
Expected RT: 9.07



Manual Integration Results

RT: 9.09
Area: 337
Amount: 21.738661
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:09:15
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

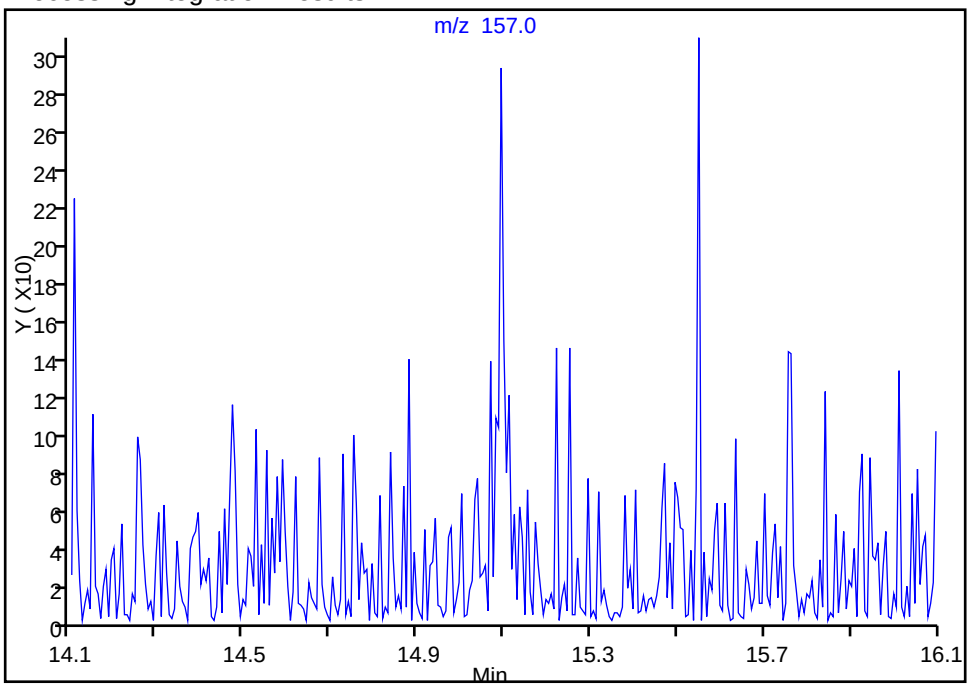
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12502.d				
Injection Date:	04-May-2016 10:04:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

140 1,2-Dibromo-3-Chloropropane, CAS: 96-12-8

Signal: 1

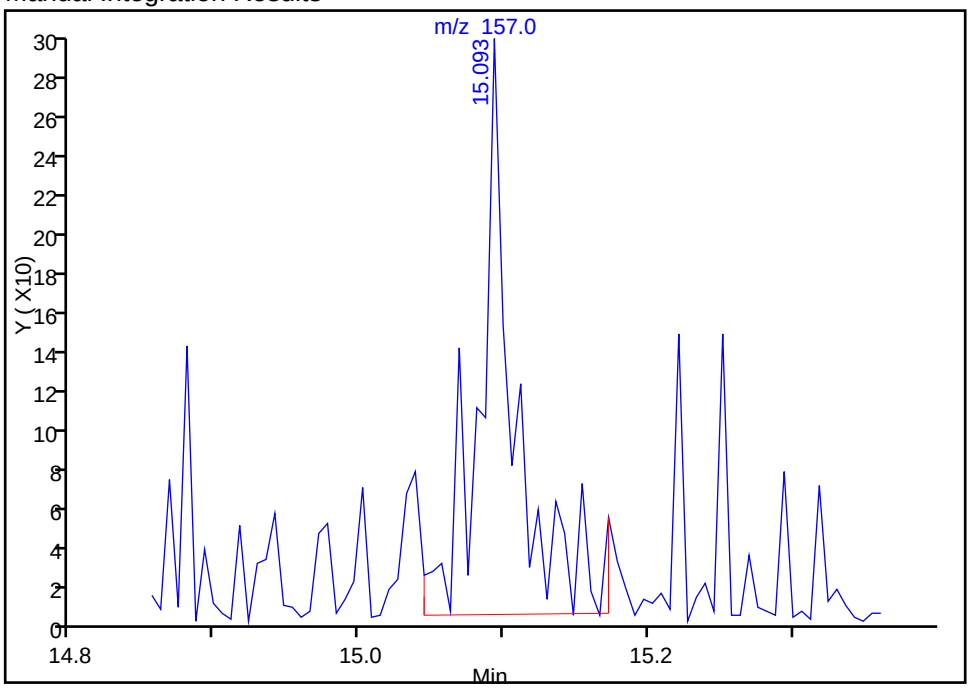
Not Detected
Expected RT: 15.10

Processing Integration Results



RT: 15.09
Area: 493
Amount: 1.221789
Amount Units: ug/l

Manual Integration Results



Reviewer: shenw, 04-May-2016 12:09:15
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

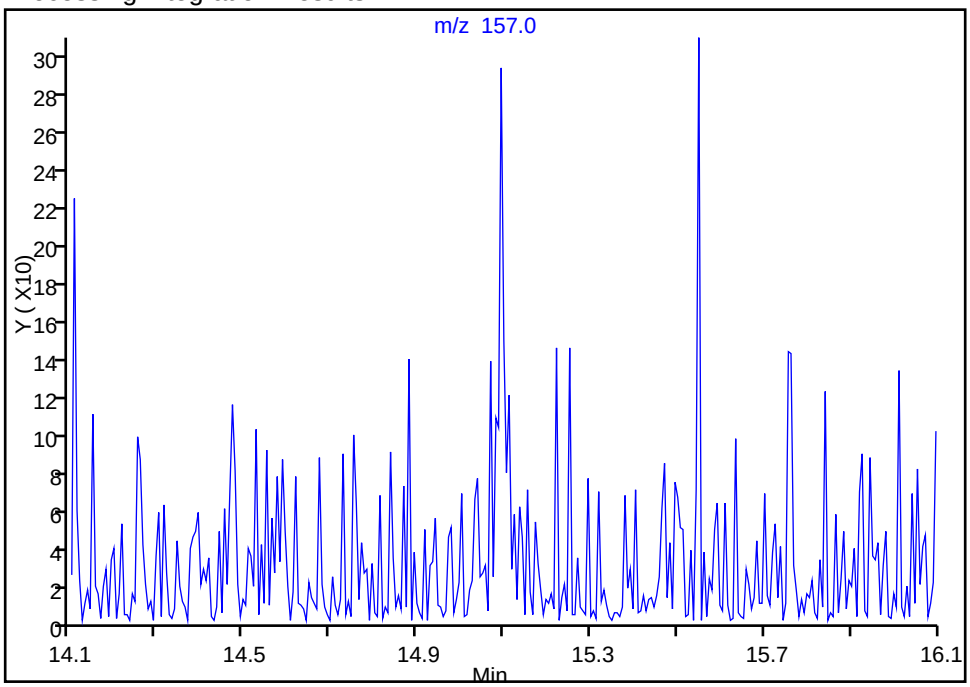
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12502.d				
Injection Date:	04-May-2016 10:04:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

140 1,2-Dibromo-3-Chloropropane, CAS: 96-12-8

Signal: 1

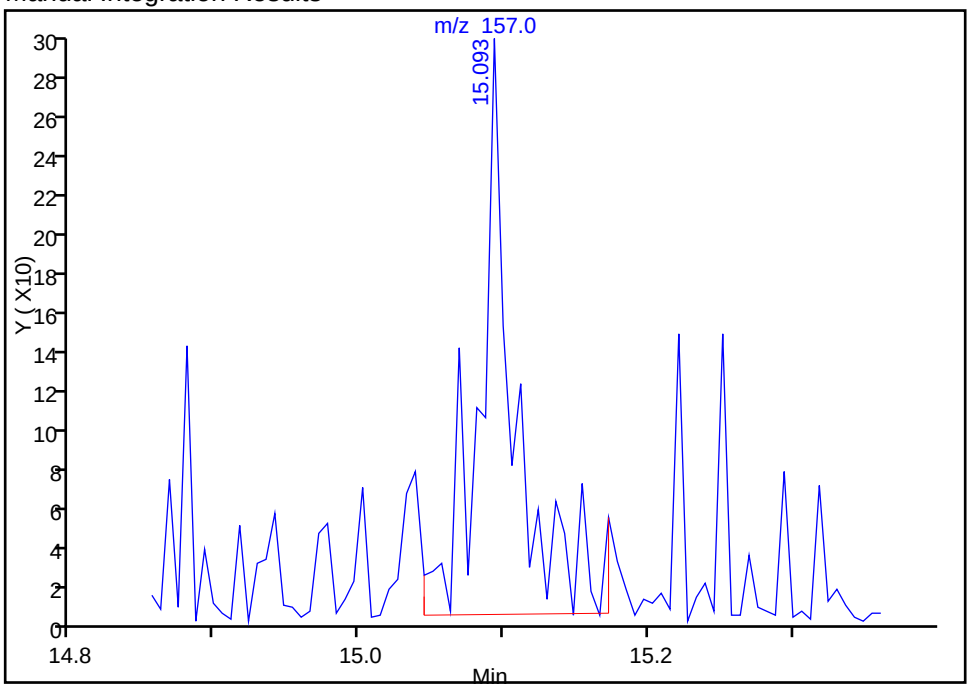
Not Detected
Expected RT: 15.10

Processing Integration Results



RT: 15.09
Area: 493
Amount: 1.221789
Amount Units: ug/l

Manual Integration Results



Reviewer: shenw, 04-May-2016 12:09:15
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

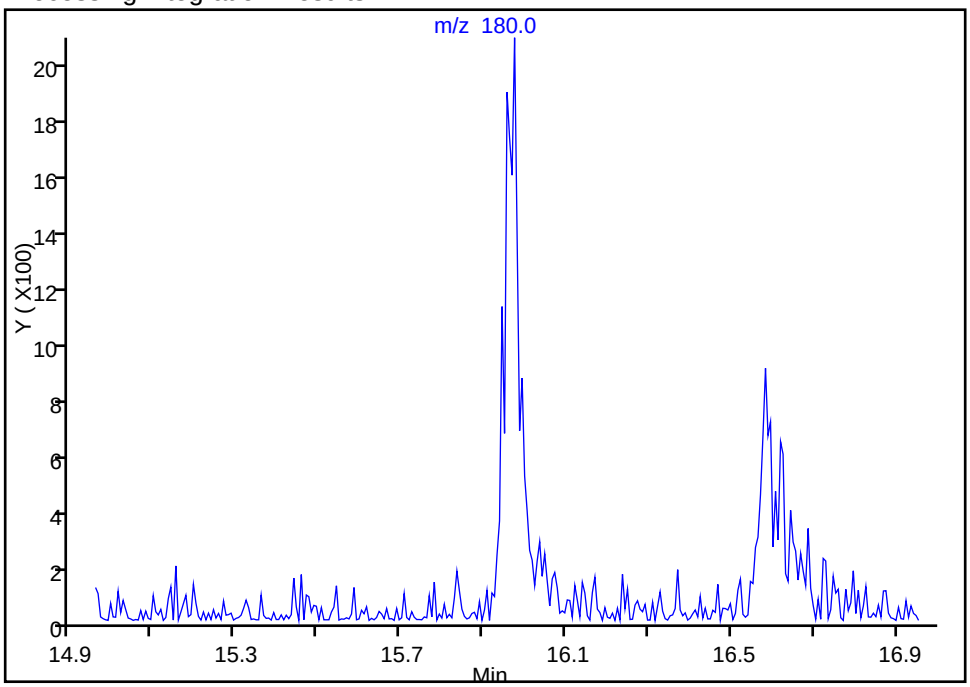
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12502.d				
Injection Date:	04-May-2016 10:04:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

141 1,3,5-Trichlorobenzene, CAS: 108-70-3

Signal: 1

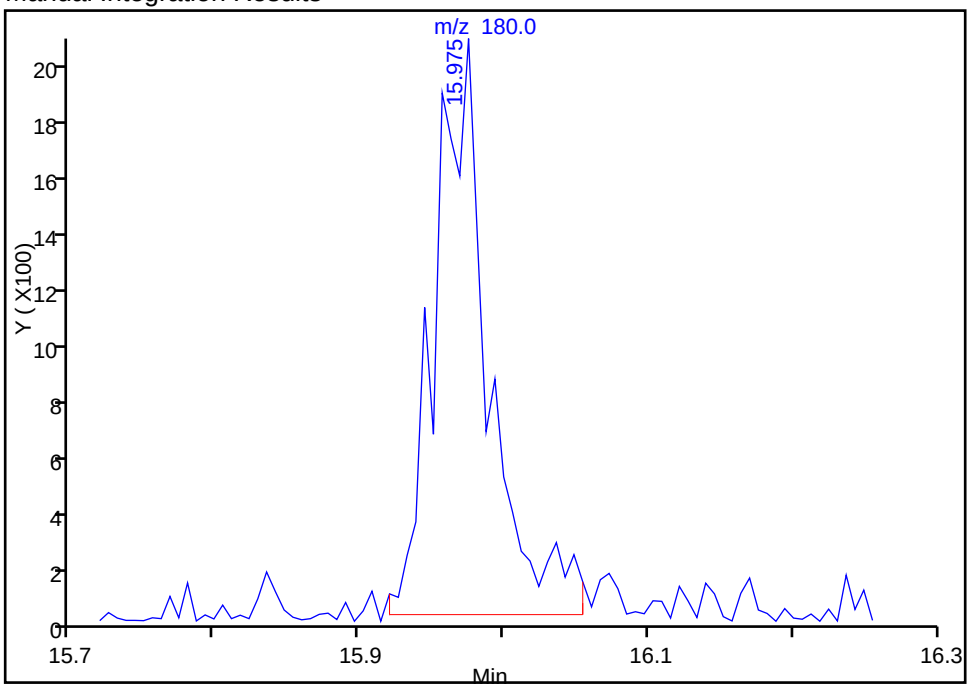
Not Detected
Expected RT: 15.96

Processing Integration Results



RT: 15.98
Area: 5229
Amount: 1.059736
Amount Units: ug/l

Manual Integration Results



Reviewer: shenw, 04-May-2016 12:09:15
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

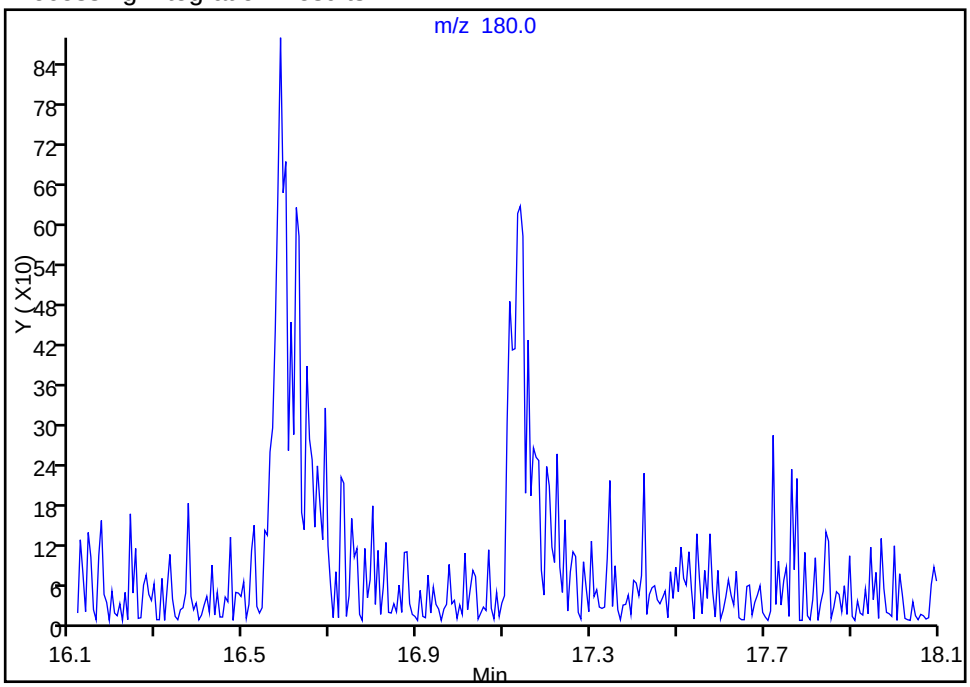
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12502.d				
Injection Date:	04-May-2016 10:04:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

145 1,2,3-Trichlorobenzene, CAS: 87-61-6

Signal: 1

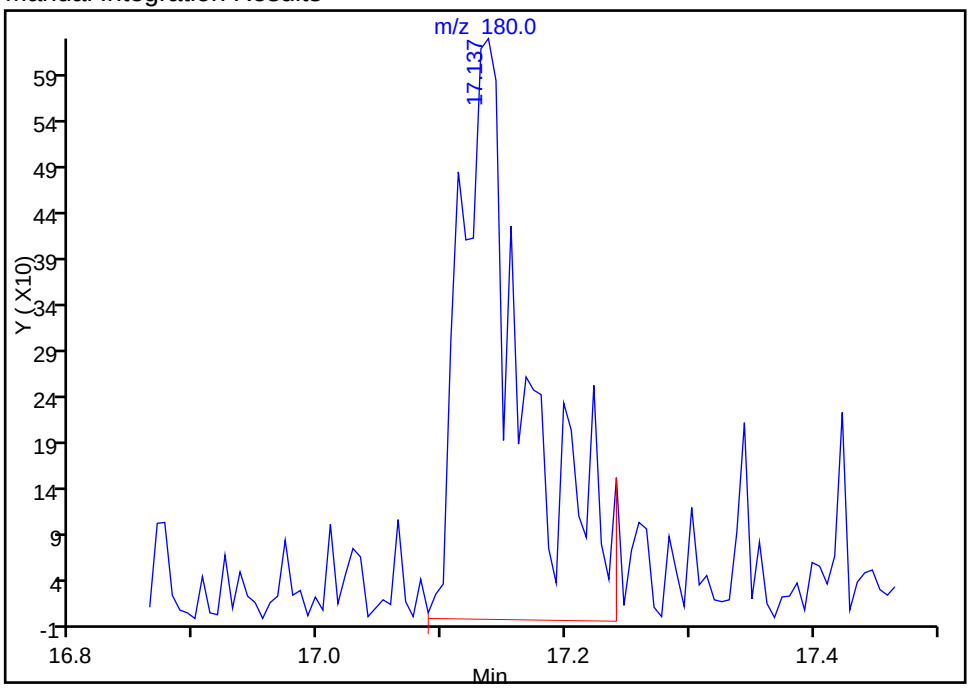
Not Detected
Expected RT: 17.11

Processing Integration Results



Manual Integration Results

RT: 17.14
Area: 2306
Amount: 0.965002
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:09:15
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12503.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 04-May-2016 10:28:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011909-004
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub26

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 01-Aug-2016 09:49:30 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: shenw Date: 04-May-2016 11:26:34

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	239187	12.5	12.5	
2 Dichlorodifluoromethane	85	4.009	4.009	0.000	98	9739	2.00	2.02	
3 Chloromethane	50	4.246	4.246	0.000	96	9619	2.00	1.69	
6 Ethylene oxide	44	4.459	4.465	-0.006	85	5423	20.0	33.9	
4 Vinyl chloride	62	4.484	4.477	0.007	98	11895	2.00	1.97	
5 Butadiene	39	4.611	4.605	0.006	98	17492	2.00	2.11	
7 Bromomethane	94	4.928	4.934	-0.006	84	1857	2.00	1.61	
9 Chloroethane	64	5.080	5.080	0.000	92	7282	2.00	2.15	
8 Ethanol	45	5.074	5.080	-0.006	37	1703	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	23866	2.00	2.06	
14 Acrolein	56	5.609	5.615	-0.006	57	2139	10.0	8.35	
15 Acetonitrile	41	5.615	5.621	-0.006	64	4608	20.0	19.3	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	98	30145	2.00	2.24	
17 Isopropyl alcohol	45	5.652	5.652	0.000	25	1797	20.0	13.6	
21 2-Methyl-2-propanol	59	5.834	5.828	0.006	91	7795	20.0	20.9	
19 Ethyl ether	59	5.834	5.828	0.006	93	7795	2.00	2.09	
18 Acetone	43	5.828	5.828	0.000	51	3746	4.00	5.29	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	85	10196	2.00	2.06	
23 Acrylonitrile	52	6.144	6.138	0.006	99	12873	20.0	18.3	
24 Iodomethane	142	6.169	6.169	0.000	95	5693	2.00	2.62	
25 Methylene Chloride	84	6.236	6.236	0.000	85	10657	2.00	1.90	
26 Methyl acetate	43	6.248	6.248	0.000	99	21356	10.0	10.4	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.272	-0.006	94	14325	2.00	2.14	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	82	5919	2.00	2.34	
29 Carbon disulfide	76	6.473	6.473	0.000	93	28559	2.00	2.02	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	85	10256	2.00	1.89	
31 Methyl tert-butyl ether	73	6.850	6.856	-0.006	88	15831	2.00	1.97	
32 Propionitrile	54	6.984	6.966	0.018	38	4704	20.0	19.9	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	31212	2.00	2.01	
34 Vinyl acetate	43	7.051	7.045	0.006	98	20669	4.00	3.56	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
35 2-Chloro-1,3-butadiene	53	7.276	7.270	0.006	90	36872	2.00	1.88	
36 Hexane	57	7.288	7.288	0.000	85	26667	2.00	2.12	
38 Isopropyl ether	45	7.294	7.288	0.006	90	57561	2.00	2.10	
37 2-Butanone (MEK)	72	7.288	7.300	-0.012	78	921	4.00	4.23	
39 Methacrylonitrile	66	7.379	7.379	0.000	95	4608	20.0	21.9	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	75	12504	2.00	2.12	
45 Chlorobromomethane	128	7.568	7.562	0.006	87	4041	2.00	2.03	
S 46 1,2-Dichloroethene, Total	96				0		4.00	4.02	
48 Chloroform	83	7.592	7.592	0.000	92	27389	2.00	2.15	
43 Ethyl acetate	43	7.598	7.598	0.000	33	11854	4.00	4.78	
50 Isobutyl alcohol	43	7.598	7.598	0.000	40	11238	50.0	58.7	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	97	39392	2.00	1.96	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	91	30640	2.00	2.11	
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	90	14031	2.00	2.15	
53 Tetrahydrofuran	42	7.848	7.848	0.000	70	2155	4.00	3.62	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	16978	2.00	2.08	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	96	21727	2.00	2.07	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	95	32757	2.00	2.03	
59 n-Butanol	56	8.207	8.176	0.031	21	498	50.0	62.6	M
61 1,1-Dichloropropene	75	8.310	8.310	0.000	79	15111	2.00	1.90	
62 Cyclohexane	84	8.407	8.407	0.000	90	13757	2.00	1.96	
63 Carbon tetrachloride	119	8.468	8.468	0.000	97	35296	2.00	2.11	
64 Benzene	78	8.487	8.487	0.000	84	40374	2.00	2.08	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	72	15455	2.00	1.97	
68 Isooctane	57	8.785	8.785	0.000	95	53056	2.00	2.11	
69 Ethyl acrylate	55	8.839	8.839	0.000	35	11948	2.00	2.10	
70 n-Heptane	43	8.846	8.845	0.001	91	26386	2.00	2.17	
67 2-Nitropropane	43	8.846	8.845	0.001	89	26386	4.00	4.35	
71 Dibromomethane	93	8.937	8.931	0.006	75	3978	2.00	1.92	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	69	11702	2.00	1.99	
73 Trichloroethene	130	8.979	8.973	0.006	85	14974	2.00	2.01	
74 Dichlorobromomethane	83	9.022	9.022	0.000	95	16304	2.00	2.10	
75 Methyl methacrylate	41	9.065	9.064	0.001	84	8737	4.00	3.59	
76 1,4-Dioxane	58		9.071				ND	ND	
78 Methylcyclohexane	83	9.417	9.417	0.000	87	14023	2.00	1.97	
79 4-Methyl-2-pentanone (MIBK	43	9.582	9.588	-0.006	97	8480	4.00	3.85	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	91	75232	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.308	9.302	0.006	86	2524	4.00	3.47	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	73	10081	2.00	1.97	
88 trans-1,3-Dichloropropene	75	9.898	9.892	0.006	87	6879	2.00	2.02	
89 1,1,2-Trichloroethane	97	10.068	10.056	0.012	80	3947	2.00	2.01	
$ 91 Toluene-d8 (Surr)	98	10.172	10.166	0.006	93	34191	2.00	2.10	
92 Ethyl methacrylate	69	10.220	10.214	0.006	36	2993	2.00	1.81	
93 Toluene	92	10.239	10.239	0.000	95	24369	2.00	2.12	
94 1,3-Dichloropropane	76	10.281	10.281	0.000	79	8297	2.00	2.37	
95 2-Hexanone	43	10.391	10.366	0.025	73	2986	4.00	3.35	
97 Chlorodibromomethane	129	10.585	10.585	0.000	89	7682	2.00	2.30	
98 n-Butyl acetate	43	10.652	10.652	0.000	88	4380	2.00	2.58	
99 Ethylene Dibromide	107	10.841	10.829	0.012	86	3757	2.00	2.03	
S 100 Xylenes, Total	106				0		4.00	3.97	
101 Tetrachloroethene	164	10.987	10.981	0.006	85	10764	2.00	2.12	
102 1-Chlorohexane	55	11.534	11.534	0.000	75	14220	2.00	1.92	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
103 1,1,1,2-Tetrachloroethane	131	11.583	11.583	0.000	82	11810	2.00	2.24	
104 Chlorobenzene	112	11.674	11.674	0.000	87	25745	2.00	2.17	
105 Ethylbenzene	106	11.851	11.851	0.000	96	13589	2.00	2.07	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	32334	2.00	2.00	
107 Styrene	104	12.404	12.410	-0.006	91	13817	2.00	1.72	
108 Cyclohexanone	55	12.465	12.453	0.012	63	3681	100.0	146.0	
109 o-Xylene	106	12.490	12.490	0.000	97	13980	2.00	1.97	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	97	55392	12.5	12.5	
114 Bromoform	173	12.228	12.234	-0.006	80	2959	2.00	2.07	
115 1,1,2,2-Tetrachloroethane	83	12.490	12.483	0.007	51	3141	2.00	2.14	
117 1,2,3-Trichloropropane	110	12.642	12.636	0.006	91	1660	2.00	2.50	
116 trans-1,4-Dichloro-2-buten	53	12.642	12.636	0.006	65	994	2.00	1.84	
118 Isopropylbenzene	105	12.873	12.867	0.006	97	37461	2.00	2.07	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	82	10312	2.00	2.16	
120 Bromobenzene	156	13.165	13.165	0.000	84	7420	2.00	1.97	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	8736	2.00	1.83	
122 2-Chlorotoluene	126	13.433	13.439	-0.006	92	9184	2.00	2.20	
123 4-Chlorotoluene	91	13.512	13.512	0.000	96	29570	2.00	2.28	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	93	32149	2.00	2.05	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	27546	2.00	2.12	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	97	31500	2.00	2.04	
131 sec-Butylbenzene	105	14.096	14.096	0.000	96	39423	2.00	2.21	
132 Benzyl chloride	91	14.187	14.181	0.006	59	5552	2.00	1.86	
133 1,3-Dichlorobenzene	146	14.193	14.187	0.006	95	16272	2.00	2.05	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	66	19460	2.00	2.15	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	41215	2.00	2.24	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	98	29381	2.00	2.03	
138 1,2-Dichlorobenzene	146	14.619	14.613	0.006	93	14709	2.00	2.28	
139 n-Butylbenzene	91	14.667	14.667	0.000	94	24181	2.00	1.94	
140 1,2-Dibromo-3-Chloropropan	157	15.099	15.099	0.000	36	756	2.00	2.30	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	94	10886	2.00	2.07	
142 1,2,4-Trichlorobenzene	180	16.584	16.566	0.018	90	5267	2.00	1.97	
143 Naphthalene	128	16.900	16.870	0.030	54	5087	2.00	2.02	
144 Hexachlorobutadiene	190	16.912	16.912	0.000	92	4032	2.00	2.59	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	88	3451	2.00	1.62	
S 146 1,3-Dichloropropene, Total	1				0			3.99	
S 147 Trihalomethanes, Total	1				0			8.61	

QC Flag Legend

Processing Flags

NC - Not Calibrated

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

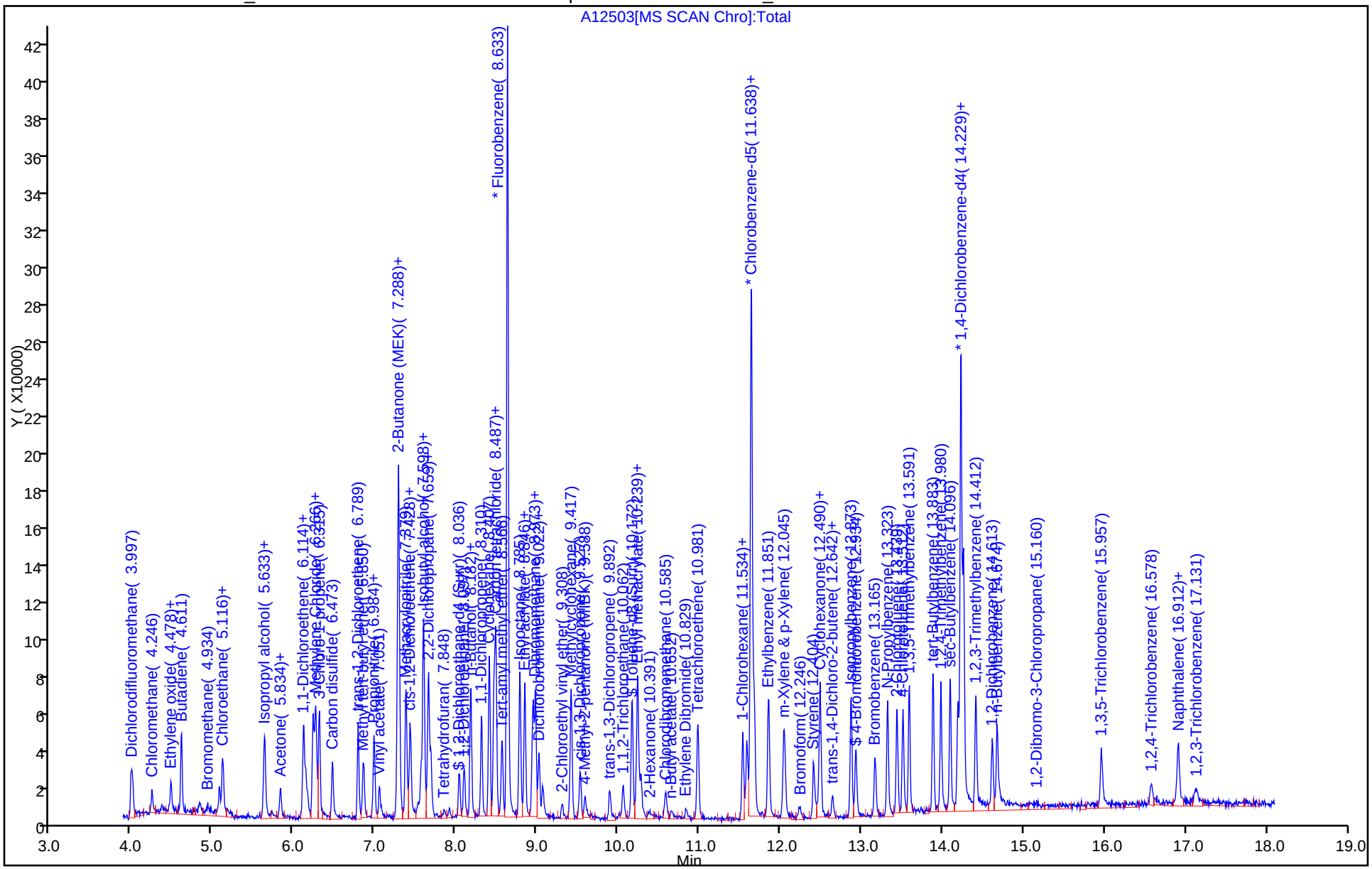
Reagents:

VOAIS50PPM_00171	Amount Added:	5.00	Units: uL
VOASTDPT2_00056	Amount Added:	0.80	Units: uL
VOASTDGASPT_00165	Amount Added:	0.80	Units: uL
EOxideStd_00071	Amount Added:	0.80	Units: uL

Report Date: 01-Aug-2016 09:49:35 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12503.d				
Injection Date:	04-May-2016 10:28:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	IC			Worklist Smp#:	4
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



Manual Integration/User Assign Peak Report

TestAmerica Houston

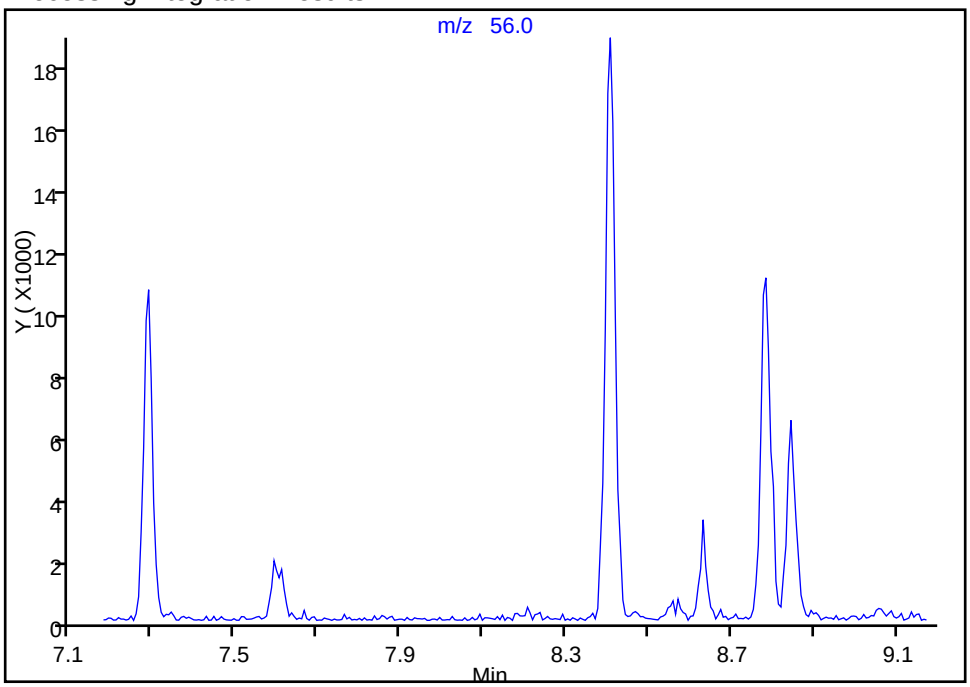
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12503.d				
Injection Date:	04-May-2016 10:28:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	3	Worklist Smp#:	4
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

59 n-Butanol, CAS: 71-36-3

Signal: 1

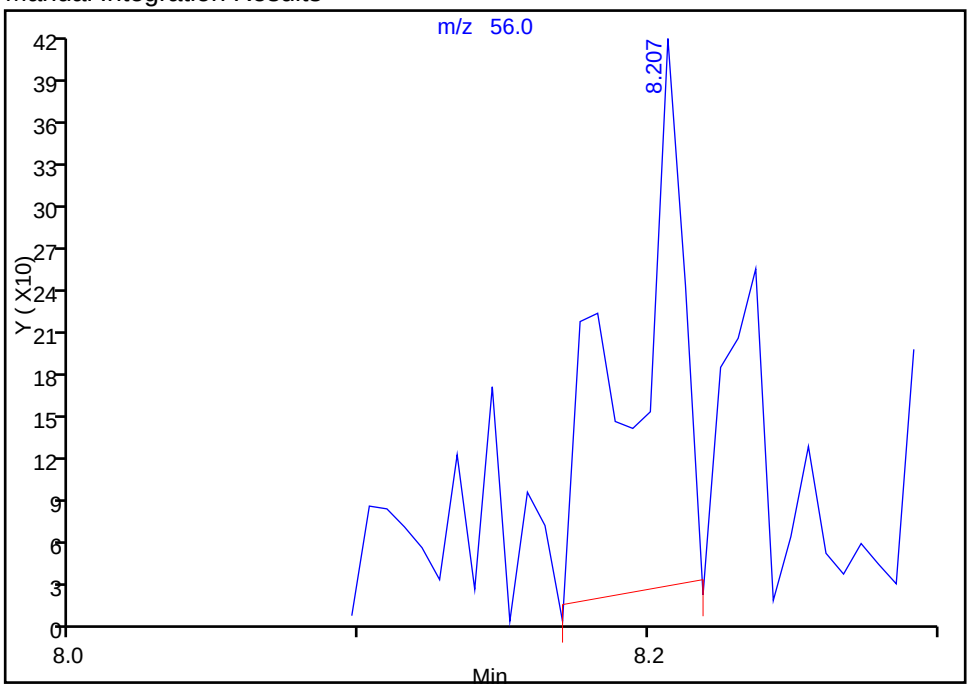
Processing Integration Results

Not Detected
Expected RT: 8.18



Manual Integration Results

RT: 8.21
Area: 498
Amount: 62.608591
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:06:35
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

TestAmerica Houston

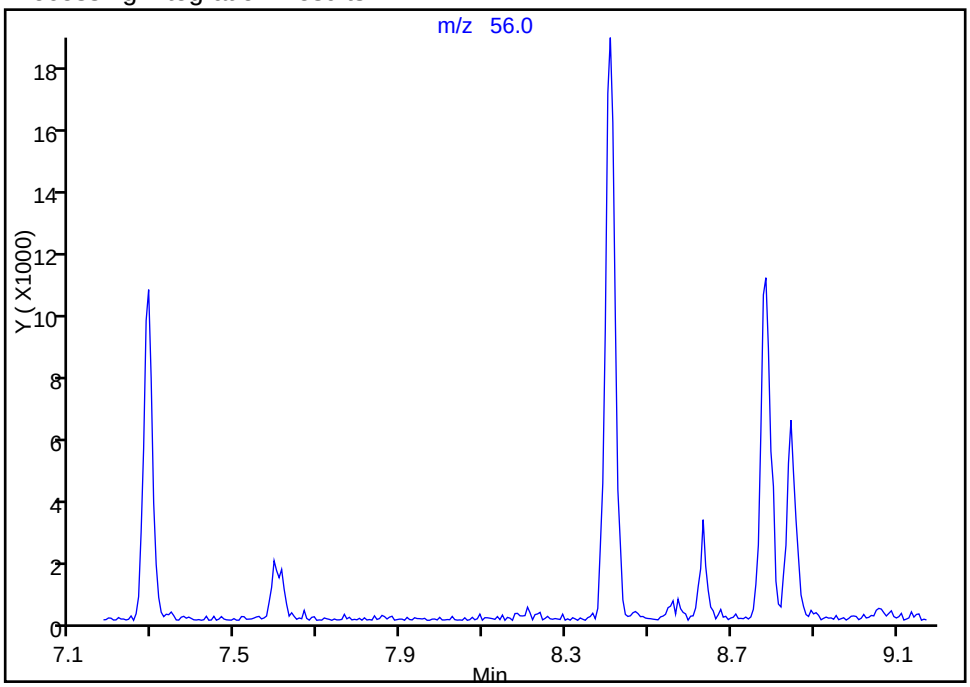
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12503.d				
Injection Date:	04-May-2016 10:28:30	Instrument ID:	CHVOAMS07		
Lims ID:	IC				
Client ID:					
Operator ID:	ws	ALS Bottle#:	3	Worklist Smp#:	4
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

59 n-Butanol, CAS: 71-36-3

Signal: 1

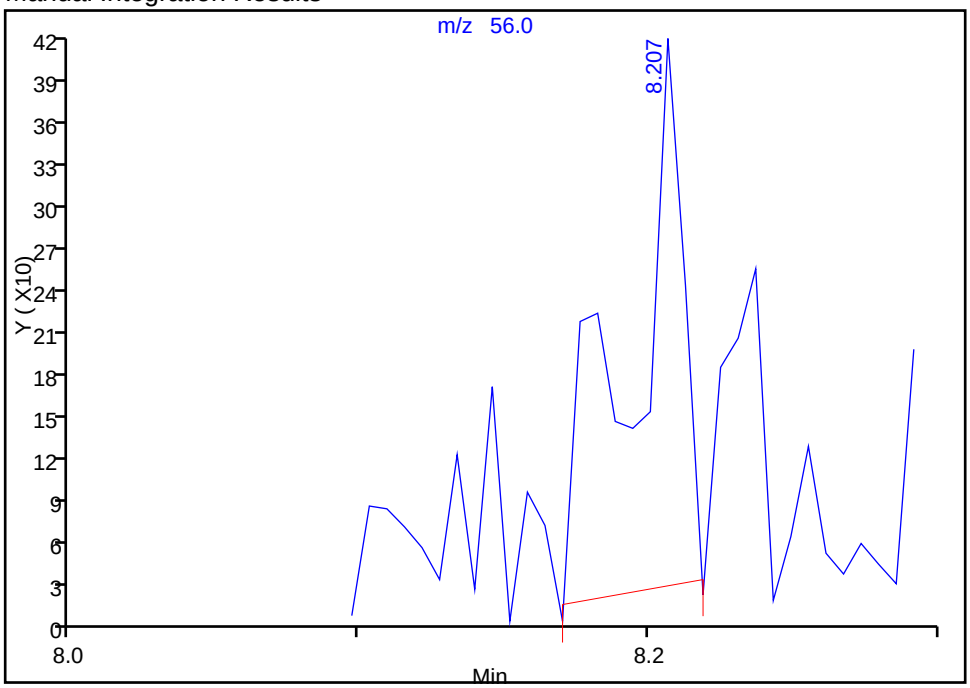
Processing Integration Results

Not Detected
Expected RT: 8.18



Manual Integration Results

RT: 8.21
Area: 498
Amount: 62.608591
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:06:35
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12504.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 04-May-2016 10:52:30 ALS Bottle#: 1 Worklist Smp#: 5
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011909-005
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub26

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 01-Aug-2016 09:49:40 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: shenw Date: 04-May-2016 12:04:08

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	96	248478	12.5	12.5	
2 Dichlorodifluoromethane	85	4.009	4.009	0.000	98	27345	5.00	5.47	
3 Chloromethane	50	4.246	4.246	0.000	99	28314	5.00	4.79	
6 Ethylene oxide	44	4.465	4.465	0.000	57	6514	50.0	43.3	
4 Vinyl chloride	62	4.477	4.477	0.000	98	31287	5.00	4.99	
5 Butadiene	39	4.605	4.605	0.000	95	43395	5.00	5.05	
7 Bromomethane	94	4.928	4.928	0.000	90	5589	5.00	4.65	
9 Chloroethane	64	5.080	5.080	0.000	89	16374	5.00	4.65	
8 Ethanol	45	5.086	5.086	0.000	31	3238	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	64579	5.00	5.36	
14 Acrolein	56	5.621	5.621	0.000	36	5192	25.0	21.7	
15 Acetonitrile	41	5.621	5.621	0.000	42	11860	50.0	54.1	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	99	73912	5.00	5.50	
17 Isopropyl alcohol	45	5.652	5.652	0.000	96	4461	50.0	42.7	
18 Acetone	43	5.822	5.822	0.000	57	7415	10.0	11.6	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	90	15473	50.0	39.9	
19 Ethyl ether	59	5.828	5.828	0.000	92	15473	5.00	3.99	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	86	24266	5.00	4.72	
23 Acrylonitrile	52	6.138	6.138	0.000	94	34756	50.0	47.5	
24 Iodomethane	142	6.169	6.169	0.000	86	18387	5.00	4.54	
25 Methylene Chloride	84	6.230	6.230	0.000	86	24318	5.00	5.27	
26 Methyl acetate	43	6.248	6.248	0.000	99	50329	25.0	23.6	
27 1,1,2-Trichloro-1,2,2-trif	151	6.272	6.272	0.000	87	34828	5.00	5.01	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	81	13941	5.00	5.30	
29 Carbon disulfide	76	6.473	6.473	0.000	95	70037	5.00	4.78	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	82	25378	5.00	4.51	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	90	38691	5.00	4.64	
32 Propionitrile	54	6.972	6.972	0.000	96	10879	50.0	44.2	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	98	76300	5.00	4.74	
34 Vinyl acetate	43	7.051	7.051	0.000	97	57796	10.0	9.59	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
35 2-Chloro-1,3-butadiene	53	7.276	7.276	0.000	89	103877	5.00	5.10	
36 Hexane	57	7.288	7.288	0.000	84	68411	5.00	5.23	
38 Isopropyl ether	45	7.294	7.294	0.000	94	150032	5.00	5.27	
37 2-Butanone (MEK)	72	7.306	7.306	0.000	77	2489	10.0	11.0	
39 Methacrylonitrile	66	7.379	7.379	0.000	94	10354	50.0	47.4	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	80	29123	5.00	4.76	
45 Chlorobromomethane	128	7.562	7.562	0.000	88	10100	5.00	4.89	
S 46 1,2-Dichloroethene, Total	96				0		10.0	9.27	
48 Chloroform	83	7.592	7.592	0.000	96	62356	5.00	4.72	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	97	104636	5.00	5.02	
43 Ethyl acetate	43	7.604	7.604	0.000	38	25332	10.0	9.83	
50 Isobutyl alcohol	43	7.604	7.604	0.000	38	22661	125.0	119.5	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	89	75691	5.00	5.01	
$ 52 Dibromofluoromethane	113	7.690	7.690	0.000	91	33243	5.00	4.91	
53 Tetrahydrofuran	42	7.848	7.848	0.000	88	5063	10.0	8.36	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	42771	5.00	5.04	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	96	50392	5.00	4.63	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	92	78887	5.00	4.70	
59 n-Butanol	56	8.182	8.182	0.000	23	2413	125.0	118.4	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	78	39776	5.00	4.81	
62 Cyclohexane	84	8.407	8.407	0.000	90	37768	5.00	5.19	
63 Carbon tetrachloride	119	8.468	8.468	0.000	99	86357	5.00	4.98	
64 Benzene	78	8.487	8.487	0.000	86	100260	5.00	4.97	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	80	40471	5.00	4.97	
68 Isooctane	57	8.785	8.785	0.000	97	127974	5.00	4.90	
69 Ethyl acrylate	55	8.833	8.833	0.000	37	29311	5.00	4.54	
70 n-Heptane	43	8.845	8.845	0.000	92	66694	5.00	5.29	
67 2-Nitropropane	43	8.845	8.845	0.000	92	66694	10.0	10.6	
71 Dibromomethane	93	8.931	8.931	0.000	77	10042	5.00	4.66	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	72	29892	5.00	4.90	
73 Trichloroethene	130	8.979	8.979	0.000	89	35326	5.00	4.57	
74 Dichlorobromomethane	83	9.022	9.022	0.000	95	39254	5.00	4.86	
75 Methyl methacrylate	41	9.064	9.064	0.000	85	26444	10.0	9.22	
76 1,4-Dioxane	58	9.089	9.089	0.000	53	1110	100.0	85.6	
78 Methylcyclohexane	83	9.423	9.423	0.000	89	37587	5.00	4.80	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.588	0.000	96	20655	10.0	9.03	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	92	83710	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.308	9.308	0.000	82	7080	10.0	7.72	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	76	25441	5.00	4.47	
88 trans-1,3-Dichloropropene	75	9.886	9.886	0.000	89	16263	5.00	4.29	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	79	9508	5.00	4.80	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	86024	5.00	4.76	
92 Ethyl methacrylate	69	10.214	10.214	0.000	84	8992	5.00	4.29	
93 Toluene	92	10.239	10.239	0.000	94	63202	5.00	4.93	
94 1,3-Dichloropropane	76	10.269	10.269	0.000	80	18777	5.00	4.83	
95 2-Hexanone	43	10.372	10.372	0.000	97	9071	10.0	7.81	
97 Chlorodibromomethane	129	10.585	10.585	0.000	86	16384	5.00	4.40	
98 n-Butyl acetate	43	10.652	10.652	0.000	96	11924	5.00	4.49	
99 Ethylene Dibromide	107	10.829	10.829	0.000	98	8578	5.00	4.59	
S 100 Xylenes, Total	106				0		10.0	10.1	
101 Tetrachloroethene	164	10.981	10.981	0.000	89	24702	5.00	4.37	
102 1-Chlorohexane	55	11.534	11.534	0.000	77	44198	5.00	5.37	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	84	26660	5.00	4.54	
104 Chlorobenzene	112	11.674	11.674	0.000	89	60348	5.00	4.58	
105 Ethylbenzene	106	11.851	11.851	0.000	98	31938	5.00	4.37	
106 m-Xylene & p-Xylene	91	12.039	12.039	0.000	0	90699	5.00	5.04	
107 Styrene	104	12.410	12.410	0.000	90	40847	5.00	4.09	
108 Cyclohexanone	55	12.447	12.447	0.000	91	8148	250.0	215.2	
109 o-Xylene	106	12.490	12.490	0.000	98	40277	5.00	5.09	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.229	0.000	96	63193	12.5	12.5	
114 Bromoform	173	12.240	12.240	0.000	92	7552	5.00	5.09	
115 1,1,2,2-Tetrachloroethane	83	12.483	12.483	0.000	53	7383	5.00	4.82	
117 1,2,3-Trichloropropane	110	12.642	12.642	0.000	94	2996	5.00	4.50	
116 trans-1,4-Dichloro-2-buten	53	12.642	12.642	0.000	70	2660	5.00	4.32	
118 Isopropylbenzene	105	12.873	12.873	0.000	98	104734	5.00	5.06	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	87	27237	5.00	5.00	
120 Bromobenzene	156	13.171	13.171	0.000	84	19949	5.00	4.64	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	27834	5.00	5.11	
122 2-Chlorotoluene	126	13.439	13.439	0.000	93	24326	5.00	5.10	
123 4-Chlorotoluene	91	13.512	13.512	0.000	97	71654	5.00	4.85	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	93	94728	5.00	5.30	
128 tert-Butylbenzene	119	13.883	13.883	0.000	92	76526	5.00	5.15	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	91414	5.00	5.19	
131 sec-Butylbenzene	105	14.096	14.096	0.000	97	103792	5.00	5.10	
132 Benzyl chloride	91	14.181	14.181	0.000	67	13976	5.00	4.11	
133 1,3-Dichlorobenzene	146	14.193	14.193	0.000	94	42847	5.00	4.73	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	89	48836	5.00	4.73	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	105013	5.00	5.01	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	82829	5.00	5.01	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	93	33918	5.00	4.60	
139 n-Butylbenzene	91	14.674	14.674	0.000	96	70186	5.00	4.94	
140 1,2-Dibromo-3-Chloropropan	157	15.081	15.081	0.000	56	1292	5.00	4.06	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	94	28346	5.00	4.72	
142 1,2,4-Trichlorobenzene	180	16.572	16.572	0.000	91	12983	5.00	4.26	
143 Naphthalene	128	16.876	16.876	0.000	96	10412	5.00	3.61	
144 Hexachlorobutadiene	190	16.912	16.912	0.000	93	9051	5.00	5.96	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	82	8847	5.00	4.45	
S 146 1,3-Dichloropropene, Total	1				0			8.76	
S 147 Trihalomethanes, Total	1				0			19.1	

QC Flag Legend

Processing Flags

NC - Not Calibrated

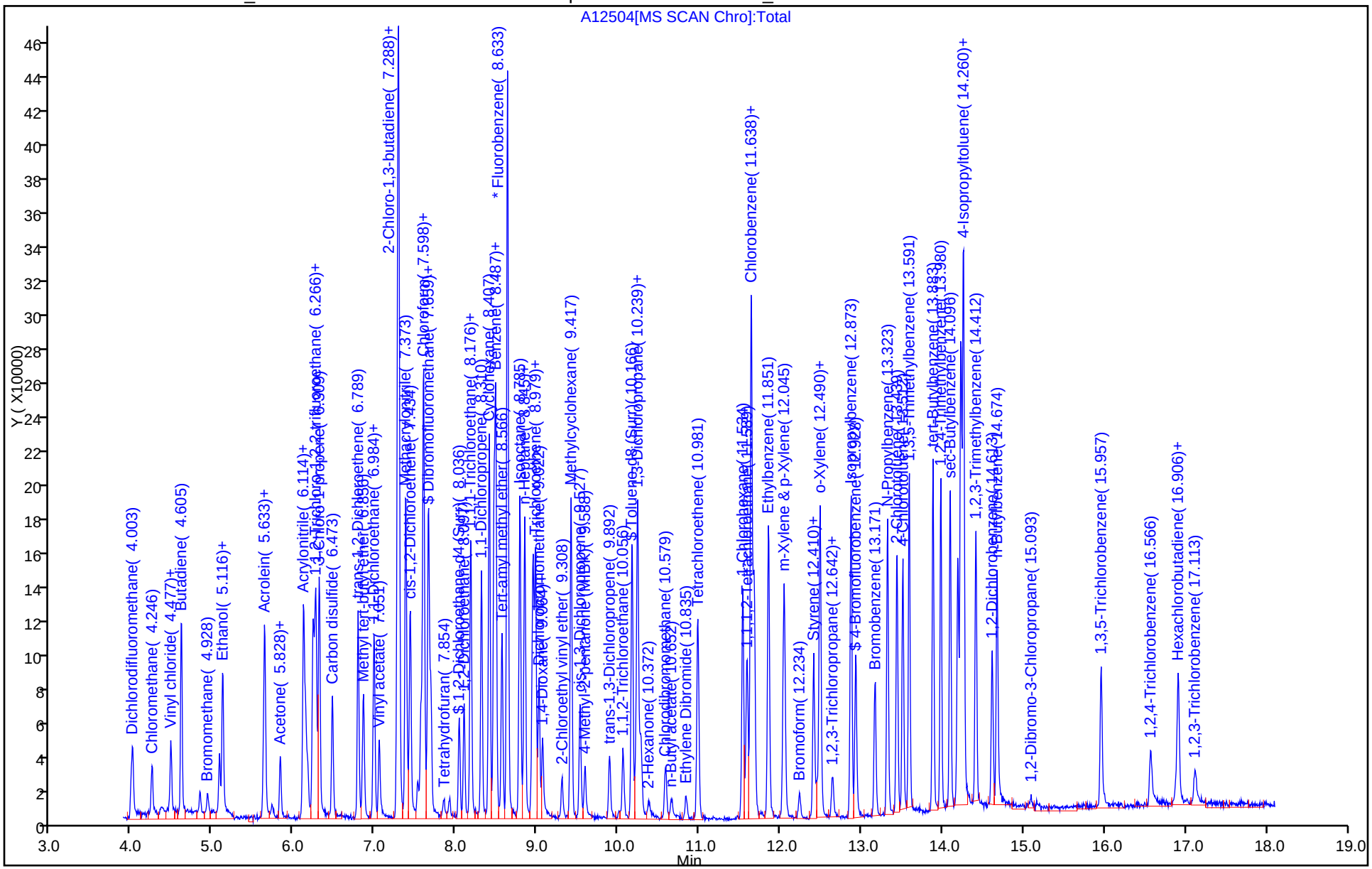
Reagents:

VOAIS50PPM_00171	Amount Added:	5.00	Units: uL
VOASTDPT2_00056	Amount Added:	2.00	Units: uL
VOASTDGASPT_00165	Amount Added:	2.00	Units: uL
EOxideStd_00071	Amount Added:	2.00	Units: uL

Report Date: 01-Aug-2016 09:49:43 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12504.d				
Injection Date:	04-May-2016 10:52:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12505.d
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 04-May-2016 11:16:30 ALS Bottle#: 2 Worklist Smp#: 6
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ICIS
Misc. Info.: 600-0011909-006
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub26

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 01-Aug-2016 09:49:47 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: shenw Date: 04-May-2016 11:39:21

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	262912	12.5	12.5	
2 Dichlorodifluoromethane	85	4.009	4.009	0.000	98	55855	10.0	10.6	
3 Chloromethane	50	4.246	4.246	0.000	99	59837	10.0	9.56	
6 Ethylene oxide	44	4.465	4.465	0.000	87	10132	100.0	75.8	
4 Vinyl chloride	62	4.477	4.477	0.000	96	67801	10.0	10.2	
5 Butadiene	39	4.605	4.605	0.000	89	89983	10.0	9.89	
7 Bromomethane	94	4.934	4.934	0.000	93	11971	10.0	9.42	
9 Chloroethane	64	5.080	5.080	0.000	91	37191	10.0	9.99	
8 Ethanol	45	5.080	5.080	0.000	32	6899	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	96	125621	10.0	9.85	
14 Acrolein	56	5.615	5.615	0.000	80	11108	50.0	45.6	
15 Acetonitrile	41	5.621	5.621	0.000	96	19010	100.0	84.1	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	99	151457	10.0	10.8	
17 Isopropyl alcohol	45	5.652	5.652	0.000	92	9476	100.0	93.2	
19 Ethyl ether	59	5.828	5.828	0.000	92	40315	10.0	9.82	
18 Acetone	43	5.828	5.828	0.000	38	13571	20.0	21.4	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	94	40315	100.0	98.2	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	85	47983	10.0	8.83	
23 Acrylonitrile	52	6.138	6.138	0.000	96	81247	100.0	104.9	
24 Iodomethane	142	6.169	6.169	0.000	88	45990	10.0	8.41	
25 Methylene Chloride	84	6.236	6.236	0.000	86	47034	10.0	10.4	
26 Methyl acetate	43	6.248	6.248	0.000	99	111980	50.0	49.7	
27 1,1,2-Trichloro-1,2,2-trif	151	6.272	6.272	0.000	90	69881	10.0	9.50	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	80	26187	10.0	9.41	
29 Carbon disulfide	76	6.473	6.473	0.000	94	145017	10.0	9.35	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	83	54888	10.0	9.21	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	88	89395	10.0	10.1	
32 Propionitrile	54	6.966	6.966	0.000	96	26737	100.0	102.7	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	161077	10.0	9.45	
34 Vinyl acetate	43	7.045	7.045	0.000	97	140564	20.0	22.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	89	237832	10.0	11.0	
36 Hexane	57	7.288	7.288	0.000	85	150386	10.0	10.9	
38 Isopropyl ether	45	7.288	7.288	0.000	93	318531	10.0	10.6	
37 2-Butanone (MEK)	72	7.300	7.300	0.000	78	5121	20.0	21.3	
39 Methacrylonitrile	66	7.379	7.379	0.000	94	23836	100.0	103.1	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	82	61183	10.0	9.46	
45 Chlorobromomethane	128	7.562	7.562	0.000	88	20227	10.0	9.26	
S 46 1,2-Dichloroethene, Total	96				0		20.0	18.7	
48 Chloroform	83	7.592	7.592	0.000	93	136634	10.0	9.77	
50 Isobutyl alcohol	43	7.598	7.598	0.000	36	51061	250.0	261.2	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	98	225378	10.0	10.2	
43 Ethyl acetate	43	7.598	7.598	0.000	37	50902	20.0	18.7	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	90	152436	10.0	9.54	
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	91	67246	10.0	9.38	
53 Tetrahydrofuran	42	7.848	7.848	0.000	83	11768	20.0	18.5	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	82419	10.0	9.19	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	97	106036	10.0	9.20	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	94	169239	10.0	9.52	
59 n-Butanol	56	8.176	8.176	0.000	23	6060	250.0	215.9	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	78	89672	10.0	10.3	
62 Cyclohexane	84	8.407	8.407	0.000	90	81573	10.0	10.6	
63 Carbon tetrachloride	119	8.468	8.468	0.000	96	178951	10.0	9.74	
64 Benzene	78	8.487	8.487	0.000	86	213618	10.0	10.0	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	79	90851	10.0	10.5	
68 Isooctane	57	8.785	8.785	0.000	97	282058	10.0	10.2	
69 Ethyl acrylate	55	8.839	8.839	0.000	95	71544	10.0	10.1	
70 n-Heptane	43	8.845	8.845	0.000	93	144550	10.0	10.8	
67 2-Nitropropane	43	8.845	8.845	0.000	91	144550	20.0	21.7	
71 Dibromomethane	93	8.931	8.931	0.000	87	21289	10.0	9.33	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	72	62960	10.0	9.76	
73 Trichloroethene	130	8.973	8.973	0.000	90	74835	10.0	9.16	
74 Dichlorobromomethane	83	9.022	9.022	0.000	93	80163	10.0	9.39	
75 Methyl methacrylate	41	9.064	9.064	0.000	84	61460	20.0	19.5	
76 1,4-Dioxane	58	9.071	9.071	0.000	28	2962	200.0	228.3	
78 Methylcyclohexane	83	9.417	9.417	0.000	87	84280	10.0	9.96	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.588	0.000	98	51024	20.0	21.1	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	91	88716	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	85	18840	20.0	18.4	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	77	60440	10.0	10.0	
88 trans-1,3-Dichloropropene	75	9.892	9.892	0.000	86	37123	10.0	9.23	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	82	19691	10.0	9.74	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	94	187376	10.0	9.78	
92 Ethyl methacrylate	69	10.214	10.214	0.000	80	19660	10.0	8.49	
93 Toluene	92	10.239	10.239	0.000	96	137036	10.0	10.1	
94 1,3-Dichloropropane	76	10.281	10.281	0.000	81	42287	10.0	10.3	
95 2-Hexanone	43	10.366	10.366	0.000	97	24410	20.0	18.7	
97 Chlorodibromomethane	129	10.585	10.585	0.000	90	35339	10.0	8.96	
98 n-Butyl acetate	43	10.652	10.652	0.000	95	28835	10.0	8.63	
99 Ethylene Dibromide	107	10.829	10.829	0.000	99	19638	10.0	10.4	
S 100 Xylenes, Total	106				0		20.0	21.0	
101 Tetrachloroethene	164	10.981	10.981	0.000	85	56305	10.0	9.40	
102 1-Chlorohexane	55	11.534	11.534	0.000	77	94911	10.0	10.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
103 1,1,1,2-Tetrachloroethane	131	11.583	11.583	0.000	85	55819	10.0	8.97	
104 Chlorobenzene	112	11.674	11.674	0.000	87	129190	10.0	9.25	
105 Ethylbenzene	106	11.851	11.851	0.000	97	78155	10.0	10.1	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	197717	10.0	10.4	
107 Styrene	104	12.410	12.410	0.000	90	101792	10.0	9.24	
108 Cyclohexanone	55	12.453	12.453	0.000	86	23421	500.0	453.7	M
109 o-Xylene	106	12.490	12.490	0.000	99	89239	10.0	10.7	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	95	69847	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	92	16462	10.0	10.4	
115 1,1,2,2-Tetrachloroethane	83	12.483	12.483	0.000	50	17313	10.0	10.7	
117 1,2,3-Trichloropropane	110	12.636	12.636	0.000	94	7296	10.0	11.0	
116 trans-1,4-Dichloro-2-buten	53	12.636	12.636	0.000	72	6138	10.0	9.01	
118 Isopropylbenzene	105	12.867	12.867	0.000	98	238959	10.0	10.4	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	87	60558	10.0	10.1	
120 Bromobenzene	156	13.165	13.165	0.000	88	45659	10.0	9.60	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	61580	10.0	10.2	
122 2-Chlorotoluene	126	13.439	13.439	0.000	93	52080	10.0	9.88	
123 4-Chlorotoluene	91	13.512	13.512	0.000	98	170605	10.0	10.5	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	93	207922	10.0	10.5	
128 tert-Butylbenzene	119	13.883	13.883	0.000	93	167468	10.0	10.2	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	201984	10.0	10.4	
131 sec-Butylbenzene	105	14.096	14.096	0.000	97	229056	10.0	10.2	
132 Benzyl chloride	91	14.181	14.181	0.000	96	35605	10.0	9.47	
133 1,3-Dichlorobenzene	146	14.187	14.187	0.000	96	98959	10.0	9.88	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	88	106691	10.0	9.36	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	224042	10.0	9.68	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	185621	10.0	10.2	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	93	77111	10.0	9.47	
139 n-Butylbenzene	91	14.667	14.667	0.000	97	166175	10.0	10.6	
140 1,2-Dibromo-3-Chloropropan	157	15.099	15.099	0.000	73	2983	10.0	9.83	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	93	61657	10.0	9.30	
142 1,2,4-Trichlorobenzene	180	16.566	16.566	0.000	92	33472	10.0	9.94	
143 Naphthalene	128	16.870	16.870	0.000	97	30284	10.0	9.49	
144 Hexachlorobutadiene	190	16.912	16.912	0.000	93	15054	10.0	9.42	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	93	21239	10.0	10.4	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

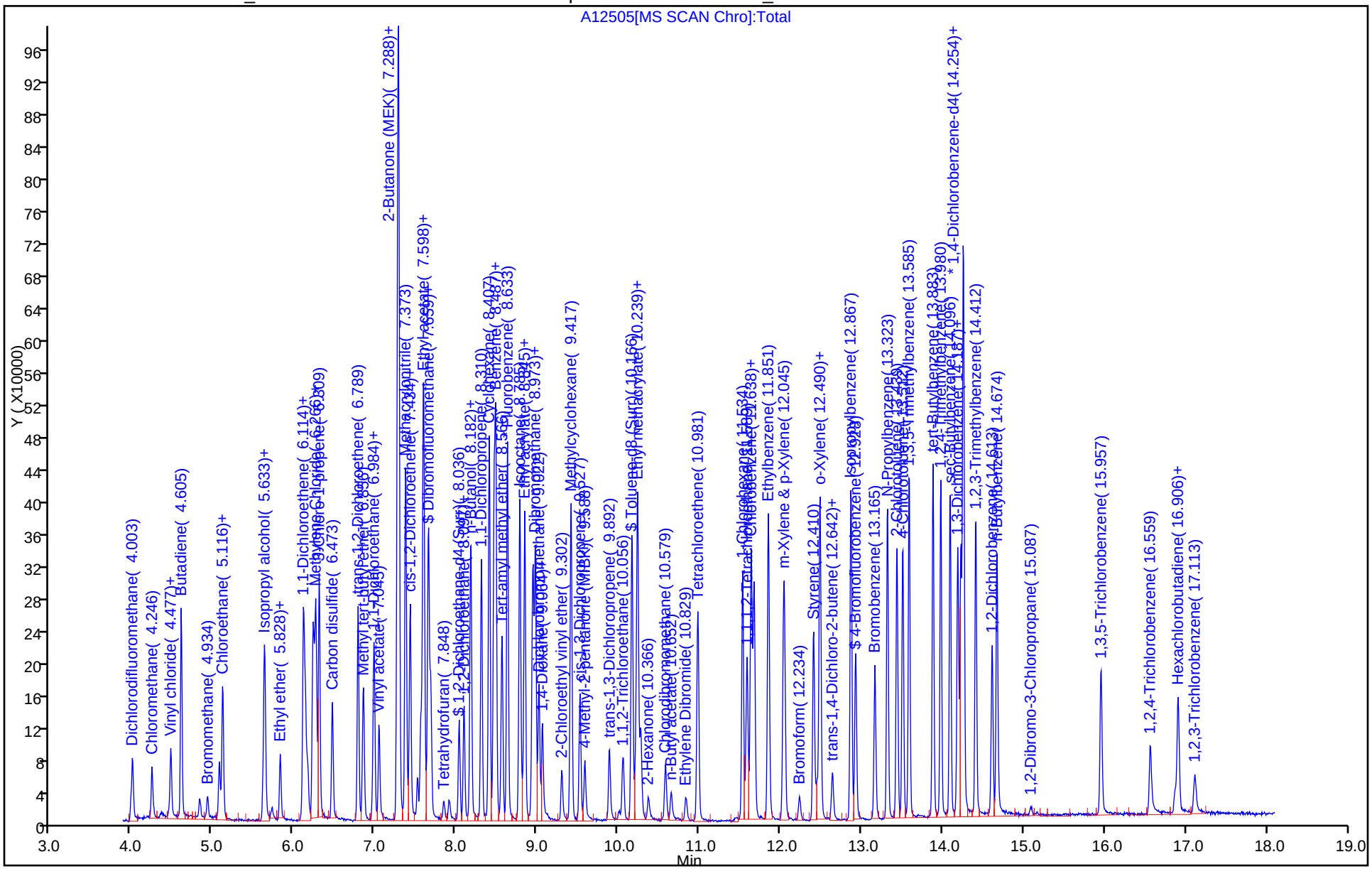
Reagents:

VOAIS50PPM_00171	Amount Added:	5.00	Units: uL
VOASTDPT2_00056	Amount Added:	4.00	Units: uL
VOASTDGASPT_00165	Amount Added:	4.00	Units: uL
EOxideStd_00071	Amount Added:	4.00	Units: uL

Report Date: 01-Aug-2016 09:49:51 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12505.d				
Injection Date:	04-May-2016 11:16:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	ICIS			Worklist Smp#:	6
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



Manual Integration/User Assign Peak Report

TestAmerica Houston

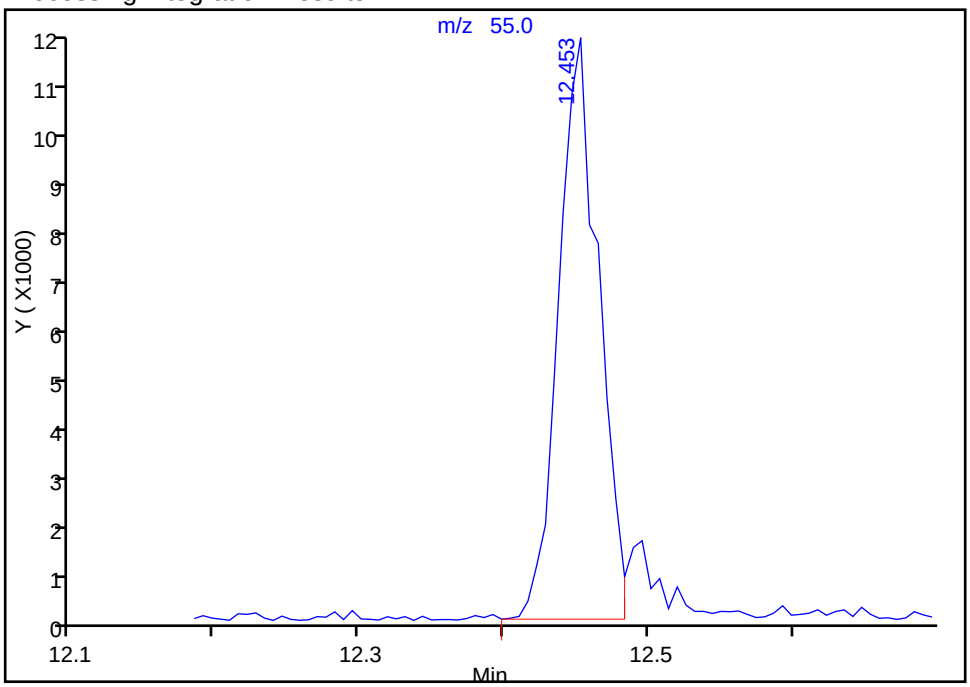
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12505.d				
Injection Date:	04-May-2016 11:16:30	Instrument ID:	CHVOAMS07		
Lims ID:	ICIS				
Client ID:					
Operator ID:	ws	ALS Bottle#:	2	Worklist Smp#:	6
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

108 Cyclohexanone, CAS: 108-94-1

Signal: 1

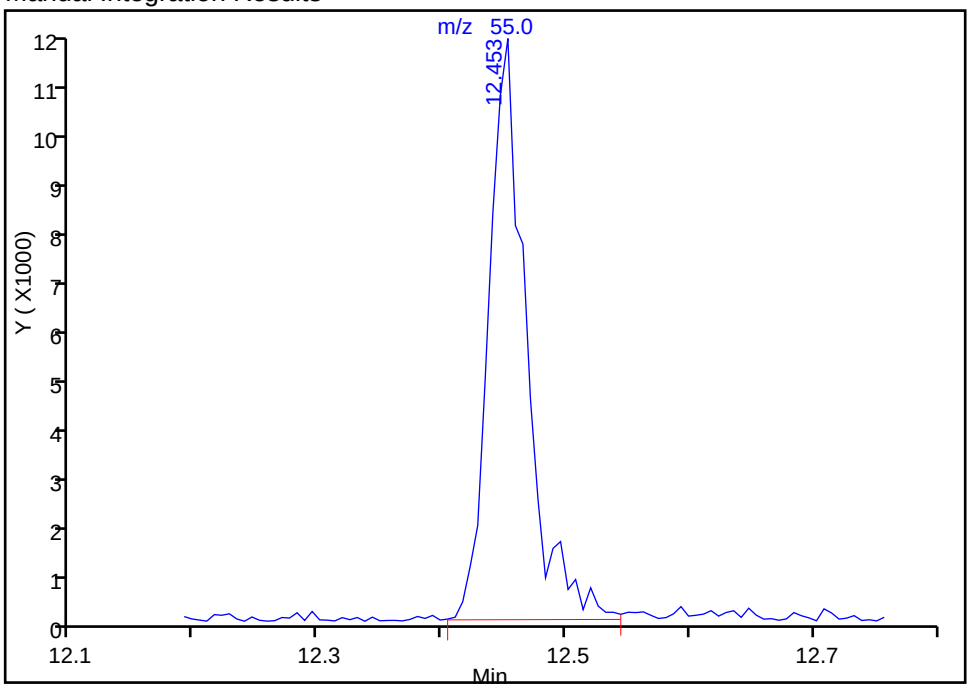
Processing Integration Results

RT: 12.45
Area: 21409
Amount: 501.9490
Amount Units: ug/l



Manual Integration Results

RT: 12.45
Area: 23421
Amount: 453.6667
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 12:14:41

Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12506.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 04-May-2016 11:40:30 ALS Bottle#: 3 Worklist Smp#: 7
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011909-007
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub26

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 01-Aug-2016 09:49:58 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: shenw Date: 04-May-2016 12:14:20

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	274838	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.009	-0.006	99	112996	20.0	20.4	
3 Chloromethane	50	4.246	4.246	0.000	99	123351	20.0	18.8	
6 Ethylene oxide	44	4.459	4.465	-0.006	89	22072	200.0	186.2	
4 Vinyl chloride	62	4.477	4.477	0.000	98	137456	20.0	19.8	
5 Butadiene	39	4.605	4.605	0.000	90	183354	20.0	19.3	
7 Bromomethane	94	4.928	4.934	-0.006	98	27753	20.0	20.9	
9 Chloroethane	64	5.080	5.080	0.000	91	70237	20.0	18.0	
8 Ethanol	45	5.080	5.080	0.000	34	14139	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	96	234242	20.0	17.6	
14 Acrolein	56	5.615	5.615	0.000	97	24851	100.0	99.5	
15 Acetonitrile	41	5.615	5.621	-0.006	95	49123	200.0	214.1	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	98	288724	20.0	19.8	
17 Isopropyl alcohol	45	5.652	5.652	0.000	96	20645	200.0	202.2	
18 Acetone	43	5.828	5.828	0.000	38	25074	40.0	39.1	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	94	86363	200.0	201.3	
19 Ethyl ether	59	5.828	5.828	0.000	93	86363	20.0	20.1	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	85	102774	20.0	18.1	
23 Acrylonitrile	52	6.138	6.138	0.000	97	164618	200.0	203.4	
24 Iodomethane	142	6.163	6.169	-0.006	89	115012	20.0	17.7	
25 Methylene Chloride	84	6.230	6.236	-0.006	86	92528	20.0	20.4	
26 Methyl acetate	43	6.242	6.248	-0.006	99	232636	100.0	98.7	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.272	-0.006	91	138328	20.0	18.0	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	82	54874	20.0	18.9	
29 Carbon disulfide	76	6.473	6.473	0.000	94	305427	20.0	18.8	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	80	118403	20.0	19.0	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	90	199953	20.0	21.7	
32 Propionitrile	54	6.966	6.966	0.000	97	58157	200.0	213.7	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	338512	20.0	19.0	
34 Vinyl acetate	43	7.045	7.045	0.000	97	309517	40.0	46.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	90	513895	20.0	22.8	
36 Hexane	57	7.282	7.288	-0.006	86	316612	20.0	21.9	
38 Isopropyl ether	45	7.288	7.288	0.000	94	647521	20.0	20.6	
37 2-Butanone (MEK)	72	7.294	7.300	-0.006	90	9774	40.0	38.8	
39 Methacrylonitrile	66	7.373	7.379	-0.006	94	51841	200.0	214.4	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	81	122343	20.0	18.1	
45 Chlorobromomethane	128	7.562	7.562	0.000	87	40727	20.0	17.8	
S 46 1,2-Dichloroethene, Total	96				0		40.0	37.1	
48 Chloroform	83	7.592	7.592	0.000	95	279929	20.0	19.1	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	98	499260	20.0	21.7	
43 Ethyl acetate	43	7.598	7.598	0.000	38	104056	40.0	36.5	
50 Isobutyl alcohol	43	7.598	7.598	0.000	36	102611	500.0	507.7	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	92	319545	20.0	19.1	
$ 52 Dibromofluoromethane	113	7.683	7.684	-0.001	92	138066	20.0	18.4	
53 Tetrahydrofuran	42	7.842	7.848	-0.006	84	25728	40.0	38.9	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	172582	20.0	18.4	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	97	236448	20.0	19.6	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	95	363371	20.0	19.6	
59 n-Butanol	56	8.176	8.176	0.000	46	16049	500.0	474.3	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	79	198988	20.0	21.8	
62 Cyclohexane	84	8.407	8.407	0.000	90	178301	20.0	22.1	
63 Carbon tetrachloride	119	8.468	8.468	0.000	97	375292	20.0	19.5	
64 Benzene	78	8.487	8.487	0.000	87	450222	20.0	20.2	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	80	192638	20.0	21.4	
68 Isooctane	57	8.785	8.785	0.000	97	600100	20.0	20.8	
69 Ethyl acrylate	55	8.815	8.839	-0.024	94	152213	20.0	20.1	
70 n-Heptane	43	8.845	8.845	0.000	93	304722	20.0	21.8	
67 2-Nitropropane	43	8.845	8.845	0.000	89	304722	40.0	43.7	
71 Dibromomethane	93	8.931	8.931	0.000	89	42420	20.0	17.8	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	73	131914	20.0	19.6	
73 Trichloroethene	130	8.979	8.973	0.006	91	162261	20.0	19.0	
74 Dichlorobromomethane	83	9.022	9.022	0.000	95	169734	20.0	19.0	
75 Methyl methacrylate	41	9.058	9.064	-0.006	84	141341	40.0	42.1	
76 1,4-Dioxane	58	9.077	9.071	0.006	26	5483	400.0	410.7	
78 Methylcyclohexane	83	9.417	9.417	0.000	89	182904	20.0	20.5	
79 4-Methyl-2-pentanone (MIBK	43	9.582	9.588	-0.006	99	111975	40.0	44.2	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	91	95455	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.296	9.302	-0.006	84	44305	40.0	39.4	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	77	134731	20.0	20.8	
88 trans-1,3-Dichloropropene	75	9.886	9.892	-0.006	89	87930	20.0	20.3	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	79	42306	20.0	19.8	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	422743	20.0	20.5	
92 Ethyl methacrylate	69	10.208	10.214	-0.006	83	53526	20.0	21.0	
93 Toluene	92	10.239	10.239	0.000	96	299956	20.0	20.5	
94 1,3-Dichloropropane	76	10.281	10.281	0.000	83	88649	20.0	20.0	
95 2-Hexanone	43	10.372	10.366	0.006	97	57337	40.0	39.8	
97 Chlorodibromomethane	129	10.579	10.585	-0.006	88	74699	20.0	17.6	
98 n-Butyl acetate	43	10.652	10.652	0.000	96	73642	20.0	18.7	
99 Ethylene Dibromide	107	10.829	10.829	0.000	98	42132	20.0	21.1	
S 100 Xylenes, Total	106				0		40.0	42.9	
101 Tetrachloroethene	164	10.981	10.981	0.000	87	114929	20.0	17.8	
102 1-Chlorohexane	55	11.534	11.534	0.000	77	211965	20.0	22.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
103 1,1,1,2-Tetrachloroethane	131	11.589	11.583	0.006	86	124211	20.0	18.6	
104 Chlorobenzene	112	11.674	11.674	0.000	87	273386	20.0	18.2	
105 Ethylbenzene	106	11.851	11.851	0.000	98	168363	20.0	20.2	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	444079	20.0	21.6	
107 Styrene	104	12.410	12.410	0.000	90	239826	20.0	19.9	
108 Cyclohexanone	55	12.447	12.453	-0.006	89	58135	1000.0	947.3	
109 o-Xylene	106	12.490	12.490	0.000	99	191878	20.0	21.3	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	95	81050	12.5	12.5	
114 Bromoform	173	12.240	12.234	0.006	95	33813	20.0	18.7	
115 1,1,2,2-Tetrachloroethane	83	12.490	12.483	0.007	50	37801	20.0	20.4	
117 1,2,3-Trichloropropane	110	12.636	12.636	0.000	95	15246	20.0	20.6	
116 trans-1,4-Dichloro-2-buten	53	12.629	12.636	-0.007	84	17707	20.0	22.4	
118 Isopropylbenzene	105	12.867	12.867	0.000	98	540064	20.0	20.4	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	85	138078	20.0	19.8	
120 Bromobenzene	156	13.165	13.165	0.000	84	102852	20.0	18.6	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	140617	20.0	20.1	
122 2-Chlorotoluene	126	13.439	13.439	0.000	92	119899	20.0	19.6	
123 4-Chlorotoluene	91	13.512	13.512	0.000	98	381586	20.0	20.1	
124 1,3,5-Trimethylbenzene	105	13.585	13.591	-0.006	94	472265	20.0	20.6	
128 tert-Butylbenzene	119	13.883	13.883	0.000	93	387143	20.0	20.3	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	462312	20.0	20.5	
131 sec-Butylbenzene	105	14.096	14.096	0.000	97	514870	20.0	19.7	
132 Benzyl chloride	91	14.181	14.181	0.000	97	87471	20.0	20.1	
133 1,3-Dichlorobenzene	146	14.187	14.187	0.000	95	230571	20.0	19.8	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	88	233533	20.0	17.7	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	512226	20.0	19.1	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	419271	20.0	19.8	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	94	175179	20.0	18.5	
139 n-Butylbenzene	91	14.674	14.667	0.007	96	399796	20.0	21.9	
140 1,2-Dibromo-3-Chloropropan	157	15.081	15.099	-0.018	70	6592	20.0	19.8	
141 1,3,5-Trichlorobenzene	180	15.951	15.957	-0.006	96	137534	20.0	17.9	
142 1,2,4-Trichlorobenzene	180	16.559	16.566	-0.007	92	79523	20.0	20.3	
143 Naphthalene	128	16.870	16.870	0.000	97	73327	20.0	19.8	
144 Hexachlorobutadiene	190	16.906	16.912	-0.006	96	36142	20.0	20.4	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	94	46349	20.0	20.2	
S 146 1,3-Dichloropropene, Total	1				0			41.1	
S 147 Trihalomethanes, Total	1				0			74.5	

QC Flag Legend

Processing Flags

NC - Not Calibrated

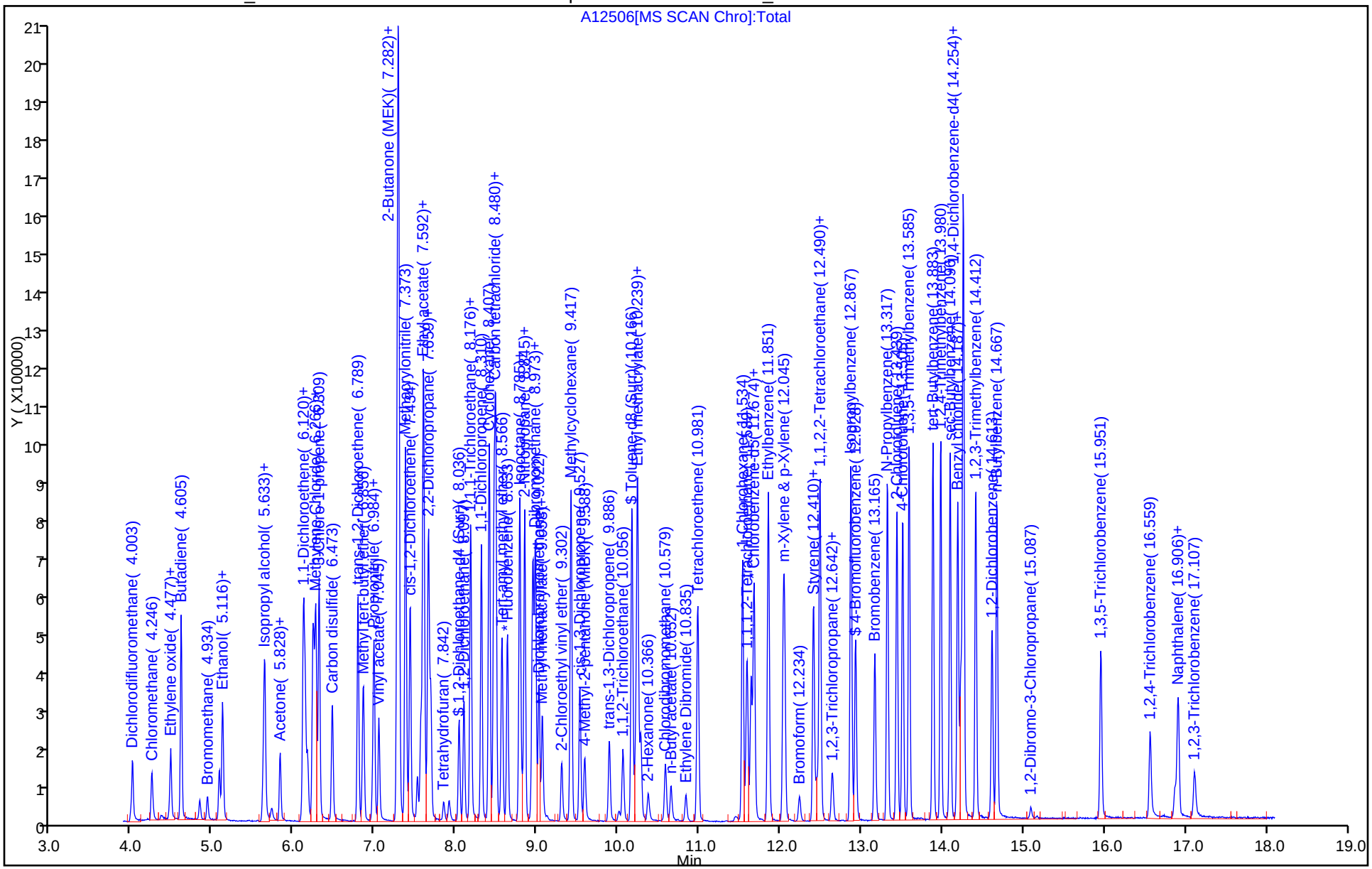
Reagents:

VOAIS50PPM_00171	Amount Added:	5.00	Units: uL
VOASTDPT2_00056	Amount Added:	8.00	Units: uL
VOASTDGASPT_00165	Amount Added:	8.00	Units: uL
EOxideStd_00071	Amount Added:	8.00	Units: uL

Report Date: 01-Aug-2016 09:50:01 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12506.d				
Injection Date:	04-May-2016 11:40:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d
Lims ID: ic
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 04-May-2016 12:04:30 ALS Bottle#: 4 Worklist Smp#: 8
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: IC
Misc. Info.: 600-0011909-008
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub26

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 01-Aug-2016 09:50:09 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: shenw Date: 04-May-2016 12:30:29

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	298402	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.009	-0.006	98	303582	50.0	50.5	
3 Chloromethane	50	4.246	4.246	0.000	99	326779	50.0	46.0	
6 Ethylene oxide	44	4.459	4.465	-0.006	88	60559	500.0	510.1	
4 Vinyl chloride	62	4.477	4.477	0.000	97	388617	50.0	51.6	
5 Butadiene	39	4.605	4.605	0.000	90	508222	50.0	49.2	
7 Bromomethane	94	4.934	4.934	0.000	98	90205	50.0	62.5	
9 Chloroethane	64	5.080	5.080	0.000	93	195203	50.0	46.2	
8 Ethanol	45	5.074	5.080	-0.006	33	34728	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	96	669148	50.0	46.2	
14 Acrolein	56	5.609	5.615	-0.006	98	69514	250.0	259.1	
15 Acetonitrile	41	5.615	5.621	-0.006	99	124047	500.0	503.5	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	100	768506	50.0	48.7	
17 Isopropyl alcohol	45	5.652	5.652	0.000	98	55819	500.0	514.6	
19 Ethyl ether	59	5.828	5.828	0.000	94	228067	50.0	49.0	
18 Acetone	43	5.822	5.828	-0.006	36	65957	100.0	97.1	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	95	228067	500.0	489.7	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	86	277067	50.0	44.9	
23 Acrylonitrile	52	6.138	6.138	0.000	97	436552	500.0	496.7	
24 Iodomethane	142	6.169	6.169	0.000	89	385385	50.0	51.2	
25 Methylene Chloride	84	6.230	6.236	-0.006	86	236618	50.0	49.2	
26 Methyl acetate	43	6.242	6.248	-0.006	99	602030	250.0	235.3	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.272	-0.006	91	368547	50.0	44.1	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	81	136575	50.0	43.2	
29 Carbon disulfide	76	6.473	6.473	0.000	95	820137	50.0	46.6	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	84	332839	50.0	49.2	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	91	530366	50.0	53.0	
32 Propionitrile	54	6.966	6.966	0.000	97	155976	500.0	527.9	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	98	868906	50.0	44.9	
34 Vinyl acetate	43	7.045	7.045	0.000	97	837646	100.0	115.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	89	1388316	50.0	56.7	
36 Hexane	57	7.288	7.288	0.000	89	853536	50.0	54.3	
38 Isopropyl ether	45	7.294	7.288	0.006	96	1653540	50.0	48.4	
37 2-Butanone (MEK)	72	7.294	7.300	-0.006	88	26997	100.0	98.7	
39 Methacrylonitrile	66	7.373	7.379	-0.006	95	136634	500.0	520.5	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	60	331227	50.0	45.1	
45 Chlorobromomethane	128	7.562	7.562	0.000	88	103196	50.0	41.6	
S 46 1,2-Dichloroethene, Total	96				0		100.0	94.3	
48 Chloroform	83	7.592	7.592	0.000	92	725135	50.0	45.7	
50 Isobutyl alcohol	43	7.598	7.598	0.000	36	268513	1250.0	1232.1	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	99	1330420	50.0	53.2	
43 Ethyl acetate	43	7.598	7.598	0.000	87	268513	100.0	86.7	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	91	830649	50.0	45.8	
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	92	355666	50.0	43.7	
53 Tetrahydrofuran	42	7.842	7.848	-0.006	87	74633	100.0	104.2	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	455189	50.0	44.7	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	97	594446	50.0	45.5	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	95	945371	50.0	46.9	
59 n-Butanol	56	8.170	8.176	-0.006	32	49760	1250.0	1266.5	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	81	531145	50.0	53.5	
62 Cyclohexane	84	8.407	8.407	0.000	90	496243	50.0	56.8	
63 Carbon tetrachloride	119	8.468	8.468	0.000	97	978313	50.0	46.9	
64 Benzene	78	8.487	8.487	0.000	87	1185750	50.0	48.9	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	81	536588	50.0	54.9	
68 Isooctane	57	8.785	8.785	0.000	98	1635020	50.0	52.1	
69 Ethyl acrylate	55	8.815	8.839	-0.024	96	414830	50.0	50.1	
70 n-Heptane	43	8.845	8.845	0.000	93	808358	50.0	53.4	
67 2-Nitropropane	43	8.845	8.845	0.000	88	808358	100.0	106.7	
71 Dibromomethane	93	8.931	8.931	0.000	90	111813	50.0	43.2	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	75	343521	50.0	46.9	
73 Trichloroethene	130	8.979	8.973	0.006	89	425034	50.0	45.8	
74 Dichlorobromomethane	83	9.022	9.022	0.000	95	435781	50.0	45.0	
75 Methyl methacrylate	41	9.058	9.064	-0.006	85	366161	100.0	99.5	
76 1,4-Dioxane	58	9.083	9.071	0.012	76	13963	1000.0	974.5	
78 Methylcyclohexane	83	9.417	9.417	0.000	89	506825	50.0	52.0	
79 4-Methyl-2-pentanone (MIBK	43	9.582	9.588	-0.006	98	297852	100.0	108.4	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	90	102419	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	84	127953	100.0	104.8	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	79	350576	50.0	50.3	
88 trans-1,3-Dichloropropene	75	9.886	9.892	-0.006	91	240761	50.0	51.9	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	83	114150	50.0	50.5	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	1105033	50.0	50.0	
92 Ethyl methacrylate	69	10.208	10.214	-0.006	83	141750	50.0	51.2	
93 Toluene	92	10.239	10.239	0.000	96	762192	50.0	48.6	
94 1,3-Dichloropropane	76	10.275	10.281	-0.006	89	211336	50.0	44.4	
95 2-Hexanone	43	10.366	10.366	0.000	97	162809	100.0	104.1	
97 Chlorodibromomethane	129	10.579	10.585	-0.006	90	199890	50.0	43.9	
98 n-Butyl acetate	43	10.646	10.652	-0.006	96	223860	50.0	50.8	
99 Ethylene Dibromide	107	10.835	10.829	0.006	97	108407	50.0	51.1	
S 100 Xylenes, Total	106				0		100.0	104.2	
101 Tetrachloroethene	164	10.981	10.981	0.000	92	316036	50.0	45.7	
102 1-Chlorohexane	55	11.528	11.534	-0.006	78	557704	50.0	55.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
103 1,1,1,2-Tetrachloroethane	131	11.589	11.583	0.006	87	309708	50.0	43.1	
104 Chlorobenzene	112	11.674	11.674	0.000	87	696202	50.0	43.2	
105 Ethylbenzene	106	11.851	11.851	0.000	98	439209	50.0	49.2	
106 m-Xylene & p-Xylene	91	12.039	12.045	-0.006	0	1157385	50.0	52.5	
107 Styrene	104	12.404	12.410	-0.006	91	677454	50.0	51.9	
108 Cyclohexanone	55	12.447	12.453	-0.006	90	175744	2500.0	2530.9	
109 o-Xylene	106	12.490	12.490	0.000	99	500103	50.0	51.7	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	93	92222	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	94	93699	50.0	46.2	
115 1,1,2,2-Tetrachloroethane	83	12.483	12.483	0.000	84	100054	50.0	48.0	
117 1,2,3-Trichloropropane	110	12.642	12.636	0.006	94	40599	50.0	49.6	
116 trans-1,4-Dichloro-2-buten	53	12.629	12.636	-0.007	81	51086	50.0	56.8	
118 Isopropylbenzene	105	12.867	12.867	0.000	98	1436048	50.0	47.6	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	87	367111	50.0	46.2	
120 Bromobenzene	156	13.165	13.165	0.000	85	290587	50.0	46.3	
121 N-Propylbenzene	120	13.317	13.323	-0.006	98	390797	50.0	49.1	
122 2-Chlorotoluene	126	13.439	13.439	0.000	93	325887	50.0	46.8	
123 4-Chlorotoluene	91	13.505	13.512	-0.007	98	1062971	50.0	49.3	
124 1,3,5-Trimethylbenzene	105	13.585	13.591	-0.006	94	1288535	50.0	49.4	
128 tert-Butylbenzene	119	13.883	13.883	0.000	93	1084653	50.0	50.1	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	99	1296358	50.0	50.4	
131 sec-Butylbenzene	105	14.096	14.096	0.000	97	1462956	50.0	49.3	
132 Benzyl chloride	91	14.181	14.181	0.000	97	260948	50.0	52.6	
133 1,3-Dichlorobenzene	146	14.187	14.187	0.000	95	644135	50.0	48.7	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	90	647412	50.0	43.0	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	97	1430518	50.0	46.8	
136 1,2,3-Trimethylbenzene	105	14.406	14.412	-0.006	99	1183722	50.0	49.1	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	96	491190	50.0	45.7	
139 n-Butylbenzene	91	14.667	14.667	0.000	97	1137127	50.0	54.8	
140 1,2-Dibromo-3-Chloropropan	157	15.093	15.099	-0.006	76	18521	50.0	50.8	
141 1,3,5-Trichlorobenzene	180	15.951	15.957	-0.006	96	400544	50.0	45.7	
142 1,2,4-Trichlorobenzene	180	16.559	16.566	-0.007	94	229281	50.0	51.6	
143 Naphthalene	128	16.864	16.870	-0.006	98	219900	50.0	52.1	
144 Hexachlorobutadiene	190	16.906	16.912	-0.006	96	96000	50.0	48.9	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	93	128698	50.0	50.2	
S 146 1,3-Dichloropropene, Total	1				0			102.2	
S 147 Trihalomethanes, Total	1				0			180.7	

QC Flag Legend

Processing Flags

NC - Not Calibrated

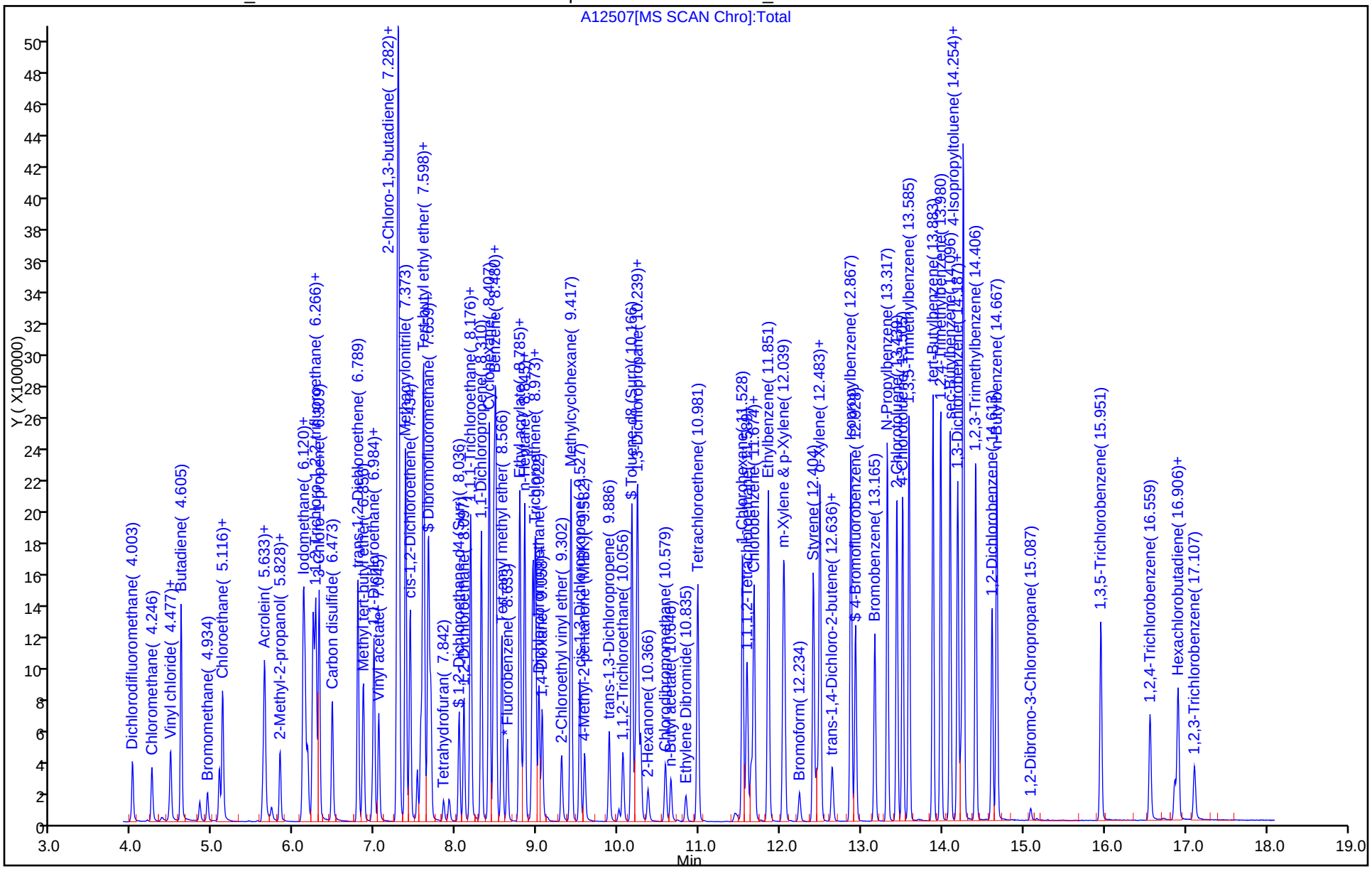
Reagents:

VOAIS50PPM_00171	Amount Added: 5.00	Units: uL
VOASTDPT2_00056	Amount Added: 20.00	Units: uL
VOASTDGASPT_00165	Amount Added: 20.00	Units: uL
EOxideStd_00071	Amount Added: 20.00	Units: uL

Report Date: 01-Aug-2016 09:50:12 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d				
Injection Date:	04-May-2016 12:04:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	ic			Worklist Smp#:	8
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCVIS 600-187555/2 Calibration Date: 05/01/2016 09:28

Instrument ID: CHVOAMS01 Calib Start Date: 01/22/2016 11:43

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 01/22/2016 16:06

Lab File ID: C12101.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2063	0.2894		14.0	10.0	40.3*	35.0
Chloromethane	Ave	0.2670	0.2640	0.1000	9.89	10.0	-1.1	35.0
Vinyl chloride	Ave	0.1865	0.1906		10.2	10.0	2.2	20.0
Butadiene	Ave	0.1746	0.1852		10.6	10.0	6.1	35.0
Bromomethane	Lin1		0.2435		12.4	10.0	24.4	35.0
Chloroethane	Ave	0.2099	0.1327		6.32	10.0	-36.8*	35.0
Dichlorofluoromethane	Ave	0.5170	0.4221		8.16	10.0	-18.4	35.0
Acrolein	Ave	0.0159	0.0117		36.7	50.0	-26.5	50.0
Acetonitrile	Lin1		0.0139		85.3	100	-14.7	50.0
Trichlorofluoromethane	Ave	0.4038	0.4696		11.6	10.0	16.3	35.0
Isopropyl alcohol	Lin2		0.0056		83.7	100	-16.3	50.0
Acetone	Lin1		0.0370		22.8	20.0	14.2	35.0
Ethyl ether	Ave	0.1660	0.1194		7.19	10.0	-28.1	35.0
1,1-Dichloroethene	Ave	0.2722	0.2422		8.90	10.0	-11.0	20.0
t-Butanol	Ave	0.0117	0.0102		87.0	100	-13.0	35.0
Acrylonitrile	Ave	0.0350	0.0279		79.6	100	-20.4	50.0
Iodomethane	Ave	0.3787	0.6963		18.4	10.0	83.9*	35.0
Methylene Chloride	Lin1		0.2408		6.75	10.0	-32.5	50.0
Methyl acetate	Ave	0.0995	0.0826		41.5	50.0	-17.0	35.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2124	0.1590		7.48	10.0	-25.2	35.0
3-Chloro-1-propene	Ave	0.1648	0.1202		7.29	10.0	-27.1	35.0
Carbon disulfide	Ave	0.9253	0.7063		7.63	10.0	-23.7	35.0
trans-1,2-Dichloroethene	Ave	0.3045	0.2407		7.91	10.0	-20.9	35.0
Methyl tert-butyl ether	Ave	0.5673	0.4339		7.65	10.0	-23.5	35.0
Propionitrile	Ave	0.0176	0.0140		79.7	100	-20.3	35.0
1,1-Dichloroethane	Ave	0.5302	0.4576	0.1000	8.63	10.0	-13.7	35.0
Vinyl acetate	Ave	0.2913	0.2395		16.4	20.0	-17.8	50.0
2-Chloro-1,3-butadiene	Ave	0.4496	0.4267		9.49	10.0	-5.1	35.0
Hexane	Ave	0.4265	0.3599		8.44	10.0	-15.6	35.0
Isopropyl ether	Ave	0.8355	0.7640		9.14	10.0	-8.6	35.0
2-Butanone (MEK)	Ave	0.0154	0.0132		17.1	20.0	-14.5	50.0
Methacrylonitrile	Ave	0.0215	0.0155		72.2	100	-27.8	35.0
cis-1,2-Dichloroethene	Ave	0.3387	0.2759		8.15	10.0	-18.5	35.0
Chlorobromomethane	Ave	0.1230	0.0880		7.16	10.0	-28.4	35.0
Chloroform	Ave	0.5045	0.4672		9.26	10.0	-7.4	20.0
Tert-butyl ethyl ether	Ave	0.7610	0.6436		8.46	10.0	-15.4	35.0
Isobutyl alcohol	Ave	0.0079	0.0046		146	250	-41.5	50.0
2,2-Dichloropropane	Ave	0.4650	0.4379		9.42	10.0	-5.8	35.0
Tetrahydrofuran	Lin2		0.0266		14.9	20.0	-25.6	35.0
1,2-Dichloroethane	Ave	0.2661	0.2567		9.65	10.0	-3.5	35.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCVIS 600-187555/2 Calibration Date: 05/01/2016 09:28

Instrument ID: CHVOAMS01 Calib Start Date: 01/22/2016 11:43

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 01/22/2016 16:06

Lab File ID: C12101.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1,1-Trichloroethane	Ave	0.4460	0.4255		9.54	10.0	-4.6	35.0
1,1-Dichloropropene	Ave	0.4388	0.3905		8.90	10.0	-11.0	35.0
Cyclohexane	Ave	0.5066	0.3865		7.63	10.0	-23.7	35.0
Carbon tetrachloride	Ave	0.3606	0.3356		9.31	10.0	-6.9	35.0
Benzene	Ave	1.294	1.040		8.04	10.0	-19.6	35.0
Tert-amyl methyl ether	Ave	0.6914	0.5233		7.57	10.0	-24.3	35.0
Isooctane	Ave	1.038	0.8588		8.28	10.0	-17.2	35.0
n-Heptane	Ave	0.4053	0.3759		9.28	10.0	-7.3	35.0
Dibromomethane	Ave	0.1280	0.1044		8.16	10.0	-18.5	35.0
1,2-Dichloropropane	Ave	0.2964	0.2847		9.60	10.0	-4.0	20.0
2-Nitropropane	Ave	0.0421	0.0309		14.7	20.0	-26.7	35.0
Trichloroethene	Ave	0.3363	0.2731		8.12	10.0	-18.8	35.0
Bromodichloromethane	Ave	0.3789	0.3530		9.32	10.0	-6.8	35.0
1,4-Dioxane	Ave	0.0010	0.0009		184	200	-8.1	50.0
2-Chloroethyl vinyl ether	Lin2		0.0400		4.73	20.0	-76.3*	35.0
Methylcyclohexane	Ave	0.5932	0.4622		7.79	10.0	-22.1	35.0
cis-1,3-Dichloropropene	Ave	0.8895	0.7370		8.29	10.0	-17.1	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1282	0.1071		16.7	20.0	-16.5	50.0
trans-1,3-Dichloropropene	Ave	0.6891	0.5641		8.19	10.0	-18.1	35.0
1,1,2-Trichloroethane	Ave	0.3699	0.3112		8.41	10.0	-15.9	35.0
Ethyl methacrylate	Ave	0.4582	0.3653		7.97	10.0	-20.3	50.0
Toluene	Ave	1.612	1.452		9.01	10.0	-9.9	20.0
1,3-Dichloropropane	Ave	0.6798	0.6041		8.89	10.0	-11.1	35.0
2-Hexanone	Ave	0.1757	0.1474		16.8	20.0	-16.1	50.0
Dibromochloromethane	Ave	0.4405	0.3775		8.57	10.0	-14.3	35.0
1,2-Dibromoethane	Ave	0.3559	0.2990		8.40	10.0	-16.0	35.0
Tetrachloroethene	Ave	0.4860	0.4311		8.87	10.0	-11.3	35.0
1-Chlorohexane	Ave	0.6483	0.6198		9.56	10.0	-4.4	35.0
1,1,1,2-Tetrachloroethane	Ave	0.5743	0.4737		8.25	10.0	-17.5	35.0
Chlorobenzene	Ave	1.897	1.616	0.3000	8.52	10.0	-14.8	35.0
Ethylbenzene	Ave	1.034	0.8956		8.67	10.0	-13.4	20.0
m-Xylene & p-Xylene	Ave	2.551	2.351		9.22	10.0	-7.8	35.0
Bromoform	Ave	0.2092	0.2300	0.1000	11.0	10.0	9.9	35.0
Styrene	Ave	2.075	1.669		8.05	10.0	-19.5	35.0
o-Xylene	Ave	1.303	1.078		8.28	10.0	-17.2	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4332	0.3051	0.3000	7.04	10.0	-29.6	35.0
trans-1,4-Dichloro-2-butene	Ave	0.0855	0.0702		8.22	10.0	-17.9	50.0
1,2,3-Trichloropropane	Ave	0.1132	0.1294		11.4	10.0	14.3	35.0
Isopropylbenzene	Ave	3.113	3.857		12.4	10.0	23.9	35.0
Bromobenzene	Ave	0.7125	0.8173		11.5	10.0	14.7	35.0
N-Propylbenzene	Ave	0.9306	1.059		11.4	10.0	13.8	35.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCVIS 600-187555/2 Calibration Date: 05/01/2016 09:28

Instrument ID: CHVOAMS01 Calib Start Date: 01/22/2016 11:43

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 01/22/2016 16:06

Lab File ID: C12101.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chlorotoluene	Ave	0.8053	0.9036		11.2	10.0	12.2	35.0
4-Chlorotoluene	Ave	2.468	3.066		12.4	10.0	24.2	35.0
1,3,5-Trimethylbenzene	Ave	2.811	3.140		11.2	10.0	11.7	35.0
tert-Butylbenzene	Ave	2.373	2.446		10.3	10.0	3.1	35.0
1,2,4-Trimethylbenzene	Ave	2.932	3.230		11.0	10.0	10.2	35.0
sec-Butylbenzene	Ave	3.585	3.888		10.8	10.0	8.4	35.0
Benzyl chloride	Ave	0.9482	0.6374		6.72	10.0	-32.8	35.0
1,3-Dichlorobenzene	Ave	1.460	1.531		10.5	10.0	4.9	35.0
1,4-Dichlorobenzene	Ave	1.444	1.619		11.2	10.0	12.1	35.0
4-Isopropyltoluene	Ave	3.086	3.238		10.5	10.0	4.9	35.0
1,2,3-Trimethylbenzene	Ave	3.162	3.062		9.69	10.0	-3.2	35.0
1,2-Dichlorobenzene	Ave	1.245	1.215		9.76	10.0	-2.4	35.0
n-Butylbenzene	Ave	2.876	3.141		10.9	10.0	9.2	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.0626	0.0365		5.83	10.0	-41.7*	35.0
1,3,5-Trichlorobenzene	Ave	1.049	0.7237		6.90	10.0	-31.0	35.0
1,2,4-Trichlorobenzene	Ave	0.6177	0.3175		5.14	10.0	-48.6*	35.0
Naphthalene	Ave	0.8353	0.3045		3.65	10.0	-63.5*	35.0
Hexachlorobutadiene	Ave	0.1643	0.0908		5.53	10.0	-44.7*	35.0
1,2,3-Trichlorobenzene	Ave	0.3387	0.1014		2.99	10.0	-70.1*	35.0
Dibromofluoromethane	Ave	0.2804	0.2384		8.50	10.0	-15.0	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2351	0.2293		9.76	10.0	-2.5	35.0
Toluene-d8 (Surr)	Ave	2.386	2.063		8.65	10.0	-13.5	35.0
4-Bromofluorobenzene	Lin2		1.185		12.5	10.0	25.4	35.0

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12101.D
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 01-May-2016 09:28:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 600-0011852-002
Operator ID: ws Instrument ID: CHVOAMS01
Sublist: chrom-8260W20_1*sub34

Method: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 01-May-2016 13:06:18 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: shenw Date: 01-May-2016 10:27:00

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.414	8.414	0.000	98	313014	12.5	12.5	
2 Dichlorodifluoromethane	85	3.901	3.901	0.000	100	72471	10.0	14.0	
3 Chloromethane	50	4.131	4.131	0.000	100	66118	10.0	9.89	
4 Vinyl chloride	62	4.351	4.351	0.000	99	47732	10.0	10.2	
5 Butadiene	39	4.476	4.476	0.000	92	46372	10.0	10.6	
6 Bromomethane	94	4.790	4.790	0.000	92	60968	10.0	12.4	
9 Chloroethane	64	4.931	4.931	0.000	100	33218	10.0	6.32	
11 Dichlorofluoromethane	67	4.973	4.973	0.000	98	105688	10.0	8.16	
10 Ethanol	45		5.080				ND	ND	
14 Acrolein	56	5.459	5.459	0.000	99	14598	50.0	36.7	
15 Acetonitrile	41	5.470	5.470	0.000	98	34844	100.0	85.3	
16 Trichlorofluoromethane	101	5.475	5.475	0.000	100	117601	10.0	11.6	
17 Isopropyl alcohol	45	5.506	5.506	0.000	97	14101	100.0	83.7	
18 Acetone	43	5.569	5.569	0.000	99	18514	20.0	22.8	
19 Ethyl ether	59	5.663	5.663	0.000	92	29889	10.0	7.19	
22 1,1-Dichloroethene	96	5.940	5.940	0.000	96	60647	10.0	8.90	
21 2-Methyl-2-propanol	59	5.940	5.940	0.000	92	25448	100.0	87.0	
23 Acrylonitrile	52	5.972	5.972	0.000	98	69767	100.0	79.6	
24 Iodomethane	142	5.993	5.993	0.000	98	174364	10.0	18.4	
25 Methylene Chloride	84	6.056	6.056	0.000	94	60294	10.0	6.75	
26 Methyl acetate	43	6.076	6.076	0.000	98	103400	50.0	41.5	
27 1,1,2-Trichloro-1,2,2-trif	151	6.087	6.087	0.000	95	39806	10.0	7.48	
28 3-Chloro-1-propene	76	6.134	6.134	0.000	91	30101	10.0	7.29	
29 Carbon disulfide	76	6.286	6.286	0.000	99	176853	10.0	7.63	
30 trans-1,2-Dichloroethene	96	6.599	6.599	0.000	97	60268	10.0	7.91	
31 Methyl tert-butyl ether	73	6.667	6.667	0.000	95	108653	10.0	7.65	
32 Propionitrile	54	6.788	6.788	0.000	98	35061	100.0	79.7	
33 1,1-Dichloroethane	63	6.793	6.793	0.000	97	114593	10.0	8.63	
34 Vinyl acetate	43	6.861	6.861	0.000	97	119930	20.0	16.4	
36 2-Chloro-1,3-butadiene	53	7.075	7.075	0.000	93	106838	10.0	9.49	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 Hexane	57	7.086	7.086	0.000	91	90128	10.0	8.44	
38 Isopropyl ether	45	7.096	7.096	0.000	94	191314	10.0	9.14	
39 2-Butanone (MEK)	72	7.107	7.107	0.000	92	6594	20.0	17.1	
40 Methacrylonitrile	66	7.180	7.180	0.000	92	38900	100.0	72.2	
41 cis-1,2-Dichloroethene	96	7.232	7.232	0.000	83	69088	10.0	8.15	
44 Chlorobromomethane	128	7.368	7.368	0.000	96	22045	10.0	7.16	
45 Chloroform	83	7.389	7.389	0.000	94	116993	10.0	9.26	
46 Tert-butyl ethyl ether	59	7.400	7.400	0.000	96	161175	10.0	8.46	
48 Isobutyl alcohol	43	7.431	7.431	0.000	88	28918	250.0	146.1	
49 2,2-Dichloropropane	77	7.452	7.452	0.000	88	109648	10.0	9.42	
$ 51 Dibromofluoromethane	113	7.483	7.483	0.000	92	59707	10.0	8.50	
S 47 1,2-Dichloroethene, Total	96				0		20.0	16.1	
53 Tetrahydrofuran	42	7.645	7.645	0.000	87	13318	20.0	14.9	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.829	7.829	0.000	0	57416	10.0	9.75	
57 1,2-Dichloroethane	62	7.886	7.886	0.000	98	64277	10.0	9.65	
58 1,1,1-Trichloroethane	97	7.965	7.965	0.000	98	106545	10.0	9.54	
59 n-Butanol	56	7.985	7.985	0.000	90	15272	250.0	164.2	
61 1,1-Dichloropropene	75	8.095	8.095	0.000	96	97787	10.0	8.90	
62 Cyclohexane	84	8.189	8.189	0.000	90	96783	10.0	7.63	
63 Carbon tetrachloride	119	8.247	8.247	0.000	98	84035	10.0	9.31	
64 Benzene	78	8.273	8.273	0.000	96	260451	10.0	8.04	
66 Tert-amyl methyl ether	73	8.352	8.352	0.000	99	131046	10.0	7.57	
67 Isooctane	57	8.561	8.561	0.000	97	215049	10.0	8.28	
69 n-Heptane	43	8.618	8.618	0.000	91	94129	10.0	9.27	
70 Dibromomethane	93	8.707	8.707	0.000	88	26144	10.0	8.15	
71 1,2-Dichloropropane	63	8.718	8.718	0.000	92	71293	10.0	9.60	
72 2-Nitropropane	43	8.728	8.728	0.000	91	15459	20.0	14.7	
73 Trichloroethene	130	8.749	8.749	0.000	96	68376	10.0	8.12	
74 Dichlorobromomethane	83	8.791	8.791	0.000	99	88395	10.0	9.32	
76 1,4-Dioxane	58	8.859	8.859	0.000	95	4400	200.0	183.9	
78 Methylcyclohexane	83	9.173	9.173	0.000	90	115737	10.0	7.79	
79 4-Methyl-2-pentanone (MIBK	43	9.345	9.345	0.000	96	53623	20.0	16.7	
* 80 Chlorobenzene-d5	82	11.354	11.354	0.000	88	155892	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.073	9.073	0.000	91	9983	20.0	4.73	
85 cis-1,3-Dichloropropene	75	9.283	9.283	0.000	95	91914	10.0	8.29	
88 trans-1,3-Dichloropropene	75	9.638	9.638	0.000	94	70347	10.0	8.19	
89 1,1,2-Trichloroethane	97	9.800	9.800	0.000	93	38812	10.0	8.41	
$ 90 Toluene-d8 (Surr)	98	9.900	9.900	0.000	93	257281	10.0	8.65	
92 Ethyl methacrylate	69	9.952	9.952	0.000	88	45559	10.0	7.97	
93 Toluene	92	9.968	9.968	0.000	99	181067	10.0	9.01	
94 1,3-Dichloropropane	76	10.010	10.010	0.000	93	75339	10.0	8.89	
95 2-Hexanone	43	10.104	10.104	0.000	97	36768	20.0	16.8	
97 Chlorodibromomethane	129	10.302	10.302	0.000	90	47082	10.0	8.57	
99 Ethylene Dibromide	107	10.553	10.553	0.000	98	37294	10.0	8.40	
101 Tetrachloroethene	164	10.695	10.695	0.000	94	53767	10.0	8.87	
S 100 Xylenes, Total	106				0		20.0	17.5	
102 1-Chlorohexane	55	11.249	11.249	0.000	98	77297	10.0	9.56	
103 1,1,1,2-Tetrachloroethane	131	11.301	11.301	0.000	90	59082	10.0	8.25	
104 Chlorobenzene	112	11.390	11.390	0.000	93	201534	10.0	8.52	
105 Ethylbenzene	106	11.563	11.563	0.000	99	111690	10.0	8.66	
106 m-Xylene & p-Xylene	91	11.756	11.756	0.000	0	293218	10.0	9.22	
107 Styrene	104	12.122	12.122	0.000	95	208171	10.0	8.05	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
109 o-Xylene	106	12.201	12.201	0.000	98	134490	10.0	8.28	
108 1,1,2,2-Tetrachloroethane	83	12.206	12.206	0.000	96	38050	10.0	7.04	
* 110 1,4-Dichlorobenzene-d4	152	13.974	13.974	0.000	97	116189	12.5	12.5	
115 Bromoform	173	11.950	11.950	0.000	94	21375	10.0	11.0	
116 trans-1,4-Dichloro-2-buten	53	12.358	12.358	0.000	69	6528	10.0	8.21	
117 1,2,3-Trichloropropane	110	12.363	12.363	0.000	87	12028	10.0	11.4	
118 Isopropylbenzene	105	12.593	12.593	0.000	96	358510	10.0	12.4	
$ 119 4-Bromofluorobenzene	95	12.656	12.656	0.000	83	110122	10.0	12.5	
120 Bromobenzene	156	12.897	12.897	0.000	97	75964	10.0	11.5	
121 N-Propylbenzene	120	13.059	13.059	0.000	99	98477	10.0	11.4	
122 2-Chlorotoluene	126	13.179	13.179	0.000	95	83990	10.0	11.2	
123 4-Chlorotoluene	91	13.252	13.252	0.000	99	284993	10.0	12.4	
124 1,3,5-Trimethylbenzene	105	13.331	13.331	0.000	94	291835	10.0	11.2	
126 tert-Butylbenzene	119	13.629	13.629	0.000	92	227328	10.0	10.3	
128 1,2,4-Trimethylbenzene	105	13.728	13.728	0.000	98	300230	10.0	11.0	
130 sec-Butylbenzene	105	13.843	13.843	0.000	95	361413	10.0	10.8	
131 Benzyl chloride	91	13.932	13.932	0.000	97	59251	10.0	6.72	
132 1,3-Dichlorobenzene	146	13.937	13.937	0.000	96	142338	10.0	10.5	
133 1,4-Dichlorobenzene	146	14.000	14.000	0.000	92	150478	10.0	11.2	
134 4-Isopropyltoluene	119	14.005	14.005	0.000	97	300956	10.0	10.5	
135 1,2,3-Trimethylbenzene	105	14.152	14.152	0.000	99	284652	10.0	9.68	
137 1,2-Dichlorobenzene	146	14.351	14.351	0.000	95	112948	10.0	9.76	
138 n-Butylbenzene	91	14.408	14.408	0.000	98	291985	10.0	10.9	
139 1,2-Dibromo-3-Chloropropan	157	14.821	14.821	0.000	79	3395	10.0	5.83	
140 1,3,5-Trichlorobenzene	180	15.658	15.658	0.000	96	67271	10.0	6.90	
141 1,2,4-Trichlorobenzene	180	16.249	16.249	0.000	93	29508	10.0	5.14	
142 Naphthalene	128	16.542	16.542	0.000	98	28303	10.0	3.65	
143 Hexachlorobutadiene	190	16.579	16.579	0.000	94	8439	10.0	5.53	
144 1,2,3-Trichlorobenzene	180	16.777	16.777	0.000	95	9421	10.0	2.99	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

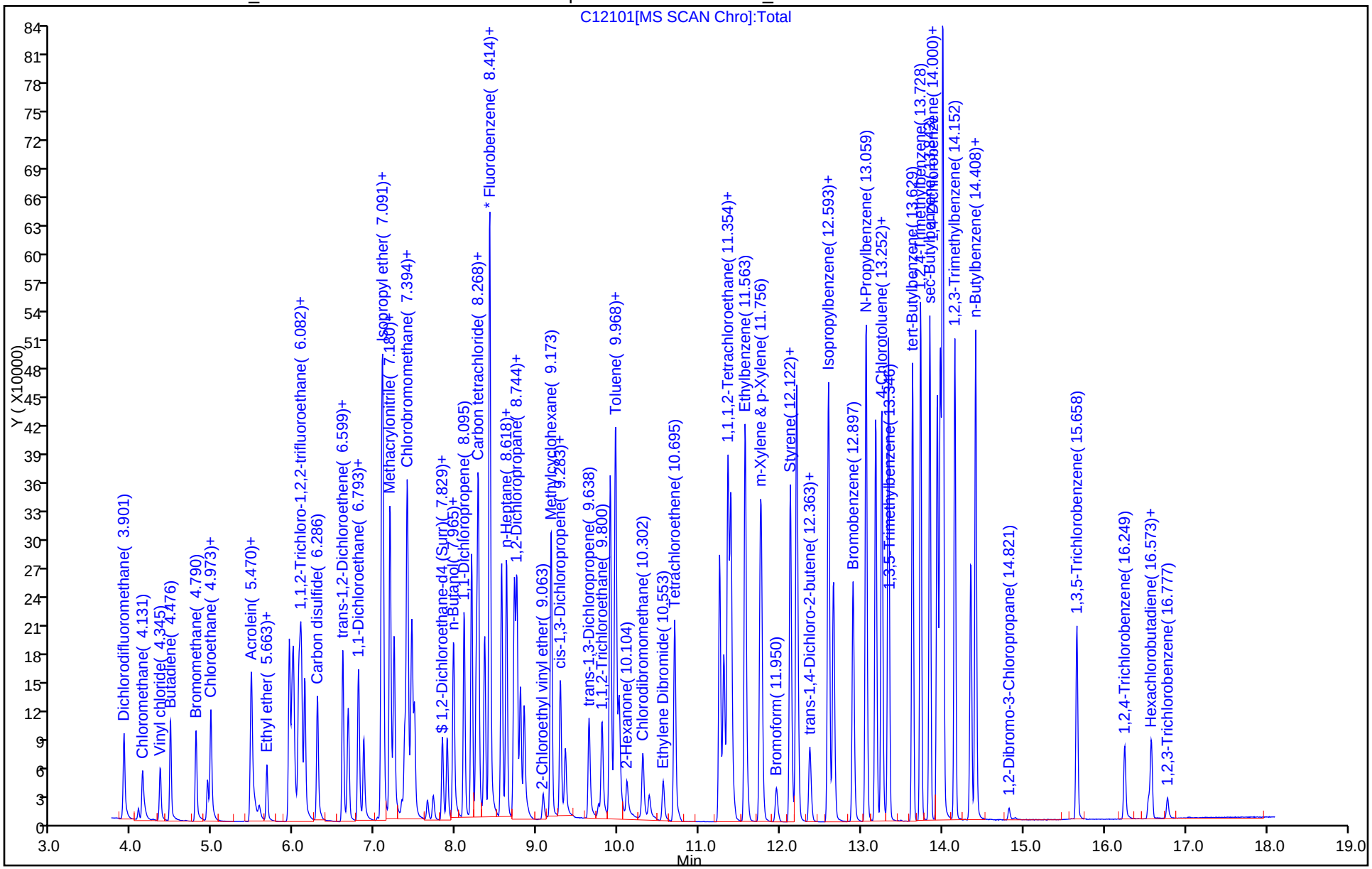
Reagents:

VOAIS50PPM_00171	Amount Added: 5.00	Units: uL
VOASTDGASPT_00165	Amount Added: 4.00	Units: uL
VOASTDst_00030	Amount Added: 4.00	Units: uL

Report Date: 01-May-2016 13:06:19 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12101.D				
Injection Date:	01-May-2016 09:28:30	Instrument ID:	CHVOAMS01	Operator ID:	ws
Lims ID:	ccvis			Worklist Smp#:	2
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCVIS 600-187554/2 Calibration Date: 05/01/2016 09:29

Instrument ID: CHVOAMS07 Calib Start Date: 03/21/2016 09:46

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 03/21/2016 12:18

Lab File ID: A12201.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.0723	0.1422		19.7	10.0	96.7*	35.0
Chloromethane	Ave	0.1017	0.1499	0.1000	14.7	10.0	47.4*	35.0
Vinyl chloride	Ave	0.1905	0.1991		10.5	10.0	4.5	20.0
Butadiene	Ave	0.1092	0.2086		19.1	10.0	91.0*	35.0
Bromomethane	Lin		0.0383		12.5	10.0	24.7	35.0
Chloroethane	Lin2		0.0989		8.50	10.0	-15.0	35.0
Dichlorofluoromethane	Ave	0.3953	0.3661		9.26	10.0	-7.4	35.0
Acetonitrile	Ave	0.0096	0.0099		104	100	3.5	50.0
Acrolein	Ave	0.0183	0.0112		30.5	50.0	-39.1	50.0
Trichlorofluoromethane	Ave	0.3702	0.4033		10.9	10.0	8.9	35.0
Isopropyl alcohol	Lin1		0.0051		146	100	45.7	50.0
Acetone	Lin1		0.0288		26.5	20.0	32.6	35.0
Ethyl ether	Ave	0.1845	0.1342		7.27	10.0	-27.3	35.0
t-Butanol	Ave	0.0184	0.0134		72.7	100	-27.3	35.0
1,1-Dichloroethene	Ave	0.2547	0.2360		9.27	10.0	-7.3	20.0
Acrylonitrile	Ave	0.0337	0.0307		91.1	100	-8.9	50.0
Iodomethane	Lin		0.1066		8.12	10.0	-18.8	35.0
Methylene Chloride	Lin2		0.1897		7.07	10.0	-29.3	50.0
Methyl acetate	Ave	0.0761	0.0756		49.7	50.0	-0.7	35.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2545	0.2856		11.2	10.0	12.2	35.0
3-Chloro-1-propene	Ave	0.1490	0.1173		7.87	10.0	-21.3	35.0
Carbon disulfide	Ave	0.8091	0.6282		7.76	10.0	-22.4	35.0
trans-1,2-Dichloroethene	Ave	0.2984	0.2404		8.06	10.0	-19.4	35.0
Methyl tert-butyl ether	Ave	0.4164	0.3003		7.21	10.0	-27.9	35.0
Propionitrile	Lin2		0.0107		80.1	100	-19.9	35.0
1,1-Dichloroethane	Ave	0.6962	0.6829	0.1000	9.81	10.0	-1.9	35.0
Vinyl acetate	Lin2		0.2896		20.9	20.0	4.6	50.0
2-Chloro-1,3-butadiene	Lin2		1.007		15.1	10.0	50.8*	35.0
Hexane	Ave	0.6182	0.6545		10.6	10.0	5.9	35.0
2-Butanone (MEK)	Ave	0.0113	0.0091		16.0	20.0	-19.8	50.0
Isopropyl ether	Ave	1.042	1.229		11.8	10.0	17.9	35.0
Methacrylonitrile	Ave	0.0143	0.0101		70.6	100	-29.4	35.0
cis-1,2-Dichloroethene	Ave	0.3178	0.2602		8.19	10.0	-18.1	35.0
Chlorobromomethane	Ave	0.0983	0.0838		8.52	10.0	-14.8	35.0
Chloroform	Ave	0.5485	0.5734		10.5	10.0	4.5	20.0
Tert-butyl ethyl ether	Ave	0.8487	0.8079		9.52	10.0	-4.8	35.0
Ethyl acetate	Ave	0.0924	0.1078		23.3	20.0	16.6	35.0
Isobutyl alcohol	Ave	0.0060	0.0083		345	250	38.1	50.0
2,2-Dichloropropane	Ave	0.5197	0.6494		12.5	10.0	25.0	35.0
Tetrahydrofuran	Ave	0.0239	0.0213		17.8	20.0	-10.8	35.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCVIS 600-187554/2 Calibration Date: 05/01/2016 09:29

Instrument ID: CHVOAMS07 Calib Start Date: 03/21/2016 09:46

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 03/21/2016 12:18

Lab File ID: A12201.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dichloroethane	Ave	0.3040	0.4115		13.5	10.0	35.4*	35.0
1,1,1-Trichloroethane	Ave	0.5187	0.7195		13.9	10.0	38.7*	35.0
1,1-Dichloropropene	Ave	0.3914	0.3983		10.2	10.0	1.8	35.0
Cyclohexane	Ave	0.4281	0.3775		8.82	10.0	-11.8	35.0
Carbon tetrachloride	Ave	0.4482	0.7483		16.7	10.0	67.0*	35.0
Benzene	Ave	1.247	0.9668		7.76	10.0	-22.4	35.0
Tert-amyl methyl ether	Ave	0.4476	0.3299		7.37	10.0	-26.3	35.0
Isooctane	Ave	1.271	1.402		11.0	10.0	10.3	35.0
Ethyl acrylate	Ave	0.2494	0.2896		11.6	10.0	16.1	35.0
2-Nitropropane	Ave	0.2223	0.3368		30.3	20.0	51.5*	35.0
n-Heptane	Ave	0.4445	0.6735		15.2	10.0	51.5*	35.0
Dibromomethane	Ave	0.0882	0.0850		9.63	10.0	-3.7	35.0
1,2-Dichloropropane	Ave	0.3387	0.3014		8.90	10.0	-11.0	20.0
Trichloroethene	Ave	0.3325	0.3436		10.3	10.0	3.3	35.0
Bromodichloromethane	Ave	0.3003	0.3336		11.1	10.0	11.1	35.0
Methyl methacrylate	Ave	0.1040	0.1166		22.4	20.0	12.1	50.0
1,4-Dioxane	Lin1		0.0007		256	200	28.1	50.0
2-Chloroethyl vinyl ether	Lin1		0.1512		14.6	20.0	-27.2	35.0
Methylcyclohexane	Ave	0.4476	0.4076		9.11	10.0	-8.9	35.0
cis-1,3-Dichloropropene	Ave	0.9638	0.7778		8.07	10.0	-19.3	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0742	0.0897		24.2	20.0	20.8	50.0
trans-1,3-Dichloropropene	Ave	0.5611	0.4803		8.56	10.0	-14.4	35.0
1,1,2-Trichloroethane	Ave	0.3779	0.2919		7.72	10.0	-22.8	35.0
Ethyl methacrylate	Lin1		0.2608		6.14	10.0	-38.6	50.0
Toluene	Ave	2.235	2.037		9.12	10.0	-8.8	20.0
1,3-Dichloropropane	Ave	0.7167	0.5591		7.80	10.0	-22.0	35.0
2-Hexanone	Lin2		0.1239		18.2	20.0	-9.3	50.0
Dibromochloromethane	Ave	0.4260	0.4659		10.9	10.0	9.3	35.0
n-Butyl acetate	Lin1		0.3181		7.39	10.0	-26.2	35.0
1,2-Dibromoethane	Ave	0.3203	0.2523		7.88	10.0	-21.2	35.0
Tetrachloroethene	Ave	0.7635	0.7608		9.97	10.0	-0.4	35.0
1-Chlorohexane	Ave	0.9843	1.399		14.2	10.0	42.2*	35.0
1,1,1,2-Tetrachloroethane	Ave	0.7013	0.7974		11.4	10.0	13.7	35.0
Chlorobenzene	Ave	2.174	1.869	0.3000	8.60	10.0	-14.0	35.0
Ethylbenzene	Ave	1.180	1.130		9.58	10.0	-4.2	20.0
m-Xylene & p-Xylene	Ave	2.660	2.809		10.6	10.0	5.6	35.0
Bromoform	Ave	0.2433	0.2331	0.1000	9.58	10.0	-4.2	35.0
Styrene	Lin1		1.373		7.52	10.0	-24.8	35.0
Cyclohexanone	Lin1		0.0105		715	500	43.0*	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4633	0.3334	0.3000	7.20	10.0	-28.0	35.0
o-Xylene	Ave	1.322	1.331		10.1	10.0	0.7	35.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCVIS 600-187554/2 Calibration Date: 05/01/2016 09:29

Instrument ID: CHVOAMS07 Calib Start Date: 03/21/2016 09:46

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 03/21/2016 12:18

Lab File ID: A12201.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
trans-1,4-Dichloro-2-butene	Lin2		0.1103		11.4	10.0	14.3	50.0
1,2,3-Trichloropropane	Ave	0.1381	0.1271		9.20	10.0	-8.0	35.0
Isopropylbenzene	Ave	4.128	4.412		10.7	10.0	6.9	35.0
Bromobenzene	Ave	0.8321	0.7902		9.50	10.0	-5.0	35.0
N-Propylbenzene	Ave	1.089	1.202		11.0	10.0	10.3	35.0
2-Chlorotoluene	Ave	0.9906	0.9592		9.68	10.0	-3.2	35.0
4-Chlorotoluene	Ave	2.980	3.092		10.4	10.0	3.8	35.0
1,3,5-Trimethylbenzene	Ave	3.424	3.869		11.3	10.0	13.0	35.0
tert-Butylbenzene	Ave	2.853	3.201		11.2	10.0	12.2	35.0
1,2,4-Trimethylbenzene	Ave	3.427	3.770		11.0	10.0	10.0	35.0
sec-Butylbenzene	Ave	4.320	4.604		10.7	10.0	6.6	35.0
Benzyl chloride	Lin2		0.6570		9.55	10.0	-4.5	35.0
1,3-Dichlorobenzene	Ave	1.911	1.892		9.90	10.0	-1.0	35.0
1,4-Dichlorobenzene	Ave	2.011	1.985		9.87	10.0	-1.3	35.0
4-Isopropyltoluene	Ave	3.881	4.478		11.5	10.0	15.4	35.0
1,2,3-Trimethylbenzene	Ave	3.449	3.434		9.96	10.0	-0.5	35.0
1,2-Dichlorobenzene	Ave	1.594	1.425		8.94	10.0	-10.6	35.0
n-Butylbenzene	Ave	3.048	3.461		11.4	10.0	13.6	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.0582	0.0525		9.02	10.0	-9.8	35.0
1,3,5-Trichlorobenzene	Ave	1.198	1.162		9.70	10.0	-3.0	35.0
1,2,4-Trichlorobenzene	Ave	0.6840	0.6230		9.11	10.0	-8.9	35.0
Naphthalene	Lin2		0.4997		6.11	10.0	-38.9*	35.0
Hexachlorobutadiene	Lin2		0.3313		15.3	10.0	52.6*	35.0
1,2,3-Trichlorobenzene	Ave	0.4695	0.3660		7.80	10.0	-22.0	35.0
Dibromofluoromethane	Ave	0.2216	0.2304		10.4	10.0	4.0	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2029	0.2475		12.2	10.0	22.0	35.0
Toluene-d8 (Surr)	Ave	2.598	2.238		8.62	10.0	-13.8	35.0
4-Bromofluorobenzene	Ave	1.073	1.006		9.38	10.0	-6.2	35.0

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12201.d
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 01-May-2016 09:29:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 600-0011851-002
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub32

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 21-Jul-2016 19:08:46 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: baxterj Date: 21-Jul-2016 19:03:22

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	96	353232	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.003	0.000	98	40174	10.0	19.7	
3 Chloromethane	50	4.246	4.246	0.000	100	42362	10.0	14.7	
4 Vinyl chloride	62	4.477	4.477	0.000	98	56274	10.0	10.5	
5 Butadiene	39	4.605	4.605	0.000	94	58948	10.0	19.1	
7 Bromomethane	94	4.934	4.934	0.000	96	10811	10.0	12.5	
8 Ethanol	45	5.074	5.074	0.000	44	10327	NC	NC	
9 Chloroethane	64	5.074	5.074	0.000	93	27952	10.0	8.50	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	103456	10.0	9.26	
14 Acrolein	56	5.615	5.615	0.000	92	15759	50.0	30.5	
15 Acetonitrile	41	5.615	5.615	0.000	93	27966	100.0	103.5	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	97	113960	10.0	10.9	
17 Isopropyl alcohol	45	5.652	5.652	0.000	96	14482	100.0	145.7	
19 Ethyl ether	59	5.828	5.828	0.000	92	37910	10.0	7.27	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	93	37910	100.0	72.7	
18 Acetone	43	5.828	5.828	0.000	41	16300	20.0	26.5	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	87	66688	10.0	9.27	
23 Acrylonitrile	52	6.138	6.138	0.000	98	86835	100.0	91.1	
24 Iodomethane	142	6.163	6.163	0.000	92	30121	10.0	8.12	
25 Methylene Chloride	84	6.230	6.230	0.000	87	53594	10.0	7.07	
26 Methyl acetate	43	6.242	6.242	0.000	99	106853	50.0	49.7	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.266	0.000	89	80707	10.0	11.2	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	83	33154	10.0	7.87	
29 Carbon disulfide	76	6.473	6.473	0.000	96	177519	10.0	7.76	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	81	67931	10.0	8.06	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	89	84851	10.0	7.21	
32 Propionitrile	54	6.966	6.966	0.000	96	30193	100.0	80.1	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	192972	10.0	9.81	
34 Vinyl acetate	43	7.045	7.045	0.000	97	163673	20.0	20.9	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	89	284677	10.0	15.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 Hexane	57	7.282	7.282	0.000	86	184953	10.0	10.6	
37 2-Butanone (MEK)	72	7.288	7.288	0.000	81	5127	20.0	16.0	
38 Isopropyl ether	45	7.294	7.294	0.000	95	347224	10.0	11.8	
39 Methacrylonitrile	66	7.373	7.373	0.000	96	28529	100.0	70.6	
40 cis-1,2-Dichloroethene	96	7.428	7.428	0.000	78	73523	10.0	8.19	
45 Chlorobromomethane	128	7.562	7.562	0.000	87	23668	10.0	8.52	
S 46 1,2-Dichloroethene, Total	96				0		20.0	16.2	
48 Chloroform	83	7.592	7.592	0.000	93	162041	10.0	10.5	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	99	228295	10.0	9.52	
43 Ethyl acetate	43	7.604	7.604	0.000	39	60899	20.0	23.3	
50 Isobutyl alcohol	43	7.604	7.604	0.000	39	58466	250.0	345.2	
51 2,2-Dichloropropane	77	7.653	7.653	0.000	93	183518	10.0	12.5	
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	91	65120	10.0	10.4	
53 Tetrahydrofuran	42	7.848	7.848	0.000	89	12052	20.0	17.8	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.030	8.030	0.000	0	69925	10.0	12.2	
58 1,2-Dichloroethane	62	8.091	8.091	0.000	98	116284	10.0	13.5	
59 n-Butanol	56	8.176	8.176	0.000	24	9656	250.0	236.2	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	94	203305	10.0	13.9	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	81	112562	10.0	10.2	
62 Cyclohexane	84	8.407	8.407	0.000	90	106679	10.0	8.82	
63 Carbon tetrachloride	119	8.462	8.462	0.000	98	211463	10.0	16.7	
64 Benzene	78	8.487	8.487	0.000	89	273214	10.0	7.76	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	78	93237	10.0	7.37	
68 Isooctane	57	8.785	8.785	0.000	98	396177	10.0	11.0	
69 Ethyl acrylate	55	8.839	8.839	0.000	95	81837	10.0	11.6	
70 n-Heptane	43	8.845	8.845	0.000	93	190320	10.0	15.2	
67 2-Nitropropane	43	8.845	8.845	0.000	89	190320	20.0	30.3	
71 Dibromomethane	93	8.931	8.931	0.000	77	24018	10.0	9.63	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	77	85184	10.0	8.90	
73 Trichloroethene	130	8.973	8.973	0.000	89	97107	10.0	10.3	
74 Dichlorobromomethane	83	9.016	9.016	0.000	95	94264	10.0	11.1	
75 Methyl methacrylate	41	9.065	9.065	0.000	87	65903	20.0	22.4	
76 1,4-Dioxane	58	9.077	9.077	0.000	26	4135	200.0	256.2	
78 Methylcyclohexane	83	9.417	9.417	0.000	89	115176	10.0	9.11	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.588	0.000	98	50674	20.0	24.2	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	92	111644	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	84	27006	20.0	14.6	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	80	69466	10.0	8.07	
88 trans-1,3-Dichloropropene	75	9.892	9.892	0.000	94	42902	10.0	8.56	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	86	26069	10.0	7.72	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	199921	10.0	8.62	
92 Ethyl methacrylate	69	10.208	10.208	0.000	85	23291	10.0	6.14	
93 Toluene	92	10.239	10.239	0.000	96	181976	10.0	9.12	
94 1,3-Dichloropropane	76	10.275	10.275	0.000	84	49936	10.0	7.80	
95 2-Hexanone	43	10.372	10.372	0.000	97	22125	20.0	18.1	
97 Chlorodibromomethane	129	10.585	10.585	0.000	90	41610	10.0	10.9	
98 n-Butyl acetate	43	10.658	10.658	0.000	97	28412	10.0	7.38	
99 Ethylene Dibromide	107	10.835	10.835	0.000	99	22533	10.0	7.88	
S 100 Xylenes, Total	106				0		20.0	20.6	
101 Tetrachloroethene	164	10.981	10.981	0.000	91	67952	10.0	9.96	
102 1-Chlorohexane	55	11.534	11.534	0.000	78	124991	10.0	14.2	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	88	71219	10.0	11.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.674	11.674	0.000	90	166931	10.0	8.60	
105 Ethylbenzene	106	11.851	11.851	0.000	98	100966	10.0	9.58	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	250866	10.0	10.6	
107 Styrene	104	12.410	12.410	0.000	90	122631	10.0	7.52	
108 Cyclohexanone	55	12.453	12.453	0.000	91	46923	500.0	714.8	
109 o-Xylene	106	12.490	12.490	0.000	99	118860	10.0	10.1	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	94	89820	12.5	12.5	
114 Bromoform	173	12.240	12.240	0.000	94	16752	10.0	9.58	
115 1,1,2,2-Tetrachloroethane	83	12.490	12.490	0.000	50	23958	10.0	7.20	
116 trans-1,4-Dichloro-2-buten	53	12.636	12.636	0.000	72	7922	10.0	11.4	
117 1,2,3-Trichloropropane	110	12.642	12.642	0.000	92	9134	10.0	9.20	
118 Isopropylbenzene	105	12.873	12.873	0.000	98	317046	10.0	10.7	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	90	72311	10.0	9.38	
120 Bromobenzene	156	13.171	13.171	0.000	87	56781	10.0	9.50	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	86363	10.0	11.0	
122 2-Chlorotoluene	126	13.439	13.439	0.000	93	68925	10.0	9.68	
123 4-Chlorotoluene	91	13.512	13.512	0.000	98	222150	10.0	10.4	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	93	278001	10.0	11.3	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	230018	10.0	11.2	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	99	270897	10.0	11.0	
131 sec-Butylbenzene	105	14.096	14.096	0.000	96	330846	10.0	10.7	
132 Benzyl chloride	91	14.187	14.187	0.000	61	47211	10.0	9.55	
133 1,3-Dichlorobenzene	146	14.193	14.193	0.000	95	135971	10.0	9.90	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	91	142625	10.0	9.87	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	97	321773	10.0	11.5	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	246741	10.0	9.95	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	94	102429	10.0	8.94	
139 n-Butylbenzene	91	14.674	14.674	0.000	97	248720	10.0	11.4	
140 1,2-Dibromo-3-Chloropropan	157	15.093	15.093	0.000	71	3773	10.0	9.02	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	96	83494	10.0	9.70	
142 1,2,4-Trichlorobenzene	180	16.572	16.572	0.000	93	44763	10.0	9.11	
143 Naphthalene	128	16.870	16.870	0.000	96	35903	10.0	6.11	
144 Hexachlorobutadiene	190	16.906	16.906	0.000	96	23809	10.0	15.3	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	94	26297	10.0	7.80	

QC Flag Legend

Processing Flags

NC - Not Calibrated

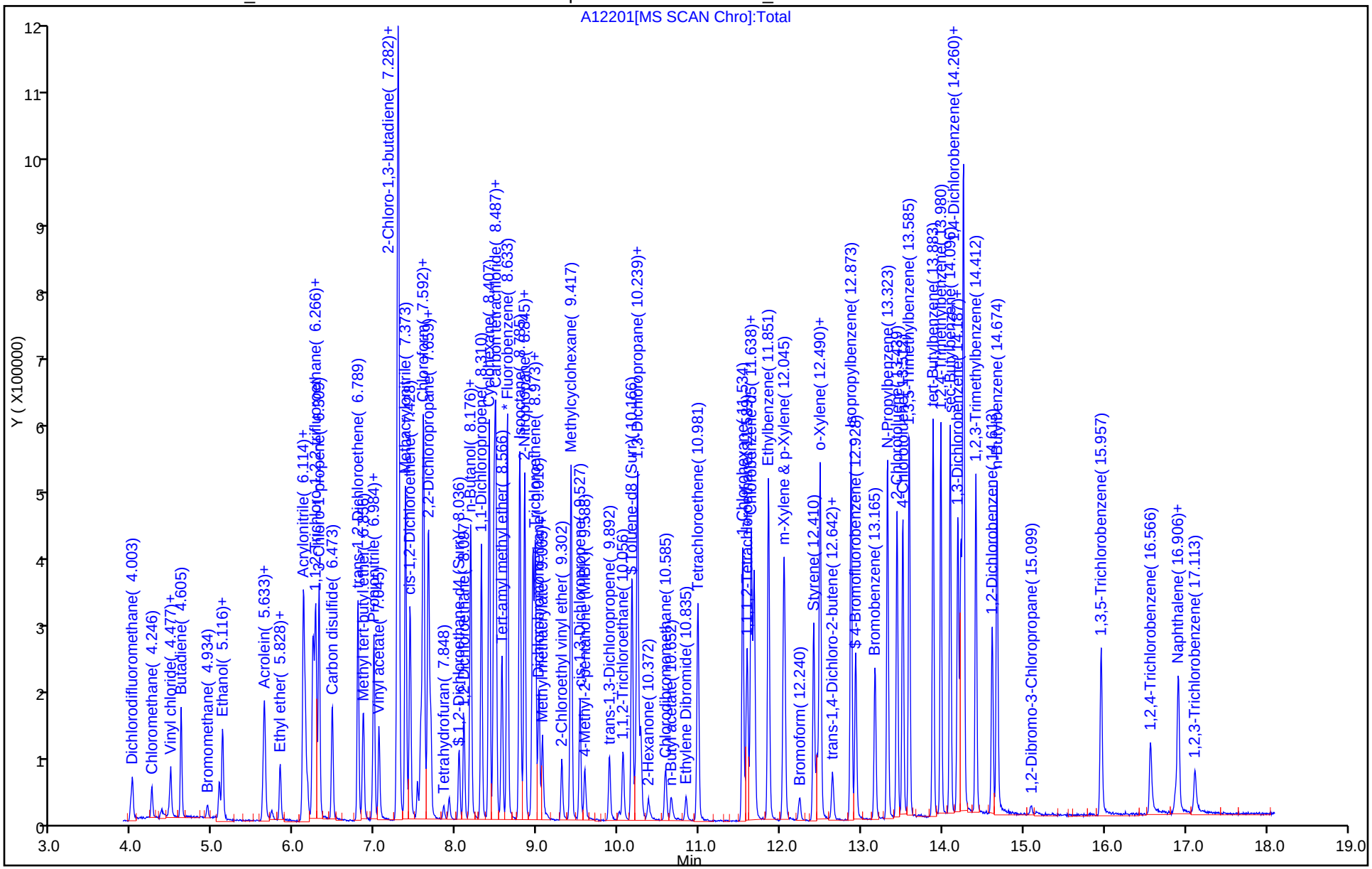
Reagents:

VOAIS50PPM_00171	Amount Added: 5.00	Units: uL
VOASTDPT2_00056	Amount Added: 4.00	Units: uL
VOASTDGASPT_00165	Amount Added: 4.00	Units: uL

Report Date: 21-Jul-2016 19:08:46 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12201.d				
Injection Date:	01-May-2016 09:29:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	ccvis			Worklist Smp#:	2
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCVIS 600-187577/2 Calibration Date: 05/02/2016 09:17

Instrument ID: CHVOAMS07 Calib Start Date: 03/21/2016 09:46

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 03/21/2016 12:18

Lab File ID: A12301.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.0723	0.0507		7.01	10.0	-29.9	35.0
Chloromethane	Ave	0.1017	0.0845*	0.1000	8.31	10.0	-16.9	35.0
Vinyl chloride	Ave	0.1905	0.1565		8.22	10.0	-17.9	20.0
Butadiene	Ave	0.1092	0.1411		12.9	10.0	29.2	35.0
Bromomethane	Lin		0.0269		9.19	10.0	-8.1	35.0
Chloroethane	Lin2		0.0772		6.56	10.0	-34.4	35.0
Dichlorofluoromethane	Ave	0.3953	0.2984		7.55	10.0	-24.5	35.0
Acetonitrile	Ave	0.0096	0.0093		97.4	100	-2.6	50.0
Acrolein	Ave	0.0183	0.0118		32.2	50.0	-35.7	50.0
Trichlorofluoromethane	Ave	0.3702	0.3359		9.07	10.0	-9.3	35.0
Isopropyl alcohol	Lin1		0.0051		146	100	45.9	50.0
Acetone	Lin1		0.0271		24.8	20.0	23.8	35.0
Ethyl ether	Ave	0.1845	0.1305		7.08	10.0	-29.2	35.0
t-Butanol	Ave	0.0184	0.0131		70.8	100	-29.2	35.0
1,1-Dichloroethene	Ave	0.2547	0.2132		8.37	10.0	-16.3	20.0
Acrylonitrile	Ave	0.0337	0.0312		92.3	100	-7.7	50.0
Iodomethane	Lin		0.1151		8.60	10.0	-14.0	35.0
Methylene Chloride	Lin2		0.1944		7.26	10.0	-27.4	50.0
Methyl acetate	Ave	0.0761	0.0789		51.8	50.0	3.7	35.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.2545	0.2843		11.2	10.0	11.7	35.0
3-Chloro-1-propene	Ave	0.1490	0.1128		7.57	10.0	-24.3	35.0
Carbon disulfide	Ave	0.8091	0.5780		7.14	10.0	-28.6	35.0
trans-1,2-Dichloroethene	Ave	0.2984	0.2387		8.00	10.0	-20.0	35.0
Methyl tert-butyl ether	Ave	0.4164	0.3116		7.48	10.0	-25.2	35.0
Propionitrile	Lin2		0.0108		80.8	100	-19.2	35.0
1,1-Dichloroethane	Ave	0.6962	0.6650	0.1000	9.55	10.0	-4.5	35.0
Vinyl acetate	Lin2		0.3006		21.7	20.0	8.5	50.0
2-Chloro-1,3-butadiene	Lin2		1.000		15.0	10.0	49.7*	35.0
Hexane	Ave	0.6182	0.6298		10.2	10.0	1.9	35.0
2-Butanone (MEK)	Ave	0.0113	0.0084		14.9	20.0	-25.5	50.0
Isopropyl ether	Ave	1.042	1.222		11.7	10.0	17.3	35.0
Methacrylonitrile	Ave	0.0143	0.0098		68.1	100	-31.9	35.0
cis-1,2-Dichloroethene	Ave	0.3178	0.2746		8.64	10.0	-13.6	35.0
Chlorobromomethane	Ave	0.0983	0.0780		7.93	10.0	-20.7	35.0
Chloroform	Ave	0.5485	0.5683		10.4	10.0	3.6	20.0
Tert-butyl ethyl ether	Ave	0.8487	0.8281		9.76	10.0	-2.4	35.0
Ethyl acetate	Ave	0.0924	0.0967		20.9	20.0	4.6	35.0
Isobutyl alcohol	Ave	0.0060	0.0084		350	250	40.1	50.0
2,2-Dichloropropane	Ave	0.5197	0.6219		12.0	10.0	19.7	35.0
Tetrahydrofuran	Ave	0.0239	0.0215		18.0	20.0	-10.2	35.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCVIS 600-187577/2 Calibration Date: 05/02/2016 09:17

Instrument ID: CHVOAMS07 Calib Start Date: 03/21/2016 09:46

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 03/21/2016 12:18

Lab File ID: A12301.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2-Dichloroethane	Ave	0.3040	0.4272		14.1	10.0	40.5*	35.0
1,1,1-Trichloroethane	Ave	0.5187	0.7272		14.0	10.0	40.2*	35.0
1,1-Dichloropropene	Ave	0.3914	0.3852		9.84	10.0	-1.6	35.0
Cyclohexane	Ave	0.4281	0.3675		8.58	10.0	-14.2	35.0
Carbon tetrachloride	Ave	0.4482	0.7594		16.9	10.0	69.4*	35.0
Benzene	Ave	1.247	0.9207		7.39	10.0	-26.1	35.0
Tert-amyl methyl ether	Ave	0.4476	0.3283		7.33	10.0	-26.7	35.0
Isooctane	Ave	1.271	1.377		10.8	10.0	8.3	35.0
Ethyl acrylate	Ave	0.2494	0.2815		11.3	10.0	12.8	35.0
2-Nitropropane	Ave	0.2223	0.3356		30.2	20.0	51.0*	35.0
n-Heptane	Ave	0.4445	0.6711		15.1	10.0	51.0*	35.0
Dibromomethane	Ave	0.0882	0.0839		9.50	10.0	-5.0	35.0
1,2-Dichloropropane	Ave	0.3387	0.2942		8.69	10.0	-13.1	20.0
Trichloroethene	Ave	0.3325	0.3239		9.74	10.0	-2.6	35.0
Bromodichloromethane	Ave	0.3003	0.3453		11.5	10.0	15.0	35.0
Methyl methacrylate	Ave	0.1040	0.1086		20.9	20.0	4.4	50.0
1,4-Dioxane	Lin1		0.0008		261	200	30.5	50.0
2-Chloroethyl vinyl ether	Lin1		0.1505		14.5	20.0	-27.5	35.0
Methylcyclohexane	Ave	0.4476	0.3897		8.71	10.0	-12.9	35.0
cis-1,3-Dichloropropene	Ave	0.9638	0.7339		7.61	10.0	-23.9	35.0
4-Methyl-2-pentanone (MIBK)	Ave	0.0742	0.0945		25.5	20.0	27.3	50.0
trans-1,3-Dichloropropene	Ave	0.5611	0.4842		8.63	10.0	-13.7	35.0
1,1,2-Trichloroethane	Ave	0.3779	0.2684		7.10	10.0	-29.0	35.0
Ethyl methacrylate	Lin1		0.2675		6.29	10.0	-37.1	50.0
Toluene	Ave	2.235	1.855		8.30	10.0	-17.0	20.0
1,3-Dichloropropane	Ave	0.7167	0.5371		7.49	10.0	-25.1	35.0
2-Hexanone	Lin2		0.1535		22.4	20.0	11.8	50.0
Dibromochloromethane	Ave	0.4260	0.4787		11.2	10.0	12.4	35.0
n-Butyl acetate	Lin1		0.3600		8.31	10.0	-17.0	35.0
1,2-Dibromoethane	Ave	0.3203	0.2542		7.94	10.0	-20.6	35.0
Tetrachloroethene	Ave	0.7635	0.7736		10.1	10.0	1.3	35.0
1-Chlorohexane	Ave	0.9843	1.341		13.6	10.0	36.2*	35.0
1,1,1,2-Tetrachloroethane	Ave	0.7013	0.7749		11.1	10.0	10.5	35.0
Chlorobenzene	Ave	2.174	1.779	0.3000	8.19	10.0	-18.1	35.0
Ethylbenzene	Ave	1.180	1.076		9.12	10.0	-8.8	20.0
m-Xylene & p-Xylene	Ave	2.660	2.712		10.2	10.0	2.0	35.0
Bromoform	Ave	0.2433	0.2387	0.1000	9.81	10.0	-1.9	35.0
Styrene	Lin1		1.330		7.30	10.0	-27.0	35.0
Cyclohexanone	Lin1		0.0100		682	500	36.3*	35.0
1,1,2,2-Tetrachloroethane	Ave	0.4633	0.3352	0.3000	7.23	10.0	-27.7	35.0
o-Xylene	Ave	1.322	1.237		9.35	10.0	-6.5	35.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCVIS 600-187577/2 Calibration Date: 05/02/2016 09:17

Instrument ID: CHVOAMS07 Calib Start Date: 03/21/2016 09:46

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 03/21/2016 12:18

Lab File ID: A12301.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
trans-1,4-Dichloro-2-butene	Lin2		0.1075		11.2	10.0	11.5	50.0
1,2,3-Trichloropropane	Ave	0.1381	0.1241		8.99	10.0	-10.2	35.0
Isopropylbenzene	Ave	4.128	3.992		9.67	10.0	-3.3	35.0
Bromobenzene	Ave	0.8321	0.7793		9.37	10.0	-6.3	35.0
N-Propylbenzene	Ave	1.089	1.092		10.0	10.0	0.3	35.0
2-Chlorotoluene	Ave	0.9906	0.9476		9.57	10.0	-4.3	35.0
4-Chlorotoluene	Ave	2.980	2.912		9.77	10.0	-2.3	35.0
1,3,5-Trimethylbenzene	Ave	3.424	3.620		10.6	10.0	5.7	35.0
tert-Butylbenzene	Ave	2.853	3.067		10.8	10.0	7.5	35.0
1,2,4-Trimethylbenzene	Ave	3.427	3.569		10.4	10.0	4.2	35.0
sec-Butylbenzene	Ave	4.320	4.293		9.94	10.0	-0.6	35.0
Benzyl chloride	Lin2		0.6450		9.38	10.0	-6.2	35.0
1,3-Dichlorobenzene	Ave	1.911	1.862		9.75	10.0	-2.5	35.0
1,4-Dichlorobenzene	Ave	2.011	1.949		9.69	10.0	-3.1	35.0
4-Isopropyltoluene	Ave	3.881	4.277		11.0	10.0	10.2	35.0
1,2,3-Trimethylbenzene	Ave	3.449	3.355		9.73	10.0	-2.7	35.0
1,2-Dichlorobenzene	Ave	1.594	1.419		8.90	10.0	-11.0	35.0
n-Butylbenzene	Ave	3.048	3.225		10.6	10.0	5.8	35.0
1,2-Dibromo-3-Chloropropane	Ave	0.0582	0.0506		8.70	10.0	-13.0	35.0
1,3,5-Trichlorobenzene	Ave	1.198	1.091		9.11	10.0	-8.9	35.0
1,2,4-Trichlorobenzene	Ave	0.6840	0.5751		8.41	10.0	-15.9	35.0
Naphthalene	Lin2		0.4238		5.22	10.0	-47.8*	35.0
Hexachlorobutadiene	Lin2		0.2967		13.6	10.0	36.3*	35.0
1,2,3-Trichlorobenzene	Ave	0.4695	0.3162		6.74	10.0	-32.6	35.0
Dibromofluoromethane	Ave	0.2216	0.2308		10.4	10.0	4.1	35.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.2029	0.2499		12.3	10.0	23.2	35.0
Toluene-d8 (Surr)	Ave	2.598	2.104		8.10	10.0	-19.0	35.0
4-Bromofluorobenzene	Ave	1.073	0.9623		8.97	10.0	-10.3	35.0

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12301.d
Lims ID: ccvis
Client ID:
Sample Type: CCVIS
Inject. Date: 02-May-2016 09:17:30 ALS Bottle#: 1 Worklist Smp#: 2
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: CCVIS
Misc. Info.: 600-0011863-002
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub32

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jul-2016 08:59:41 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK027

First Level Reviewer: baxterj Date: 22-Jul-2016 08:53:47

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	234726	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.003	0.000	91	9511	10.0	7.01	
3 Chloromethane	50	4.240	4.240	0.000	98	15859	10.0	8.31	
4 Vinyl chloride	62	4.477	4.477	0.000	97	29388	10.0	8.21	
5 Butadiene	39	4.605	4.605	0.000	91	26494	10.0	12.9	
7 Bromomethane	94	4.928	4.928	0.000	97	5045	10.0	9.19	
9 Chloroethane	64	5.074	5.074	0.000	92	14498	10.0	6.56	
8 Ethanol	45	5.080	5.080	0.000	53	6475	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	56028	10.0	7.55	
14 Acrolein	56	5.615	5.615	0.000	84	11049	50.0	32.1	
15 Acetonitrile	41	5.615	5.615	0.000	93	17483	100.0	97.4	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	98	63078	10.0	9.07	
17 Isopropyl alcohol	45	5.646	5.646	0.000	96	9637	100.0	145.9	
18 Acetone	43	5.828	5.828	0.000	44	10158	20.0	24.8	
19 Ethyl ether	59	5.828	5.828	0.000	90	24509	10.0	7.08	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	92	24509	100.0	70.8	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	87	40038	10.0	8.37	
23 Acrylonitrile	52	6.138	6.138	0.000	94	58509	100.0	92.3	
24 Iodomethane	142	6.163	6.163	0.000	92	21619	10.0	8.60	
25 Methylene Chloride	84	6.230	6.230	0.000	86	36499	10.0	7.26	
26 Methyl acetate	43	6.242	6.242	0.000	99	74104	50.0	51.8	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.266	0.000	88	53382	10.0	11.2	
28 3-Chloro-1-propene	76	6.303	6.303	0.000	81	21188	10.0	7.57	
29 Carbon disulfide	76	6.467	6.467	0.000	95	108531	10.0	7.14	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	80	44823	10.0	8.00	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	90	58511	10.0	7.48	
32 Propionitrile	54	6.966	6.966	0.000	93	20239	100.0	80.8	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	98	124872	10.0	9.55	
34 Vinyl acetate	43	7.045	7.045	0.000	97	112904	20.0	21.7	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	90	187818	10.0	15.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 Hexane	57	7.282	7.282	0.000	87	118259	10.0	10.2	
38 Isopropyl ether	45	7.288	7.288	0.000	96	229497	10.0	11.7	
37 2-Butanone (MEK)	72	7.288	7.288	0.000	79	3165	20.0	14.9	
39 Methacrylonitrile	66	7.373	7.373	0.000	94	18304	100.0	68.1	
40 cis-1,2-Dichloroethene	96	7.428	7.428	0.000	72	51557	10.0	8.64	
45 Chlorobromomethane	128	7.562	7.562	0.000	86	14641	10.0	7.93	
S 46 1,2-Dichloroethene, Total	96				0		20.0	16.6	
48 Chloroform	83	7.592	7.592	0.000	93	106715	10.0	10.4	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	99	155502	10.0	9.76	
50 Isobutyl alcohol	43	7.604	7.604	0.000	40	39418	250.0	350.2	
43 Ethyl acetate	43	7.604	7.604	0.000	41	36298	20.0	20.9	
51 2,2-Dichloropropane	77	7.653	7.653	0.000	90	116781	10.0	12.0	
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	92	43333	10.0	10.4	
53 Tetrahydrofuran	42	7.848	7.848	0.000	85	8065	20.0	18.0	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.030	8.030	0.000	0	46920	10.0	12.3	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	97	80219	10.0	14.1	
59 n-Butanol	56	8.176	8.176	0.000	24	7407	250.0	268.1	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	94	136553	10.0	14.0	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	81	72323	10.0	9.84	
62 Cyclohexane	84	8.407	8.407	0.000	90	69005	10.0	8.58	
63 Carbon tetrachloride	119	8.468	8.468	0.000	97	142596	10.0	16.9	
64 Benzene	78	8.487	8.487	0.000	88	172886	10.0	7.39	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	76	61651	10.0	7.33	
68 Isooctane	57	8.785	8.785	0.000	97	258486	10.0	10.8	
69 Ethyl acrylate	55	8.839	8.839	0.000	95	52853	10.0	11.3	
70 n-Heptane	43	8.845	8.845	0.000	94	126018	10.0	15.1	
67 2-Nitropropane	43	8.845	8.845	0.000	90	126018	20.0	30.2	
71 Dibromomethane	93	8.931	8.931	0.000	91	15746	10.0	9.50	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	75	55239	10.0	8.69	
73 Trichloroethene	130	8.973	8.973	0.000	90	60813	10.0	9.74	
74 Dichlorobromomethane	83	9.022	9.022	0.000	95	64847	10.0	11.5	
75 Methyl methacrylate	41	9.064	9.064	0.000	85	40781	20.0	20.9	
76 1,4-Dioxane	58	9.083	9.083	0.000	38	2798	200.0	261.0	
78 Methylcyclohexane	83	9.417	9.417	0.000	88	73179	10.0	8.71	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.588	0.000	98	35497	20.0	25.5	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	92	76816	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	90	18493	20.0	14.5	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	80	45097	10.0	7.61	
88 trans-1,3-Dichloropropene	75	9.892	9.892	0.000	94	29756	10.0	8.63	
89 1,1,2-Trichloroethane	97	10.062	10.062	0.000	84	16492	10.0	7.10	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	129279	10.0	8.10	
92 Ethyl methacrylate	69	10.214	10.214	0.000	82	16438	10.0	6.29	
93 Toluene	92	10.239	10.239	0.000	95	113992	10.0	8.30	
94 1,3-Dichloropropane	76	10.275	10.275	0.000	86	33006	10.0	7.49	
95 2-Hexanone	43	10.372	10.372	0.000	95	18860	20.0	22.4	
97 Chlorodibromomethane	129	10.579	10.579	0.000	89	29418	10.0	11.2	
98 n-Butyl acetate	43	10.652	10.652	0.000	96	22121	10.0	8.30	
99 Ethylene Dibromide	107	10.835	10.835	0.000	95	15621	10.0	7.94	
S 100 Xylenes, Total	106				0		20.0	19.6	
101 Tetrachloroethene	164	10.981	10.981	0.000	89	47542	10.0	10.1	
102 1-Chlorohexane	55	11.534	11.534	0.000	77	82378	10.0	13.6	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	86	47620	10.0	11.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.674	11.674	0.000	88	109348	10.0	8.19	
105 Ethylbenzene	106	11.851	11.851	0.000	98	66136	10.0	9.12	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	166686	10.0	10.2	
107 Styrene	104	12.410	12.410	0.000	91	81745	10.0	7.30	
108 Cyclohexanone	55	12.453	12.453	0.000	87	30749	500.0	681.6	
109 o-Xylene	106	12.490	12.490	0.000	98	75993	10.0	9.35	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	95	64033	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	93	12228	10.0	9.81	
115 1,1,2,2-Tetrachloroethane	83	12.477	12.477	0.000	50	17170	10.0	7.23	
116 trans-1,4-Dichloro-2-buten	53	12.636	12.636	0.000	73	5505	10.0	11.1	
117 1,2,3-Trichloropropane	110	12.648	12.648	0.000	95	6358	10.0	8.98	
118 Isopropylbenzene	105	12.873	12.873	0.000	98	204514	10.0	9.67	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	87	49296	10.0	8.97	
120 Bromobenzene	156	13.165	13.165	0.000	86	39923	10.0	9.37	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	55948	10.0	10.0	
122 2-Chlorotoluene	126	13.439	13.439	0.000	93	48541	10.0	9.57	
123 4-Chlorotoluene	91	13.512	13.512	0.000	98	149186	10.0	9.77	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	93	185417	10.0	10.6	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	157095	10.0	10.7	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	182818	10.0	10.4	
131 sec-Butylbenzene	105	14.096	14.096	0.000	97	219908	10.0	9.94	
132 Benzyl chloride	91	14.187	14.187	0.000	61	33043	10.0	9.38	
133 1,3-Dichlorobenzene	146	14.193	14.193	0.000	94	95404	10.0	9.75	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	90	99827	10.0	9.69	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	97	219109	10.0	11.0	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	171858	10.0	9.73	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	95	72699	10.0	8.90	
139 n-Butylbenzene	91	14.674	14.674	0.000	97	165211	10.0	10.6	
140 1,2-Dibromo-3-Chloropropan	157	15.093	15.093	0.000	74	2594	10.0	8.70	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	95	55870	10.0	9.11	
142 1,2,4-Trichlorobenzene	180	16.566	16.566	0.000	94	29462	10.0	8.41	
143 Naphthalene	128	16.870	16.870	0.000	97	21711	10.0	5.22	
144 Hexachlorobutadiene	190	16.906	16.906	0.000	96	15197	10.0	13.6	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	92	16198	10.0	6.74	

QC Flag Legend

Processing Flags

NC - Not Calibrated

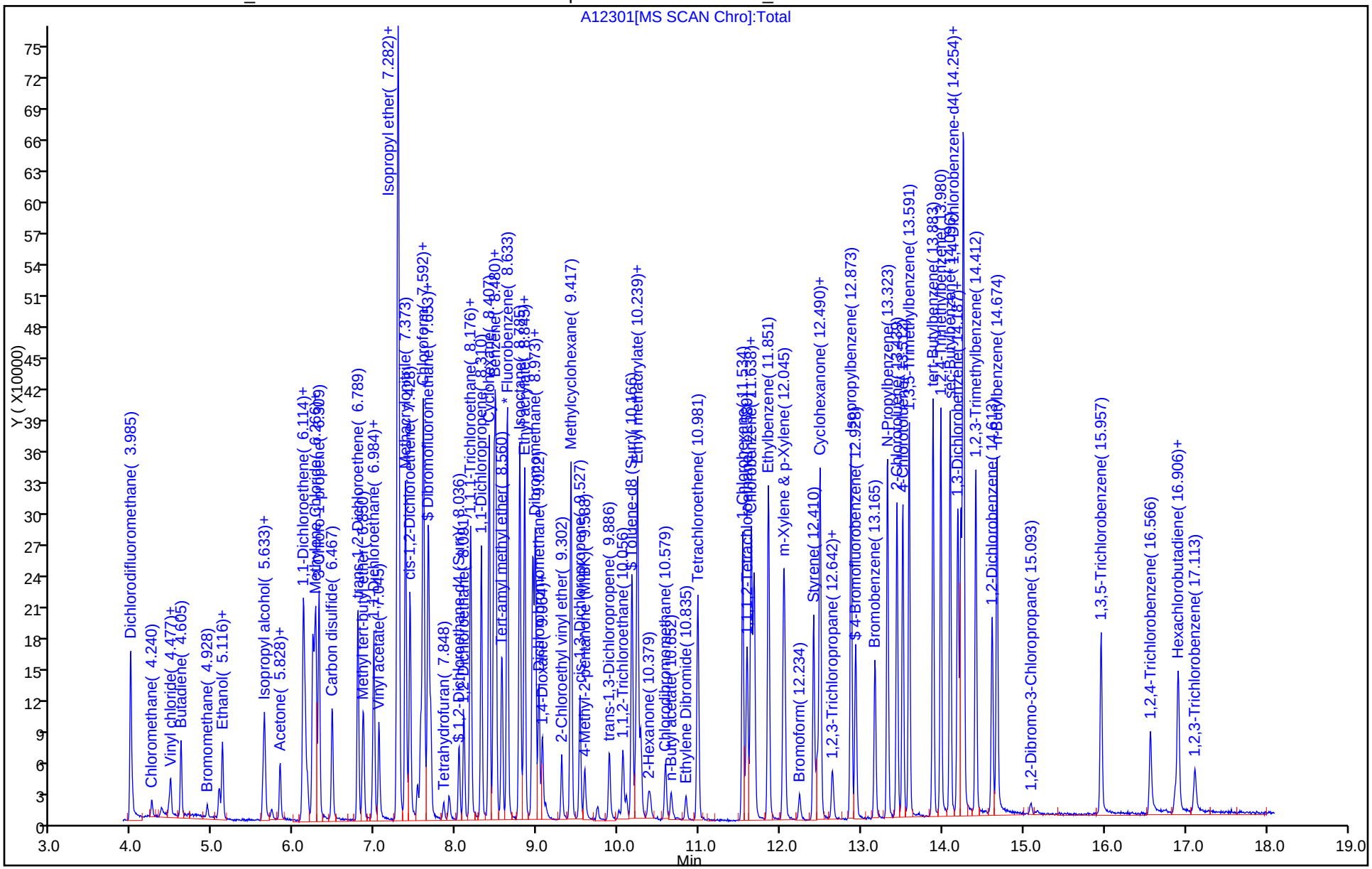
Reagents:

VOAIS50PPM_00171	Amount Added: 5.00	Units: uL
VOASTDPT2_00056	Amount Added: 4.00	Units: uL
VOASTDGASPT_00165	Amount Added: 4.00	Units: uL

Report Date: 22-Jul-2016 08:59:42 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12301.d				
Injection Date:	02-May-2016 09:17:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	ccvis			Worklist Smp#:	2
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: ICV 600-187782/10 Calibration Date: 05/04/2016 14:38

Instrument ID: CHVOAMS07 Calib Start Date: 05/04/2016 09:41

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 05/04/2016 12:04

Lab File ID: A1259a.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.2516	0.2473		9.83	10.0	-1.7	50.0
Chloromethane	Ave	0.2976	0.2818	0.1000	9.47	10.0	-5.3	30.0
Ethylene oxide	Lin		0.0071		124	100	23.5	50.0
Vinyl chloride	Ave	0.3154	0.3505		11.1	10.0	11.1	30.0
Butadiene	Ave	0.4324	0.4600		10.6	10.0	6.4	50.0
Bromomethane	Ave	0.0604	0.0632		10.5	10.0	4.5	30.0
Chloroethane	Ave	0.1770	0.1681		9.50	10.0	-5.0	30.0
Dichlorofluoromethane	Ave	0.6063	0.5994		9.89	10.0	-1.1	30.0
Acrolein	Lin1		0.0103		44.6	50.0	-10.8	50.0
Acetonitrile	Lin2		0.0110		103	100	3.2	30.0
Trichlorofluoromethane	Lin1		0.7350		11.0	10.0	10.1	30.0
Isopropyl alcohol	Lin1		0.0040		81.7	100	-18.3	50.0
Acetone	Lin1		0.0332		22.0	20.0	10.1	50.0
Ethyl ether	Ave	0.1951	0.1786		9.15	10.0	-8.5	50.0
t-Butanol	Ave	0.0195	0.0179		91.5	100	-8.5	30.0
1,1-Dichloroethene	Ave	0.2584	0.2474		9.58	10.0	-4.2	30.0
Acrylonitrile	Ave	0.0368	0.0350		95.0	100	-5.0	50.0
Iodomethane	Lin		0.2373		8.98	10.0	-10.2	30.0
Methylene Chloride	Lin2		0.2164		10.0	10.0	0.3	50.0
Methyl acetate	Ave	0.1072	0.0997		46.5	50.0	-7.0	30.0
1,1,2-Trichloro-1,2,2-trifluoroethane	Ave	0.3497	0.2932		8.39	10.0	-16.1	30.0
3-Chloro-1-propene	Ave	0.1323	0.1326		10.0	10.0	0.2	30.0
Carbon disulfide	Ave	0.7376	0.7257		9.84	10.0	-1.6	30.0
trans-1,2-Dichloroethene	Ave	0.2832	0.2734		9.65	10.0	-3.5	30.0
Methyl tert-butyl ether	Ave	0.4192	0.4261		10.2	10.0	1.7	30.0
Propionitrile	Ave	0.0124	0.0121		97.6	100	-2.4	30.0
1,1-Dichloroethane	Ave	0.8105	0.8105	0.1000	10.0	10.0	0.0	30.0
Vinyl acetate	Ave	0.3031	0.2798		18.5	20.0	-7.7	50.0
2-Chloro-1,3-butadiene	Ave	1.025	1.175		11.5	10.0	14.6	30.0
Hexane	Ave	0.6583	0.6658		10.1	10.0	1.1	30.0
2-Butanone (MEK)	Lin1		0.0119		20.8	20.0	3.8	50.0
Isopropyl ether	Ave	1.432	1.538		10.7	10.0	7.4	30.0
Methacrylonitrile	Ave	0.0110	0.0114		104	100	4.1	30.0
cis-1,2-Dichloroethene	Ave	0.3077	0.2900		9.43	10.0	-5.7	30.0
Chlorobromomethane	Ave	0.1039	0.0957		9.21	10.0	-7.9	30.0
Chloroform	Ave	0.6650	0.6597		9.92	10.0	-0.8	30.0
Ethyl acetate	Ave	0.1297	0.1180		18.2	20.0	-9.0	30.0
Isobutyl alcohol	Lin1		0.0094		254	250	1.5	50.0
Tert-butyl ethyl ether	Ave	1.048	1.102		10.5	10.0	5.2	30.0
2,2-Dichloropropane	Ave	0.7597	0.7068		9.30	10.0	-7.0	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: ICV 600-187782/10 Calibration Date: 05/04/2016 14:38

Instrument ID: CHVOAMS07 Calib Start Date: 05/04/2016 09:41

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 05/04/2016 12:04

Lab File ID: A1259a.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrahydrofuran	Lin1		0.0321		21.3	20.0	6.3	30.0
1,2-Dichloroethane	Ave	0.5478	0.5190		9.47	10.0	-5.3	30.0
1,1,1-Trichloroethane	Ave	0.8450	0.8073		9.55	10.0	-4.5	30.0
1,1-Dichloropropene	Ave	0.4157	0.4460		10.7	10.0	7.3	30.0
Cyclohexane	Ave	0.3661	0.3722		10.2	10.0	1.6	50.0
Carbon tetrachloride	Ave	0.8732	0.8538		9.78	10.0	-2.2	30.0
Benzene	Ave	1.015	1.053		10.4	10.0	3.7	30.0
Tert-amyl methyl ether	Ave	0.4098	0.4179		10.2	10.0	2.0	30.0
Isooctane	Ave	1.314	1.247		9.49	10.0	-5.1	30.0
Ethyl acrylate	Lin2		0.2869		8.53	10.0	-14.7	30.0
2-Nitropropane	Ave	0.3173	0.3164		19.9	20.0	-0.3	30.0
n-Heptane	Ave	0.6346	0.6328		9.97	10.0	-0.3	30.0
Dibromomethane	Ave	0.1085	0.0987		9.10	10.0	-9.0	30.0
1,2-Dichloropropane	Ave	0.3068	0.3031		9.88	10.0	-1.2	30.0
Trichloroethene	Ave	0.3885	0.3724		9.59	10.0	-4.1	30.0
Bromodichloromethane	Ave	0.4060	0.3735		9.20	10.0	-8.0	30.0
Methyl methacrylate	Lin1		0.1634		21.7	20.0	8.6	50.0
1,4-Dioxane	Lin1		0.0005		144	200	-28.0	50.0
2-Chloroethyl vinyl ether	Lin1		0.1248		17.3	20.0	-13.4	30.0
Methylcyclohexane	Lin2		0.3742		9.32	10.0	-6.8	30.0
cis-1,3-Dichloropropene	Ave	0.8498	0.8836		10.4	10.0	4.0	30.0
4-Methyl-2-pentanone (MIBK)	Ave	0.1151	0.1083		18.8	20.0	-5.9	50.0
trans-1,3-Dichloropropene	Ave	0.5665	0.5683		10.0	10.0	0.3	30.0
1,1,2-Trichloroethane	Lin2		0.3082		10.9	10.0	8.7	30.0
Ethyl methacrylate	Lin1		0.3286		10.0	10.0	0.1	50.0
Toluene	Ave	1.914	2.042		10.7	10.0	6.7	30.0
1,3-Dichloropropane	Ave	0.5810	0.6008		10.3	10.0	3.4	30.0
2-Hexanone	Lin1		0.1679		18.2	20.0	-8.9	50.0
Dibromochloromethane	Ave	0.5554	0.4875		8.78	10.0	-12.2	30.0
n-Butyl acetate	Lin		0.4494		9.41	10.0	-5.9	30.0
1,2-Dibromoethane	Lin2		0.2538		9.48	10.0	-5.2	30.0
Tetrachloroethene	Ave	0.8437	0.7771		9.21	10.0	-7.9	30.0
1-Chlorohexane	Ave	1.229	1.392		11.3	10.0	13.3	30.0
1,1,1,2-Tetrachloroethane	Ave	0.8764	0.7950		9.07	10.0	-9.3	30.0
Chlorobenzene	Ave	1.968	1.869	0.3000	9.50	10.0	-5.0	30.0
Ethylbenzene	Ave	1.090	1.145		10.5	10.0	5.1	30.0
m-Xylene & p-Xylene	Ave	2.688	2.964		11.0	10.0	10.3	30.0
Bromoform	Lin2		0.2719	0.1000	9.58	10.0	-4.2	30.0
Styrene	Lin1		1.491		9.59	10.0	-4.1	30.0
Cyclohexanone	Lin		0.0065		449	500	-10.3	30.0
1,1,2,2-Tetrachloroethane	Lin2		0.2912*	0.3000	10.0	10.0	0.0	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: ICV 600-187782/10 Calibration Date: 05/04/2016 14:38

Instrument ID: CHVOAMS07 Calib Start Date: 05/04/2016 09:41

GC Column: DB-VRX 60 ID: 0.25(mm) Calib End Date: 05/04/2016 12:04

Lab File ID: A1259a.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
o-Xylene	Ave	1.181	1.309		11.1	10.0	10.9	30.0
trans-1,4-Dichloro-2-butene	Ave	0.1219	0.1279		10.5	10.0	4.9	50.0
1,2,3-Trichloropropane	Lin		0.1275		10.8	10.0	7.7	30.0
Isopropylbenzene	Ave	4.093	4.514		11.0	10.0	10.3	30.0
Bromobenzene	Ave	0.8511	0.8386		9.85	10.0	-1.5	30.0
N-Propylbenzene	Ave	1.078	1.171		10.9	10.0	8.6	30.0
2-Chlorotoluene	Ave	0.9438	0.9572		10.1	10.0	1.4	30.0
4-Chlorotoluene	Ave	2.921	3.244		11.1	10.0	11.1	30.0
1,3,5-Trimethylbenzene	Ave	3.537	3.947		11.2	10.0	11.6	30.0
tert-Butylbenzene	Ave	2.937	3.174		10.8	10.0	8.1	30.0
1,2,4-Trimethylbenzene	Ave	3.484	3.809		10.9	10.0	9.3	30.0
sec-Butylbenzene	Ave	4.023	4.231		10.5	10.0	5.2	30.0
Benzyl chloride	Ave	0.6725	0.5820		8.65	10.0	-13.5	30.0
1,3-Dichlorobenzene	Ave	1.793	1.863		10.4	10.0	3.9	30.0
1,4-Dichlorobenzene	Ave	2.041	1.956		9.58	10.0	-4.2	30.0
4-Isopropyltoluene	Ave	4.144	4.265		10.3	10.0	2.9	30.0
1,2,3-Trimethylbenzene	Ave	3.267	3.467		10.6	10.0	6.1	30.0
1,2-Dichlorobenzene	Ave	1.457	1.378		9.46	10.0	-5.4	30.0
n-Butylbenzene	Ave	2.811	3.054		10.9	10.0	8.7	30.0
1,2-Dibromo-3-Chloropropane	Lin1		0.0465		8.41	10.0	-15.9	30.0
1,3,5-Trichlorobenzene	Ave	1.187	1.070		9.02	10.0	-9.8	30.0
1,2,4-Trichlorobenzene	Ave	0.6028	0.5401		8.96	10.0	-10.4	30.0
Naphthalene	Lin1		0.4333		7.59	10.0	-24.2	30.0
Hexachlorobutadiene	Lin1		0.2841		9.98	10.0	-0.2	30.0
1,2,3-Trichlorobenzene	Lin1		0.3263		8.86	10.0	-11.4	30.0
Dibromofluoromethane	Ave	0.3409	0.3434		12.6	12.5	0.7	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.4266	0.4257		12.5	12.5	-0.2	30.0
Toluene-d8 (Surr)	Ave	2.700	3.062		14.2	12.5	13.4	30.0
4-Bromofluorobenzene	Ave	1.078	1.163		13.5	12.5	7.9	30.0

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A1259a.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 04-May-2016 14:38:30 ALS Bottle#: 7 Worklist Smp#: 10
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 600-0011909-010
Operator ID: ws Instrument ID: CHVOAMS07
Sublist: chrom-8260w20_7*sub34

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 03-Aug-2016 18:01:12 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK047

First Level Reviewer: baxterj Date: 21-Jul-2016 19:22:44

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	270704	12.5	12.5	
2 Dichlorodifluoromethane	85	4.009	4.009	0.000	98	53559	10.0	9.83	
3 Chloromethane	50	4.246	4.246	0.000	100	61028	10.0	9.47	
6 Ethylene oxide	44	4.459	4.465	-0.006	92	15324	100.0	123.5	M
4 Vinyl chloride	62	4.478	4.477	0.001	96	75903	10.0	11.1	
5 Butadiene	39	4.605	4.605	0.000	91	99623	10.0	10.6	
7 Bromomethane	94	4.928	4.934	-0.006	92	13675	10.0	10.5	
9 Chloroethane	64	5.074	5.080	-0.006	91	36409	10.0	9.50	
8 Ethanol	45	5.080	5.080	0.000	30	5803	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	96	129808	10.0	9.89	
14 Acrolein	56	5.609	5.615	-0.006	93	11186	50.0	44.6	
15 Acetonitrile	41	5.615	5.621	-0.006	93	23794	100.0	103.2	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	98	159173	10.0	11.0	
17 Isopropyl alcohol	45	5.658	5.652	0.006	96	8645	100.0	81.7	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	94	38669	100.0	91.5	
19 Ethyl ether	59	5.828	5.828	0.000	89	38669	10.0	9.15	
18 Acetone	43	5.828	5.828	0.000	40	14368	20.0	22.0	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	85	53585	10.0	9.58	
23 Acrylonitrile	52	6.138	6.138	0.000	98	75743	100.0	95.0	
24 Iodomethane	142	6.169	6.169	0.000	94	51394	10.0	8.98	
25 Methylene Chloride	84	6.230	6.236	-0.006	85	46862	10.0	10.0	
26 Methyl acetate	43	6.248	6.248	0.000	98	107913	50.0	46.5	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.272	-0.006	90	63503	10.0	8.39	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	80	28712	10.0	10.0	
29 Carbon disulfide	76	6.473	6.473	0.000	94	157153	10.0	9.84	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	83	59210	10.0	9.65	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	91	92282	10.0	10.2	
32 Propionitrile	54	6.972	6.966	0.006	96	26156	100.0	97.6	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	98	175521	10.0	10.0	
34 Vinyl acetate	43	7.045	7.045	0.000	97	121184	20.0	18.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	89	254557	10.0	11.5	
36 Hexane	57	7.288	7.288	0.000	84	144178	10.0	10.1	
38 Isopropyl ether	45	7.294	7.288	0.006	95	333087	10.0	10.7	
37 2-Butanone (MEK)	72	7.294	7.300	-0.006	88	5147	20.0	20.8	
39 Methacrylonitrile	66	7.379	7.379	0.000	94	24779	100.0	104.1	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	65	62811	10.0	9.43	
45 Chlorobromomethane	128	7.562	7.562	0.000	88	20731	10.0	9.21	
S 46 1,2-Dichloroethene, Total	96				0		20.0	19.1	
48 Chloroform	83	7.592	7.592	0.000	96	142866	10.0	9.92	
43 Ethyl acetate	43	7.598	7.598	0.000	37	51105	20.0	18.2	
50 Isobutyl alcohol	43	7.598	7.598	0.000	37	51105	250.0	253.8	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	97	238711	10.0	10.5	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	89	153074	10.0	9.30	
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	92	92949	12.5	12.6	
53 Tetrahydrofuran	42	7.848	7.848	0.000	81	13882	20.0	21.3	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	115247	12.5	12.5	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	96	112388	10.0	9.47	
60 1,1,1-Trichloroethane	97	8.182	8.176	0.006	95	174825	10.0	9.55	
59 n-Butanol	56	8.170	8.176	-0.006	25	6691	250.0	228.1	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	77	96581	10.0	10.7	
62 Cyclohexane	84	8.408	8.407	0.001	90	80596	10.0	10.2	
63 Carbon tetrachloride	119	8.468	8.468	0.000	98	184890	10.0	9.78	
64 Benzene	78	8.487	8.487	0.000	87	228060	10.0	10.4	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	75	90507	10.0	10.2	
68 Isooctane	57	8.785	8.785	0.000	97	269962	10.0	9.49	
69 Ethyl acrylate	55	8.821	8.839	-0.018	97	62123	10.0	8.53	
70 n-Heptane	43	8.846	8.845	0.001	92	137033	10.0	9.97	
67 2-Nitropropane	43	8.846	8.845	0.001	92	137033	20.0	19.9	
71 Dibromomethane	93	8.931	8.931	0.000	83	21374	10.0	9.10	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	71	65647	10.0	9.88	
73 Trichloroethene	130	8.979	8.973	0.006	89	80646	10.0	9.59	
74 Dichlorobromomethane	83	9.022	9.022	0.000	95	80893	10.0	9.20	
75 Methyl methacrylate	41	9.065	9.064	0.001	83	70784	20.0	21.7	
76 1,4-Dioxane	58	9.077	9.071	0.006	26	1962	200.0	144.0	
78 Methylcyclohexane	83	9.417	9.417	0.000	88	81043	10.0	9.32	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.588	0.000	97	46919	20.0	18.8	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	91	90859	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	84	18146	20.0	17.3	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	79	64228	10.0	10.4	
88 trans-1,3-Dichloropropene	75	9.886	9.892	-0.006	93	41311	10.0	10.0	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	85	22404	10.0	10.9	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	278248	12.5	14.2	
92 Ethyl methacrylate	69	10.214	10.214	0.000	81	23884	10.0	10.0	
93 Toluene	92	10.239	10.239	0.000	95	148447	10.0	10.7	
94 1,3-Dichloropropane	76	10.275	10.281	-0.006	86	43669	10.0	10.3	
95 2-Hexanone	43	10.373	10.366	0.007	97	24401	20.0	18.2	
97 Chlorodibromomethane	129	10.585	10.585	0.000	87	35438	10.0	8.78	
98 n-Butyl acetate	43	10.652	10.652	0.000	94	32667	10.0	9.41	
99 Ethylene Dibromide	107	10.835	10.829	0.006	97	18449	10.0	9.48	
S 100 Xylenes, Total	106				0		20.0	22.1	
101 Tetrachloroethene	164	10.981	10.981	0.000	88	56488	10.0	9.21	
102 1-Chlorohexane	55	11.535	11.534	0.000	76	101182	10.0	11.3	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
103 1,1,1,2-Tetrachloroethane	131	11.583	11.583	0.000	83	57788	10.0	9.07	
104 Chlorobenzene	112	11.674	11.674	0.000	87	135827	10.0	9.50	
105 Ethylbenzene	106	11.851	11.851	0.000	97	83261	10.0	10.5	
106 m-Xylene & p-Xylene	91	12.046	12.045	0.001	0	215451	10.0	11.0	
107 Styrene	104	12.411	12.410	0.001	90	108378	10.0	9.59	
108 Cyclohexanone	55	12.453	12.453	0.000	89	23668	500.0	448.6	
109 o-Xylene	106	12.490	12.490	0.000	99	95166	10.0	11.1	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	95	69567	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	93	15132	10.0	9.58	
115 1,1,2,2-Tetrachloroethane	83	12.484	12.483	0.001	50	16205	10.0	10.0	
117 1,2,3-Trichloropropane	110	12.642	12.636	0.006	93	7098	10.0	10.8	
116 trans-1,4-Dichloro-2-buten	53	12.636	12.636	0.000	78	7116	10.0	10.5	
118 Isopropylbenzene	105	12.873	12.867	0.006	98	251204	10.0	11.0	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	87	80904	12.5	13.5	
120 Bromobenzene	156	13.171	13.165	0.006	83	46672	10.0	9.85	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	65181	10.0	10.9	
122 2-Chlorotoluene	126	13.439	13.439	0.000	92	53270	10.0	10.1	
123 4-Chlorotoluene	91	13.512	13.512	0.000	97	180516	10.0	11.1	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	93	219654	10.0	11.2	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	176668	10.0	10.8	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	211983	10.0	10.9	
131 sec-Butylbenzene	105	14.096	14.096	0.000	97	235471	10.0	10.5	
132 Benzyl chloride	91	14.181	14.181	0.000	60	32389	10.0	8.65	
133 1,3-Dichlorobenzene	146	14.187	14.187	0.000	94	103661	10.0	10.4	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	91	108837	10.0	9.58	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	237366	10.0	10.3	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	192964	10.0	10.6	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	94	76694	10.0	9.46	
139 n-Butylbenzene	91	14.668	14.667	0.001	97	169962	10.0	10.9	
140 1,2-Dibromo-3-Chloropropan	157	15.099	15.099	0.000	69	2589	10.0	8.41	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	94	59553	10.0	9.02	
142 1,2,4-Trichlorobenzene	180	16.566	16.566	0.000	93	30058	10.0	8.96	
143 Naphthalene	128	16.876	16.870	0.006	97	24113	10.0	7.58	
144 Hexachlorobutadiene	190	16.912	16.912	0.000	94	15813	10.0	9.98	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	94	18162	10.0	8.86	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

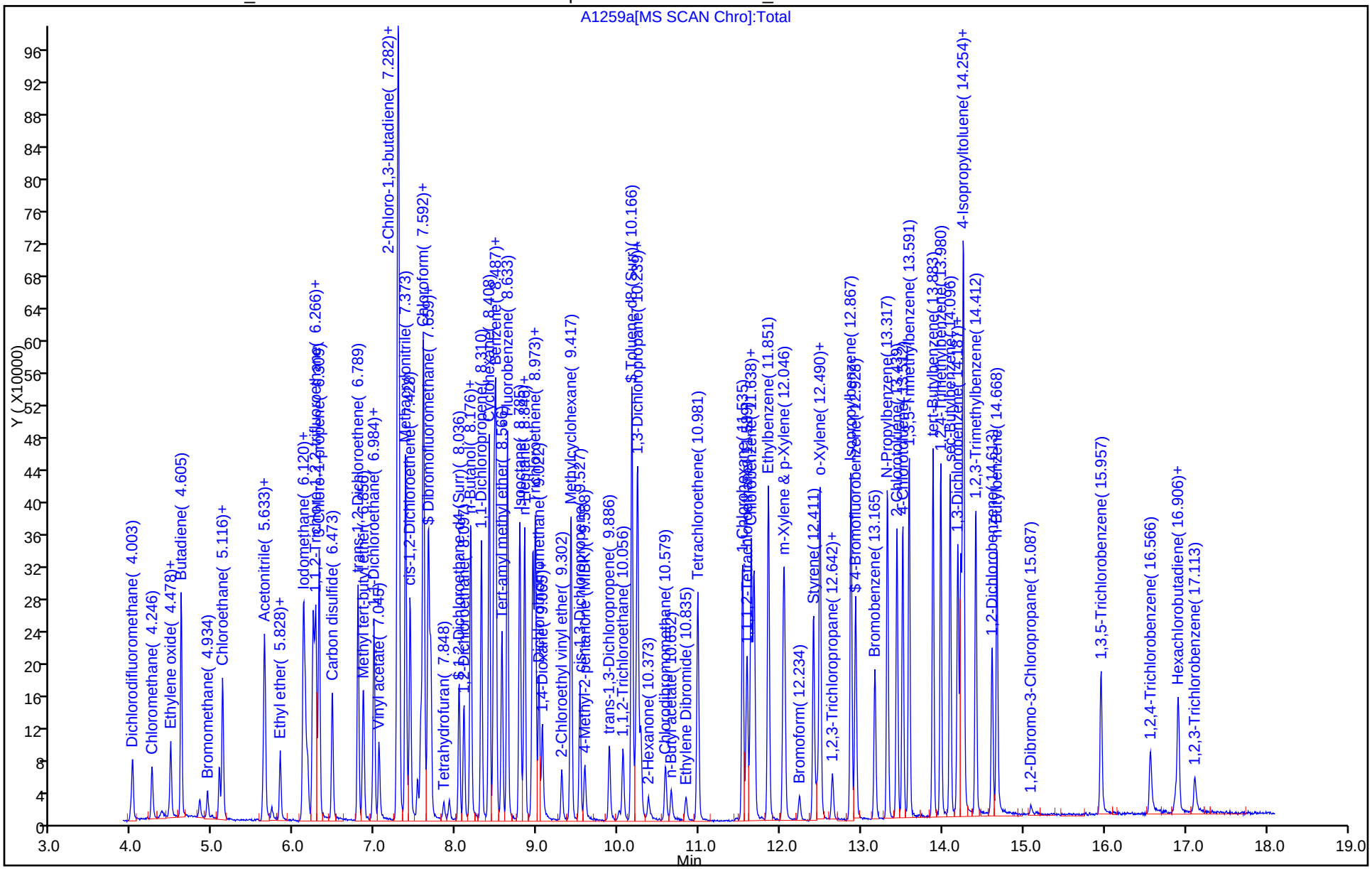
Reagents:

VOALCSPT2_00056	Amount Added:	4.00	Units: uL	
VOALCSGASPT_00165	Amount Added:	4.00	Units: uL	
EOxideLcs_00071	Amount Added:	4.00	Units: uL	
VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 03-Aug-2016 18:02:00 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A1259a.d				
Injection Date:	04-May-2016 14:38:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	icv			Worklist Smp#:	10
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



Manual Integration/User Assign Peak Report

TestAmerica Houston

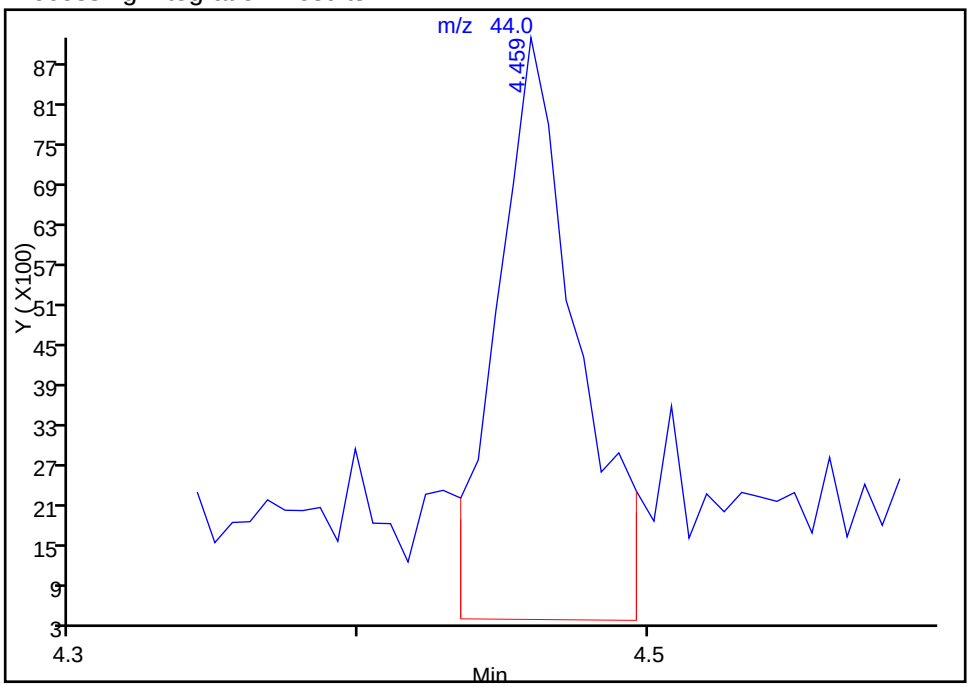
Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A1259a.d				
Injection Date:	04-May-2016 14:38:30	Instrument ID:	CHVOAMS07		
Lims ID:	icv				
Client ID:					
Operator ID:	ws	ALS Bottle#:	7	Worklist Smp#:	10
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Column:		Detector	MS SCAN		

6 Ethylene oxide, CAS: 75-21-8

Signal: 1

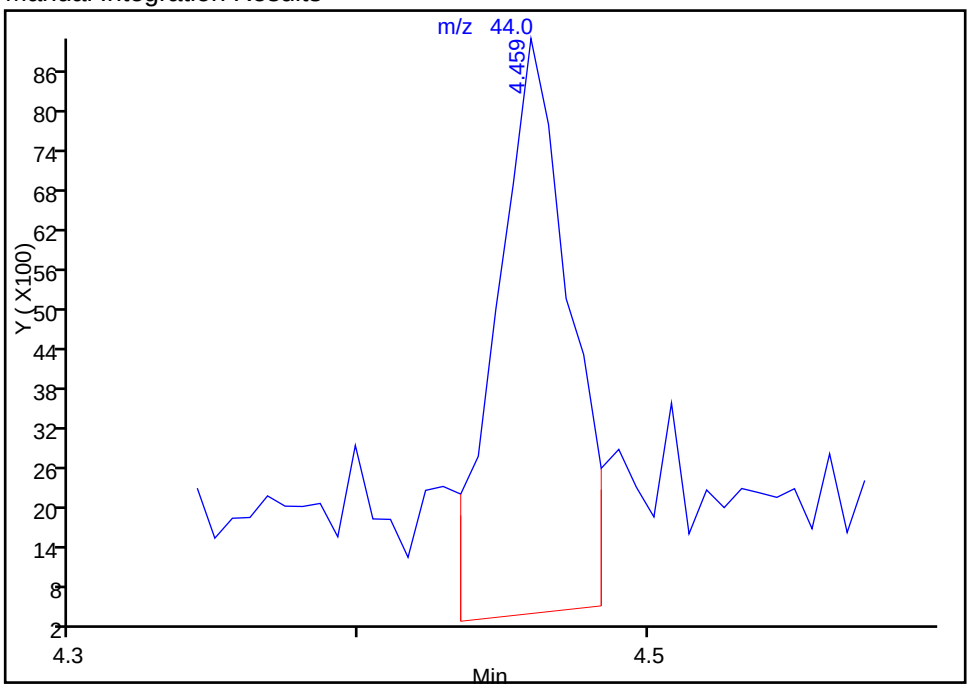
Processing Integration Results

RT: 4.46
Area: 16965
Amount: 139.5625
Amount Units: ug/l



Manual Integration Results

RT: 4.46
Area: 15324
Amount: 123.5479
Amount Units: ug/l



Reviewer: shenw, 04-May-2016 15:01:57
Audit Action: Manually Integrated Audit Reason: Baseline

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02200A.D
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 22-Jan-2016 11:16:30 ALS Bottle#: 52 Worklist Smp#: 1
Injection Vol: 20.0 mL Dil. Factor: 1.0000
Sample Info: BFB
Misc. Info.: 600-0010400-001
Operator ID: yx Instrument ID: CHVOAMS01

Method: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jan-2016 16:40:14 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK028

First Level Reviewer: shenw Date: 22-Jan-2016 11:44:14

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 170 BFB	95	5.649	5.649	0.000	0	214061	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

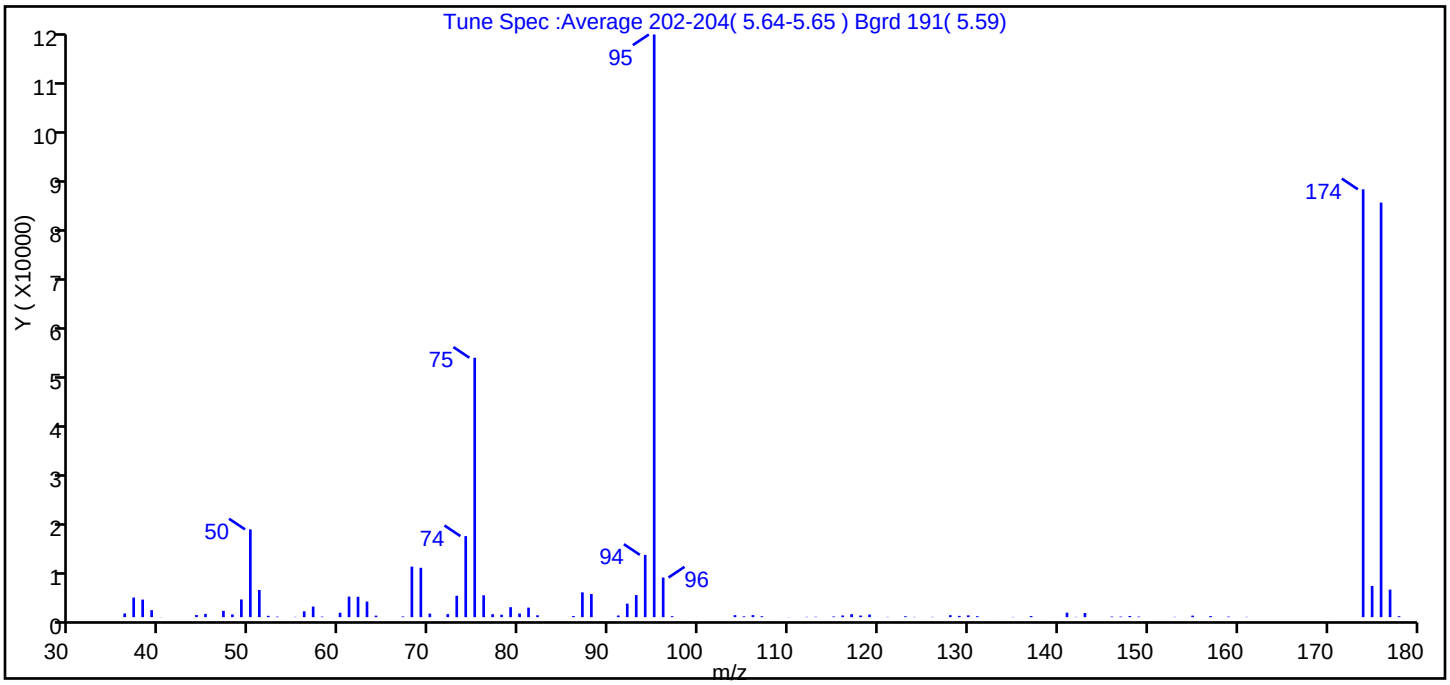
BFB_00196 Amount Added: 2.00 Units: uL

MS Tune Report

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02200A.D				
Injection Date:	22-Jan-2016 11:16:30	Instrument ID:	CHVOAMS01		
Lims ID:	BFB				
Client ID:					
Operator ID:	yx	ALS Bottle#:	52	Worklist Smp#:	1
Injection Vol:	20.0 mL	Dil. Factor:	1.0000		
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		
Tune Method:	BFB Method 8260				

$ 170 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	15.1
75	30 to 60% of m/z 95	44.5
96	5 to 9% of m/z 95	6.8
173	Less than 2% of m/z 174	0.0 (0.0)
174	50 to 120% of m/z 95	73.4
175	5 to 9% of m/z 174	5.4 (7.3)
176	Greater than 95% but less than 101% of m/z 174	71.2 (96.9)
177	5 to 9% of m/z 176	4.7 (6.6)

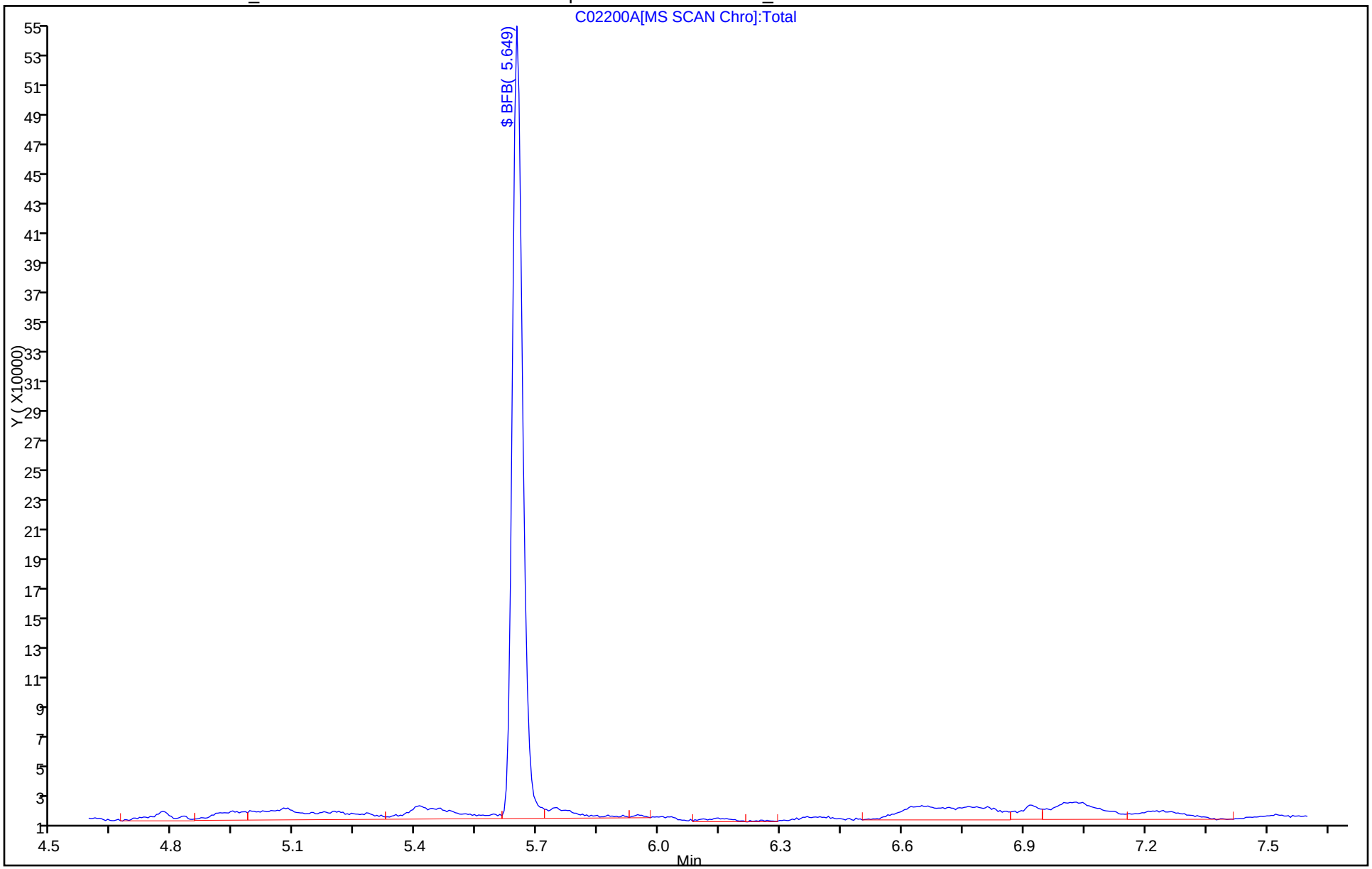
Data File: \\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02200A.D\8260W20_1.rslt\spectra.d
Injection Date: 22-Jan-2016 11:16:30
Spectrum: Tune Spec :Average 202-204(5.64-5.65) Bgrd 191(5.59)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 89

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	713	67.00	137	96.00	7662	133.00	2
37.00	3788	68.00	9772	97.00	185	135.00	46
38.00	3396	69.00	9546	104.00	389	137.00	212
39.00	1352	70.00	685	105.00	156	141.00	867
40.00	27	72.00	585	106.00	396	142.00	51
44.00	412	73.00	4135	107.00	180	143.00	797
45.00	635	74.00	15674	109.00	5	146.00	114
47.00	1217	75.00	50176	110.00	27	147.00	105
48.00	511	76.00	4226	112.00	61	148.00	227
49.00	3421	77.00	569	113.00	72	149.00	108
50.00	16976	78.00	459	115.00	134	153.00	53
51.00	5255	79.00	1930	116.00	325	155.00	295
52.00	260	80.00	703	117.00	577	157.00	205
53.00	104	81.00	1839	118.00	308	159.00	107
55.00	58	82.00	361	119.00	485	161.00	56
56.00	1122	86.00	217	121.00	50	174.00	82760
57.00	2042	87.00	4790	123.00	173	175.00	6038
58.00	107	88.00	4472	124.00	50	176.00	80192
60.00	856	91.00	316	126.00	55	177.00	5331
61.00	3972	92.00	2611	128.00	377	178.00	180
62.00	3938	93.00	4270	129.00	245		
63.00	3015	94.00	12045	130.00	348		
64.00	300	95.00	112704	131.00	189		

Report Date: 22-Jan-2016 16:40:15 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS01\20160122-10400.b\C02200A.D				
Injection Date:	22-Jan-2016 11:16:30	Instrument ID:	CHVOAMS01	Operator ID:	yx
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	20.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	52
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12100.D				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	01-May-2016 08:57:30	ALS Bottle#:	52	Worklist Smp#:	1
Injection Vol:	20.0 mL	Dil. Factor:	1.0000		
Sample Info:	BFB				
Misc. Info.:	600-0011852-001				
Operator ID:	ws	Instrument ID:	CHVOAMS01		

Method:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	02-May-2016 12:33:04	Calib Date:	22-Jan-2016 16:06:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK048		

First Level Reviewer: somjitp Date: 02-May-2016 12:33:04

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 170 BFB	95	5.647	5.647	0.000	0	122398	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

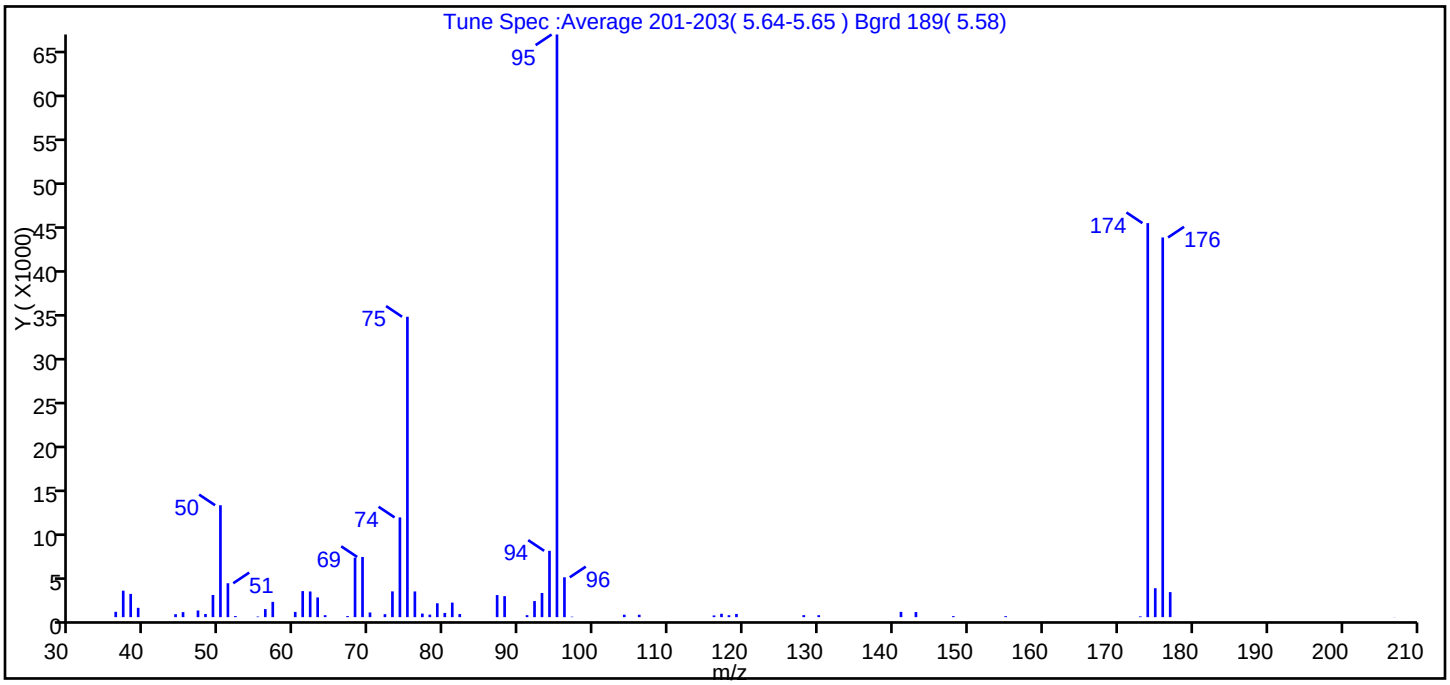
BFB_00203 Amount Added: 2.00 Units: uL

MS Tune Report

TestAmerica Houston

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12100.D				
Injection Date:	01-May-2016 08:57:30	Instrument ID:	CHVOAMS01		
Lims ID:	BFB				
Client ID:					
Operator ID:	ws	ALS Bottle#:	52	Worklist Smp#:	1
Injection Vol:	20.0 mL	Dil. Factor:	1.0000		
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		
Tune Method:	BFB Method 8260				

$ 170 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	19.2
75	30 to 60% of m/z 95	51.6
96	5 to 9% of m/z 95	6.8
173	Less than 2% of m/z 174	0.1 (0.2)
174	50 to 120% of m/z 95	67.6
175	5 to 9% of m/z 174	5.0 (7.3)
176	Greater than 95% but less than 101% of m/z 174	65.2 (96.4)
177	5 to 9% of m/z 176	4.3 (6.6)

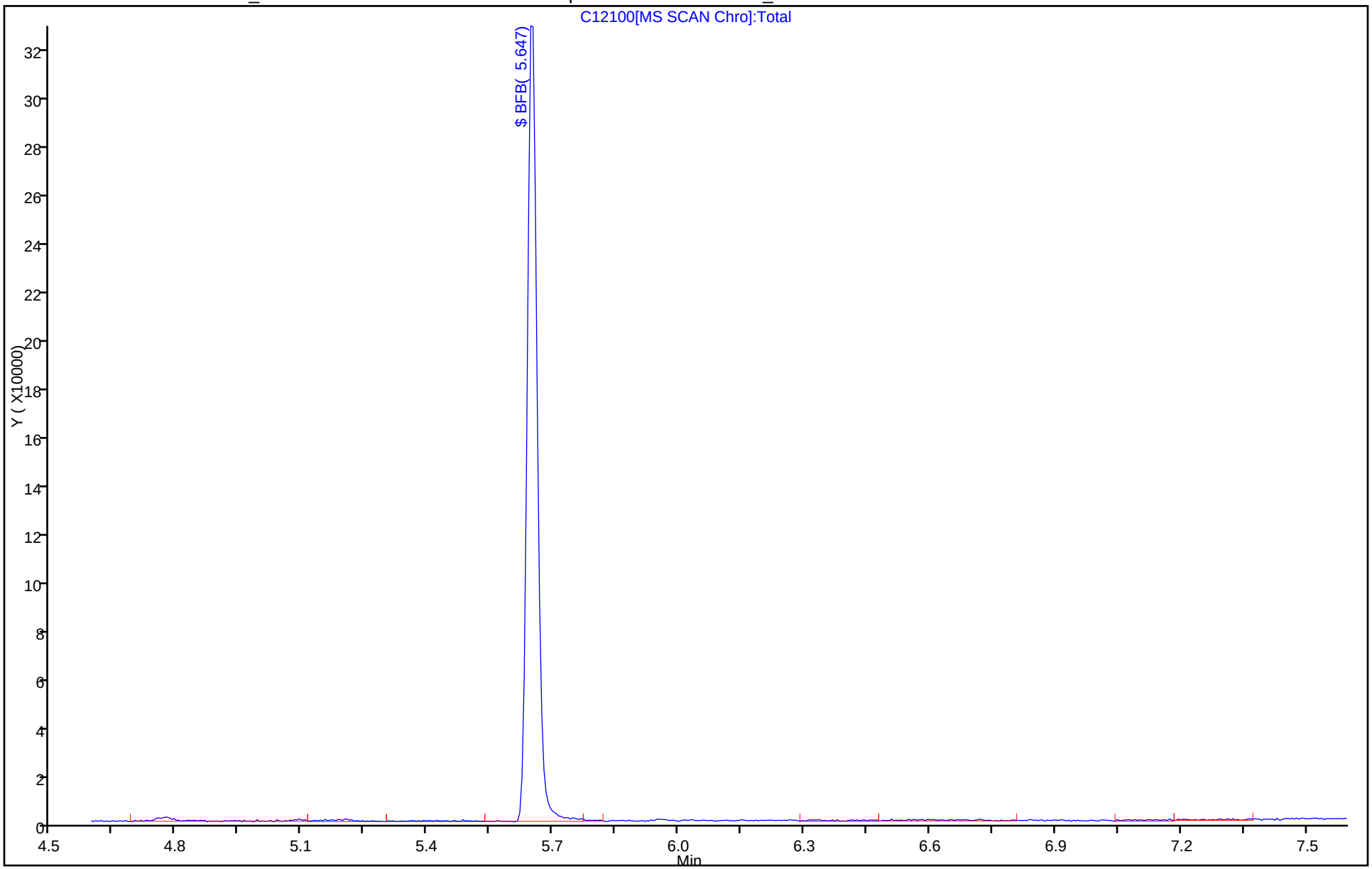
Data File: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12100.D\8260W20_1.rslt\spectra.c
Injection Date: 01-May-2016 08:57:30
Spectrum: Tune Spec :Average 201-203(5.64-5.65) Bgrd 189(5.58)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 62

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	610	61.00	2974	80.00	480	118.00	222
37.00	3024	62.00	2931	81.00	1661	119.00	367
38.00	2654	63.00	2253	82.00	355	128.00	228
39.00	1064	64.00	225	87.00	2523	130.00	224
44.00	338	67.00	120	88.00	2400	141.00	604
45.00	575	68.00	6798	91.00	226	143.00	580
47.00	760	69.00	6874	92.00	1835	148.00	114
48.00	357	70.00	534	93.00	2759	155.00	109
49.00	2534	72.00	337	94.00	7578	173.00	84
50.00	12784	73.00	2944	95.00	66568	174.00	45016
51.00	3873	74.00	11393	96.00	4552	175.00	3305
52.00	125	75.00	34320	97.00	52	176.00	43376
55.00	66	76.00	2937	104.00	279	177.00	2860
56.00	919	77.00	408	106.00	275	207.00	16
57.00	1745	78.00	287	116.00	195		
60.00	599	79.00	1587	117.00	388		

Report Date: 02-May-2016 12:33:06 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12100.D				
Injection Date:	01-May-2016 08:57:30	Instrument ID:	CHVOAMS01	Operator ID:	ws
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	20.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	52
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08100.d				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	21-Mar-2016 08:49:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	20.0 mL	Dil. Factor:	1.0000		
Sample Info:	bfb				
Misc. Info.:	600-0011198-001				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	21-Mar-2016 14:15:37	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 : Det: MS SCAN
Process Host: XAWRK004

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 165 BFB	95	6.108	6.108	0.000	0	234600	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

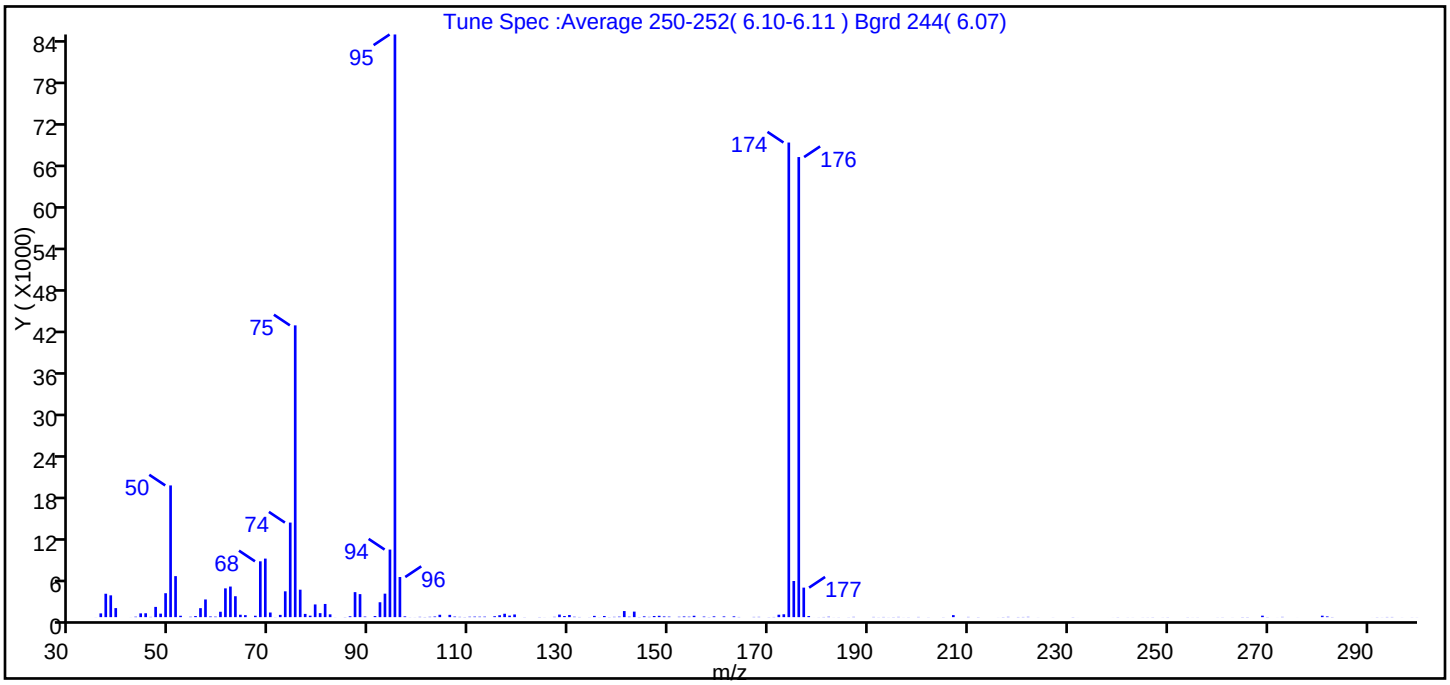
BFB_00200 Amount Added: 2.00 Units: uL

MS Tune Report

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08100.d				
Injection Date:	21-Mar-2016 08:49:30	Instrument ID:	CHVOAMS07		
Lims ID:	BFB				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	20.0 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Tune Method:	BFB Method 8260				

$ 165 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	22.6
75	30 to 60% of m/z 95	50.1
96	5 to 9% of m/z 95	6.9
173	Less than 2% of m/z 174	0.5 (0.6)
174	50 to 120% of m/z 95	81.5
175	5 to 9% of m/z 174	6.2 (7.6)
176	Greater than 95% but less than 101% of m/z 174	79.0 (96.9)
177	5 to 9% of m/z 176	5.1 (6.4)

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08100.d\8260w20_7.rslt\spectra.d
Injection Date: 21-Mar-2016 08:49:30
Spectrum: Tune Spec :Average 250-252(6.10-6.11) Bgrd 244(6.07)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 193

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	7	89.00	85	145.00	115	212.00	17
36.00	548	91.00	158	146.00	40	216.00	5
37.00	3402	92.00	2166	147.00	164	217.00	20
38.00	3171	93.00	3414	148.00	196	218.00	41
39.00	1315	94.00	9825	149.00	103	220.00	23
42.00	5	95.00	84720	150.00	77	221.00	26
43.00	63	96.00	5835	152.00	55	222.00	43
44.00	551	97.00	115	153.00	101	224.00	6
45.00	566	98.00	11	154.00	66	227.00	7
46.00	36	99.00	9	155.00	200	231.00	17
47.00	1488	100.00	43	156.00	2	232.00	3
48.00	510	101.00	22	157.00	85	238.00	1
49.00	3479	102.00	49	158.00	21	239.00	4
50.00	19152	103.00	94	159.00	117	240.00	14
51.00	5964	104.00	345	161.00	105	242.00	7
52.00	204	106.00	334	163.00	115	243.00	6
54.00	56	107.00	83	164.00	26	245.00	8
55.00	157	108.00	40	167.00	33	246.00	9
56.00	1308	109.00	21	168.00	41	247.00	15
57.00	2572	110.00	61	170.00	16	248.00	1
58.00	97	111.00	78	171.00	26	249.00	8
59.00	73	112.00	68	172.00	354	250.00	14
60.00	784	113.00	72	173.00	418	254.00	13
61.00	4184	115.00	134	174.00	69008	255.00	5
62.00	4448	116.00	277	175.00	5256	256.00	9
63.00	3041	117.00	494	176.00	66896	260.00	8
64.00	348	118.00	224	177.00	4292	261.00	12
65.00	288	119.00	390	178.00	156	263.00	6
67.00	205	121.00	15	179.00	3	265.00	21
68.00	8117	124.00	22	180.00	10	266.00	20
69.00	8512	125.00	8	181.00	24	269.00	214
70.00	673	126.00	2	182.00	55	270.00	17
71.00	11	127.00	46	183.00	6	272.00	4

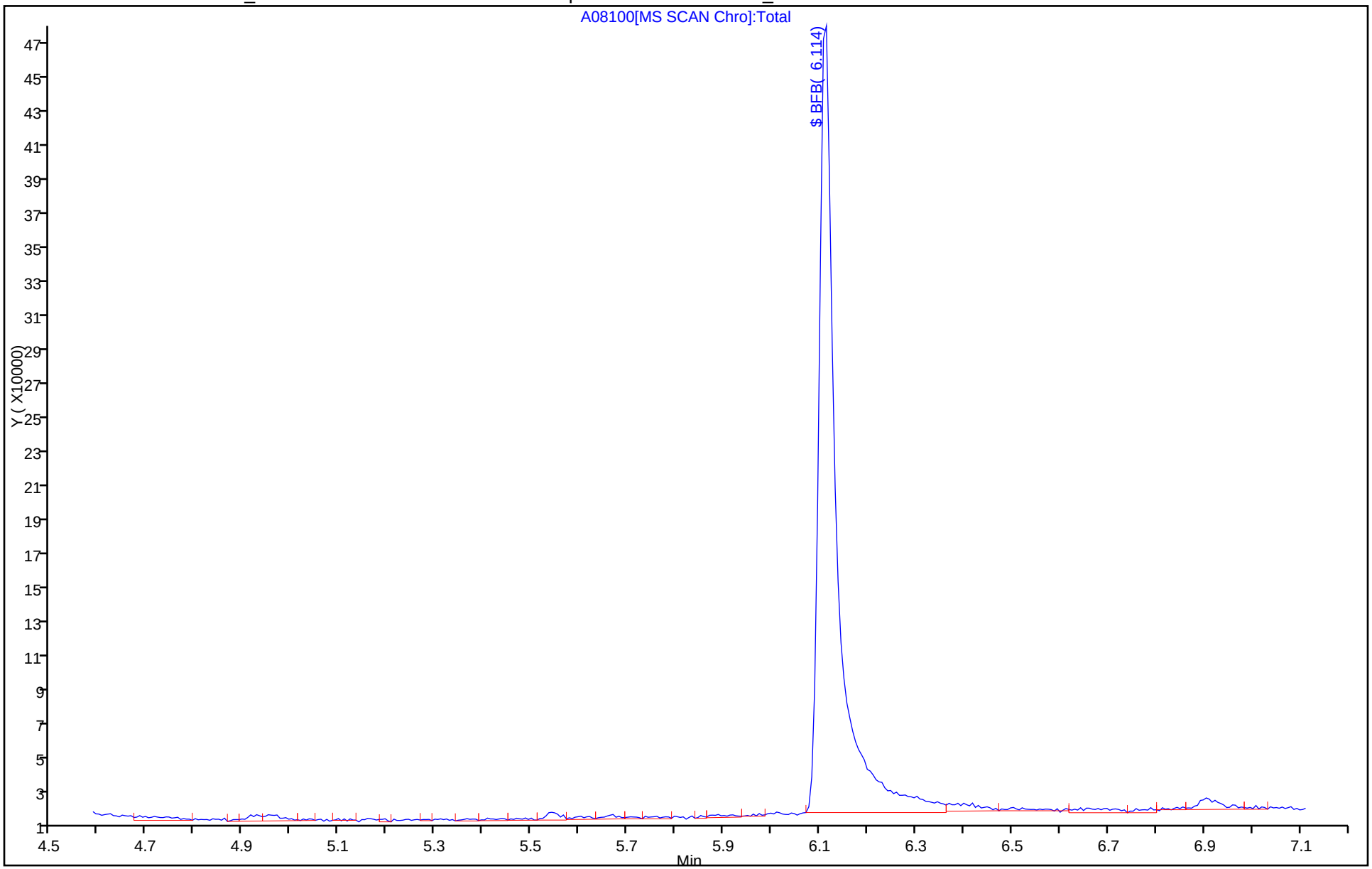
Report Date: 21-Mar-2016 14:15:37 Chrom Revision: 2.2 04-Mar-2016 14:36:24
Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08100.d\8260w20_7.rslt\spectra.d
Injection Date: 21-Mar-2016 08:49:30
Spectrum: Tune Spec :Average 250-252(6.10-6.11) Bgrd 244(6.07)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 193

m/z	Y	m/z	Y	m/z	Y	m/z	Y
72.00	328	128.00	369	184.00	11	273.00	36
73.00	3754	129.00	164	186.00	11	276.00	3
74.00	13751	130.00	315	187.00	39	281.00	211
75.00	42424	131.00	58	191.00	31	282.00	106
76.00	3992	132.00	25	192.00	11	283.00	22
77.00	473	134.00	12	193.00	27	291.00	3
78.00	214	135.00	183	194.00	9	292.00	15
79.00	1848	136.00	10	195.00	19	293.00	8
80.00	582	137.00	162	196.00	35	294.00	26
81.00	1917	138.00	17	197.00	6	295.00	26
82.00	406	139.00	44	198.00	12	297.00	6
83.00	7	140.00	71	200.00	29	299.00	9
85.00	19	141.00	885	202.00	10	300.00	7
86.00	123	142.00	66	205.00	12		
87.00	3636	143.00	805	207.00	292		
88.00	3348	144.00	22	210.00	32		

Report Date: 21-Mar-2016 14:15:37 Chrom Revision: 2.2 04-Mar-2016 14:36:24

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08100.d				
Injection Date:	21-Mar-2016 08:49:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	20.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12200.d				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	01-May-2016 09:02:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	20.0 mL	Dil. Factor:	1.0000		
Sample Info:	bfb				
Misc. Info.:	600-0011851-001				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	01-May-2016 12:54:57	Calib Date:	08-Apr-2016 11:23:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160408-11490.b\A09907.d		

Column 1 : Det: MS SCAN
Process Host: XAWRK001

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 165 BFB	95	6.114	6.114	0.000	0	148901	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

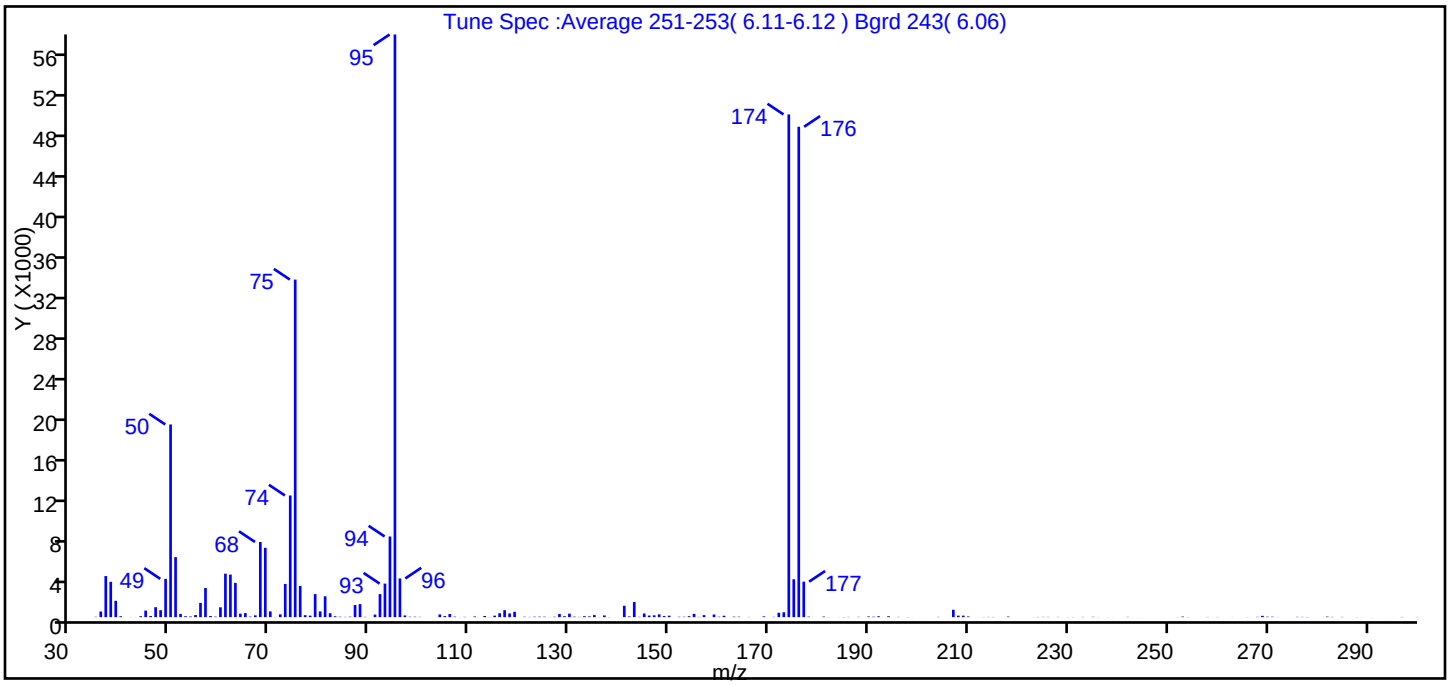
BFB_00203 Amount Added: 2.00 Units: uL

MS Tune Report

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12200.d				
Injection Date:	01-May-2016 09:02:30	Instrument ID:	CHVOAMS07		
Lims ID:	BFB				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	20.0 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Tune Method:	BFB Method 8260				

$ 165 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	33.1
75	30 to 60% of m/z 95	57.9
96	5 to 9% of m/z 95	6.6
173	Less than 2% of m/z 174	0.8 (1.0)
174	50 to 120% of m/z 95	86.3
175	5 to 9% of m/z 174	6.5 (7.5)
176	Greater than 95% but less than 101% of m/z 174	84.2 (97.5)
177	5 to 9% of m/z 176	6.1 (7.2)

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12200.d\8260w20_7.rslt\spectra.d
Injection Date: 01-May-2016 09:02:30
Spectrum: Tune Spec :Average 251-253(6.11-6.12) Bgrd 243(6.06)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 204

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	34	87.00	1202	145.00	363	215.00	19
36.00	555	88.00	1287	146.00	155	218.00	59
37.00	4050	89.00	30	147.00	180	219.00	3
38.00	3479	91.00	251	148.00	274	223.00	7
39.00	1612	92.00	2273	149.00	106	224.00	18
40.00	90	93.00	3305	150.00	146	225.00	26
42.00	11	94.00	7951	151.00	3	226.00	23
43.00	4	95.00	57432	152.00	39	228.00	22
44.00	91	96.00	3813	153.00	38	229.00	4
45.00	648	97.00	167	154.00	94	230.00	12
46.00	114	98.00	40	155.00	324	231.00	15
47.00	981	99.00	40	156.00	28	233.00	22
48.00	683	100.00	26	157.00	200	235.00	32
49.00	3774	102.00	1	158.00	6	236.00	8
50.00	18992	104.00	268	159.00	261	237.00	1
51.00	5917	105.00	108	160.00	42	238.00	10
52.00	317	106.00	307	161.00	137	239.00	4
53.00	91	107.00	48	163.00	47	242.00	25
54.00	62	108.00	8	164.00	43	243.00	5
55.00	206	109.00	27	166.00	21	244.00	5
56.00	1405	111.00	65	169.00	74	245.00	4
57.00	2875	113.00	113	171.00	26	251.00	3
58.00	115	114.00	16	172.00	432	252.00	11
59.00	49	115.00	144	173.00	481	253.00	55
60.00	970	116.00	385	174.00	49552	254.00	12
61.00	4284	117.00	688	175.00	3735	255.00	1
62.00	4196	118.00	364	176.00	48336	258.00	18
63.00	3376	119.00	525	177.00	3497	259.00	5
64.00	340	121.00	37	178.00	50	260.00	16
65.00	399	122.00	22	181.00	54	263.00	7
66.00	51	123.00	43	182.00	10	264.00	3
67.00	174	124.00	45	184.00	7	266.00	13
68.00	7408	125.00	42	185.00	14	268.00	29

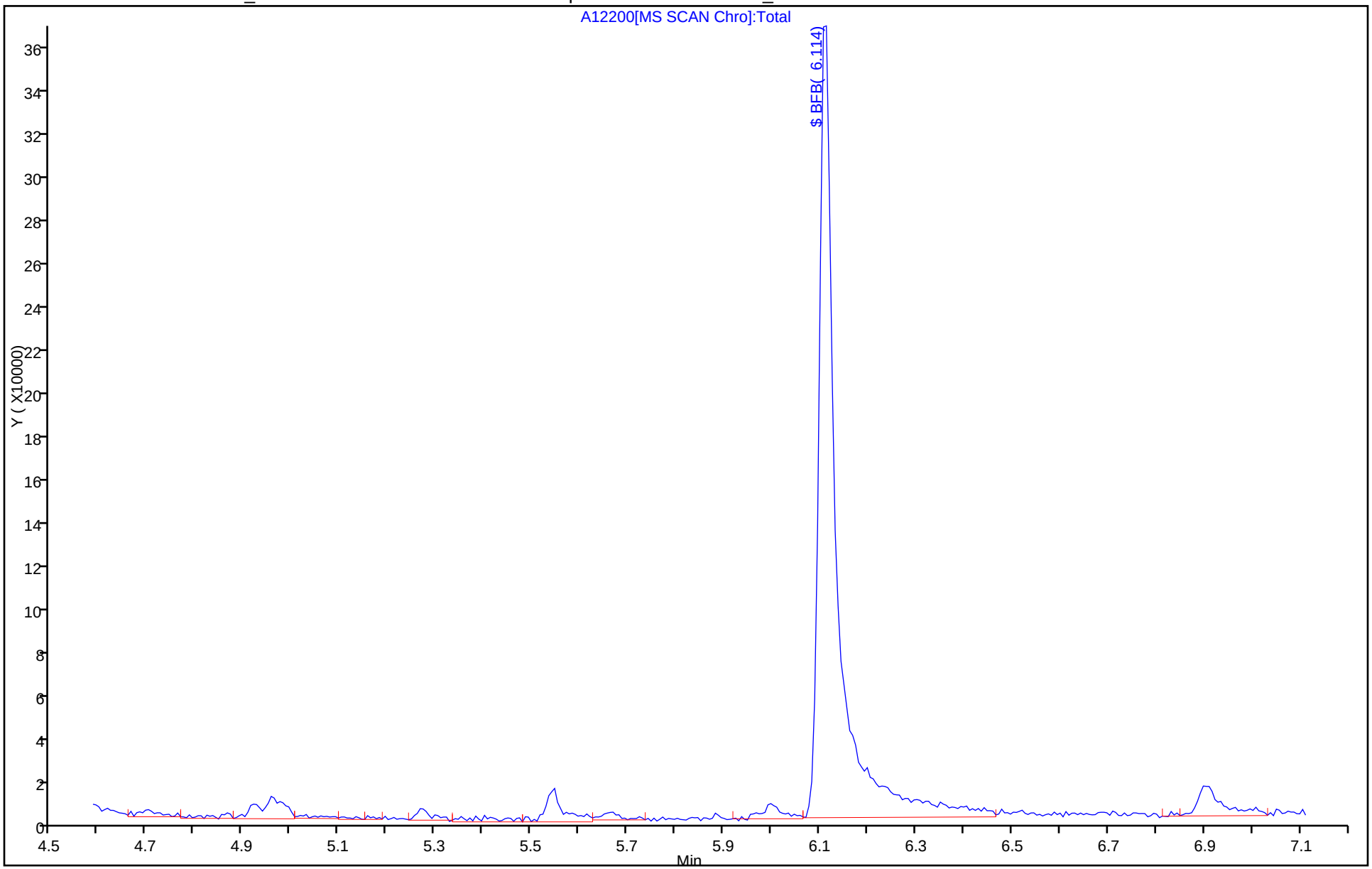
Report Date: 01-May-2016 12:54:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46
Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12200.d\8260w20_7.rslt\spectra.d
Injection Date: 01-May-2016 09:02:30
Spectrum: Tune Spec :Average 251-253(6.11-6.12) Bgrd 243(6.06)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 204

m/z	Y	m/z	Y	m/z	Y	m/z	Y
69.00	6833	126.00	12	186.00	21	269.00	129
70.00	568	127.00	39	188.00	28	270.00	43
71.00	12	128.00	313	190.00	65	271.00	39
72.00	276	129.00	94	191.00	43	272.00	9
73.00	3272	130.00	344	192.00	87	275.00	3
74.00	11993	131.00	48	194.00	89	276.00	32
75.00	33272	132.00	24	196.00	24	277.00	25
76.00	3072	133.00	93	198.00	17	278.00	15
77.00	195	134.00	71	199.00	6	279.00	2
78.00	147	135.00	201	201.00	3	282.00	53
79.00	2273	136.00	13	204.00	23	283.00	24
80.00	570	137.00	170	207.00	725	285.00	24
81.00	2056	138.00	16	208.00	147	288.00	12
82.00	386	139.00	7	209.00	148	289.00	4
83.00	89	141.00	1122	210.00	65	291.00	7
84.00	39	142.00	70	212.00	5	295.00	4
85.00	24	143.00	1499	213.00	13	297.00	20
86.00	46	144.00	32	214.00	21	300.00	16

Report Date: 01-May-2016 12:54:57 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12200.d				
Injection Date:	01-May-2016 09:02:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	20.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12300a.d
Lims ID: BFB
Client ID:
Sample Type: BFB
Inject. Date: 02-May-2016 08:48:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 20.0 mL Dil. Factor: 1.0000
Sample Info: bfb
Misc. Info.: 600-0011863-001
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 02-May-2016 13:05:48 Calib Date: 08-Apr-2016 11:23:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160408-11490.b\A09907.d

Column 1 : Det: MS SCAN
Process Host: XAWRK030

First Level Reviewer: shenw Date: 02-May-2016 09:00:54

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 165 BFB	95	6.114	6.114	0.000	0	117119	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

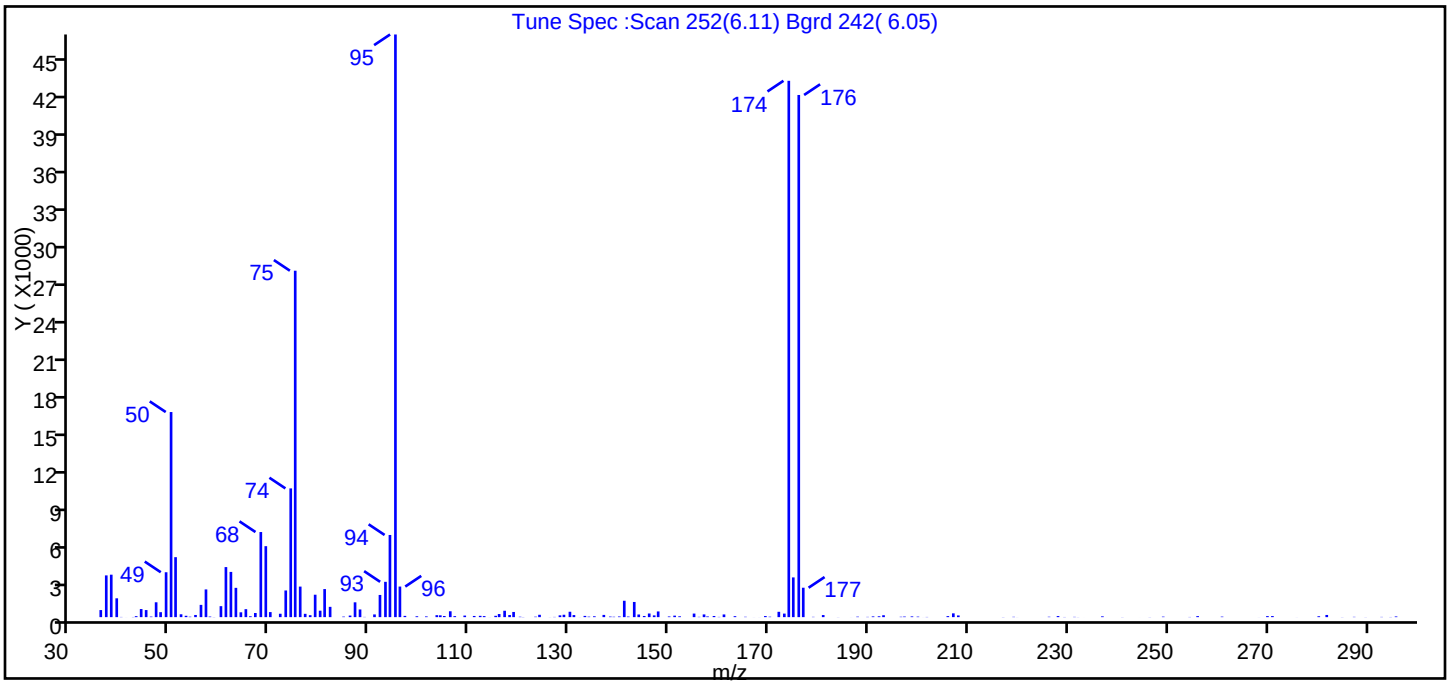
BFB_00203 Amount Added: 2.00 Units: uL

MS Tune Report

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12300a.d				
Injection Date:	02-May-2016 08:48:30	Instrument ID:	CHVOAMS07		
Lims ID:	BFB				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	20.0 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Tune Method:	BFB Method 8260				

$ 165 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	35.2
75	30 to 60% of m/z 95	59.5
96	5 to 9% of m/z 95	5.2
173	Less than 2% of m/z 174	0.6 (0.7)
174	50 to 120% of m/z 95	92.1
175	5 to 9% of m/z 174	6.8 (7.4)
176	Greater than 95% but less than 101% of m/z 174	89.6 (97.4)
177	5 to 9% of m/z 176	5.0 (5.6)

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12300a.d\8260w20_7.rslt\spectra.d
Injection Date: 02-May-2016 08:48:30
Spectrum: Tune Spec :Scan 252(6.11) Bgrd 242(6.05)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 172

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	571	80.00	520	133.10	100	190.90	59
37.10	3368	80.90	2264	133.90	40	192.10	69
38.10	3425	82.00	831	135.00	69	193.00	153
39.20	1519	84.70	44	136.90	180	196.50	31
40.10	16	86.00	127	138.20	45	197.20	47
41.10	2	87.00	1196	138.90	31	198.70	60
42.50	13	88.00	620	140.00	54	199.90	42
43.10	80	88.90	18	141.00	1322	201.00	2
44.10	653	90.90	219	141.80	47	201.70	16
45.10	571	92.00	1790	143.00	1224	205.90	83
46.10	45	93.10	2849	143.90	213	207.00	306
47.10	1199	94.00	6628	145.00	93	208.00	137
48.00	401	95.10	47000	146.00	294	217.00	10
49.10	3622	96.00	2467	147.00	141	219.10	26
50.10	16544	97.00	102	147.80	460	219.80	3
51.00	4838	99.40	71	150.00	55	224.70	1
52.10	231	101.30	59	151.10	121	226.20	32
53.10	110	103.40	158	152.10	68	228.00	87
53.90	35	104.10	146	155.00	288	229.30	13
55.00	175	104.90	91	156.00	24	231.30	22
56.10	989	106.10	473	157.00	220	232.00	6
57.10	2236	107.00	81	157.70	56	233.20	1
57.90	47	109.00	126	159.00	92	236.90	64
58.70	9	110.90	95	160.00	19	237.70	1
60.10	886	112.10	106	161.00	218	240.90	8
61.10	4038	112.90	84	163.20	78	244.40	1
62.10	3648	114.00	4	165.30	29	246.40	8
63.10	2363	115.20	107	167.00	3	249.10	41
64.10	390	115.90	250	168.10	3	254.40	15
65.10	643	117.00	515	169.30	89	256.00	82
66.00	70	118.00	171	170.20	35	260.90	42
67.00	334	118.80	418	172.00	431	268.30	3
68.10	6865	120.10	33	173.10	286	270.00	83

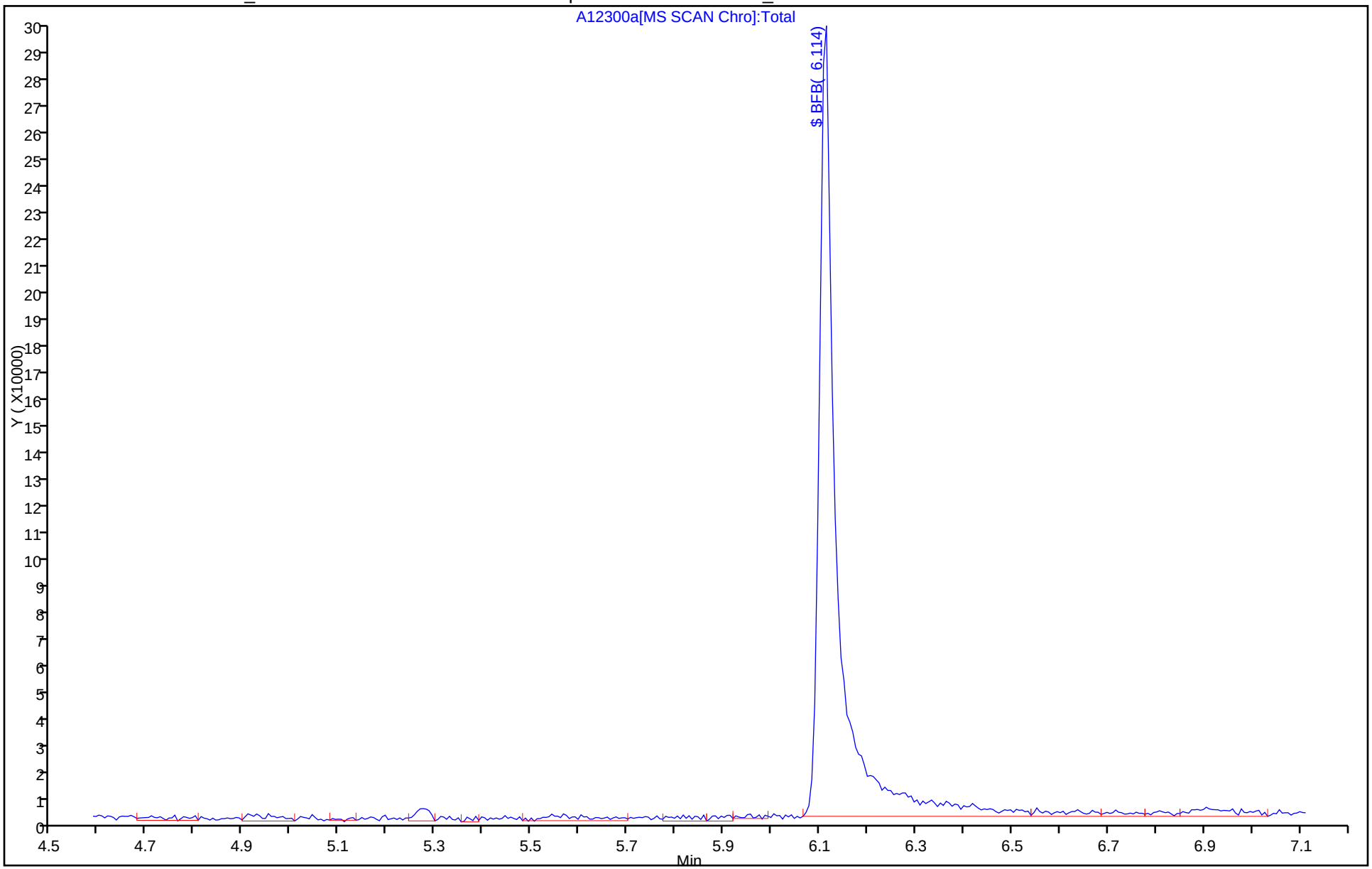
Report Date: 02-May-2016 13:05:49 Chrom Revision: 2.2 20-Apr-2016 13:59:46
Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12300a.d\8260w20_7.rslt\spectra.d
Injection Date: 02-May-2016 08:48:30
Spectrum: Tune Spec :Scan 252(6.11) Bgrd 242(6.05)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 172

m/z	Y	m/z	Y	m/z	Y	m/z	Y
69.10	5725	120.70	12	174.00	43264	271.00	86
70.00	408	123.20	37	174.90	3205	275.90	3
72.00	274	124.00	190	176.00	42120	280.30	72
73.10	2152	126.10	5	176.90	2373	281.90	176
74.10	10385	127.00	18	178.90	24	285.00	8
75.00	27944	128.10	145	180.90	168	287.40	24
76.00	2464	128.90	192	183.90	6	289.70	7
77.00	268	130.10	435	186.50	2	292.90	19
78.00	156	130.90	167	187.80	39	294.70	13
79.00	1809	132.10	4	189.80	21	295.80	56

Report Date: 02-May-2016 13:05:49 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12300a.d				
Injection Date:	02-May-2016 08:48:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	20.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12500.d				
Lims ID:	BFB				
Client ID:					
Sample Type:	BFB				
Inject. Date:	04-May-2016 09:03:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	20.0 mL	Dil. Factor:	1.0000		
Sample Info:	bfb				
Misc. Info.:	600-0011909-001				
Operator ID:	ws	Instrument ID:	CHVOAMS07		
Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m				
Limit Group:	VOA - 8260B_8260BLL				
Last Update:	05-May-2016 11:15:43	Calib Date:	04-May-2016 12:04:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK002				

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
$ 165 BFB	95	6.114	6.114	0.000	0	152178	NR	NR	

QC Flag Legend

Processing Flags

NR - Missing Quant Standard

Reagents:

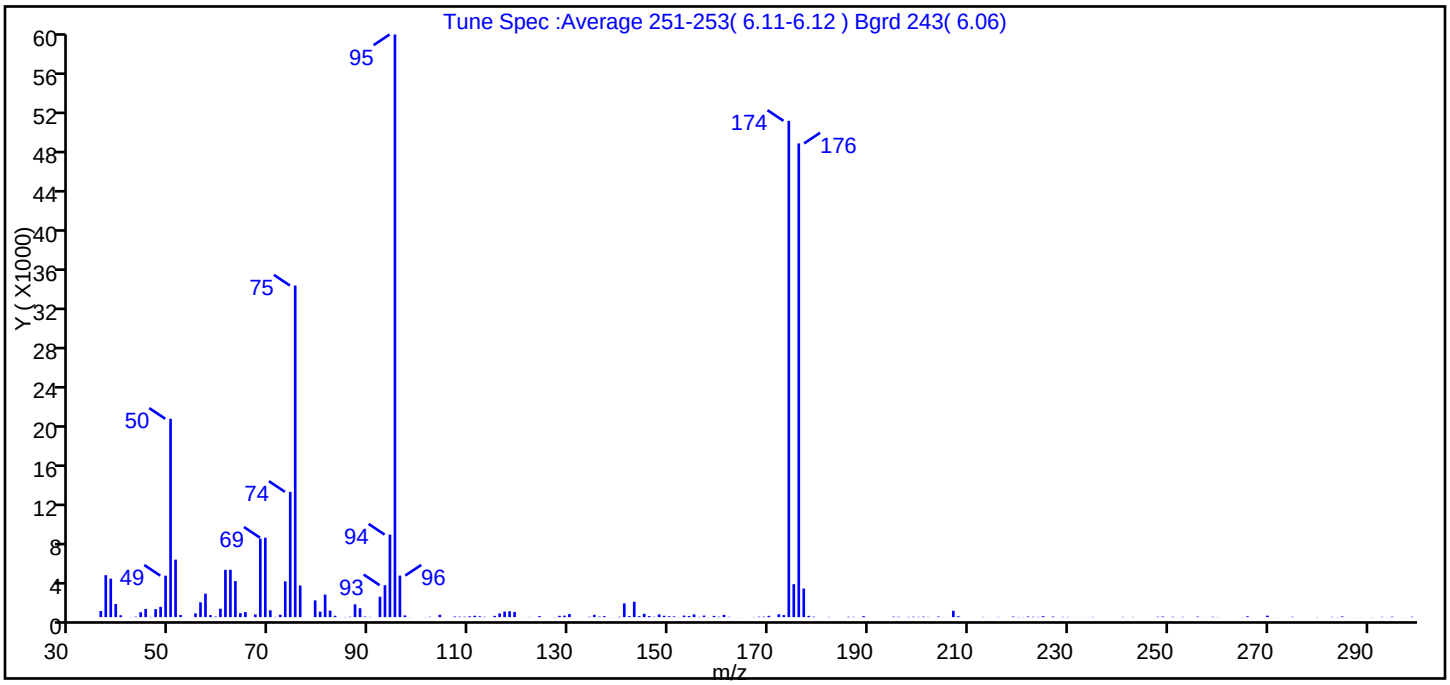
BFB_00203 Amount Added: 2.00 Units: uL

MS Tune Report

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12500.d				
Injection Date:	04-May-2016 09:03:30	Instrument ID:	CHVOAMS07		
Lims ID:	BFB				
Client ID:					
Operator ID:	ws	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	20.0 mL	Dil. Factor:	1.0000		
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		
Tune Method:	BFB Method 8260				

$ 165 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	Base peak, 100% relative abundance	100.0
50	15 to 40% of m/z 95	34.0
75	30 to 60% of m/z 95	56.9
96	5 to 9% of m/z 95	7.1
173	Less than 2% of m/z 174	0.4 (0.4)
174	50 to 120% of m/z 95	85.2
175	5 to 9% of m/z 174	5.7 (6.6)
176	Greater than 95% but less than 101% of m/z 174	81.3 (95.5)
177	5 to 9% of m/z 176	4.9 (6.0)

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12500.d\8260w20_7.rslt\spectra.d
Injection Date: 04-May-2016 09:03:30
Spectrum: Tune Spec :Average 251-253(6.11-6.12) Bgrd 243(6.06)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 191

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	621	89.00	62	150.00	85	222.00	62
37.00	4253	90.00	26	151.00	79	223.00	41
38.00	3898	92.00	2077	152.00	12	224.00	25
39.00	1336	93.00	3238	153.00	159	225.00	92
40.00	193	94.00	8365	154.00	112	227.00	59
42.00	20	95.00	59048	155.00	277	228.00	5
43.00	48	96.00	4212	156.00	29	229.00	33
44.00	494	97.00	175	157.00	160	230.00	26
45.00	831	98.00	12	158.00	13	231.00	6
46.00	29	101.00	12	159.00	127	234.00	9
47.00	810	102.00	38	160.00	45	235.00	27
48.00	1044	104.00	243	161.00	229	241.00	29
49.00	4204	107.00	64	162.00	36	243.00	21
50.00	20104	108.00	45	164.00	11	244.00	2
51.00	5830	109.00	42	167.00	20	245.00	1
52.00	214	110.00	85	168.00	45	248.00	41
54.00	6	111.00	142	169.00	47	249.00	60
55.00	381	112.00	83	170.00	136	251.00	36
56.00	1503	113.00	34	172.00	294	252.00	7
57.00	2376	114.00	5	173.00	207	253.00	31
58.00	205	115.00	128	174.00	50296	255.00	3
59.00	58	116.00	373	175.00	3340	256.00	52
60.00	853	117.00	562	176.00	48008	257.00	7
61.00	4793	118.00	598	177.00	2897	259.00	36
62.00	4797	119.00	532	178.00	129	260.00	18
63.00	3654	121.00	7	179.00	49	265.00	13
64.00	404	122.00	21	180.00	1	266.00	85
65.00	515	124.00	104	182.00	26	270.00	149
67.00	276	127.00	15	185.00	1	272.00	10
68.00	7953	128.00	135	186.00	39	273.00	3
69.00	8050	129.00	152	187.00	34	275.00	36
70.00	694	130.00	314	189.00	97	276.00	3
71.00	26	134.00	38	195.00	50	280.00	16

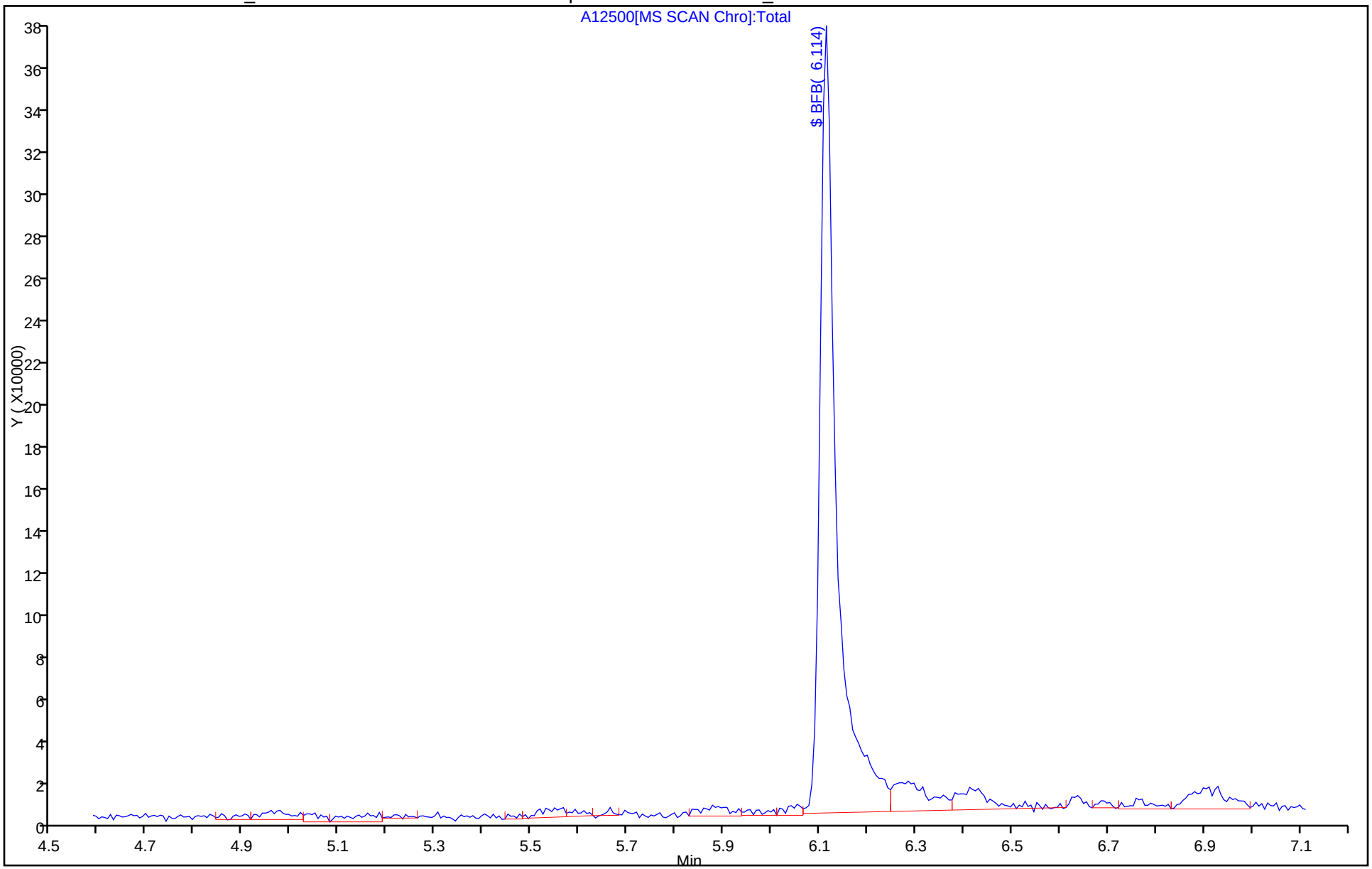
Report Date: 05-May-2016 11:15:44 Chrom Revision: 2.2 20-Apr-2016 13:59:46
Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12500.d\8260w20_7.rslt\spectra.d
Injection Date: 04-May-2016 09:03:30
Spectrum: Tune Spec :Average 251-253(6.11-6.12) Bgrd 243(6.06)
Base Peak: 95.00
Minimum % Base Peak: 0
Number of Points: 191

m/z	Y	m/z	Y	m/z	Y	m/z	Y
72.00	247	135.00	237	196.00	39	283.00	32
73.00	3624	136.00	54	198.00	31	284.00	13
74.00	12698	137.00	100	199.00	41	285.00	68
75.00	33608	138.00	5	200.00	29	287.00	10
76.00	3204	139.00	7	201.00	50	288.00	6
79.00	1695	140.00	37	202.00	23	289.00	9
80.00	559	141.00	1388	204.00	60	291.00	15
81.00	2290	142.00	96	205.00	16	293.00	33
82.00	659	143.00	1560	207.00	649	294.00	7
83.00	140	144.00	95	208.00	87	295.00	47
84.00	7	145.00	338	213.00	26	296.00	1
85.00	20	146.00	105	216.00	24	297.00	12
86.00	41	147.00	36	219.00	57	298.00	7
87.00	1301	148.00	275	220.00	22	299.00	45
88.00	901	149.00	135	221.00	17		

Report Date: 05-May-2016 11:15:44 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12500.d				
Injection Date:	04-May-2016 09:03:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	BFB			Worklist Smp#:	1
Client ID:					
Injection Vol:	20.0 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-187554/6
Matrix: Water
Lab File ID: A12205.d
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/01/2016 11:33
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187554
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	0.192	U	1.00	0.192
127-18-4	Tetrachloroethene	0.333	U	1.00	0.333
79-01-6	Trichloroethene	0.138	U	1.00	0.138
75-01-4	Vinyl chloride	0.248	U	2.00	0.248
156-59-2	cis-1,2-Dichloroethene	0.157	U	1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	93		70-130
1868-53-7	Dibromofluoromethane	102		62-130
460-00-4	4-Bromofluorobenzene	96		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12205.d
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 01-May-2016 11:33:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: mb
Misc. Info.: 600-0011851-006
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 21-Jul-2016 19:08:53 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: shenw Date: 01-May-2016 11:54:55

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.632	8.633	-0.001	95	303201	12.5	12.5	
2 Dichlorodifluoromethane	85		4.003					ND	
3 Chloromethane	50		4.246					ND	
6 Ethylene oxide	44		4.453					ND	
4 Vinyl chloride	62		4.477					ND	
5 Butadiene	39		4.605					ND	
7 Bromomethane	94		4.934					ND	
8 Ethanol	45		5.074					ND	
9 Chloroethane	64		5.074					ND	
11 Dichlorofluoromethane	67		5.116					ND	
12 Vinyl bromide	106		5.120					ND	
10 Acetaldehyde	44	5.159	5.138	0.021	69	2951		NC	
13 Pentane	43		5.548					ND	
14 Acrolein	56		5.615					ND	
15 Acetonitrile	41		5.615					ND	
16 Trichlorofluoromethane	101		5.633					ND	
17 Isopropyl alcohol	45		5.652					ND	
21 2-Methyl-2-propanol	59		5.828					ND	
18 Acetone	43		5.828					ND	
19 Ethyl ether	59		5.828					ND	
20 Propene oxide	58		5.865					ND	
22 1,1-Dichloroethene	96		6.114					ND	
23 Acrylonitrile	52		6.138					ND	
24 Iodomethane	142		6.163					ND	
25 Methylene Chloride	84		6.230					ND	
26 Methyl acetate	43		6.242					ND	
27 1,1,2-Trichloro-1,2,2-trif	151		6.266					ND	
28 3-Chloro-1-propene	76		6.309					ND	
29 Carbon disulfide	76		6.473					ND	
30 trans-1,2-Dichloroethene	96		6.789					ND	
31 Methyl tert-butyl ether	73		6.856					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Propionitrile	54		6.966					ND	
33 1,1-Dichloroethane	63		6.984					ND	
34 Vinyl acetate	43		7.045					ND	
35 2-Chloro-1,3-butadiene	53		7.270					ND	
36 Hexane	57		7.282					ND	
37 2-Butanone (MEK)	72		7.288					ND	
38 Isopropyl ether	45		7.294					ND	
39 Methacrylonitrile	66		7.373					ND	
42 n-Propyl acetate	43		7.401					ND	
40 cis-1,2-Dichloroethene	96		7.428					ND	
41 Isopropyl acetate	43		7.444					ND	
44 1,1 Dichloropropane	77		7.530					ND	
45 Chlorobromomethane	128		7.562					ND	
S 46 1,2-Dichloroethene, Total	96		7.590					ND	
48 Chloroform	83		7.592					ND	
49 Tert-butyl ethyl ether	59		7.598					ND	
43 Ethyl acetate	43		7.604					ND	
50 Isobutyl alcohol	43		7.604					ND	
47 Methyl acrylate	55		7.608					ND	
51 2,2-Dichloropropane	77		7.653					ND	
$ 52 Dibromofluoromethane	113	7.690	7.684	0.006	92	68321	12.5	12.7	
53 Tetrahydrofuran	42		7.848					ND	
54 trans-1,2-dibromoethene	186		7.874					ND	
55 2-Pentanone	43		7.895					ND	
56 Epichlorohydrin TIC	57		7.898					ND	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.030	0.006	0	62869	12.5	12.8	
58 1,2-Dichloroethane	62		8.091					ND	
59 n-Butanol	56		8.176					ND	
60 1,1,1-Trichloroethane	97		8.176					ND	
61 1,1-Dichloropropene	75		8.310					ND	
62 Cyclohexane	84		8.407					ND	
63 Carbon tetrachloride	119		8.462					ND	
64 Benzene	78		8.487					ND	
65 2-Methyltetrahydrofuran	71		8.496					ND	
66 Tert-amyl methyl ether	73		8.566					ND	
68 Isooctane	57		8.785					ND	
69 Ethyl acrylate	55		8.839					ND	
70 n-Heptane	43		8.845					ND	
67 2-Nitropropane	43		8.845					ND	
71 Dibromomethane	93		8.931					ND	
72 1,2-Dichloropropane	63		8.949					ND	
73 Trichloroethene	130		8.973					ND	
74 Dichlorobromomethane	83		9.016					ND	
75 Methyl methacrylate	41		9.065					ND	
76 1,4-Dioxane	58		9.077					ND	
77 Tetrahydropyran	41		9.111					ND	
78 Methylcyclohexane	83		9.417					ND	
79 4-Methyl-2-pentanone (MIBK	43		9.588					ND	
* 80 Chlorobenzene-d5	82	11.644	11.638	0.006	93	94454	12.5	12.5	
81 1-Bromo-2-chloroethane	63		8.095					ND	
82 cis-1,2-dibromoethene	186		8.744					ND	
S 83 1,2-Dibromoethene	186		8.880					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
84 2-Chloroethyl vinyl ether	63		9.302					ND	
85 cis-1,3-Dichloropropene	75		9.527					ND	
86 2-Methyltetrahydropyran	85		9.750					ND	
S 87 2,3-dichlorobutane	63		9.800					ND	
88 trans-1,3-Dichloropropene	75		9.892					ND	
89 1,1,2-Trichloroethane	97		10.056					ND	
90 trans 2,3-dichlorobutane	63		10.109					ND	
$ 91 Toluene-d8 (Surr)	98	10.172	10.166	0.006	96	228370	12.5	11.6	
92 Ethyl methacrylate	69		10.208					ND	
93 Toluene	92		10.239					ND	
94 1,3-Dichloropropane	76		10.275					ND	
95 2-Hexanone	43		10.372					ND	
96 cis 2,3-dichlorobutane	63		10.401					ND	
97 Chlorodibromomethane	129		10.585					ND	
98 n-Butyl acetate	43		10.658					ND	
99 Ethylene Dibromide	107		10.835					ND	
S 100 Xylenes, Total	106		10.900					ND	
101 Tetrachloroethene	164		10.981					ND	
102 1-Chlorohexane	55		11.534					ND	
103 1,1,1,2-Tetrachloroethane	131		11.589					ND	
104 Chlorobenzene	112		11.674					ND	
105 Ethylbenzene	106		11.851					ND	
106 m-Xylene & p-Xylene	91		12.045					ND	
107 Styrene	104		12.410					ND	
108 Cyclohexanone	55		12.453					ND	
109 o-Xylene	106		12.490					ND	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	95	56912	12.5	12.5	
111 n-Butyl acrylate	55		10.687					ND	
112 cis-1,4-Dichloro-2-butene	53		11.516					ND	
113 Butyl Methacrylate	69		12.157					ND	
114 Bromoform	173		12.240					ND	
115 1,1,2,2-Tetrachloroethane	83		12.490					ND	
116 trans-1,4-Dichloro-2-buten	53		12.636					ND	
117 1,2,3-Trichloropropane	110		12.642					ND	
118 Isopropylbenzene	105		12.873					ND	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	87	58361	12.5	11.9	
120 Bromobenzene	156		13.171					ND	
121 N-Propylbenzene	120		13.323					ND	
122 2-Chlorotoluene	126		13.439					ND	
123 4-Chlorotoluene	91		13.512					ND	
124 1,3,5-Trimethylbenzene	105		13.591					ND	
125 Alpha Methyl Styrene	118		13.700					ND	
126 Pentachloroethane	167		13.726					ND	
127 2-Ethyl-2-hexenal	55		13.868					ND	
128 tert-Butylbenzene	119		13.883					ND	
129 2-Ethyl-1-Hexanol	57		13.972					ND	
130 1,2,4-Trimethylbenzene	105		13.980					ND	
131 sec-Butylbenzene	105		14.096					ND	
132 Benzyl chloride	91		14.187					ND	
133 1,3-Dichlorobenzene	146		14.193					ND	
134 1,4-Dichlorobenzene	146		14.254					ND	
135 4-Isopropyltoluene	119		14.260					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
136 1,2,3-Trimethylbenzene	105		14.412					ND	
T 137 2,6-Dimethyltetrahydropyra	128		14.500					ND	
138 1,2-Dichlorobenzene	146		14.613					ND	
139 n-Butylbenzene	91		14.674					ND	
140 1,2-Dibromo-3-Chloropropan	157		15.093					ND	
141 1,3,5-Trichlorobenzene	180		15.957					ND	
142 1,2,4-Trichlorobenzene	180		16.572					ND	
143 Naphthalene	128		16.870					ND	
144 Hexachlorobutadiene	190		16.906					ND	
145 1,2,3-Trichlorobenzene	180		17.113					ND	
158 2-Methylbutane TIC	1		0.000					ND	
159 Methyl n-amyl ketone	1		0.000					ND	
156 Isobutyl acetate	43		0.000					ND	
157 Tetrahydrothiophene	1		0.000					ND	
160 Methyl Isocyanate TIC	1		0.000					ND	
163 1-octyloxy-(1-piperidinyl)	1		0.000					ND	
164 Phosgene TIC	1		0.000					ND	
161 Propene oxide TIC	1		0.000					ND	
162 Styrene oxide TIC	1		0.000					ND	
155 Propargyl alcohol TIC	1		0.000					ND	
148 Acetone cyanohydrin TIC	1		0.000					ND	
149 Acetaldehyde TIC	1		0.000					ND	
S 146 1,3-Dichloropropene, Total	1		0.000					ND	
S 147 Trihalomethanes, Total	1		0.000					ND	
150 Cyclohexanol TIC	1		0.000					ND	
153 Pentafluorobenzene	168		0.000					ND	
154 4-Methyl-1,3-dioxolane-2-o	1		0.000					ND	
151 1,3-Dichloro-2-propanol TI	1		0.000					ND	
152 Diazomethane TIC	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

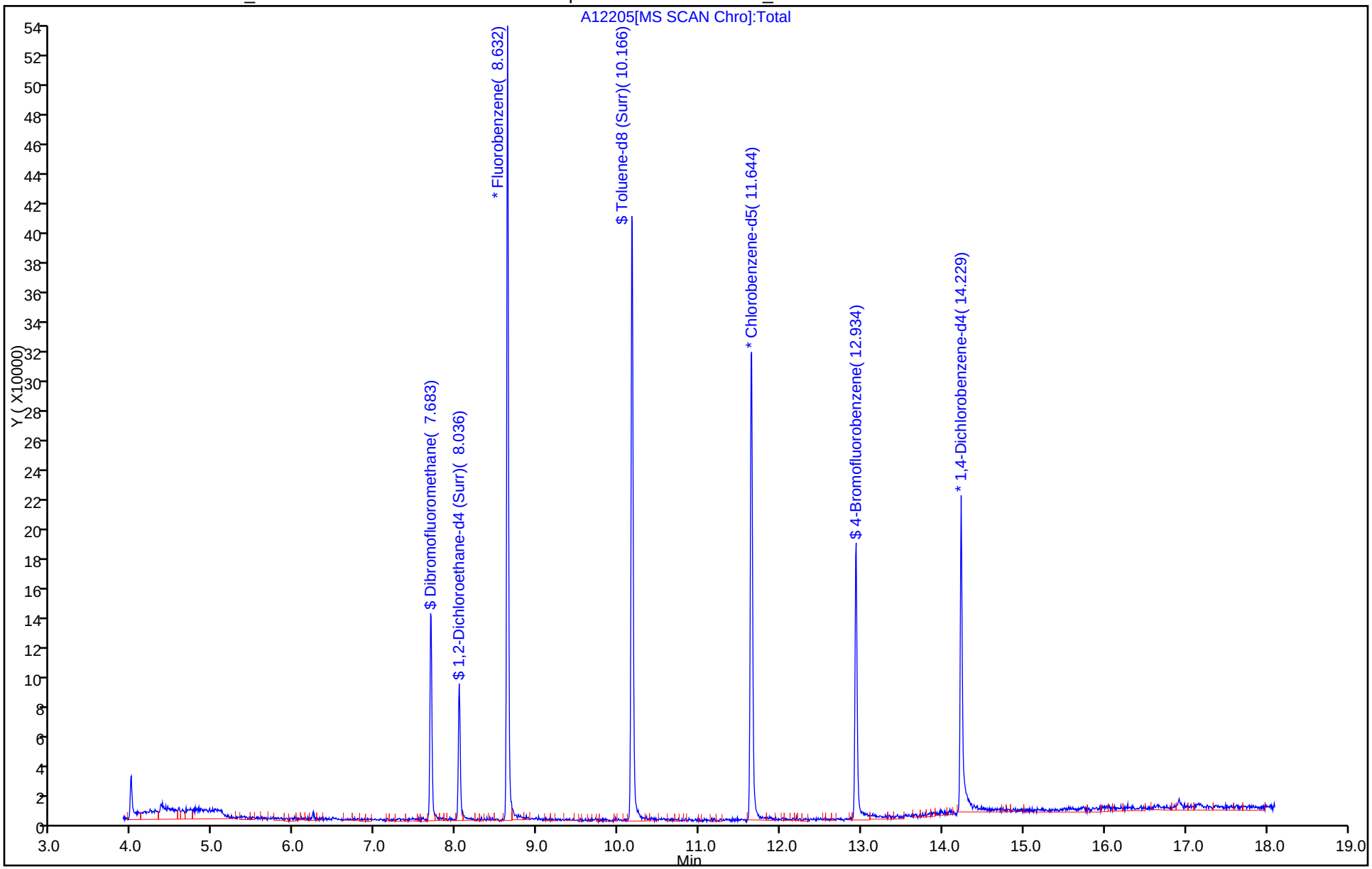
Reagents:

VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 21-Jul-2016 19:08:55 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12205.d				
Injection Date:	01-May-2016 11:33:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	mb			Worklist Smp#:	6
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12205.d				
Lims ID:	mb				
Client ID:					
Sample Type:	MB				
Inject. Date:	01-May-2016 11:33:30	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	mb				
Misc. Info.:	600-0011851-006				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	21-Jul-2016 19:08:53	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK032		

First Level Reviewer: shenw Date: 01-May-2016 11:54:55

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	12.7	101.67
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	12.8	102.22
$ 91 Toluene-d8 (Surr)	12.5	11.6	93.06
$ 119 4-Bromofluorobenzene	12.5	11.9	95.58

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-187555/6
Matrix: Water
Lab File ID: C12105.D
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/01/2016 11:32
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187555
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	0.192	U	1.00	0.192
127-18-4	Tetrachloroethene	0.333	U	1.00	0.333
79-01-6	Trichloroethene	0.138	U	1.00	0.138
75-01-4	Vinyl chloride	0.248	U	2.00	0.248
156-59-2	cis-1,2-Dichloroethene	0.157	U	1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	83		70-130
1868-53-7	Dibromofluoromethane	80		62-130
460-00-4	4-Bromofluorobenzene	122		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	97		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12105.D
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 01-May-2016 11:32:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: MB
Misc. Info.: 600-0011852-006
Operator ID: ws Instrument ID: CHVOAMS01

Method: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 02-May-2016 12:33:04 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK048

First Level Reviewer: somjitp Date: 02-May-2016 12:35:29

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.419	8.414	0.005	98	366509	12.5	12.5	
2 Dichlorodifluoromethane	85		3.901					ND	
3 Chloromethane	50		4.131					ND	
4 Vinyl chloride	62		4.351					ND	
5 Butadiene	39		4.476					ND	
6 Bromomethane	94		4.790					ND	
9 Chloroethane	64		4.931					ND	
7 Ethylene oxide	44	4.946	4.971	-0.025	27	771		NC	
11 Dichlorofluoromethane	67		4.973					ND	
8 Vinyl bromide	106		5.078					ND	
10 Ethanol	45		5.080					ND	
14 Acrolein	56		5.459					ND	
15 Acetonitrile	41		5.470					ND	
16 Trichlorofluoromethane	101		5.475					ND	
12 Acetaldehyde	44		5.482					ND	
17 Isopropyl alcohol	45		5.506					ND	
13 Pentane	43		5.548					ND	
18 Acetone	43		5.569					ND	
19 Ethyl ether	59		5.663					ND	
20 Propene oxide	58		5.863					ND	
22 1,1-Dichloroethene	96		5.940					ND	
21 2-Methyl-2-propanol	59		5.940					ND	
23 Acrylonitrile	52		5.972					ND	
24 Iodomethane	142	5.992	5.993	-0.001	96	3254		0.2931	
25 Methylene Chloride	84		6.056					ND	
26 Methyl acetate	43		6.076					ND	
27 1,1,2-Trichloro-1,2,2-trif	151		6.087					ND	
28 3-Chloro-1-propene	76		6.134					ND	
29 Carbon disulfide	76		6.286					ND	
30 trans-1,2-Dichloroethene	96		6.599					ND	
31 Methyl tert-butyl ether	73		6.667					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Propionitrile	54		6.788					ND	
33 1,1-Dichloroethane	63		6.793					ND	
34 Vinyl acetate	43		6.861					ND	
36 2-Chloro-1,3-butadiene	53		7.075					ND	
37 Hexane	57		7.086					ND	
38 Isopropyl ether	45		7.096					ND	
39 2-Butanone (MEK)	72		7.107					ND	
35 Isopropyl acetate	43		7.168					ND	
40 Methacrylonitrile	66		7.180					ND	
41 cis-1,2-Dichloroethene	96		7.232					ND	
42 Ethyl acetate	43		7.328					ND	
44 Chlorobromomethane	128		7.368					ND	
45 Chloroform	83		7.389					ND	
46 Tert-butyl ethyl ether	59		7.400					ND	
48 Isobutyl alcohol	43		7.431					ND	
49 2,2-Dichloropropane	77		7.452					ND	
43 1,1 Dichloropropane	77		7.460					ND	
$ 51 Dibromofluoromethane	113	7.488	7.483	0.005	92	82015	12.5	9.98	
S 47 1,2-Dichloroethene, Total	96		7.590					ND	
50 Methyl acrylate	55		7.644					ND	
53 Tetrahydrofuran	42		7.645					ND	
52 Epichlorohydrin TIC	57		7.714					ND	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.833	7.829	0.004	0	83421	12.5	12.1	
54 trans-1,2-dibromoethene	186		7.874					ND	
57 1,2-Dichloroethane	62		7.886					ND	
55 2-Pentanone	43		7.895					ND	
58 1,1,1-Trichloroethane	97		7.965					ND	
59 n-Butanol	56		7.985					ND	
61 1,1-Dichloropropene	75		8.095					ND	
62 Cyclohexane	84		8.189					ND	
60 n-Propyl acetate	43		8.193					ND	
63 Carbon tetrachloride	119		8.247					ND	
64 Benzene	78		8.273					ND	
66 Tert-amyl methyl ether	73		8.352					ND	
65 2-Methyltetrahydrofuran	71		8.526					ND	
67 Isooctane	57		8.561					ND	
68 Ethyl acrylate	55		8.610					ND	
69 n-Heptane	43		8.618					ND	
70 Dibromomethane	93		8.707					ND	
71 1,2-Dichloropropane	63		8.718					ND	
72 2-Nitropropane	43		8.728					ND	
73 Trichloroethene	130		8.749					ND	
74 Dichlorobromomethane	83		8.791					ND	
75 Methyl methacrylate	41		8.840					ND	
76 1,4-Dioxane	58		8.859					ND	
77 Tetrahydropyran	41		9.133					ND	
78 Methylcyclohexane	83		9.173					ND	
79 4-Methyl-2-pentanone (MIBK	43		9.345					ND	
* 80 Chlorobenzene-d5	82	11.358	11.354	0.004	88	175533	12.5	12.5	
81 1-Bromo-2-chloroethane	63		8.136					ND	
82 cis-1,2-dibromoethene	186		8.744					ND	
S 83 1,2-Dibromoethene	186		8.880					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
84 2-Chloroethyl vinyl ether	63		9.073					ND	
85 cis-1,3-Dichloropropene	75		9.283					ND	
88 trans-1,3-Dichloropropene	75		9.638					ND	
86 2-Methyltetrahydropyran	85		9.765					ND	
S 87 2,3-dichlorobutane	63		9.800					ND	
89 1,1,2-Trichloroethane	97		9.800					ND	
$ 90 Toluene-d8 (Surr)	98	9.904	9.900	0.004	93	349301	12.5	10.4	
92 Ethyl methacrylate	69		9.952					ND	
93 Toluene	92		9.968					ND	
94 1,3-Dichloropropane	76		10.010					ND	
95 2-Hexanone	43		10.104					ND	
91 trans 2,3-dichlorobutane	63		10.128					ND	
97 Chlorodibromomethane	129		10.302					ND	
98 n-Butyl acetate	43		10.383					ND	
96 cis 2,3-dichlorobutane	63		10.414					ND	
99 Ethylene Dibromide	107		10.553					ND	
101 Tetrachloroethene	164		10.695					ND	
S 100 Xylenes, Total	106		10.900					ND	
102 1-Chlorohexane	55		11.249					ND	
103 1,1,1,2-Tetrachloroethane	131		11.301					ND	
104 Chlorobenzene	112		11.390					ND	
105 Ethylbenzene	106		11.563					ND	
106 m-Xylene & p-Xylene	91		11.756					ND	
107 Styrene	104		12.122					ND	
109 o-Xylene	106		12.201					ND	
108 1,1,2,2-Tetrachloroethane	83		12.206					ND	
* 110 1,4-Dichlorobenzene-d4	152	13.973	13.974	-0.001	98	139204	12.5	12.5	
112 n-Butyl acrylate	55		10.672					ND	
113 cis-1,4-Dichloro-2-butene	53		11.516					ND	
115 Bromoform	173		11.950					ND	
114 Butyl Methacrylate	69		12.157					ND	
116 trans-1,4-Dichloro-2-buten	53		12.358					ND	
117 1,2,3-Trichloropropane	110		12.363					ND	
118 Isopropylbenzene	105		12.593					ND	
$ 119 4-Bromofluorobenzene	95	12.655	12.656	-0.001	84	159262	12.5	15.2	
120 Bromobenzene	156		12.897					ND	
121 N-Propylbenzene	120		13.059					ND	
122 2-Chlorotoluene	126		13.179					ND	
123 4-Chlorotoluene	91		13.252					ND	
124 1,3,5-Trimethylbenzene	105		13.331					ND	
111 Alpha Methyl Styrene	118		13.451					ND	
126 tert-Butylbenzene	119		13.629					ND	
125 Pentachloroethane	167		13.716					ND	
128 1,2,4-Trimethylbenzene	105		13.728					ND	
130 sec-Butylbenzene	105		13.843					ND	
127 2-Ethyl-2-hexenal	55		13.861					ND	
131 Benzyl chloride	91		13.932					ND	
132 1,3-Dichlorobenzene	146		13.937					ND	
129 2-Ethyl-1-Hexanol	57		13.946					ND	
133 1,4-Dichlorobenzene	146		14.000					ND	
134 4-Isopropyltoluene	119		14.005					ND	
135 1,2,3-Trimethylbenzene	105		14.152					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
137 1,2-Dichlorobenzene	146		14.351					ND	
138 n-Butylbenzene	91		14.408					ND	
T 136 2,6-Dimethyltetrahydropyra	128		14.500					ND	
139 1,2-Dibromo-3-Chloropropan	157		14.821					ND	
140 1,3,5-Trichlorobenzene	180		15.658					ND	
141 1,2,4-Trichlorobenzene	180	16.259	16.249	0.010	90	3175		0.4615	
142 Naphthalene	128	16.557	16.542	0.015	96	7270		0.7815	
143 Hexachlorobutadiene	190	16.578	16.579	-0.001	92	1650		0.9017	
144 1,2,3-Trichlorobenzene	180	16.782	16.777	0.005	93	3817		1.01	
S 145 1,3-Dichloropropene, Total	1		0.000					ND	
S 146 Trihalomethanes, Total	1		0.000					ND	
147 1,3-Dichloro-2-propanol TI	1		0.000					ND	
148 Acetone cyanohydrin TIC	1		0.000					ND	
149 Propargyl alcohol TIC	1		0.000					ND	
150 1-octyloxy-(1-piperidinyl)	1		0.000					ND	
151 Acetaldehyde TIC	1		0.000					ND	
152 4-Methyl-1,3-dioxolane-2-o	1		0.000					ND	
S 153 Total Volatile Organic Com	1		0.000					ND	
154 Pentafluorobenzene	168		0.000					ND	
155 Propene oxide TIC	1		0.000					ND	
156 2-Methyl-1,3-butadiene	1		0.000					ND	
157 Phosgene TIC	1		0.000					ND	
158 2-Methylbutane TIC	1		0.000					ND	
159 Methyl n-amyl ketone	1		0.000					ND	
160 Tetrahydrothiophene	1		0.000					ND	
161 Isobutyl acetate	43		0.000					ND	
162 Diazomethane TIC	1		0.000					ND	
163 Mesityl oxide TIC	1		0.000					ND	
164 Vinyl bromide TIC	1		0.000					ND	
165 Methyl Isocyanate TIC	1		0.000					ND	
166 Styrene oxide TIC	1		0.000					ND	
167 Chloromethyl methyl ether	1		0.000					ND	
168 Cyclohexanol TIC	1		0.000					ND	
169 2-Ethylhexyl acrylate TIC	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

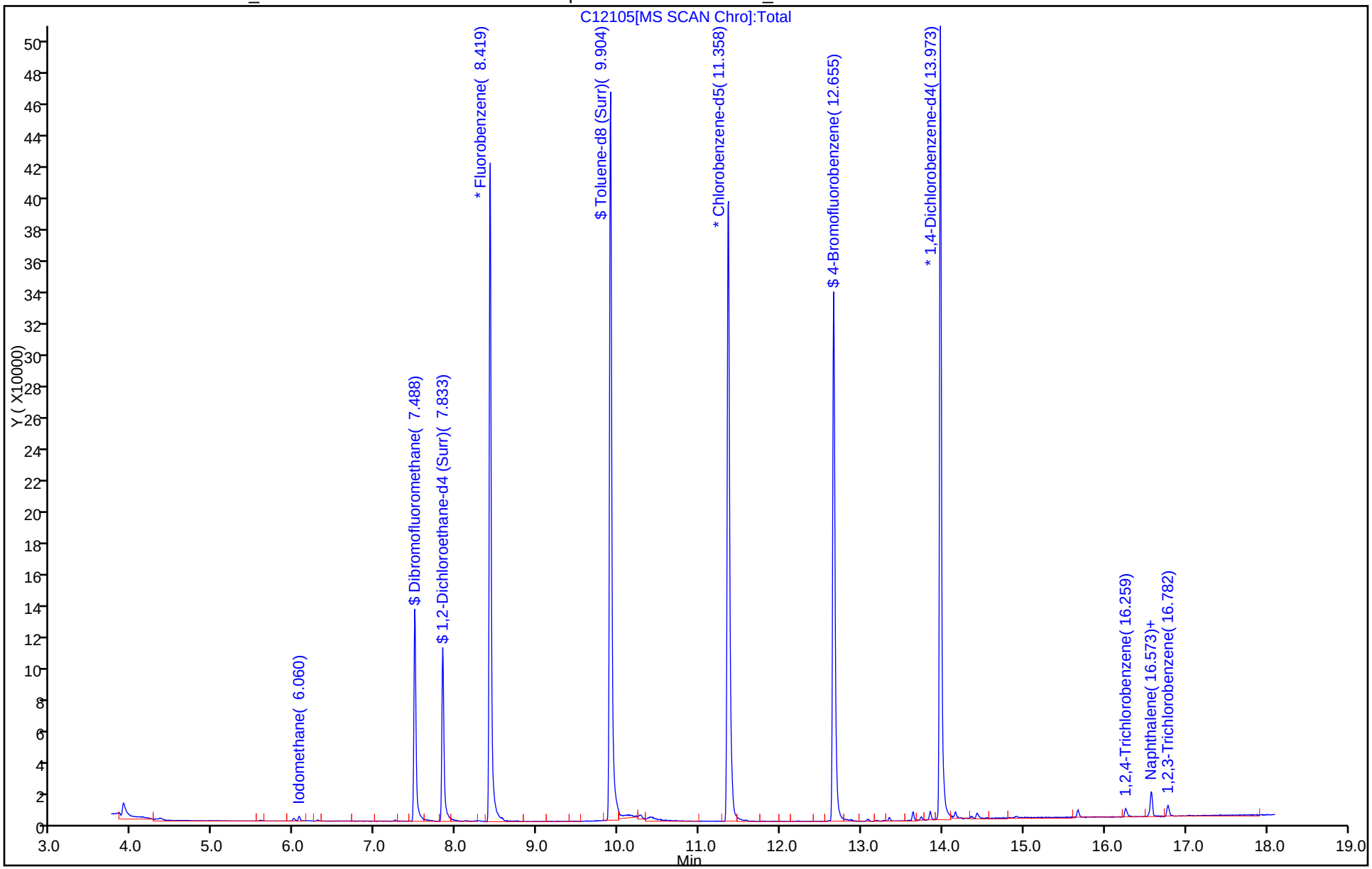
Reagents:

VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 02-May-2016 12:35:37 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12105.D				
Injection Date:	01-May-2016 11:32:30	Instrument ID:	CHVOAMS01	Operator ID:	ws
Lims ID:	mb			Worklist Smp#:	6
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12105.D				
Lims ID:	mb				
Client ID:					
Sample Type:	MB				
Inject. Date:	01-May-2016 11:32:30	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	MB				
Misc. Info.:	600-0011852-006				
Operator ID:	ws	Instrument ID:	CHVOAMS01		

Method:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	02-May-2016 12:33:04	Calib Date:	22-Jan-2016 16:06:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK048		

First Level Reviewer: somjitp Date: 02-May-2016 12:35:29

Compound	Amount Added	Amount Recovered	% Rec.
$ 51 Dibromofluoromethane	12.5	9.98	79.81
$ 56 1,2-Dichloroethane-d4 (Surr)	12.5	12.1	96.83
$ 90 Toluene-d8 (Surr)	12.5	10.4	83.40
$ 119 4-Bromofluorobenzene	12.5	15.2	121.55

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-187577/9
Matrix: Water
Lab File ID: A12308.d
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/02/2016 12:07
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187577
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	0.192	U	1.00	0.192
127-18-4	Tetrachloroethene	0.333	U	1.00	0.333
79-01-6	Trichloroethene	0.138	U	1.00	0.138
75-01-4	Vinyl chloride	0.248	U	2.00	0.248
156-59-2	cis-1,2-Dichloroethene	0.157	U	1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	92		70-130
1868-53-7	Dibromofluoromethane	105		62-130
460-00-4	4-Bromofluorobenzene	96		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	106		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12308.d
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 02-May-2016 12:07:30 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: mb
Misc. Info.: 600-0011863-009
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jul-2016 09:00:01 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK027

First Level Reviewer: shenw Date: 02-May-2016 12:43:44

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.632	8.633	-0.001	95	232644	12.5	12.5	
2 Dichlorodifluoromethane	85		4.003					ND	
3 Chloromethane	50		4.240					ND	
6 Ethylene oxide	44		4.453					ND	
4 Vinyl chloride	62		4.477					ND	
5 Butadiene	39		4.605					ND	
7 Bromomethane	94		4.928					ND	
9 Chloroethane	64		5.074					ND	
8 Ethanol	45	5.067	5.080	-0.013	41	666		NC	
11 Dichlorofluoromethane	67		5.116					ND	
12 Vinyl bromide	106		5.120					ND	
10 Acetaldehyde	44	5.165	5.138	0.027	53	1927		NC	
13 Pentane	43		5.548					ND	
14 Acrolein	56		5.615					ND	
15 Acetonitrile	41		5.615					ND	
16 Trichlorofluoromethane	101		5.633					ND	
17 Isopropyl alcohol	45		5.646					ND	
18 Acetone	43		5.828					ND	
19 Ethyl ether	59		5.828					ND	
21 2-Methyl-2-propanol	59		5.828					ND	
20 Propene oxide	58		5.865					ND	
22 1,1-Dichloroethene	96		6.114					ND	
23 Acrylonitrile	52		6.138					ND	
24 Iodomethane	142		6.163					ND	
25 Methylene Chloride	84		6.230					ND	
26 Methyl acetate	43		6.242					ND	
27 1,1,2-Trichloro-1,2,2-trif	151		6.266					ND	
28 3-Chloro-1-propene	76		6.303					ND	
29 Carbon disulfide	76		6.467					ND	
30 trans-1,2-Dichloroethene	96		6.789					ND	
31 Methyl tert-butyl ether	73		6.856					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Propionitrile	54		6.966					ND	
33 1,1-Dichloroethane	63		6.984					ND	
34 Vinyl acetate	43		7.045					ND	
35 2-Chloro-1,3-butadiene	53		7.270					ND	
36 Hexane	57		7.282					ND	
38 Isopropyl ether	45		7.288					ND	
37 2-Butanone (MEK)	72		7.288					ND	
39 Methacrylonitrile	66		7.373					ND	
42 n-Propyl acetate	43		7.401					ND	
40 cis-1,2-Dichloroethene	96		7.428					ND	
41 Isopropyl acetate	43		7.444					ND	
44 1,1 Dichloropropane	77		7.530					ND	
45 Chlorobromomethane	128		7.562					ND	
S 46 1,2-Dichloroethene, Total	96		7.590					ND	
48 Chloroform	83		7.592					ND	
49 Tert-butyl ethyl ether	59		7.598					ND	
50 Isobutyl alcohol	43		7.604					ND	
43 Ethyl acetate	43		7.604					ND	
47 Methyl acrylate	55		7.608					ND	
51 2,2-Dichloropropane	77		7.653					ND	
$ 52 Dibromofluoromethane	113	7.683	7.684	-0.001	92	54196	12.5		13.1
53 Tetrahydrofuran	42		7.848					ND	
54 trans-1,2-dibromoethene	186		7.874					ND	
55 2-Pentanone	43		7.895					ND	
56 Epichlorohydrin TIC	57		7.898					ND	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.030	0.006	0	50211	12.5		13.3
58 1,2-Dichloroethane	62		8.097					ND	
59 n-Butanol	56		8.176					ND	
60 1,1,1-Trichloroethane	97		8.176					ND	
61 1,1-Dichloropropene	75		8.310					ND	
62 Cyclohexane	84		8.407					ND	
63 Carbon tetrachloride	119		8.468					ND	
64 Benzene	78		8.487					ND	
65 2-Methyltetrahydrofuran	71		8.496					ND	
66 Tert-amyl methyl ether	73		8.566					ND	
68 Isooctane	57		8.785					ND	
69 Ethyl acrylate	55		8.839					ND	
70 n-Heptane	43		8.845					ND	
67 2-Nitropropane	43		8.845					ND	
71 Dibromomethane	93		8.931					ND	
72 1,2-Dichloropropane	63		8.949					ND	
73 Trichloroethene	130		8.973					ND	
74 Dichlorobromomethane	83		9.022					ND	
75 Methyl methacrylate	41		9.064					ND	
76 1,4-Dioxane	58		9.083					ND	
77 Tetrahydropyran	41		9.111					ND	
78 Methylcyclohexane	83		9.417					ND	
79 4-Methyl-2-pentanone (MIBK	43		9.588					ND	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	93	72597	12.5		12.5
81 1-Bromo-2-chloroethane	63	8.036	8.095	-0.059	36	4253			NC
82 cis-1,2-dibromoethene	186		8.744					ND	
S 83 1,2-Dibromoethene	186		8.880					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
84 2-Chloroethyl vinyl ether	63		9.302					ND	
85 cis-1,3-Dichloropropene	75		9.527					ND	
86 2-Methyltetrahydropyran	85		9.750					ND	
S 87 2,3-dichlorobutane	63		9.800					ND	
88 trans-1,3-Dichloropropene	75		9.892					ND	
89 1,1,2-Trichloroethane	97		10.062					ND	
90 trans 2,3-dichlorobutane	63		10.109					ND	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	173236	12.5	11.5	
92 Ethyl methacrylate	69		10.214					ND	
93 Toluene	92		10.239					ND	
94 1,3-Dichloropropane	76		10.275					ND	
95 2-Hexanone	43		10.372					ND	
96 cis 2,3-dichlorobutane	63		10.401					ND	
97 Chlorodibromomethane	129		10.579					ND	
98 n-Butyl acetate	43		10.652					ND	
99 Ethylene Dibromide	107		10.835					ND	
S 100 Xylenes, Total	106		10.900					ND	
101 Tetrachloroethene	164		10.981					ND	
102 1-Chlorohexane	55		11.534					ND	
103 1,1,1,2-Tetrachloroethane	131		11.589					ND	
104 Chlorobenzene	112		11.674					ND	
105 Ethylbenzene	106		11.851					ND	
106 m-Xylene & p-Xylene	91		12.045					ND	
107 Styrene	104		12.410					ND	
108 Cyclohexanone	55		12.453					ND	
109 o-Xylene	106		12.490					ND	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	96	43832	12.5	12.5	
111 n-Butyl acrylate	55		10.687					ND	
112 cis-1,4-Dichloro-2-butene	53		11.516					ND	
113 Butyl Methacrylate	69		12.157					ND	
114 Bromoform	173		12.234					ND	
115 1,1,2,2-Tetrachloroethane	83		12.477					ND	
116 trans-1,4-Dichloro-2-buten	53		12.636					ND	
117 1,2,3-Trichloropropane	110		12.648					ND	
118 Isopropylbenzene	105		12.873					ND	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	87	45340	12.5	12.1	
120 Bromobenzene	156		13.165					ND	
121 N-Propylbenzene	120		13.323					ND	
122 2-Chlorotoluene	126		13.439					ND	
123 4-Chlorotoluene	91		13.512					ND	
124 1,3,5-Trimethylbenzene	105		13.591					ND	
125 Alpha Methyl Styrene	118		13.700					ND	
126 Pentachloroethane	167		13.726					ND	
127 2-Ethyl-2-hexenal	55		13.868					ND	
128 tert-Butylbenzene	119		13.883					ND	
129 2-Ethyl-1-Hexanol	57		13.972					ND	
130 1,2,4-Trimethylbenzene	105		13.980					ND	
131 sec-Butylbenzene	105		14.096					ND	
132 Benzyl chloride	91		14.187					ND	
133 1,3-Dichlorobenzene	146		14.193					ND	
134 1,4-Dichlorobenzene	146		14.254					ND	
135 4-Isopropyltoluene	119		14.260					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
136 1,2,3-Trimethylbenzene	105		14.412					ND	
T 137 2,6-Dimethyltetrahydropyra	128		14.500					ND	
138 1,2-Dichlorobenzene	146		14.613					ND	
139 n-Butylbenzene	91		14.674					ND	
140 1,2-Dibromo-3-Chloropropan	157		15.093					ND	
141 1,3,5-Trichlorobenzene	180		15.957					ND	
142 1,2,4-Trichlorobenzene	180		16.566					ND	
143 Naphthalene	128		16.870					ND	
144 Hexachlorobutadiene	190		16.906					ND	
145 1,2,3-Trichlorobenzene	180		17.113					ND	
158 2-Methylbutane TIC	1		0.000					ND	
159 Methyl n-amyl ketone	1		0.000					ND	
156 Isobutyl acetate	43		0.000					ND	
157 Tetrahydrothiophene	1		0.000					ND	
160 Methyl Isocyanate TIC	1		0.000					ND	
163 1-octyloxy-(1-piperidinyl)	1		0.000					ND	
164 Phosgene TIC	1		0.000					ND	
161 Propene oxide TIC	1		0.000					ND	
162 Styrene oxide TIC	1		0.000					ND	
155 Propargyl alcohol TIC	1		0.000					ND	
148 Acetone cyanohydrin TIC	1		0.000					ND	
149 Acetaldehyde TIC	1		0.000					ND	
S 146 1,3-Dichloropropene, Total	1		0.000					ND	
S 147 Trihalomethanes, Total	1		0.000					ND	
150 Cyclohexanol TIC	1		0.000					ND	
153 Pentafluorobenzene	168		0.000					ND	
154 4-Methyl-1,3-dioxolane-2-o	1		0.000					ND	
151 1,3-Dichloro-2-propanol TI	1		0.000					ND	
152 Diazomethane TIC	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

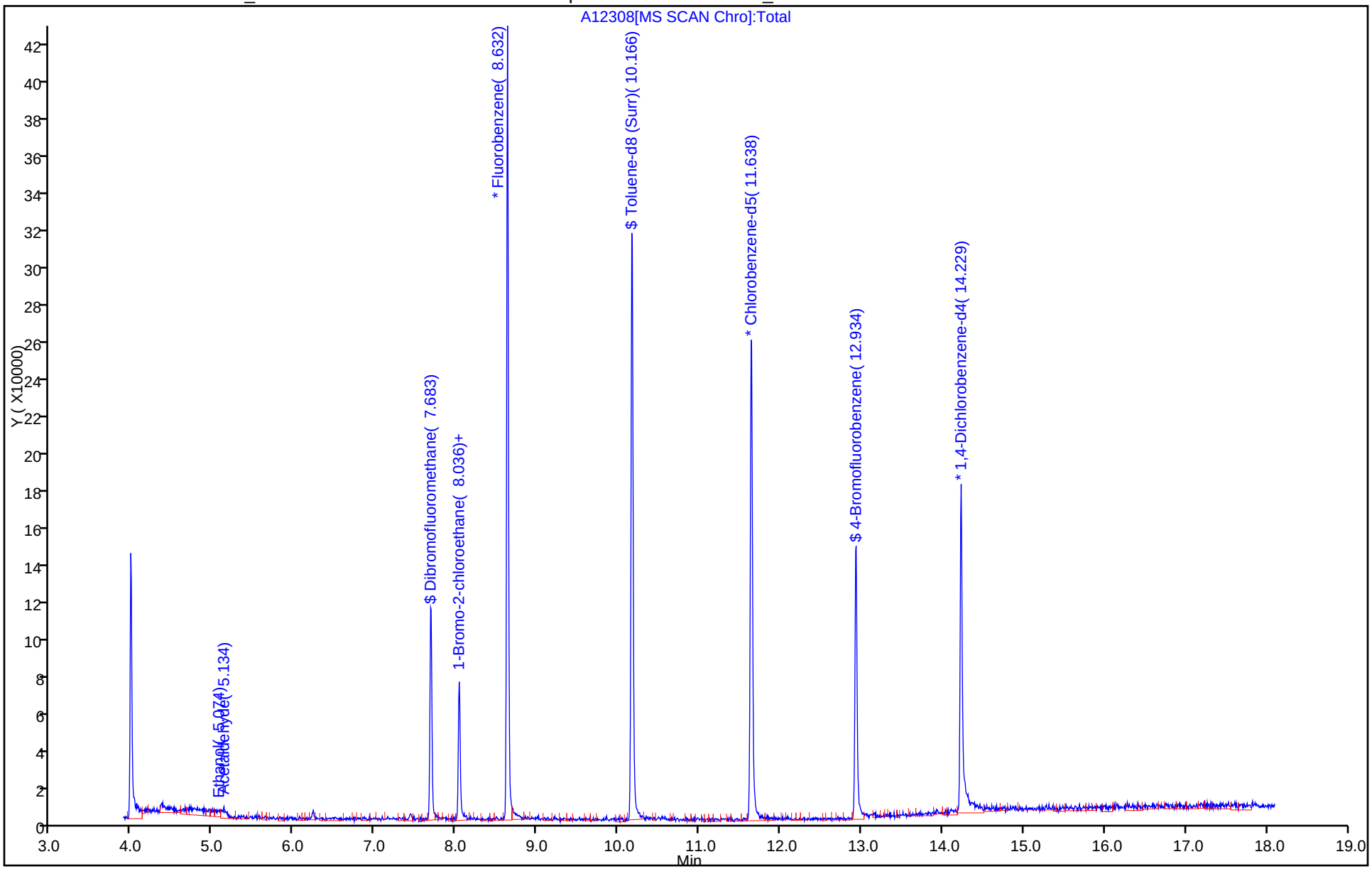
Reagents:

VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 22-Jul-2016 09:00:03 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12308.d				
Injection Date:	02-May-2016 12:07:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	mb			Worklist Smp#:	9
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12308.d				
Lims ID:	mb				
Client ID:					
Sample Type:	MB				
Inject. Date:	02-May-2016 12:07:30	ALS Bottle#:	8	Worklist Smp#:	9
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	mb				
Misc. Info.:	600-0011863-009				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	22-Jul-2016 09:00:01	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK027		

First Level Reviewer: shenw Date: 02-May-2016 12:43:44

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	13.1	105.11
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	13.3	106.39
$ 91 Toluene-d8 (Surr)	12.5	11.5	91.85
$ 119 4-Bromofluorobenzene	12.5	12.1	96.42

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-187782/13
Matrix: Water
Lab File ID: A12509.d
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/04/2016 14:14
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187782
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	0.192	U	1.00	0.192
127-18-4	Tetrachloroethene	0.333	U	1.00	0.333
79-01-6	Trichloroethene	0.138	U	1.00	0.138
75-01-4	Vinyl chloride	0.248	U	2.00	0.248
156-59-2	cis-1,2-Dichloroethene	0.157	U	1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	126		70-130
1868-53-7	Dibromofluoromethane	92		62-130
460-00-4	4-Bromofluorobenzene	107		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	98		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12509.d
Lims ID: mb
Client ID:
Sample Type: MB
Inject. Date: 04-May-2016 14:14:30 ALS Bottle#: 6 Worklist Smp#: 13
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 600-0011909-010
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 03-Aug-2016 18:05:23 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK047

First Level Reviewer: shenw Date: 04-May-2016 14:53:02

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	232542	12.5	12.5	
2 Dichlorodifluoromethane	85		4.009					ND	
3 Chloromethane	50		4.246					ND	
6 Ethylene oxide	44		4.465					ND	
4 Vinyl chloride	62		4.477					ND	
5 Butadiene	39		4.605					ND	
7 Bromomethane	94		4.934					ND	
9 Chloroethane	64		5.080					ND	
8 Ethanol	45		5.080					ND	
11 Dichlorofluoromethane	67		5.116					ND	
12 Vinyl bromide	106		5.120					ND	
10 Acetaldehyde	44	5.104	5.138	-0.034	21	3031		NC	
13 Pentane	43		5.548					ND	
14 Acrolein	56		5.615					ND	
15 Acetonitrile	41		5.621					ND	
16 Trichlorofluoromethane	101		5.633					ND	
17 Isopropyl alcohol	45		5.652					ND	
18 Acetone	43		5.828					ND	
21 2-Methyl-2-propanol	59		5.828					ND	
19 Ethyl ether	59		5.828					ND	
20 Propene oxide	58		5.865					ND	
22 1,1-Dichloroethene	96		6.114					ND	
23 Acrylonitrile	52		6.138					ND	
24 Iodomethane	142		6.169					ND	
25 Methylene Chloride	84		6.236					ND	
26 Methyl acetate	43		6.248					ND	
27 1,1,2-Trichloro-1,2,2-trif	151		6.272					ND	
28 3-Chloro-1-propene	76		6.309					ND	
29 Carbon disulfide	76		6.473					ND	
30 trans-1,2-Dichloroethene	96		6.789					ND	
31 Methyl tert-butyl ether	73		6.856					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
32 Propionitrile	54		6.966					ND	
33 1,1-Dichloroethane	63		6.984					ND	
34 Vinyl acetate	43		7.045					ND	
35 2-Chloro-1,3-butadiene	53		7.270					ND	
36 Hexane	57		7.288					ND	
38 Isopropyl ether	45		7.288					ND	
37 2-Butanone (MEK)	72		7.300					ND	
39 Methacrylonitrile	66		7.379					ND	
42 n-Propyl acetate	43		7.401					ND	
40 cis-1,2-Dichloroethene	96		7.434					ND	
41 Isopropyl acetate	43		7.444					ND	
44 1,1 Dichloropropane	77		7.530					ND	
45 Chlorobromomethane	128		7.562					ND	
S 46 1,2-Dichloroethene, Total	96		7.590					ND	
48 Chloroform	83		7.592					ND	
49 Tert-butyl ethyl ether	59		7.598					ND	
43 Ethyl acetate	43		7.598					ND	
50 Isobutyl alcohol	43		7.598					ND	
47 Methyl acrylate	55		7.608					ND	
51 2,2-Dichloropropane	77		7.659					ND	
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	91	72862	12.5	11.5	
53 Tetrahydrofuran	42		7.848					ND	
54 trans-1,2-dibromoethene	186		7.874					ND	
55 2-Pentanone	43		7.895					ND	
56 Epichlorohydrin TIC	57		7.898					ND	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	96924	12.5	12.2	
58 1,2-Dichloroethane	62		8.097					ND	
59 n-Butanol	56		8.176					ND	
60 1,1,1-Trichloroethane	97		8.176					ND	
61 1,1-Dichloropropene	75		8.310					ND	
62 Cyclohexane	84		8.407					ND	
63 Carbon tetrachloride	119		8.468					ND	
64 Benzene	78		8.487					ND	
65 2-Methyltetrahydrofuran	71		8.493					ND	
66 Tert-amyl methyl ether	73		8.566					ND	
68 Isooctane	57		8.785					ND	
69 Ethyl acrylate	55		8.839					ND	
70 n-Heptane	43		8.845					ND	
67 2-Nitropropane	43		8.845					ND	
71 Dibromomethane	93		8.931					ND	
72 1,2-Dichloropropane	63		8.949					ND	
73 Trichloroethene	130		8.973					ND	
74 Dichlorobromomethane	83		9.022					ND	
75 Methyl methacrylate	41		9.064					ND	
76 1,4-Dioxane	58		9.071					ND	
77 Tetrahydropyran	41		9.107					ND	
78 Methylcyclohexane	83		9.417					ND	
79 4-Methyl-2-pentanone (MIBK	43		9.588					ND	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	91	70659	12.5	12.5	
81 1-Bromo-2-chloroethane	63		8.095					ND	
82 cis-1,2-dibromoethene	186		8.744					ND	
S 83 1,2-Dibromoethene	186		8.880					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
84 2-Chloroethyl vinyl ether	63		9.302					ND	
85 cis-1,3-Dichloropropene	75		9.527					ND	
86 2-Methyltetrahydropyran	85		9.746					ND	
S 87 2,3-dichlorobutane	63		9.800					ND	
88 trans-1,3-Dichloropropene	75		9.892					ND	
89 1,1,2-Trichloroethane	97		10.056					ND	
90 trans 2,3-dichlorobutane	63		10.105					ND	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	240119	12.5	15.7	
92 Ethyl methacrylate	69		10.214					ND	
93 Toluene	92		10.239					ND	
94 1,3-Dichloropropane	76		10.281					ND	
95 2-Hexanone	43		10.366					ND	
96 cis 2,3-dichlorobutane	63		10.397					ND	
97 Chlorodibromomethane	129		10.585					ND	
98 n-Butyl acetate	43		10.652					ND	
99 Ethylene Dibromide	107		10.829					ND	
S 100 Xylenes, Total	106		10.900					ND	
101 Tetrachloroethene	164		10.981					ND	
102 1-Chlorohexane	55		11.534					ND	
103 1,1,1,2-Tetrachloroethane	131		11.583					ND	
104 Chlorobenzene	112		11.674					ND	
105 Ethylbenzene	106		11.851					ND	
106 m-Xylene & p-Xylene	91		12.045					ND	
107 Styrene	104		12.410					ND	
108 Cyclohexanone	55		12.453					ND	
109 o-Xylene	106		12.490					ND	
* 110 1,4-Dichlorobenzene-d4	152	14.230	14.223	0.007	95	41694	12.5	12.5	
111 n-Butyl acrylate	55		10.687					ND	
112 cis-1,4-Dichloro-2-butene	53		11.516					ND	
113 Butyl Methacrylate	69		12.157					ND	
114 Bromoform	173		12.234					ND	
115 1,1,2,2-Tetrachloroethane	83		12.483					ND	
116 trans-1,4-Dichloro-2-buten	53		12.636					ND	
117 1,2,3-Trichloropropane	110		12.636					ND	
118 Isopropylbenzene	105		12.867					ND	
$ 119 4-Bromofluorobenzene	95	12.934	12.928	0.006	89	48236	12.5	13.4	
120 Bromobenzene	156		13.165					ND	
121 N-Propylbenzene	120		13.323					ND	
122 2-Chlorotoluene	126		13.439					ND	
123 4-Chlorotoluene	91		13.512					ND	
124 1,3,5-Trimethylbenzene	105		13.591					ND	
125 Alpha Methyl Styrene	118		13.700					ND	
126 Pentachloroethane	167		13.726					ND	
127 2-Ethyl-2-hexenal	55		13.871					ND	
128 tert-Butylbenzene	119		13.883					ND	
130 1,2,4-Trimethylbenzene	105		13.980					ND	
129 2-Ethyl-1-Hexanol	57		13.986					ND	
131 sec-Butylbenzene	105		14.096					ND	
132 Benzyl chloride	91		14.181					ND	
133 1,3-Dichlorobenzene	146		14.187					ND	
134 1,4-Dichlorobenzene	146		14.254					ND	
135 4-Isopropyltoluene	119		14.260					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
136 1,2,3-Trimethylbenzene	105		14.412					ND	
T 137 2,6-Dimethyltetrahydropyra	128		14.500					ND	
138 1,2-Dichlorobenzene	146		14.613					ND	
139 n-Butylbenzene	91		14.667					ND	
140 1,2-Dibromo-3-Chloropropan	157		15.099					ND	
141 1,3,5-Trichlorobenzene	180		15.957					ND	
142 1,2,4-Trichlorobenzene	180		16.566					ND	
143 Naphthalene	128		16.870					ND	
144 Hexachlorobutadiene	190		16.912					ND	
145 1,2,3-Trichlorobenzene	180		17.113					ND	
158 2-Methylbutane TIC	1		0.000					ND	
159 Methyl n-amyl ketone	1		0.000					ND	
156 Isobutyl acetate	43		0.000					ND	
157 Tetrahydrothiophene	1		0.000					ND	
160 Methyl Isocyanate TIC	1		0.000					ND	
163 1-octyloxy-(1-piperidinyl)	1		0.000					ND	
164 Phosgene TIC	1		0.000					ND	
161 Propene oxide TIC	1		0.000					ND	
162 Styrene oxide TIC	1		0.000					ND	
155 Propargyl alcohol TIC	1		0.000					ND	
148 Acetone cyanohydrin TIC	1		0.000					ND	
149 Acetaldehyde TIC	1		0.000					ND	
S 146 1,3-Dichloropropene, Total	1		0.000					ND	
S 147 Trihalomethanes, Total	1		0.000					ND	
150 Cyclohexanol TIC	1		0.000					ND	
153 Pentafluorobenzene	168		0.000					ND	
154 4-Methyl-1,3-dioxolane-2-o	1		0.000					ND	
151 1,3-Dichloro-2-propanol TI	1		0.000					ND	
152 Diazomethane TIC	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

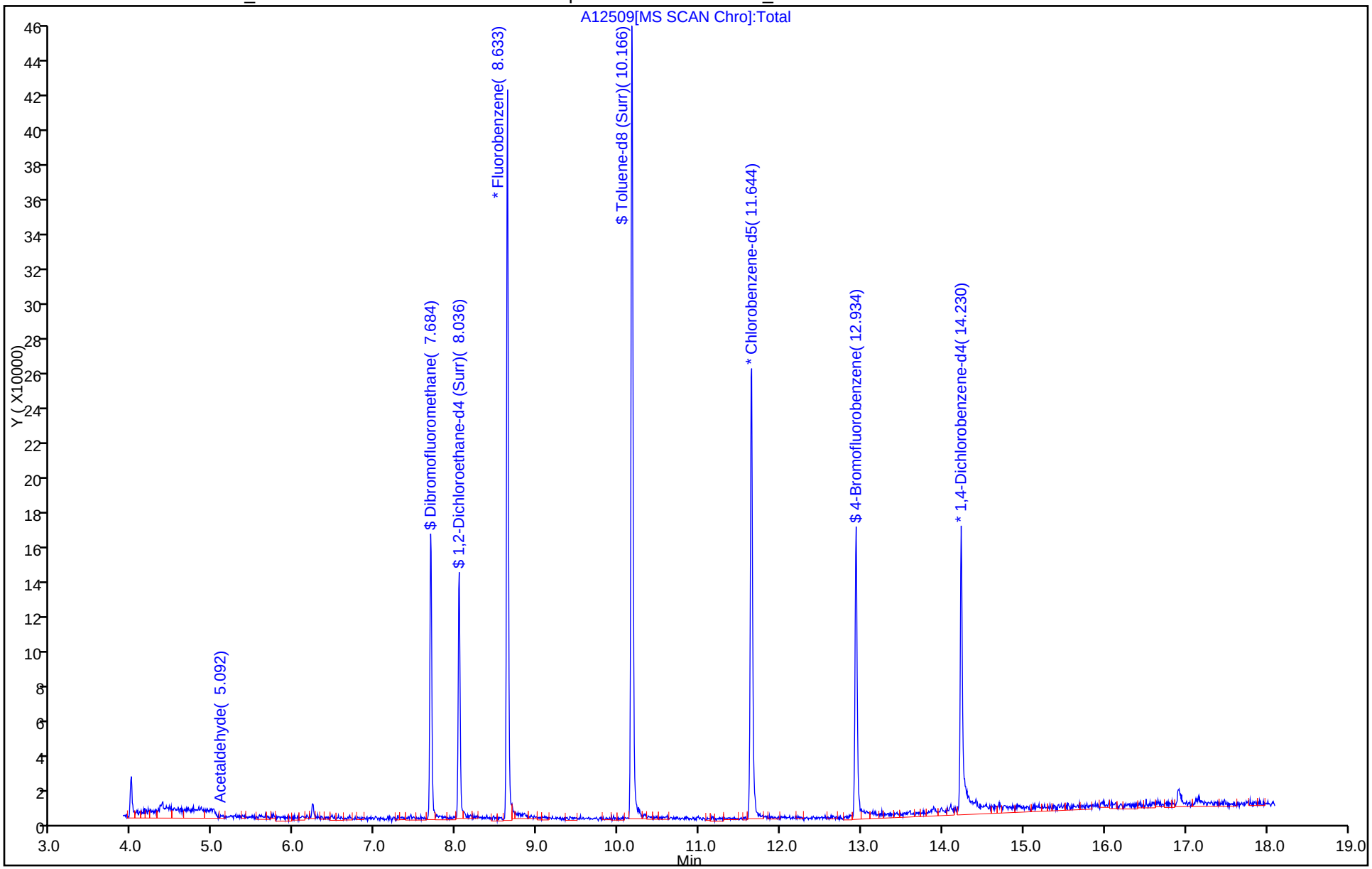
Reagents:

VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 03-Aug-2016 18:05:40 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12509.d				
Injection Date:	04-May-2016 14:14:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	mb			Worklist Smp#:	13
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12509.d				
Lims ID:	mb				
Client ID:					
Sample Type:	MB				
Inject. Date:	04-May-2016 14:14:30	ALS Bottle#:	6	Worklist Smp#:	13
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	ICV				
Misc. Info.:	600-0011909-010				
Operator ID:	ws	Instrument ID:	CHVOAMS07		
Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m				
Limit Group:	VOA - 8260B_8260BLL				
Last Update:	03-Aug-2016 18:05:23	Calib Date:	04-May-2016 12:04:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK047				

First Level Reviewer: shenw Date: 04-May-2016 14:53:02

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	11.5	91.92
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	12.2	97.71
$ 91 Toluene-d8 (Surr)	12.5	15.7	125.88
$ 119 4-Bromofluorobenzene	12.5	13.4	107.35

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-187554/3
Matrix: Water
Lab File ID: A12202.d
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/01/2016 10:22
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187554
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	8.540		1.00	0.192
127-18-4	Tetrachloroethene	10.15		1.00	0.333
79-01-6	Trichloroethene	10.49		1.00	0.138
75-01-4	Vinyl chloride	10.29		2.00	0.248
156-59-2	cis-1,2-Dichloroethene	8.282		1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	79		70-130
1868-53-7	Dibromofluoromethane	97		62-130
460-00-4	4-Bromofluorobenzene	96		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12202.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 01-May-2016 10:22:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: LCS
Misc. Info.: 600-0011851-003
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 21-Jul-2016 19:08:46 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: shenw Date: 01-May-2016 11:21:42

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	96	354137	12.5	12.5	
2 Dichlorodifluoromethane	85	4.009	4.003	0.006	98	27668	10.0	13.5	
3 Chloromethane	50	4.240	4.246	-0.006	98	35705	10.0	12.4	
4 Vinyl chloride	62	4.477	4.477	0.000	98	55527	10.0	10.3	
5 Butadiene	39	4.605	4.605	0.000	94	52487	10.0	17.0	
7 Bromomethane	94	4.928	4.934	-0.006	97	9964	10.0	11.6	
8 Ethanol	45	5.080	5.074	0.006	44	10170	NC	NC	
9 Chloroethane	64	5.074	5.074	0.000	92	27322	10.0	8.28	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	100083	10.0	8.94	
14 Acrolein	56	5.615	5.615	0.000	95	16608	50.0	32.0	
15 Acetonitrile	41	5.615	5.615	0.000	97	25993	100.0	96.0	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	98	106068	10.0	10.1	
17 Isopropyl alcohol	45	5.652	5.652	0.000	95	13666	100.0	137.0	
18 Acetone	43	5.822	5.828	-0.006	44	14481	20.0	23.3	
19 Ethyl ether	59	5.828	5.828	0.000	95	38788	10.0	7.42	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	93	38788	100.0	74.2	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	86	67421	10.0	9.34	
23 Acrylonitrile	52	6.138	6.138	0.000	96	83845	100.0	87.7	
24 Iodomethane	142	6.163	6.163	0.000	91	39267	10.0	9.93	
25 Methylene Chloride	84	6.230	6.230	0.000	88	56562	10.0	7.47	
26 Methyl acetate	43	6.242	6.242	0.000	99	109049	50.0	50.6	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.266	0.000	88	83237	10.0	11.5	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	83	36124	10.0	8.56	
29 Carbon disulfide	76	6.467	6.473	-0.006	96	183805	10.0	8.02	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	85	72206	10.0	8.54	
31 Methyl tert-butyl ether	73	6.850	6.856	-0.006	89	90485	10.0	7.67	
32 Propionitrile	54	6.966	6.966	0.000	97	30624	100.0	81.0	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	98	203573	10.0	10.3	
34 Vinyl acetate	43	7.045	7.045	0.000	97	161899	20.0	20.7	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	89	290932	10.0	15.4	
36 Hexane	57	7.282	7.282	0.000	86	191584	10.0	10.9	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 2-Butanone (MEK)	72	7.294	7.288	0.006	79	5887	20.0	18.4	
38 Isopropyl ether	45	7.288	7.294	-0.006	92	347229	10.0	11.8	
39 Methacrylonitrile	66	7.373	7.373	0.000	96	29166	100.0	72.0	
40 cis-1,2-Dichloroethene	96	7.428	7.428	0.000	65	74563	10.0	8.28	
45 Chlorobromomethane	128	7.568	7.562	0.006	93	24737	10.0	8.88	
S 46 1,2-Dichloroethene, Total	96				0		20.0	16.8	
48 Chloroform	83	7.592	7.592	0.000	93	160872	10.0	10.4	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	98	238137	10.0	9.90	
43 Ethyl acetate	43	7.598	7.604	-0.006	88	56890	20.0	21.7	
50 Isobutyl alcohol	43	7.598	7.604	-0.006	37	56403	250.0	332.2	
51 2,2-Dichloropropane	77	7.653	7.653	0.000	91	188945	10.0	12.8	
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	91	75811	12.5	12.1	
53 Tetrahydrofuran	42	7.842	7.848	-0.006	86	10484	20.0	15.5	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.030	8.030	0.000	0	73665	12.5	12.8	
58 1,2-Dichloroethane	62	8.091	8.091	0.000	97	114377	10.0	13.3	
59 n-Butanol	56	8.176	8.176	0.000	28	9365	250.0	229.5	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	95	211115	10.0	14.4	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	83	115969	10.0	10.5	
62 Cyclohexane	84	8.407	8.407	0.000	91	111841	10.0	9.22	
63 Carbon tetrachloride	119	8.462	8.462	0.000	96	209394	10.0	16.5	
64 Benzene	78	8.487	8.487	0.000	89	279579	10.0	7.92	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	81	97090	10.0	7.66	
68 Isooctane	57	8.785	8.785	0.000	98	426528	10.0	11.8	
69 Ethyl acrylate	55	8.845	8.839	0.006	90	76923	10.0	10.9	
70 n-Heptane	43	8.845	8.845	0.000	94	196569	10.0	15.6	
67 2-Nitropropane	43	8.845	8.845	0.000	88	196569	20.0	31.2	
71 Dibromomethane	93	8.931	8.931	0.000	84	23738	10.0	9.50	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	77	86467	10.0	9.01	
73 Trichloroethene	130	8.973	8.973	0.000	91	98843	10.0	10.5	
74 Dichlorobromomethane	83	9.016	9.016	0.000	96	94193	10.0	11.1	
75 Methyl methacrylate	41	9.064	9.065	0.000	85	67744	20.0	23.0	
76 1,4-Dioxane	58	9.077	9.077	0.000	26	3350	200.0	205.1	
78 Methylcyclohexane	83	9.417	9.417	0.000	90	120724	10.0	9.52	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.588	0.000	98	48881	20.0	23.2	
* 80 Chlorobenzene-d5	82	11.644	11.638	0.006	93	115585	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	85	28698	20.0	14.9	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	81	68210	10.0	7.65	
88 trans-1,3-Dichloropropene	75	9.886	9.892	-0.006	91	41350	10.0	7.97	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	87	24859	10.0	7.11	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	237528	12.5	9.89	
92 Ethyl methacrylate	69	10.214	10.208	0.006	86	24960	10.0	6.34	
93 Toluene	92	10.239	10.239	0.000	96	182883	10.0	8.85	
94 1,3-Dichloropropane	76	10.275	10.275	0.000	88	49384	10.0	7.45	
95 2-Hexanone	43	10.372	10.372	0.000	98	24011	20.0	19.0	
97 Chlorodibromomethane	129	10.579	10.585	-0.006	90	40057	10.0	10.2	
98 n-Butyl acetate	43	10.652	10.658	-0.006	93	30946	10.0	7.75	
99 Ethylene Dibromide	107	10.835	10.835	0.000	97	22018	10.0	7.43	
S 100 Xylenes, Total	106				0		20.0	19.6	
101 Tetrachloroethene	164	10.981	10.981	0.000	92	71669	10.0	10.2	
102 1-Chlorohexane	55	11.534	11.534	0.000	78	123829	10.0	13.6	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	88	70142	10.0	10.8	
104 Chlorobenzene	112	11.674	11.674	0.000	88	164511	10.0	8.18	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 Ethylbenzene	106	11.851	11.851	0.000	98	99703	10.0	9.14	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	252941	10.0	10.3	
107 Styrene	104	12.410	12.410	0.000	91	120970	10.0	7.18	
108 Cyclohexanone	55	12.453	12.453	0.000	93	45198	500.0	666.2	
109 o-Xylene	106	12.490	12.490	0.000	99	114190	10.0	9.34	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	95	91412	12.5	12.5	
114 Bromoform	173	12.234	12.240	-0.006	95	17690	10.0	9.94	
115 1,1,2,2-Tetrachloroethane	83	12.483	12.490	-0.007	89	25035	10.0	7.39	
116 trans-1,4-Dichloro-2-buten	53	12.642	12.636	0.006	71	7686	10.0	10.9	
117 1,2,3-Trichloropropane	110	12.642	12.642	0.000	93	8220	10.0	8.14	
118 Isopropylbenzene	105	12.873	12.873	0.000	98	316947	10.0	10.5	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	88	94283	12.5	12.0	
120 Bromobenzene	156	13.165	13.171	-0.006	84	58148	10.0	9.56	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	81806	10.0	10.3	
122 2-Chlorotoluene	126	13.439	13.439	0.000	93	70088	10.0	9.68	
123 4-Chlorotoluene	91	13.512	13.512	0.000	99	224599	10.0	10.3	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	94	277480	10.0	11.1	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	232821	10.0	11.2	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	99	270757	10.0	10.8	
131 sec-Butylbenzene	105	14.096	14.096	0.000	96	331436	10.0	10.5	
132 Benzyl chloride	91	14.187	14.187	0.000	70	44920	10.0	8.94	
133 1,3-Dichlorobenzene	146	14.193	14.193	0.000	94	134462	10.0	9.62	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	92	144360	10.0	9.82	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	324584	10.0	11.4	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	247016	10.0	9.79	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	95	103205	10.0	8.85	
139 n-Butylbenzene	91	14.674	14.674	0.000	97	254286	10.0	11.4	
140 1,2-Dibromo-3-Chloropropan	157	15.087	15.093	-0.006	75	4212	10.0	9.90	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	95	87834	10.0	10.0	
142 1,2,4-Trichlorobenzene	180	16.566	16.572	-0.006	94	48752	10.0	9.75	
143 Naphthalene	128	16.870	16.870	0.000	98	41150	10.0	6.85	
144 Hexachlorobutadiene	190	16.912	16.906	0.006	96	24521	10.0	15.4	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	95	30460	10.0	8.87	

QC Flag Legend

Processing Flags

NC - Not Calibrated

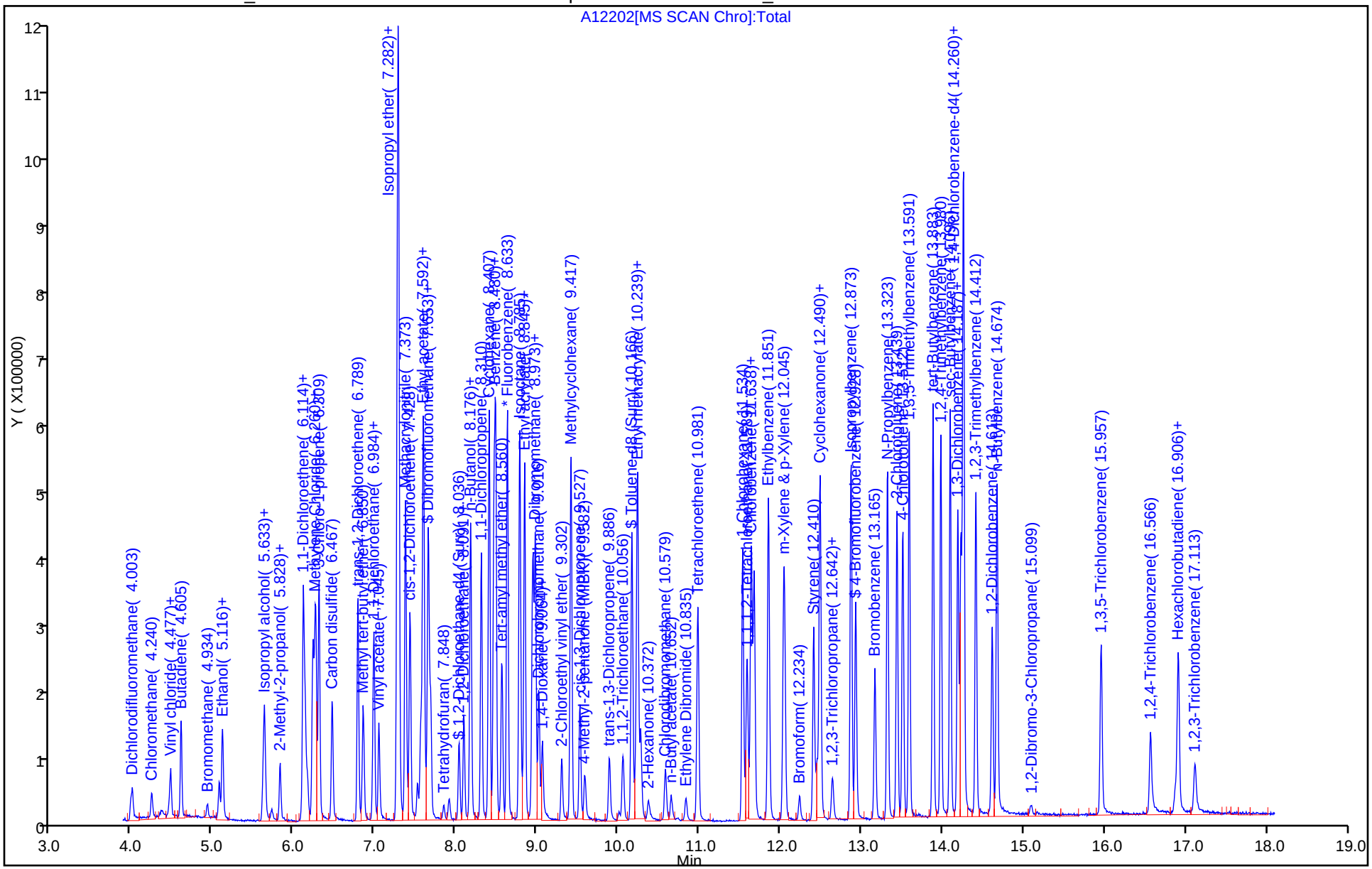
Reagents:

VOALCSPT2_00056	Amount Added:	4.00	Units: uL	
VOALCSGASPT_00165	Amount Added:	4.00	Units: uL	
VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 21-Jul-2016 19:08:48 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12202.d				
Injection Date:	01-May-2016 10:22:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	lcs			Worklist Smp#:	3
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12202.d				
Lims ID:	lcs				
Client ID:					
Sample Type:	LCS				
Inject. Date:	01-May-2016 10:22:30	ALS Bottle#:	2	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	LCS				
Misc. Info.:	600-0011851-003				
Operator ID:	ws	Instrument ID:	CHVOAMS07		
Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m				
Limit Group:	VOA - 8260B_8260BLL				
Last Update:	21-Jul-2016 19:08:46	Calib Date:	21-Mar-2016 12:18:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK032				

First Level Reviewer: shenw Date: 01-May-2016 11:21:42

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	12.1	96.59
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	12.8	102.54
$ 91 Toluene-d8 (Surr)	12.5	9.89	79.10
$ 119 4-Bromofluorobenzene	12.5	12.0	96.14

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-187555/3
Matrix: Water
Lab File ID: C12101a.D
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/01/2016 10:17
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187555
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	7.070		1.00	0.192
127-18-4	Tetrachloroethene	9.310		1.00	0.333
79-01-6	Trichloroethene	7.962		1.00	0.138
75-01-4	Vinyl chloride	9.901		2.00	0.248
156-59-2	cis-1,2-Dichloroethene	7.509		1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	86		70-130
1868-53-7	Dibromofluoromethane	81		62-130
460-00-4	4-Bromofluorobenzene	127		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	88		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12101a.D
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 01-May-2016 10:17:30 ALS Bottle#: 1 Worklist Smp#: 3
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: LCS
Misc. Info.: 600-0011852-003
Operator ID: ws Instrument ID: CHVOAMS01

Method: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 01-May-2016 13:06:18 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: shenw Date: 01-May-2016 11:32:07

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.415	8.414	0.001	98	360969	12.5	12.5	
2 Dichlorodifluoromethane	85	3.901	3.901	0.000	100	75955	10.0	12.8	
3 Chloromethane	50	4.131	4.131	0.000	100	60363	10.0	7.83	
4 Vinyl chloride	62	4.351	4.351	0.001	99	53323	10.0	9.90	
5 Butadiene	39	4.476	4.476	0.000	91	51554	10.0	10.2	
6 Bromomethane	94	4.790	4.790	0.000	92	41625	10.0	7.52	
9 Chloroethane	64	4.931	4.931	0.000	100	36956	10.0	6.10	
11 Dichlorofluoromethane	67	4.973	4.973	0.000	98	116154	10.0	7.78	
10 Ethanol	45		5.080				ND	ND	
14 Acrolein	56	5.460	5.459	0.001	98	16291	50.0	35.6	
15 Acetonitrile	41	5.470	5.470	0.000	97	36452	100.0	77.0	
16 Trichlorofluoromethane	101	5.475	5.475	0.000	100	124674	10.0	10.7	
17 Isopropyl alcohol	45	5.501	5.506	-0.005	96	18302	100.0	94.5	
18 Acetone	43	5.569	5.569	0.000	99	19367	20.0	20.6	
19 Ethyl ether	59	5.663	5.663	0.000	91	27563	10.0	5.75	
22 1,1-Dichloroethene	96	5.941	5.940	0.001	96	57691	10.0	7.34	
21 2-Methyl-2-propanol	59	5.941	5.940	0.001	42	31274	100.0	92.7	
23 Acrylonitrile	52	5.972	5.972	0.000	99	75714	100.0	74.9	
24 Iodomethane	142	5.993	5.993	0.000	98	131123	10.0	12.0	
25 Methylene Chloride	84	6.056	6.056	0.000	93	61758	10.0	5.82	
26 Methyl acetate	43	6.077	6.076	0.001	98	104195	50.0	36.2	
27 1,1,2-Trichloro-1,2,2-trif	151	6.087	6.087	0.000	95	40440	10.0	6.59	
28 3-Chloro-1-propene	76	6.134	6.134	0.000	91	30225	10.0	6.35	
29 Carbon disulfide	76	6.286	6.286	0.000	99	171141	10.0	6.40	
30 trans-1,2-Dichloroethene	96	6.600	6.599	0.001	97	62157	10.0	7.07	
31 Methyl tert-butyl ether	73	6.668	6.667	0.001	95	111222	10.0	6.79	
32 Propionitrile	54	6.788	6.788	0.000	98	42383	100.0	83.5	
33 1,1-Dichloroethane	63	6.793	6.793	0.000	97	118767	10.0	7.76	
34 Vinyl acetate	43	6.861	6.861	0.000	97	129865	20.0	15.4	
36 2-Chloro-1,3-butadiene	53	7.076	7.075	0.001	93	111254	10.0	8.57	
37 Hexane	57	7.086	7.086	0.000	90	93510	10.0	7.59	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
38 Isopropyl ether	45	7.097	7.096	0.001	93	202495	10.0	8.39	
39 2-Butanone (MEK)	72	7.107	7.107	0.000	92	7582	20.0	17.0	
40 Methacrylonitrile	66	7.180	7.180	0.000	91	46723	100.0	75.2	
41 cis-1,2-Dichloroethene	96	7.233	7.232	0.001	82	73453	10.0	7.51	
42 Ethyl acetate	43	7.332	7.328	0.004	99	23081	20.0	9.15	
44 Chlorobromomethane	128	7.363	7.368	-0.005	96	23867	10.0	6.72	
45 Chloroform	83	7.389	7.389	0.000	93	130784	10.0	8.98	
46 Tert-butyl ethyl ether	59	7.400	7.400	0.000	96	173371	10.0	7.89	
48 Isobutyl alcohol	43	7.426	7.431	-0.005	94	35504	250.0	155.6	
49 2,2-Dichloropropane	77	7.452	7.452	0.000	87	114819	10.0	8.55	
$ 51 Dibromofluoromethane	113	7.484	7.483	0.001	93	81514	12.5	10.1	
S 47 1,2-Dichloroethene, Total	96				0		20.0	14.6	
53 Tetrahydrofuran	42	7.646	7.645	0.001	85	14551	20.0	14.1	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.829	7.829	0.000	0	74259	12.5	10.9	
57 1,2-Dichloroethane	62	7.886	7.886	0.000	98	70145	10.0	9.13	
58 1,1,1-Trichloroethane	97	7.965	7.965	0.000	98	113363	10.0	8.80	
59 n-Butanol	56	7.980	7.985	-0.005	91	21570	250.0	201.1	
61 1,1-Dichloropropene	75	8.096	8.095	0.000	97	102185	10.0	8.06	
62 Cyclohexane	84	8.190	8.189	0.001	90	100128	10.0	6.84	
63 Carbon tetrachloride	119	8.247	8.247	0.000	98	89623	10.0	8.61	
64 Benzene	78	8.273	8.273	0.000	96	277405	10.0	7.42	
66 Tert-amyl methyl ether	73	8.352	8.352	0.000	99	149167	10.0	7.47	
67 Isooctane	57	8.561	8.561	0.000	96	242476	10.0	8.09	
68 Ethyl acrylate	55	8.608	8.610	-0.002	97	58445	10.0	7.58	
69 n-Heptane	43	8.619	8.618	0.000	91	100748	10.0	8.61	
70 Dibromomethane	93	8.707	8.707	0.000	88	30386	10.0	8.22	
71 1,2-Dichloropropane	63	8.718	8.718	0.000	92	73584	10.0	8.60	
72 2-Nitropropane	43	8.728	8.728	0.000	90	19965	20.0	16.4	
73 Trichloroethene	130	8.749	8.749	0.000	96	77323	10.0	7.96	
74 Dichlorobromomethane	83	8.791	8.791	0.000	99	106710	10.0	9.75	
75 Methyl methacrylate	41	8.838	8.840	-0.002	90	69702	20.0	16.2	
76 1,4-Dioxane	58	8.859	8.859	0.000	92	5113	200.0	185.3	
78 Methylcyclohexane	83	9.173	9.173	0.000	89	124723	10.0	7.28	
79 4-Methyl-2-pentanone (MIBK	43	9.346	9.345	0.001	96	68805	20.0	18.6	
* 80 Chlorobenzene-d5	82	11.354	11.354	0.000	88	173124	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.068	9.073	-0.005	91	13020	20.0	5.47	
85 cis-1,3-Dichloropropene	75	9.283	9.283	0.000	95	110442	10.0	8.97	
88 trans-1,3-Dichloropropene	75	9.638	9.638	0.000	94	88523	10.0	9.28	
89 1,1,2-Trichloroethane	97	9.801	9.800	0.001	93	49172	10.0	9.60	
$ 90 Toluene-d8 (Surr)	98	9.900	9.900	0.000	93	356042	12.5	10.8	
92 Ethyl methacrylate	69	9.952	9.952	0.000	88	58329	10.0	9.19	
93 Toluene	92	9.968	9.968	0.000	99	210600	10.0	9.43	
94 1,3-Dichloropropane	76	10.010	10.010	0.000	92	93943	10.0	9.98	
95 2-Hexanone	43	10.104	10.104	0.000	97	48280	20.0	19.8	
97 Chlorodibromomethane	129	10.303	10.302	0.001	90	59962	10.0	9.83	
98 n-Butyl acetate	43	10.381	10.383	-0.002	98	34126	10.0	5.63	
99 Ethylene Dibromide	107	10.554	10.553	0.001	99	46074	10.0	9.35	
101 Tetrachloroethene	164	10.695	10.695	0.000	95	62664	10.0	9.31	
S 100 Xylenes, Total	106				0		20.0	19.7	
102 1-Chlorohexane	55	11.249	11.249	0.000	97	96518	10.0	10.7	
103 1,1,1,2-Tetrachloroethane	131	11.302	11.301	0.001	91	77575	10.0	9.75	
104 Chlorobenzene	112	11.390	11.390	0.000	93	252046	10.0	9.59	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 Ethylbenzene	106	11.563	11.563	0.000	99	138995	10.0	9.71	
106 m-Xylene & p-Xylene	91	11.757	11.756	0.001	0	362113	10.0	10.2	
107 Styrene	104	12.123	12.122	0.001	95	267184	10.0	9.30	
109 o-Xylene	106	12.201	12.201	0.000	99	169788	10.0	9.41	
108 1,1,2,2-Tetrachloroethane	83	12.206	12.206	0.000	95	52361	10.0	8.73	
* 110 1,4-Dichlorobenzene-d4	152	13.974	13.974	0.000	97	134051	12.5	12.5	
115 Bromoform	173	11.950	11.950	0.000	94	28603	10.0	12.7	
116 trans-1,4-Dichloro-2-buten	53	12.358	12.358	0.000	69	8905	10.0	9.71	
117 1,2,3-Trichloropropane	110	12.363	12.363	0.000	86	15906	10.0	13.1	
118 Isopropylbenzene	105	12.593	12.593	0.000	96	464823	10.0	13.9	
$ 119 4-Bromofluorobenzene	95	12.656	12.656	0.000	84	160073	12.5	15.9	
120 Bromobenzene	156	12.897	12.897	0.000	96	98072	10.0	12.8	
121 N-Propylbenzene	120	13.059	13.059	0.000	99	128170	10.0	12.8	
122 2-Chlorotoluene	126	13.179	13.179	0.000	95	108763	10.0	12.6	
123 4-Chlorotoluene	91	13.252	13.252	0.000	99	373761	10.0	14.1	
124 1,3,5-Trimethylbenzene	105	13.336	13.331	0.005	94	388169	10.0	12.9	
126 tert-Butylbenzene	119	13.629	13.629	0.000	92	315818	10.0	12.4	
128 1,2,4-Trimethylbenzene	105	13.728	13.728	0.000	98	403491	10.0	12.8	
130 sec-Butylbenzene	105	13.843	13.843	0.000	95	491598	10.0	12.8	
131 Benzyl chloride	91	13.932	13.932	0.000	98	86524	10.0	8.51	
132 1,3-Dichlorobenzene	146	13.938	13.937	0.001	96	189261	10.0	12.1	
133 1,4-Dichlorobenzene	146	14.000	14.000	0.000	92	198698	10.0	12.8	
134 4-Isopropyltoluene	119	14.006	14.005	0.001	97	416979	10.0	12.6	
135 1,2,3-Trimethylbenzene	105	14.152	14.152	0.000	99	399704	10.0	11.8	
137 1,2-Dichlorobenzene	146	14.351	14.351	0.000	95	155854	10.0	11.7	
138 n-Butylbenzene	91	14.408	14.408	0.000	98	403917	10.0	13.1	
139 1,2-Dibromo-3-Chloropropan	157	14.821	14.821	0.000	79	5854	10.0	8.71	
140 1,3,5-Trichlorobenzene	180	15.658	15.658	0.000	96	105453	10.0	9.38	
141 1,2,4-Trichlorobenzene	180	16.244	16.249	-0.005	93	55489	10.0	8.38	
142 Naphthalene	128	16.542	16.542	0.000	97	61332	10.0	6.85	
143 Hexachlorobutadiene	190	16.574	16.579	-0.005	95	16166	10.0	9.17	
144 1,2,3-Trichlorobenzene	180	16.772	16.777	-0.005	94	20620	10.0	5.68	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

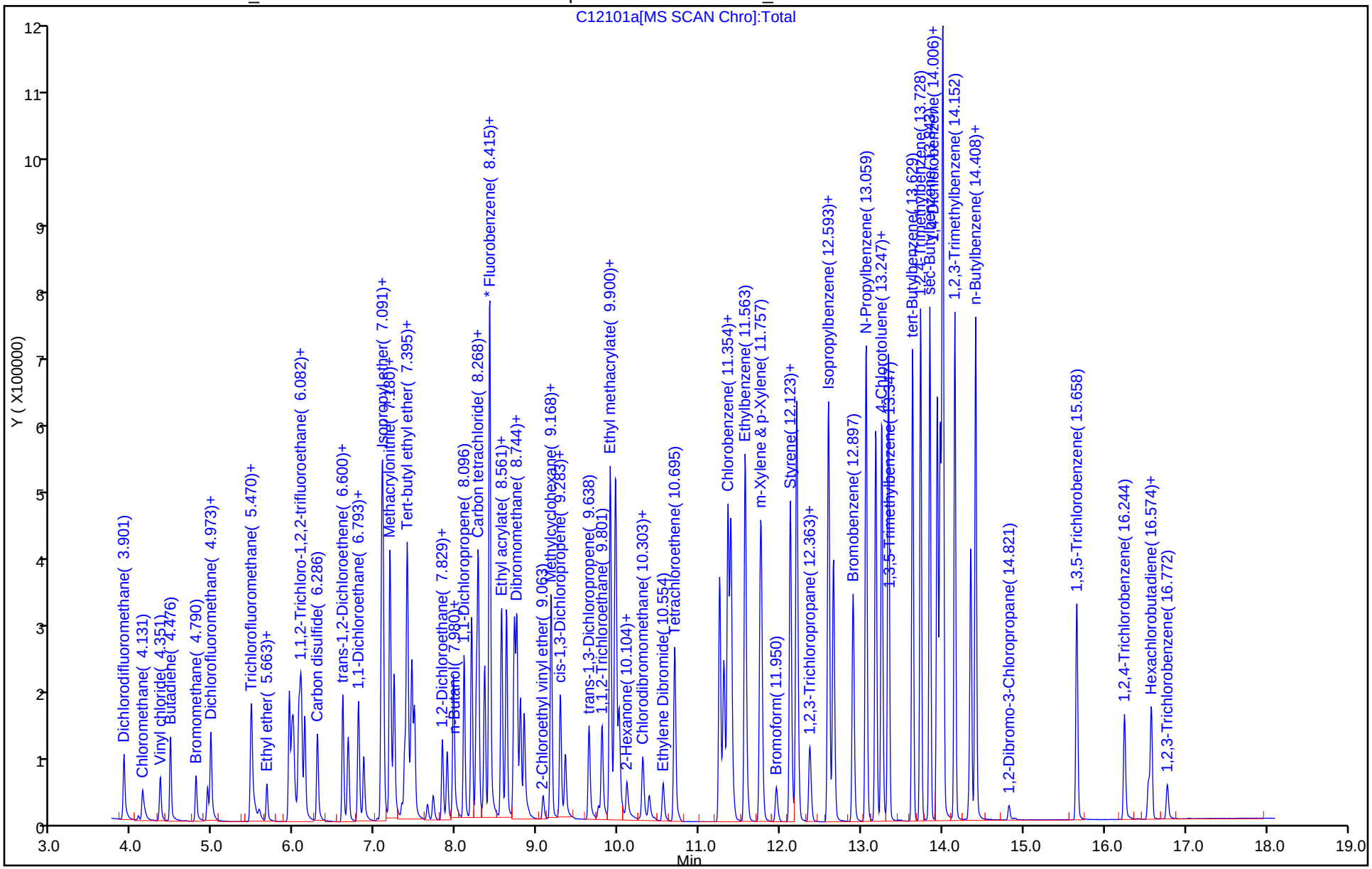
Reagents:

VOALCSGASPT_00165	Amount Added:	4.00	Units: uL	
VOALCSPT2_00056	Amount Added:	4.00	Units: uL	
VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 01-May-2016 13:06:21 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12101a.D				
Injection Date:	01-May-2016 10:17:30	Instrument ID:	CHVOAMS01	Operator ID:	ws
Lims ID:	lcs			Worklist Smp#:	3
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12101a.D				
Lims ID:	lcs				
Client ID:					
Sample Type:	LCS				
Inject. Date:	01-May-2016 10:17:30	ALS Bottle#:	1	Worklist Smp#:	3
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	LCS				
Misc. Info.:	600-0011852-003				
Operator ID:	ws	Instrument ID:	CHVOAMS01		
Method:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m				
Limit Group:	VOA - 8260B_8260BLL				
Last Update:	01-May-2016 13:06:18	Calib Date:	22-Jan-2016 16:06:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D				
Column 1 :			Det: MS SCAN		
Process Host:	XAWRK001				

First Level Reviewer: shenw Date: 01-May-2016 11:32:07

Compound	Amount Added	Amount Recovered	% Rec.
$ 51 Dibromofluoromethane	12.5	10.1	80.54
$ 56 1,2-Dichloroethane-d4 (Surr)	12.5	10.9	87.52
$ 90 Toluene-d8 (Surr)	12.5	10.8	86.20
$ 119 4-Bromofluorobenzene	12.5	15.9	126.97

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-187577/4
Matrix: Water
Lab File ID: A12303.d
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/02/2016 10:07
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187577
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	7.746		1.00	0.192
127-18-4	Tetrachloroethene	9.305		1.00	0.333
79-01-6	Trichloroethene	10.09		1.00	0.138
75-01-4	Vinyl chloride	8.591		2.00	0.248
156-59-2	cis-1,2-Dichloroethene	8.220		1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	74		70-130
1868-53-7	Dibromofluoromethane	94		62-130
460-00-4	4-Bromofluorobenzene	90		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	109		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12303.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 02-May-2016 10:07:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: lcs
Misc. Info.: 600-0011863-004
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jul-2016 08:59:52 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK027

First Level Reviewer: shenw Date: 02-May-2016 10:47:25

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.632	8.633	-0.001	95	289396	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.003	0.000	97	13666	10.0	8.17	
3 Chloromethane	50	4.246	4.240	0.006	98	26399	10.0	11.2	
4 Vinyl chloride	62	4.477	4.477	0.000	97	37894	10.0	8.59	
5 Butadiene	39	4.605	4.605	0.000	94	35898	10.0	14.2	
7 Bromomethane	94	4.921	4.928	-0.007	91	5972	10.0	8.88	
9 Chloroethane	64	5.080	5.074	0.006	94	19407	10.0	7.15	
8 Ethanol	45	5.074	5.080	-0.006	50	7837	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	75536	10.0	8.25	
14 Acrolein	56	5.615	5.615	0.000	85	12891	50.0	30.4	
15 Acetonitrile	41	5.615	5.615	0.000	97	21617	100.0	97.7	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	98	79044	10.0	9.22	
17 Isopropyl alcohol	45	5.645	5.646	-0.001	97	9849	100.0	120.5	
19 Ethyl ether	59	5.828	5.828	0.000	90	32504	10.0	7.61	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	92	32504	100.0	76.1	
18 Acetone	43	5.828	5.828	0.000	45	14336	20.0	28.6	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	86	49239	10.0	8.35	
23 Acrylonitrile	52	6.138	6.138	0.000	96	67396	100.0	86.3	
24 Iodomethane	142	6.163	6.163	0.000	88	30302	10.0	9.49	
25 Methylene Chloride	84	6.229	6.230	-0.001	87	45852	10.0	7.41	
26 Methyl acetate	43	6.242	6.242	0.000	99	89788	50.0	50.9	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.266	0.000	92	64921	10.0	11.0	
28 3-Chloro-1-propene	76	6.309	6.303	0.006	83	28628	10.0	8.30	
29 Carbon disulfide	76	6.473	6.467	0.006	95	134877	10.0	7.20	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	84	53516	10.0	7.75	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	89	75021	10.0	7.78	
32 Propionitrile	54	6.972	6.966	0.006	97	23832	100.0	77.3	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	157910	10.0	9.80	
34 Vinyl acetate	43	7.045	7.045	0.000	97	133614	20.0	20.9	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	90	238980	10.0	15.4	
36 Hexane	57	7.288	7.282	0.006	88	149970	10.0	10.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
38 Isopropyl ether	45	7.288	7.288	0.000	95	287835	10.0	11.9	
37 2-Butanone (MEK)	72	7.300	7.288	0.012	82	4160	20.0	15.9	
39 Methacrylonitrile	66	7.373	7.373	0.000	95	23479	100.0	70.9	
40 cis-1,2-Dichloroethene	96	7.428	7.428	0.000	68	60476	10.0	8.22	
45 Chlorobromomethane	128	7.568	7.562	0.006	87	18806	10.0	8.26	
S 46 1,2-Dichloroethene, Total	96				0		20.0	16.0	
48 Chloroform	83	7.592	7.592	0.000	93	131493	10.0	10.4	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	98	194748	10.0	9.91	
50 Isobutyl alcohol	43	7.604	7.604	0.000	39	47117	250.0	339.6	
43 Ethyl acetate	43	7.604	7.604	0.000	86	46738	20.0	21.8	
51 2,2-Dichloropropane	77	7.659	7.653	0.006	90	148169	10.0	12.3	
$ 52 Dibromofluoromethane	113	7.689	7.684	0.005	92	59993	12.5	11.7	
53 Tetrahydrofuran	42	7.848	7.848	0.000	86	8840	20.0	16.0	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.030	8.030	0.000	0	63863	12.5	13.6	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	96	99174	10.0	14.1	
59 n-Butanol	56	8.170	8.176	-0.006	31	8055	250.0	240.0	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	94	169608	10.0	14.1	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	82	93291	10.0	10.3	
62 Cyclohexane	84	8.407	8.407	0.000	91	84963	10.0	8.57	
63 Carbon tetrachloride	119	8.468	8.468	0.000	97	175599	10.0	16.9	
64 Benzene	78	8.486	8.487	-0.001	87	218615	10.0	7.57	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	79	81054	10.0	7.82	
68 Isooctane	57	8.785	8.785	0.000	97	329196	10.0	11.2	
69 Ethyl acrylate	55	8.839	8.839	0.000	93	67932	10.0	11.8	
70 n-Heptane	43	8.845	8.845	0.000	94	158530	10.0	15.4	
67 2-Nitropropane	43	8.845	8.845	0.000	90	158530	20.0	30.8	
71 Dibromomethane	93	8.931	8.931	0.000	88	19677	10.0	9.63	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	75	69245	10.0	8.83	
73 Trichloroethene	130	8.979	8.973	0.006	90	77683	10.0	10.1	
74 Dichlorobromomethane	83	9.022	9.022	0.000	94	79449	10.0	11.4	
75 Methyl methacrylate	41	9.064	9.064	0.000	84	55731	20.0	23.1	
76 1,4-Dioxane	58	9.083	9.083	0.000	28	2624	200.0	196.1	
78 Methylcyclohexane	83	9.417	9.417	0.000	89	94610	10.0	9.13	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.588	0.000	98	41433	20.0	24.1	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	92	98594	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	88	22936	20.0	14.0	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	81	55650	10.0	7.32	
88 trans-1,3-Dichloropropene	75	9.892	9.892	0.000	88	34422	10.0	7.78	
89 1,1,2-Trichloroethane	97	10.056	10.062	-0.006	82	20405	10.0	6.85	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	189095	12.5	9.23	
92 Ethyl methacrylate	69	10.214	10.214	0.000	84	21455	10.0	6.39	
93 Toluene	92	10.232	10.239	-0.007	95	144187	10.0	8.18	
94 1,3-Dichloropropane	76	10.275	10.275	0.000	83	40510	10.0	7.17	
95 2-Hexanone	43	10.372	10.372	0.000	98	21734	20.0	20.1	
97 Chlorodibromomethane	129	10.579	10.579	0.000	90	34255	10.0	10.2	
98 n-Butyl acetate	43	10.652	10.652	0.000	94	27885	10.0	8.16	
99 Ethylene Dibromide	107	10.841	10.835	0.006	95	19611	10.0	7.76	
S 100 Xylenes, Total	106				0		20.0	18.7	
101 Tetrachloroethene	164	10.981	10.981	0.000	90	56038	10.0	9.31	
102 1-Chlorohexane	55	11.534	11.534	0.000	78	101704	10.0	13.1	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	86	57306	10.0	10.4	
104 Chlorobenzene	112	11.674	11.674	0.000	87	133682	10.0	7.80	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 Ethylbenzene	106	11.851	11.851	0.000	98	82181	10.0	8.83	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	206903	10.0	9.86	
107 Styrene	104	12.410	12.410	0.000	90	103084	10.0	7.18	
108 Cyclohexanone	55	12.447	12.453	-0.006	90	31693	500.0	550.7	
109 o-Xylene	106	12.489	12.490	-0.001	99	91892	10.0	8.81	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	94	81252	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	94	15063	10.0	9.53	
115 1,1,2,2-Tetrachloroethane	83	12.483	12.477	0.006	50	19713	10.0	6.55	
116 trans-1,4-Dichloro-2-buten	53	12.635	12.636	-0.001	72	6173	10.0	9.87	
117 1,2,3-Trichloropropane	110	12.642	12.648	-0.006	93	7743	10.0	8.62	
118 Isopropylbenzene	105	12.873	12.873	0.000	98	261632	10.0	9.75	
$ 119 4-Bromofluorobenzene	95	12.927	12.928	-0.001	88	78810	12.5	11.3	
120 Bromobenzene	156	13.171	13.165	0.006	86	46993	10.0	8.69	
121 N-Propylbenzene	120	13.317	13.323	-0.006	98	69774	10.0	9.85	
122 2-Chlorotoluene	126	13.438	13.439	-0.001	93	57406	10.0	8.92	
123 4-Chlorotoluene	91	13.505	13.512	-0.007	98	187982	10.0	9.71	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	94	237511	10.0	10.7	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	195775	10.0	10.6	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	99	230423	10.0	10.3	
131 sec-Butylbenzene	105	14.096	14.096	0.000	97	276969	10.0	9.86	
132 Benzyl chloride	91	14.181	14.187	-0.006	64	42356	10.0	9.47	
133 1,3-Dichlorobenzene	146	14.187	14.193	-0.006	95	115055	10.0	9.26	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	90	118461	10.0	9.06	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	273861	10.0	10.9	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	212976	10.0	9.50	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	94	87218	10.0	8.42	
139 n-Butylbenzene	91	14.673	14.674	-0.001	97	210918	10.0	10.6	
140 1,2-Dibromo-3-Chloropropan	157	15.087	15.093	-0.006	72	3547	10.0	9.38	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	95	71790	10.0	9.22	
142 1,2,4-Trichlorobenzene	180	16.565	16.566	-0.001	93	37136	10.0	8.35	
143 Naphthalene	128	16.870	16.870	0.000	97	30079	10.0	5.68	
144 Hexachlorobutadiene	190	16.912	16.906	0.006	95	21084	10.0	14.9	
145 1,2,3-Trichlorobenzene	180	17.107	17.113	-0.006	95	20965	10.0	6.87	

QC Flag Legend

Processing Flags

NC - Not Calibrated

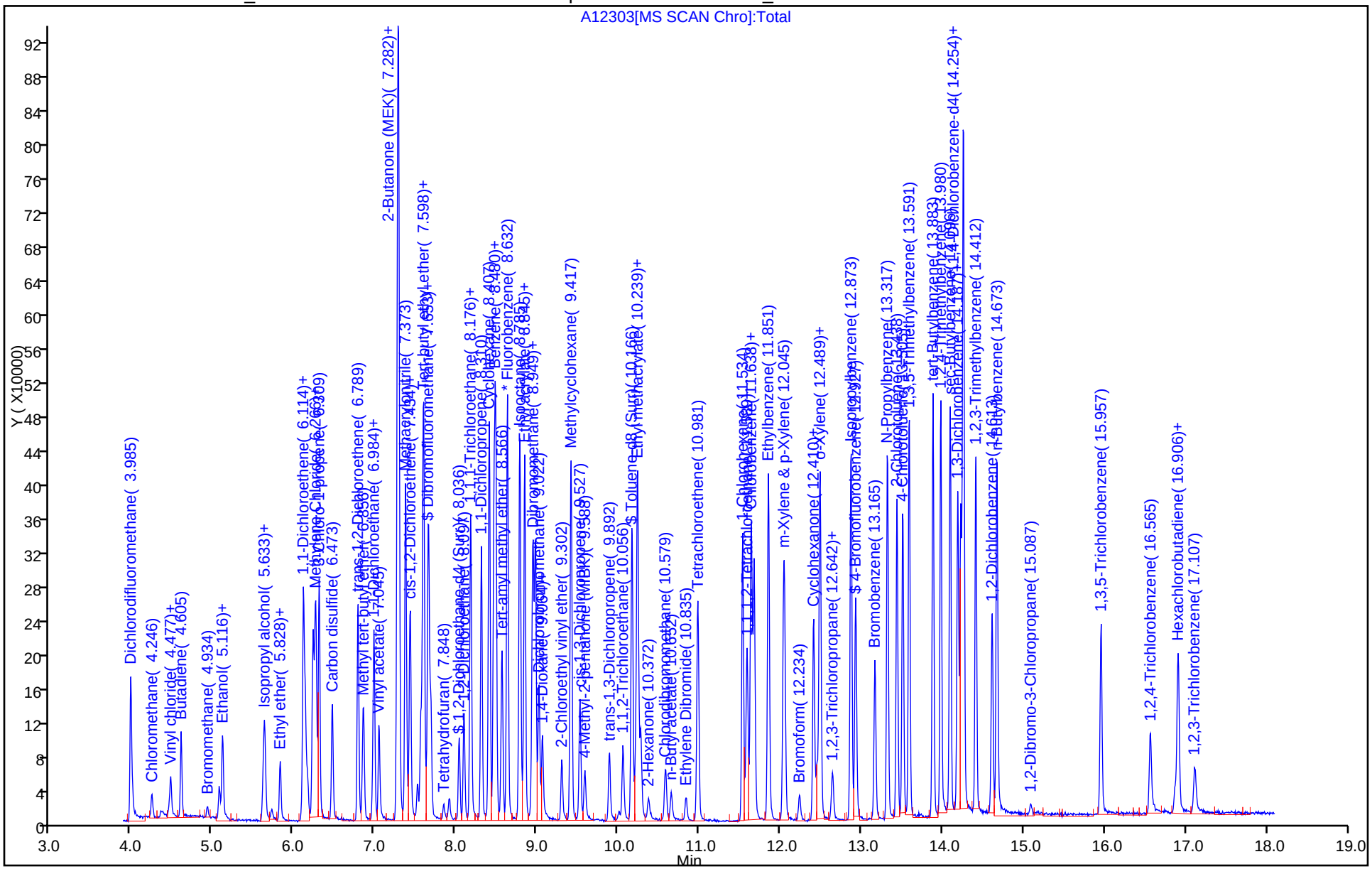
Reagents:

VOALCSPT2_00056	Amount Added:	4.00	Units: uL	
VOALCSGASPT_00165	Amount Added:	4.00	Units: uL	
VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 22-Jul-2016 08:59:55 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12303.d				
Injection Date:	02-May-2016 10:07:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	lcs			Worklist Smp#:	4
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12303.d
Lims ID: lcs
Client ID:
Sample Type: LCS
Inject. Date: 02-May-2016 10:07:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: lcs
Misc. Info.: 600-0011863-004
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jul-2016 08:59:52 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK027

First Level Reviewer: shenw Date: 02-May-2016 10:47:25

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	11.7	93.54
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	13.6	108.78
$ 91 Toluene-d8 (Surr)	12.5	9.23	73.82
$ 119 4-Bromofluorobenzene	12.5	11.3	90.41

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-187782/1010
Matrix: Water
Lab File ID: A1259a-LCS.d
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/04/2016 14:38
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187782
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	9.653		1.00	0.192
127-18-4	Tetrachloroethene	9.211		1.00	0.333
79-01-6	Trichloroethene	9.585		1.00	0.138
75-01-4	Vinyl chloride	11.11		2.00	0.248
156-59-2	cis-1,2-Dichloroethene	9.427		1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	113		70-130
1868-53-7	Dibromofluoromethane	101		62-130
460-00-4	4-Bromofluorobenzene	108		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		50-134

TestAmerica Laboratories
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A1259a-LCS.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 04-May-2016 14:38:30 ALS Bottle#: 7 Worklist Smp#: 1010
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 600-0011909-010
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 03-Aug-2016 18:04:33 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK047

First Level Reviewer: xiey Date: 03-Aug-2016 18:01:57

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	270704	12.5	12.5	
2 Dichlorodifluoromethane	85	4.009	4.009	0.000	98	53559	10.0	9.83	
3 Chloromethane	50	4.246	4.246	0.000	100	61028	10.0	9.47	
6 Ethylene oxide	44	4.459	4.465	-0.006	92	15324	100.0	123.5	M
4 Vinyl chloride	62	4.478	4.477	0.001	96	75903	10.0	11.1	
5 Butadiene	39	4.605	4.605	0.000	91	99623	10.0	10.6	
7 Bromomethane	94	4.928	4.934	-0.006	92	13675	10.0	10.5	
9 Chloroethane	64	5.074	5.080	-0.006	91	36409	10.0	9.50	
8 Ethanol	45	5.080	5.080	0.000	30	5803	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	96	129808	10.0	9.89	
14 Acrolein	56	5.609	5.615	-0.006	93	11186	50.0	44.6	
15 Acetonitrile	41	5.615	5.621	-0.006	93	23794	100.0	103.2	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	98	159173	10.0	11.0	
17 Isopropyl alcohol	45	5.658	5.652	0.006	96	8645	100.0	81.7	
18 Acetone	43	5.828	5.828	0.000	40	14368	20.0	22.0	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	94	38669	100.0	91.5	
19 Ethyl ether	59	5.828	5.828	0.000	89	38669	10.0	9.15	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	85	53585	10.0	9.58	
23 Acrylonitrile	52	6.138	6.138	0.000	98	75743	100.0	95.0	
24 Iodomethane	142	6.169	6.169	0.000	94	51394	10.0	8.98	
25 Methylene Chloride	84	6.230	6.236	-0.006	85	46862	10.0	10.0	
26 Methyl acetate	43	6.248	6.248	0.000	98	107913	50.0	46.5	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.272	-0.006	90	63503	10.0	8.39	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	80	28712	10.0	10.0	
29 Carbon disulfide	76	6.473	6.473	0.000	94	157153	10.0	9.84	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	83	59210	10.0	9.65	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	91	92282	10.0	10.2	
32 Propionitrile	54	6.972	6.966	0.006	96	26156	100.0	97.6	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	98	175521	10.0	10.0	
34 Vinyl acetate	43	7.045	7.045	0.000	97	121184	20.0	18.5	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	89	254557	10.0	11.5	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 Hexane	57	7.288	7.288	0.000	84	144178	10.0	10.1	
38 Isopropyl ether	45	7.294	7.288	0.006	95	333087	10.0	10.7	
37 2-Butanone (MEK)	72	7.294	7.300	-0.006	88	5147	20.0	20.8	
39 Methacrylonitrile	66	7.379	7.379	0.000	94	24779	100.0	104.1	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	65	62811	10.0	9.43	
45 Chlorobromomethane	128	7.562	7.562	0.000	88	20731	10.0	9.21	
S 46 1,2-Dichloroethene, Total	96				0		20.0	19.1	
48 Chloroform	83	7.592	7.592	0.000	96	142866	10.0	9.92	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	97	238711	10.0	10.5	
43 Ethyl acetate	43	7.598	7.598	0.000	37	51105	20.0	18.2	
50 Isobutyl alcohol	43	7.598	7.598	0.000	37	51105	250.0	253.8	
51 2,2-Dichloropropane	77	7.659	7.659	0.000	89	153074	10.0	9.30	
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	92	92949	12.5	12.6	
53 Tetrahydrofuran	42	7.848	7.848	0.000	81	13882	20.0	21.3	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	115247	12.5	12.5	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	96	112388	10.0	9.47	
60 1,1,1-Trichloroethane	97	8.182	8.176	0.006	95	174825	10.0	9.55	
59 n-Butanol	56	8.170	8.176	-0.006	25	6691	250.0	228.1	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	77	96581	10.0	10.7	
62 Cyclohexane	84	8.408	8.407	0.001	90	80596	10.0	10.2	
63 Carbon tetrachloride	119	8.468	8.468	0.000	98	184890	10.0	9.78	
64 Benzene	78	8.487	8.487	0.000	87	228060	10.0	10.4	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	75	90507	10.0	10.2	
68 Isooctane	57	8.785	8.785	0.000	97	269962	10.0	9.49	
69 Ethyl acrylate	55	8.821	8.839	-0.018	97	62123	10.0	8.53	
70 n-Heptane	43	8.846	8.845	0.001	92	137033	10.0	9.97	
67 2-Nitropropane	43	8.846	8.845	0.001	92	137033	20.0	19.9	
71 Dibromomethane	93	8.931	8.931	0.000	83	21374	10.0	9.10	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	71	65647	10.0	9.88	
73 Trichloroethene	130	8.979	8.973	0.006	89	80646	10.0	9.59	
74 Dichlorobromomethane	83	9.022	9.022	0.000	95	80893	10.0	9.20	
75 Methyl methacrylate	41	9.065	9.064	0.001	83	70784	20.0	21.7	
76 1,4-Dioxane	58	9.077	9.071	0.006	26	1962	200.0	144.0	
78 Methylcyclohexane	83	9.417	9.417	0.000	88	81043	10.0	9.32	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.588	0.000	97	46919	20.0	18.8	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	91	90859	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	84	18146	20.0	17.3	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	79	64228	10.0	10.4	
88 trans-1,3-Dichloropropene	75	9.886	9.892	-0.006	93	41311	10.0	10.0	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	85	22404	10.0	10.9	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	278248	12.5	14.2	
92 Ethyl methacrylate	69	10.214	10.214	0.000	81	23884	10.0	10.0	
93 Toluene	92	10.239	10.239	0.000	95	148447	10.0	10.7	
94 1,3-Dichloropropane	76	10.275	10.281	-0.006	86	43669	10.0	10.3	
95 2-Hexanone	43	10.373	10.366	0.007	97	24401	20.0	18.2	
97 Chlorodibromomethane	129	10.585	10.585	0.000	87	35438	10.0	8.78	
98 n-Butyl acetate	43	10.652	10.652	0.000	94	32667	10.0	9.41	
99 Ethylene Dibromide	107	10.835	10.829	0.006	97	18449	10.0	9.48	
S 100 Xylenes, Total	106				0		20.0	22.1	
101 Tetrachloroethene	164	10.981	10.981	0.000	88	56488	10.0	9.21	
102 1-Chlorohexane	55	11.535	11.534	0.000	76	101182	10.0	11.3	
103 1,1,1,2-Tetrachloroethane	131	11.583	11.583	0.000	83	57788	10.0	9.07	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.674	11.674	0.000	87	135827	10.0	9.50	
105 Ethylbenzene	106	11.851	11.851	0.000	97	83261	10.0	10.5	
106 m-Xylene & p-Xylene	91	12.046	12.045	0.001	0	215451	10.0	11.0	
107 Styrene	104	12.411	12.410	0.001	90	108378	10.0	9.59	
108 Cyclohexanone	55	12.453	12.453	0.000	89	23668	500.0	448.6	
109 o-Xylene	106	12.490	12.490	0.000	99	95166	10.0	11.1	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	95	69567	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	93	15132	10.0	9.58	
115 1,1,2,2-Tetrachloroethane	83	12.484	12.483	0.001	50	16205	10.0	10.0	
117 1,2,3-Trichloropropane	110	12.642	12.636	0.006	93	7098	10.0	10.8	
116 trans-1,4-Dichloro-2-buten	53	12.636	12.636	0.000	78	7116	10.0	10.5	
118 Isopropylbenzene	105	12.873	12.867	0.006	98	251204	10.0	11.0	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	87	80904	12.5	13.5	
120 Bromobenzene	156	13.171	13.165	0.006	83	46672	10.0	9.85	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	65181	10.0	10.9	
122 2-Chlorotoluene	126	13.439	13.439	0.000	92	53270	10.0	10.1	
123 4-Chlorotoluene	91	13.512	13.512	0.000	97	180516	10.0	11.1	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	93	219654	10.0	11.2	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	176668	10.0	10.8	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	211983	10.0	10.9	
131 sec-Butylbenzene	105	14.096	14.096	0.000	97	235471	10.0	10.5	
132 Benzyl chloride	91	14.181	14.181	0.000	60	32389	10.0	8.65	
133 1,3-Dichlorobenzene	146	14.187	14.187	0.000	94	103661	10.0	10.4	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	91	108837	10.0	9.58	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	237366	10.0	10.3	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	192964	10.0	10.6	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	94	76694	10.0	9.46	
139 n-Butylbenzene	91	14.668	14.667	0.001	97	169962	10.0	10.9	
140 1,2-Dibromo-3-Chloropropan	157	15.099	15.099	0.000	69	2589	10.0	8.41	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	94	59553	10.0	9.02	
142 1,2,4-Trichlorobenzene	180	16.566	16.566	0.000	93	30058	10.0	8.96	
143 Naphthalene	128	16.876	16.870	0.006	97	24113	10.0	7.58	
144 Hexachlorobutadiene	190	16.912	16.912	0.000	94	15813	10.0	9.98	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	94	18162	10.0	8.86	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

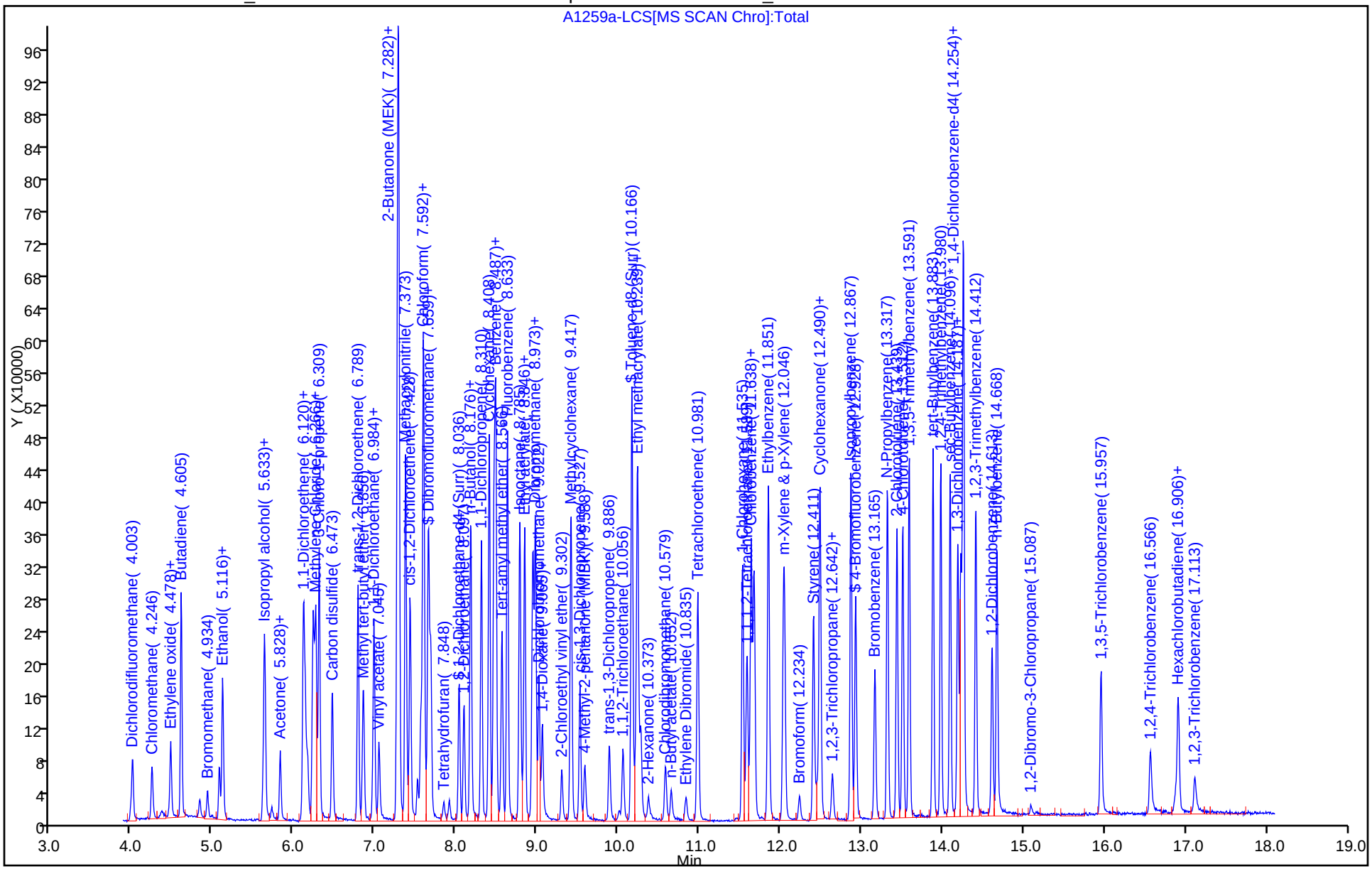
Reagents:

VOALCSPT2_00056	Amount Added:	4.00	Units: uL	
VOALCSGASPT_00165	Amount Added:	4.00	Units: uL	
EOxideLcs_00071	Amount Added:	4.00	Units: uL	
VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 03-Aug-2016 18:05:01 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Laboratories

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A1259a-LCS.d				
Injection Date:	04-May-2016 14:38:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	LCS			Worklist Smp#:	1010
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Laboratories
Recovery Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A1259a-LCS.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 04-May-2016 14:38:30 ALS Bottle#: 7 Worklist Smp#: 1010
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: 600-0011909-010
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 03-Aug-2016 18:04:33 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK047

First Level Reviewer: xiey Date: 03-Aug-2016 18:01:57

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	12.6	100.73
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	12.5	99.80
$ 91 Toluene-d8 (Surr)	12.5	14.2	113.44
$ 119 4-Bromofluorobenzene	12.5	13.5	107.91

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 600-187554/4
Matrix: Water
Lab File ID: A12203.d
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/01/2016 10:45
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187554
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	7.974		1.00	0.192
127-18-4	Tetrachloroethene	9.715		1.00	0.333
79-01-6	Trichloroethene	9.940		1.00	0.138
75-01-4	Vinyl chloride	8.678		2.00	0.248
156-59-2	cis-1,2-Dichloroethene	8.014		1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	75		70-130
1868-53-7	Dibromofluoromethane	91		62-130
460-00-4	4-Bromofluorobenzene	94		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	107		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12203.d
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 01-May-2016 10:45:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: LCSD
Misc. Info.: 600-0011851-004
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 21-Jul-2016 19:08:46 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK032

First Level Reviewer: shenw Date: 01-May-2016 11:29:26

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	96	378930	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.003	0.000	99	19880	10.0	9.07	
3 Chloromethane	50	4.246	4.246	0.000	100	33359	10.0	10.8	
4 Vinyl chloride	62	4.477	4.477	0.000	98	50117	10.0	8.68	
5 Butadiene	39	4.605	4.605	0.000	95	48557	10.0	14.7	
7 Bromomethane	94	4.934	4.934	0.000	95	9105	10.0	10.1	
8 Ethanol	45	5.074	5.074	0.000	48	11885	NC	NC	
9 Chloroethane	64	5.080	5.074	0.006	93	25842	10.0	7.28	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	102143	10.0	8.52	
14 Acrolein	56	5.615	5.615	0.000	95	19200	50.0	34.6	
15 Acetonitrile	41	5.615	5.615	0.000	96	32969	100.0	113.7	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	99	99737	10.0	8.89	
17 Isopropyl alcohol	45	5.652	5.652	0.000	95	15876	100.0	148.9	
18 Acetone	43	5.828	5.828	0.000	38	15026	20.0	22.6	
19 Ethyl ether	59	5.828	5.828	0.000	95	45924	10.0	8.21	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	93	45924	100.0	82.1	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	86	67893	10.0	8.79	
23 Acrylonitrile	52	6.138	6.138	0.000	95	101392	100.0	99.1	
24 Iodomethane	142	6.169	6.163	0.006	91	37327	10.0	9.05	
25 Methylene Chloride	84	6.230	6.230	0.000	88	58700	10.0	7.23	
26 Methyl acetate	43	6.242	6.242	0.000	99	128692	50.0	55.8	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.266	0.000	87	80469	10.0	10.4	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	83	36881	10.0	8.17	
29 Carbon disulfide	76	6.473	6.473	0.000	97	182415	10.0	7.44	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	84	72138	10.0	7.97	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	92	104817	10.0	8.30	
32 Propionitrile	54	6.972	6.966	0.006	98	37073	100.0	91.4	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	207957	10.0	9.85	
34 Vinyl acetate	43	7.045	7.045	0.000	97	198016	20.0	23.5	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	90	290733	10.0	14.4	
36 Hexane	57	7.288	7.282	0.006	86	188420	10.0	10.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
37 2-Butanone (MEK)	72	7.300	7.288	0.012	88	6260	20.0	18.2	
38 Isopropyl ether	45	7.294	7.294	0.000	96	386553	10.0	12.2	
39 Methacrylonitrile	66	7.373	7.373	0.000	95	32897	100.0	75.9	
40 cis-1,2-Dichloroethene	96	7.434	7.428	0.006	78	77198	10.0	8.01	
45 Chlorobromomethane	128	7.562	7.562	0.000	89	25509	10.0	8.56	
S 46 1,2-Dichloroethene, Total	96				0		20.0	16.0	
48 Chloroform	83	7.592	7.592	0.000	95	166727	10.0	10.0	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	98	265150	10.0	10.3	
43 Ethyl acetate	43	7.611	7.604	0.007	44	66918	20.0	23.9	
50 Isobutyl alcohol	43	7.611	7.604	0.007	43	66669	250.0	366.9	
51 2,2-Dichloropropane	77	7.659	7.653	0.006	92	188154	10.0	11.9	
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	93	76786	12.5	11.4	
53 Tetrahydrofuran	42	7.848	7.848	0.000	85	13733	20.0	18.9	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.030	0.006	0	82041	12.5	13.3	
58 1,2-Dichloroethane	62	8.097	8.091	0.006	97	121206	10.0	13.2	
59 n-Butanol	56	8.182	8.176	0.006	24	12169	250.0	272.3	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	95	202358	10.0	12.9	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	84	117008	10.0	9.86	
62 Cyclohexane	84	8.407	8.407	0.000	89	109863	10.0	8.47	
63 Carbon tetrachloride	119	8.468	8.462	0.006	99	210927	10.0	15.5	
64 Benzene	78	8.487	8.487	0.000	90	282947	10.0	7.49	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	81	114234	10.0	8.42	
68 Isooctane	57	8.785	8.785	0.000	98	424142	10.0	11.0	
69 Ethyl acrylate	55	8.839	8.839	0.000	88	91191	10.0	12.1	
70 n-Heptane	43	8.845	8.845	0.000	94	197159	10.0	14.6	
67 2-Nitropropane	43	8.845	8.845	0.000	90	197159	20.0	29.3	
71 Dibromomethane	93	8.931	8.931	0.000	92	25855	10.0	9.67	
72 1,2-Dichloropropane	63	8.943	8.949	-0.006	80	93077	10.0	9.07	
73 Trichloroethene	130	8.979	8.973	0.006	90	100199	10.0	9.94	
74 Dichlorobromomethane	83	9.022	9.016	0.006	96	103892	10.0	11.4	
75 Methyl methacrylate	41	9.064	9.065	0.000	86	74707	20.0	23.7	
76 1,4-Dioxane	58	9.077	9.077	0.000	26	3877	200.0	222.6	
78 Methylcyclohexane	83	9.417	9.417	0.000	89	122121	10.0	9.00	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.588	0.000	98	61008	20.0	27.1	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	91	122572	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	87	38706	20.0	18.8	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	83	80071	10.0	8.47	
88 trans-1,3-Dichloropropene	75	9.886	9.892	-0.006	95	50188	10.0	9.12	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	85	30580	10.0	8.25	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	95	237420	12.5	9.32	
92 Ethyl methacrylate	69	10.214	10.208	0.006	85	30052	10.0	7.15	
93 Toluene	92	10.239	10.239	0.000	96	188753	10.0	8.61	
94 1,3-Dichloropropane	76	10.275	10.275	0.000	86	56780	10.0	8.08	
95 2-Hexanone	43	10.372	10.372	0.000	98	29696	20.0	22.1	
97 Chlorodibromomethane	129	10.579	10.585	-0.006	89	44358	10.0	10.6	
98 n-Butyl acetate	43	10.652	10.658	-0.006	96	39085	10.0	9.15	
99 Ethylene Dibromide	107	10.835	10.835	0.000	93	25801	10.0	8.21	
S 100 Xylenes, Total	106				0		20.0	19.2	
101 Tetrachloroethene	164	10.981	10.981	0.000	90	72734	10.0	9.72	
102 1-Chlorohexane	55	11.534	11.534	0.000	79	126036	10.0	13.1	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	86	76827	10.0	11.2	
104 Chlorobenzene	112	11.674	11.674	0.000	89	173489	10.0	8.14	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 Ethylbenzene	106	11.851	11.851	0.000	98	103994	10.0	8.99	
106 m-Xylene & p-Xylene	91	12.045	12.045	0.000	0	257570	10.0	9.88	
107 Styrene	104	12.410	12.410	0.000	91	131976	10.0	7.38	
108 Cyclohexanone	55	12.453	12.453	0.000	92	53134	500.0	736.7	
109 o-Xylene	106	12.490	12.490	0.000	98	120596	10.0	9.30	
* 110 1,4-Dichlorobenzene-d4	152	14.229	14.223	0.006	95	99369	12.5	12.5	
114 Bromoform	173	12.234	12.240	-0.006	94	20240	10.0	10.5	
115 1,1,2,2-Tetrachloroethane	83	12.483	12.490	-0.007	51	28523	10.0	7.74	
116 trans-1,4-Dichloro-2-buten	53	12.642	12.636	0.006	69	9079	10.0	11.8	
117 1,2,3-Trichloropropane	110	12.642	12.642	0.000	94	10077	10.0	9.18	
118 Isopropylbenzene	105	12.873	12.873	0.000	98	325365	10.0	9.91	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	88	100440	12.5	11.8	
120 Bromobenzene	156	13.165	13.171	-0.006	90	60163	10.0	9.10	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	84530	10.0	9.76	
122 2-Chlorotoluene	126	13.439	13.439	0.000	93	72439	10.0	9.20	
123 4-Chlorotoluene	91	13.512	13.512	0.000	98	228623	10.0	9.65	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	95	286076	10.0	10.5	
128 tert-Butylbenzene	119	13.883	13.883	0.000	94	239347	10.0	10.6	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	99	275766	10.0	10.1	
131 sec-Butylbenzene	105	14.096	14.096	0.000	96	339357	10.0	9.88	
132 Benzyl chloride	91	14.181	14.187	-0.006	63	52470	10.0	9.59	
133 1,3-Dichlorobenzene	146	14.187	14.193	-0.006	95	146858	10.0	9.67	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	89	155866	10.0	9.75	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	325711	10.0	10.6	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	266268	10.0	9.71	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	94	114444	10.0	9.03	
139 n-Butylbenzene	91	14.674	14.674	0.000	97	258627	10.0	10.7	
140 1,2-Dibromo-3-Chloropropan	157	15.087	15.093	-0.006	72	4508	10.0	9.74	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	96	97717	10.0	10.3	
142 1,2,4-Trichlorobenzene	180	16.566	16.572	-0.006	93	56684	10.0	10.4	
143 Naphthalene	128	16.870	16.870	0.000	97	50829	10.0	7.75	
144 Hexachlorobutadiene	190	16.912	16.906	0.006	96	27795	10.0	16.1	
145 1,2,3-Trichlorobenzene	180	17.107	17.113	-0.006	94	38430	10.0	10.3	

QC Flag Legend

Processing Flags

NC - Not Calibrated

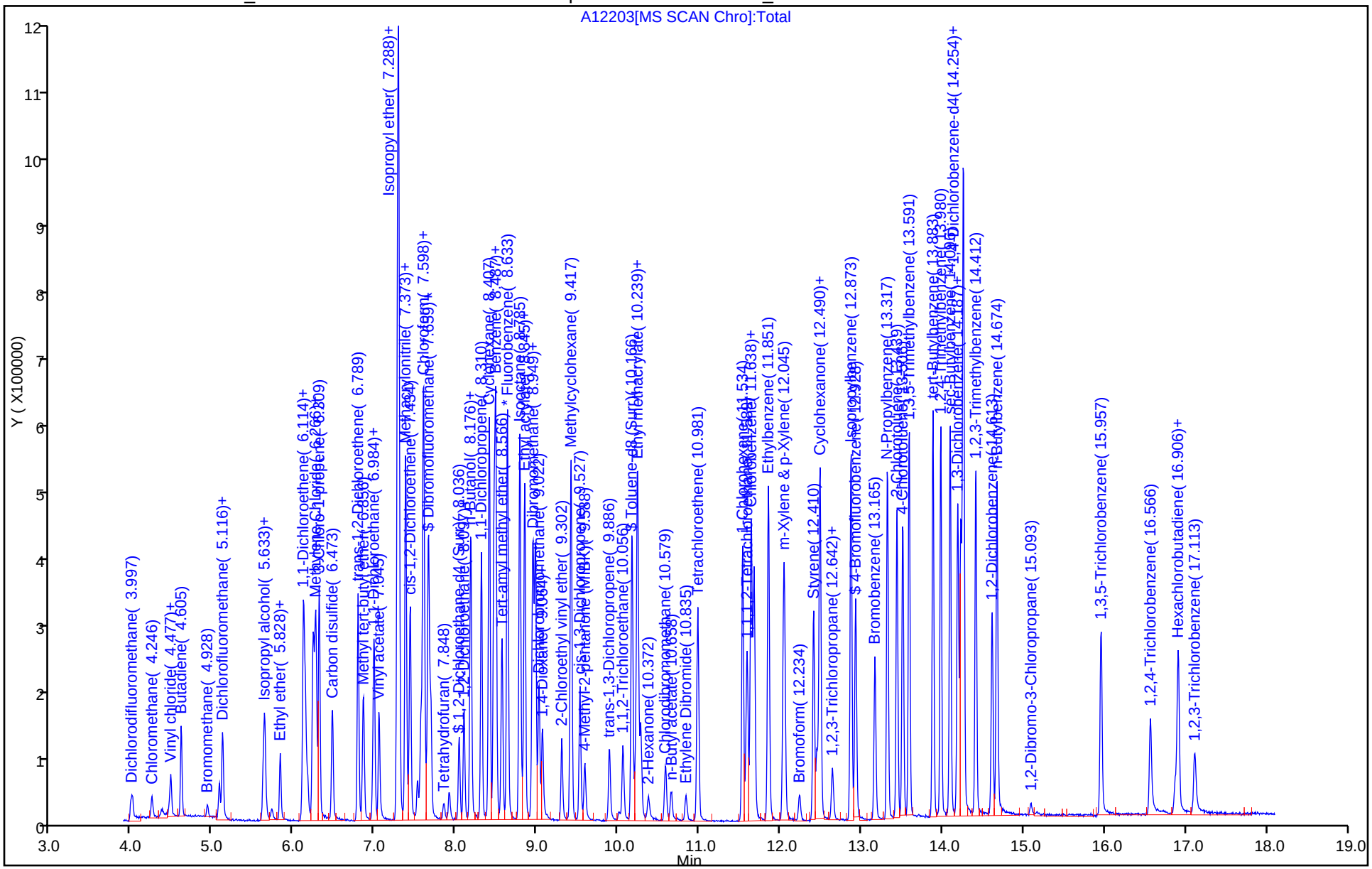
Reagents:

VOALCSPT2_00056	Amount Added:	4.00	Units: uL	
VOALCSGASPT_00165	Amount Added:	4.00	Units: uL	
VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 21-Jul-2016 19:08:49 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12203.d				
Injection Date:	01-May-2016 10:45:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	lcsd			Worklist Smp#:	4
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\A12203.d				
Lims ID:	lcsd				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	01-May-2016 10:45:30	ALS Bottle#:	3	Worklist Smp#:	4
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	LCSD				
Misc. Info.:	600-0011851-004				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160501-11851.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	21-Jul-2016 19:08:46	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK032		

First Level Reviewer: shenw Date: 01-May-2016 11:29:26

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	11.4	91.43
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	13.3	106.73
$ 91 Toluene-d8 (Surr)	12.5	9.32	74.56
$ 119 4-Bromofluorobenzene	12.5	11.8	94.22

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 600-187555/4
Matrix: Water
Lab File ID: C12102.D
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/01/2016 10:42
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187555
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	7.324		1.00	0.192
127-18-4	Tetrachloroethene	9.632		1.00	0.333
79-01-6	Trichloroethene	8.150		1.00	0.138
75-01-4	Vinyl chloride	10.56		2.00	0.248
156-59-2	cis-1,2-Dichloroethene	7.728		1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	87		70-130
1868-53-7	Dibromofluoromethane	82		62-130
460-00-4	4-Bromofluorobenzene	127		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	89		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12102.D
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 01-May-2016 10:42:30 ALS Bottle#: 2 Worklist Smp#: 4
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: LCSD
Misc. Info.: 600-0011852-004
Operator ID: ws Instrument ID: CHVOAMS01

Method: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 01-May-2016 13:06:18 Calib Date: 22-Jan-2016 16:06:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D

Column 1 : Det: MS SCAN
Process Host: XAWRK001

First Level Reviewer: shenw Date: 01-May-2016 11:30:04

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.417	8.414	0.003	99	364433	12.5	12.5	
2 Dichlorodifluoromethane	85	3.904	3.901	0.003	100	79791	10.0	13.3	
3 Chloromethane	50	4.134	4.131	0.003	100	66318	10.0	8.52	
4 Vinyl chloride	62	4.348	4.351	-0.002	99	57397	10.0	10.6	
5 Butadiene	39	4.474	4.476	-0.002	92	55577	10.0	10.9	
6 Bromomethane	94	4.793	4.790	0.003	91	43811	10.0	7.82	
9 Chloroethane	64	4.934	4.931	0.003	99	39826	10.0	6.51	
11 Dichlorofluoromethane	67	4.976	4.973	0.003	98	125727	10.0	8.34	
10 Ethanol	45		5.080				ND	ND	
14 Acrolein	56	5.462	5.459	0.003	98	17026	50.0	36.8	
15 Acetonitrile	41	5.473	5.470	0.003	97	37841	100.0	79.2	
16 Trichlorofluoromethane	101	5.478	5.475	0.003	100	134703	10.0	11.4	
17 Isopropyl alcohol	45	5.509	5.506	0.003	98	19379	100.0	99.3	
18 Acetone	43	5.572	5.569	0.003	99	17620	20.0	18.4	
19 Ethyl ether	59	5.666	5.663	0.003	91	29854	10.0	6.17	
22 1,1-Dichloroethene	96	5.943	5.940	0.003	96	59564	10.0	7.51	
21 2-Methyl-2-propanol	59	5.943	5.940	0.003	44	34582	100.0	101.5	
23 Acrylonitrile	52	5.975	5.972	0.003	99	80937	100.0	79.3	
24 Iodomethane	142	5.996	5.993	0.003	99	142655	10.0	12.9	
25 Methylene Chloride	84	6.058	6.056	0.002	92	64366	10.0	6.06	
26 Methyl acetate	43	6.079	6.076	0.003	98	109201	50.0	37.6	
27 1,1,2-Trichloro-1,2,2-trif	151	6.090	6.087	0.003	94	42144	10.0	6.81	
28 3-Chloro-1-propene	76	6.137	6.134	0.003	91	31486	10.0	6.55	
29 Carbon disulfide	76	6.289	6.286	0.003	99	177149	10.0	6.57	
30 trans-1,2-Dichloroethene	96	6.602	6.599	0.003	97	65012	10.0	7.32	
31 Methyl tert-butyl ether	73	6.670	6.667	0.003	94	122104	10.0	7.38	
32 Propionitrile	54	6.791	6.788	0.003	98	44851	100.0	87.5	
33 1,1-Dichloroethane	63	6.796	6.793	0.003	97	123148	10.0	7.97	
34 Vinyl acetate	43	6.864	6.861	0.003	97	140739	20.0	16.6	
36 2-Chloro-1,3-butadiene	53	7.078	7.075	0.003	93	116831	10.0	8.91	
37 Hexane	57	7.089	7.086	0.003	90	96535	10.0	7.76	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
38 Isopropyl ether	45	7.099	7.096	0.003	94	213333	10.0	8.76	
39 2-Butanone (MEK)	72	7.110	7.107	0.003	92	8081	20.0	18.0	
40 Methacrylonitrile	66	7.183	7.180	0.003	91	49820	100.0	79.4	
41 cis-1,2-Dichloroethene	96	7.235	7.232	0.003	82	76317	10.0	7.73	
42 Ethyl acetate	43	7.335	7.328	0.007	99	24534	20.0	9.63	
44 Chlorobromomethane	128	7.366	7.368	-0.002	97	24442	10.0	6.82	
45 Chloroform	83	7.392	7.389	0.003	93	136763	10.0	9.30	
46 Tert-butyl ethyl ether	59	7.403	7.400	0.003	96	185353	10.0	8.35	
48 Isobutyl alcohol	43	7.434	7.431	0.003	95	38623	250.0	167.6	
49 2,2-Dichloropropane	77	7.455	7.452	0.003	87	118218	10.0	8.72	
$ 51 Dibromofluoromethane	113	7.486	7.483	0.003	93	83455	12.5	10.2	
S 47 1,2-Dichloroethene, Total	96				0		20.0	15.1	
53 Tetrahydrofuran	42	7.648	7.645	0.003	86	15428	20.0	14.8	
$ 56 1,2-Dichloroethane-d4 (Sur	65	7.831	7.829	0.002	0	76361	12.5	11.1	
57 1,2-Dichloroethane	62	7.889	7.886	0.003	98	73709	10.0	9.50	
58 1,1,1-Trichloroethane	97	7.967	7.965	0.002	98	117171	10.0	9.01	
59 n-Butanol	56	7.983	7.985	-0.002	88	23795	250.0	219.7	
61 1,1-Dichloropropene	75	8.098	8.095	0.003	97	106465	10.0	8.32	
62 Cyclohexane	84	8.192	8.189	0.003	90	103358	10.0	7.00	
63 Carbon tetrachloride	119	8.250	8.247	0.003	98	92735	10.0	8.82	
64 Benzene	78	8.276	8.273	0.003	95	289233	10.0	7.67	
66 Tert-amyl methyl ether	73	8.354	8.352	0.002	99	161198	10.0	8.00	
67 Isooctane	57	8.564	8.561	0.003	96	248455	10.0	8.21	
68 Ethyl acrylate	55	8.611	8.610	0.001	97	62522	10.0	8.03	
69 n-Heptane	43	8.621	8.618	0.003	90	102384	10.0	8.66	
70 Dibromomethane	93	8.710	8.707	0.003	88	32029	10.0	8.58	
71 1,2-Dichloropropane	63	8.721	8.718	0.003	92	76744	10.0	8.88	
72 2-Nitropropane	43	8.731	8.728	0.003	90	21279	20.0	17.3	
73 Trichloroethene	130	8.752	8.749	0.003	96	79917	10.0	8.15	
74 Dichlorobromomethane	83	8.794	8.791	0.003	99	111605	10.0	10.1	
75 Methyl methacrylate	41	8.841	8.840	0.001	90	77261	20.0	17.8	
76 1,4-Dioxane	58	8.862	8.859	0.003	92	5484	200.0	196.9	
78 Methylcyclohexane	83	9.170	9.173	-0.003	89	129103	10.0	7.46	
79 4-Methyl-2-pentanone (MIBK	43	9.348	9.345	0.003	96	74550	20.0	19.9	
* 80 Chlorobenzene-d5	82	11.351	11.354	-0.003	88	174625	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.071	9.073	-0.002	92	15172	20.0	6.25	
85 cis-1,3-Dichloropropene	75	9.285	9.283	0.002	95	116698	10.0	9.39	
88 trans-1,3-Dichloropropene	75	9.641	9.638	0.003	94	93095	10.0	9.67	
89 1,1,2-Trichloroethane	97	9.798	9.800	-0.002	92	52069	10.0	10.1	
$ 90 Toluene-d8 (Surr)	98	9.903	9.900	0.003	93	364560	12.5	10.9	
92 Ethyl methacrylate	69	9.955	9.952	0.003	88	63325	10.0	9.89	
93 Toluene	92	9.971	9.968	0.003	99	218521	10.0	9.70	
94 1,3-Dichloropropane	76	10.012	10.010	0.002	92	98543	10.0	10.4	
95 2-Hexanone	43	10.107	10.104	0.003	96	51650	20.0	21.0	
97 Chlorodibromomethane	129	10.305	10.302	0.003	90	63470	10.0	10.3	
98 n-Butyl acetate	43	10.384	10.383	0.001	98	37733	10.0	6.20	
99 Ethylene Dibromide	107	10.556	10.553	0.003	98	48711	10.0	9.80	
101 Tetrachloroethene	164	10.698	10.695	0.003	95	65396	10.0	9.63	
S 100 Xylenes, Total	106				0		20.0	20.2	
102 1-Chlorohexane	55	11.252	11.249	0.003	97	99761	10.0	11.0	
103 1,1,1,2-Tetrachloroethane	131	11.304	11.301	0.003	93	81673	10.0	10.2	
104 Chlorobenzene	112	11.388	11.390	-0.002	93	261568	10.0	9.87	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 Ethylbenzene	106	11.566	11.563	0.003	99	143677	10.0	9.95	
106 m-Xylene & p-Xylene	91	11.759	11.756	0.003	0	375704	10.0	10.5	
107 Styrene	104	12.125	12.122	0.003	95	280069	10.0	9.66	
109 o-Xylene	106	12.204	12.201	0.003	98	175496	10.0	9.64	
108 1,1,2,2-Tetrachloroethane	83	12.204	12.206	-0.002	95	56870	10.0	9.40	
* 110 1,4-Dichlorobenzene-d4	152	13.972	13.974	-0.002	97	138779	12.5	12.5	
115 Bromoform	173	11.948	11.950	-0.002	94	30573	10.0	13.2	
116 trans-1,4-Dichloro-2-buten	53	12.361	12.358	0.003	69	9832	10.0	10.4	
117 1,2,3-Trichloropropane	110	12.366	12.363	0.003	86	17078	10.0	13.6	
118 Isopropylbenzene	105	12.596	12.593	0.003	96	479865	10.0	13.9	
$ 119 4-Bromofluorobenzene	95	12.654	12.656	-0.002	84	165322	12.5	15.8	
120 Bromobenzene	156	12.899	12.897	0.002	96	102126	10.0	12.9	
121 N-Propylbenzene	120	13.056	13.059	-0.003	99	131937	10.0	12.8	
122 2-Chlorotoluene	126	13.177	13.179	-0.002	95	113725	10.0	12.7	
123 4-Chlorotoluene	91	13.250	13.252	-0.002	99	390367	10.0	14.2	
124 1,3,5-Trimethylbenzene	105	13.334	13.331	0.003	94	404035	10.0	12.9	
126 tert-Butylbenzene	119	13.632	13.629	0.003	92	332712	10.0	12.6	
128 1,2,4-Trimethylbenzene	105	13.731	13.728	0.003	98	418466	10.0	12.9	
130 sec-Butylbenzene	105	13.846	13.843	0.003	95	514986	10.0	12.9	
131 Benzyl chloride	91	13.930	13.932	-0.002	98	95330	10.0	9.06	
132 1,3-Dichlorobenzene	146	13.935	13.937	-0.002	96	201774	10.0	12.5	
133 1,4-Dichlorobenzene	146	13.998	14.000	-0.002	92	202978	10.0	12.7	
134 4-Isopropyltoluene	119	14.008	14.005	0.003	97	434530	10.0	12.7	
135 1,2,3-Trimethylbenzene	105	14.149	14.152	-0.003	99	423021	10.0	12.0	
137 1,2-Dichlorobenzene	146	14.348	14.351	-0.003	97	164040	10.0	11.9	
138 n-Butylbenzene	91	14.406	14.408	-0.002	98	419718	10.0	13.1	
139 1,2-Dibromo-3-Chloropropan	157	14.819	14.821	-0.002	80	6640	10.0	9.55	
140 1,3,5-Trichlorobenzene	180	15.656	15.658	-0.002	96	113648	10.0	9.76	
141 1,2,4-Trichlorobenzene	180	16.247	16.249	-0.002	94	64163	10.0	9.36	
142 Naphthalene	128	16.540	16.542	-0.002	97	76872	10.0	8.29	
143 Hexachlorobutadiene	190	16.576	16.579	-0.003	95	18359	10.0	10.1	
144 1,2,3-Trichlorobenzene	180	16.775	16.777	-0.002	94	26079	10.0	6.93	

QC Flag Legend

Processing Flags

ND - Not Detected or Marked ND

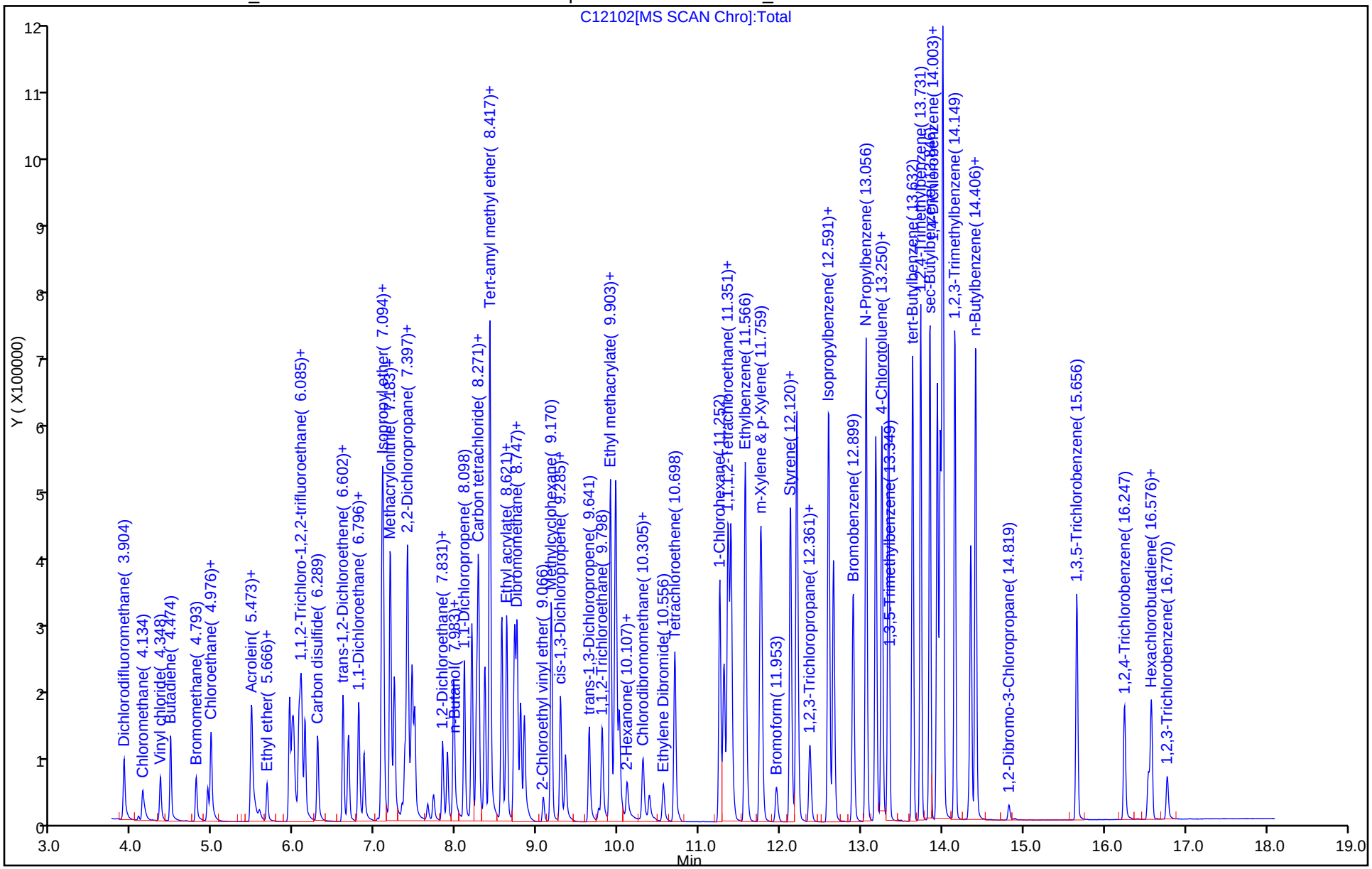
Reagents:

VOALCSGASPT_00165	Amount Added:	4.00	Units: uL	
VOALCSPT2_00056	Amount Added:	4.00	Units: uL	
VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 01-May-2016 13:06:22 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12102.D				
Injection Date:	01-May-2016 10:42:30	Instrument ID:	CHVOAMS01	Operator ID:	ws
Lims ID:	lcsd			Worklist Smp#:	4
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	8260W20_1	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\C12102.D				
Lims ID:	lcsd				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	01-May-2016 10:42:30	ALS Bottle#:	2	Worklist Smp#:	4
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	LCSD				
Misc. Info.:	600-0011852-004				
Operator ID:	ws	Instrument ID:	CHVOAMS01		

Method:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160501-11852.b\8260W20_1.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	01-May-2016 13:06:18	Calib Date:	22-Jan-2016 16:06:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\HOUSTON\ChromData\CHVOAMS01\20160122-10400.b\C02207.D		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK001		

First Level Reviewer: shenw Date: 01-May-2016 11:30:04

Compound	Amount Added	Amount Recovered	% Rec.
$ 51 Dibromofluoromethane	12.5	10.2	81.68
$ 56 1,2-Dichloroethane-d4 (Surr)	12.5	11.1	89.14
$ 90 Toluene-d8 (Surr)	12.5	10.9	87.50
$ 119 4-Bromofluorobenzene	12.5	15.8	126.66

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 600-187577/5
Matrix: Water
Lab File ID: A12304.d
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/02/2016 10:31
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187577
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	7.897		1.00	0.192
127-18-4	Tetrachloroethene	9.375		1.00	0.333
79-01-6	Trichloroethene	10.08		1.00	0.138
75-01-4	Vinyl chloride	8.954		2.00	0.248
156-59-2	cis-1,2-Dichloroethene	8.098		1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	74		70-130
1868-53-7	Dibromofluoromethane	91		62-130
460-00-4	4-Bromofluorobenzene	88		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	108		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12304.d
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 02-May-2016 10:31:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: lcsd
Misc. Info.: 600-0011863-005
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 22-Jul-2016 08:59:52 Calib Date: 21-Mar-2016 12:18:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d

Column 1 : Det: MS SCAN
Process Host: XAWRK027

First Level Reviewer: shenw Date: 02-May-2016 10:54:45

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	298484	12.5	12.5	
2 Dichlorodifluoromethane	85	4.003	4.003	0.000	97	14291	10.0	8.28	
3 Chloromethane	50	4.240	4.240	0.000	99	29077	10.0	12.0	
4 Vinyl chloride	62	4.477	4.477	0.000	98	40734	10.0	8.95	
5 Butadiene	39	4.605	4.605	0.000	93	37407	10.0	14.3	
7 Bromomethane	94	4.928	4.928	0.000	97	5657	10.0	8.27	
9 Chloroethane	64	5.074	5.074	0.000	92	19489	10.0	6.95	
8 Ethanol	45	5.080	5.080	0.000	42	8351	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	97	82441	10.0	8.73	
14 Acrolein	56	5.609	5.615	-0.006	91	14033	50.0	32.1	
15 Acetonitrile	41	5.621	5.615	0.006	95	22803	100.0	99.9	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	98	81326	10.0	9.20	
17 Isopropyl alcohol	45	5.652	5.646	0.006	98	11092	100.0	131.8	
19 Ethyl ether	59	5.828	5.828	0.000	93	35314	10.0	8.02	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	92	35314	100.0	80.2	
18 Acetone	43	5.828	5.828	0.000	43	13486	20.0	25.9	
22 1,1-Dichloroethene	96	6.114	6.114	0.000	86	52063	10.0	8.56	
23 Acrylonitrile	52	6.138	6.138	0.000	99	73548	100.0	91.3	
24 Iodomethane	142	6.163	6.163	0.000	89	32672	10.0	9.83	
25 Methylene Chloride	84	6.236	6.230	0.006	86	44149	10.0	6.88	
26 Methyl acetate	43	6.248	6.242	0.006	98	98659	50.0	54.3	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.266	0.000	90	65408	10.0	10.8	
28 3-Chloro-1-propene	76	6.309	6.303	0.006	83	27200	10.0	7.64	
29 Carbon disulfide	76	6.473	6.467	0.006	96	137507	10.0	7.12	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	81	56274	10.0	7.90	
31 Methyl tert-butyl ether	73	6.850	6.856	-0.006	88	81457	10.0	8.19	
32 Propionitrile	54	6.966	6.966	0.000	97	28088	100.0	88.0	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	97	161322	10.0	9.70	
34 Vinyl acetate	43	7.045	7.045	0.000	97	151008	20.0	22.8	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	90	237535	10.0	14.9	
36 Hexane	57	7.288	7.282	0.006	89	148873	10.0	10.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
38 Isopropyl ether	45	7.288	7.288	0.000	95	303012	10.0	12.2	
37 2-Butanone (MEK)	72	7.294	7.288	0.006	78	5074	20.0	18.8	
39 Methacrylonitrile	66	7.373	7.373	0.000	95	24291	100.0	71.1	
40 cis-1,2-Dichloroethene	96	7.428	7.428	0.000	67	61447	10.0	8.10	
45 Chlorobromomethane	128	7.568	7.562	0.006	88	20398	10.0	8.69	
S 46 1,2-Dichloroethene, Total	96				0		20.0	16.0	
48 Chloroform	83	7.592	7.592	0.000	96	135430	10.0	10.3	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	98	210247	10.0	10.4	
50 Isobutyl alcohol	43	7.598	7.604	-0.006	38	51443	250.0	359.5	
43 Ethyl acetate	43	7.598	7.604	-0.006	38	51443	20.0	23.3	
51 2,2-Dichloropropane	77	7.653	7.653	0.000	90	149460	10.0	12.0	
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	92	60324	12.5	11.4	
53 Tetrahydrofuran	42	7.848	7.848	0.000	85	10038	20.0	17.6	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.030	0.006	0	65463	12.5	13.5	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	96	99283	10.0	13.7	
59 n-Butanol	56	8.176	8.176	0.000	25	7614	250.0	222.4	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	95	167119	10.0	13.5	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	81	93266	10.0	9.98	
62 Cyclohexane	84	8.407	8.407	0.000	91	89223	10.0	8.73	
63 Carbon tetrachloride	119	8.468	8.468	0.000	97	173714	10.0	16.2	
64 Benzene	78	8.487	8.487	0.000	88	222177	10.0	7.46	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	79	85995	10.0	8.04	
68 Isooctane	57	8.785	8.785	0.000	98	322552	10.0	10.6	
69 Ethyl acrylate	55	8.821	8.839	-0.018	31	66793	10.0	11.2	
70 n-Heptane	43	8.845	8.845	0.000	93	157781	10.0	14.9	
67 2-Nitropropane	43	8.845	8.845	0.000	90	157781	20.0	29.7	
71 Dibromomethane	93	8.937	8.931	0.006	85	19305	10.0	9.16	
72 1,2-Dichloropropane	63	8.943	8.949	-0.006	75	71282	10.0	8.81	
73 Trichloroethene	130	8.973	8.973	0.000	91	80013	10.0	10.1	
74 Dichlorobromomethane	83	9.022	9.022	0.000	95	79882	10.0	11.1	
75 Methyl methacrylate	41	9.065	9.064	0.000	87	63292	20.0	25.5	
76 1,4-Dioxane	58	9.089	9.083	0.006	26	2540	200.0	183.4	
78 Methylcyclohexane	83	9.417	9.417	0.000	89	92533	10.0	8.66	
79 4-Methyl-2-pentanone (MIBK	43	9.582	9.588	-0.006	97	45500	20.0	25.7	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	92	99735	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	84	26217	20.0	15.7	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	80	59619	10.0	7.75	
88 trans-1,3-Dichloropropene	75	9.892	9.892	0.000	93	37195	10.0	8.31	
89 1,1,2-Trichloroethane	97	10.056	10.062	-0.006	84	20794	10.0	6.90	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	94	190825	12.5	9.21	
92 Ethyl methacrylate	69	10.214	10.214	0.000	81	22744	10.0	6.67	
93 Toluene	92	10.239	10.239	0.000	96	145951	10.0	8.18	
94 1,3-Dichloropropane	76	10.275	10.275	0.000	85	42514	10.0	7.43	
95 2-Hexanone	43	10.372	10.372	0.000	97	23348	20.0	21.4	
97 Chlorodibromomethane	129	10.579	10.579	0.000	89	36800	10.0	10.8	
98 n-Butyl acetate	43	10.652	10.652	0.000	96	30090	10.0	8.68	
99 Ethylene Dibromide	107	10.835	10.835	0.000	97	18446	10.0	7.22	
S 100 Xylenes, Total	106				0		20.0	18.8	
101 Tetrachloroethene	164	10.981	10.981	0.000	90	57110	10.0	9.38	
102 1-Chlorohexane	55	11.534	11.534	0.000	79	102447	10.0	13.0	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.589	0.000	86	58515	10.0	10.5	
104 Chlorobenzene	112	11.674	11.674	0.000	88	137647	10.0	7.94	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
105 Ethylbenzene	106	11.851	11.851	0.000	98	83608	10.0	8.88	
106 m-Xylene & p-Xylene	91	12.039	12.045	-0.006	0	210248	10.0	9.91	
107 Styrene	104	12.410	12.410	0.000	91	107123	10.0	7.36	
108 Cyclohexanone	55	12.453	12.453	0.000	92	37330	500.0	638.4	
109 o-Xylene	106	12.490	12.490	0.000	99	94239	10.0	8.93	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	95	83811	12.5	12.5	
114 Bromoform	173	12.234	12.234	0.000	93	16553	10.0	10.1	
115 1,1,2,2-Tetrachloroethane	83	12.490	12.477	0.013	51	21237	10.0	6.84	
116 trans-1,4-Dichloro-2-buten	53	12.629	12.636	-0.007	74	8047	10.0	12.4	
117 1,2,3-Trichloropropane	110	12.642	12.648	-0.006	93	7904	10.0	8.53	
118 Isopropylbenzene	105	12.867	12.873	-0.006	98	265826	10.0	9.60	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	88	78730	12.5	10.9	
120 Bromobenzene	156	13.165	13.165	0.000	88	50087	10.0	8.98	
121 N-Propylbenzene	120	13.317	13.323	-0.006	98	70509	10.0	9.65	
122 2-Chlorotoluene	126	13.439	13.439	0.000	93	58227	10.0	8.77	
123 4-Chlorotoluene	91	13.506	13.512	-0.006	98	190213	10.0	9.52	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	94	235760	10.0	10.3	
128 tert-Butylbenzene	119	13.883	13.883	0.000	93	195693	10.0	10.2	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	98	230753	10.0	10.0	
131 sec-Butylbenzene	105	14.096	14.096	0.000	97	277084	10.0	9.57	
132 Benzyl chloride	91	14.181	14.187	-0.006	63	42389	10.0	9.20	
133 1,3-Dichlorobenzene	146	14.187	14.193	-0.006	93	119913	10.0	9.36	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	91	122962	10.0	9.12	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	273499	10.0	10.5	
136 1,2,3-Trimethylbenzene	105	14.406	14.412	-0.006	99	216593	10.0	9.37	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	95	92542	10.0	8.66	
139 n-Butylbenzene	91	14.674	14.674	0.000	97	210440	10.0	10.3	
140 1,2-Dibromo-3-Chloropropan	157	15.087	15.093	-0.006	73	3916	10.0	10.0	
141 1,3,5-Trichlorobenzene	180	15.951	15.957	-0.006	96	78249	10.0	9.74	
142 1,2,4-Trichlorobenzene	180	16.566	16.566	0.000	94	45526	10.0	9.93	
143 Naphthalene	128	16.864	16.870	-0.006	97	41024	10.0	7.43	
144 Hexachlorobutadiene	190	16.906	16.906	0.000	96	22484	10.0	15.4	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	92	27787	10.0	8.83	

QC Flag Legend

Processing Flags

NC - Not Calibrated

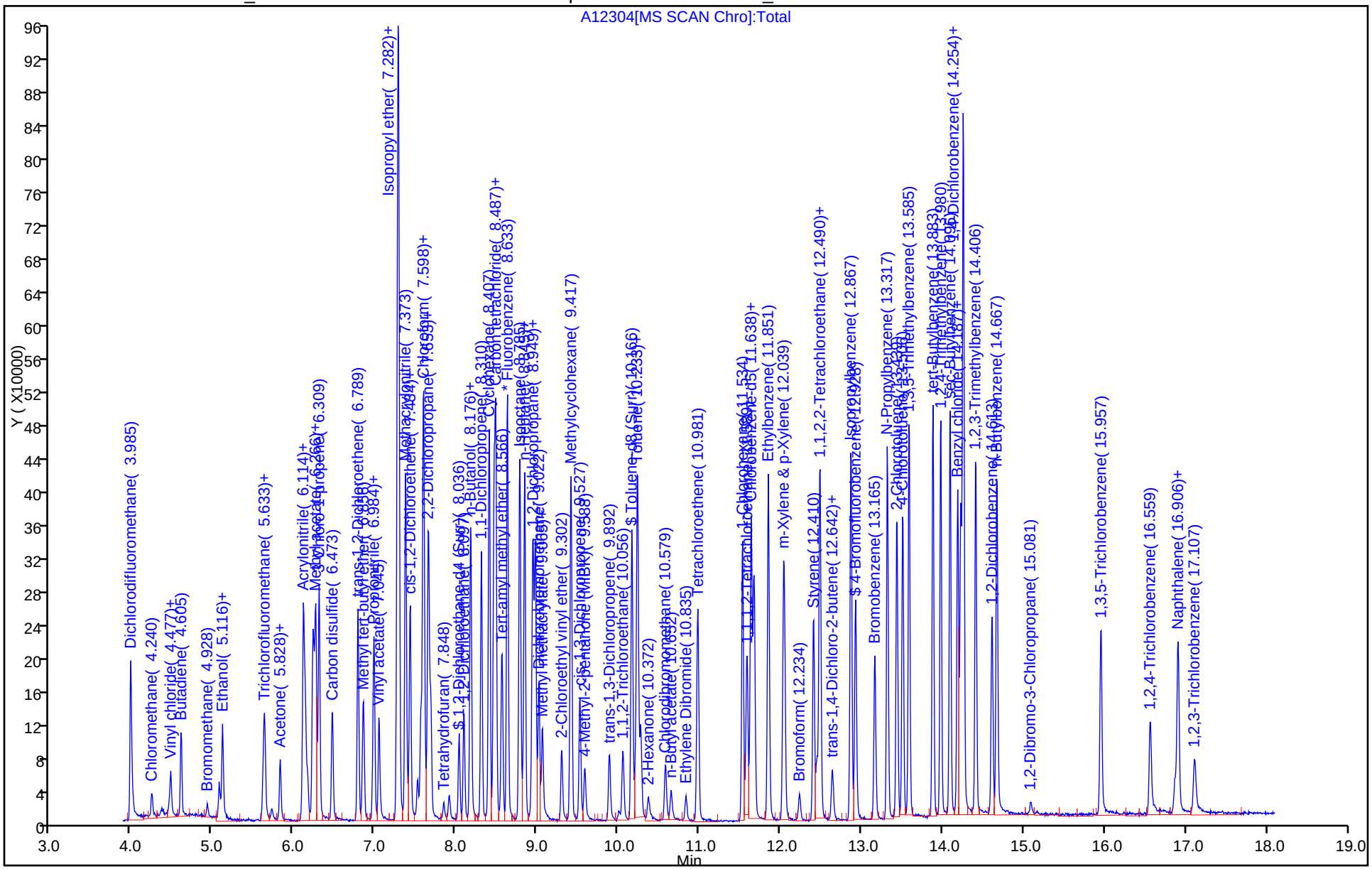
Reagents:

VOALCSPT2_00056	Amount Added:	4.00	Units: uL	
VOALCSGASPT_00165	Amount Added:	4.00	Units: uL	
VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 22-Jul-2016 08:59:56 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12304.d				
Injection Date:	02-May-2016 10:31:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	lcsd			Worklist Smp#:	5
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\A12304.d				
Lims ID:	lcsd				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	02-May-2016 10:31:30	ALS Bottle#:	4	Worklist Smp#:	5
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	lcsd				
Misc. Info.:	600-0011863-005				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160502-11863.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	22-Jul-2016 08:59:52	Calib Date:	21-Mar-2016 12:18:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160321-11198.b\A08107.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK027		

First Level Reviewer: shenw Date: 02-May-2016 10:54:45

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	11.4	91.19
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	13.5	108.11
$ 91 Toluene-d8 (Surr)	12.5	9.21	73.65
$ 119 4-Bromofluorobenzene	12.5	10.9	87.56

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCSD 600-187782/11
Matrix: Water
Lab File ID: A12510.d
Analysis Method: 8260B
Date Collected:
Sample wt/vol: 20(mL)
Date Analyzed: 05/04/2016 15:07
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: DB-VRX 60 ID: 0.25(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187782
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
156-60-5	trans-1,2-Dichloroethene	9.321		1.00	0.192
127-18-4	Tetrachloroethene	9.081		1.00	0.333
79-01-6	Trichloroethene	9.686		1.00	0.138
75-01-4	Vinyl chloride	10.92		2.00	0.248
156-59-2	cis-1,2-Dichloroethene	8.821		1.00	0.157

CAS NO.	SURROGATE	%REC	Q	LIMITS
2037-26-5	Toluene-d8 (Surr)	97		70-130
1868-53-7	Dibromofluoromethane	89		62-130
460-00-4	4-Bromofluorobenzene	93		67-139
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		50-134

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12510.d
Lims ID: lcsd
Client ID:
Sample Type: LCSD
Inject. Date: 04-May-2016 15:07:30 ALS Bottle#: 7 Worklist Smp#: 11
Purge Vol: 20.000 mL Dil. Factor: 1.0000
Sample Info: LCSD
Misc. Info.: 600-0011909-011
Operator ID: ws Instrument ID: CHVOAMS07

Method: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m
Limit Group: VOA - 8260B_8260BLL
Last Update: 03-Aug-2016 18:04:33 Calib Date: 04-May-2016 12:04:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d

Column 1 : Det: MS SCAN
Process Host: XAWRK047

First Level Reviewer: shenw Date: 04-May-2016 15:31:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
* 1 Fluorobenzene	96	8.633	8.633	0.000	95	261285	12.5	12.5	
2 Dichlorodifluoromethane	85	4.009	4.009	0.000	99	61114	10.0	11.6	
3 Chloromethane	50	4.246	4.246	0.000	99	64593	10.0	10.4	
6 Ethylene oxide	44	4.453	4.465	-0.012	96	12647	100.0	101.9	M
4 Vinyl chloride	62	4.477	4.477	0.000	98	71991	10.0	10.9	
5 Butadiene	39	4.605	4.605	0.000	95	105204	10.0	11.6	
7 Bromomethane	94	4.928	4.934	-0.006	97	14926	10.0	11.8	
9 Chloroethane	64	5.074	5.080	-0.006	92	38911	10.0	10.5	
8 Ethanol	45	5.086	5.080	0.006	39	7660	NC	NC	
11 Dichlorofluoromethane	67	5.116	5.116	0.000	96	136184	10.0	10.7	
14 Acrolein	56	5.615	5.615	0.000	71	11986	50.0	49.7	
15 Acetonitrile	41	5.615	5.621	-0.006	97	23140	100.0	104.0	
16 Trichlorofluoromethane	101	5.633	5.633	0.000	98	157128	10.0	11.3	
17 Isopropyl alcohol	45	5.652	5.652	0.000	95	10220	100.0	101.7	
18 Acetone	43	5.822	5.828	-0.006	42	13114	20.0	20.7	
21 2-Methyl-2-propanol	59	5.828	5.828	0.000	93	38146	100.0	93.5	
19 Ethyl ether	59	5.828	5.828	0.000	91	38146	10.0	9.35	
22 1,1-Dichloroethene	96	6.120	6.114	0.006	86	51138	10.0	9.47	
23 Acrylonitrile	52	6.138	6.138	0.000	98	73719	100.0	95.8	
24 Iodomethane	142	6.163	6.169	-0.006	89	52928	10.0	9.47	
25 Methylene Chloride	84	6.230	6.236	-0.006	86	43714	10.0	9.66	
26 Methyl acetate	43	6.242	6.248	-0.006	99	109533	50.0	48.9	
27 1,1,2-Trichloro-1,2,2-trif	151	6.266	6.272	-0.006	90	64247	10.0	8.79	
28 3-Chloro-1-propene	76	6.309	6.309	0.000	80	28399	10.0	10.3	
29 Carbon disulfide	76	6.473	6.473	0.000	95	146841	10.0	9.52	
30 trans-1,2-Dichloroethene	96	6.789	6.789	0.000	83	55183	10.0	9.32	
31 Methyl tert-butyl ether	73	6.856	6.856	0.000	89	86432	10.0	9.86	
32 Propionitrile	54	6.966	6.966	0.000	74	27740	100.0	107.2	
33 1,1-Dichloroethane	63	6.984	6.984	0.000	98	160922	10.0	9.50	
34 Vinyl acetate	43	7.045	7.045	0.000	97	108713	20.0	17.2	
35 2-Chloro-1,3-butadiene	53	7.270	7.270	0.000	90	240366	10.0	11.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
36 Hexane	57	7.282	7.288	-0.006	85	143108	10.0	10.4	
38 Isopropyl ether	45	7.294	7.288	0.006	96	311317	10.0	10.4	
37 2-Butanone (MEK)	72	7.288	7.300	-0.012	78	4881	20.0	20.4	
39 Methacrylonitrile	66	7.373	7.379	-0.006	94	22542	100.0	98.1	
40 cis-1,2-Dichloroethene	96	7.434	7.434	0.000	80	56728	10.0	8.82	
45 Chlorobromomethane	128	7.562	7.562	0.000	91	19305	10.0	8.89	
S 46 1,2-Dichloroethene, Total	96				0		20.0	18.1	
48 Chloroform	83	7.592	7.592	0.000	97	130507	10.0	9.39	
49 Tert-butyl ethyl ether	59	7.598	7.598	0.000	99	217119	10.0	9.91	
43 Ethyl acetate	43	7.604	7.598	0.006	37	41730	20.0	15.4	
50 Isobutyl alcohol	43	7.604	7.598	0.006	36	47396	250.0	243.6	
51 2,2-Dichloropropane	77	7.653	7.659	-0.006	89	140933	10.0	8.87	
$ 52 Dibromofluoromethane	113	7.684	7.684	0.000	91	79275	12.5	11.1	
53 Tetrahydrofuran	42	7.842	7.848	-0.006	88	10720	20.0	17.0	
$ 57 1,2-Dichloroethane-d4 (Sur	65	8.036	8.036	0.000	0	109844	12.5	12.3	
58 1,2-Dichloroethane	62	8.097	8.097	0.000	96	108781	10.0	9.50	
60 1,1,1-Trichloroethane	97	8.176	8.176	0.000	94	168537	10.0	9.54	
59 n-Butanol	56	8.176	8.176	0.000	24	6837	250.0	238.7	
61 1,1-Dichloropropene	75	8.310	8.310	0.000	78	92068	10.0	10.6	
62 Cyclohexane	84	8.407	8.407	0.000	92	79310	10.0	10.4	
63 Carbon tetrachloride	119	8.468	8.468	0.000	98	175579	10.0	9.62	
64 Benzene	78	8.487	8.487	0.000	87	210904	10.0	9.94	
66 Tert-amyl methyl ether	73	8.566	8.566	0.000	77	85940	10.0	10.0	
68 Isooctane	57	8.785	8.785	0.000	97	279577	10.0	10.2	
69 Ethyl acrylate	55	8.821	8.839	-0.018	94	64027	10.0	9.09	
70 n-Heptane	43	8.845	8.845	0.000	94	136033	10.0	10.3	
67 2-Nitropropane	43	8.845	8.845	0.000	89	136033	20.0	20.5	
71 Dibromomethane	93	8.937	8.931	0.006	89	19234	10.0	8.48	
72 1,2-Dichloropropane	63	8.949	8.949	0.000	72	62061	10.0	9.68	
73 Trichloroethene	130	8.979	8.973	0.006	91	78655	10.0	9.69	
74 Dichlorobromomethane	83	9.022	9.022	0.000	94	80133	10.0	9.44	
75 Methyl methacrylate	41	9.064	9.064	0.000	85	63480	20.0	20.2	
76 1,4-Dioxane	58	9.077	9.071	0.006	26	2765	200.0	214.0	
78 Methylcyclohexane	83	9.417	9.417	0.000	89	83998	10.0	10.0	
79 4-Methyl-2-pentanone (MIBK	43	9.588	9.588	0.000	97	43514	20.0	18.1	
* 80 Chlorobenzene-d5	82	11.638	11.638	0.000	91	87025	12.5	12.5	
84 2-Chloroethyl vinyl ether	63	9.302	9.302	0.000	82	17793	20.0	17.7	
85 cis-1,3-Dichloropropene	75	9.527	9.527	0.000	74	57923	10.0	9.79	
88 trans-1,3-Dichloropropene	75	9.892	9.892	0.000	88	38188	10.0	9.68	
89 1,1,2-Trichloroethane	97	10.056	10.056	0.000	84	19737	10.0	9.97	
$ 91 Toluene-d8 (Surr)	98	10.166	10.166	0.000	94	227396	12.5	12.1	
92 Ethyl methacrylate	69	10.214	10.214	0.000	83	22431	10.0	9.82	
93 Toluene	92	10.239	10.239	0.000	95	135167	10.0	10.1	
94 1,3-Dichloropropane	76	10.275	10.281	-0.006	86	40814	10.0	10.1	
95 2-Hexanone	43	10.379	10.366	0.013	97	21072	20.0	16.5	
97 Chlorodibromomethane	129	10.585	10.585	0.000	90	33341	10.0	8.62	
98 n-Butyl acetate	43	10.652	10.652	0.000	96	27549	10.0	8.44	
99 Ethylene Dibromide	107	10.835	10.829	0.006	95	17352	10.0	9.31	
S 100 Xylenes, Total	106				0		20.0	20.9	
101 Tetrachloroethene	164	10.981	10.981	0.000	86	53339	10.0	9.08	
102 1-Chlorohexane	55	11.534	11.534	0.000	76	96222	10.0	11.2	
103 1,1,1,2-Tetrachloroethane	131	11.589	11.583	0.006	86	53935	10.0	8.84	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
104 Chlorobenzene	112	11.674	11.674	0.000	86	126532	10.0	9.24	
105 Ethylbenzene	106	11.851	11.851	0.000	97	75268	10.0	9.92	
106 m-Xylene & p-Xylene	91	12.039	12.045	-0.006	0	196953	10.0	10.5	
107 Styrene	104	12.410	12.410	0.000	90	97682	10.0	9.04	
108 Cyclohexanone	55	12.453	12.453	0.000	88	25117	500.0	488.9	
109 o-Xylene	106	12.490	12.490	0.000	98	85657	10.0	10.4	
* 110 1,4-Dichlorobenzene-d4	152	14.223	14.223	0.000	95	66520	12.5	12.5	
114 Bromoform	173	12.240	12.234	0.006	95	15027	10.0	9.97	
115 1,1,2,2-Tetrachloroethane	83	12.483	12.483	0.000	50	15684	10.0	10.1	
117 1,2,3-Trichloropropane	110	12.648	12.636	0.012	92	6418	10.0	10.1	
116 trans-1,4-Dichloro-2-buten	53	12.636	12.636	0.000	76	7447	10.0	11.5	
118 Isopropylbenzene	105	12.873	12.867	0.006	98	239134	10.0	11.0	
$ 119 4-Bromofluorobenzene	95	12.928	12.928	0.000	86	66854	12.5	11.7	
120 Bromobenzene	156	13.171	13.165	0.006	84	43662	10.0	9.64	
121 N-Propylbenzene	120	13.323	13.323	0.000	98	60009	10.0	10.5	
122 2-Chlorotoluene	126	13.439	13.439	0.000	92	50601	10.0	10.1	
123 4-Chlorotoluene	91	13.512	13.512	0.000	98	168295	10.0	10.8	
124 1,3,5-Trimethylbenzene	105	13.591	13.591	0.000	93	208090	10.0	11.1	
128 tert-Butylbenzene	119	13.883	13.883	0.000	92	170954	10.0	10.9	
130 1,2,4-Trimethylbenzene	105	13.980	13.980	0.000	99	196226	10.0	10.6	
131 sec-Butylbenzene	105	14.096	14.096	0.000	97	228684	10.0	10.7	
132 Benzyl chloride	91	14.181	14.181	0.000	60	29013	10.0	8.11	
133 1,3-Dichlorobenzene	146	14.187	14.187	0.000	94	95381	10.0	10.0	
134 1,4-Dichlorobenzene	146	14.254	14.254	0.000	86	97383	10.0	8.97	
135 4-Isopropyltoluene	119	14.260	14.260	0.000	96	230058	10.0	10.4	
136 1,2,3-Trimethylbenzene	105	14.412	14.412	0.000	99	183035	10.0	10.5	
138 1,2-Dichlorobenzene	146	14.613	14.613	0.000	90	71350	10.0	9.20	
139 n-Butylbenzene	91	14.674	14.667	0.007	97	166051	10.0	11.1	
140 1,2-Dibromo-3-Chloropropan	157	15.087	15.099	-0.012	61	2654	10.0	9.11	
141 1,3,5-Trichlorobenzene	180	15.957	15.957	0.000	93	58912	10.0	9.33	
142 1,2,4-Trichlorobenzene	180	16.566	16.566	0.000	92	32800	10.0	10.2	
143 Naphthalene	128	16.870	16.870	0.000	97	27971	10.0	9.20	
144 Hexachlorobutadiene	190	16.912	16.912	0.000	96	17518	10.0	11.7	
145 1,2,3-Trichlorobenzene	180	17.113	17.113	0.000	92	20861	10.0	10.8	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

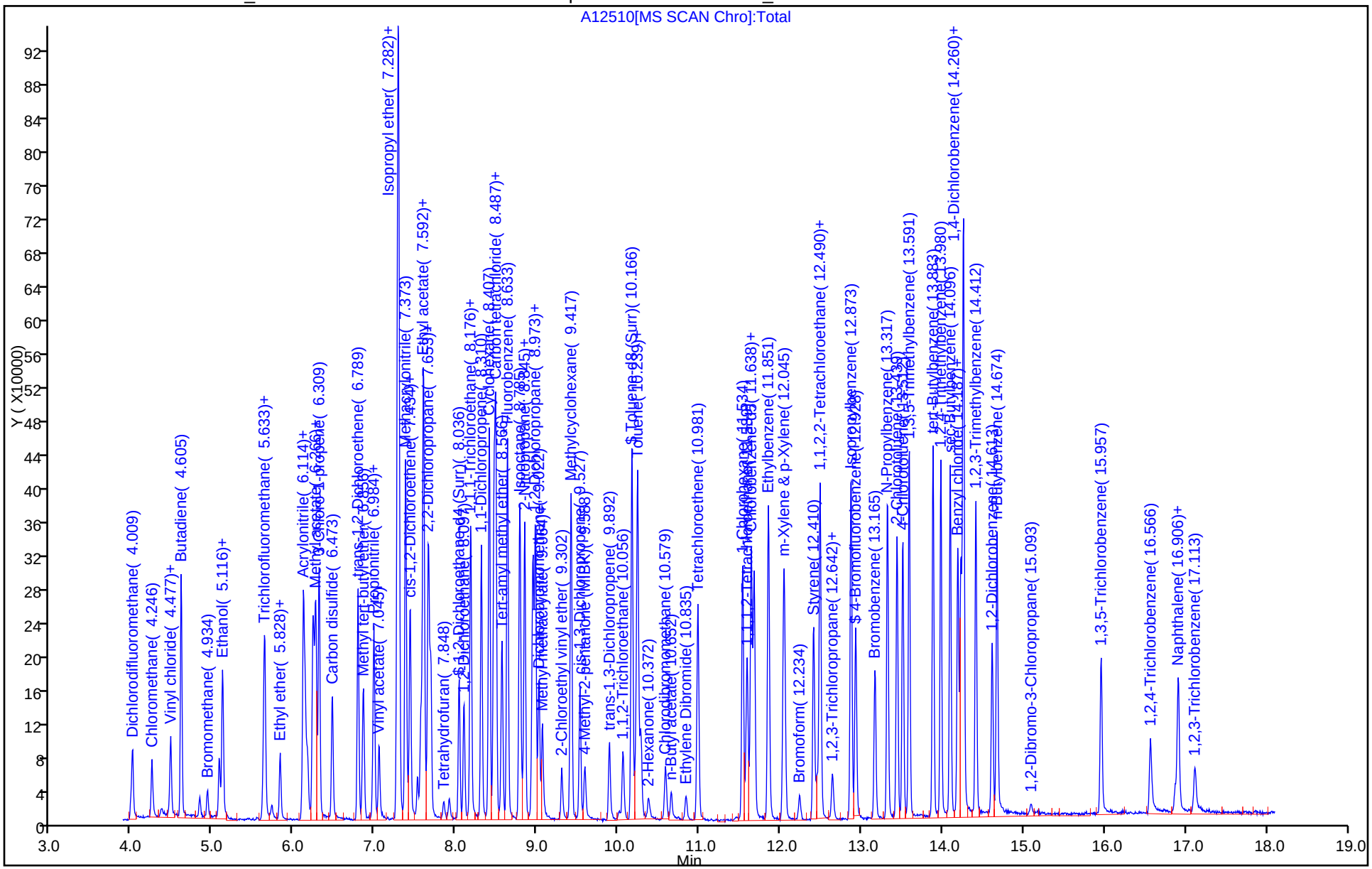
Reagents:

VOALCSPT2_00056	Amount Added:	4.00	Units: uL	
VOALCSGASPT_00165	Amount Added:	4.00	Units: uL	
EOxideLcs_00071	Amount Added:	4.00	Units: uL	
VOASS50PPM_00209	Amount Added:	5.00	Units: uL	Run Reagent
VOAIS50PPM_00171	Amount Added:	5.00	Units: uL	Run Reagent

Report Date: 03-Aug-2016 18:04:45 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12510.d				
Injection Date:	04-May-2016 15:07:30	Instrument ID:	CHVOAMS07	Operator ID:	ws
Lims ID:	lcsd			Worklist Smp#:	11
Client ID:					
Purge Vol:	20.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	8260w20_7	Limit Group:	VOA - 8260B_8260BLL		



TestAmerica Houston
Recovery Report

Data File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12510.d				
Lims ID:	lcsd				
Client ID:					
Sample Type:	LCSD				
Inject. Date:	04-May-2016 15:07:30	ALS Bottle#:	7	Worklist Smp#:	11
Purge Vol:	20.000 mL	Dil. Factor:	1.0000		
Sample Info:	LCSD				
Misc. Info.:	600-0011909-011				
Operator ID:	ws	Instrument ID:	CHVOAMS07		

Method:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\8260w20_7.m		
Limit Group:	VOA - 8260B_8260BLL		
Last Update:	03-Aug-2016 18:04:33	Calib Date:	04-May-2016 12:04:30
Integrator:	RTE	ID Type:	Deconvolution ID
Quant Method:	Internal Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHVOAMS07\20160504-11909.b\A12507.d		

Column 1 :			Det: MS SCAN
Process Host:	XAWRK047		

First Level Reviewer: shenw Date: 04-May-2016 15:31:38

Compound	Amount Added	Amount Recovered	% Rec.
$ 52 Dibromofluoromethane	12.5	11.1	89.00
$ 57 1,2-Dichloroethane-d4 (Surr)	12.5	12.3	98.55
$ 91 Toluene-d8 (Surr)	12.5	12.1	96.79
$ 119 4-Bromofluorobenzene	12.5	11.7	93.26

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHVOAMS01 Start Date: 01/22/2016 11:16

Analysis Batch Number: 181051 End Date: 01/22/2016 23:06

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 600-181051/1		01/22/2016 11:16	1	C02200A.D	DB-VRX 60 0.25(mm)
IC 600-181051/2		01/22/2016 11:43	1	C02201.D	DB-VRX 60 0.25(mm)
IC 600-181051/3		01/22/2016 12:09	1	C02202.D	DB-VRX 60 0.25(mm)
IC 600-181051/4		01/22/2016 14:22	1	C02203A.D	DB-VRX 60 0.25(mm)
IC 600-181051/5		01/22/2016 14:48	1	C02204A.D	DB-VRX 60 0.25(mm)
ICIS 600-181051/6		01/22/2016 15:14	1	C02205A.D	DB-VRX 60 0.25(mm)
IC 600-181051/7		01/22/2016 15:40	1	C02206.D	DB-VRX 60 0.25(mm)
IC 600-181051/8		01/22/2016 16:06	1	C02207.D	DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 16:58	1		DB-VRX 60 0.25(mm)
ICV 600-181051/1010		01/22/2016 16:58	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 17:24	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 18:16	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 18:43	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 19:09	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 19:35	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 20:02	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 20:28	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 20:54	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 21:21	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 21:47	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 22:13	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 22:40	1		DB-VRX 60 0.25(mm)
ZZZZZ		01/22/2016 23:06	1		DB-VRX 60 0.25(mm)

8260B

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHVOAMS07 Start Date: 03/21/2016 08:49

Analysis Batch Number: 184699 End Date: 03/21/2016 20:07

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 600-184699/1		03/21/2016 08:49	1	A08100.d	DB-VRX 60 0.25(mm)
IC 600-184699/2		03/21/2016 09:46	1	A08101.d	DB-VRX 60 0.25(mm)
IC 600-184699/3		03/21/2016 10:11	1	A08102.d	DB-VRX 60 0.25(mm)
IC 600-184699/4		03/21/2016 10:37	1	A08103.d	DB-VRX 60 0.25(mm)
IC 600-184699/5		03/21/2016 11:02	1	A08104.d	DB-VRX 60 0.25(mm)
ICIS 600-184699/6		03/21/2016 11:28	1	A08105.d	DB-VRX 60 0.25(mm)
IC 600-184699/7		03/21/2016 11:53	1	A08106.d	DB-VRX 60 0.25(mm)
IC 600-184699/8		03/21/2016 12:18	1	A08107.d	DB-VRX 60 0.25(mm)
ICV 600-184699/10		03/21/2016 13:08	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 13:08	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 13:48	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 14:38	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 15:03	25		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 15:29	20		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 15:54	10		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 16:19	10		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 16:45	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 17:10	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 17:35	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 18:01	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 18:26	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 18:51	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 19:17	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 19:42	1		DB-VRX 60 0.25(mm)
ZZZZZ		03/21/2016 20:07	1		DB-VRX 60 0.25(mm)

8260B

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHVOAMS07 Start Date: 05/01/2016 09:02

Analysis Batch Number: 187554 End Date: 05/01/2016 19:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 600-187554/1		05/01/2016 09:02	1	A12200.d	DB-VRX 60 0.25(mm)
CCVIS 600-187554/2		05/01/2016 09:29	1	A12201.d	DB-VRX 60 0.25(mm)
LCS 600-187554/3		05/01/2016 10:22	1	A12202.d	DB-VRX 60 0.25(mm)
LCSD 600-187554/4		05/01/2016 10:45	1	A12203.d	DB-VRX 60 0.25(mm)
MB 600-187554/6		05/01/2016 11:33	1	A12205.d	DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 12:01	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 12:25	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 12:49	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 13:14	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 13:38	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 14:02	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 14:27	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 14:51	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 15:15	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 15:39	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 16:03	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 16:28	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 16:52	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 17:16	1		DB-VRX 60 0.25(mm)
600-129836-4		05/01/2016 17:40	1	A12220.d	DB-VRX 60 0.25(mm)
600-129836-5		05/01/2016 18:04	1	A12221.d	DB-VRX 60 0.25(mm)
600-129836-6		05/01/2016 18:29	1	A12222.d	DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 18:53	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 19:17	1		DB-VRX 60 0.25(mm)
600-129836-3		05/01/2016 19:41	1	A12225.d	DB-VRX 60 0.25(mm)

8260B

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHVOAMS01 Start Date: 05/01/2016 08:57

Analysis Batch Number: 187555 End Date: 05/01/2016 20:58

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 600-187555/1		05/01/2016 08:57	1	C12100.D	DB-VRX 60 0.25(mm)
CCVIS 600-187555/2		05/01/2016 09:28	1	C12101.D	DB-VRX 60 0.25(mm)
LCS 600-187555/3		05/01/2016 10:17	1	C12101a.D	DB-VRX 60 0.25(mm)
LCSD 600-187555/4		05/01/2016 10:42	1	C12102.D	DB-VRX 60 0.25(mm)
MB 600-187555/6		05/01/2016 11:32	1	C12105.D	DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 12:00	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 12:25	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 12:51	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 13:17	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 13:43	5		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 14:08	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 14:34	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 15:00	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 15:25	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 15:51	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 16:17	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 16:43	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 17:08	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 17:34	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 18:00	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 18:25	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 18:51	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 19:16	1		DB-VRX 60 0.25(mm)
600-129836-1		05/01/2016 19:42	1	C12124.D	DB-VRX 60 0.25(mm)
600-129836-2		05/01/2016 20:07	1	C12125.D	DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 20:32	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/01/2016 20:58	25		DB-VRX 60 0.25(mm)

8260B

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHVOAMS07 Start Date: 05/02/2016 08:48

Analysis Batch Number: 187577 End Date: 05/02/2016 20:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 600-187577/1		05/02/2016 08:48	1	A12300a.d	DB-VRX 60 0.25(mm)
CCVIS 600-187577/2		05/02/2016 09:17	1	A12301.d	DB-VRX 60 0.25(mm)
CCV 600-187577/3		05/02/2016 09:41	1		DB-VRX 60 0.25(mm)
LCS 600-187577/4		05/02/2016 10:07	1	A12303.d	DB-VRX 60 0.25(mm)
LCSD 600-187577/5		05/02/2016 10:31	1	A12304.d	DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 10:56	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 11:19	1		DB-VRX 60 0.25(mm)
MB 600-187577/9		05/02/2016 12:07	1	A12308.d	DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 12:31	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 12:54	100		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 13:18	10		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 13:42	5		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 14:06	20		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 14:30	20		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 14:53	500		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 15:17	200		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 15:41	10000		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 16:05	200		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 16:29	10000		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 16:52	200		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 17:16	5000		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 17:40	20		DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 18:04	400		DB-VRX 60 0.25(mm)
600-129836-8		05/02/2016 18:28	1	A12324.d	DB-VRX 60 0.25(mm)
600-129836-4 DL		05/02/2016 18:52	25	A12325.d	DB-VRX 60 0.25(mm)
600-129836-5 DL		05/02/2016 19:16	25	A12326.d	DB-VRX 60 0.25(mm)
600-129836-7 DL		05/02/2016 19:39	200	A12327.d	DB-VRX 60 0.25(mm)
ZZZZZ		05/02/2016 20:03	1		DB-VRX 60 0.25(mm)

8260B

GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHVOAMS07 Start Date: 05/04/2016 09:03

Analysis Batch Number: 187782 End Date: 05/04/2016 20:42

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 600-187782/1		05/04/2016 09:03	1	A12500.d	DB-VRX 60 0.25(mm)
IC 600-187782/2		05/04/2016 09:41	1	A12501.d	DB-VRX 60 0.25(mm)
IC 600-187782/3		05/04/2016 10:04	1	A12502.d	DB-VRX 60 0.25(mm)
IC 600-187782/4		05/04/2016 10:28	1	A12503.d	DB-VRX 60 0.25(mm)
IC 600-187782/5		05/04/2016 10:52	1	A12504.d	DB-VRX 60 0.25(mm)
ICIS 600-187782/6		05/04/2016 11:16	1	A12505.d	DB-VRX 60 0.25(mm)
IC 600-187782/7		05/04/2016 11:40	1	A12506.d	DB-VRX 60 0.25(mm)
IC 600-187782/8		05/04/2016 12:04	1	A12507.d	DB-VRX 60 0.25(mm)
MB 600-187782/13		05/04/2016 14:14	1	A12509.d	DB-VRX 60 0.25(mm)
ICV 600-187782/10		05/04/2016 14:38	1	A1259a.d	DB-VRX 60 0.25(mm)
LCS 600-187782/1010		05/04/2016 14:38	1	A1259a-LCS.d	DB-VRX 60 0.25(mm)
LCSD 600-187782/11		05/04/2016 15:07	1	A12510.d	DB-VRX 60 0.25(mm)
600-129836-7 DL2		05/04/2016 15:31	2000	A12511.d	DB-VRX 60 0.25(mm)
ZZZZZ		05/04/2016 15:55	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/04/2016 16:19	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/04/2016 16:43	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/04/2016 17:07	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/04/2016 17:31	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/04/2016 17:55	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/04/2016 18:18	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/04/2016 18:42	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/04/2016 19:06	1		DB-VRX 60 0.25(mm)
600-129836-3 DL		05/04/2016 19:30	20	A12521.d	DB-VRX 60 0.25(mm)
600-129836-3 DL2		05/04/2016 19:54	500	A12522.d	DB-VRX 60 0.25(mm)
ZZZZZ		05/04/2016 20:18	1		DB-VRX 60 0.25(mm)
ZZZZZ		05/04/2016 20:42	1		DB-VRX 60 0.25(mm)

8260B

Method RSK-175

Dissolved Gases (GC) by Method RSK_175

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk042816_003-20160428-113856

Lab ID: LCS 600-187384/3 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Ethane	12.9	10.17	79	70-130	
Methane	6.88	5.924	86	70-130	
Ethylene	12.1	9.553	79	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk042816_016.d

Lab ID: 600-129741-C-6 MS Client ID:

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Ethane	9.70	0.303 U	10.09	104	70-130	
Methane	5.16	0.493 J	6.145	110	70-130	
Ethylene	9.05	0.324 U	9.985	110	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water Level: Low Lab File ID: rsk042816_017.d

Lab ID: 600-129741-C-6 MSD Client ID:

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Ethane	9.70	9.633	99	5	30	70-130	
Methane	5.16	6.081	108	1	30	70-130	
Ethylene	9.05	9.482	105	5	30	70-130	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: MB 600-187384/2

Matrix: Water Date Extracted:

Lab File ID:(1) rsk042816_002-20160428-110 Lab File ID:(2)

Date Analyzed:(1) 04/28/2016 11:05 Date Analyzed:(2)

Instrument ID:(1) CHFID14 Instrument ID:(2)

GC Column:(1) RTX-5 ID: 0.53(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 600-187384/3	04/28/2016 11:38	
	600-129741-C-6 MS	04/28/2016 14:37	
	600-129741-C-6 MSD	04/28/2016 14:49	
MW-01	600-129836-3	04/28/2016 15:26	
MW-02-DUP	600-129836-4	04/28/2016 15:38	
MW-02	600-129836-5	04/28/2016 15:49	
MW-03	600-129836-6	04/28/2016 16:27	
MW-20	600-129836-7	04/28/2016 16:38	
MW-21	600-129836-8	04/28/2016 16:49	
MW-01	600-129836-3	04/29/2016 11:53	
MW-02-DUP	600-129836-4	04/29/2016 13:22	
MW-02	600-129836-5	04/29/2016 13:38	
MW-20	600-129836-7	04/29/2016 13:49	

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID: MW-01
Lab Sample ID: 600-129836-3
Matrix: Water
Lab File ID: rsk042816_020.d
Analysis Method: RSK-175
Date Collected: 04/22/2016 09:05
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 15:26
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187384
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	3.00		2.00	0.303
74-85-1	Ethylene	64.0		2.00	0.324

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_020.d				
Lims ID:	600-129836-I-3				
Client ID:	MW-01				
Sample Type:	Client				
Inject. Date:	28-Apr-2016 15:26:53	ALS Bottle#:	0	Worklist Smp#:	20
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0011814-020				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	29-Apr-2016 10:14:41	Calib Date:	30-Dec-2015 11:43:13		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK026				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.767	0.733	0.034	3724598	1190.6	E
2 Ethane	0.983	0.900	0.083	8407	3.00	
3 Ethylene	1.117	1.100	0.017	134336	64.0	

QC Flag Legend

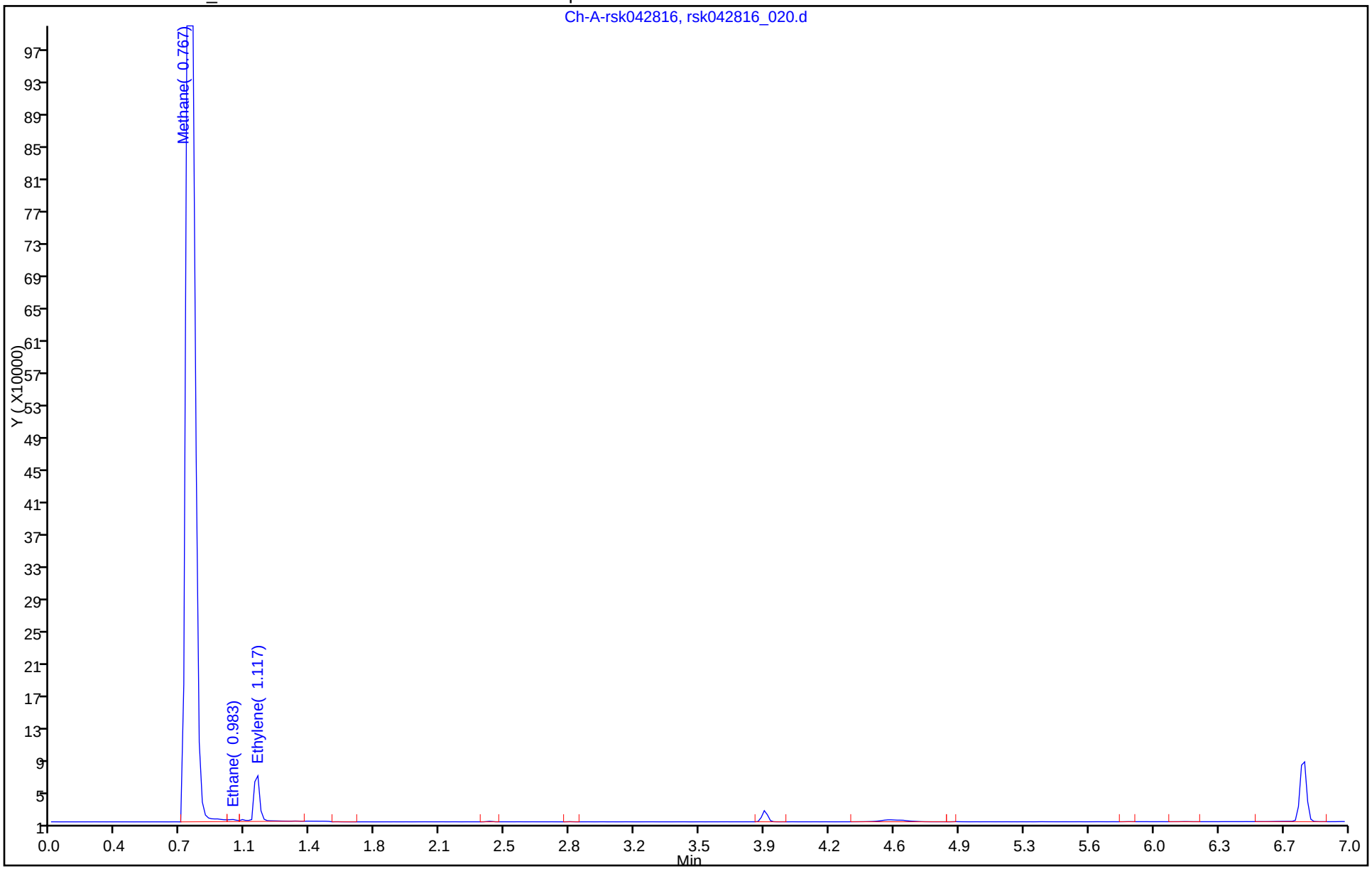
Processing Flags

E - Exceeded Maximum Amount

Report Date: 29-Apr-2016 10:14:48 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_020.d				
Injection Date:	28-Apr-2016 15:26:53	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129836-I-3	Lab Sample ID:	600-129836-3	Worklist Smp#:	20
Client ID:	MW-01				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-01 | Lab Sample ID: 600-129836-3

Matrix: Water | Lab File ID: rsk042816_040.d

Analysis Method: RSK-175 | Date Collected: 04/22/2016 09:05

Sample wt/vol: 1(mL) | Date Analyzed: 04/29/2016 11:53

Soil Aliquot Vol: | Dilution Factor: 1000

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187384 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	7430		1000	357

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_040.d
Lims ID: 600-129836-I-3
Client ID: MW-01
Sample Type: Client
Inject. Date: 29-Apr-2016 11:53:06 ALS Bottle#: 0 Worklist Smp#: 40
Injection Vol: 1.0 ul Dil. Factor: 1000.0000
Sample Info: #: 024 Name: 600-0011814-040
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 14:17:33 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

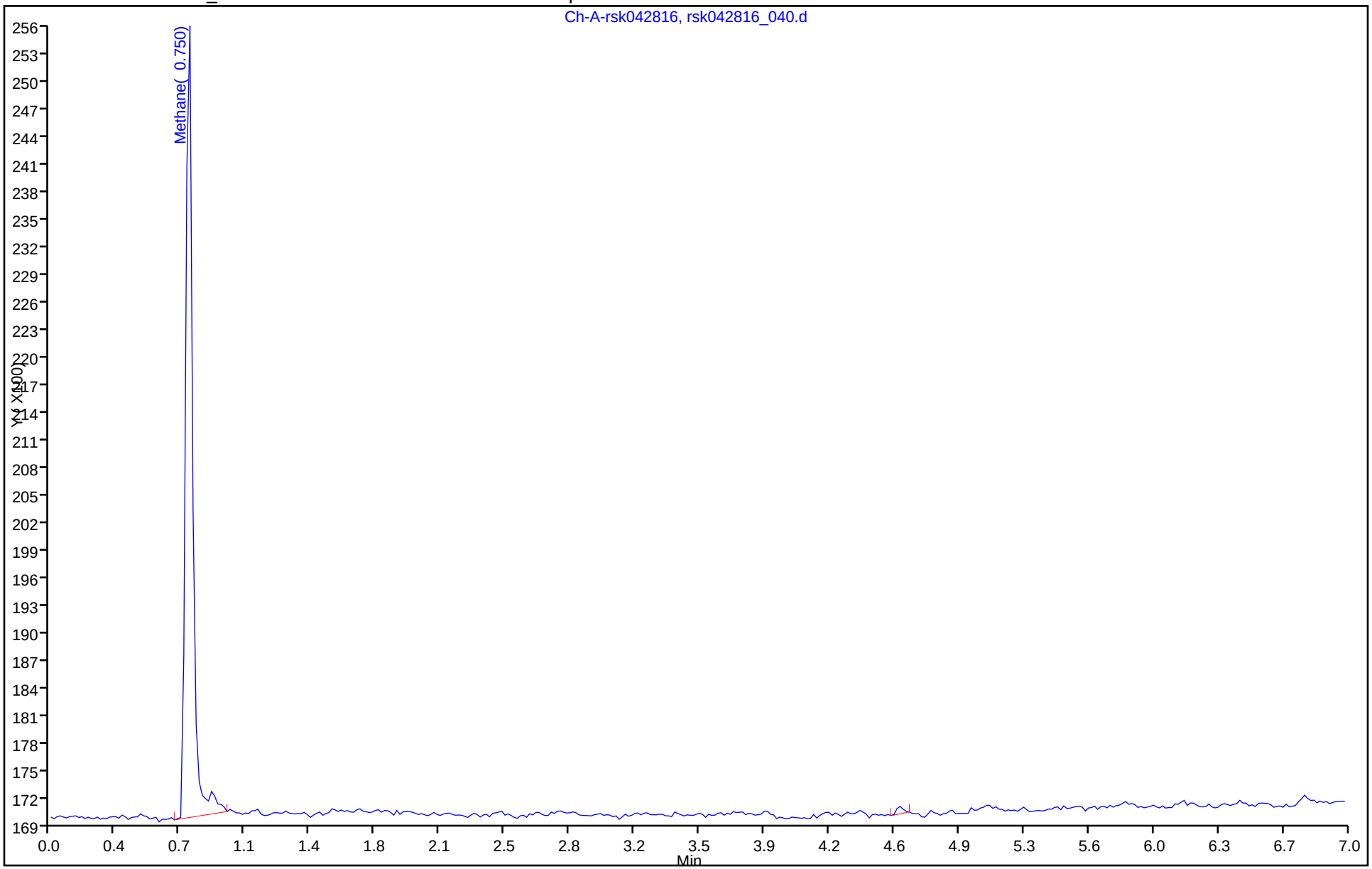
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	23230	7.43	

Report Date: 29-Apr-2016 14:17:34 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_040.d				
Injection Date:	29-Apr-2016 11:53:06	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129836-I-3	Lab Sample ID:	600-129836-3	Worklist Smp#:	40
Client ID:	MW-01				
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-02-DUP | Lab Sample ID: 600-129836-4

Matrix: Water | Lab File ID: rsk042816_021.d

Analysis Method: RSK-175 | Date Collected: 04/22/2016 15:25

Sample wt/vol: 1(mL) | Date Analyzed: 04/28/2016 15:38

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187384 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	3.75		2.00	0.303
74-85-1	Ethylene	6.37		2.00	0.324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_021.d
Lims ID: 600-129836-H-4
Client ID: MW-02-DUP
Sample Type: Client
Inject. Date: 28-Apr-2016 15:38:22 ALS Bottle#: 0 Worklist Smp#: 21
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0011814-021
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:41 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

First Level Reviewer: saccoj Date: 28-Apr-2016 16:13:27

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	2556337	817.1	E
2 Ethane	0.983	0.900	0.083	10498	3.75	M
3 Ethylene	1.100	1.100	0.000	13377	6.37	M

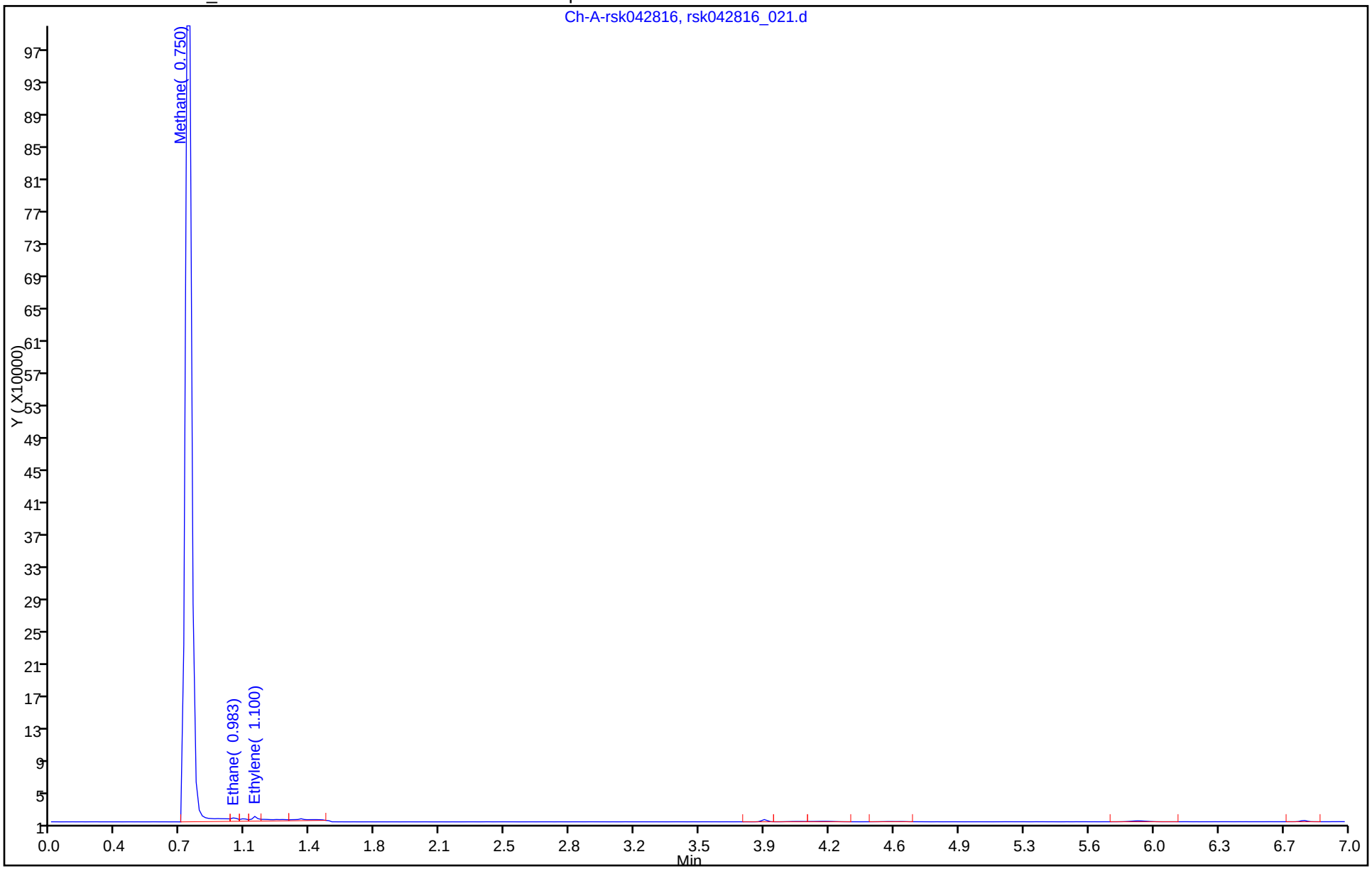
QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

Report Date: 29-Apr-2016 10:14:49 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_021.d				
Injection Date:	28-Apr-2016 15:38:22	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129836-H-4	Lab Sample ID:	600-129836-4	Worklist Smp#:	21
Client ID:	MW-02-DUP				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

TestAmerica Houston

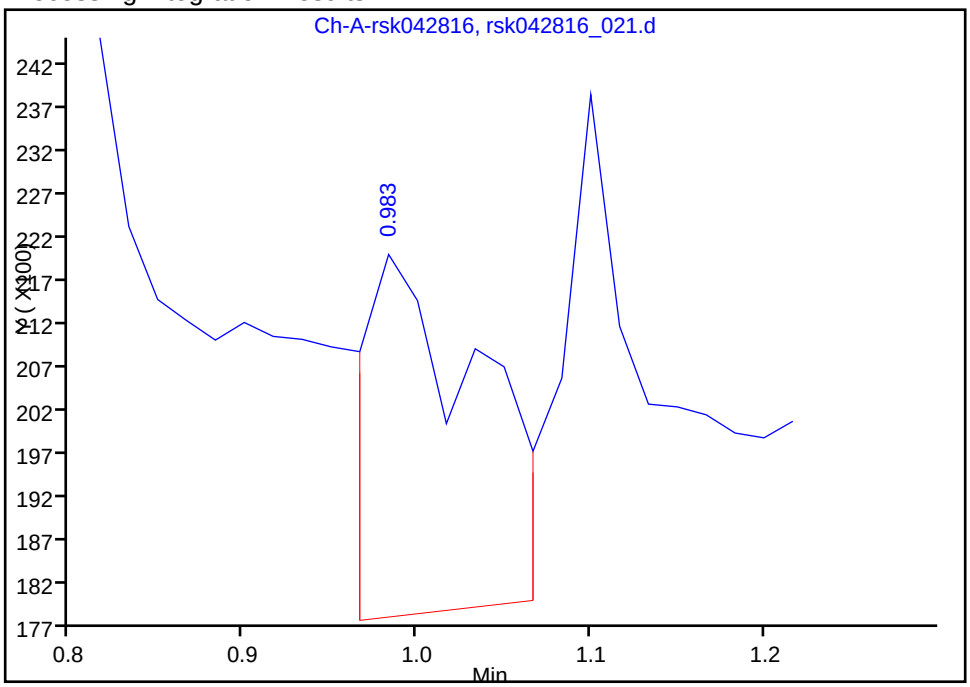
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_021.d				
Injection Date:	28-Apr-2016 15:38:22	Instrument ID:	CHFID14		
Lims ID:	600-129836-H-4	Lab Sample ID:	600-129836-4		
Client ID:	MW-02-DUP				
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

2 Ethane, CAS: 74-84-0

Signal: 1

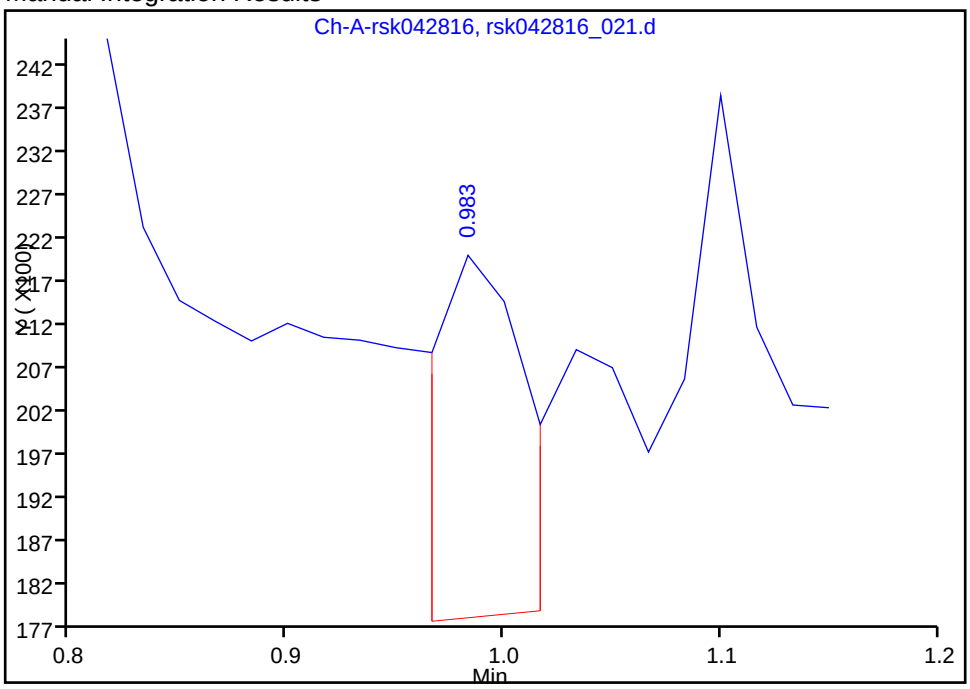
Processing Integration Results

RT: 0.98
Area: 18221
Amount: 6.500821
Amount Units: ug/l



Manual Integration Results

RT: 0.98
Area: 10498
Amount: 3.745437
Amount Units: ug/l



Reviewer: saccoj, 28-Apr-2016 16:13:27

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

TestAmerica Houston

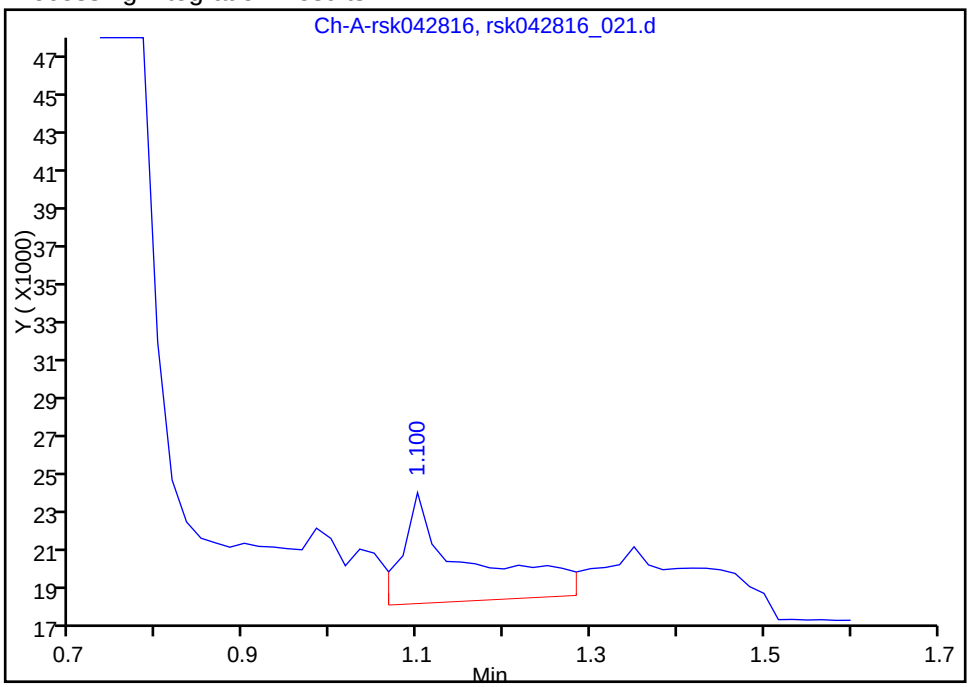
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_021.d				
Injection Date:	28-Apr-2016 15:38:22	Instrument ID:	CHFID14		
Lims ID:	600-129836-H-4	Lab Sample ID:	600-129836-4		
Client ID:	MW-02-DUP				
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	21
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

3 Ethylene, CAS: 74-85-1

Signal: 1

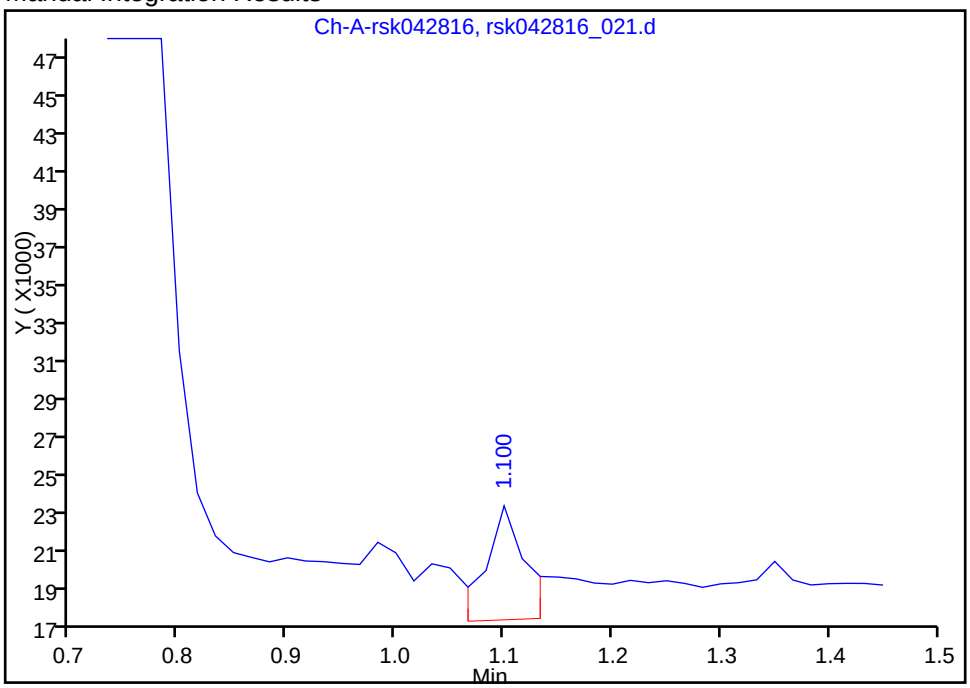
Processing Integration Results

RT: 1.10
Area: 28693
Amount: 13.660702
Amount Units: ug/l



Manual Integration Results

RT: 1.10
Area: 13377
Amount: 6.368773
Amount Units: ug/l



Reviewer: saccoj, 28-Apr-2016 16:13:27

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-02-DUP | Lab Sample ID: 600-129836-4

Matrix: Water | Lab File ID: rsk042816_041.d

Analysis Method: RSK-175 | Date Collected: 04/22/2016 15:25

Sample wt/vol: 1(mL) | Date Analyzed: 04/29/2016 13:22

Soil Aliquot Vol: | Dilution Factor: 500

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187384 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	11000		500	179

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_041.d
Lims ID: 600-129836-H-4
Client ID: MW-02-DUP
Sample Type: Client
Inject. Date: 29-Apr-2016 13:22:22 ALS Bottle#: 0 Worklist Smp#: 41
Injection Vol: 1.0 ul Dil. Factor: 500.0000
Sample Info: #: 025 Name: 600-0011814-041
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 14:17:33 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

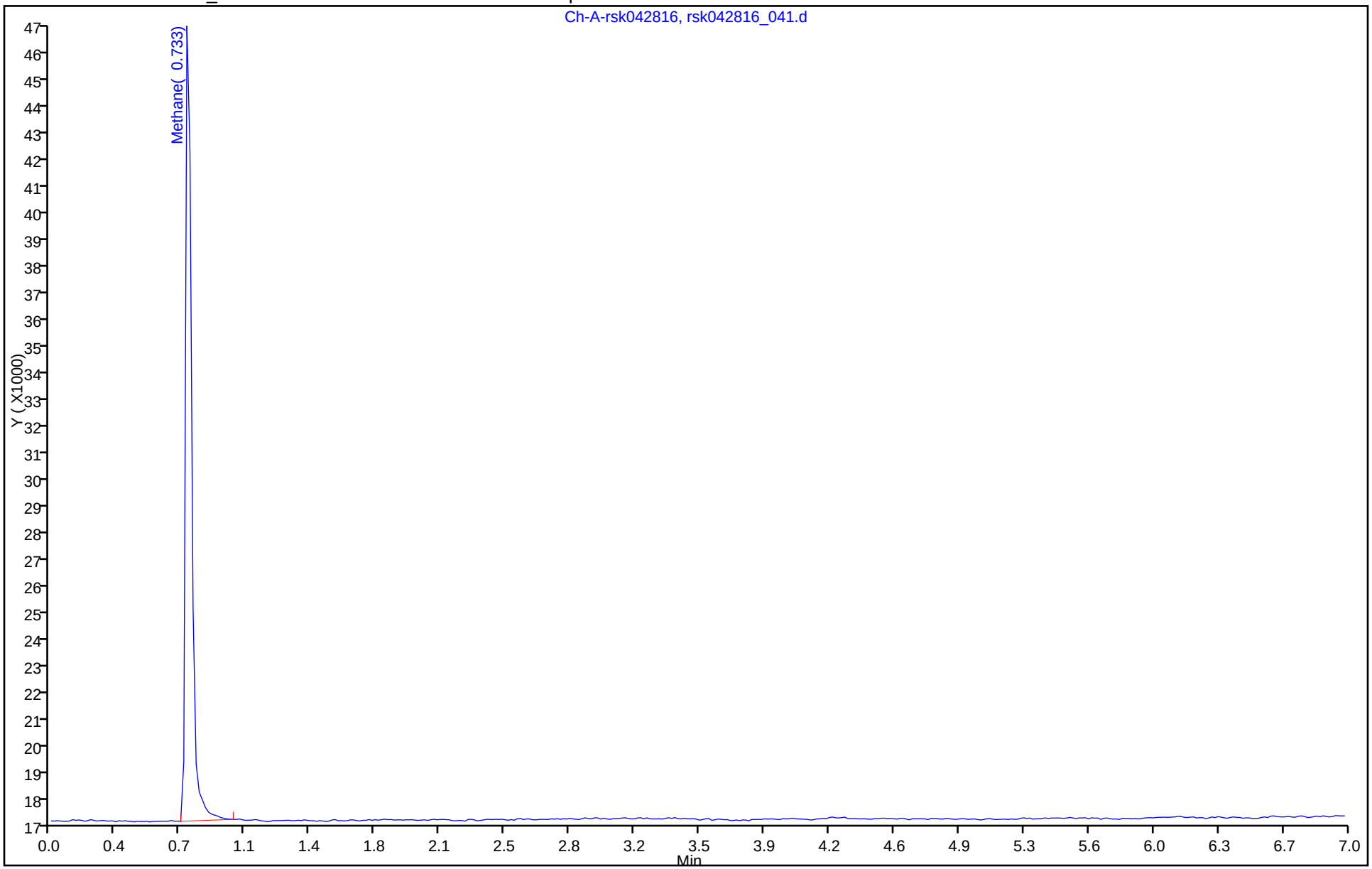
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.733	0.750	-0.017	69067	22.1	

Report Date: 29-Apr-2016 14:17:37 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_041.d				
Injection Date:	29-Apr-2016 13:22:22	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129836-H-4	Lab Sample ID:	600-129836-4	Worklist Smp#:	41
Client ID:	MW-02-DUP				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID: MW-02
Lab Sample ID: 600-129836-5
Matrix: Water
Lab File ID: rsk042816_022.d
Analysis Method: RSK-175
Date Collected: 04/22/2016 15:25
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 15:49
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187384
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.303	U	2.00	0.303
74-85-1	Ethylene	8.82		2.00	0.324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_022.d
Lims ID: 600-129836-I-5
Client ID: MW-02
Sample Type: Client
Inject. Date: 28-Apr-2016 15:49:34 ALS Bottle#: 0 Worklist Smp#: 22
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 011 Name: 600-0011814-022
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:41 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

First Level Reviewer: saccoj Date: 28-Apr-2016 16:13:53

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.767	0.733	0.034	4295758	1373.1	E
3 Ethylene	1.117	1.100	0.017	18524	8.82	M

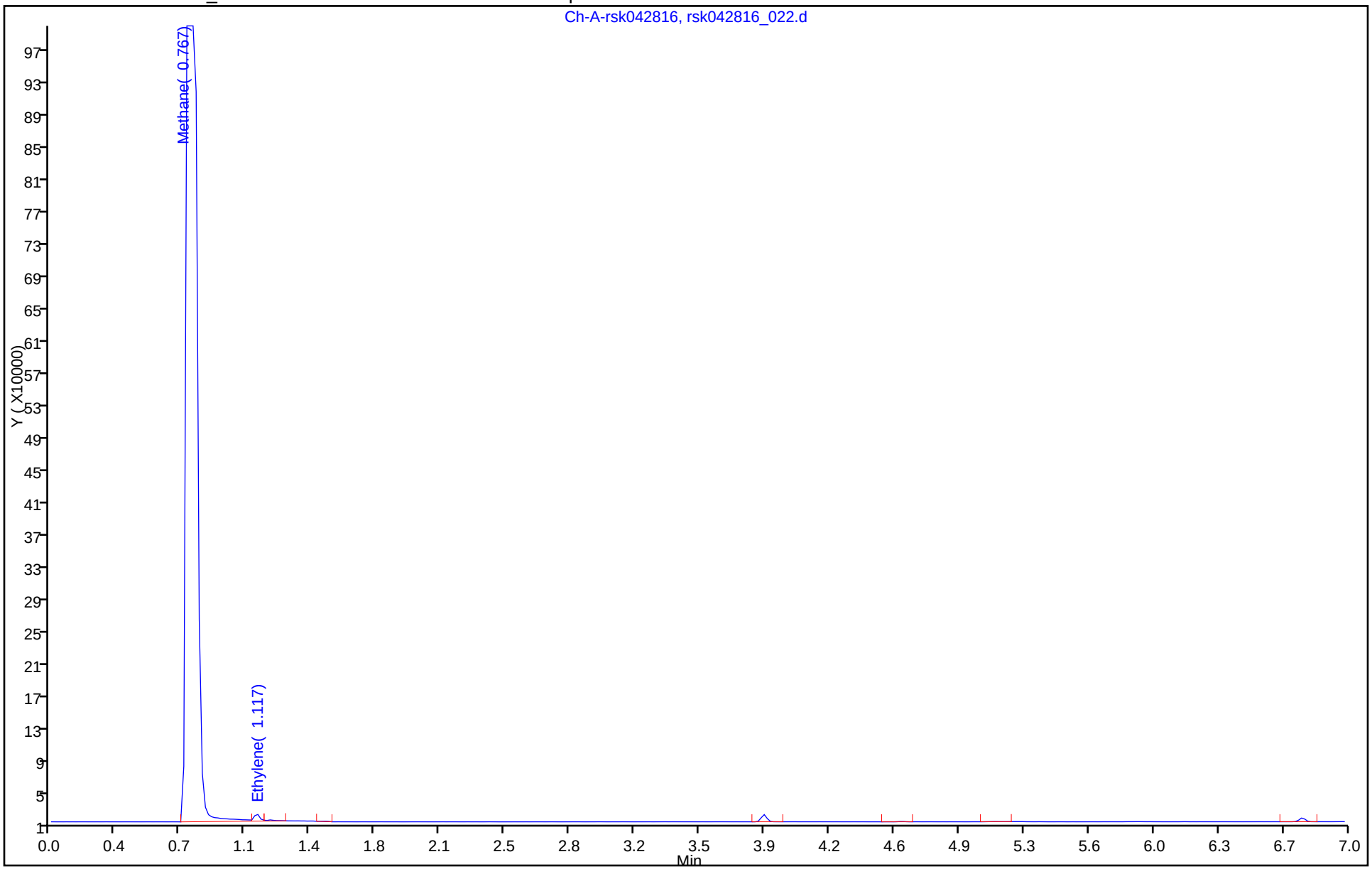
QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

Report Date: 29-Apr-2016 10:14:50 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_022.d				
Injection Date:	28-Apr-2016 15:49:34	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129836-I-5	Lab Sample ID:	600-129836-5	Worklist Smp#:	22
Client ID:	MW-02				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

TestAmerica Houston

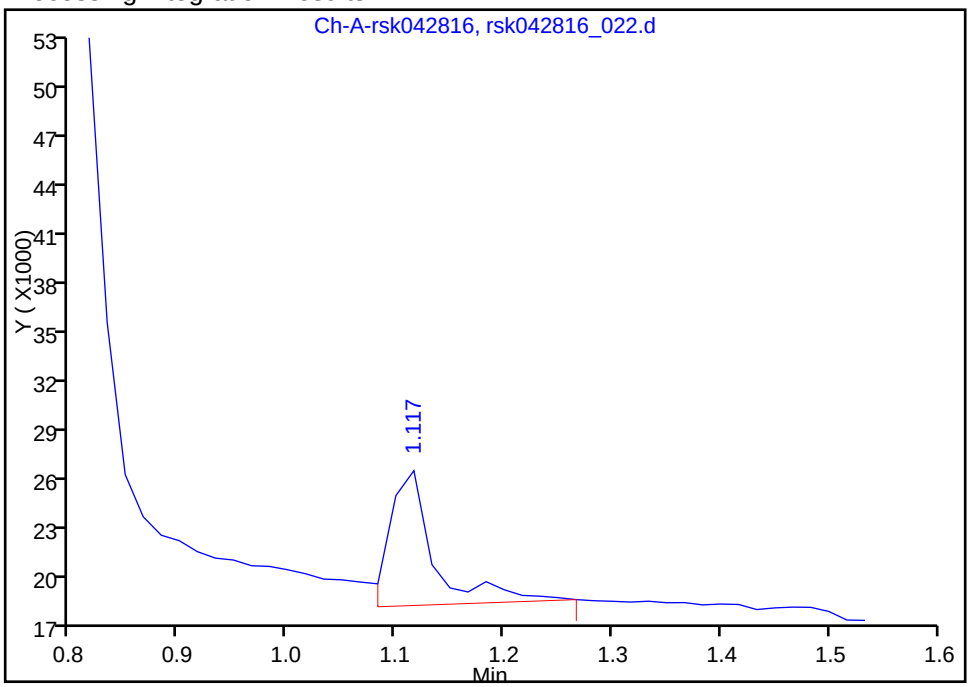
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_022.d				
Injection Date:	28-Apr-2016 15:49:34	Instrument ID:	CHFID14		
Lims ID:	600-129836-I-5	Lab Sample ID:	600-129836-5		
Client ID:	MW-02				
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	22
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

3 Ethylene, CAS: 74-85-1

Signal: 1

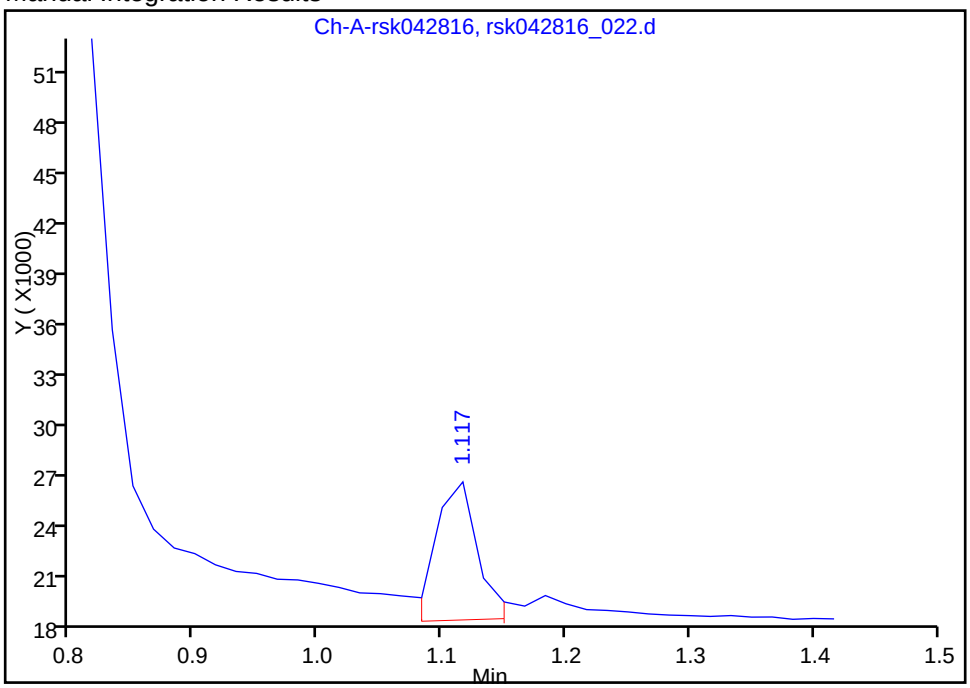
Processing Integration Results

RT: 1.12
Area: 22581
Amount: 10.750786
Amount Units: ug/l



Manual Integration Results

RT: 1.12
Area: 18524
Amount: 8.819253
Amount Units: ug/l



Reviewer: saccoj, 28-Apr-2016 16:13:53

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-02 | Lab Sample ID: 600-129836-5

Matrix: Water | Lab File ID: rsk042816_042.d

Analysis Method: RSK-175 | Date Collected: 04/22/2016 15:25

Sample wt/vol: 1(mL) | Date Analyzed: 04/29/2016 13:38

Soil Aliquot Vol: | Dilution Factor: 1000

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187384 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	16800		1000	357

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_042.d				
Lims ID:	600-129836-I-5				
Client ID:	MW-02				
Sample Type:	Client				
Inject. Date:	29-Apr-2016 13:38:29	ALS Bottle#:	0	Worklist Smp#:	42
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000		
Sample Info:	#: 026 Name: 600-0011814-042				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		

Method:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m		
Limit Group:	GCSV - RSK175		
Last Update:	29-Apr-2016 14:17:33	Calib Date:	30-Dec-2015 11:43:13
Integrator:	Falcon		
Quant Method:	External Standard	Quant By:	Initial Calibration
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d		

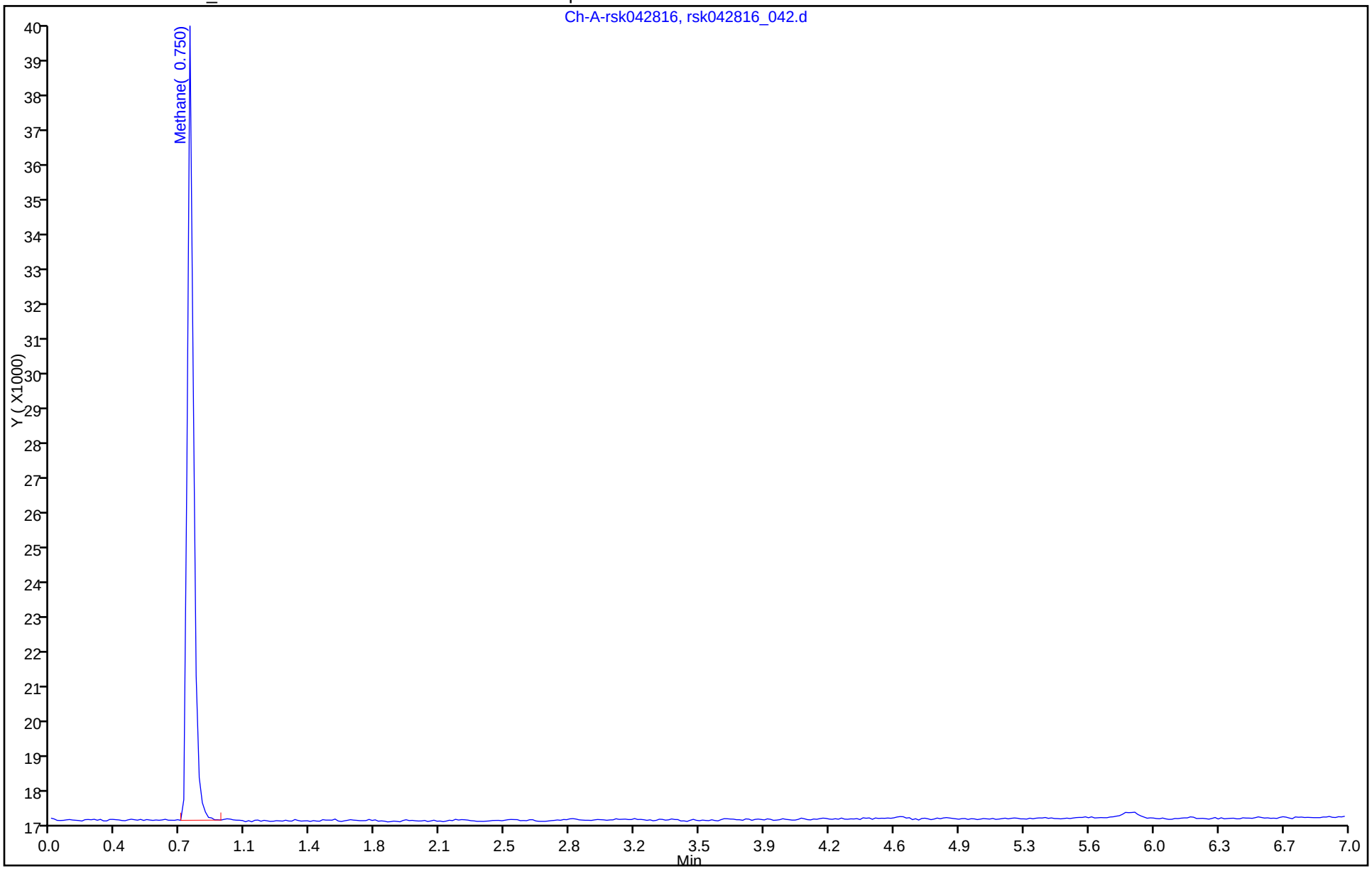
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	52491	16.8	

Report Date: 29-Apr-2016 14:17:40 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_042.d				
Injection Date:	29-Apr-2016 13:38:29	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129836-I-5	Lab Sample ID:	600-129836-5	Worklist Smp#:	42
Client ID:	MW-02				
Injection Vol:	1.0 ul	Dil. Factor:	1000.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-03 | Lab Sample ID: 600-129836-6

Matrix: Water | Lab File ID: rsk042816_024.d

Analysis Method: RSK-175 | Date Collected: 04/22/2016 16:50

Sample wt/vol: 1(mL) | Date Analyzed: 04/28/2016 16:27

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187384 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.303	U	2.00	0.303
74-82-8	Methane	3.27		1.00	0.357
74-85-1	Ethylene	0.324	U	2.00	0.324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_024.d
Lims ID: 600-129836-I-6
Client ID: MW-03
Sample Type: Client
Inject. Date: 28-Apr-2016 16:27:15 ALS Bottle#: 0 Worklist Smp#: 24
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 013 Name: 600-0011814-024
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:51 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

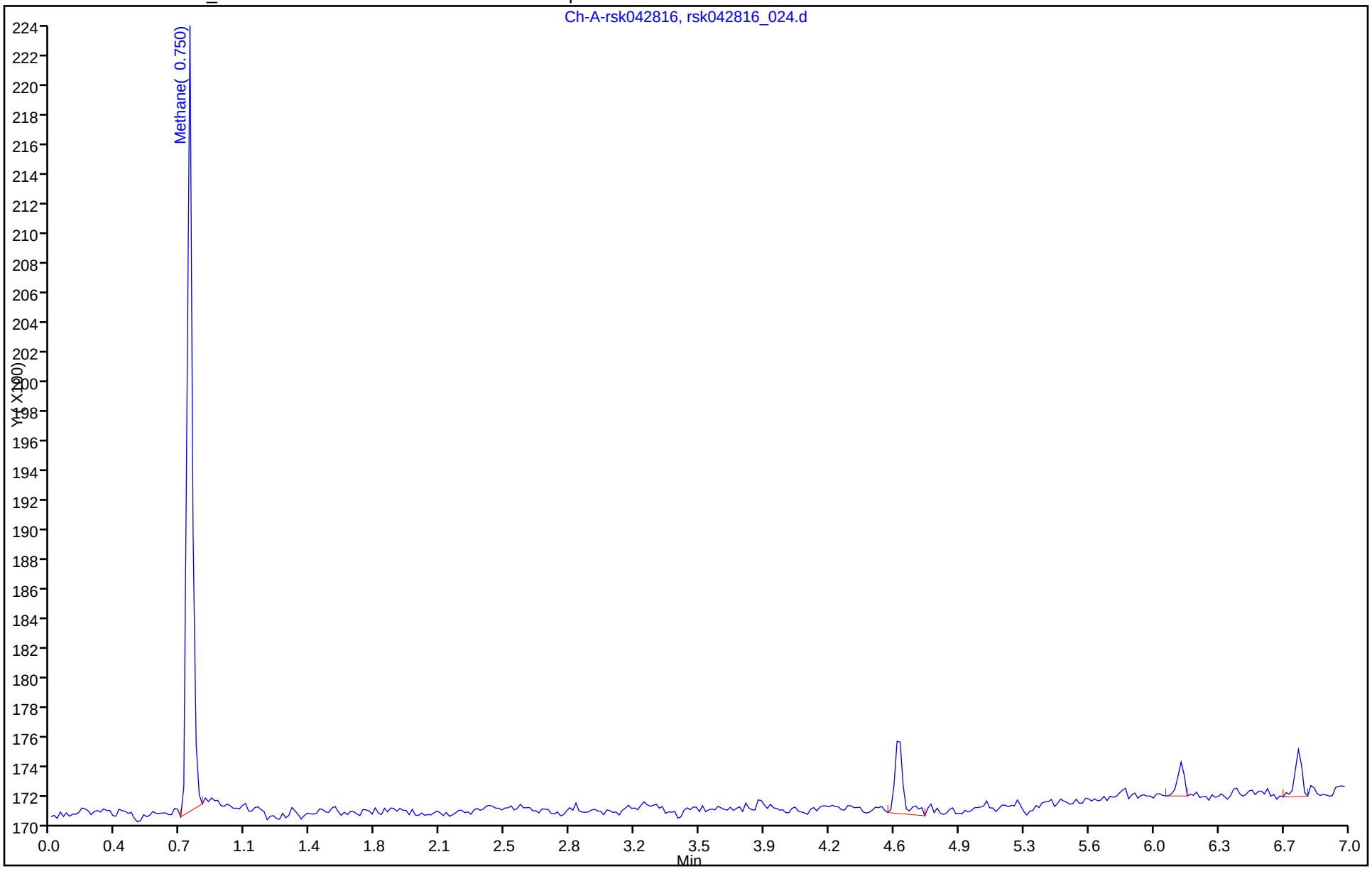
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	10236	3.27	

Report Date: 29-Apr-2016 10:14:52 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_024.d				
Injection Date:	28-Apr-2016 16:27:15	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129836-I-6	Lab Sample ID:	600-129836-6	Worklist Smp#:	24
Client ID:	MW-03				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-20 | Lab Sample ID: 600-129836-7

Matrix: Water | Lab File ID: rsk042816_025.d

Analysis Method: RSK-175 | Date Collected: 04/22/2016 14:00

Sample wt/vol: 1(mL) | Date Analyzed: 04/28/2016 16:38

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187384 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	2.09		2.00	0.303
74-85-1	Ethylene	19.9		2.00	0.324

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_025.d				
Lims ID:	600-129836-H-7				
Client ID:	MW-20				
Sample Type:	Client				
Inject. Date:	28-Apr-2016 16:38:20	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	#: 014 Name: 600-0011814-025				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	29-Apr-2016 10:14:51	Calib Date:	30-Dec-2015 11:43:13		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK026				
First Level Reviewer: saccoj		Date:	28-Apr-2016 16:59:26		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	2712954	867.2	E
2 Ethane	0.900	0.900	0.000	5847	2.09	M
3 Ethylene	1.100	1.100	0.000	41860	19.9	

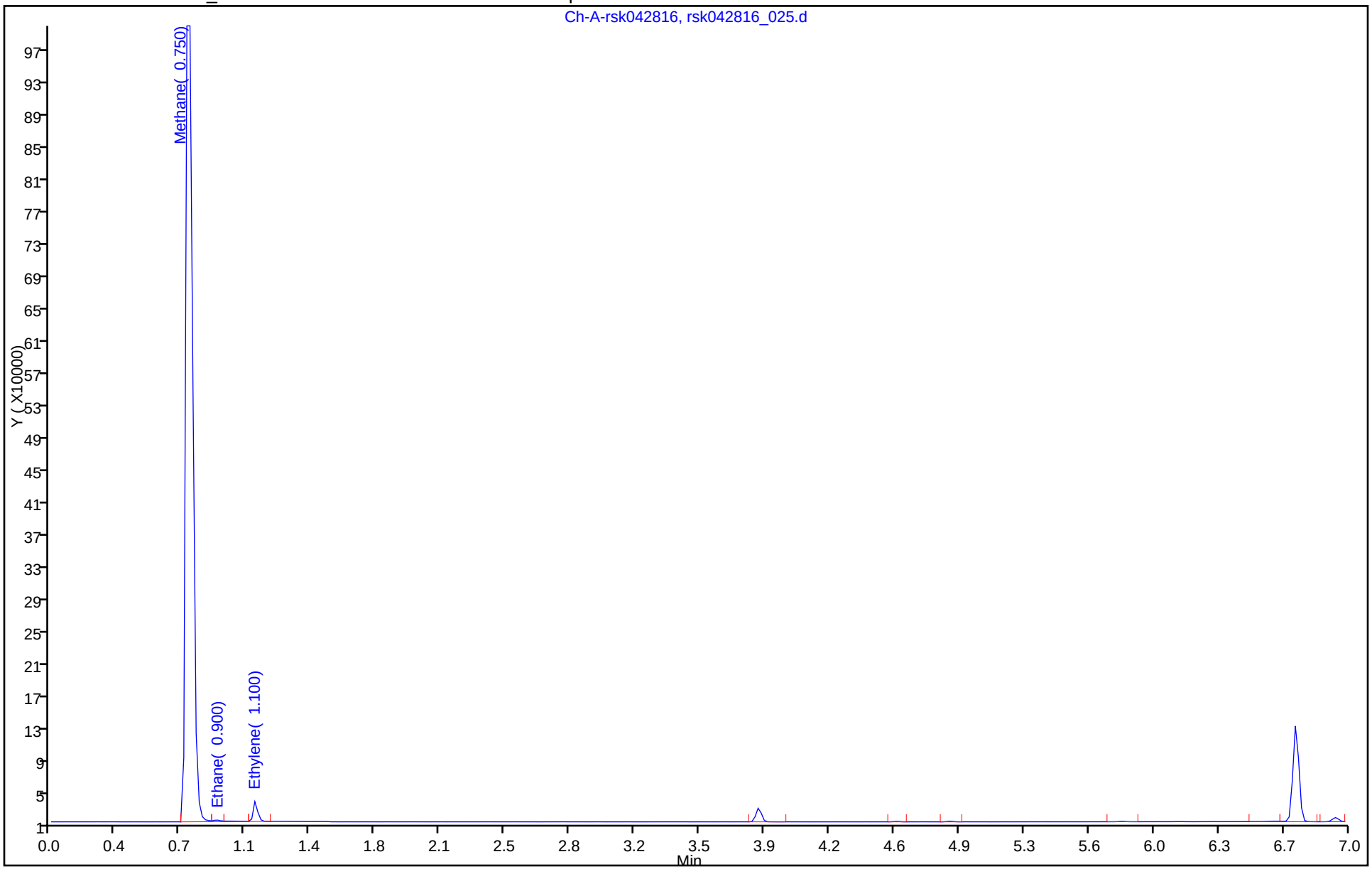
QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
Review Flags
M - Manually Integrated

Report Date: 29-Apr-2016 10:14:52 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_025.d				
Injection Date:	28-Apr-2016 16:38:20	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129836-H-7	Lab Sample ID:	600-129836-7	Worklist Smp#:	25
Client ID:	MW-20				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

TestAmerica Houston

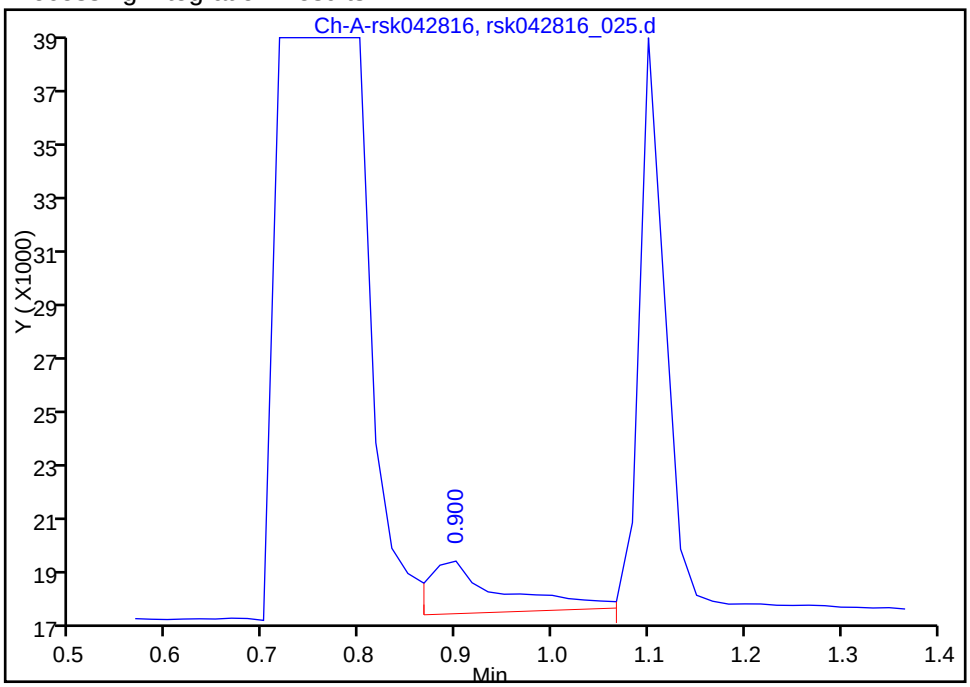
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_025.d				
Injection Date:	28-Apr-2016 16:38:20	Instrument ID:	CHFID14		
Lims ID:	600-129836-H-7	Lab Sample ID:	600-129836-7		
Client ID:	MW-20				
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	25
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

2 Ethane, CAS: 74-84-0

Signal: 1

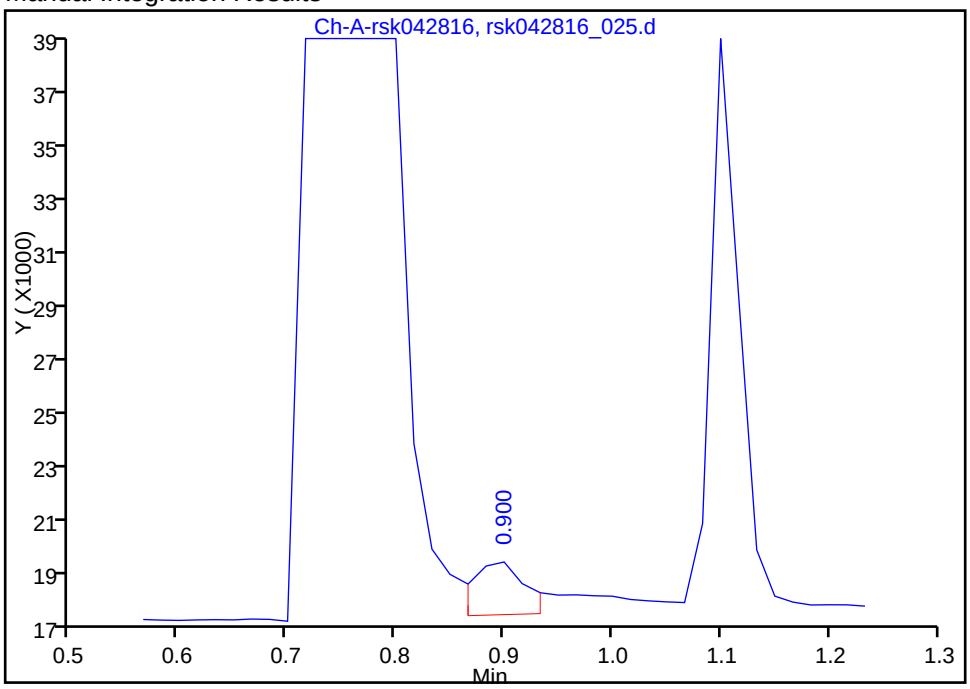
Processing Integration Results

RT: 0.90
Area: 9802
Amount: 3.497121
Amount Units: ug/l



Manual Integration Results

RT: 0.90
Area: 5847
Amount: 2.086071
Amount Units: ug/l



Reviewer: saccoj, 28-Apr-2016 16:59:26

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-20 | Lab Sample ID: 600-129836-7

Matrix: Water | Lab File ID: rsk042816_043.d

Analysis Method: RSK-175 | Date Collected: 04/22/2016 14:00

Sample wt/vol: 1(mL) | Date Analyzed: 04/29/2016 13:49

Soil Aliquot Vol: | Dilution Factor: 500

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187384 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	2650		500	179

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_043.d
Lims ID: 600-129836-H-7
Client ID: MW-20
Sample Type: Client
Inject. Date: 29-Apr-2016 13:49:37 ALS Bottle#: 0 Worklist Smp#: 43
Injection Vol: 1.0 ul Dil. Factor: 500.0000
Sample Info: #: 027 Name: 600-0011814-043
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 14:17:33 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

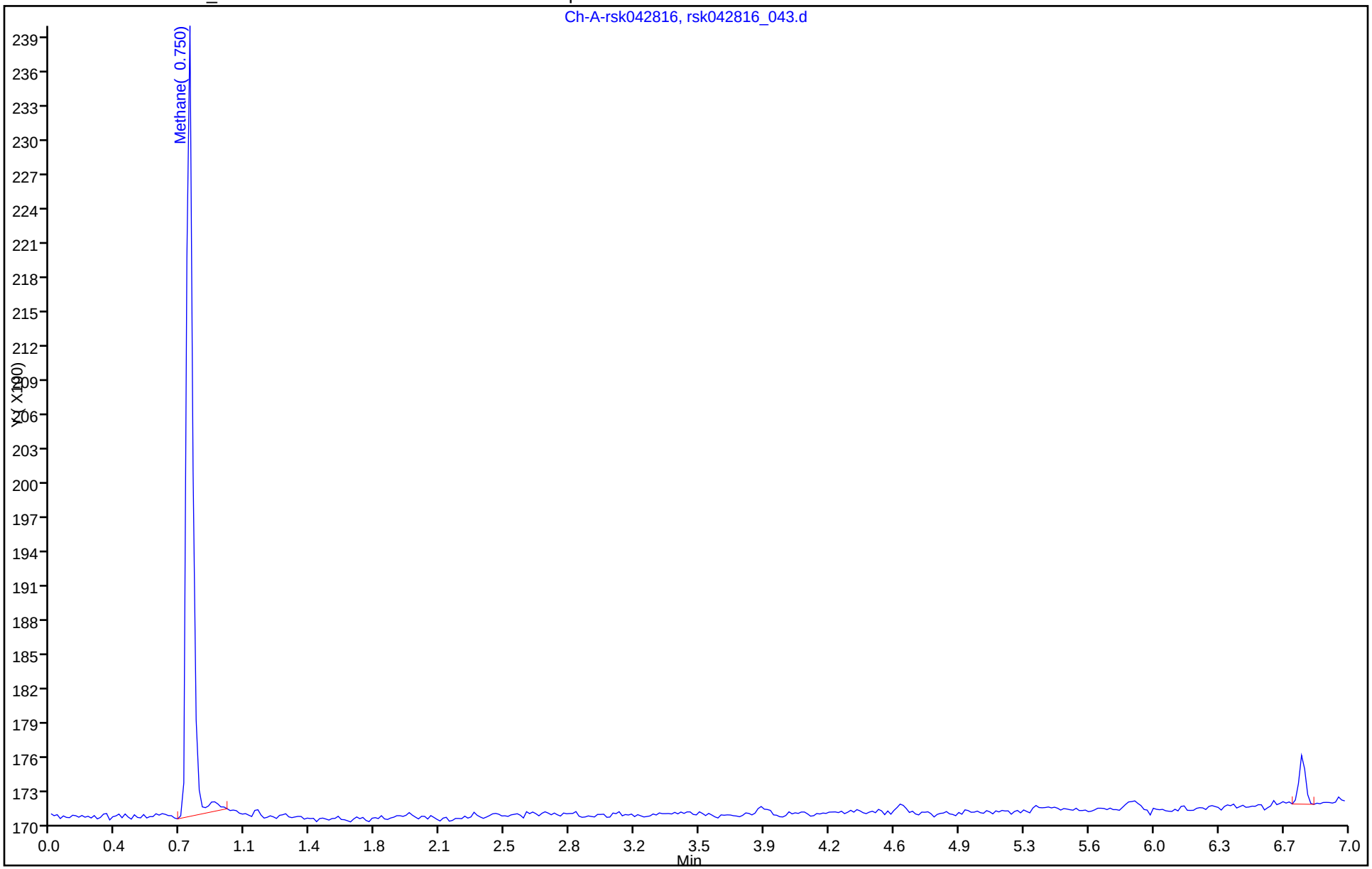
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	16586	5.30	

Report Date: 29-Apr-2016 14:17:41 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_043.d				
Injection Date:	29-Apr-2016 13:49:37	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129836-H-7	Lab Sample ID:	600-129836-7	Worklist Smp#:	43
Client ID:	MW-20				
Injection Vol:	1.0 ul	Dil. Factor:	500.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston | Job No.: 600-129836-1

SDG No.:

Client Sample ID: MW-21 | Lab Sample ID: 600-129836-8

Matrix: Water | Lab File ID: rsk042816_026.d

Analysis Method: RSK-175 | Date Collected: 04/22/2016 10:55

Sample wt/vol: 1(mL) | Date Analyzed: 04/28/2016 16:49

Soil Aliquot Vol: | Dilution Factor: 1

Soil Extract Vol.: | GC Column: RTX-5 ID: 0.53(mm)

% Moisture: | Level: (low/med) Low

Analysis Batch No.: 187384 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.303	U	2.00	0.303
74-82-8	Methane	18.4		1.00	0.357
74-85-1	Ethylene	0.324	U	2.00	0.324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_026.d
Lims ID: 600-129836-I-8
Client ID: MW-21
Sample Type: Client
Inject. Date: 28-Apr-2016 16:49:31 ALS Bottle#: 0 Worklist Smp#: 26
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 015 Name: 600-0011814-026
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:51 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

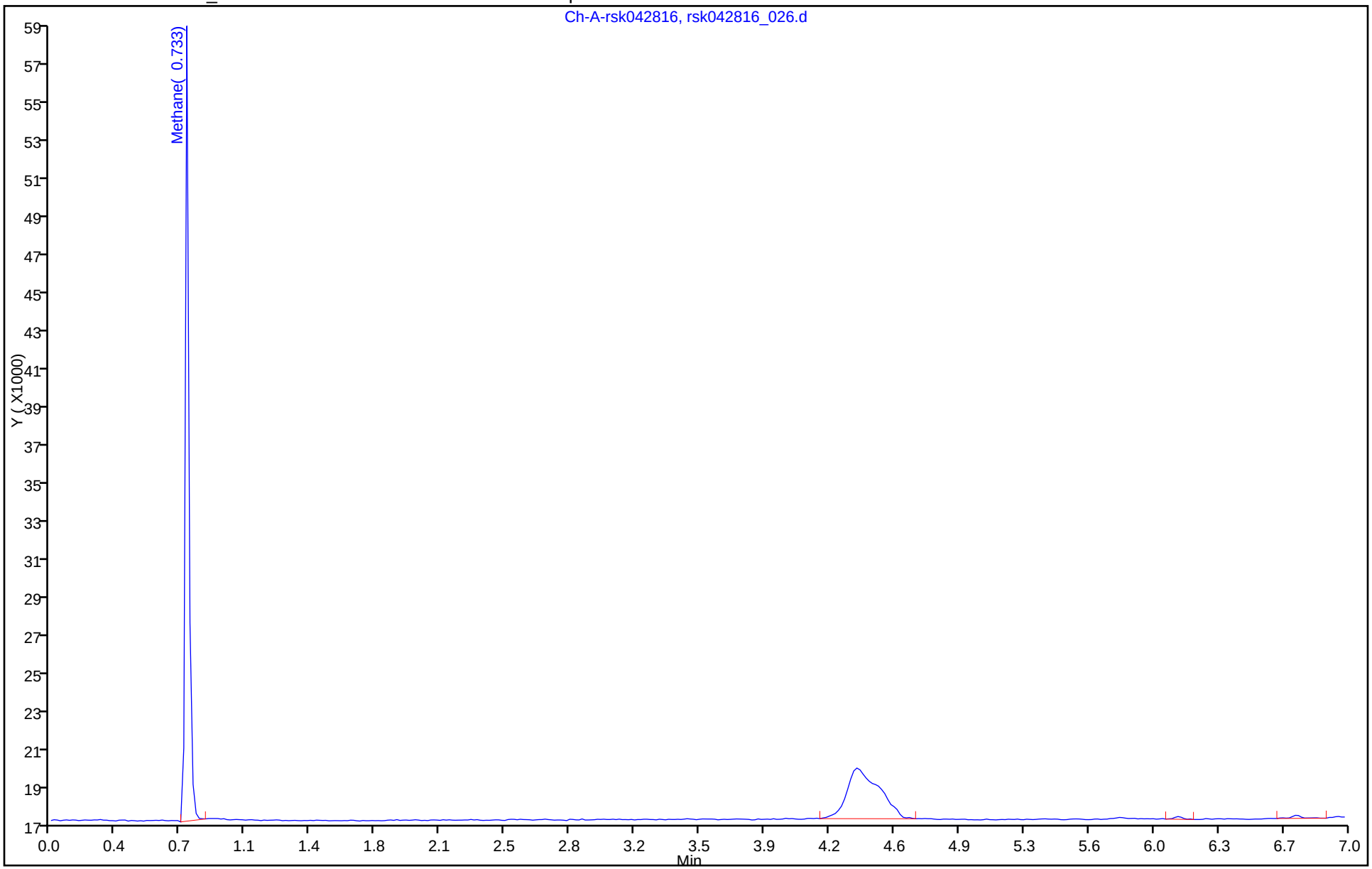
Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	57504	18.4	

Report Date: 29-Apr-2016 10:14:53 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_026.d				
Injection Date:	28-Apr-2016 16:49:31	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129836-I-8	Lab Sample ID:	600-129836-8	Worklist Smp#:	26
Client ID:	MW-21				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 179490

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2015 10:34 Calibration End Date: 12/30/2015 11:43 Calibration ID: 8278

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-179490/2	rsk123015_002.d
Level 2	IC 600-179490/3	rsk123015_003.d
Level 3	ICRT 600-179490/4	rsk123015_004.d
Level 4	IC 600-179490/5	rsk123015_005.d
Level 5	IC 600-179490/6	rsk123015_006.d
Level 6	IC 600-179490/7	rsk123015_007.d
Level 7	IC 600-179490/8	rsk123015_008.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7				RT WINDOW	AVG RT
Methane	0.750	0.750	0.750	0.750	0.750	0.767	0.733				0.650 - 0.850	0.750
Ethane	0.900	0.917	0.900	0.900	0.900	0.917	0.900				0.800 - 1.000	0.905
Ethylene	1.117	1.117	1.117	1.117	1.117	1.117	1.100				1.017 - 1.217	1.115
Propane	1.550	1.550	1.550	1.550	1.550	1.550	1.533				1.450 - 1.650	1.548
Propene	2.350	2.350	2.350	2.350	2.350	2.350	2.350				2.250 - 2.450	2.350

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 179490

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2015 10:34 Calibration End Date: 12/30/2015 11:43 Calibration ID: 8278

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-179490/2	rsk123015_002.d
Level 2	IC 600-179490/3	rsk123015_003.d
Level 3	ICRT 600-179490/4	rsk123015_004.d
Level 4	IC 600-179490/5	rsk123015_005.d
Level 5	IC 600-179490/6	rsk123015_006.d
Level 6	IC 600-179490/7	rsk123015_007.d
Level 7	IC 600-179490/8	rsk123015_008.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2								
Methane	3637.6 2684.6	3557.2 3427.7	2966.1 2773.9	2852.2	Ave		3128.46586				12.8		20.0			
Ethane	3302.6 2409.1	3068.2 3178.8	2598.0 2494.3	2569.2	Ave		2802.87687				13.1		20.0			
Ethylene	2399.4 1808.9	2304.5 2401.7	1940.2 1921.9	1926.0	Ave		2100.40457				12.2		20.0			
Propane	3414.7 2595.6	3295.9 3412.6	2781.3 2617.1	2765.4	Ave		2983.22654				12.5		20.0			
Propene	2044.6 1543.9	2025.6 2041.2	1648.6 1604.7	1623.4	Ave		1790.29566				13.0		20.0			

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Houston Job No.: 600-129836-1 Analy Batch No.: 179490

SDG No.:

Instrument ID: CHFID14 GC Column: RTX-5 ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 12/30/2015 10:34 Calibration End Date: 12/30/2015 11:43 Calibration ID: 8278

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 600-179490/2	rsk123015_002.d
Level 2	IC 600-179490/3	rsk123015_003.d
Level 3	ICRT 600-179490/4	rsk123015_004.d
Level 4	IC 600-179490/5	rsk123015_005.d
Level 5	IC 600-179490/6	rsk123015_006.d
Level 6	IC 600-179490/7	rsk123015_007.d
Level 7	IC 600-179490/8	rsk123015_008.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Methane	Ave	3754 117900	12243 143121	15305	19618	46170	1.03 34.4	3.44 51.6	5.16	6.88	17.2
Ethane	Ave	6407 205539	19851 241920	25201	33220	77886	1.94 64.7	6.47 97.0	9.70	12.9	32.3
Ethylene	Ave	4343 144890	13911 173917	17559	23235	54564	1.81 60.3	6.04 90.5	9.05	12.1	30.2
Propane	Ave	9684 322575	31173 371071	39439	52271	122671	2.84 94.5	9.46 142	14.2	18.9	47.3
Propene	Ave	5553 184777	18348 217903	22388	29387	69882	2.72 90.5	9.06 136	13.6	18.1	45.3

Curve Type Legend:

Ave = Average

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_002.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 30-Dec-2015 10:34:36 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0010110-002
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 30-Dec-2015 13:42:33 Calib Date: 30-Dec-2015 12:02:08
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_009.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK016

First Level Reviewer: saccoj Date: 30-Dec-2015 12:19:29

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	3754	1.03	1.20	M
2 Ethane	0.900	0.900	0.000	6407	1.94	2.29	
3 Ethylene	1.117	1.117	0.000	4343	1.81	2.07	
5 Propane	1.550	1.550	0.000	9684	2.84	3.25	
1 Propene	2.350	2.350	0.000	5553	2.72	3.10	

QC Flag Legend

Review Flags
M - Manually Integrated

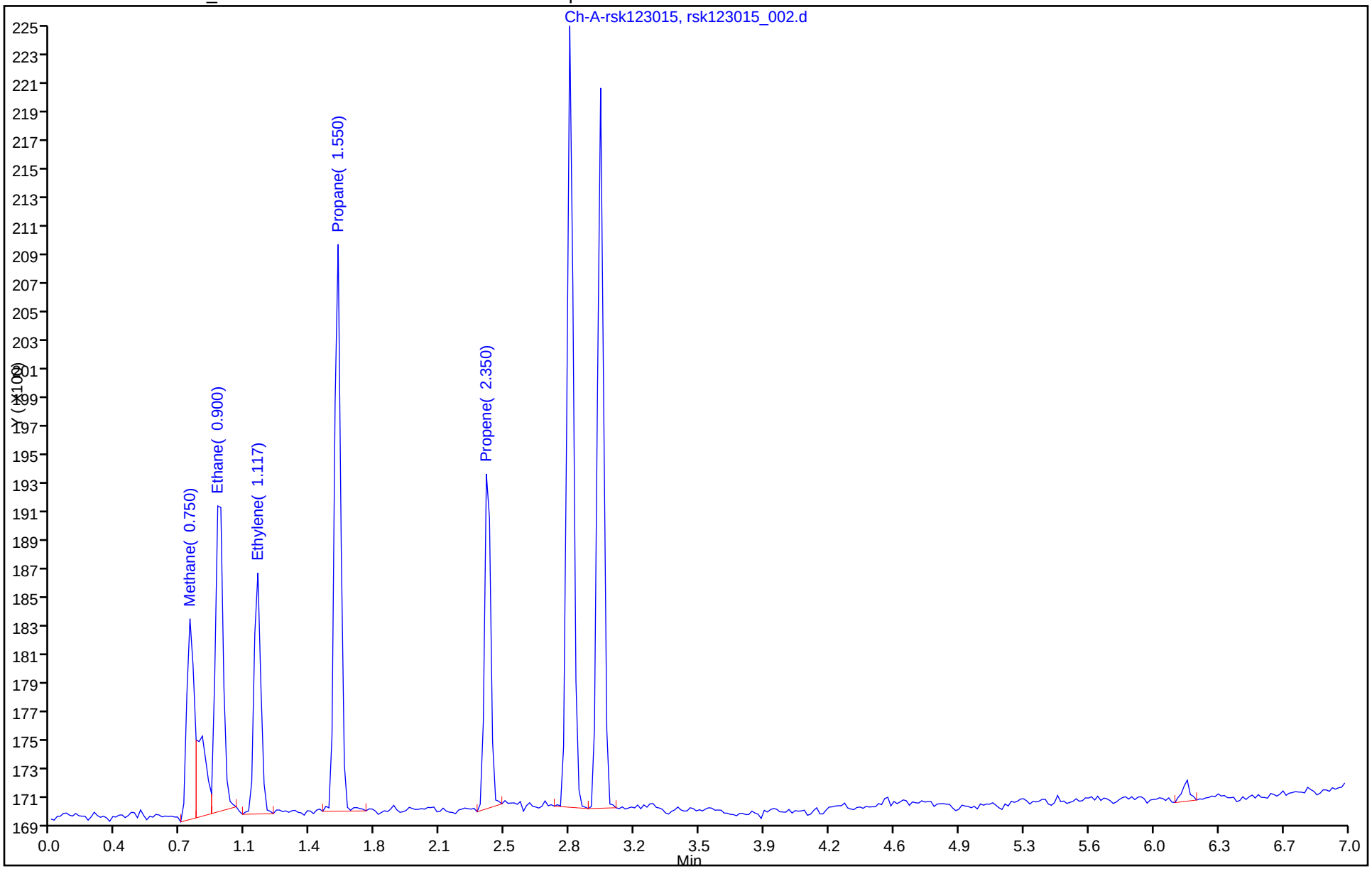
Reagents:

RSK-175 LCS_00017 Amount Added: 0.20 Units: mL

Report Date: 30-Dec-2015 13:42:33 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_002.d				
Injection Date:	30-Dec-2015 10:34:36	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	IC			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



Manual Integration/User Assign Peak Report

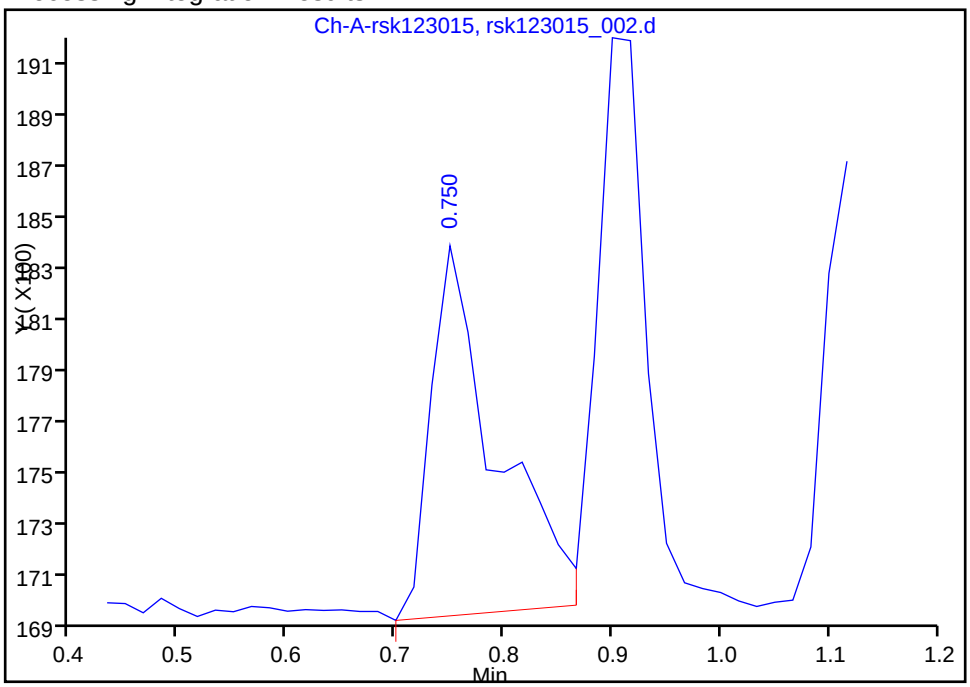
TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_002.d				
Injection Date:	30-Dec-2015 10:34:36	Instrument ID:	CHFID14		
Lims ID:	IC				
Client ID:					
Operator ID:	RSK175.m;010314	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		
Column:		Detector	Ch-A-rsk010214		

4 Methane, CAS: 74-82-8

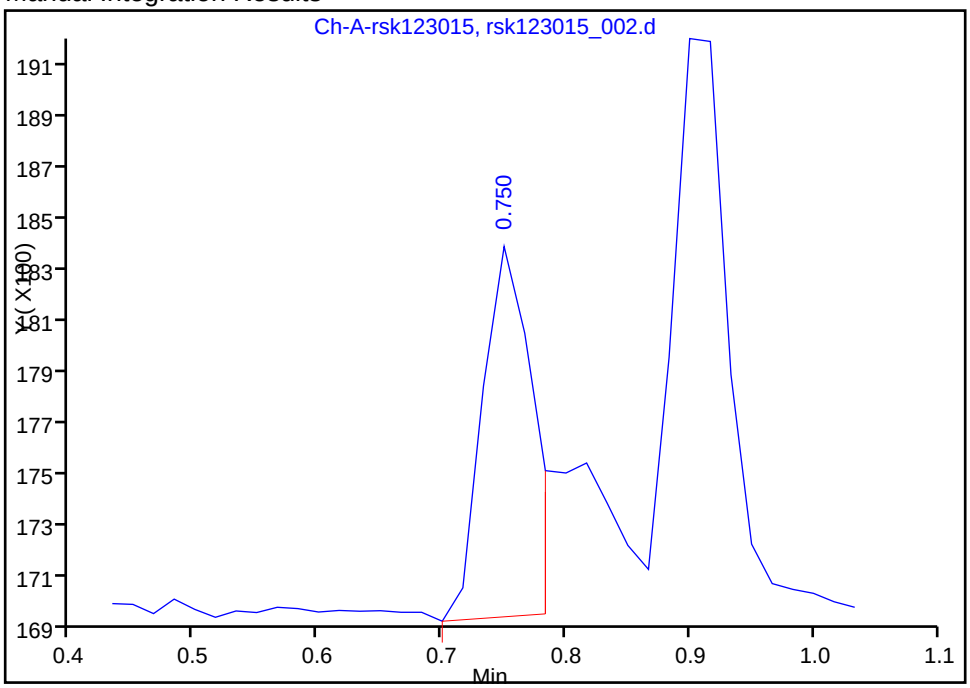
Processing Integration Results

RT: 0.75
Area: 5818
Amount: 1.704069
Amount Units: ug/l



Manual Integration Results

RT: 0.75
Area: 3754
Amount: 1.199949
Amount Units: ug/l



Reviewer: saccoj, 30-Dec-2015 13:39:11
Audit Action: Manually Integrated/Assigned Compound ID
Audit Reason: Split Peak

TestAmerica Houston
Target Compound Quantitation Report

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_003.d				
Lims ID:	IC				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	30-Dec-2015 10:46:19	ALS Bottle#:	0	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0010110-003				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Sublist:	chrom-RSK_CHFID14*sub4				
Method:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	30-Dec-2015 13:42:34	Calib Date:	30-Dec-2015 12:02:08		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_009.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK016				

First Level Reviewer: saccoj Date: 30-Dec-2015 12:20:21

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	12243	3.44	3.91	
2 Ethane	0.917	0.900	0.017	19851	6.47	7.08	
3 Ethylene	1.117	1.117	0.000	13911	6.04	6.62	
5 Propane	1.550	1.550	0.000	31173	9.46	10.4	
1 Propene	2.350	2.350	0.000	18348	9.06	10.2	

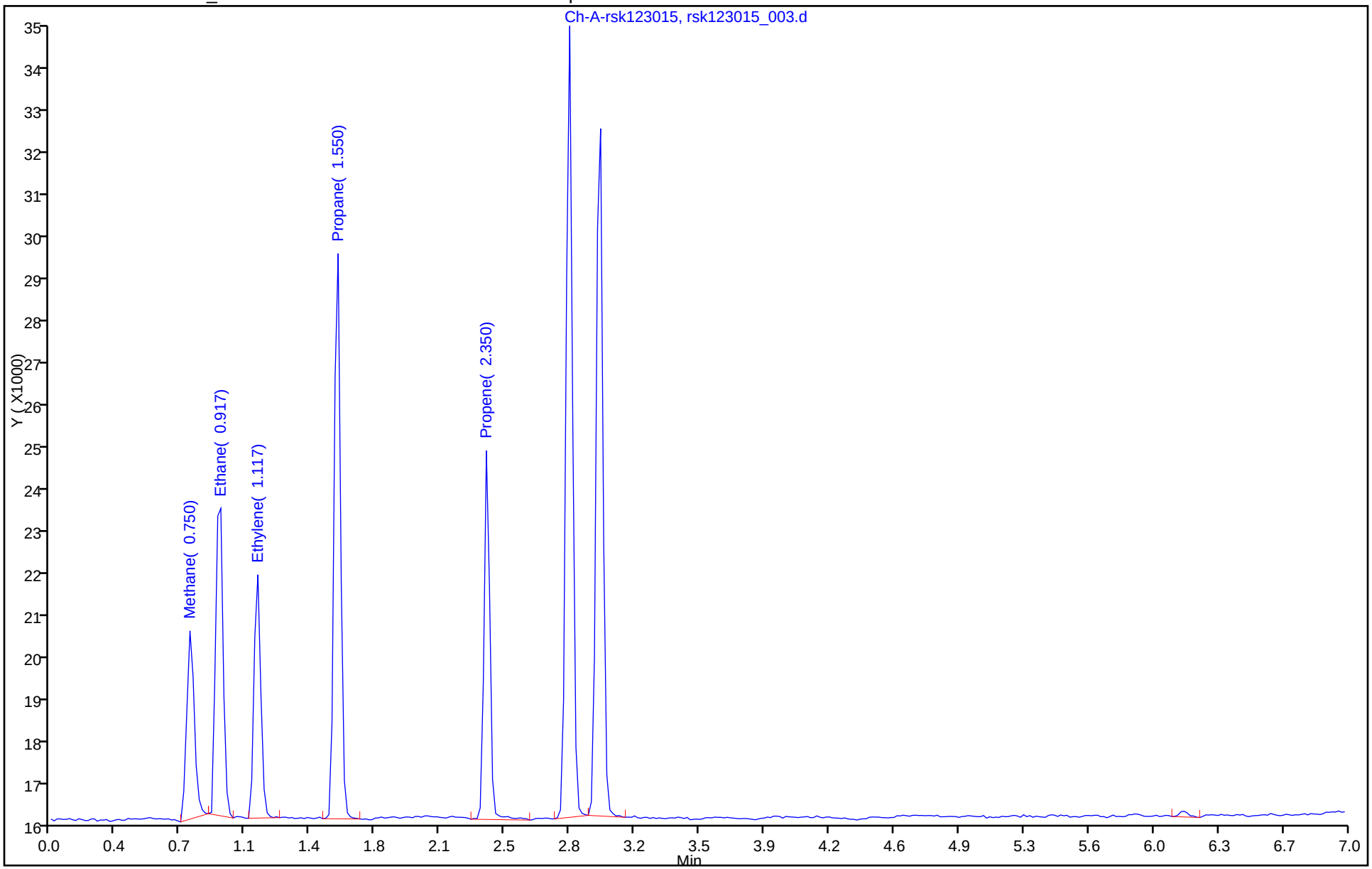
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 30-Dec-2015 13:42:34 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_003.d				
Injection Date:	30-Dec-2015 10:46:19	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	IC			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_004.d
Lims ID: ICRT
Client ID:
Sample Type: ICRT Calib Level: 3
Inject. Date: 30-Dec-2015 10:57:52 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0010110-004
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 30-Dec-2015 13:42:34 Calib Date: 30-Dec-2015 12:02:08
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_009.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK016

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	15305	5.16	4.89	
2 Ethane	0.900	0.900	0.000	25201	9.70	8.99	
3 Ethylene	1.117	1.117	0.000	17559	9.05	8.36	
5 Propane	1.550	1.550	0.000	39439	14.2	13.2	
1 Propene	2.350	2.350	0.000	22388	13.6	12.5	

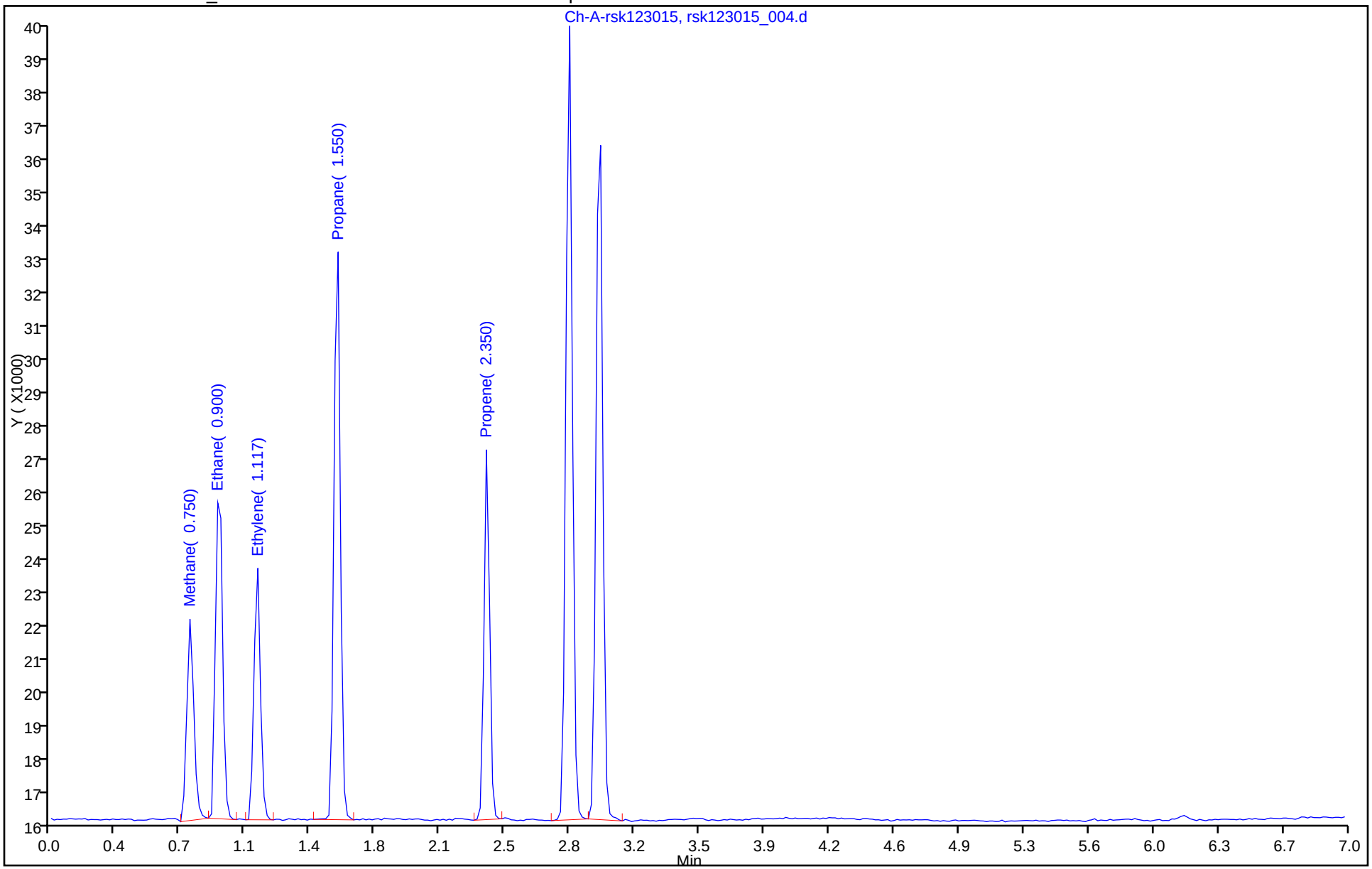
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 30-Dec-2015 13:42:34 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_004.d				
Injection Date:	30-Dec-2015 10:57:52	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	ICRT			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_005.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 30-Dec-2015 11:08:52 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0010110-005
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 30-Dec-2015 13:42:34 Calib Date: 30-Dec-2015 12:02:08
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_009.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK016

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	19618	6.88	6.27	
2 Ethane	0.900	0.900	0.000	33220	12.9	11.9	
3 Ethylene	1.117	1.117	0.000	23235	12.1	11.1	
5 Propane	1.550	1.550	0.000	52271	18.9	17.5	
1 Propene	2.350	2.350	0.000	29387	18.1	16.4	

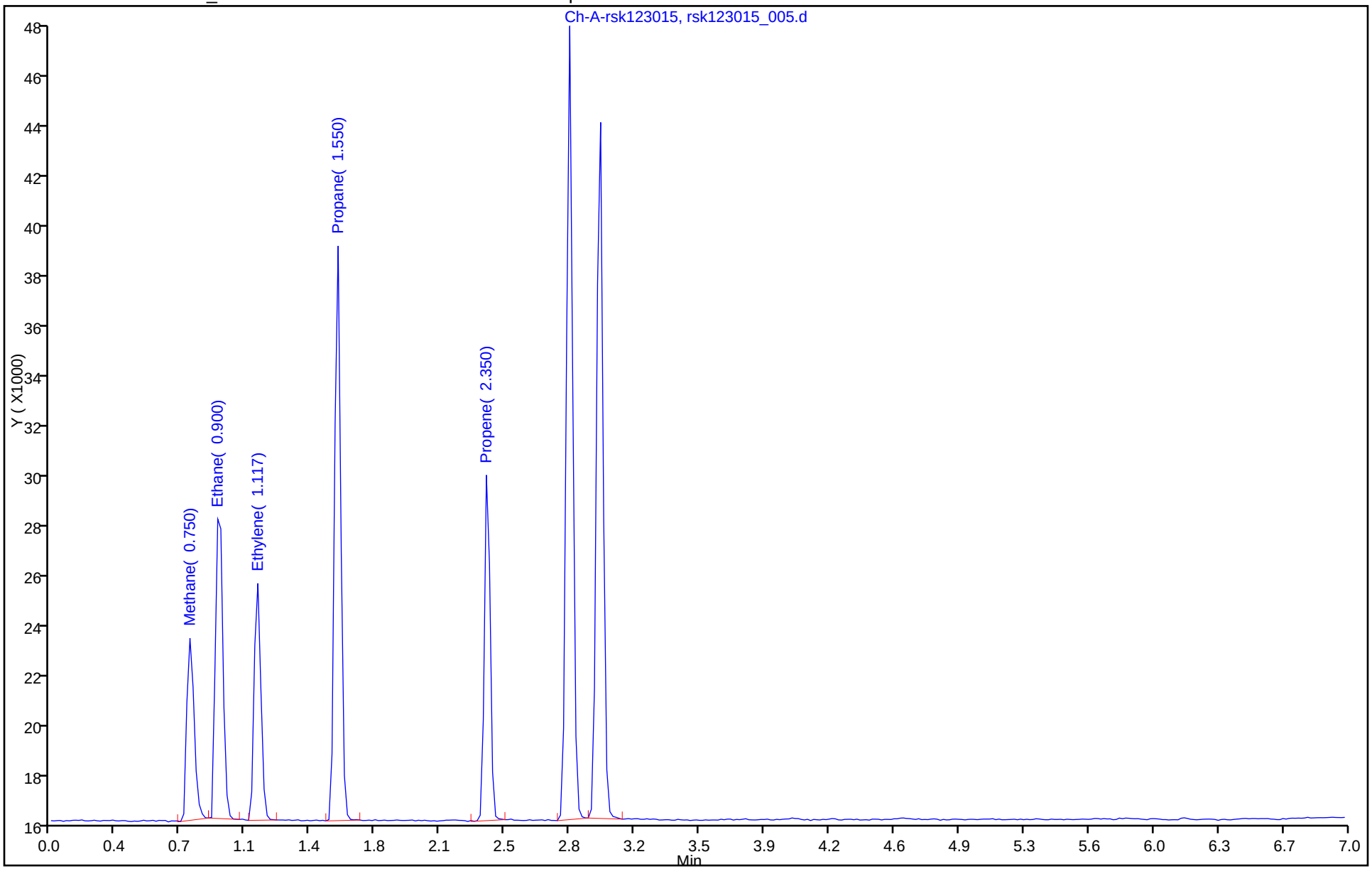
Reagents:

RSK-175 LCS_00017 Amount Added: 1.33 Units: mL

Report Date: 30-Dec-2015 13:42:35 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_005.d				
Injection Date:	30-Dec-2015 11:08:52	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	IC			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_006.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 30-Dec-2015 11:20:47 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 001 Name: 600-0010110-006
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 30-Dec-2015 13:42:35 Calib Date: 30-Dec-2015 12:02:08
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_009.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK016

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	46170	17.2	14.8	
2 Ethane	0.900	0.900	0.000	77886	32.3	27.8	
3 Ethylene	1.117	1.117	0.000	54564	30.2	26.0	
5 Propane	1.550	1.550	0.000	122671	47.3	41.1	
1 Propene	2.350	2.350	0.000	69882	45.3	39.0	

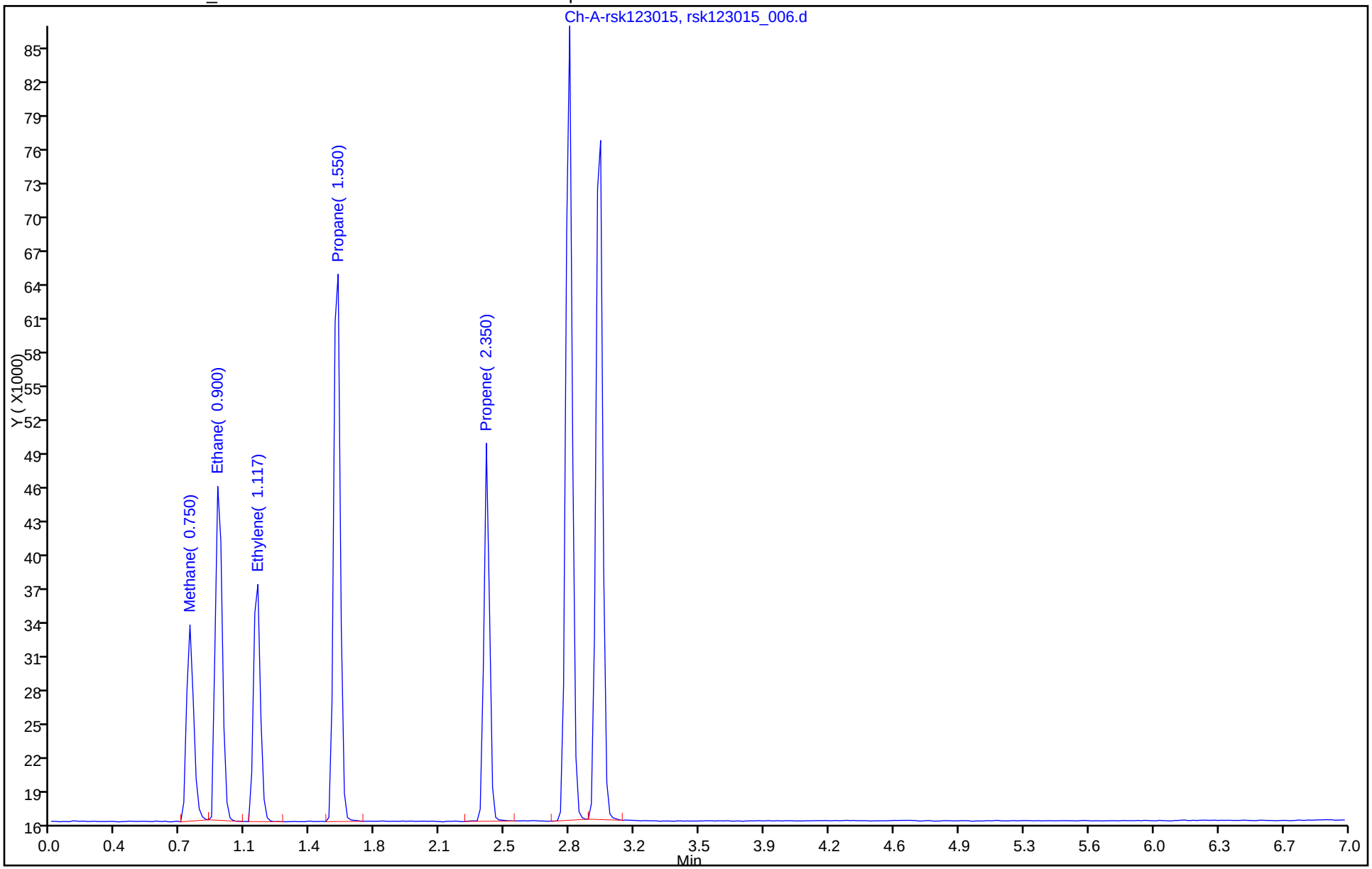
Reagents:

RSK-175 LCS_00017 Amount Added: 3.33 Units: mL

Report Date: 30-Dec-2015 13:42:35 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_006.d				
Injection Date:	30-Dec-2015 11:20:47	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	IC			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_007.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 30-Dec-2015 11:32:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 002 Name: 600-0010110-007
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 30-Dec-2015 13:42:35 Calib Date: 30-Dec-2015 12:02:08
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_009.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK016

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.767	0.750	0.017	117900	34.4	37.7	
2 Ethane	0.917	0.900	0.017	205539	64.7	73.3	
3 Ethylene	1.117	1.117	0.000	144890	60.3	69.0	
5 Propane	1.550	1.550	0.000	322575	94.5	108.1	
1 Propene	2.350	2.350	0.000	184777	90.5	103.2	

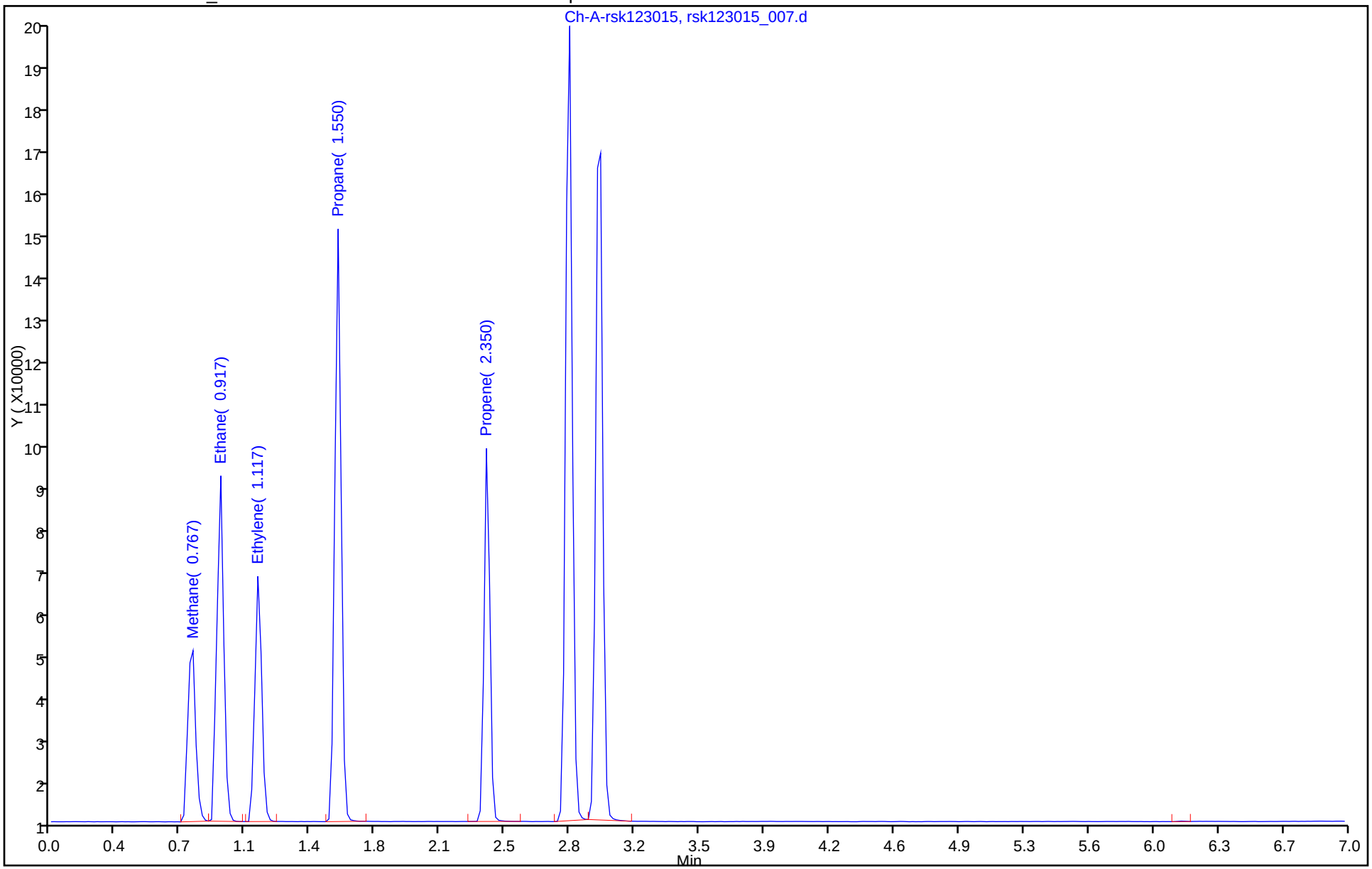
Reagents:

RSK-175 LCS_00017 Amount Added: 6.67 Units: mL

Report Date: 30-Dec-2015 13:42:36 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_007.d				
Injection Date:	30-Dec-2015 11:32:00	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	IC			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d
Lims ID: IC
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 30-Dec-2015 11:43:13 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 003 Name: 600-0010110-008
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 30-Dec-2015 13:42:36 Calib Date: 30-Dec-2015 12:02:08
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_009.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK016

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.750	-0.017	143121	51.6	45.7	
2 Ethane	0.900	0.900	0.000	241920	97.0	86.3	
3 Ethylene	1.100	1.117	-0.017	173917	90.5	82.8	
5 Propane	1.533	1.550	-0.017	371071	141.8	124.4	
1 Propene	2.350	2.350	0.000	217903	135.8	121.7	

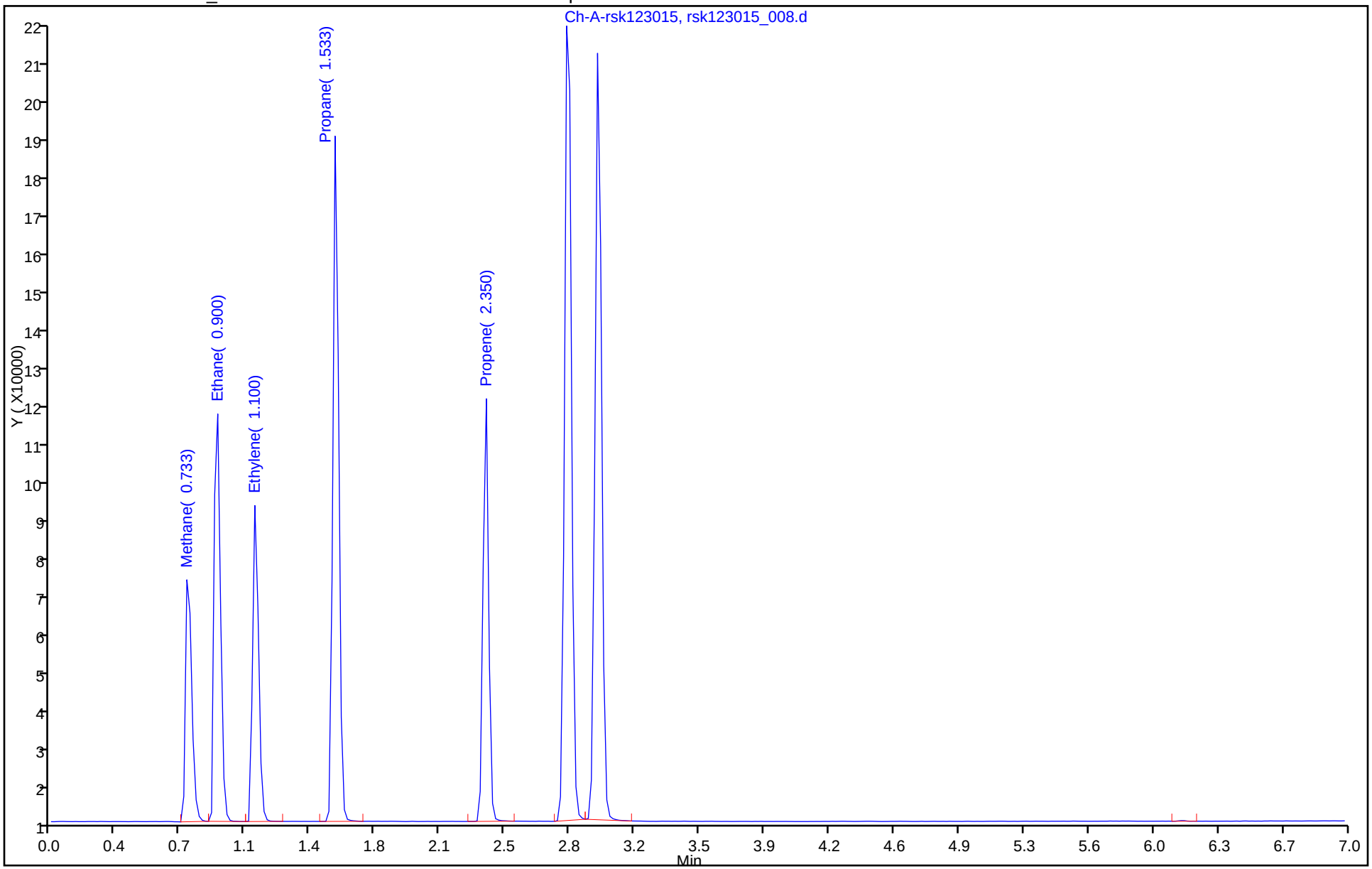
Reagents:

RSK-175 LCS_00017 Amount Added: 10.00 Units: mL

Report Date: 30-Dec-2015 13:42:36 Chrom Revision: 2.2 02-Dec-2015 11:51:48

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d				
Injection Date:	30-Dec-2015 11:43:13	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	IC			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCVRT 600-187384/1 Calibration Date: 04/28/2016 10:54

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_001-20160428-105459.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	3128	2870		6.31	6.88	-8.3	20.0
Ethane	Ave	2803	2380		11.0	12.9	-15.1	20.0
Ethylene	Ave	2100	1772		10.2	12.1	-15.6	20.0
Propane	Ave	2983	2504		15.9	18.9	-16.1	20.0
Propene	Ave	1790	1396		14.1	18.1	-22.0*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCVRT 600-187384/1 Calibration Date: 04/28/2016 10:54

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_001-20160428-105459.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.37	2.27	2.47

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_001-20160428-105459.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 28-Apr-2016 10:54:51 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0011814-001
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:33 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	19739	6.88	6.31	
2 Ethane	0.900	0.900	0.000	30780	12.9	11.0	
3 Ethylene	1.100	1.100	0.000	21376	12.1	10.2	
5 Propane	1.533	1.533	0.000	47331	18.9	15.9	
1 Propene	2.367	2.367	0.000	25264	18.1	14.1	

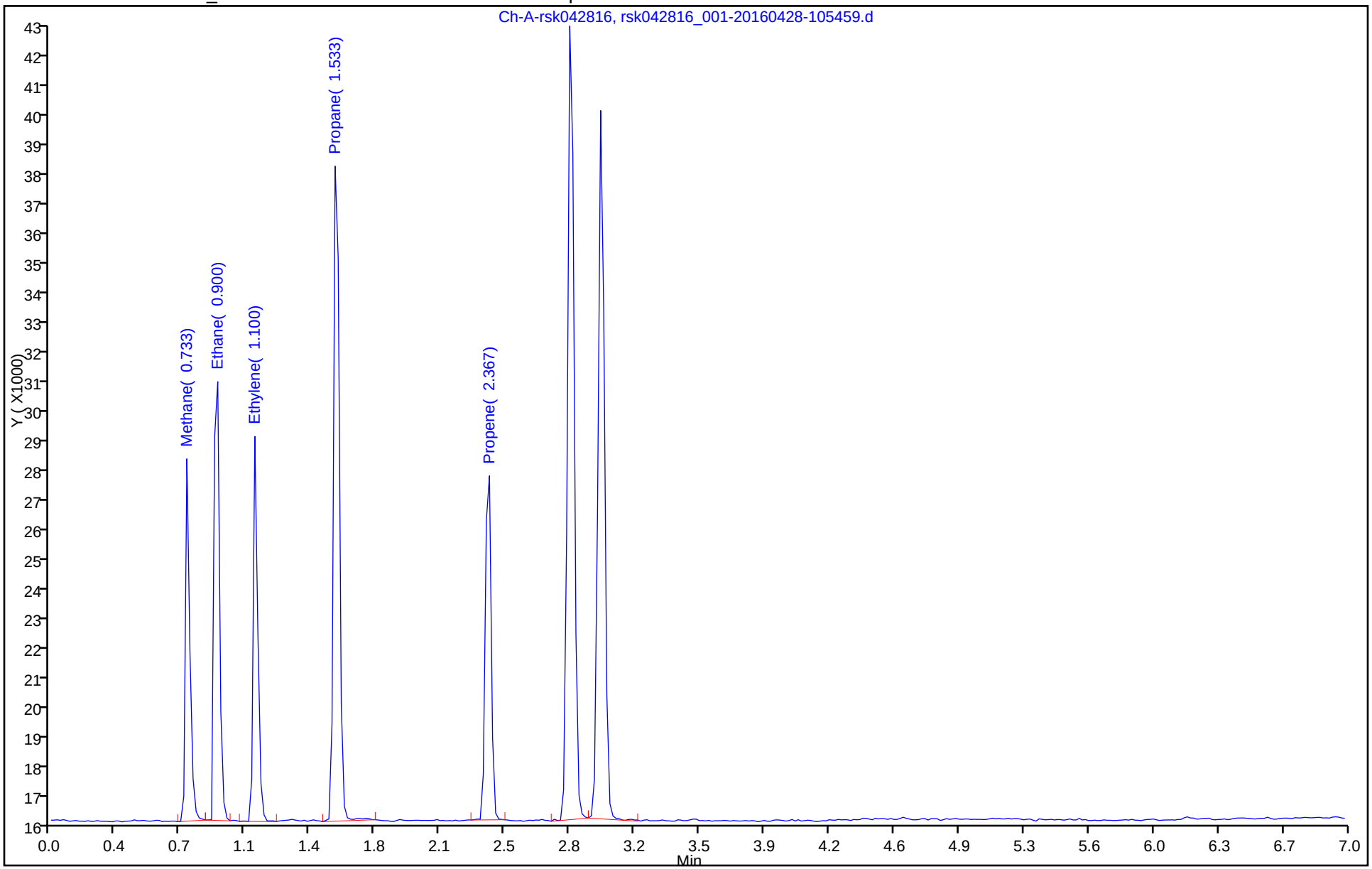
Reagents:

RSK-175 LCS_00017 Amount Added: 1.33 Units: mL

Report Date: 29-Apr-2016 10:14:33 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_001-20160428-105459.d				
Injection Date:	28-Apr-2016 10:54:51	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/12 Calibration Date: 04/28/2016 13:42

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_012.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	3128	3422		5.64	5.16	9.4	20.0
Ethane	Ave	2803	2621		9.07	9.70	-6.5	20.0
Ethylene	Ave	2100	2062		8.88	9.05	-1.9	20.0
Propane	Ave	2983	2362		11.2	14.2	-20.8*	20.0
Propene	Ave	1790	1396		10.6	13.6	-22.0*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/12 Calibration Date: 04/28/2016 13:42

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_012.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.55	1.45	1.65
Propene	2.37	2.27	2.47

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_012.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 28-Apr-2016 13:42:25 ALS Bottle#: 0 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 007 Name: 600-0011814-012
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:41 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	17656	5.16	5.64	
2 Ethane	0.900	0.900	0.000	25420	9.70	9.07	
3 Ethylene	1.100	1.100	0.000	18657	9.05	8.88	
5 Propane	1.550	1.550	0.000	33494	14.2	11.2	
1 Propene	2.367	2.367	0.000	18960	13.6	10.6	

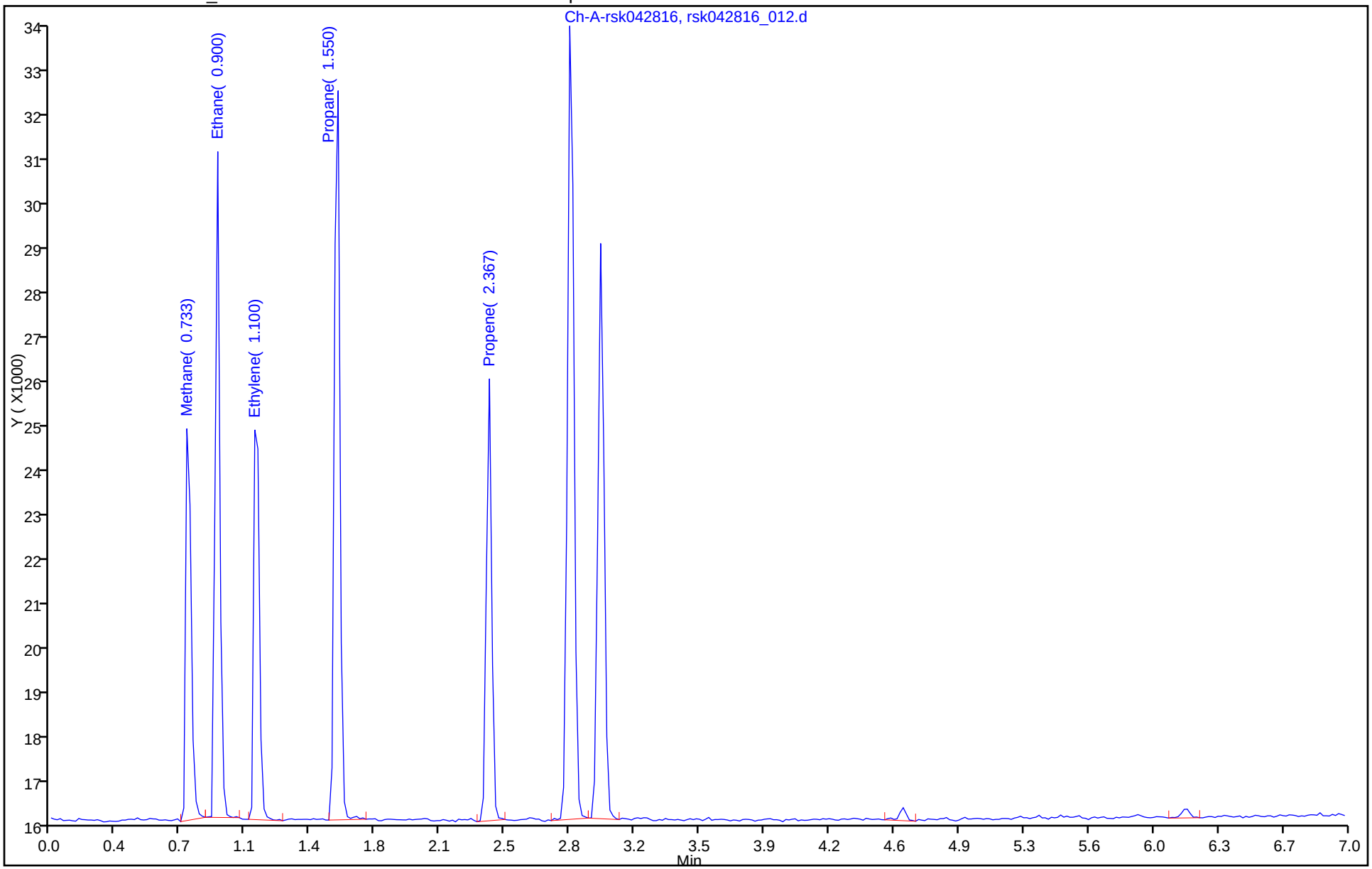
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 29-Apr-2016 10:14:42 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_012.d				
Injection Date:	28-Apr-2016 13:42:25	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/23 Calibration Date: 04/28/2016 16:15

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_023-20160428-161526.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	3128	3625		5.98	5.16	15.9	20.0
Ethane	Ave	2803	2637		9.13	9.70	-5.9	20.0
Ethylene	Ave	2100	2146		9.25	9.05	2.2	20.0
Propane	Ave	2983	2203		10.5	14.2	-26.2*	20.0
Propene	Ave	1790	1416		10.7	13.6	-20.9*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/23 Calibration Date: 04/28/2016 16:15

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_023-20160428-161526.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.35	2.25	2.45

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_023-20160428-161526.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 28-Apr-2016 16:15:17 ALS Bottle#: 0 Worklist Smp#: 23
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 012 Name: 600-0011814-023
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:51 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	18707	5.16	5.98	
2 Ethane	0.900	0.900	0.000	25583	9.70	9.13	
3 Ethylene	1.100	1.100	0.000	19421	9.05	9.25	
5 Propane	1.533	1.533	0.000	31234	14.2	10.5	
1 Propene	2.350	2.350	0.000	19231	13.6	10.7	

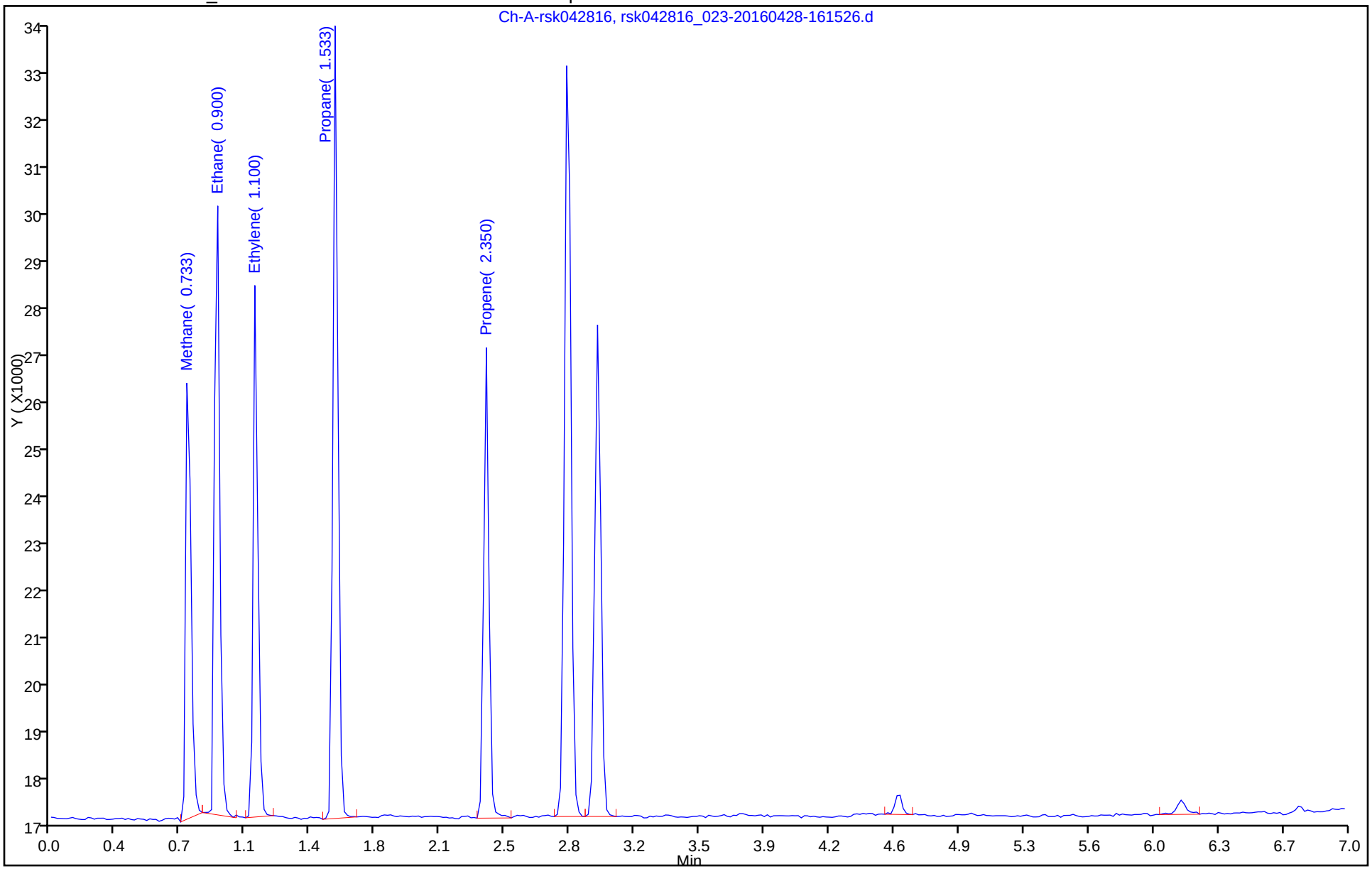
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 29-Apr-2016 10:14:51 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_023-20160428-161526.d				
Injection Date:	28-Apr-2016 16:15:17	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	23
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/27 Calibration Date: 04/28/2016 17:48

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_027-20160428-174855.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	3128	3180		6.99	6.88	1.7	20.0
Ethane	Ave	2803	2334		10.8	12.9	-16.7	20.0
Ethylene	Ave	2100	1982		11.4	12.1	-5.7	20.0
Propane	Ave	2983	1905		12.1	18.9	-36.1*	20.0
Propene	Ave	1790	1249		12.6	18.1	-30.2*	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/27 Calibration Date: 04/28/2016 17:48

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_027-20160428-174855.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.75	0.65	0.85
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.33	2.23	2.43

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_027-20160428-174855.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 28-Apr-2016 17:48:46 ALS Bottle#: 0 Worklist Smp#: 27
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 016 Name: 600-0011814-027
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:53 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	21875	6.88	6.99	
2 Ethane	0.900	0.900	0.000	30176	12.9	10.8	
3 Ethylene	1.100	1.100	0.000	23906	12.1	11.4	
5 Propane	1.533	1.533	0.000	36006	18.9	12.1	
1 Propene	2.333	2.333	0.000	22612	18.1	12.6	

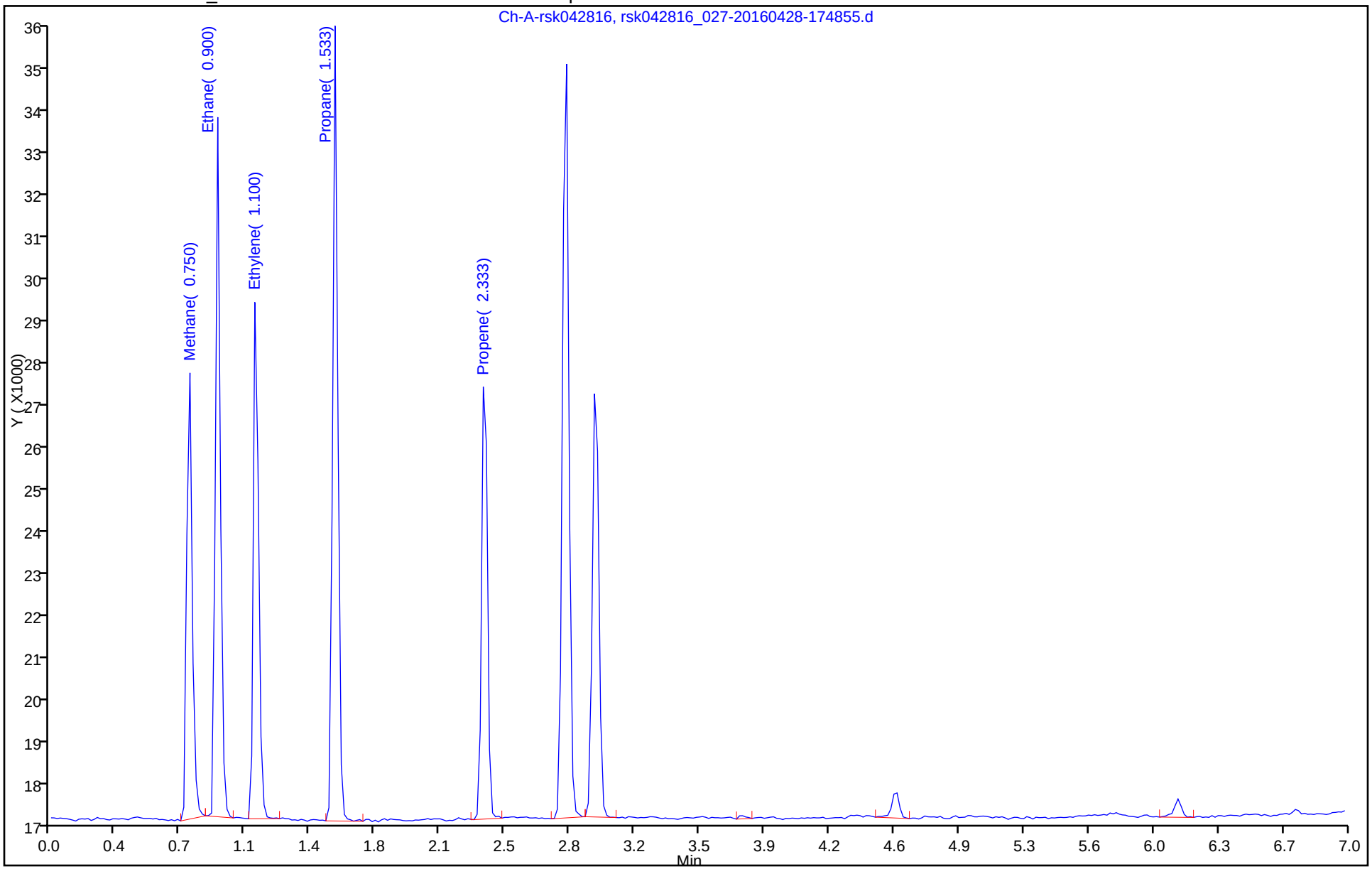
Reagents:

RSK-175 LCS_00017 Amount Added: 1.33 Units: mL

Report Date: 29-Apr-2016 10:14:54 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_027-20160428-174855.d				
Injection Date:	28-Apr-2016 17:48:46	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	27
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/28 Calibration Date: 04/29/2016 08:58

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_028.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	3128	3272		5.40	5.16	4.6	20.0
Ethane	Ave	2803	2717		9.40	9.70	-3.1	20.0
Ethylene	Ave	2100	1969		8.49	9.05	-6.2	20.0
Propane	Ave	2983	2713		12.9	14.2	-9.1	20.0
Propene	Ave	1790	1538		11.7	13.6	-14.1	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/28 Calibration Date: 04/29/2016 08:58

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_028.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.55	1.45	1.65
Propene	2.35	2.25	2.45

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_028.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 29-Apr-2016 08:58:45 ALS Bottle#: 0 Worklist Smp#: 28
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 017 Name: 600-0011814-028
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:54 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	16881	5.16	5.40	
2 Ethane	0.900	0.900	0.000	26356	9.70	9.40	
3 Ethylene	1.100	1.100	0.000	17821	9.05	8.48	
5 Propane	1.550	1.550	0.000	38471	14.2	12.9	
1 Propene	2.350	2.350	0.000	20889	13.6	11.7	

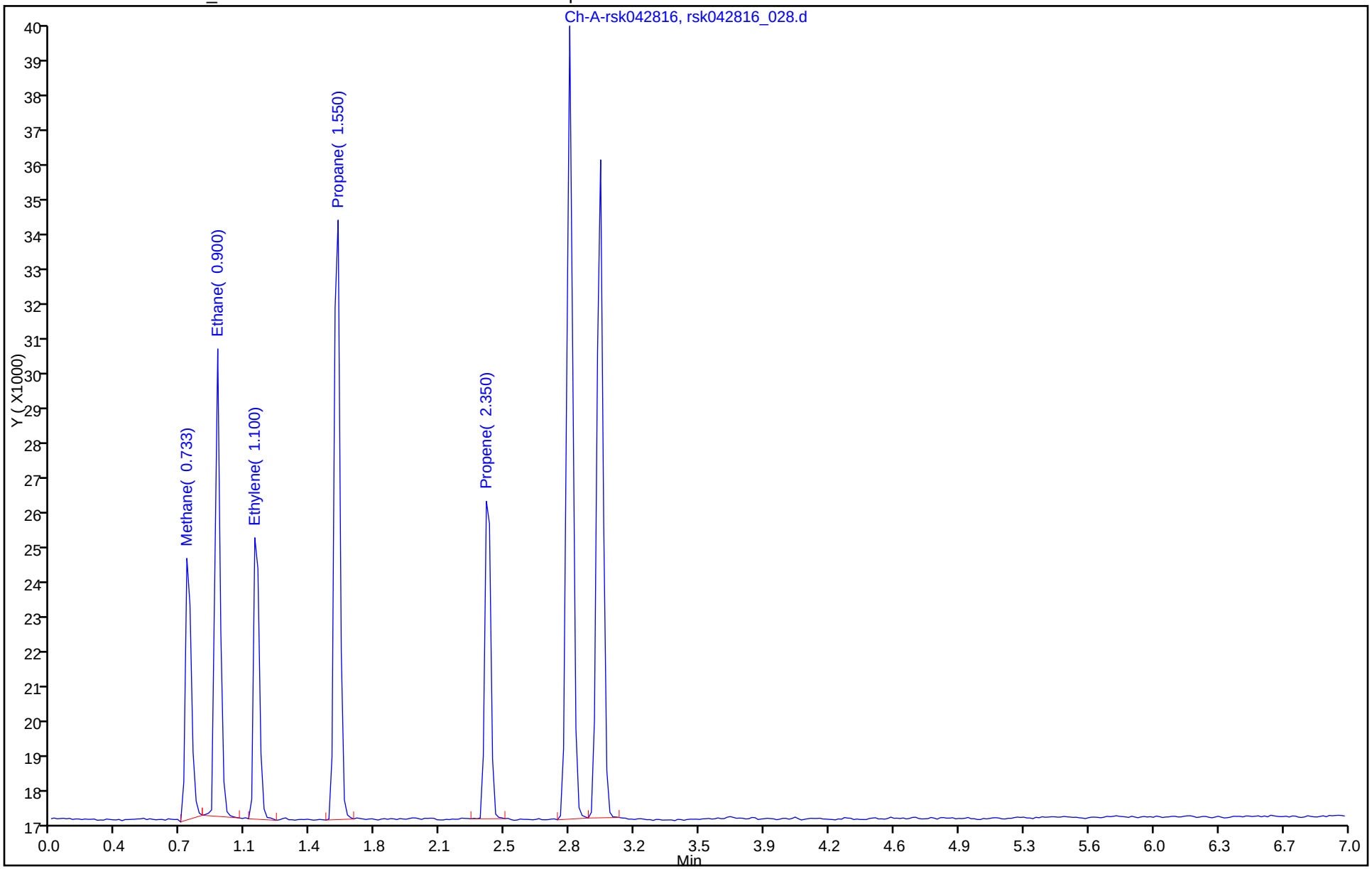
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 29-Apr-2016 10:14:54 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_028.d				
Injection Date:	29-Apr-2016 08:58:45	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	28
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/39 Calibration Date: 04/29/2016 11:40

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_039.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	3128	3247		7.14	6.88	3.8	20.0
Ethane	Ave	2803	2578		11.9	12.9	-8.0	20.0
Ethylene	Ave	2100	1966		11.3	12.1	-6.4	20.0
Propane	Ave	2983	2593		16.4	18.9	-13.1	20.0
Propene	Ave	1790	1482		15.0	18.1	-17.2	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/39 Calibration Date: 04/29/2016 11:40

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_039.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.75	0.65	0.85
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.35	2.25	2.45

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_039.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 29-Apr-2016 11:40:35 ALS Bottle#: 0 Worklist Smp#: 39
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 023 Name: 600-0011814-039
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 14:17:33 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.750	0.000	22332	6.88	7.14	
2 Ethane	0.900	0.900	0.000	33338	12.9	11.9	
3 Ethylene	1.100	1.100	0.000	23712	12.1	11.3	
5 Propane	1.533	1.533	0.000	49014	18.9	16.4	
1 Propene	2.350	2.350	0.000	26827	18.1	15.0	

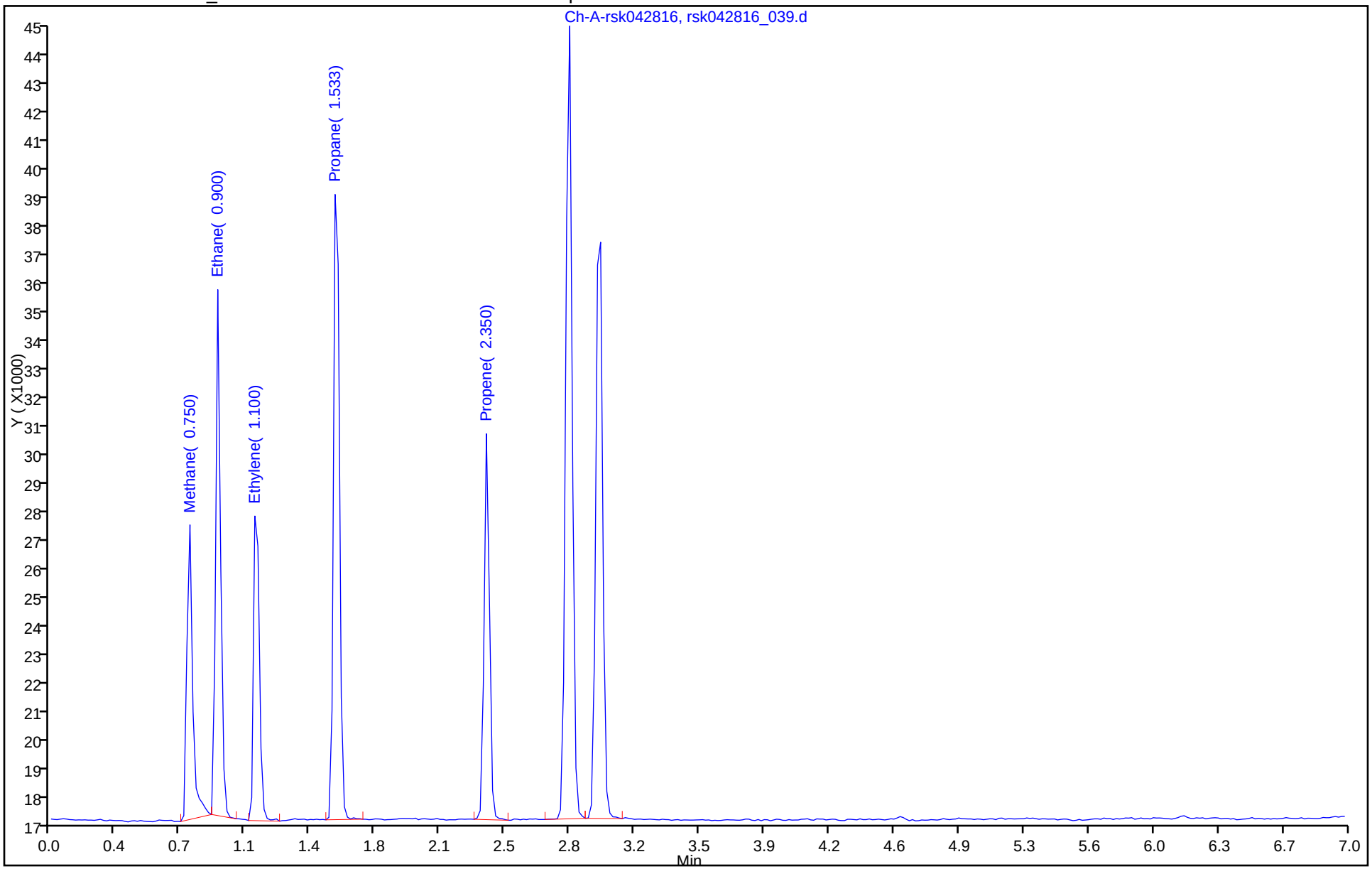
Reagents:

RSK-175 LCS_00017 Amount Added: 1.33 Units: mL

Report Date: 29-Apr-2016 14:17:33 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_039.d				
Injection Date:	29-Apr-2016 11:40:35	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	39
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/44 Calibration Date: 04/29/2016 14:01

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_044.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Ave	3128	3411		3.75	3.44	9.0	20.0
Ethane	Ave	2803	2726		6.29	6.47	-2.7	20.0
Ethylene	Ave	2100	2103		6.04	6.04	0.1	20.0
Propane	Ave	2983	2594		8.22	9.46	-13.1	20.0
Propene	Ave	1790	1549		7.84	9.06	-13.5	20.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Lab Sample ID: CCV 600-187384/44 Calibration Date: 04/29/2016 14:01

Instrument ID: CHFID14 Calib Start Date: 12/30/2015 10:34

GC Column: RTX-5 ID: 0.53(mm) Calib End Date: 12/30/2015 11:43

Lab File ID: rsk042816_044.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.73	0.63	0.83
Ethane	0.90	0.80	1.00
Ethylene	1.10	1.00	1.20
Propane	1.53	1.43	1.63
Propene	2.35	2.25	2.45

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_044.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 29-Apr-2016 14:01:26 ALS Bottle#: 0 Worklist Smp#: 44
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: #: 028 Name: 600-0011814-044
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14
Sublist: chrom-RSK_CHFID14*sub4

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 14:17:42 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	11740	3.44	3.75	
2 Ethane	0.900	0.900	0.000	17637	6.47	6.29	
3 Ethylene	1.100	1.100	0.000	12694	6.04	6.04	
5 Propane	1.533	1.533	0.000	24531	9.46	8.22	
1 Propene	2.350	2.350	0.000	14035	9.06	7.84	

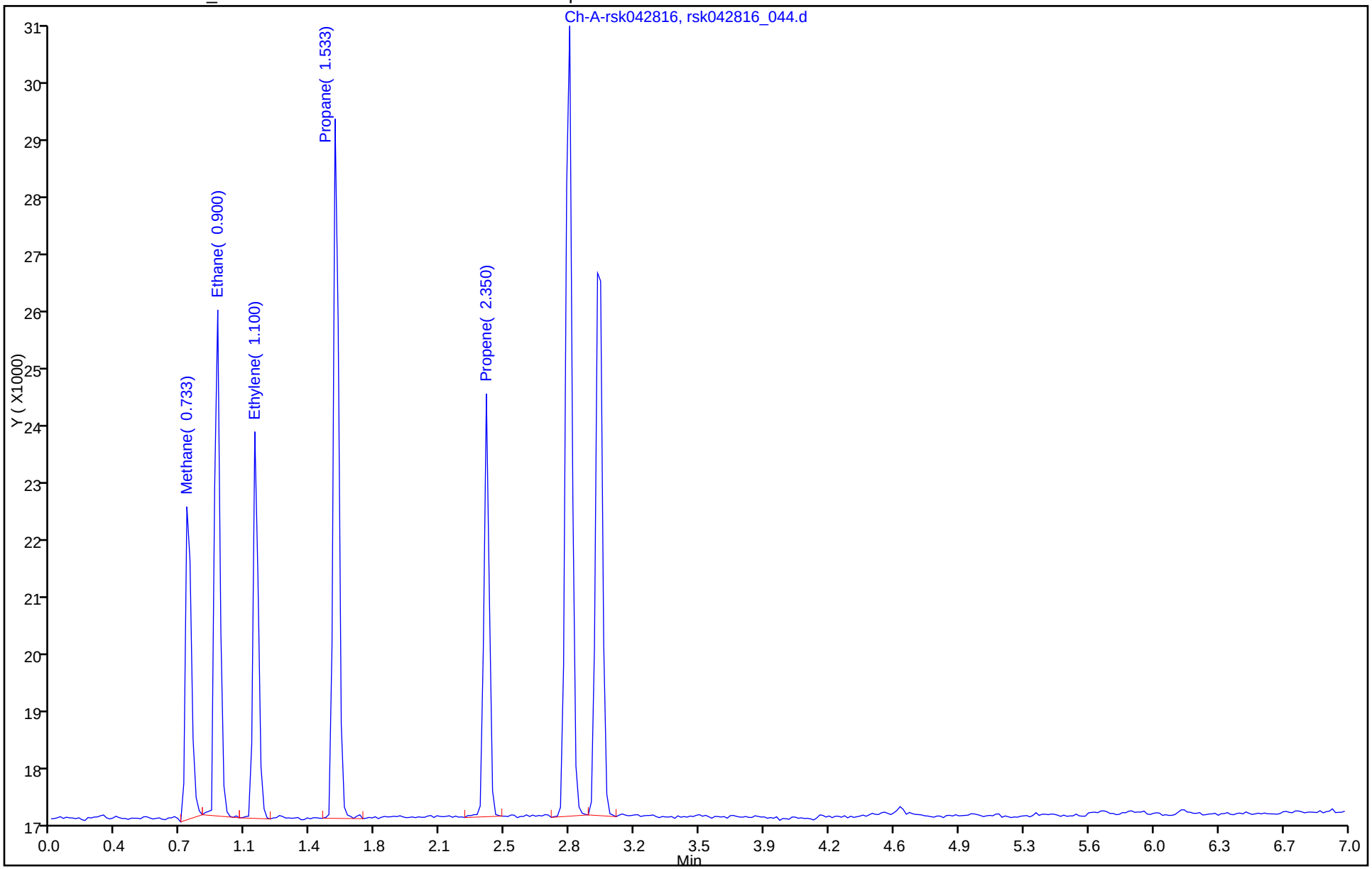
Reagents:

RSK-175 LCS_00017 Amount Added: 0.67 Units: mL

Report Date: 29-Apr-2016 14:17:42 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_044.d				
Injection Date:	29-Apr-2016 14:01:26	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	CCV			Worklist Smp#:	44
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: MB 600-187384/2
Matrix: Water
Lab File ID: rsk042816_002-20160428-110602.
Analysis Method: RSK-175
Date Collected:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 11:05
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187384
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	0.303	U	2.00	0.303
74-82-8	Methane	0.357	U	1.00	0.357
74-85-1	Ethylene	0.324	U	2.00	0.324

TestAmerica Houston
Target Compound Quantitation Report

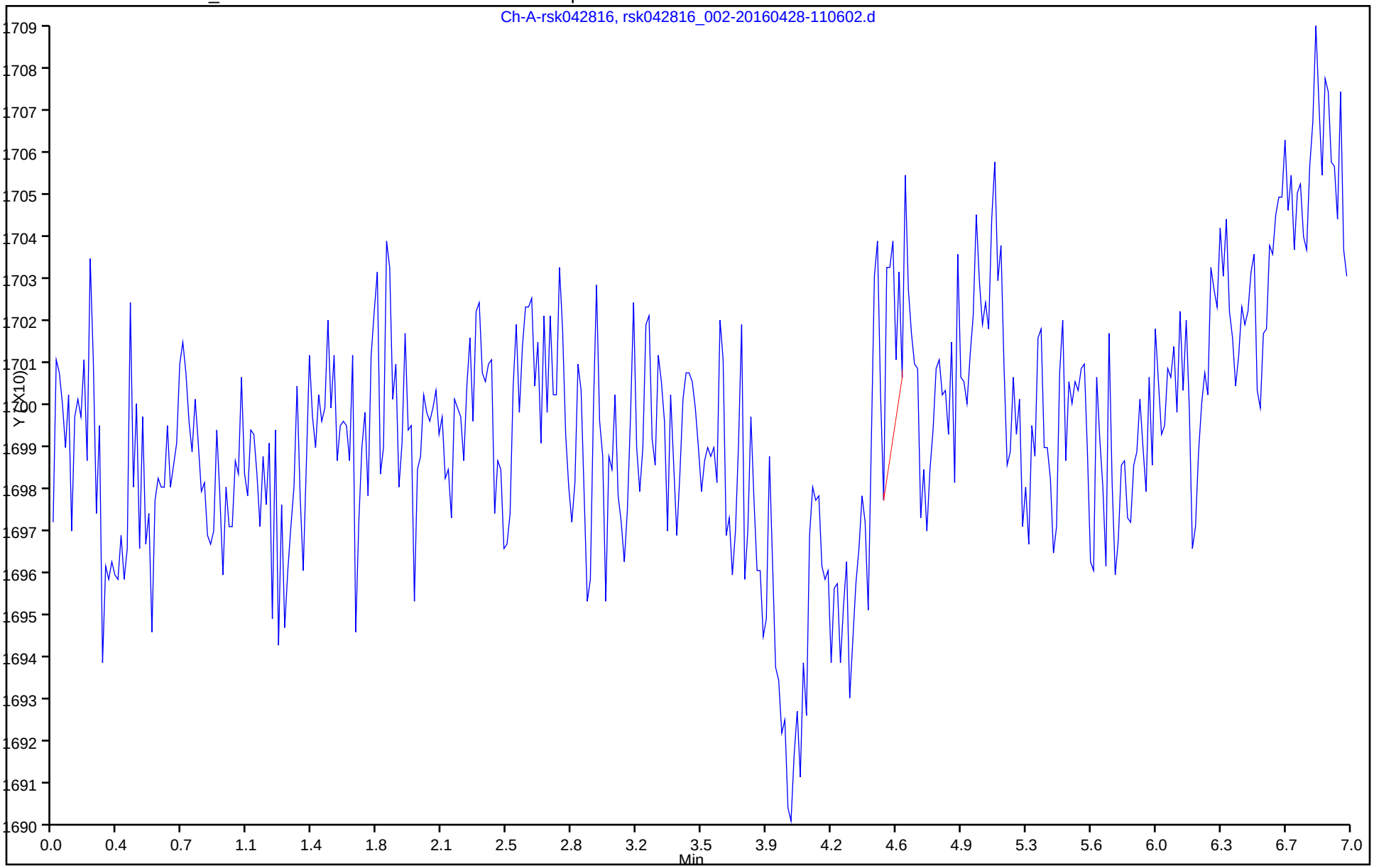
Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_002-20160428-110602.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	28-Apr-2016 11:05:50	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	Name: 600-0011814-002				
Misc. Info.:	Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234				
Operator ID:	RSK175.m;010314	Instrument ID:	CHFID14		
Method:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m				
Limit Group:	GCSV - RSK175				
Last Update:	29-Apr-2016 10:14:33	Calib Date:	30-Dec-2015 11:43:13		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d				
Column 1 :			Det: Ch-A-rsk010214		
Process Host:	XAWRK026				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

Report Date: 29-Apr-2016 10:14:34 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_002-20160428-110602.d				
Injection Date:	28-Apr-2016 11:05:50	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	MB			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: LCS 600-187384/3
Matrix: Water
Lab File ID: rsk042816_003-20160428-113856.
Analysis Method: RSK-175
Date Collected:
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 11:38
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187384
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	10.17		2.00	0.303
74-82-8	Methane	5.924		1.00	0.357
74-85-1	Ethylene	9.553		2.00	0.324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_003-20160428-113856.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 28-Apr-2016 11:38:47 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0011814-003
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:33 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	18534	6.88	5.92	
2 Ethane	0.900	0.900	0.000	28517	12.9	10.2	
3 Ethylene	1.100	1.100	0.000	20065	12.1	9.55	
5 Propane	1.550	1.533	0.017	40157	18.9	13.5	
1 Propene	2.367	2.367	0.000	22196	18.1	12.4	

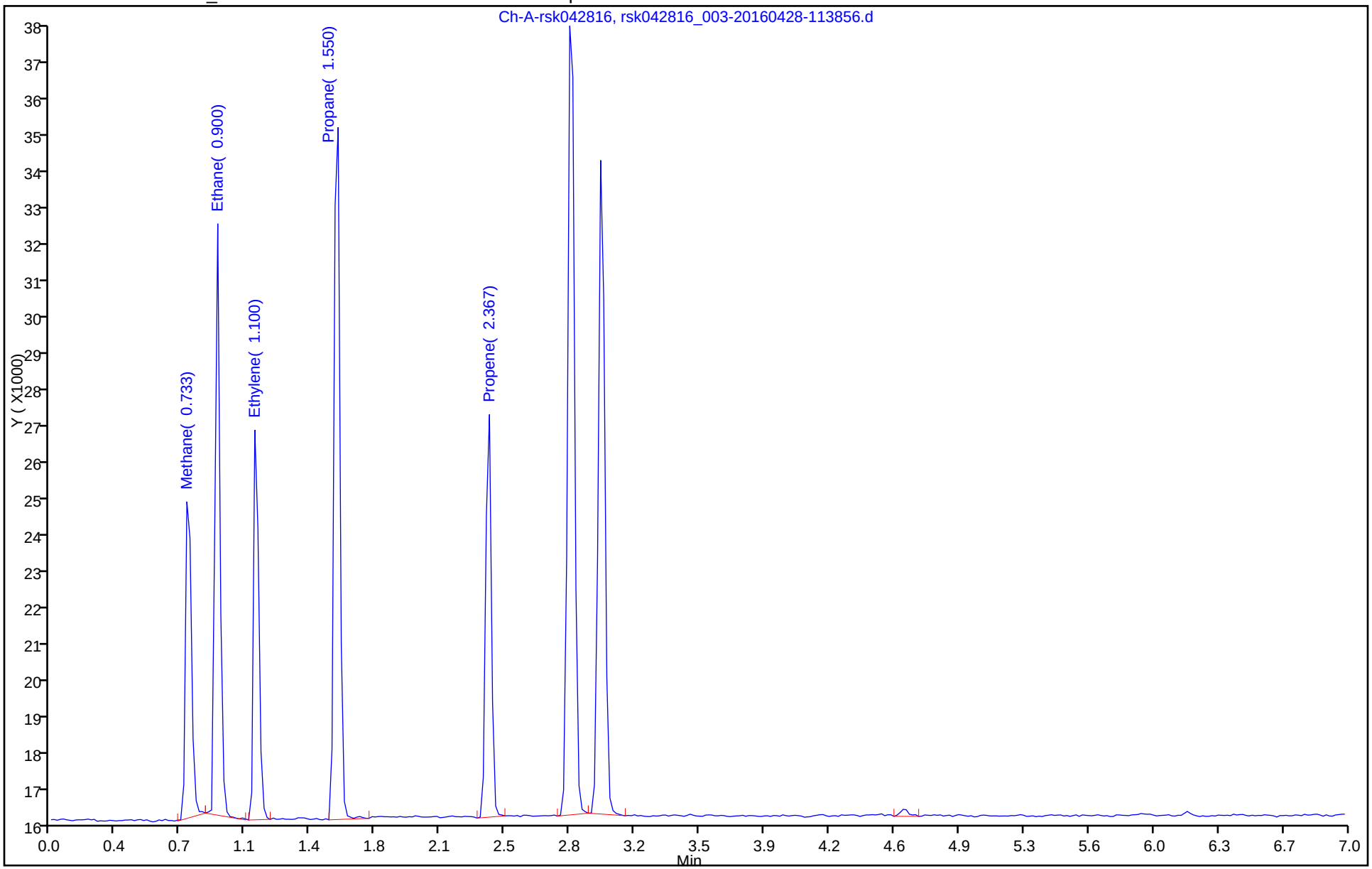
Reagents:

RSK-175 LCS_00017 Amount Added: 1.33 Units: mL

Report Date: 29-Apr-2016 10:14:35 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_003-20160428-113856.d				
Injection Date:	28-Apr-2016 11:38:47	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	LCS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: 600-129741-C-6 MS
Matrix: Water
Lab File ID: rsk042816_016.d
Analysis Method: RSK-175
Date Collected: 04/21/2016 13:05
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 14:37
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187384
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	10.09		2.00	0.303
74-82-8	Methane	6.145		1.00	0.357
74-85-1	Ethylene	9.985		2.00	0.324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_016.d
Lims ID: 600-129741-C-6 MS
Client ID:
Sample Type: MS
Inject. Date: 28-Apr-2016 14:37:42 ALS Bottle#: 0 Worklist Smp#: 16
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0011814-016
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:41 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.750	0.733	0.017	19223	5.16	6.14	
2 Ethane	0.900	0.900	0.000	28274	9.70	10.1	
3 Ethylene	1.100	1.100	0.000	20972	9.05	9.98	
5 Propane	1.550	1.550	0.000	36180	14.2	12.1	
1 Propene	2.367	2.367	0.000	20973	13.6	11.7	

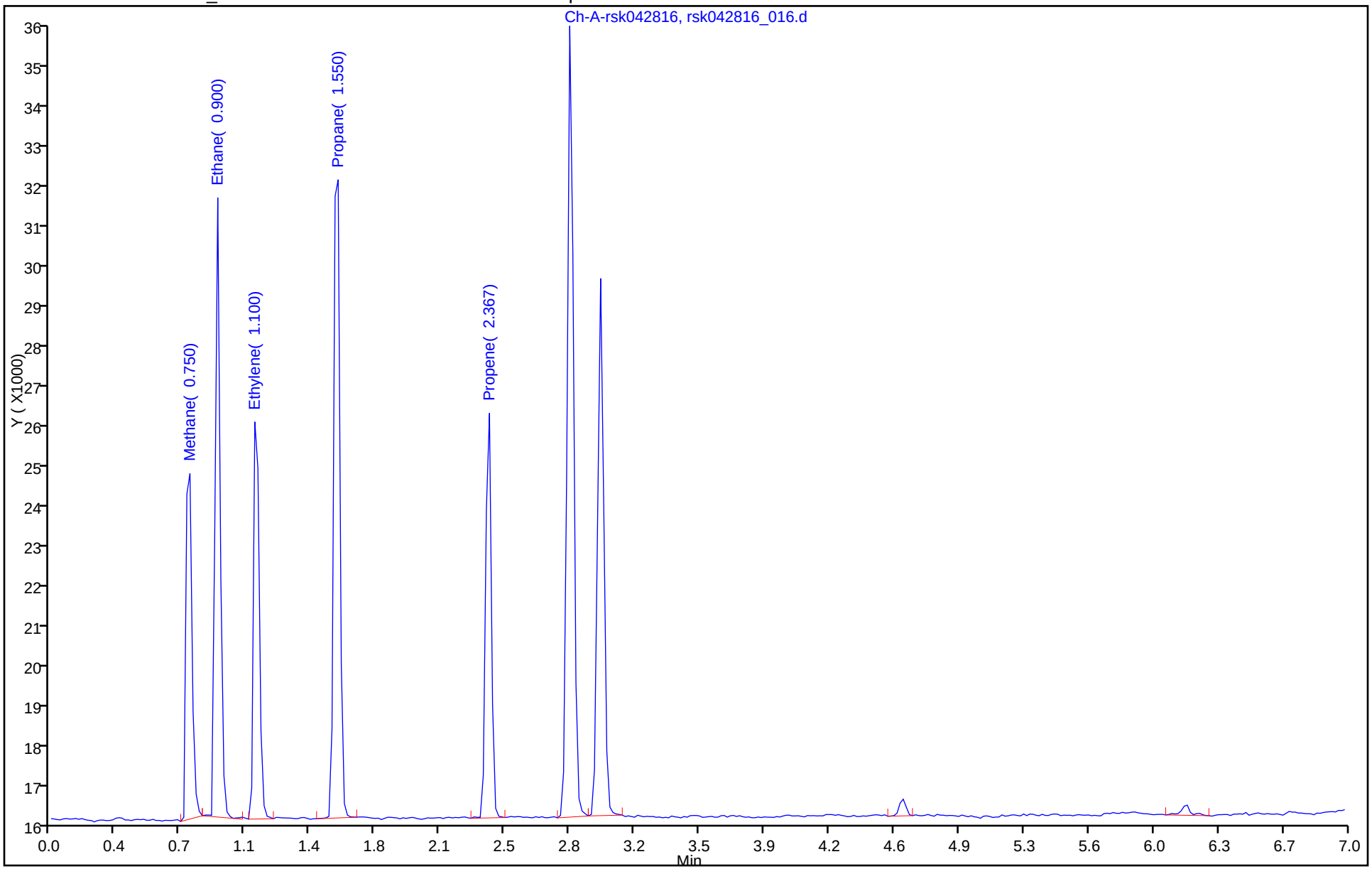
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 29-Apr-2016 10:14:45 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_016.d				
Injection Date:	28-Apr-2016 14:37:42	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129741-C-6 MS			Worklist Smp#:	16
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG No.:
Client Sample ID:
Lab Sample ID: 600-129741-C-6 MSD
Matrix: Water
Lab File ID: rsk042816_017.d
Analysis Method: RSK-175
Date Collected: 04/21/2016 13:05
Sample wt/vol: 1(mL)
Date Analyzed: 04/28/2016 14:49
Soil Aliquot Vol:
Dilution Factor: 1
Soil Extract Vol.:
GC Column: RTX-5 ID: 0.53(mm)
% Moisture:
Level: (low/med) Low
Analysis Batch No.: 187384
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-84-0	Ethane	9.633		2.00	0.303
74-82-8	Methane	6.081		1.00	0.357
74-85-1	Ethylene	9.482		2.00	0.324

TestAmerica Houston
Target Compound Quantitation Report

Data File: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_017.d
Lims ID: 600-129741-C-6 MSD
Client ID:
Sample Type: MSD
Inject. Date: 28-Apr-2016 14:49:38 ALS Bottle#: 0 Worklist Smp#: 17
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: Name: 600-0011814-017
Misc. Info.: Study: RSK-175 User: RSK-175.sub Channel A: I/F Serial#, 5108270234
Operator ID: RSK175.m;010314 Instrument ID: CHFID14

Method: \\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\RSK_CHFID14.m
Limit Group: GCSV - RSK175
Last Update: 29-Apr-2016 10:14:41 Calib Date: 30-Dec-2015 11:43:13
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\ChromNA\Houston\ChromData\CHFID14\20151230-10110.b\rsk123015_008.d

Column 1 : Det: Ch-A-rsk010214
Process Host: XAWRK026

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
4 Methane	0.733	0.733	0.000	19024	5.16	6.08	
2 Ethane	0.900	0.900	0.000	26999	9.70	9.63	
3 Ethylene	1.100	1.100	0.000	19916	9.05	9.48	
5 Propane	1.550	1.550	0.000	33956	14.2	11.4	
1 Propene	2.367	2.367	0.000	19769	13.6	11.0	

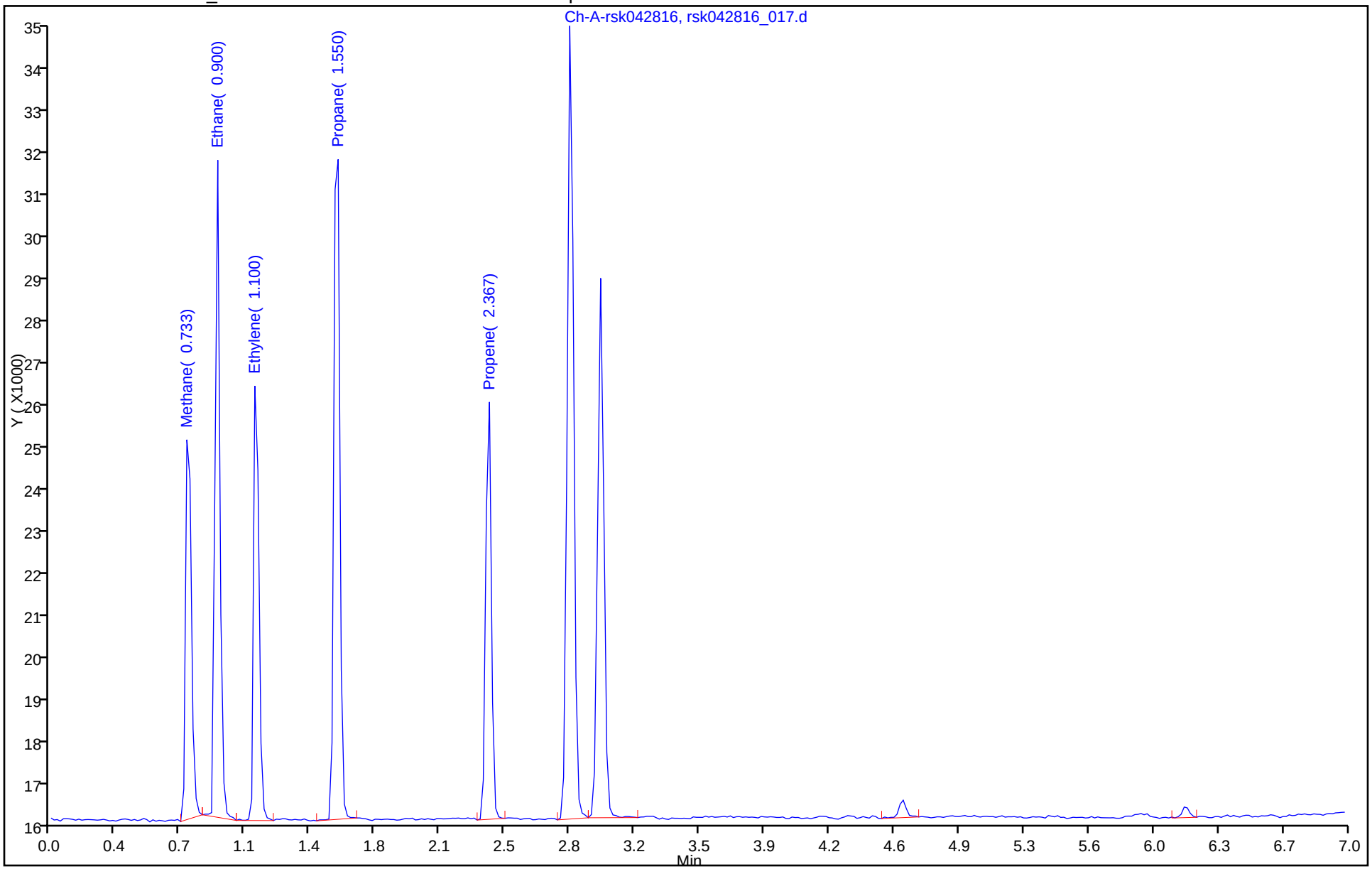
Reagents:

RSK-175 LCS_00017 Amount Added: 1.00 Units: mL

Report Date: 29-Apr-2016 10:14:46 Chrom Revision: 2.2 20-Apr-2016 13:59:46

TestAmerica Houston

Data File:	\\ChromNA\Houston\ChromData\CHFID14\20160428-11814.b\rsk042816_017.d				
Injection Date:	28-Apr-2016 14:49:38	Instrument ID:	CHFID14	Operator ID:	RSK175.m;010314
Lims ID:	600-129741-C-6 MSD			Worklist Smp#:	17
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_CHFID14	Limit Group:	GCSV - RSK175		



GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHFID14 Start Date: 12/30/2015 10:34

Analysis Batch Number: 179490 End Date: 12/31/2015 14:25

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 600-179490/2		12/30/2015 10:34	1	rsk123015_002.d	RTX-5 0.53(mm)
IC 600-179490/3		12/30/2015 10:46	1	rsk123015_003.d	RTX-5 0.53(mm)
ICRT 600-179490/4		12/30/2015 10:57	1	rsk123015_004.d	RTX-5 0.53(mm)
IC 600-179490/5		12/30/2015 11:08	1	rsk123015_005.d	RTX-5 0.53(mm)
IC 600-179490/6		12/30/2015 11:20	1	rsk123015_006.d	RTX-5 0.53(mm)
IC 600-179490/7		12/30/2015 11:32	1	rsk123015_007.d	RTX-5 0.53(mm)
IC 600-179490/8		12/30/2015 11:43	1	rsk123015_008.d	RTX-5 0.53(mm)
ZZZZZ		12/30/2015 12:22	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 12:33	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 13:02	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 13:37	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 13:48	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 13:59	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 14:10	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 14:22	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 14:33	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 14:44	1		RTX-5 0.53(mm)
CCV 600-179490/20		12/30/2015 15:09	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 15:21	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 15:32	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 15:43	1		RTX-5 0.53(mm)
ZZZZZ		12/30/2015 15:55	1		RTX-5 0.53(mm)
CCV 600-179490/25		12/30/2015 16:47	1		RTX-5 0.53(mm)
CCV 600-179490/26		12/31/2015 09:20	1		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 10:27	200		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 10:52	500		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 11:10	500		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 11:33	1000		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 11:50	1000		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 12:01	1000		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 12:12	1000		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 12:28	200		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 12:40	1000		RTX-5 0.53(mm)
CCV 600-179490/36		12/31/2015 12:51	1		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 13:08	1000		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 13:19	50		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 13:30	1000		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 13:42	1000		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 14:02	1000		RTX-5 0.53(mm)
ZZZZZ		12/31/2015 14:14	1000		RTX-5 0.53(mm)
CCV 600-179490/43		12/31/2015 14:25	1		RTX-5 0.53(mm)

RSK-175

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHFID14 Start Date: 04/28/2016 10:54

Analysis Batch Number: 187384 End Date: 04/29/2016 14:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 600-187384/1		04/28/2016 10:54	1	rsk042816_001-20160428-105459.d	RTX-5 0.53(mm)
MB 600-187384/2		04/28/2016 11:05	1	rsk042816_002-20160428-110602.d	RTX-5 0.53(mm)
LCS 600-187384/3		04/28/2016 11:38	1	rsk042816_003-20160428-113856.d	RTX-5 0.53(mm)
ZZZZZ		04/28/2016 11:51	1		RTX-5 0.53(mm)
ZZZZZ		04/28/2016 12:02	1		RTX-5 0.53(mm)
ZZZZZ		04/28/2016 12:14	1		RTX-5 0.53(mm)
ZZZZZ		04/28/2016 12:32	1		RTX-5 0.53(mm)
ZZZZZ		04/28/2016 12:43	1		RTX-5 0.53(mm)
ZZZZZ		04/28/2016 12:54	1		RTX-5 0.53(mm)
ZZZZZ		04/28/2016 13:06	1		RTX-5 0.53(mm)
ZZZZZ		04/28/2016 13:31	1		RTX-5 0.53(mm)
CCV 600-187384/12		04/28/2016 13:42	1	rsk042816_012.d	RTX-5 0.53(mm)
ZZZZZ		04/28/2016 13:54	1		RTX-5 0.53(mm)
ZZZZZ		04/28/2016 14:05	1		RTX-5 0.53(mm)
ZZZZZ		04/28/2016 14:17	1		RTX-5 0.53(mm)
600-129741-C-6 MS		04/28/2016 14:37	1	rsk042816_016.d	RTX-5 0.53(mm)
600-129741-C-6 MSD		04/28/2016 14:49	1	rsk042816_017.d	RTX-5 0.53(mm)
ZZZZZ		04/28/2016 15:00	1		RTX-5 0.53(mm)
ZZZZZ		04/28/2016 15:15	1		RTX-5 0.53(mm)
600-129836-3		04/28/2016 15:26	1	rsk042816_020.d	RTX-5 0.53(mm)
600-129836-4		04/28/2016 15:38	1	rsk042816_021.d	RTX-5 0.53(mm)
600-129836-5		04/28/2016 15:49	1	rsk042816_022.d	RTX-5 0.53(mm)
CCV 600-187384/23		04/28/2016 16:15	1	rsk042816_023-20160428-161526.d	RTX-5 0.53(mm)
600-129836-6		04/28/2016 16:27	1	rsk042816_024.d	RTX-5 0.53(mm)
600-129836-7		04/28/2016 16:38	1	rsk042816_025.d	RTX-5 0.53(mm)
600-129836-8		04/28/2016 16:49	1	rsk042816_026.d	RTX-5 0.53(mm)
CCV 600-187384/27		04/28/2016 17:48	1	rsk042816_027-20160428-174855.d	RTX-5 0.53(mm)
CCV 600-187384/28		04/29/2016 08:58	1	rsk042816_028.d	RTX-5 0.53(mm)
ZZZZZ		04/29/2016 09:16	1000		RTX-5 0.53(mm)
ZZZZZ		04/29/2016 09:26	1000		RTX-5 0.53(mm)
ZZZZZ		04/29/2016 09:38	500		RTX-5 0.53(mm)
ZZZZZ		04/29/2016 09:55	1000		RTX-5 0.53(mm)
ZZZZZ		04/29/2016 10:08	1000		RTX-5 0.53(mm)
ZZZZZ		04/29/2016 10:20	1000		RTX-5 0.53(mm)
ZZZZZ		04/29/2016 10:31	10		RTX-5 0.53(mm)
ZZZZZ		04/29/2016 10:42	1000		RTX-5 0.53(mm)
ZZZZZ		04/29/2016 11:10	200		RTX-5 0.53(mm)
ZZZZZ		04/29/2016 11:27	200		RTX-5 0.53(mm)
CCV 600-187384/39		04/29/2016 11:40	1	rsk042816_039.d	RTX-5 0.53(mm)

RSK-175

GC VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: CHFID14 Start Date: 04/28/2016 10:54

Analysis Batch Number: 187384 End Date: 04/29/2016 14:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
600-129836-3		04/29/2016 11:53	1000	rsk042816_040.d	RTX-5 0.53(mm)
600-129836-4		04/29/2016 13:22	500	rsk042816_041.d	RTX-5 0.53(mm)
600-129836-5		04/29/2016 13:38	1000	rsk042816_042.d	RTX-5 0.53(mm)
600-129836-7		04/29/2016 13:49	500	rsk042816_043.d	RTX-5 0.53(mm)
CCV 600-187384/44		04/29/2016 14:01	1	rsk042816_044.d	RTX-5 0.53(mm)

RSK-175

METALS

COVER PAGE
METALS

Lab Name: TestAmerica Pittsburgh Job Number: 600-129836-1

SDG No.:

Project: Jones Road Groundwater Plume

Client Sample ID	Lab Sample ID
ER-4	600-129836-1
FB-4	600-129836-2
MW-01	600-129836-3
MW-02-DUP	600-129836-4
MW-02	600-129836-5
MW-03	600-129836-6
MW-20	600-129836-7
MW-21	600-129836-8

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: ER-4
Lab Sample ID: 600-129836-1
Lab Name: TestAmerica Pittsburgh
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 11:25
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum, Dissolved	2.57	30.0	2.57	ug/L	U		1	6020A
7440-38-2	Arsenic, Dissolved	0.291	1.00	0.291	ug/L	U		1	6020A
7440-39-3	Barium, Dissolved	0.276	10.0	0.0980	ug/L	J		1	6020A
7440-41-7	Beryllium, Dissolved	0.0367	1.00	0.0367	ug/L	U		1	6020A
7440-43-9	Cadmium, Dissolved	0.114	1.00	0.114	ug/L	U		1	6020A
7440-70-2	Calcium, Dissolved	21.5	500	2.84	ug/L	J		1	6020A
7440-47-3	Chromium, Dissolved	0.982	2.00	0.543	ug/L	J		1	6020A
7440-48-4	Cobalt, Dissolved	0.0900	0.500	0.0263	ug/L	J		1	6020A
7440-50-8	Copper, Dissolved	0.685	2.00	0.244	ug/L	J		1	6020A
7439-89-6	Iron, Dissolved	6.09	50.0	6.09	ug/L	U		1	6020A
7440-22-4	Silver, Dissolved	0.0362	1.00	0.0362	ug/L	U		1	6020A
7440-09-7	Potassium, Dissolved	30.2	500	5.82	ug/L	J		1	6020A
7439-95-4	Magnesium, Dissolved	2.43	500	1.17	ug/L	J		1	6020A
7439-96-5	Manganese, Dissolved	0.469	5.00	0.0389	ug/L	J	B	1	6020A
7440-23-5	Sodium, Dissolved	41.1	500	3.81	ug/L	J		1	6020A
7440-02-0	Nickel, Dissolved	0.461	1.00	0.175	ug/L	J		1	6020A
7439-92-1	Lead, Dissolved	0.0192	1.00	0.0192	ug/L	U		1	6020A
7440-36-0	Antimony, Dissolved	2.28	2.00	0.0187	ug/L			1	6020A
7782-49-2	Selenium, Dissolved	0.422	5.00	0.422	ug/L	U		1	6020A
7440-28-0	Thallium, Dissolved	0.0152	1.00	0.0152	ug/L	U		1	6020A
7440-62-2	Vanadium, Dissolved	0.305	1.00	0.0824	ug/L	J		1	6020A
7440-66-6	Zinc, Dissolved	6.12	5.00	0.961	ug/L			1	6020A
7439-97-6	Mercury, Dissolved	0.0521	0.200	0.0521	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: FB-4
Lab Sample ID: 600-129836-2
Lab Name: TestAmerica Pittsburgh
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 11:15
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum, Dissolved	2.57	30.0	2.57	ug/L	U		1	6020A
7440-38-2	Arsenic, Dissolved	0.291	1.00	0.291	ug/L	U		1	6020A
7440-39-3	Barium, Dissolved	0.124	10.0	0.0980	ug/L	J		1	6020A
7440-41-7	Beryllium, Dissolved	0.0367	1.00	0.0367	ug/L	U		1	6020A
7440-43-9	Cadmium, Dissolved	0.114	1.00	0.114	ug/L	U		1	6020A
7440-70-2	Calcium, Dissolved	2.84	500	2.84	ug/L	U		1	6020A
7440-47-3	Chromium, Dissolved	0.681	2.00	0.543	ug/L	J		1	6020A
7440-48-4	Cobalt, Dissolved	0.0750	0.500	0.0263	ug/L	J		1	6020A
7440-50-8	Copper, Dissolved	0.278	2.00	0.244	ug/L	J		1	6020A
7439-89-6	Iron, Dissolved	6.09	50.0	6.09	ug/L	U		1	6020A
7440-22-4	Silver, Dissolved	0.0362	1.00	0.0362	ug/L	U		1	6020A
7440-09-7	Potassium, Dissolved	5.82	500	5.82	ug/L	U		1	6020A
7439-95-4	Magnesium, Dissolved	1.17	500	1.17	ug/L	U		1	6020A
7439-96-5	Manganese, Dissolved	0.165	5.00	0.0389	ug/L	J	B	1	6020A
7440-23-5	Sodium, Dissolved	5.01	500	3.81	ug/L	J		1	6020A
7440-02-0	Nickel, Dissolved	0.175	1.00	0.175	ug/L	U		1	6020A
7439-92-1	Lead, Dissolved	0.0192	1.00	0.0192	ug/L	U		1	6020A
7440-36-0	Antimony, Dissolved	0.732	2.00	0.0187	ug/L	J		1	6020A
7782-49-2	Selenium, Dissolved	0.422	5.00	0.422	ug/L	U		1	6020A
7440-28-0	Thallium, Dissolved	0.0152	1.00	0.0152	ug/L	U		1	6020A
7440-62-2	Vanadium, Dissolved	0.182	1.00	0.0824	ug/L	J		1	6020A
7440-66-6	Zinc, Dissolved	0.961	5.00	0.961	ug/L	U		1	6020A
7439-97-6	Mercury, Dissolved	0.0521	0.200	0.0521	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-01
Lab Sample ID: 600-129836-3
Lab Name: TestAmerica Pittsburgh
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 09:05
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum, Dissolved	2.57	30.0	2.57	ug/L	U		1	6020A
7440-38-2	Arsenic, Dissolved	129	1.00	0.291	ug/L			1	6020A
7440-39-3	Barium, Dissolved	47.3	10.0	0.0980	ug/L			1	6020A
7440-41-7	Beryllium, Dissolved	0.0367	1.00	0.0367	ug/L	U		1	6020A
7440-43-9	Cadmium, Dissolved	0.114	1.00	0.114	ug/L	U		1	6020A
7440-70-2	Calcium, Dissolved	208000	500	2.84	ug/L			1	6020A
7440-47-3	Chromium, Dissolved	0.561	2.00	0.543	ug/L	J		1	6020A
7440-48-4	Cobalt, Dissolved	25.2	0.500	0.0263	ug/L			1	6020A
7440-50-8	Copper, Dissolved	0.417	2.00	0.244	ug/L	J		1	6020A
7439-89-6	Iron, Dissolved	40900	50.0	6.09	ug/L			1	6020A
7440-22-4	Silver, Dissolved	0.0362	1.00	0.0362	ug/L	U		1	6020A
7440-09-7	Potassium, Dissolved	275000	500	5.82	ug/L			1	6020A
7439-95-4	Magnesium, Dissolved	37500	500	1.17	ug/L			1	6020A
7439-96-5	Manganese, Dissolved	2200	5.00	0.0389	ug/L		B	1	6020A
7440-23-5	Sodium, Dissolved	147000	500	3.81	ug/L			1	6020A
7440-02-0	Nickel, Dissolved	23.8	1.00	0.175	ug/L			1	6020A
7439-92-1	Lead, Dissolved	0.0192	1.00	0.0192	ug/L	U		1	6020A
7440-36-0	Antimony, Dissolved	0.931	2.00	0.0187	ug/L	J		1	6020A
7782-49-2	Selenium, Dissolved	0.422	5.00	0.422	ug/L	U		1	6020A
7440-28-0	Thallium, Dissolved	0.0152	1.00	0.0152	ug/L	U		1	6020A
7440-62-2	Vanadium, Dissolved	0.684	1.00	0.0824	ug/L	J		1	6020A
7440-66-6	Zinc, Dissolved	2.89	5.00	0.961	ug/L	J		1	6020A
7439-97-6	Mercury, Dissolved	0.0521	0.200	0.0521	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-02-DUP
Lab Sample ID: 600-129836-4
Lab Name: TestAmerica Pittsburgh
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 15:25
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum, Dissolved	6.13	30.0	2.57	ug/L	J		1	6020A
7440-38-2	Arsenic, Dissolved	26.2	1.00	0.291	ug/L			1	6020A
7440-39-3	Barium, Dissolved	20.1	10.0	0.0980	ug/L			1	6020A
7440-41-7	Beryllium, Dissolved	0.0367	1.00	0.0367	ug/L	U		1	6020A
7440-43-9	Cadmium, Dissolved	0.114	1.00	0.114	ug/L	U		1	6020A
7440-70-2	Calcium, Dissolved	47800	500	2.84	ug/L			1	6020A
7440-47-3	Chromium, Dissolved	1.10	2.00	0.543	ug/L	J		1	6020A
7440-48-4	Cobalt, Dissolved	12.1	0.500	0.0263	ug/L			1	6020A
7440-50-8	Copper, Dissolved	1.59	2.00	0.244	ug/L	J		1	6020A
7439-89-6	Iron, Dissolved	7100	50.0	6.09	ug/L			1	6020A
7440-22-4	Silver, Dissolved	0.0362	1.00	0.0362	ug/L	U		1	6020A
7440-09-7	Potassium, Dissolved	34100	500	5.82	ug/L			1	6020A
7439-95-4	Magnesium, Dissolved	6890	500	1.17	ug/L			1	6020A
7439-96-5	Manganese, Dissolved	1180	5.00	0.0389	ug/L		B	1	6020A
7440-23-5	Sodium, Dissolved	53900	500	3.81	ug/L			1	6020A
7440-02-0	Nickel, Dissolved	7.23	1.00	0.175	ug/L			1	6020A
7439-92-1	Lead, Dissolved	0.0200	1.00	0.0192	ug/L	J		1	6020A
7440-36-0	Antimony, Dissolved	0.830	2.00	0.0187	ug/L	J		1	6020A
7782-49-2	Selenium, Dissolved	0.422	5.00	0.422	ug/L	U		1	6020A
7440-28-0	Thallium, Dissolved	0.0152	1.00	0.0152	ug/L	U		1	6020A
7440-62-2	Vanadium, Dissolved	0.696	1.00	0.0824	ug/L	J		1	6020A
7440-66-6	Zinc, Dissolved	9.31	5.00	0.961	ug/L			1	6020A
7439-97-6	Mercury, Dissolved	0.0521	0.200	0.0521	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-02
Lab Sample ID: 600-129836-5
Lab Name: TestAmerica Pittsburgh
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 15:25
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum, Dissolved	9.38	30.0	2.57	ug/L	J		1	6020A
7440-38-2	Arsenic, Dissolved	37.0	1.00	0.291	ug/L			1	6020A
7440-39-3	Barium, Dissolved	21.7	10.0	0.0980	ug/L			1	6020A
7440-41-7	Beryllium, Dissolved	0.0367	1.00	0.0367	ug/L	U		1	6020A
7440-43-9	Cadmium, Dissolved	0.114	1.00	0.114	ug/L	U		1	6020A
7440-70-2	Calcium, Dissolved	52300	500	2.84	ug/L			1	6020A
7440-47-3	Chromium, Dissolved	1.19	2.00	0.543	ug/L	J		1	6020A
7440-48-4	Cobalt, Dissolved	12.6	0.500	0.0263	ug/L			1	6020A
7440-50-8	Copper, Dissolved	1.98	2.00	0.244	ug/L	J		1	6020A
7439-89-6	Iron, Dissolved	8740	50.0	6.09	ug/L			1	6020A
7440-22-4	Silver, Dissolved	0.0362	1.00	0.0362	ug/L	U		1	6020A
7440-09-7	Potassium, Dissolved	37600	500	5.82	ug/L			1	6020A
7439-95-4	Magnesium, Dissolved	7420	500	1.17	ug/L			1	6020A
7439-96-5	Manganese, Dissolved	1250	5.00	0.0389	ug/L		B	1	6020A
7440-23-5	Sodium, Dissolved	53400	500	3.81	ug/L			1	6020A
7440-02-0	Nickel, Dissolved	7.49	1.00	0.175	ug/L			1	6020A
7439-92-1	Lead, Dissolved	0.0970	1.00	0.0192	ug/L	J		1	6020A
7440-36-0	Antimony, Dissolved	0.808	2.00	0.0187	ug/L	J		1	6020A
7782-49-2	Selenium, Dissolved	0.422	5.00	0.422	ug/L	U		1	6020A
7440-28-0	Thallium, Dissolved	0.0152	1.00	0.0152	ug/L	U		1	6020A
7440-62-2	Vanadium, Dissolved	0.0824	1.00	0.0824	ug/L	U		1	6020A
7440-66-6	Zinc, Dissolved	6.44	5.00	0.961	ug/L			1	6020A
7439-97-6	Mercury, Dissolved	0.0521	0.200	0.0521	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-03
Lab Sample ID: 600-129836-6
Lab Name: TestAmerica Pittsburgh
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 16:50
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum, Dissolved	39.1	30.0	2.57	ug/L			1	6020A
7440-38-2	Arsenic, Dissolved	13.9	1.00	0.291	ug/L			1	6020A
7440-39-3	Barium, Dissolved	348	10.0	0.0980	ug/L			1	6020A
7440-41-7	Beryllium, Dissolved	0.0367	1.00	0.0367	ug/L	U		1	6020A
7440-43-9	Cadmium, Dissolved	0.610	1.00	0.114	ug/L	J		1	6020A
7440-70-2	Calcium, Dissolved	133000	500	2.84	ug/L			1	6020A
7440-47-3	Chromium, Dissolved	2.03	2.00	0.543	ug/L			1	6020A
7440-48-4	Cobalt, Dissolved	2.49	0.500	0.0263	ug/L			1	6020A
7440-50-8	Copper, Dissolved	5.75	2.00	0.244	ug/L			1	6020A
7439-89-6	Iron, Dissolved	87.2	50.0	6.09	ug/L			1	6020A
7440-22-4	Silver, Dissolved	0.0362	1.00	0.0362	ug/L	U		1	6020A
7440-09-7	Potassium, Dissolved	5260	500	5.82	ug/L			1	6020A
7439-95-4	Magnesium, Dissolved	15100	500	1.17	ug/L			1	6020A
7439-96-5	Manganese, Dissolved	15.0	5.00	0.0389	ug/L		B	1	6020A
7440-23-5	Sodium, Dissolved	60300	500	3.81	ug/L			1	6020A
7440-02-0	Nickel, Dissolved	8.93	1.00	0.175	ug/L			1	6020A
7439-92-1	Lead, Dissolved	0.161	1.00	0.0192	ug/L	J		1	6020A
7440-36-0	Antimony, Dissolved	0.456	2.00	0.0187	ug/L	J		1	6020A
7782-49-2	Selenium, Dissolved	1.83	5.00	0.422	ug/L	J		1	6020A
7440-28-0	Thallium, Dissolved	0.0152	1.00	0.0152	ug/L	U		1	6020A
7440-62-2	Vanadium, Dissolved	5.05	1.00	0.0824	ug/L			1	6020A
7440-66-6	Zinc, Dissolved	303	5.00	0.961	ug/L			1	6020A
7439-97-6	Mercury, Dissolved	0.0521	0.200	0.0521	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-20
Lab Sample ID: 600-129836-7
Lab Name: TestAmerica Pittsburgh
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 14:00
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum, Dissolved	2.57	30.0	2.57	ug/L	U		1	6020A
7440-38-2	Arsenic, Dissolved	12.7	1.00	0.291	ug/L			1	6020A
7440-39-3	Barium, Dissolved	1030	10.0	0.0980	ug/L			1	6020A
7440-41-7	Beryllium, Dissolved	0.0367	1.00	0.0367	ug/L	U		1	6020A
7440-43-9	Cadmium, Dissolved	0.114	1.00	0.114	ug/L	U		1	6020A
7440-70-2	Calcium, Dissolved	136000	500	2.84	ug/L			1	6020A
7440-47-3	Chromium, Dissolved	1.17	2.00	0.543	ug/L	J		1	6020A
7440-48-4	Cobalt, Dissolved	2.07	0.500	0.0263	ug/L			1	6020A
7440-50-8	Copper, Dissolved	7.16	2.00	0.244	ug/L			1	6020A
7439-89-6	Iron, Dissolved	6.09	50.0	6.09	ug/L	U		1	6020A
7440-22-4	Silver, Dissolved	0.0362	1.00	0.0362	ug/L	U		1	6020A
7440-09-7	Potassium, Dissolved	426	500	5.82	ug/L	J		1	6020A
7439-95-4	Magnesium, Dissolved	14300	500	1.17	ug/L			1	6020A
7439-96-5	Manganese, Dissolved	113	5.00	0.0389	ug/L		B	1	6020A
7440-23-5	Sodium, Dissolved	54600	500	3.81	ug/L			1	6020A
7440-02-0	Nickel, Dissolved	2.27	1.00	0.175	ug/L			1	6020A
7439-92-1	Lead, Dissolved	0.0192	1.00	0.0192	ug/L	U		1	6020A
7440-36-0	Antimony, Dissolved	0.238	2.00	0.0187	ug/L	J		1	6020A
7782-49-2	Selenium, Dissolved	0.422	5.00	0.422	ug/L	U		1	6020A
7440-28-0	Thallium, Dissolved	0.0152	1.00	0.0152	ug/L	U		1	6020A
7440-62-2	Vanadium, Dissolved	2.26	1.00	0.0824	ug/L			1	6020A
7440-66-6	Zinc, Dissolved	24.2	5.00	0.961	ug/L			1	6020A
7439-97-6	Mercury, Dissolved	0.0521	0.200	0.0521	ug/L	U		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-21
Lab Sample ID: 600-129836-8
Lab Name: TestAmerica Pittsburgh
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 10:55
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7429-90-5	Aluminum, Dissolved	11.1	30.0	2.57	ug/L	J		1	6020A
7440-38-2	Arsenic, Dissolved	8.84	1.00	0.291	ug/L			1	6020A
7440-39-3	Barium, Dissolved	1070	10.0	0.0980	ug/L			1	6020A
7440-41-7	Beryllium, Dissolved	0.0367	1.00	0.0367	ug/L	U		1	6020A
7440-43-9	Cadmium, Dissolved	0.114	1.00	0.114	ug/L	U		1	6020A
7440-70-2	Calcium, Dissolved	130000	500	2.84	ug/L			1	6020A
7440-47-3	Chromium, Dissolved	1.69	2.00	0.543	ug/L	J		1	6020A
7440-48-4	Cobalt, Dissolved	1.12	0.500	0.0263	ug/L			1	6020A
7440-50-8	Copper, Dissolved	17.2	2.00	0.244	ug/L			1	6020A
7439-89-6	Iron, Dissolved	15.6	50.0	6.09	ug/L	J		1	6020A
7440-22-4	Silver, Dissolved	0.0362	1.00	0.0362	ug/L	U		1	6020A
7440-09-7	Potassium, Dissolved	362	500	5.82	ug/L	J		1	6020A
7439-95-4	Magnesium, Dissolved	13200	500	1.17	ug/L			1	6020A
7439-96-5	Manganese, Dissolved	571	5.00	0.0389	ug/L		B	1	6020A
7440-23-5	Sodium, Dissolved	43700	500	3.81	ug/L			1	6020A
7440-02-0	Nickel, Dissolved	3.09	1.00	0.175	ug/L			1	6020A
7439-92-1	Lead, Dissolved	0.0192	1.00	0.0192	ug/L	U		1	6020A
7440-36-0	Antimony, Dissolved	0.158	2.00	0.0187	ug/L	J		1	6020A
7782-49-2	Selenium, Dissolved	3.45	5.00	0.422	ug/L	J		1	6020A
7440-28-0	Thallium, Dissolved	0.0152	1.00	0.0152	ug/L	U		1	6020A
7440-62-2	Vanadium, Dissolved	4.31	1.00	0.0824	ug/L			1	6020A
7440-66-6	Zinc, Dissolved	20.5	5.00	0.961	ug/L			1	6020A
7439-97-6	Mercury, Dissolved	0.0521	0.200	0.0521	ug/L	U		1	7470A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

ICV Source: MICVX_00044 Concentration Units: ug/L

CCV Source: MCCV1X_00088

Analyte	ICV 180-175736/5 05/09/2016 13:30				CCV 180-175736/11 05/09/2016 13:58				CCV 180-175736/47 05/09/2016 16:52			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum, Dissolved	393.6		400	98	455.8		500	91	484.3		500	97
Antimony, Dissolved	80.90		80.0	101	95.07		100	95	97.38		100	97
Arsenic, Dissolved	80.12		80.0	100	96.92		100	97	100.9		100	101
Barium, Dissolved	80.10		80.0	100	92.29		100	92	95.22		100	95
Beryllium, Dissolved	76.60		80.0	96	102.4		100	102	93.97		100	94
Cadmium, Dissolved	82.43		80.0	103	98.80		100	99	98.18		100	98
Calcium, Dissolved	38070		40000	95	48420		50000	97	46790		50000	94
Chromium, Dissolved	83.14		80.0	104	103.4		100	103	99.69		100	100
Cobalt, Dissolved	81.54		80.0	102	98.95		100	99	99.48		100	99
Copper, Dissolved	81.76		80.0	102	98.80		100	99	103.0		100	103
Iron, Dissolved	20240		20000	101	25660		25000	103	25280		25000	101
Lead, Dissolved	79.47		80.0	99	99.22		100	99	99.27		100	99
Magnesium, Dissolved	38830		40000	97	45950		50000	92	49000		50000	98
Manganese, Dissolved	394.0		400	99	486.3		500	97	485.8		500	97
Nickel, Dissolved	82.42		80.0	103	100.4		100	100	101.2		100	101
Potassium, Dissolved	37600		40000	94	47140		50000	94	47040		50000	94
Selenium, Dissolved	79.84		80.0	100	100.8		100	101	103.0		100	103
Silver, Dissolved	82.29		80.0	103	96.28		100	96	97.29		100	97
Sodium, Dissolved	38650		40000	97	48600		50000	97	48270		50000	97
Thallium, Dissolved	83.41		80.0	104	98.98		100	99	101.9		100	102
Vanadium, Dissolved	80.75		80.0	101	101.6		100	102	97.20		100	97
Zinc, Dissolved	87.16		80.0	109	106.7		100	107	103.9		100	104

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

ICV Source: MICVX_00044 Concentration Units: ug/L

CCV Source: MCCV1X_00088

Analyte	CCV 180-175736/59 05/09/2016 17:53				CCV 180-175736/71 05/09/2016 18:50				CCV 180-175736/83 05/09/2016 19:47			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum, Dissolved	484.6		500	97	492.7		500	99	517.9		500	104
Antimony, Dissolved	91.23		100	91	94.41		100	94	92.90		100	93
Arsenic, Dissolved	98.24		100	98	98.34		100	98	96.85		100	97
Barium, Dissolved	93.33		100	93	94.95		100	95	93.92		100	94
Beryllium, Dissolved	101.8		100	102	108.1		100	108	109.6		100	110
Cadmium, Dissolved	96.70		100	97	99.49		100	99	98.88		100	99
Calcium, Dissolved	48040		50000	96	49210		50000	98	49130		50000	98
Chromium, Dissolved	97.24		100	97	96.63		100	97	94.89		100	95
Cobalt, Dissolved	94.18		100	94	93.43		100	93	92.30		100	92
Copper, Dissolved	99.78		100	100	98.69		100	99	96.87		100	97
Iron, Dissolved	24310		25000	97	24200		25000	97	24160		25000	97
Lead, Dissolved	100.4		100	100	98.13		100	98	97.48		100	97
Magnesium, Dissolved	49910		50000	100	50840		50000	102	51860		50000	104
Manganese, Dissolved	486.6		500	97	485.8		500	97	481.9		500	96
Nickel, Dissolved	96.96		100	97	95.57		100	96	93.75		100	94
Potassium, Dissolved	49260		50000	99	49260		50000	99	50320		50000	101
Selenium, Dissolved	102.3		100	102	103.0		100	103	101.5		100	102
Silver, Dissolved	96.86		100	97	96.94		100	97	96.10		100	96
Sodium, Dissolved	51160		50000	102	52090		50000	104	54130		50000	108
Thallium, Dissolved	102.7		100	103	99.77		100	100	99.00		100	99
Vanadium, Dissolved	97.10		100	97	95.93		100	96	94.22		100	94
Zinc, Dissolved	100.4		100	100	100.7		100	101	99.46		100	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

ICV Source: MHgWorkingicv_01245 Concentration Units: ug/L

CCV Source: MHgworkingCal_01276

Analyte	ICV 180-174702/7-A 04/28/2016 12:27				CCV 180-174702/10-A 04/28/2016 13:43				CCV 180-174702/10-A 04/28/2016 14:07			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury, Dissolved	2.539		2.50	102	5.075		5.00	101	4.979		5.00	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

ICV Source: MHgWorkingicv_01245 Concentration Units: ug/L

CCV Source: MHgworkingCal_01276

Analyte	CCV 180-174702/10-A 04/28/2016 14:30											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury, Dissolved	4.770		5.00	95								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Method: 6020A Instrument ID: M

Lab Sample ID: CRI 180-175736/7 Concentration Units: ug/L

CRQL Check Standard Source: MCRIX_00082

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum, Dissolved	30.0	27.59	J	92	70-130
Arsenic, Dissolved	1.00	1.035		104	70-130
Barium, Dissolved	10.0	8.509	J	85	70-130
Cadmium, Dissolved	1.00	0.9270	J	93	70-130
Calcium, Dissolved	500	447.6	J	90	70-130
Chromium, Dissolved	2.00	2.047		102	70-130
Cobalt, Dissolved	0.500	0.5183		104	70-130
Copper, Dissolved	2.00	2.168		108	70-130
Iron, Dissolved	50.0	53.57		107	70-130
Silver, Dissolved	1.00	0.9350	J	94	70-130
Potassium, Dissolved	500	477.6	J	96	70-130
Magnesium, Dissolved	500	465.6	J	93	70-130
Manganese, Dissolved	5.00	4.871	J	97	70-130
Sodium, Dissolved	500	359.9	J	72	70-130
Nickel, Dissolved	1.00	1.077		108	70-130
Lead, Dissolved	1.00	0.8430	J	84	70-130
Antimony, Dissolved	2.00	1.724	J	86	70-130
Selenium, Dissolved	5.00	5.351		107	70-130
Thallium, Dissolved	1.00	0.9130	J	91	70-130
Vanadium, Dissolved	1.00	0.9177	J	92	70-130
Zinc, Dissolved	5.00	5.972		119	70-130

Lab Sample ID: CRI 180-175736/8 Concentration Units: ug/L

CRQL Check Standard Source: MCRIX_00082

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Beryllium, Dissolved	1.00	0.9363	J	94	70-130

Lab Sample ID: CRI 180-175736/93 Concentration Units: ug/L

CRQL Check Standard Source: MCRIX_00082

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Method: 6020A Instrument ID: M

Lab Sample ID: CRI 180-175736/93 Concentration Units: ug/L

CRQL Check Standard Source: MCRIX_00082

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum, Dissolved	30.0	27.65	J	92	70-130
Arsenic, Dissolved	1.00	1.010		101	70-130
Barium, Dissolved	10.0	8.576	J	86	70-130
Beryllium, Dissolved	1.00	0.9690	J	97	70-130
Cadmium, Dissolved	1.00	0.7790	J	78	70-130
Calcium, Dissolved	500	439.0	J	88	70-130
Chromium, Dissolved	2.00	2.063		103	70-130
Cobalt, Dissolved	0.500	0.5077		102	70-130
Copper, Dissolved	2.00	2.178		109	70-130
Iron, Dissolved	50.0	52.85		106	70-130
Silver, Dissolved	1.00	0.8740	J	87	70-130
Potassium, Dissolved	500	453.3	J	91	70-130
Magnesium, Dissolved	500	471.2	J	94	70-130
Manganese, Dissolved	5.00	4.858	J	97	70-130
Sodium, Dissolved	500	380.7	J	76	70-130
Nickel, Dissolved	1.00	1.009		101	70-130
Lead, Dissolved	1.00	0.9010	J	90	70-130
Antimony, Dissolved	2.00	1.771	J	89	70-130
Selenium, Dissolved	5.00	5.000		100	70-130
Thallium, Dissolved	1.00	0.8460	J	85	70-130
Vanadium, Dissolved	1.00	0.9503	J	95	70-130
Zinc, Dissolved	5.00	5.601		112	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Method: 7470A Instrument ID: K

Lab Sample ID: CRA 180-174702/9-A Concentration Units: ug/L

CRQL Check Standard Source: MHgworkingCal_01276

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury, Dissolved	0.200	0.2221		111	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 180-175736/6 05/09/2016 13:35		CCB1 180-175736/12 05/09/2016 14:03		CCB4 180-175736/48 05/09/2016 16:57		CCB5 180-175736/60 05/09/2016 17:58	
		Found	C	Found	C	Found	C	Found	C
Aluminum, Dissolved	30.0	2.57	U	2.57	U	2.57	U	2.57	U
Antimony, Dissolved	2.00	0.0187	U	0.08700	J	0.3630	J	0.1320	J
Arsenic, Dissolved	1.00	0.291	U	0.291	U	0.291	U	0.291	U
Barium, Dissolved	10.0	0.0980	U	0.0980	U	0.0980	U	0.0980	U
Beryllium, Dissolved	1.00	0.0367	U	0.0367	U	0.0367	U	0.0367	U
Cadmium, Dissolved	1.00	0.114	U	0.114	U	0.114	U	0.114	U
Calcium, Dissolved	500	2.955	J	4.413	J	6.676	J	8.531	J
Chromium, Dissolved	2.00	0.543	U	0.543	U	0.543	U	0.543	U
Cobalt, Dissolved	0.500	0.0263	U	0.0263	U	0.0263	U	0.0263	U
Copper, Dissolved	2.00	0.244	U	0.244	U	0.244	U	0.244	U
Iron, Dissolved	50.0	6.09	U	11.55	J	8.239	J	8.983	J
Lead, Dissolved	1.00	0.0192	U	0.04000	J	0.0192	U	0.0192	U
Magnesium, Dissolved	500	3.521	J	4.661	J	6.344	J	7.427	J
Manganese, Dissolved	5.00	0.0389	U	0.0389	U	0.04700	J	0.06200	J
Nickel, Dissolved	1.00	0.175	U	0.175	U	0.175	U	0.175	U
Potassium, Dissolved	500	12.01	J	15.76	J	5.82	U	7.570	J
Selenium, Dissolved	5.00	0.422	U	0.422	U	0.422	U	0.422	U
Silver, Dissolved	1.00	0.0362	U	0.0362	U	0.0362	U	0.0362	U
Sodium, Dissolved	500	9.458	J	14.29	J	3.81	U	4.010	J
Thallium, Dissolved	1.00	0.0152	U	0.0152	U	0.03300	J	0.0152	U
Vanadium, Dissolved	1.00	0.0824	U	0.0824	U	0.0824	U	0.0824	U
Zinc, Dissolved	5.00	0.961	U	0.961	U	0.961	U	0.961	U

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB6 180-175736/72 05/09/2016 18:54		CCB7 180-175736/84 05/09/2016 19:51					
		Found	C	Found	C	Found	C	Found	C
Aluminum, Dissolved	30.0	2.57	U	2.57	U				
Antimony, Dissolved	2.00	0.08800	J	0.09200	J				
Arsenic, Dissolved	1.00	0.291	U	0.291	U				
Barium, Dissolved	10.0	0.0980	U	0.0980	U				
Beryllium, Dissolved	1.00	0.0367	U	0.0367	U				
Cadmium, Dissolved	1.00	0.114	U	0.114	U				
Calcium, Dissolved	500	8.595	J	9.582	J				
Chromium, Dissolved	2.00	0.543	U	0.543	U				
Cobalt, Dissolved	0.500	0.0263	U	0.0263	U				
Copper, Dissolved	2.00	0.244	U	0.244	U				
Iron, Dissolved	50.0	8.190	J	8.308	J				
Lead, Dissolved	1.00	0.0192	U	0.0192	U				
Magnesium, Dissolved	500	8.164	J	8.239	J				
Manganese, Dissolved	5.00	0.07600	J	0.08300	J				
Nickel, Dissolved	1.00	0.175	U	0.175	U				
Potassium, Dissolved	500	6.508	J	8.158	J				
Selenium, Dissolved	5.00	0.422	U	0.422	U				
Silver, Dissolved	1.00	0.0362	U	0.0362	U				
Sodium, Dissolved	500	5.465	J	7.088	J				
Thallium, Dissolved	1.00	0.0152	U	0.0152	U				
Vanadium, Dissolved	1.00	0.0824	U	0.0824	U				
Zinc, Dissolved	5.00	0.961	U	0.961	U				

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 180-174702/8-A 04/28/2016 12:30		CCB 180-174702/11-A 04/28/2016 13:45		CCB 180-174702/11-A 04/28/2016 14:08		CCB 180-174702/11-A 04/28/2016 14:31	
		Found	C	Found	C	Found	C	Found	C
Mercury, Dissolved	0.200	0.0521	U	0.0521	U	0.0521	U	0.0521	U

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS - TOTAL RECOVERABLE

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 180-174710/1-A

Instrument Code: M Batch No.: 175736

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum, Dissolved	2.57	U		6020A
7440-38-2	Arsenic, Dissolved	0.291	U		6020A
7440-39-3	Barium, Dissolved	0.0980	U		6020A
7440-41-7	Beryllium, Dissolved	0.0367	U		6020A
7440-43-9	Cadmium, Dissolved	0.114	U		6020A
7440-70-2	Calcium, Dissolved	2.84	U		6020A
7440-47-3	Chromium, Dissolved	0.543	U		6020A
7440-48-4	Cobalt, Dissolved	0.0263	U		6020A
7440-50-8	Copper, Dissolved	0.244	U		6020A
7439-89-6	Iron, Dissolved	6.09	U		6020A
7440-22-4	Silver, Dissolved	0.0362	U		6020A
7440-09-7	Potassium, Dissolved	5.82	U		6020A
7439-95-4	Magnesium, Dissolved	1.17	U		6020A
7439-96-5	Manganese, Dissolved	0.1380	J		6020A
7440-23-5	Sodium, Dissolved	3.81	U		6020A
7440-02-0	Nickel, Dissolved	0.175	U		6020A
7439-92-1	Lead, Dissolved	0.0192	U		6020A
7440-36-0	Antimony, Dissolved	0.0187	U		6020A
7782-49-2	Selenium, Dissolved	0.422	U		6020A
7440-28-0	Thallium, Dissolved	0.0152	U		6020A
7440-62-2	Vanadium, Dissolved	0.0824	U		6020A
7440-66-6	Zinc, Dissolved	0.961	U		6020A

3-IN
METHOD BLANK
METALS - DISSOLVED

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: PB 180-174645/1-B

Instrument Code: M Batch No.: 175736

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum, Dissolved	2.57	U		6020A
7440-38-2	Arsenic, Dissolved	0.291	U		6020A
7440-39-3	Barium, Dissolved	0.0980	U		6020A
7440-41-7	Beryllium, Dissolved	0.0367	U		6020A
7440-43-9	Cadmium, Dissolved	0.114	U		6020A
7440-70-2	Calcium, Dissolved	2.84	U		6020A
7440-47-3	Chromium, Dissolved	0.543	U		6020A
7440-48-4	Cobalt, Dissolved	0.0263	U		6020A
7440-50-8	Copper, Dissolved	0.244	U		6020A
7439-89-6	Iron, Dissolved	6.09	U		6020A
7440-22-4	Silver, Dissolved	0.0362	U		6020A
7440-09-7	Potassium, Dissolved	5.82	U		6020A
7439-95-4	Magnesium, Dissolved	1.17	U		6020A
7439-96-5	Manganese, Dissolved	0.0389	U		6020A
7440-23-5	Sodium, Dissolved	3.81	U		6020A
7440-02-0	Nickel, Dissolved	0.175	U		6020A
7439-92-1	Lead, Dissolved	0.0192	U		6020A
7440-36-0	Antimony, Dissolved	0.0187	U		6020A
7782-49-2	Selenium, Dissolved	0.422	U		6020A
7440-28-0	Thallium, Dissolved	0.0152	U		6020A
7440-62-2	Vanadium, Dissolved	0.0824	U		6020A
7440-66-6	Zinc, Dissolved	0.961	U		6020A

3-IN
METHOD BLANK
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 180-174718/1-A

Instrument Code: K Batch No.: 174767

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury, Dissolved	0.0521	U		7470A

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Lab Sample ID: ICSA 180-175736/9 Instrument ID: M

Lab File ID: M60509A.xml ICS Source: MICSAX_00080

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum, Dissolved	**100000**	**100300**	**100**
Antimony, Dissolved		**0.0020**	
Arsenic, Dissolved		**0.890**	
Barium, Dissolved		**0.106**	
Beryllium, Dissolved		**0.0040**	
Cadmium, Dissolved		**2.91**	
Calcium, Dissolved	**100000**	**116100**	**116**
Chromium, Dissolved		**1.65**	
Cobalt, Dissolved		**0.214**	
Copper, Dissolved		**4.60**	
Iron, Dissolved	**100000**	**119900**	**120**
Lead, Dissolved		**0.260**	
Magnesium, Dissolved	**100000**	**105200**	**105**
Manganese, Dissolved		**0.507**	
Nickel, Dissolved		**0.422**	
Potassium, Dissolved	**100000**	**108100**	**108**
Selenium, Dissolved		**0.0810**	
Silver, Dissolved		**-0.0050**	
Sodium, Dissolved	**100000**	**107500**	**108**
Thallium, Dissolved		**0.0040**	
Vanadium, Dissolved		**0.132**	
Zinc, Dissolved		**13.1**	
Boron		*-0.0350*	
Molybdenum	*2000*	*1752*	*88*
Silicon		*33.1*	
Strontium		*0.899*	
Tin		*-0.0070*	
Titanium	*2000*	*2305*	*115*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Lab Sample ID: ICSAB 180-175736/10 Instrument ID: M

Lab File ID: M60509A.xml ICS Source: MICSABX_00084

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum, Dissolved	**100000**	**87523**	**88**
Antimony, Dissolved	**20.0**	**19.6**	**98**
Arsenic, Dissolved	**20.0**	**21.5**	**108**
Barium, Dissolved	**20.0**	**20.5**	**102**
Beryllium, Dissolved	**20.0**	**22.1**	**110**
Cadmium, Dissolved	**20.0**	**23.2**	**116**
Calcium, Dissolved	**100000**	**100563**	**101**
Chromium, Dissolved	**20.0**	**22.9**	**115**
Cobalt, Dissolved	**20.0**	**20.8**	**104**
Copper, Dissolved	**20.0**	**23.6**	**118**
Iron, Dissolved	**100000**	**106600**	**107**
Lead, Dissolved	**20.0**	**22.6**	**113**
Magnesium, Dissolved	**100000**	**91110**	**91**
Manganese, Dissolved	**22.0**	**21.2**	**96**
Nickel, Dissolved	**20.0**	**21.0**	**105**
Potassium, Dissolved	**100000**	**93627**	**94**
Selenium, Dissolved	**50.0**	**54.0**	**108**
Silver, Dissolved	**20.0**	**18.6**	**93**
Sodium, Dissolved	**100000**	**93567**	**94**
Thallium, Dissolved	**20.0**	**22.7**	**113**
Vanadium, Dissolved	**20.0**	**21.2**	**106**
Zinc, Dissolved	**25.0**	**27.4**	**110**
Boron	*50.0*	*50.0*	*100*
Molybdenum	*2000*	*2051*	*103*
Silicon	*500*	*531*	*106*
Strontium	*25.0*	*20.5*	*82*
Tin	*100*	*97.1*	*97*
Titanium	*2000*	*2010*	*100*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

5A-IN
MATRIX SPIKE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: ER-4 MS

Lab ID: 600-129836-1 MS

Lab Name: TestAmerica Pittsburgh

Job No.: 600-129836-1

SDG No.:

Matrix: Water

Concentration Units: ug/L

% Solids:

Analyte	SSR	C	Sample Result (SR)	C	Spike Added (SA)	%R	Control Limit %R	Q	Method
Mercury, Dissolved	1.021		0.0521	U	1.00	102	75-125		7470A

SSR = Spiked Sample Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VA - IN

5A-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
METALS - DISSOLVED

Client ID: ER-4 MSD

Lab ID: 600-129836-1 MSD

Lab Name: TestAmerica Pittsburgh

Job No.: 600-129836-1

SDG No.:

Matrix: Water

Concentration Units: ug/L

% Solids:

Analyte	(SDR)	C	Spike Added (SA)	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Mercury, Dissolved	0.9302		1.00	93	75-125	9	20		7470A

SDR = Sample Duplicate Result

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VD - IN

7A-IN
LAB CONTROL SAMPLE
METALS - TOTAL RECOVERABLE

Lab ID: LCS 180-174710/2-A

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

Sample Matrix: Water LCS Source: MTAPITTICPMS_00022

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum, Dissolved	2000	1727		86	80	120		6020A
Arsenic, Dissolved	40.0	38.07		95	80	120		6020A
Barium, Dissolved	2000	1704		85	80	120		6020A
Beryllium, Dissolved	50.0	47.42		95	80	120		6020A
Cadmium, Dissolved	50.0	48.69		97	80	120		6020A
Calcium, Dissolved	50000	44570		89	80	120		6020A
Chromium, Dissolved	200	179.7		90	80	120		6020A
Cobalt, Dissolved	500	436.6		87	80	120		6020A
Copper, Dissolved	250	230.5		92	80	120		6020A
Iron, Dissolved	1000	912.0		91	80	120		6020A
Silver, Dissolved	50.0	42.74		85	80	120		6020A
Potassium, Dissolved	50000	44120		88	80	120		6020A
Magnesium, Dissolved	50000	45520		91	80	120		6020A
Manganese, Dissolved	500	431.5		86	80	120		6020A
Sodium, Dissolved	50000	47160		94	80	120		6020A
Nickel, Dissolved	500	452.2		90	80	120		6020A
Lead, Dissolved	20.0	17.00		85	80	120		6020A
Antimony, Dissolved	500	438.3		88	80	120		6020A
Selenium, Dissolved	10.0	10.61		106	80	120		6020A
Thallium, Dissolved	50.0	43.18		86	80	120		6020A
Vanadium, Dissolved	500	433.6		87	80	120		6020A
Zinc, Dissolved	500	492.3		98	80	120		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7D-IN
LAB CONTROL SAMPLE DUPLICATE
METALS - TOTAL RECOVERABLE

Lab ID: LCSD 180-174710/3-A

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

Sample Matrix: Water LCS Source: MTAPITTICPMS_00022

Analyte	(SDR)	C	Spike Added	%R	Control Limit %R	RPD	RPD Limit	Q	Method
Aluminum, Dissolved	1803		2000	90	80-120	4	20		6020A
Arsenic, Dissolved	38.09		40.0	95	80-120	0	20		6020A
Barium, Dissolved	1708		2000	85	80-120	0	20		6020A
Beryllium, Dissolved	48.94		50.0	98	80-120	3	20		6020A
Cadmium, Dissolved	48.15		50.0	96	80-120	1	20		6020A
Calcium, Dissolved	45410		50000	91	80-120	2	20		6020A
Chromium, Dissolved	174.7		200	87	80-120	3	20		6020A
Cobalt, Dissolved	433.6		500	87	80-120	1	20		6020A
Copper, Dissolved	229.9		250	92	80-120	0	20		6020A
Iron, Dissolved	901.7		1000	90	80-120	1	20		6020A
Silver, Dissolved	43.17		50.0	86	80-120	1	20		6020A
Potassium, Dissolved	44670		50000	89	80-120	1	20		6020A
Magnesium, Dissolved	47580		50000	95	80-120	4	20		6020A
Manganese, Dissolved	452.6		500	91	80-120	5	20		6020A
Sodium, Dissolved	47680		50000	95	80-120	1	20		6020A
Nickel, Dissolved	452.2		500	90	80-120	0	20		6020A
Lead, Dissolved	17.88		20.0	89	80-120	5	20		6020A
Antimony, Dissolved	449.1		500	90	80-120	2	20		6020A
Selenium, Dissolved	10.39		10.0	104	80-120	2	20		6020A
Thallium, Dissolved	45.59		50.0	91	80-120	5	20		6020A
Vanadium, Dissolved	421.8		500	84	80-120	3	20		6020A
Zinc, Dissolved	485.4		500	97	80-120	1	20		6020A

SDR = Spike Duplicate Results
Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIID - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 180-174718/2-A

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

Sample Matrix: Water LCS Source: MHgworkingCal_01276

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury, Dissolved	2.50	2.647		106	80	120		7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

8-IN
ICP-AES AND ICP-MS SERIAL DILUTIONS
METALS - DISSOLVED

Lab ID: 600-129728-B-6-B SD ^5

SDG No:

Lab Name: TestAmerica Pittsburgh Job No: 600-129836-1

Matrix: Water Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	Method
Aluminum, Dissolved	2.57	U	12.8	U	NC		6020A
Arsenic, Dissolved	5.36		5.295		NC		6020A
Barium, Dissolved	1140		1116		1.8		6020A
Beryllium, Dissolved	0.0367	U	0.184	U	NC		6020A
Cadmium, Dissolved	0.114	U	0.572	U	NC		6020A
Calcium, Dissolved	146000		144900		0.86		6020A
Chromium, Dissolved	0.543	U	2.72	U	NC		6020A
Cobalt, Dissolved	0.409	J	0.4100	J	NC		6020A
Copper, Dissolved	11.1		11.80		NC		6020A
Iron, Dissolved	6.09	U	30.5	U	NC		6020A
Silver, Dissolved	0.0362	U	0.181	U	NC		6020A
Potassium, Dissolved	501		469.6	J	6.3		6020A
Magnesium, Dissolved	16300		16140		0.86		6020A
Manganese, Dissolved	211		208.4		1.3		6020A
Sodium, Dissolved	75800		77800		2.6		6020A
Nickel, Dissolved	10.9		11.45		5.0		6020A
Lead, Dissolved	0.0192	U	0.0960	U	NC		6020A
Antimony, Dissolved	0.422	J	0.2250	J	NC		6020A
Selenium, Dissolved	0.422	U	2.11	U	NC		6020A
Thallium, Dissolved	1.29		1.205	J	6.2		6020A
Vanadium, Dissolved	3.42		3.525	J	NC		6020A
Zinc, Dissolved	17.9		18.35	J	NC		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIII-IN

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Pittsburgh Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: M

Method: 6020A MDL Date: 01/23/2010 18:33

Prep Method: 3005A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Aluminum, Dissolved	27	30	2.5662
Antimony, Dissolved	121	2	0.0187
Arsenic, Dissolved	75	1	0.2908
Barium, Dissolved	137	10	0.098
Beryllium, Dissolved	9	1	0.0367
Cadmium, Dissolved	111	1	0.1144
Calcium, Dissolved	44	500	2.8374
Chromium, Dissolved	52	2	0.5433
Cobalt, Dissolved	59	0.5	0.0263
Copper, Dissolved	65	2	0.2443
Iron, Dissolved	56	50	6.0901
Lead, Dissolved	208	1	0.0192
Magnesium, Dissolved	26	500	1.1665
Manganese, Dissolved	55	5	0.0389
Nickel, Dissolved	60	1	0.1749
Potassium, Dissolved	39	500	5.823
Selenium, Dissolved	82	5	0.4216
Silver, Dissolved	107	1	0.0362
Sodium, Dissolved	23	500	3.8135
Thallium, Dissolved	205	1	0.0152
Vanadium, Dissolved	51	1	0.0824
Zinc, Dissolved	66	5	0.9609

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Pittsburgh Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: M

Method: 6020A XMDL Date: 01/23/2010 18:33

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum, Dissolved	27	30	2.5662
Antimony, Dissolved	121	2	0.0187
Arsenic, Dissolved	75	1	0.2908
Barium, Dissolved	137	10	0.098
Beryllium, Dissolved	9	1	0.0367
Cadmium, Dissolved	111	1	0.1144
Calcium, Dissolved	44	500	2.8374
Chromium, Dissolved	52	2	0.3386
Cobalt, Dissolved	59	0.5	0.0218
Copper, Dissolved	65	2	0.4544
Iron, Dissolved	56	50	8.454
Lead, Dissolved	208	1	0.0192
Magnesium, Dissolved	26	500	1.1665
Manganese, Dissolved	55	5	0.0389
Nickel, Dissolved	60	1	0.1749
Potassium, Dissolved	39	500	5.823
Selenium, Dissolved	82	5	0.4216
Silver, Dissolved	107	1	0.0362
Sodium, Dissolved	23	500	3.8135
Thallium, Dissolved	205	1	0.0152
Vanadium, Dissolved	51	1	0.0824
Zinc, Dissolved	66	5	0.9609

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Pittsburgh Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: K

Method: 7470A MDL Date: 02/10/2016 13:08

Prep Method: 7470A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Mercury, Dissolved	253.7	0.2	0.0521

FORM IX - IN

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: TestAmerica Pittsburgh Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: K

Method: 7470A XMDL Date: 02/10/2016 13:09

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury, Dissolved	253.7	0.2	0.0521

FORM IX - IN

11-IN
LINEAR RANGES
METALS

Lab Name: TestAmerica Pittsburgh Job No: 600-129836-1

SDG No.:

Instrument ID: M Date: 03/14/2011 22:35

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Aluminum, Dissolved		450000	6020A
Arsenic, Dissolved		4500	6020A
Barium, Dissolved		13500	6020A
Beryllium, Dissolved		9000	6020A
Cadmium, Dissolved		13500	6020A
Calcium, Dissolved		1500000	6020A
Chromium, Dissolved		13500	6020A
Cobalt, Dissolved		13500	6020A
Copper, Dissolved		20000	6020A
Iron, Dissolved		450000	6020A
Silver, Dissolved		2500	6020A
Potassium, Dissolved		450000	6020A
Magnesium, Dissolved		1500000	6020A
Manganese, Dissolved		25000	6020A
Sodium, Dissolved		450000	6020A
Nickel, Dissolved		13500	6020A
Lead, Dissolved		20000	6020A
Antimony, Dissolved		13500	6020A
Selenium, Dissolved		4500	6020A
Thallium, Dissolved		13500	6020A
Vanadium, Dissolved		13500	6020A
Zinc, Dissolved		25000	6020A

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Prep Method: 3005A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 180-174710/1-A	04/28/2016 09:15	174710		50	50
LCS 180-174710/2-A	04/28/2016 09:15	174710		50	50
LCSD 180-174710/3-A	04/28/2016 09:15	174710		50	50
PB 180-174645/1-B	04/28/2016 09:15	174710		50	50
600-129836-1	04/28/2016 09:15	174710		50	50
600-129836-2	04/28/2016 09:15	174710		50	50
600-129836-3	04/28/2016 09:15	174710		50	50
600-129836-4	04/28/2016 09:15	174710		50	50
600-129836-5	04/28/2016 09:15	174710		50	50
600-129836-6	04/28/2016 09:15	174710		50	50
600-129836-7	04/28/2016 09:15	174710		50	50
600-129836-8	04/28/2016 09:15	174710		50	50

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 180-174718/1-A	04/28/2016 09:57	174718		50	50
LCS 180-174718/2-A	04/28/2016 09:57	174718		50	50
600-129836-1	04/28/2016 09:57	174718		50	50
600-129836-1 MS	04/28/2016 09:57	174718		50	50
600-129836-1 MSD	04/28/2016 09:57	174718		50	50
600-129836-2	04/28/2016 09:57	174718		50	50
600-129836-3	04/28/2016 09:57	174718		50	50
600-129836-4	04/28/2016 09:57	174718		50	50
600-129836-5	04/28/2016 09:57	174718		50	50
600-129836-6	04/28/2016 09:57	174718		50	50
600-129836-7	04/28/2016 09:57	174718		50	50
600-129836-8	04/28/2016 09:57	174718		50	50

FORM XII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Instrument ID: M Analysis Method: 6020A

Start Date: 05/09/2016 07:24 End Date: 05/09/2016 20:52

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn				
ITUNE 180-175736/1			07:24																										
STD1 180-175736/2 IC	1		13:16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
STD2 180-175736/3 IC	1		13:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
STD3 180-175736/4 IC	1		13:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ICV 180-175736/5	1		13:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ICB 180-175736/6	1		13:35	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CRI 180-175736/7	1		13:39	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CRI 180-175736/8	1		13:44					X																					
ICSA 180-175736/9	1		13:49	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ICSAB 180-175736/10	1		13:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CCV 180-175736/11	1		13:58	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CCB1 180-175736/12	1		14:03	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ZZZZZZ			14:08																										
ZZZZZZ			14:13																										
ZZZZZZ			14:17																										
ZZZZZZ			14:22																										
ZZZZZZ			14:27																										
ZZZZZZ			14:32																										
ZZZZZZ			14:36																										
ZZZZZZ			14:41																										
ZZZZZZ			14:46																										
ZZZZZZ			14:51																										
CCV 180-175736/23			14:55																										
CCB2 180-175736/24			15:00																										
ZZZZZZ			15:05																										
ZZZZZZ			15:10																										
ZZZZZZ			15:14																										
ZZZZZZ			15:23																										
ZZZZZZ			15:27																										
ZZZZZZ			15:32																										
ZZZZZZ			15:37																										
ZZZZZZ			15:41																										
ZZZZZZ			15:46																										
ZZZZZZ			15:51																										
CCV 180-175736/35			15:56																										
CCB3 180-175736/36			16:00																										
ZZZZZZ			16:05																										
ZZZZZZ			16:10																										
ZZZZZZ			16:15																										
ZZZZZZ			16:19																										
ZZZZZZ			16:24																										
ZZZZZZ			16:29																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Instrument ID: M Analysis Method: 6020A

Start Date: 05/09/2016 07:24 End Date: 05/09/2016 20:52

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn				
ZZZZZZ			16:34																										
ZZZZZZ			16:38																										
ZZZZZZ			16:43																										
ZZZZZZ			16:48																										
CCV 180-175736/47	1		16:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CCB4 180-175736/48	1		16:57	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ZZZZZZ			17:02																										
ZZZZZZ			17:07																										
MB 180-174710/1-A	1	R	17:15	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
PB 180-174645/1-B	1	D	17:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
LCS 180-174710/2-A	1	R	17:25	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
LCSD 180-174710/3-A	1	R	17:29	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
600-129836-1	1	D	17:34	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
600-129836-2	1	D	17:39	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
600-129836-3	1	D	17:43	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
600-129836-4	1	D	17:48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CCV 180-175736/59	1		17:53	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CCB5 180-175736/60	1		17:58	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
600-129836-5	1	D	18:02	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
600-129836-6	1	D	18:07	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
600-129836-7	1	D	18:12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
600-129836-8	1	D	18:17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ZZZZZZ			18:21																										
ZZZZZZ			18:26																										
ZZZZZZ			18:31																										
ZZZZZZ			18:36																										
ZZZZZZ			18:40																										
ZZZZZZ			18:45																										
CCV 180-175736/71	1		18:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CCB6 180-175736/72	1		18:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ZZZZZZ			18:59																										
ZZZZZZ			19:04																										
600-129728-B-6-B SD ^5	5	D	19:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
ZZZZZZ			19:13																										
ZZZZZZ			19:18																										
ZZZZZZ			19:23																										
ZZZZZZ			19:28																										
ZZZZZZ			19:32																										
ZZZZZZ			19:37																										
ZZZZZZ			19:42																										
CCV 180-175736/83	1		19:47	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CCB7 180-175736/84	1		19:51	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Instrument ID: M Analysis Method: 6020A

Start Date: 05/09/2016 07:24 End Date: 05/09/2016 20:52

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	Ni	Pb	Sb	Se	Tl	V	Zn				
ZZZZZZ			19:56																									
ZZZZZZ			20:01																									
ZZZZZZ			20:06																									
ZZZZZZ			20:10																									
ZZZZZZ			20:15																									
ZZZZZZ			20:20																									
ZZZZZZ			20:25																									
ZZZZZZ			20:29																									
CRI 180-175736/93	1		20:38	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
CCV 180-175736/94			20:47																									
CCB8 180-175736/95			20:52																									

Prep Types:
D = Dissolved
R = Total Recoverable

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Instrument ID: K Analysis Method: 7470A

Start Date: 04/28/2016 12:15 End Date: 04/28/2016 15:31

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
IC 180-174702/1-A			12:15	X																							
IC 180-174702/2-A			12:17	X																							
IC 180-174702/3-A			12:19	X																							
IC 180-174702/4-A			12:21	X																							
IC 180-174702/5-A			12:23	X																							
IC 180-174702/6-A			12:25	X																							
ICV 180-174702/7-A	1		12:27	X																							
ICB 180-174702/8-A	1		12:30	X																							
CRA 180-174702/9-A	1		12:32	X																							
CCV 180-174702/10-A			12:34																								
CCB 180-174702/11-A			12:36																								
ZZZZZZ			12:38																								
ZZZZZZ			12:40																								
ZZZZZZ			12:42																								
ZZZZZZ			12:44																								
ZZZZZZ			12:46																								
ZZZZZZ			12:47																								
ZZZZZZ			12:49																								
ZZZZZZ			12:51																								
ZZZZZZ			12:53																								
ZZZZZZ			12:55																								
CCV 180-174702/10-A			12:57																								
CCB 180-174702/11-A			12:59																								
ZZZZZZ			13:01																								
ZZZZZZ			13:03																								
ZZZZZZ			13:05																								
ZZZZZZ			13:07																								
ZZZZZZ			13:09																								
ZZZZZZ			13:11																								
ZZZZZZ			13:13																								
ZZZZZZ			13:15																								
ZZZZZZ			13:17																								
ZZZZZZ			13:19																								
CCV 180-174702/10-A			13:20																								
CCB 180-174702/11-A			13:22																								
ZZZZZZ			13:25																								
ZZZZZZ			13:26																								
ZZZZZZ			13:28																								
ZZZZZZ			13:30																								
ZZZZZZ			13:32																								
ZZZZZZ			13:34																								
ZZZZZZ			13:36																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Instrument ID: K Analysis Method: 7470A

Start Date: 04/28/2016 12:15 End Date: 04/28/2016 15:31

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			13:38																								
ZZZZZZ			13:40																								
ZZZZZZ			13:41																								
CCV 180-174702/10-A	1		13:43	X																							
CCB 180-174702/11-A	1		13:45	X																							
ZZZZZZ			13:47																								
ZZZZZZ			13:49																								
MB 180-174718/1-A	1	T	13:51	X																							
LCS 180-174718/2-A	1	T	13:53	X																							
600-129836-1	1	D	13:55	X																							
600-129836-1 MS	1	D	13:57	X																							
600-129836-1 MSD	1	D	13:59	X																							
600-129836-2	1	D	14:01	X																							
600-129836-3	1	D	14:03	X																							
600-129836-4	1	D	14:05	X																							
CCV 180-174702/10-A	1		14:07	X																							
CCB 180-174702/11-A	1		14:08	X																							
600-129836-5	1	D	14:11	X																							
600-129836-6	1	D	14:13	X																							
600-129836-7	1	D	14:15	X																							
600-129836-8	1	D	14:16	X																							
ZZZZZZ			14:18																								
ZZZZZZ			14:20																								
ZZZZZZ			14:22																								
ZZZZZZ			14:24																								
ZZZZZZ			14:26																								
ZZZZZZ			14:28																								
CCV 180-174702/10-A	1		14:30	X																							
CCB 180-174702/11-A	1		14:31	X																							
ZZZZZZ			14:34																								
ZZZZZZ			14:36																								
ZZZZZZ			14:37																								
ZZZZZZ			14:39																								
ZZZZZZ			14:41																								
ZZZZZZ			14:43																								
ZZZZZZ			14:45																								
ZZZZZZ			14:47																								
ZZZZZZ			14:50																								
ZZZZZZ			14:52																								
CCV 180-174702/10-A			14:53																								
CCB 180-174702/11-A			14:56																								
ZZZZZZ			14:58																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Instrument ID: K Analysis Method: 7470A

Start Date: 04/28/2016 12:15 End Date: 04/28/2016 15:31

Lab Sample Id	D/F	Type	Time	Analytes																							
				Hg																							
ZZZZZZ			15:00																								
ZZZZZZ			15:02																								
ZZZZZZ			15:03																								
ZZZZZZ			15:05																								
ZZZZZZ			15:07																								
ZZZZZZ			15:09																								
ZZZZZZ			15:11																								
ZZZZZZ			15:13																								
ZZZZZZ			15:15																								
CCV 180-174702/10-A			15:17																								
CCB 180-174702/11-A			15:19																								
ZZZZZZ			15:21																								
ZZZZZZ			15:23																								
ZZZZZZ			15:25																								
ZZZZZZ			15:26																								
CCV 180-174702/10-A			15:29																								
CCB 180-174702/11-A			15:31																								

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

ICP-MS Instrument ID: M Start Date: 05/09/2016 End Date: 05/09/2016

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Li-6	Q	Element Sc	Q	Element Y-89	Q	Element Rh-103	Q	Element In	Q
STD1 180-175736/2 I	13:16	100		100		100		100		100	
STD2 180-175736/3 I	13:20	104		117		94		82		84	
STD3 180-175736/4 I	13:25	108		115		99		100		98	
ICV 180-175736/5	13:30	110		119		104		87		92	
ICB 180-175736/6	13:35	115		115		100		101		101	
CRI 180-175736/7	13:39	70		107		99		99		97	
CRI 180-175736/8	13:44	101		108		96		95		95	
ICSA 180-175736/9	13:49	69		83		80		116		111	
ICSAB 180-175736/10	13:54	66		90		89		77		87	
CCV 180-175736/11	13:58	82		95		94		78		83	
CCB1 180-175736/12	14:03	96		96		92		92		92	
CCV 180-175736/47	16:52	112		109		89		81		79	
CCB4 180-175736/48	16:57	114		119		92		94		87	
MB 180-174710/1-A	17:15	114		115		88		91		84	
PB 180-174645/1-B	17:20	111		111		89		91		85	
LCS 180-174710/2-A	17:25	117		116		90		83		81	
LCSD 180-174710/3-A	17:29	120		119		91		84		82	
600-129836-1	17:34	77		65		81		83		78	
600-129836-2	17:39	94		71		83		84		78	
600-129836-3	17:43	66		73		70		62		62	
600-129836-4	17:48	67		64		78		76		74	
CCV 180-175736/59	17:53	116		119		93		85		82	
CCB5 180-175736/60	17:58	118		119		95		97		89	
600-129836-5	18:02	67		61		78		74		73	
600-129836-6	18:07	69		62		76		70		69	
600-129836-7	18:12	72		64		74		71		68	
600-129836-8	18:17	69		58		74		72		69	
CCV 180-175736/71	18:50	115		118		89		81		78	
CCB6 180-175736/72	18:54	116		119		91		93		85	
600-129728-B-6-B SD	19:09	116		119		88		87		82	
CCV 180-175736/83	19:47	118		120		89		80		78	
CCB7 180-175736/84	19:51	119		119		92		93		86	
CRI 180-175736/93	20:38	84		88		81		83		77	

FORM XV - IN

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

ICP-MS Instrument ID: M Start Date: 05/09/2016 End Date: 05/09/2016

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Tb	Q	Element Ho	Q	Element Bi	Q	Element	Q	Element	Q
STD1 180-175736/2 I	13:16	100		100		100					
STD2 180-175736/3 I	13:20	89		87		75					
STD3 180-175736/4 I	13:25	100		99		95					
ICV 180-175736/5	13:30	95		93		86					
ICB 180-175736/6	13:35	99		98		98					
CRI 180-175736/7	13:39	101		100		97					
CRI 180-175736/8	13:44	97		96		98					
ICSA 180-175736/9	13:49	83		83		74					
ICSAB 180-175736/10	13:54	83		81		73					
CCV 180-175736/11	13:58	86		86		76					
CCB1 180-175736/12	14:03	94		92		91					
CCV 180-175736/47	16:52	83		83		70					
CCB4 180-175736/48	16:57	87		86		85					
MB 180-174710/1-A	17:15	84		83		82					
PB 180-174645/1-B	17:20	86		84		84					
LCS 180-174710/2-A	17:25	84		83		77					
LCSD 180-174710/3-A	17:29	86		84		72					
600-129836-1	17:34	82		82		81					
600-129836-2	17:39	84		83		83					
600-129836-3	17:43	70		70		59					
600-129836-4	17:48	79		79		73					
CCV 180-175736/59	17:53	84		83		70					
CCB5 180-175736/60	17:58	88		86		86					
600-129836-5	18:02	78		78		75					
600-129836-6	18:07	76		76		71					
600-129836-7	18:12	76		77		66					
600-129836-8	18:17	76		76		71					
CCV 180-175736/71	18:50	80		80		70					
CCB6 180-175736/72	18:54	84		83		84					
600-129728-B-6-B SD	19:09	83		82		79					
CCV 180-175736/83	19:47	79		79		69					
CCB7 180-175736/84	19:51	85		83		85					
CRI 180-175736/93	20:38	79		78		83					

FORM XV - IN

Dilution Corrected Concentrations

STD1 1930797 5/9/2016 1:16:09 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:15	101.189%	-0.003	0.080	0.393	0.000	0.489	0.012	0.013
2	13:15:23	101.243%	0.010	-0.044	-0.155	0.000	-0.273	-0.000	-0.013
3	13:15:31	97.568%	-0.007	-0.037	-0.238	0.000	-0.216	-0.011	-0.000
x		100.000%	0.000	-0.000	0.000	0.000	0.000	0.000	0.000
σ		2.107%	0.009	0.070	0.343	0.000	0.425	0.011	0.013
%RSD		2.107	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:15	-0.003	2.686	0.000	0.573	2.536	1.072	96.887%	0.023
2	13:15:23	-0.029	-1.960	0.000	-0.051	-0.941	-0.880	102.575%	-0.012
3	13:15:31	0.033	-0.725	0.000	-0.523	-1.595	-0.192	100.538%	-0.011
x		0.000	0.000	0.000	0.000	-0.000	-0.000	100.000%	0.000
σ		0.031	2.406	0.000	0.550	2.220	0.990	2.882%	0.020
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	2.882	0.000

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:15	-0.007	-0.001	-0.004	0.014	0.075	0.000	0.006	0.017
2	13:15:23	-0.005	0.001	0.012	-0.017	0.006	0.000	-0.007	-0.008
3	13:15:31	0.012	-0.000	-0.007	0.003	-0.081	-0.001	0.001	-0.009
x		0.000	0.000	0.000	-0.000	-0.000	0.000	-0.000	0.000
σ		0.011	0.001	0.010	0.015	0.078	0.001	0.007	0.014
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:15	0.038	0.088	0.124	-0.002	-0.008	0.122	0.000	-0.001
2	13:15:23	-0.026	-0.073	0.001	0.003	0.022	-0.088	0.000	0.002
3	13:15:31	-0.013	-0.015	-0.126	-0.002	-0.014	-0.035	0.000	-0.001
x		-0.000	0.000	0.000	0.000	0.000	-0.000	0.000	-0.000
σ		0.034	0.082	0.125	0.003	0.019	0.109	0.000	0.001
%RSD		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:15	98.985%	-0.000	-0.010	99.359%	-0.008	0.000	0.033	-0.000
2	13:15:23	99.559%	0.005	0.009	99.025%	0.001	-0.000	-0.019	0.004
3	13:15:31	101.456%	-0.004	0.001	101.616%	0.006	-0.000	-0.014	-0.004
x		100.000%	-0.000	-0.000	100.000%	-0.000	-0.000	-0.000	0.000
σ		1.293%	0.005	0.010	1.409%	0.007	0.000	0.029	0.004
%RSD		1.293	0.000	0.000	1.409	0.000	0.000	0.000	0.000

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:15	100.358%	0.001	-0.006	0.039	-0.004	-0.006	98.787%	98.255%
2	13:15:23	101.381%	0.007	0.017	-0.004	0.002	0.008	98.936%	99.033%
3	13:15:31	98.261%	-0.008	-0.011	-0.035	0.002	-0.002	102.277%	102.712%
x		100.000%	0.000	0.000	0.000	0.000	0.000	100.000%	100.000%
σ		1.591%	0.008	0.015	0.037	0.004	0.007	1.973%	2.381%
%RSD		1.591	0.000	0.000	0.000	0.000	0.000	1.973	2.381

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	13:15:15	0.001	0.000	0.006	-0.003	0.000	101.399%
2	13:15:23	-0.002	-0.001	-0.000	-0.012	-0.003	101.319%
3	13:15:31	0.001	0.001	-0.006	0.015	0.003	97.282%
x		0.000	0.000	0.000	-0.000	0.000	100.000%
σ		0.001	0.001	0.006	0.014	0.003	2.354%
%RSD		0.000	0.000	0.000	0.000	0.000	2.354

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:20:00	104.301%	199.900	1.442	1.229	0.000	99490.000	101400.000	101100.000
2	13:20:08	106.234%	197.900	0.889	1.324	0.000	99320.000	99170.000	99700.000
3	13:20:16	101.911%	202.200	1.302	1.286	0.000	101200.000	99450.000	99210.000
x		104.149%	200.000	1.211	1.280	0.000	100000.000	100000.000	100000.000
σ		2.166%	2.179	0.287	0.048	0.000	1040.000	1202.000	970.500
%RSD		2.080	1.090	23.730	3.720	0.000	1.040	1.202	0.971

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:20:00	1031.000	30.160	0.000	100400.000	99240.000	99650.000	116.282%	0.143
2	13:20:08	997.700	27.770	0.000	103600.000	103500.000	101900.000	115.342%	0.135
3	13:20:16	970.900	25.500	0.000	96000.000	97270.000	98430.000	118.736%	0.095
x		1000.000	27.810	0.000	100000.000	100000.000	100000.000	116.787%	0.124
σ		30.310	2.330	0.000	3821.000	3179.000	1773.000	1.753%	0.026
%RSD		3.031	8.378	0.000	3.821	3.179	1.773	1.501	20.790

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:20:00	199.400	200.200	1009.000	50270.000	50200.000	201.900	201.600	201.800
2	13:20:08	202.400	201.500	1000.000	50210.000	50520.000	201.200	201.800	200.800
3	13:20:16	198.300	198.300	991.300	49520.000	49280.000	196.900	196.600	197.400
x		200.000	200.000	1000.000	50000.000	50000.000	200.000	200.000	200.000
σ		2.114	1.621	8.643	418.000	641.700	2.745	2.913	2.286
%RSD		1.057	0.810	0.864	0.836	1.283	1.372	1.456	1.143

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:20:00	202.200	198.000	199.300	204.100	199.500	198.700	0.000	201.200
2	13:20:08	200.300	196.600	194.900	200.600	202.800	198.100	0.000	198.000
3	13:20:16	197.500	205.400	205.800	195.300	197.700	203.100	0.000	200.700
x		200.000	200.000	200.000	200.000	200.000	200.000	0.000	200.000
σ		2.400	4.745	5.490	4.405	2.615	2.740	0.000	1.720
%RSD		1.200	2.372	2.745	2.202	1.307	1.370	0.000	0.860

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:20:00	92.957%	0.130	0.167	80.924%	199.100	197.000	197.200	198.000
2	13:20:08	94.529%	0.158	0.155	83.453%	200.900	199.000	198.000	197.900
3	13:20:16	94.175%	0.086	0.221	80.157%	200.000	204.100	204.800	204.100
x		93.887%	0.125	0.181	81.511%	200.000	200.000	200.000	200.000
σ		0.825%	0.036	0.035	1.725%	0.930	3.674	4.214	3.574
%RSD		0.878	29.260	19.370	2.116	0.465	1.837	2.107	1.787

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:20:00	83.617%	0.072	0.178	0.170	200.300	201.100	89.823%	87.627%
2	13:20:08	82.677%	0.071	0.169	0.140	202.300	204.000	90.266%	90.053%
3	13:20:16	86.570%	0.053	0.169	0.142	197.400	194.900	85.709%	84.470%
x		84.288%	0.065	0.172	0.151	200.000	200.000	88.599%	87.383%
σ		2.031%	0.011	0.005	0.017	2.454	4.651	2.513%	2.800%
%RSD		2.410	16.670	3.155	11.330	1.227	2.326	2.836	3.204

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	13:20:00	199.000	204.100	198.900	197.800	198.400	74.466%
2	13:20:08	209.200	205.000	206.300	204.800	203.600	72.796%
3	13:20:16	191.800	190.900	194.800	197.400	198.000	76.805%
x		200.000	200.000	200.000	200.000	200.000	74.689%
σ		8.754	7.854	5.798	4.187	3.125	2.014%
%RSD		4.377	3.927	2.899	2.094	1.562	2.696

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:24:42	110.569%	0.034	208.700	205.800	0.000	28.450	11.710	12.030
2	13:24:50	105.325%	-0.001	193.000	200.600	0.000	25.240	11.670	11.720
3	13:24:58	108.793%	0.021	198.300	193.600	0.000	25.360	10.490	11.160
x		108.229%	0.018	200.000	200.000	0.000	26.350	11.290	11.630
σ		2.667%	0.018	7.987	6.127	0.000	1.820	0.692	0.443
%RSD		2.464	100.900	3.994	3.063	0.000	6.906	6.132	3.811

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:24:42	13.260	10480.000	0.000	33.890	23.610	80.720	114.847%	202.400
2	13:24:50	12.300	9783.000	0.000	28.250	22.430	80.230	116.143%	196.700
3	13:24:58	12.390	9736.000	0.000	27.960	24.270	73.870	114.035%	200.900
x		12.650	10000.000	0.000	30.040	23.440	78.270	115.008%	200.000
σ		0.531	417.400	0.000	3.342	0.929	3.822	1.063%	2.915
%RSD		4.199	4.174	0.000	11.130	3.963	4.882	0.925	1.458

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:24:42	0.042	0.040	0.271	17.780	17.640	0.019	0.181	0.331
2	13:24:50	0.047	0.042	0.264	15.600	15.020	0.023	0.133	0.317
3	13:24:58	0.197	0.518	0.283	14.500	14.490	0.020	0.180	0.257
x		0.095	0.200	0.273	15.960	15.720	0.021	0.165	0.302
σ		0.088	0.275	0.009	1.668	1.689	0.002	0.027	0.040
%RSD		92.460	137.700	3.465	10.450	10.750	9.672	16.640	13.120

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:24:42	0.460	4.690	3.945	0.214	0.361	0.281	0.000	0.063
2	13:24:50	0.413	4.390	3.862	0.173	0.317	0.455	0.000	0.042
3	13:24:58	0.473	4.395	4.263	0.166	0.278	0.209	0.000	0.053
x		0.449	4.492	4.023	0.184	0.319	0.315	0.000	0.053
σ		0.032	0.172	0.212	0.026	0.042	0.126	0.000	0.011
%RSD		7.042	3.820	5.257	14.020	13.150	40.100	0.000	19.980

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:24:42	97.275%	201.900	200.300	98.077%	0.029	0.050	0.575	6.643
2	13:24:50	100.306%	199.000	199.200	101.210%	0.026	0.045	0.484	6.577
3	13:24:58	99.155%	199.100	200.400	100.170%	0.036	0.051	0.431	6.735
x		98.912%	200.000	200.000	99.819%	0.031	0.049	0.497	6.652
σ		1.530%	1.650	0.670	1.596%	0.005	0.003	0.073	0.080
%RSD		1.547	0.825	0.335	1.599	16.410	7.164	14.660	1.196

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:24:42	98.019%	201.500	207.000	206.100	0.104	0.267	98.616%	97.068%
2	13:24:50	97.269%	201.700	203.100	208.100	0.127	0.293	100.293%	99.897%
3	13:24:58	98.798%	196.800	189.900	185.800	0.116	0.222	99.539%	99.648%
x		98.029%	200.000	200.000	200.000	0.116	0.260	99.482%	98.871%
σ		0.764%	2.778	8.990	12.300	0.012	0.036	0.840%	1.567%
%RSD		0.780	1.389	4.495	6.149	9.940	13.750	0.844	1.585

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	13:24:42	0.023	0.024	0.010	0.012	0.005	94.715%
2	13:24:50	0.016	0.023	0.012	0.020	0.011	93.447%
3	13:24:58	0.020	0.018	0.020	0.026	0.016	96.451%
x		0.020	0.022	0.014	0.019	0.011	94.871%
σ		0.003	0.003	0.005	0.007	0.005	1.508%
%RSD		16.830	15.130	35.330	36.580	48.620	1.589

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:29:27	105.279%	83.020	81.450	84.120	0.000	40800.000	41270.000	40560.000
2	13:29:35	112.456%	74.270	71.440	71.690	0.000	38110.000	37590.000	38350.000
3	13:29:43	112.930%	72.500	70.980	71.720	0.000	37030.000	38530.000	37590.000
x		110.222%	95.747%	93.281%	94.806%	0.000	96.618%	97.816%	97.085%
σ		4.287%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		3.889	7.359	7.930	9.451	0.000	5.021	4.883	3.975

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:29:27	402.200	4137.000	0.000	38300.000	38320.000	39030.000	118.516%	79.340
2	13:29:35	390.800	4033.000	0.000	37180.000	37430.000	37700.000	119.611%	77.430
3	13:29:43	387.800	3980.000	0.000	37330.000	36580.000	37470.000	118.664%	75.920
x		98.400%	101.246%	0.000	94.006%	93.610%	95.167%	118.930%	96.954%
σ		n/a	n/a	0.000	n/a	n/a	n/a	0.594%	n/a
%RSD		1.923	1.969	0.000	1.614	2.334	2.211	0.499	2.207

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:29:27	80.860	83.440	401.500	20340.000	20120.000	81.050	81.800	82.780
2	13:29:35	80.300	82.690	391.400	20070.000	19940.000	81.550	82.770	81.920
3	13:29:43	81.090	83.290	389.100	20320.000	20160.000	82.030	82.680	81.060
x		100.936%	103.925%	98.509%	101.220%	100.364%	101.928%	103.019%	102.401%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		0.497	0.474	1.672	0.743	0.588	0.600	0.651	1.048

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:29:27	83.050	90.580	86.250	79.010	81.790	82.370	0.000	76.860
2	13:29:35	81.160	85.840	83.820	81.080	79.300	79.280	0.000	76.650
3	13:29:43	81.080	85.060	84.160	80.270	78.440	79.950	0.000	75.620
x		102.205%	108.954%	105.932%	100.151%	99.803%	100.666%	0.000	95.473%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		1.360	3.424	1.552	1.299	2.181	2.019	0.000	0.869

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:29:27	100.562%	82.770	83.250	85.939%	83.390	84.600	85.040	86.930
2	13:29:35	103.942%	81.480	83.910	87.836%	81.400	81.610	80.230	83.480
3	13:29:43	105.953%	81.500	84.360	87.637%	82.070	82.520	82.010	83.690
x		103.486%	102.394%	104.800%	87.137%	102.858%	103.641%	103.035%	105.874%
σ		2.724%	n/a	n/a	1.043%	n/a	n/a	n/a	n/a
%RSD		2.632	0.903	0.670	1.197	1.227	1.851	2.951	2.287

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:29:27	91.916%	81.070	79.470	76.590	77.250	78.980	93.638%	91.847%
2	13:29:35	91.633%	80.690	81.090	82.650	80.160	80.020	96.028%	94.964%
3	13:29:43	91.248%	81.980	82.140	82.420	81.010	81.310	95.628%	93.374%
x		91.599%	101.557%	101.123%	100.692%	99.340%	100.126%	95.098%	93.395%
σ		0.335%	n/a	n/a	n/a	n/a	n/a	1.280%	1.559%
%RSD		0.366	0.821	1.664	4.259	2.482	1.459	1.346	1.669

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	13:29:27	77.990	82.220	79.870	77.790	79.220	88.154%
2	13:29:35	81.990	84.080	80.910	79.260	80.380	83.948%
3	13:29:43	80.810	83.930	78.960	77.550	78.800	84.858%
x		100.330%	104.261%	99.891%	97.750%	99.337%	85.653%
σ		n/a	n/a	n/a	n/a	n/a	2.213%
%RSD		2.564	1.241	1.221	1.180	1.030	2.584

ICB 5/9/2016 1:35:03 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:34:11	115.521%	-0.011	-0.199	0.016	0.000	9.823	3.033	3.636
2	13:34:19	112.916%	0.004	-0.494	-0.130	0.000	9.456	3.234	3.332
3	13:34:27	116.813%	-0.003	-0.170	-0.646	0.000	9.096	3.929	3.595
x		115.083%	-0.004	-0.288	-0.253	0.000	9.458	3.399	3.521
σ		1.985%	0.008	0.180	0.348	0.000	0.363	0.470	0.165
%RSD		1.724	206.800	62.350	137.300	0.000	3.842	13.820	4.674

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:34:11	0.472	9.169	0.000	12.150	2.317	1.697	116.162%	0.071
2	13:34:19	0.493	7.382	0.000	12.570	2.665	4.210	113.544%	0.010
3	13:34:27	0.517	4.549	0.000	11.330	1.276	2.957	115.175%	0.037
x		0.494	7.034	0.000	12.010	2.086	2.955	114.960%	0.039
σ		0.022	2.330	0.000	0.631	0.723	1.256	1.322%	0.031
%RSD		4.528	33.120	0.000	5.250	34.640	42.520	1.150	77.440

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:34:11	0.002	0.010	0.019	5.713	5.946	0.005	0.006	0.028
2	13:34:19	0.023	0.010	0.013	4.941	3.671	0.003	0.014	0.021
3	13:34:27	0.038	0.008	0.016	4.220	3.347	0.009	0.022	0.013
x		0.021	0.009	0.016	4.958	4.321	0.006	0.014	0.021
σ		0.018	0.001	0.003	0.747	1.416	0.003	0.008	0.007
%RSD		84.290	12.020	18.370	15.060	32.760	54.720	54.870	35.840

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:34:11	-0.023	0.075	0.067	0.061	0.080	0.116	0.000	0.012
2	13:34:19	0.006	0.007	0.155	0.081	0.110	0.061	0.000	0.009
3	13:34:27	0.002	0.006	0.110	0.057	0.111	0.077	0.000	0.012
x		-0.005	0.029	0.111	0.066	0.100	0.084	0.000	0.011
σ		0.016	0.039	0.044	0.013	0.018	0.028	0.000	0.002
%RSD		330.300	133.100	39.560	18.950	17.840	33.440	0.000	16.590

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:34:11	96.374%	0.399	0.356	100.343%	-0.001	0.016	0.044	0.013
2	13:34:19	100.984%	0.296	0.367	100.375%	-0.007	0.011	-0.010	0.016
3	13:34:27	103.850%	0.242	0.262	103.098%	-0.018	0.001	-0.040	0.013
x		100.403%	0.312	0.328	101.272%	-0.008	0.009	-0.002	0.014
σ		3.772%	0.080	0.058	1.581%	0.008	0.007	0.042	0.002
%RSD		3.757	25.500	17.550	1.561	101.100	76.650	2057.000	11.610

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:34:11	99.838%	0.037	0.003	0.029	-0.001	0.012	97.550%	97.260%
2	13:34:19	102.522%	0.037	0.010	-0.005	0.022	0.013	97.739%	97.077%
3	13:34:27	100.557%	0.042	0.012	-0.025	0.045	0.009	100.702%	99.680%
x		100.972%	0.038	0.008	-0.000	0.022	0.012	98.664%	98.006%
σ		1.389%	0.003	0.005	0.027	0.023	0.002	1.768%	1.453%
%RSD		1.376	7.474	56.110	13910.000	102.900	18.500	1.792	1.483

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	13:34:11	0.007	0.009	0.018	0.005	0.003	99.404%
2	13:34:19	0.007	0.006	0.001	0.008	-0.002	99.807%
3	13:34:27	0.010	0.005	-0.001	-0.009	-0.005	95.510%
x		0.008	0.006	0.006	0.001	-0.002	98.240%
σ		0.002	0.002	0.010	0.009	0.004	2.373%
%RSD		23.740	32.060	171.500	690.300	233.400	2.416

CRI 1929646 5/9/2016 1:39:49 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:56	69.725%	1.436	24.120	27.480	0.000	348.500	468.700	457.000
2	13:39:04	69.562%	1.311	23.210	27.140	0.000	388.200	476.000	478.800
3	13:39:11	70.959%	1.506	24.600	25.080	0.000	342.900	459.300	460.900
x		70.082%	141.793%	479.551%	531.347%	0.000	449.801%	468.022%	465.566%
σ		0.764%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		1.090	6.983	2.947	4.893	0.000	6.863	1.785	2.493

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:56	26.920	578.800	0.000	472.200	428.500	450.500	110.595%	4.415
2	13:39:04	28.310	579.900	0.000	489.600	444.300	453.800	102.034%	4.394
3	13:39:11	27.550	567.600	0.000	470.900	414.800	438.500	107.076%	4.223
x		91.990%	115.084%	0.000	477.558%	429.207%	447.589%	106.568%	86.876%
σ		n/a	n/a	0.000	n/a	n/a	n/a	4.303%	n/a
%RSD		2.519	1.185	0.000	2.189	3.439	1.799	4.038	2.426

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:56	0.892	1.971	4.687	51.700	54.110	0.482	1.058	2.118
2	13:39:04	0.945	2.091	5.054	55.300	53.160	0.529	1.061	2.237
3	13:39:11	0.916	2.080	4.873	53.720	52.860	0.544	1.111	2.022
x		91.746%	102.364%	97.433%	107.142%	106.758%	103.683%	107.671%	106.270%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.888	3.236	3.767	3.366	1.221	6.196	2.773	5.064

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:56	2.215	5.641	5.315	0.988	5.229	5.500	0.000	4.557
2	13:39:04	2.133	6.059	5.999	1.099	5.652	5.658	0.000	4.436
3	13:39:11	2.157	6.217	5.774	1.019	5.171	5.290	0.000	4.464
x		108.423%	119.439%	113.916%	103.541%	107.012%	109.658%	0.000	89.709%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		1.931	4.983	6.124	5.530	4.902	3.366	0.000	1.411

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:56	98.231%	4.362	4.365	100.090%	0.948	0.934	0.905	1.133
2	13:39:04	99.314%	4.241	4.374	99.968%	0.940	0.945	0.984	1.087
3	13:39:11	100.306%	4.180	4.427	96.938%	0.917	0.950	0.892	1.113
x		99.284%	85.221%	87.775%	98.999%	93.513%	94.282%	92.718%	111.107%
σ		1.038%	n/a	n/a	1.785%	n/a	n/a	n/a	n/a
%RSD		1.046	2.166	0.771	1.803	1.745	0.863	5.373	2.056

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:56	95.374%	4.336	1.698	1.780	8.570	8.542	101.704%	100.423%
2	13:39:04	96.203%	4.372	1.634	1.602	8.317	8.713	102.248%	101.663%
3	13:39:11	99.882%	4.453	1.839	1.749	8.287	8.272	98.443%	96.449%
x		97.153%	87.741%	86.180%	85.525%	83.915%	85.092%	100.798%	99.512%
σ		2.399%	n/a	n/a	n/a	n/a	n/a	2.058%	2.724%
%RSD		2.470	1.365	6.076	5.555	1.855	2.618	2.042	2.737

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	13:38:56	0.881	0.912	0.899	0.833	0.866	94.586%
2	13:39:04	0.921	0.933	0.858	0.855	0.828	95.505%
3	13:39:11	0.816	0.894	0.833	0.819	0.835	100.273%
x		87.256%	91.268%	86.329%	83.572%	84.306%	96.788%
σ		n/a	n/a	n/a	n/a	n/a	3.053%
%RSD		6.084	2.146	3.851	2.186	2.351	3.154

CRI 1929646 5/9/2016 1:44:33 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:42	105.325%	0.993	16.650	17.200	0.000	192.500	497.500	494.200
2	13:43:50	100.849%	0.789	16.450	16.940	0.000	213.300	477.900	476.600
3	13:43:58	98.177%	1.027	16.180	17.780	0.000	237.500	494.000	462.300
x		101.450%	93.606%	328.479%	346.126%	0.000	268.047%	489.815%	477.703%
σ		3.612%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		3.560	13.770	1.439	2.473	0.000	10.520	2.131	3.351

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:42	29.160	490.200	0.000	473.800	462.100	442.500	109.850%	4.701
2	13:43:50	28.850	500.000	0.000	461.700	399.500	420.700	109.631%	4.123
3	13:43:58	26.970	464.900	0.000	441.100	439.900	461.800	104.812%	4.464
x		94.417%	97.007%	0.000	458.860%	433.868%	441.678%	108.098%	88.582%
σ		n/a	n/a	0.000	n/a	n/a	n/a	2.847%	n/a
%RSD		4.179	3.732	0.000	3.599	7.314	4.667	2.634	6.557

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:42	0.937	1.996	4.937	51.640	52.810	0.496	1.017	2.200
2	13:43:50	0.870	1.974	4.674	52.350	52.280	0.515	1.039	2.152
3	13:43:58	0.868	2.063	4.661	53.810	52.920	0.490	1.143	2.098
x		89.158%	100.556%	95.148%	105.204%	105.338%	100.056%	106.638%	107.501%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		4.422	2.300	3.271	2.103	0.654	2.635	6.310	2.353

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:42	2.214	6.097	5.862	1.069	5.473	5.377	0.000	4.455
2	13:43:50	2.177	5.743	5.738	0.976	5.037	4.996	0.000	4.503
3	13:43:58	2.174	6.151	5.951	1.032	5.771	4.911	0.000	4.514
x		109.422%	119.940%	117.013%	102.579%	108.540%	101.896%	0.000	89.813%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		1.003	3.690	1.830	4.580	6.800	4.867	0.000	0.697

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:42	93.552%	4.216	4.251	96.009%	0.925	0.945	0.958	1.100
2	13:43:50	97.086%	4.487	4.337	94.139%	0.911	0.970	0.949	1.100
3	13:43:58	96.119%	4.221	4.292	94.674%	0.941	0.964	0.922	1.109
x		95.586%	86.158%	85.864%	94.940%	92.584%	95.936%	94.306%	110.285%
σ		1.826%	n/a	n/a	0.963%	n/a	n/a	n/a	n/a
%RSD		1.911	3.598	1.004	1.014	1.621	1.362	1.986	0.483

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:42	93.476%	4.245	1.690	1.686	8.310	8.340	97.855%	97.275%
2	13:43:50	95.635%	4.619	1.732	1.737	8.451	8.699	97.013%	94.895%
3	13:43:58	96.623%	4.395	1.807	1.511	8.404	8.541	95.175%	94.540%
x		95.245%	88.391%	87.154%	82.233%	83.883%	85.267%	96.681%	95.570%
σ		1.610%	n/a	n/a	n/a	n/a	n/a	1.370%	1.487%
%RSD		1.690	4.267	3.402	7.217	0.854	2.113	1.417	1.556

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	13:43:42	0.867	0.879	0.864	0.830	0.837	96.259%
2	13:43:50	0.809	0.857	0.813	0.777	0.800	98.734%
3	13:43:58	0.868	0.860	0.809	0.771	0.815	98.998%
x		84.827%	86.512%	82.851%	79.247%	81.723%	97.997%
σ		n/a	n/a	n/a	n/a	n/a	1.511%
%RSD		3.980	1.361	3.756	4.071	2.305	1.542

ICSA 1929647 5/9/2016 1:49:18 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:48:25	70.180%	0.000	-0.211	0.095	0.000	108500.000	107000.000	101700.000
2	13:48:33	68.282%	0.011	0.461	-0.319	0.000	105400.000	106000.000	107000.000
3	13:48:41	67.018%	0.002	-0.373	0.118	0.000	108600.000	108400.000	106800.000
x		68.493%	0.004	-0.041	-0.035	0.000	107500.000	107100.000	105200.000
σ		1.591%	0.006	0.442	0.246	0.000	1828.000	1191.000	3002.000
%RSD		2.323	126.000	1073.000	694.600	0.000	1.700	1.112	2.854

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:48:25	98850.000	32.280	0.000	108700.000	113200.000	116100.000	85.209%	2266.000
2	13:48:33	103600.000	34.440	0.000	108600.000	113100.000	116000.000	81.856%	2330.000
3	13:48:41	98530.000	32.680	0.000	106800.000	113900.000	116100.000	82.678%	2318.000
x		100300.000	33.130	0.000	108100.000	113400.000	116100.000	83.248%	2305.000
σ		2850.000	1.149	0.000	1101.000	421.800	30.800	1.748%	33.690
%RSD		2.840	3.467	0.000	1.019	0.372	0.027	2.099	1.462

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:48:25	0.159	1.591	0.505	118800.000	120500.000	0.226	0.435	2.479
2	13:48:33	0.117	1.687	0.523	121600.000	123700.000	0.203	0.388	2.548
3	13:48:41	0.122	1.671	0.491	119300.000	119800.000	0.214	0.441	2.332
x		0.132	1.650	0.507	119900.000	121300.000	0.214	0.422	2.453
σ		0.023	0.052	0.016	1496.000	2090.000	0.011	0.029	0.110
%RSD		17.420	3.132	3.173	1.248	1.723	5.196	6.909	4.488

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:48:25	4.652	12.730	7.864	0.941	0.077	-5.276	0.000	0.907
2	13:48:33	4.559	13.390	7.795	0.914	0.089	-6.020	0.000	0.937
3	13:48:41	4.585	13.080	7.771	0.814	0.078	-3.841	0.000	0.852
x		4.599	13.070	7.810	0.890	0.081	-5.046	0.000	0.899
σ		0.048	0.331	0.049	0.067	0.006	1.108	0.000	0.043
%RSD		1.038	2.536	0.622	7.544	8.014	21.960	0.000	4.799

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:48:25	78.558%	1872.000	1751.000	116.939%	-0.002	0.021	3.010	2.406
2	13:48:33	79.066%	1888.000	1770.000	116.930%	-0.006	0.022	2.896	2.377
3	13:48:41	83.358%	1880.000	1736.000	114.839%	-0.008	0.021	2.835	2.355
x		80.327%	1880.000	1752.000	116.236%	-0.005	0.021	2.913	2.380
σ		2.637%	7.590	17.240	1.210%	0.003	0.001	0.089	0.025
%RSD		3.282	0.404	0.984	1.041	61.490	2.904	3.052	1.065

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:48:25	109.682%	-0.005	-0.004	-0.109	0.095	0.117	81.930%	82.229%
2	13:48:33	110.595%	0.001	0.011	-0.149	0.114	0.115	83.192%	84.163%
3	13:48:41	112.199%	-0.017	-0.002	-0.156	0.112	0.087	84.726%	81.352%
x		110.825%	-0.007	0.002	-0.138	0.107	0.106	83.283%	82.581%
σ		1.274%	0.010	0.008	0.025	0.010	0.017	1.400%	1.438%
%RSD		1.150	136.400	511.900	18.410	9.629	15.990	1.681	1.742

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	13:48:25	0.006	0.002	0.276	0.263	0.268	75.042%
2	13:48:33	0.007	0.005	0.270	0.268	0.251	73.039%
3	13:48:41	0.007	0.005	0.299	0.282	0.261	73.300%
x		0.007	0.004	0.282	0.271	0.260	73.794%
σ		0.000	0.002	0.015	0.009	0.009	1.089%
%RSD		6.267	38.240	5.458	3.505	3.380	1.475

ICSAB 1929648 5/9/2016 1:54:07 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:13	66.082%	22.460	49.650	49.990	0.000	92330.000	94550.000	93650.000
2	13:53:21	66.697%	21.440	44.500	49.310	0.000	93480.000	85720.000	86170.000
3	13:53:28	64.028%	22.340	51.690	50.650	0.000	94890.000	94490.000	93510.000
x		65.602%	110.396%	97.226%	99.970%	0.000	93.568%	91.588%	91.113%
σ		1.398%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		2.130	2.532	7.620	1.336	0.000	1.373	5.552	4.698

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:13	89090.000	543.000	0.000	93270.000	97490.000	100800.000	92.015%	2048.000
2	13:53:21	85480.000	536.300	0.000	95860.000	100400.000	101400.000	90.117%	1933.000
3	13:53:28	88000.000	513.000	0.000	91750.000	98580.000	99490.000	89.006%	2048.000
x		87.523%	106.155%	0.000	93.624%	98.824%	100.573%	90.379%	100.473%
σ		n/a	n/a	0.000	n/a	n/a	n/a	1.522%	n/a
%RSD		2.112	2.962	0.000	2.218	1.495	0.970	1.684	3.311

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:13	20.830	22.480	21.330	105300.000	105800.000	20.720	20.660	21.530
2	13:53:21	21.210	22.850	20.640	106400.000	107600.000	20.620	21.020	21.700
3	13:53:28	21.660	23.390	21.590	108100.000	108800.000	21.020	21.310	22.350
x		106.170%	114.534%	105.941%	106.608%	107.377%	103.947%	104.992%	109.285%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.960	2.011	2.318	1.336	1.382	0.994	1.537	1.993

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:13	23.730	27.890	23.730	21.800	52.400	51.770	0.000	20.610
2	13:53:21	23.190	26.450	22.720	21.600	54.530	47.510	0.000	20.100
3	13:53:28	23.890	27.980	24.520	21.180	55.000	50.410	0.000	20.640
x		118.008%	109.768%	94.628%	107.626%	107.957%	99.794%	0.000	102.240%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		1.539	3.130	3.801	1.476	2.568	4.353	0.000	1.482

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:13	88.663%	2012.000	2048.000	76.478%	18.310	17.910	23.210	25.600
2	13:53:21	89.830%	2000.000	2063.000	79.349%	18.670	18.150	22.650	25.220
3	13:53:28	87.090%	1989.000	2043.000	75.044%	18.840	18.970	23.710	25.410
x		88.528%	100.012%	102.551%	76.957%	93.017%	91.720%	115.952%	127.048%
σ		1.375%	n/a	n/a	2.192%	n/a	n/a	n/a	n/a
%RSD		1.553	0.553	0.513	2.848	1.450	3.021	2.294	0.766

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:13	87.234%	97.910	20.510	20.310	20.120	20.350	82.115%	79.825%
2	13:53:21	84.395%	95.700	19.200	19.630	20.050	20.890	86.108%	84.969%
3	13:53:28	87.961%	97.700	19.160	18.470	19.510	20.160	80.270%	78.420%
x		86.530%	97.101%	98.107%	97.349%	99.474%	102.330%	82.831%	81.071%
σ		1.884%	n/a	n/a	n/a	n/a	n/a	2.984%	3.448%
%RSD		2.178	1.257	3.905	4.761	1.685	1.863	3.602	4.253

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	13:53:13	21.140	22.150	21.790	22.130	22.040	73.051%
2	13:53:21	23.360	24.060	23.700	23.640	23.480	68.578%
3	13:53:28	21.220	21.880	21.780	22.440	22.270	75.968%
x		109.523%	113.494%	112.115%	113.692%	112.997%	72.532%
σ		n/a	n/a	n/a	n/a	n/a	3.722%
%RSD		5.762	5.237	4.915	3.515	3.418	5.132

CCV 1929644 5/9/2016 1:58:54 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:58:00	81.812%	105.200	83.730	99.910	0.000	48530.000	47920.000	46240.000
2	13:58:08	81.140%	105.100	89.580	101.600	0.000	49330.000	47530.000	45100.000
3	13:58:16	84.143%	96.780	84.510	96.460	0.000	47940.000	46270.000	46500.000
x		82.365%	102.376%	85.938%	99.324%	0.000	97.200%	94.478%	91.885%
σ		1.576%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		1.913	4.737	3.693	2.635	0.000	1.427	1.830	1.622

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:58:00	449.300	4883.000	0.000	47440.000	47990.000	48590.000	96.131%	95.860
2	13:58:08	439.100	4824.000	0.000	45740.000	47090.000	47910.000	95.017%	95.460
3	13:58:16	478.900	4941.000	0.000	48240.000	48780.000	48760.000	93.197%	93.810
x		91.159%	97.650%	0.000	94.275%	95.903%	96.840%	94.782%	95.040%
σ		n/a	n/a	0.000	n/a	n/a	n/a	1.481%	n/a
%RSD		4.535	1.194	0.000	2.714	1.764	0.929	1.563	1.145

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:58:00	100.600	102.400	486.600	25470.000	25280.000	98.590	99.600	99.160
2	13:58:08	101.600	103.900	480.300	25690.000	25400.000	98.670	99.660	99.500
3	13:58:16	102.700	103.800	492.100	25830.000	25700.000	99.600	101.900	99.370
x		101.617%	103.388%	97.265%	102.667%	101.851%	98.953%	100.397%	99.344%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.047	0.805	1.216	0.705	0.847	0.569	1.325	0.176

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:58:00	99.700	108.000	105.800	96.650	102.800	102.000	0.000	88.760
2	13:58:08	98.180	109.100	103.000	96.580	100.200	101.800	0.000	88.560
3	13:58:16	98.510	103.000	102.800	97.540	99.330	95.850	0.000	86.370
x		98.795%	106.682%	103.879%	96.927%	100.772%	99.874%	0.000	87.900%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		0.812	3.058	1.608	0.553	1.775	3.492	0.000	1.507

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:58:00	91.645%	100.700	105.400	77.060%	96.450	99.320	100.900	103.900
2	13:58:08	93.557%	97.900	103.600	77.185%	96.510	99.520	101.400	102.800
3	13:58:16	97.402%	98.350	103.000	80.148%	95.890	95.590	94.100	100.600
x		94.202%	98.997%	103.964%	78.131%	96.285%	98.146%	98.807%	102.424%
σ		2.932%	n/a	n/a	1.748%	n/a	n/a	n/a	n/a
%RSD		3.113	1.538	1.206	2.237	0.359	2.254	4.133	1.636

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	13:58:00	83.586%	94.350	92.290	92.480	91.280	89.720	83.949%	84.088%
2	13:58:08	83.786%	94.890	94.650	93.150	91.170	92.030	84.631%	85.463%
3	13:58:16	82.462%	94.420	98.270	100.100	95.360	95.110	89.148%	88.302%
x		83.278%	94.554%	95.071%	95.257%	92.605%	92.288%	85.909%	85.951%
σ		0.714%	n/a	n/a	n/a	n/a	n/a	2.825%	2.149%
%RSD		0.857	0.311	3.164	4.459	2.581	2.928	3.288	2.500

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	13:58:00	93.620	97.060	96.090	99.950	99.050	77.523%
2	13:58:08	95.200	98.280	96.530	99.270	98.890	78.262%
3	13:58:16	100.600	101.600	98.420	100.200	99.720	72.661%
x		96.477%	98.972%	97.014%	99.813%	99.218%	76.148%
σ		n/a	n/a	n/a	n/a	n/a	3.043%
%RSD		3.797	2.367	1.277	0.491	0.442	3.996

CCB1 5/9/2016 2:03:40 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:02:48	98.392%	-0.014	-1.311	-1.409	0.000	14.990	5.074	4.891
2	14:02:55	98.040%	-0.004	-1.801	-1.068	0.000	14.150	4.452	4.376
3	14:03:03	92.791%	0.002	-1.269	-1.436	0.000	13.740	4.851	4.717
x		96.408%	-0.006	-1.461	-1.304	0.000	14.290	4.792	4.661
σ		3.137%	0.008	0.296	0.205	0.000	0.636	0.315	0.262
%RSD		3.254	142.800	20.260	15.710	0.000	4.447	6.573	5.626

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:02:48	0.879	2.429	0.000	17.430	0.037	5.188	94.739%	0.189
2	14:02:55	0.776	0.886	0.000	14.600	-0.771	3.485	97.374%	0.119
3	14:03:03	0.800	2.094	0.000	15.260	1.276	4.567	95.977%	0.229
x		0.818	1.803	0.000	15.760	0.181	4.413	96.030%	0.179
σ		0.054	0.812	0.000	1.481	1.031	0.862	1.318%	0.056
%RSD		6.635	45.010	0.000	9.393	569.300	19.530	1.372	31.320

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:02:48	0.017	0.005	0.038	13.630	12.020	0.007	0.015	-0.002
2	14:02:55	0.027	0.011	0.022	11.310	10.730	0.008	0.021	-0.013
3	14:03:03	-0.002	0.013	0.036	9.711	9.138	0.010	0.008	0.011
x		0.014	0.010	0.032	11.550	10.630	0.008	0.015	-0.001
σ		0.015	0.004	0.009	1.970	1.445	0.002	0.007	0.012
%RSD		106.800	44.600	27.620	17.060	13.600	18.550	44.680	937.000

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:02:48	-0.009	0.143	0.197	0.071	0.155	0.149	0.000	0.009
2	14:02:55	-0.011	-0.014	0.249	0.037	0.170	0.161	0.000	0.011
3	14:03:03	-0.007	0.098	0.182	0.051	0.113	0.048	0.000	0.013
x		-0.009	0.076	0.209	0.053	0.146	0.119	0.000	0.011
σ		0.002	0.081	0.035	0.017	0.029	0.062	0.000	0.002
%RSD		25.810	106.700	16.840	32.800	19.980	52.290	0.000	18.810

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:02:48	90.707%	2.398	2.502	92.381%	0.012	0.011	0.024	0.007
2	14:02:55	92.463%	2.053	2.094	92.246%	-0.008	0.010	-0.046	0.019
3	14:03:03	92.137%	1.925	1.962	90.806%	-0.007	0.011	-0.051	0.012
x		91.769%	2.125	2.186	91.811%	-0.001	0.011	-0.024	0.013
σ		0.934%	0.244	0.281	0.873%	0.011	0.000	0.042	0.006
%RSD		1.018	11.500	12.870	0.951	838.000	2.232	172.900	47.230

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:02:48	90.197%	0.163	0.093	0.081	0.042	0.022	95.008%	93.154%
2	14:02:55	91.412%	0.140	0.090	0.101	0.052	0.026	95.615%	92.754%
3	14:03:03	94.751%	0.094	0.080	-0.003	0.009	0.009	92.166%	89.803%
x		92.120%	0.132	0.087	0.060	0.034	0.019	94.263%	91.903%
σ		2.358%	0.035	0.007	0.055	0.022	0.009	1.841%	1.830%
%RSD		2.560	26.840	8.147	92.080	65.540	44.790	1.953	1.992

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:02:48	0.016	0.015	0.045	0.052	0.041	88.753%
2	14:02:55	0.016	0.014	0.041	0.054	0.045	89.889%
3	14:03:03	0.017	0.016	0.051	0.042	0.034	92.962%
x		0.016	0.015	0.046	0.049	0.040	90.534%
σ		0.001	0.001	0.005	0.006	0.005	2.177%
%RSD		3.508	5.977	10.640	13.070	13.690	2.405

MB 180-175374/1-A 5/9/2016 2:08:24 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:07:32	90.796%	-0.029	-1.472	-1.736	0.000	8.255	2.946	2.882
2	14:07:40	85.645%	0.010	-1.765	-1.571	0.000	8.175	2.849	3.134
3	14:07:48	89.193%	0.000	-1.931	-1.793	0.000	8.083	2.999	2.424
x		88.545%	-0.006	-1.723	-1.700	0.000	8.171	2.931	2.814
σ		2.636%	0.020	0.233	0.115	0.000	0.086	0.076	0.360
%RSD		2.977	318.200	13.510	6.786	0.000	1.049	2.597	12.800

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:07:32	1.274	-0.141	0.000	7.333	0.549	3.321	94.471%	0.069
2	14:07:40	1.298	0.194	0.000	7.608	-2.580	3.596	92.621%	0.027
3	14:07:48	1.305	-1.888	0.000	6.766	-1.546	3.001	92.091%	0.050
x		1.292	-0.612	0.000	7.235	-1.192	3.306	93.061%	0.049
σ		0.016	1.118	0.000	0.429	1.594	0.298	1.249%	0.021
%RSD		1.267	182.800	0.000	5.934	133.700	9.015	1.343	43.330

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:07:32	-0.001	0.004	0.099	4.033	3.601	0.002	0.043	-0.015
2	14:07:40	0.012	0.002	0.101	4.146	5.152	0.003	0.062	0.012
3	14:07:48	0.027	0.004	0.089	3.972	3.556	0.004	0.039	-0.020
x		0.013	0.003	0.096	4.050	4.103	0.003	0.048	-0.008
σ		0.014	0.001	0.006	0.088	0.909	0.001	0.012	0.018
%RSD		112.200	28.230	6.560	2.174	22.140	28.990	25.180	230.500

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:07:32	-0.017	0.130	0.363	0.015	0.018	0.081	0.000	0.007
2	14:07:40	-0.011	0.239	0.419	0.010	0.008	-0.210	0.000	0.008
3	14:07:48	-0.019	0.321	0.304	0.007	0.052	-0.001	0.000	0.008
x		-0.016	0.230	0.362	0.011	0.026	-0.043	0.000	0.008
σ		0.004	0.096	0.057	0.004	0.023	0.150	0.000	0.001
%RSD		27.680	41.700	15.810	38.380	87.070	347.900	0.000	10.180

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:07:32	90.770%	0.674	0.729	92.857%	-0.007	0.003	-0.003	0.002
2	14:07:40	92.031%	0.653	0.582	92.128%	-0.018	-0.001	-0.033	0.014
3	14:07:48	92.624%	0.538	0.520	93.339%	-0.022	-0.002	-0.070	0.008
x		91.808%	0.622	0.610	92.775%	-0.015	-0.000	-0.035	0.008
σ		0.947%	0.073	0.108	0.609%	0.008	0.003	0.033	0.006
%RSD		1.031	11.810	17.630	0.657	51.280	18370.000	94.240	77.450

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:07:32	92.858%	-0.037	0.027	-0.025	-0.008	0.010	92.286%	94.015%
2	14:07:40	92.512%	-0.050	0.018	-0.032	-0.019	-0.005	94.269%	95.446%
3	14:07:48	91.842%	-0.070	0.020	-0.085	-0.019	-0.000	93.618%	93.516%
x		92.404%	-0.052	0.022	-0.047	-0.016	0.002	93.391%	94.326%
σ		0.517%	0.017	0.005	0.033	0.006	0.008	1.011%	1.002%
%RSD		0.559	32.180	21.730	70.160	40.050	470.100	1.082	1.062

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:07:32	0.008	0.009	0.030	0.038	0.016	95.341%
2	14:07:40	0.011	0.008	0.029	0.023	0.021	95.401%
3	14:07:48	0.012	0.008	0.016	-0.003	0.011	92.985%
x		0.010	0.008	0.025	0.019	0.016	94.575%
σ		0.002	0.001	0.008	0.021	0.005	1.378%
%RSD		22.770	11.620	31.920	107.900	31.040	1.457

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:15	75.517%	51.750	841.700	961.000	0.000	46770.000	46350.000	44270.000
2	14:12:22	77.650%	48.290	816.800	940.900	0.000	45660.000	43810.000	43360.000
3	14:12:30	75.530%	48.560	838.900	941.100	0.000	44750.000	42780.000	43020.000
x		76.232%	49.530	832.500	947.600	0.000	45730.000	44310.000	43550.000
σ		1.228%	1.923	13.630	11.550	0.000	1014.000	1837.000	647.700
%RSD		1.611	3.882	1.637	1.219	0.000	2.218	4.147	1.487

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:15	1700.000	8969.000	0.000	44370.000	45820.000	46800.000	87.433%	892.100
2	14:12:22	1747.000	9176.000	0.000	45980.000	47320.000	46820.000	84.492%	888.700
3	14:12:30	1713.000	9120.000	0.000	45420.000	46900.000	47210.000	84.665%	873.600
x		1720.000	9088.000	0.000	45260.000	46680.000	46940.000	85.530%	884.800
σ		24.310	107.300	0.000	818.400	776.000	232.000	1.650%	9.851
%RSD		1.414	1.181	0.000	1.808	1.662	0.494	1.929	1.113

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:15	477.100	201.400	465.300	1005.000	1195.000	464.200	489.300	244.800
2	14:12:22	489.600	206.100	475.400	1024.000	1191.000	465.700	492.300	247.400
3	14:12:30	495.300	202.600	468.800	1019.000	1204.000	471.400	492.500	242.100
x		487.300	203.400	469.900	1016.000	1196.000	467.100	491.400	244.800
σ		9.311	2.441	5.131	9.808	6.557	3.775	1.775	2.646
%RSD		1.911	1.200	1.092	0.966	0.548	0.808	0.361	1.081

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:15	247.100	547.800	527.200	39.320	11.490	11.000	0.000	847.300
2	14:12:22	247.100	551.900	529.500	39.340	11.490	11.330	0.000	836.500
3	14:12:30	241.300	540.500	517.400	39.900	11.070	10.980	0.000	831.000
x		245.200	546.700	524.700	39.520	11.350	11.100	0.000	838.300
σ		3.360	5.816	6.446	0.333	0.242	0.198	0.000	8.305
%RSD		1.370	1.064	1.228	0.842	2.134	1.781	0.000	0.991

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:15	80.727%	919.300	947.300	75.575%	44.380	45.380	52.010	109.300
2	14:12:22	82.172%	916.900	942.000	76.422%	44.690	45.320	52.150	110.800
3	14:12:30	85.645%	924.300	918.200	76.035%	42.660	43.750	49.190	107.100
x		82.848%	920.200	935.800	76.011%	43.910	44.820	51.120	109.100
σ		2.528%	3.746	15.520	0.424%	1.092	0.923	1.668	1.852
%RSD		3.051	0.407	1.658	0.558	2.487	2.060	3.264	1.698

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:15	75.467%	1753.000	440.800	433.700	1462.000	1689.000	79.779%	84.934%
2	14:12:22	75.288%	1759.000	451.000	438.700	1542.000	1756.000	81.490%	84.982%
3	14:12:30	76.233%	1783.000	484.600	489.600	833.600	1749.000	82.566%	85.921%
x		75.663%	1765.000	458.800	454.000	1279.000	1732.000	81.278%	85.279%
σ		0.502%	15.780	22.920	30.930	388.000	36.830	1.406%	0.556%
%RSD		0.663	0.894	4.995	6.813	30.330	2.127	1.729	0.652

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:12:15	43.880	46.030	18.630	18.640	18.540	78.006%
2	14:12:22	44.140	45.930	18.220	18.480	18.260	78.683%
3	14:12:30	44.300	45.380	17.630	18.180	17.920	75.892%
x		44.100	45.780	18.160	18.430	18.240	77.527%
σ		0.210	0.349	0.504	0.236	0.310	1.456%
%RSD		0.477	0.762	2.776	1.278	1.702	1.878

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:58	75.561%	49.900	907.300	922.700	0.000	45830.000	46720.000	47590.000
2	14:17:05	70.471%	53.740	924.800	954.200	0.000	44650.000	44820.000	44460.000
3	14:17:13	72.655%	49.540	805.400	902.900	0.000	44670.000	42190.000	41910.000
x		72.896%	51.060	879.200	926.600	0.000	45050.000	44580.000	44650.000
σ		2.554%	2.328	64.490	25.880	0.000	676.300	2273.000	2842.000
%RSD		3.503	4.559	7.336	2.793	0.000	1.501	5.099	6.364

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:58	1845.000	9652.000	0.000	45550.000	45930.000	46730.000	83.271%	916.800
2	14:17:05	1666.000	9225.000	0.000	44050.000	45330.000	46330.000	85.678%	881.200
3	14:17:13	1665.000	8889.000	0.000	43630.000	45250.000	46270.000	83.636%	871.500
x		1725.000	9255.000	0.000	44410.000	45510.000	46440.000	84.195%	889.800
σ		103.800	382.400	0.000	1010.000	369.000	252.500	1.297%	23.870
%RSD		6.013	4.132	0.000	2.275	0.811	0.544	1.541	2.682

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:58	494.800	202.600	491.400	1018.000	1205.000	469.000	492.600	243.800
2	14:17:05	489.800	198.800	461.300	995.400	1164.000	457.800	481.400	239.400
3	14:17:13	485.900	200.000	460.400	1007.000	1202.000	459.000	482.400	238.900
x		490.200	200.500	471.000	1007.000	1190.000	461.900	485.400	240.700
σ		4.447	1.946	17.610	11.490	22.760	6.130	6.198	2.698
%RSD		0.907	0.971	3.739	1.142	1.912	1.327	1.277	1.121

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:58	243.600	551.100	533.300	39.660	10.830	10.710	0.000	838.500
2	14:17:05	238.700	541.700	519.500	39.030	11.000	11.090	0.000	841.700
3	14:17:13	237.100	532.100	514.000	39.330	10.960	10.550	0.000	825.500
x		239.800	541.600	522.300	39.340	10.930	10.780	0.000	835.200
σ		3.389	9.474	9.959	0.315	0.092	0.277	0.000	8.595
%RSD		1.413	1.749	1.907	0.801	0.838	2.567	0.000	1.029

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:58	81.879%	933.600	917.100	74.474%	44.070	45.110	51.510	110.600
2	14:17:05	81.258%	916.300	944.100	75.357%	44.080	44.920	51.050	110.600
3	14:17:13	84.632%	925.600	907.800	76.968%	43.580	43.920	49.920	107.600
x		82.589%	925.200	923.000	75.600%	43.910	44.650	50.820	109.600
σ		1.796%	8.676	18.820	1.265%	0.290	0.637	0.820	1.694
%RSD		2.175	0.938	2.039	1.673	0.661	1.426	1.613	1.546

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:58	77.017%	1789.000	477.200	457.400	1004.000	1695.000	79.509%	82.357%
2	14:17:05	77.779%	1754.000	460.400	445.200	869.200	1741.000	79.583%	83.946%
3	14:17:13	76.630%	1792.000	484.600	475.500	566.700	1736.000	82.714%	84.350%
x		77.142%	1779.000	474.100	459.400	813.200	1724.000	80.602%	83.551%
σ		0.584%	20.870	12.400	15.230	223.800	25.210	1.829%	1.054%
%RSD		0.758	1.174	2.616	3.316	27.520	1.462	2.270	1.261

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:16:58	41.750	43.710	17.540	17.740	17.740	78.840%
2	14:17:05	42.620	43.840	17.670	17.980	17.740	79.602%
3	14:17:13	43.870	44.950	17.370	17.700	17.660	76.759%
x		42.750	44.170	17.520	17.810	17.710	78.400%
σ		1.068	0.678	0.149	0.153	0.048	1.471%
%RSD		2.498	1.535	0.850	0.858	0.269	1.877

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:41	79.780%	0.022	153.700	164.200	0.000	2156.000	1767.000	1819.000
2	14:21:49	79.911%	0.026	148.900	143.400	0.000	2184.000	1767.000	1753.000
3	14:21:56	79.059%	0.027	144.600	161.700	0.000	2151.000	1733.000	1733.000
x		79.583%	0.025	149.100	156.400	0.000	2164.000	1756.000	1769.000
σ		0.459%	0.003	4.596	11.380	0.000	17.360	19.430	44.960
%RSD		0.576	10.050	3.084	7.275	0.000	0.803	1.107	2.542

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:41	473.300	3295.000	0.000	2872.000	6282.000	6089.000	77.440%	7.083
2	14:21:49	483.100	3086.000	0.000	2715.000	6048.000	5944.000	77.101%	7.141
3	14:21:56	494.600	3115.000	0.000	2801.000	6117.000	6086.000	75.209%	6.729
x		483.700	3165.000	0.000	2796.000	6149.000	6040.000	76.583%	6.984
σ		10.660	113.000	0.000	78.600	120.400	82.470	1.202%	0.223
%RSD		2.204	3.571	0.000	2.812	1.957	1.366	1.569	3.196

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:41	2.244	5.383	198.300	2063.000	2149.000	0.766	2.854	15.210
2	14:21:49	2.313	5.540	197.100	2054.000	2135.000	0.763	2.507	15.240
3	14:21:56	2.248	5.675	195.900	2116.000	2184.000	0.779	2.748	15.450
x		2.268	5.533	197.100	2077.000	2156.000	0.770	2.703	15.300
σ		0.039	0.146	1.169	33.880	25.550	0.008	0.178	0.131
%RSD		1.706	2.634	0.593	1.631	1.185	1.098	6.579	0.853

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:41	15.250	46.960	48.500	7.436	0.336	5.124	0.000	23.010
2	14:21:49	15.520	46.910	45.130	7.306	0.364	5.307	0.000	22.460
3	14:21:56	15.100	48.410	47.910	7.340	0.272	5.423	0.000	22.250
x		15.290	47.430	47.180	7.361	0.324	5.285	0.000	22.570
σ		0.212	0.850	1.801	0.067	0.047	0.151	0.000	0.390
%RSD		1.385	1.791	3.818	0.914	14.600	2.854	0.000	1.727

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:41	84.983%	6.231	6.228	81.474%	0.014	0.029	0.139	0.240
2	14:21:49	84.831%	5.337	5.345	83.088%	0.012	0.026	0.126	0.240
3	14:21:56	85.857%	4.669	4.669	80.237%	0.008	0.025	0.059	0.259
x		85.224%	5.412	5.414	81.600%	0.011	0.026	0.108	0.246
σ		0.554%	0.784	0.782	1.429%	0.003	0.002	0.043	0.011
%RSD		0.650	14.480	14.440	1.752	26.890	7.997	39.950	4.381

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:41	82.418%	3.664	3.380	3.381	27.660	28.640	88.567%	87.642%
2	14:21:49	80.603%	3.403	2.840	2.680	27.230	28.580	89.374%	89.126%
3	14:21:56	83.588%	3.112	2.643	2.447	27.750	27.410	85.796%	84.597%
x		82.203%	3.393	2.954	2.836	27.550	28.210	87.912%	87.122%
σ		1.504%	0.276	0.382	0.486	0.278	0.691	1.876%	2.309%
%RSD		1.830	8.145	12.930	17.130	1.007	2.449	2.134	2.651

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:21:41	0.100	0.108	2.033	1.902	1.988	90.332%
2	14:21:49	0.112	0.111	2.189	2.059	2.053	88.723%
3	14:21:56	0.090	0.106	2.081	1.896	1.966	93.541%
x		0.101	0.109	2.101	1.952	2.002	90.865%
σ		0.011	0.003	0.080	0.092	0.045	2.452%
%RSD		11.290	2.413	3.803	4.733	2.262	2.699

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:25	71.722%	-0.005	45.250	47.420	0.000	61890.000	10620.000	10860.000
2	14:26:33	69.507%	-0.009	42.460	49.830	0.000	64500.000	10100.000	10270.000
3	14:26:41	70.017%	0.000	43.170	47.660	0.000	62620.000	10360.000	10020.000
x		70.415%	-0.005	43.630	48.310	0.000	63000.000	10360.000	10380.000
σ		1.160%	0.004	1.447	1.327	0.000	1344.000	258.600	431.200
%RSD		1.647	97.310	3.316	2.746	0.000	2.133	2.497	4.153

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:25	47.470	2727.000	0.000	2285.000	234400.000	230400.000	72.342%	10.490
2	14:26:33	44.570	2560.000	0.000	2174.000	228100.000	233300.000	72.219%	9.813
3	14:26:41	43.810	2453.000	0.000	2107.000	222000.000	224400.000	72.632%	9.786
x		45.280	2580.000	0.000	2189.000	228100.000	229400.000	72.397%	10.030
σ		1.930	138.300	0.000	90.210	6211.000	4524.000	0.212%	0.396
%RSD		4.262	5.359	0.000	4.122	2.722	1.972	0.293	3.951

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:25	1.403	0.821	20.410	229.200	1067.000	0.658	10.970	2.774
2	14:26:33	1.084	0.760	19.780	221.200	1052.000	0.637	10.230	2.680
3	14:26:41	1.080	0.876	18.980	229.300	1076.000	0.638	10.710	2.686
x		1.189	0.819	19.720	226.600	1065.000	0.644	10.640	2.713
σ		0.185	0.058	0.718	4.607	11.910	0.012	0.380	0.052
%RSD		15.590	7.071	3.641	2.033	1.118	1.895	3.569	1.926

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:25	3.024	13.590	13.900	3.040	0.450	13.060	0.000	245.000
2	14:26:33	3.075	13.120	13.970	2.863	0.427	11.820	0.000	231.500
3	14:26:41	3.476	13.690	13.720	2.926	0.443	13.320	0.000	247.800
x		3.192	13.470	13.860	2.943	0.440	12.730	0.000	241.500
σ		0.248	0.306	0.130	0.089	0.012	0.801	0.000	8.720
%RSD		7.756	2.272	0.939	3.038	2.701	6.294	0.000	3.611

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:25	77.961%	4.303	4.464	71.126%	0.002	0.008	0.062	0.103
2	14:26:33	80.634%	3.896	3.937	71.147%	-0.003	0.005	-0.012	0.070
3	14:26:41	79.344%	3.902	3.992	70.006%	-0.019	0.000	0.029	0.063
x		79.313%	4.034	4.131	70.760%	-0.007	0.004	0.026	0.079
σ		1.337%	0.233	0.290	0.653%	0.011	0.004	0.037	0.021
%RSD		1.685	5.786	7.014	0.923	164.500	94.530	140.000	26.720

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:25	71.573%	1.147	0.903	0.884	15.350	15.910	81.618%	81.069%
2	14:26:33	76.596%	1.075	0.944	0.802	14.270	14.590	82.660%	80.732%
3	14:26:41	73.139%	1.048	0.860	0.770	16.150	16.410	80.169%	78.471%
x		73.769%	1.090	0.902	0.819	15.250	15.640	81.483%	80.091%
σ		2.570%	0.051	0.042	0.059	0.946	0.940	1.251%	1.413%
%RSD		3.484	4.700	4.623	7.150	6.202	6.012	1.535	1.764

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:26:25	0.007	0.010	0.260	0.264	0.248	68.632%
2	14:26:33	0.006	0.005	0.206	0.190	0.189	79.485%
3	14:26:41	0.007	0.010	0.213	0.194	0.207	76.212%
x		0.007	0.008	0.226	0.216	0.215	74.776%
σ		0.001	0.003	0.029	0.042	0.030	5.567%
%RSD		8.986	35.310	12.910	19.250	13.950	7.445

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:08	63.163%	-0.020	3.627	3.180	0.000	4437.000	2049.000	1988.000
2	14:31:16	64.539%	-0.020	2.608	3.473	0.000	4350.000	1996.000	1873.000
3	14:31:24	63.348%	0.006	1.686	2.150	0.000	4231.000	2021.000	2039.000
x		63.683%	-0.011	2.640	2.934	0.000	4339.000	2022.000	1967.000
σ		0.747%	0.015	0.971	0.695	0.000	103.200	26.160	85.340
%RSD		1.173	128.300	36.780	23.680	0.000	2.378	1.294	4.339

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:08	1.881	3851.000	0.000	455.200	76390.000	79120.000	67.489%	0.353
2	14:31:16	1.759	3783.000	0.000	455.000	77210.000	79510.000	67.251%	0.586
3	14:31:24	1.934	3755.000	0.000	454.800	77090.000	80510.000	64.242%	1.133
x		1.858	3797.000	0.000	455.000	76900.000	79710.000	66.327%	0.691
σ		0.089	49.480	0.000	0.188	445.100	719.100	1.810%	0.401
%RSD		4.814	1.303	0.000	0.041	0.579	0.902	2.729	58.030

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:08	-0.004	0.189	1124.000	765.400	1075.000	1.932	1.289	0.228
2	14:31:16	0.281	0.191	1108.000	769.500	1073.000	1.862	1.492	0.286
3	14:31:24	0.016	0.217	1156.000	808.900	1119.000	2.032	1.381	0.329
x		0.098	0.199	1129.000	781.300	1089.000	1.942	1.388	0.281
σ		0.159	0.015	24.420	24.040	26.410	0.085	0.102	0.051
%RSD		163.300	7.781	2.163	3.077	2.426	4.397	7.333	18.080

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:08	0.373	1.756	1.479	1.965	0.035	7.203	0.000	106.300
2	14:31:16	0.394	1.654	1.236	2.045	0.061	7.431	0.000	107.000
3	14:31:24	0.421	1.744	2.014	2.068	0.086	7.138	0.000	106.300
x		0.396	1.718	1.576	2.026	0.061	7.258	0.000	106.500
σ		0.024	0.056	0.398	0.054	0.025	0.154	0.000	0.405
%RSD		6.017	3.236	25.250	2.657	41.820	2.120	0.000	0.381

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:08	72.276%	1.567	1.749	70.119%	-0.013	0.006	0.019	0.046
2	14:31:16	71.821%	1.465	1.542	71.453%	0.003	0.012	-0.028	0.056
3	14:31:24	73.166%	1.455	1.510	70.686%	-0.013	0.006	-0.047	0.041
x		72.421%	1.495	1.600	70.753%	-0.007	0.008	-0.019	0.048
σ		0.684%	0.062	0.130	0.670%	0.009	0.003	0.034	0.007
%RSD		0.945	4.138	8.090	0.947	118.900	42.670	181.600	15.020

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:08	70.756%	0.976	0.586	0.549	51.200	52.450	77.781%	76.399%
2	14:31:16	71.043%	0.879	0.528	0.517	50.050	51.750	77.220%	77.806%
3	14:31:24	73.005%	0.779	0.485	0.370	51.570	50.930	75.218%	76.372%
x		71.601%	0.878	0.533	0.479	50.940	51.710	76.740%	76.859%
σ		1.224%	0.098	0.050	0.096	0.793	0.761	1.348%	0.820%
%RSD		1.709	11.190	9.466	19.960	1.556	1.471	1.756	1.067

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:31:08	0.029	0.028	-0.006	-0.006	-0.007	74.876%
2	14:31:16	0.028	0.030	-0.000	-0.012	-0.009	73.248%
3	14:31:24	0.029	0.024	-0.017	-0.005	-0.015	77.547%
x		0.029	0.027	-0.008	-0.008	-0.010	75.224%
σ		0.000	0.003	0.009	0.004	0.004	2.171%
%RSD		1.254	10.960	109.100	53.760	41.460	2.885

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:35:54	69.346%	-0.009	3.361	3.816	0.000	2314.000	1424.000	1373.000
2	14:36:02	70.552%	-0.014	3.260	2.844	0.000	2204.000	1346.000	1341.000
3	14:36:10	73.446%	-0.037	1.970	2.875	0.000	2282.000	1342.000	1326.000
x		71.115%	-0.020	2.864	3.178	0.000	2267.000	1371.000	1347.000
σ		2.107%	0.015	0.775	0.553	0.000	56.880	46.680	23.850
%RSD		2.963	76.700	27.080	17.390	0.000	2.509	3.406	1.771

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:35:54	1.683	4371.000	0.000	385.800	31660.000	32410.000	71.688%	0.401
2	14:36:02	1.728	4284.000	0.000	387.900	31310.000	32630.000	70.862%	0.421
3	14:36:10	1.828	4276.000	0.000	414.800	33590.000	33690.000	66.834%	0.295
x		1.746	4310.000	0.000	396.200	32180.000	32910.000	69.795%	0.372
σ		0.074	52.430	0.000	16.170	1228.000	682.700	2.597%	0.068
%RSD		4.231	1.216	0.000	4.082	3.814	2.074	3.721	18.230

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:35:54	0.134	0.382	37.230	18.740	127.400	0.160	0.986	0.230
2	14:36:02	0.366	0.388	37.280	18.600	127.300	0.147	0.812	0.296
3	14:36:10	0.208	0.417	37.810	19.690	133.200	0.161	0.962	0.289
x		0.236	0.396	37.440	19.010	129.300	0.156	0.920	0.271
σ		0.119	0.019	0.324	0.591	3.369	0.008	0.094	0.036
%RSD		50.200	4.775	0.866	3.110	2.606	5.062	10.250	13.310

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:35:54	0.421	2.199	2.271	0.631	0.305	4.457	0.000	51.310
2	14:36:02	0.276	1.983	2.228	0.577	0.275	4.490	0.000	50.130
3	14:36:10	0.309	2.300	2.552	0.586	0.350	4.289	0.000	49.840
x		0.335	2.161	2.350	0.598	0.310	4.412	0.000	50.430
σ		0.076	0.162	0.176	0.029	0.037	0.108	0.000	0.781
%RSD		22.610	7.506	7.496	4.805	12.080	2.444	0.000	1.548

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:35:54	74.324%	0.630	0.645	73.461%	-0.005	-0.005	-0.002	0.048
2	14:36:02	76.534%	0.628	0.600	74.054%	-0.004	-0.003	0.015	0.071
3	14:36:10	77.381%	0.559	0.607	74.127%	-0.007	-0.001	-0.048	0.057
x		76.080%	0.605	0.618	73.881%	-0.006	-0.003	-0.012	0.058
σ		1.579%	0.040	0.024	0.365%	0.002	0.002	0.033	0.011
%RSD		2.075	6.680	3.936	0.494	27.470	76.100	268.600	19.220

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:35:54	74.010%	0.281	0.217	0.166	1.574	1.493	79.868%	78.861%
2	14:36:02	73.247%	0.263	0.174	0.121	1.579	1.577	80.862%	81.868%
3	14:36:10	74.924%	0.268	0.195	0.142	1.402	1.509	79.538%	78.851%
x		74.060%	0.271	0.196	0.143	1.518	1.526	80.089%	79.860%
σ		0.840%	0.010	0.021	0.023	0.101	0.045	0.689%	1.739%
%RSD		1.134	3.514	10.970	15.760	6.633	2.917	0.860	2.178

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:35:54	0.005	0.006	-0.060	-0.047	-0.056	80.817%
2	14:36:02	0.007	0.007	-0.046	-0.057	-0.052	76.064%
3	14:36:10	0.005	0.006	-0.061	-0.052	-0.058	80.038%
x		0.005	0.006	-0.056	-0.052	-0.055	78.973%
σ		0.001	0.001	0.008	0.005	0.003	2.549%
%RSD		22.370	17.180	14.830	9.077	5.317	3.228

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:40:37	78.379%	-0.026	0.643	0.643	0.000	4101.000	4448.000	4539.000
2	14:40:44	75.728%	-0.016	0.285	0.837	0.000	3984.000	4397.000	4524.000
3	14:40:52	73.175%	-0.006	0.933	0.901	0.000	4270.000	4417.000	4305.000
x		75.761%	-0.016	0.620	0.794	0.000	4118.000	4421.000	4456.000
σ		2.602%	0.010	0.324	0.134	0.000	143.400	25.470	131.200
%RSD		3.435	60.000	52.270	16.930	0.000	3.482	0.576	2.945

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:40:37	36.550	3531.000	0.000	450.000	60400.000	61220.000	69.433%	0.341
2	14:40:44	36.690	3590.000	0.000	457.300	61460.000	61170.000	68.965%	0.554
3	14:40:52	34.000	3393.000	0.000	441.500	60660.000	61840.000	68.520%	0.286
x		35.750	3504.000	0.000	449.600	60840.000	61410.000	68.972%	0.394
σ		1.518	101.100	0.000	7.916	555.800	369.900	0.456%	0.142
%RSD		4.245	2.886	0.000	1.761	0.914	0.602	0.662	36.040

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:40:37	-0.025	0.180	246.200	1550.000	1803.000	1.066	0.892	0.371
2	14:40:44	0.019	0.186	246.300	1561.000	1830.000	1.093	0.933	0.319
3	14:40:52	0.053	0.196	250.100	1563.000	1816.000	1.131	0.820	0.326
x		0.016	0.188	247.500	1558.000	1816.000	1.097	0.882	0.339
σ		0.039	0.008	2.203	7.096	13.510	0.033	0.057	0.028
%RSD		250.500	4.369	0.890	0.456	0.744	2.999	6.462	8.384

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:40:37	0.468	1.535	1.010	4.807	-0.004	8.159	0.000	86.220
2	14:40:44	0.406	1.386	1.367	4.769	0.007	8.172	0.000	85.240
3	14:40:52	0.407	1.363	1.140	4.798	-0.017	7.995	0.000	84.440
x		0.427	1.428	1.172	4.791	-0.004	8.108	0.000	85.300
σ		0.035	0.093	0.180	0.020	0.012	0.099	0.000	0.888
%RSD		8.303	6.532	15.380	0.415	276.700	1.217	0.000	1.041

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:40:37	75.274%	1.346	1.227	73.165%	0.075	0.009	0.037	0.016
2	14:40:44	77.297%	1.091	1.235	74.738%	0.046	0.013	-0.022	0.009
3	14:40:52	78.740%	1.292	1.218	75.717%	0.035	0.012	-0.007	0.014
x		77.104%	1.243	1.227	74.540%	0.052	0.011	0.003	0.013
σ		1.741%	0.134	0.009	1.288%	0.021	0.002	0.030	0.003
%RSD		2.258	10.790	0.716	1.728	39.460	19.130	1193.000	25.650

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:40:37	74.337%	0.249	0.136	0.117	35.550	35.580	78.120%	78.752%
2	14:40:44	75.570%	0.223	0.168	0.142	35.680	36.340	79.673%	78.954%
3	14:40:52	74.480%	0.252	0.150	0.072	36.380	36.910	81.592%	80.590%
x		74.796%	0.241	0.152	0.110	35.870	36.270	79.795%	79.432%
σ		0.675%	0.016	0.016	0.036	0.447	0.667	1.739%	1.008%
%RSD		0.902	6.622	10.440	32.220	1.246	1.839	2.180	1.269

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:40:37	0.024	0.023	-0.033	-0.039	-0.041	80.696%
2	14:40:44	0.019	0.025	-0.033	-0.039	-0.044	78.988%
3	14:40:52	0.018	0.026	-0.039	-0.035	-0.045	76.667%
x		0.020	0.025	-0.035	-0.037	-0.044	78.784%
σ		0.003	0.001	0.003	0.002	0.002	2.022%
%RSD		16.820	5.604	9.691	5.732	4.709	2.567

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:21	80.858%	-0.014	1.212	1.170	0.000	7688.000	1358.000	1366.000
2	14:45:30	88.218%	-0.014	0.230	0.465	0.000	6995.000	1157.000	1193.000
3	14:45:37	85.993%	-0.005	0.771	0.838	0.000	7122.000	1287.000	1292.000
x		85.023%	-0.011	0.738	0.824	0.000	7269.000	1267.000	1284.000
σ		3.775%	0.005	0.492	0.353	0.000	368.900	101.700	86.810
%RSD		4.440	45.010	66.660	42.800	0.000	5.075	8.022	6.761

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:21	3.577	3583.000	0.000	329.800	60000.000	61260.000	79.637%	0.889
2	14:45:30	3.413	3436.000	0.000	327.800	57610.000	58520.000	80.696%	0.696
3	14:45:37	3.710	3772.000	0.000	350.800	62240.000	60960.000	78.271%	0.640
x		3.567	3597.000	0.000	336.100	59950.000	60250.000	79.535%	0.742
σ		0.149	168.300	0.000	12.730	2318.000	1505.000	1.216%	0.130
%RSD		4.168	4.680	0.000	3.787	3.867	2.498	1.528	17.580

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:21	0.094	0.150	218.200	9737.000	10250.000	1.909	3.691	0.311
2	14:45:30	0.208	0.136	206.500	9704.000	10170.000	1.890	3.864	0.209
3	14:45:37	0.070	0.134	201.100	10050.000	10410.000	1.931	3.956	0.241
x		0.124	0.140	208.600	9831.000	10270.000	1.910	3.837	0.254
σ		0.073	0.009	8.774	192.700	125.700	0.021	0.134	0.052
%RSD		59.280	6.177	4.206	1.960	1.224	1.076	3.503	20.420

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:21	0.448	1.681	0.907	5.762	0.016	6.485	0.000	102.400
2	14:45:30	0.351	1.421	1.067	5.582	0.003	5.229	0.000	100.900
3	14:45:37	0.344	1.738	1.170	5.767	-0.008	6.182	0.000	100.600
x		0.381	1.614	1.048	5.704	0.004	5.965	0.000	101.300
σ		0.058	0.169	0.133	0.106	0.012	0.656	0.000	0.964
%RSD		15.290	10.470	12.670	1.849	301.600	10.990	0.000	0.952

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:21	79.559%	0.580	0.678	79.930%	-0.006	-0.001	-0.022	0.019
2	14:45:30	82.551%	0.614	0.688	81.135%	-0.026	-0.004	-0.028	0.008
3	14:45:37	83.538%	0.623	0.583	81.864%	-0.015	-0.004	-0.077	0.014
x		81.883%	0.606	0.650	80.976%	-0.015	-0.003	-0.042	0.014
σ		2.072%	0.022	0.058	0.977%	0.010	0.002	0.030	0.005
%RSD		2.530	3.710	8.921	1.206	63.750	48.520	71.320	37.880

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:21	78.508%	0.047	0.042	-0.009	81.650	82.510	82.123%	82.646%
2	14:45:30	79.052%	0.081	0.055	-0.041	82.800	83.980	84.766%	84.254%
3	14:45:37	80.541%	0.056	0.028	-0.068	84.570	85.830	84.371%	83.736%
x		79.367%	0.061	0.042	-0.039	83.010	84.110	83.753%	83.546%
σ		1.052%	0.018	0.013	0.030	1.471	1.666	1.426%	0.821%
%RSD		1.326	28.780	32.330	75.720	1.773	1.980	1.702	0.982

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:45:21	0.001	-0.001	-0.058	-0.049	-0.062	82.292%
2	14:45:30	0.004	0.000	-0.048	-0.062	-0.064	80.061%
3	14:45:37	0.003	-0.000	-0.053	-0.051	-0.060	79.975%
x		0.003	-0.000	-0.053	-0.054	-0.062	80.776%
σ		0.002	0.001	0.005	0.007	0.002	1.313%
%RSD		68.880	191.800	9.319	13.230	3.025	1.626

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:50:07	92.070%	0.176	0.542	1.085	0.000	2347.000	580.300	541.600
2	14:50:15	90.696%	0.187	0.666	1.217	0.000	2389.000	571.500	565.100
3	14:50:23	96.568%	0.182	0.112	0.501	0.000	2277.000	572.400	580.500
x		93.111%	0.182	0.440	0.934	0.000	2338.000	574.700	562.400
σ		3.071%	0.005	0.291	0.381	0.000	56.560	4.828	19.580
%RSD		3.299	2.901	66.080	40.800	0.000	2.420	0.840	3.481

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:50:07	5.107	3905.000	0.000	446.000	1662.000	1722.000	87.584%	0.329
2	14:50:15	5.833	4003.000	0.000	467.600	1898.000	1781.000	82.626%	0.327
3	14:50:23	5.890	4047.000	0.000	480.800	1732.000	1716.000	81.194%	0.295
x		5.610	3985.000	0.000	464.800	1764.000	1740.000	83.802%	0.317
σ		0.437	73.000	0.000	17.580	121.000	35.470	3.353%	0.019
%RSD		7.785	1.832	0.000	3.783	6.862	2.039	4.001	5.894

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:50:07	0.001	0.915	6.893	7.546	11.120	0.012	2.562	0.323
2	14:50:15	0.078	0.981	7.108	6.607	9.919	0.013	2.549	0.316
3	14:50:23	0.081	1.005	7.404	5.711	11.440	0.014	2.528	0.304
x		0.053	0.967	7.135	6.621	10.830	0.013	2.546	0.314
σ		0.045	0.047	0.257	0.918	0.803	0.001	0.017	0.010
%RSD		84.940	4.834	3.600	13.860	7.416	5.830	0.679	3.107

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:50:07	0.302	22.970	22.160	0.053	0.178	3.139	0.000	4.295
2	14:50:15	0.298	23.530	22.900	0.062	0.157	2.982	0.000	4.303
3	14:50:23	0.322	23.330	23.310	0.049	0.179	2.597	0.000	4.268
x		0.307	23.280	22.790	0.054	0.171	2.906	0.000	4.289
σ		0.013	0.287	0.582	0.007	0.013	0.279	0.000	0.018
%RSD		4.141	1.234	2.554	11.970	7.418	9.598	0.000	0.423

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:50:07	82.525%	0.037	0.036	84.221%	-0.011	-0.000	0.082	0.134
2	14:50:15	84.302%	-0.001	0.035	84.448%	-0.013	-0.005	0.034	0.147
3	14:50:23	84.243%	0.045	0.055	84.040%	-0.022	-0.001	0.102	0.144
x		83.690%	0.027	0.042	84.236%	-0.015	-0.002	0.072	0.142
σ		1.009%	0.025	0.011	0.205%	0.006	0.003	0.035	0.007
%RSD		1.206	91.550	27.380	0.243	38.050	117.300	48.190	5.049

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:50:07	80.351%	0.049	0.062	0.029	2.837	2.668	85.582%	85.810%
2	14:50:15	81.408%	0.043	0.037	-0.054	2.687	2.504	84.339%	84.531%
3	14:50:23	81.473%	0.031	0.060	-0.055	2.714	2.656	84.579%	84.600%
x		81.078%	0.041	0.053	-0.027	2.746	2.609	84.833%	84.981%
σ		0.630%	0.010	0.014	0.048	0.080	0.092	0.660%	0.719%
%RSD		0.777	23.220	25.980	180.700	2.920	3.512	0.777	0.846

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:50:07	0.004	0.005	-0.069	-0.078	-0.079	84.263%
2	14:50:15	0.005	0.003	-0.079	-0.069	-0.080	86.702%
3	14:50:23	0.005	0.005	-0.072	-0.076	-0.077	87.417%
x		0.005	0.005	-0.073	-0.074	-0.079	86.127%
σ		0.001	0.001	0.005	0.005	0.001	1.654%
%RSD		10.380	21.150	7.322	6.497	1.630	1.920

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:54:52	103.867%	103.500	89.560	95.520	0.000	51680.000	50320.000	49000.000
2	14:55:00	94.991%	107.900	92.310	96.260	0.000	49620.000	49020.000	47320.000
3	14:55:08	98.169%	101.300	89.350	91.550	0.000	48890.000	49260.000	49440.000
x		99.009%	104.245%	90.407%	94.443%	0.000	100.123%	99.067%	97.176%
σ		4.497%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		4.542	3.261	1.830	2.684	0.000	2.890	1.402	2.306

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:54:52	456.400	4980.000	0.000	47060.000	46890.000	47590.000	108.166%	95.760
2	14:55:00	444.000	4805.000	0.000	45930.000	45810.000	47260.000	104.166%	96.300
3	14:55:08	469.700	4751.000	0.000	46080.000	45430.000	47000.000	103.713%	93.600
x		91.339%	96.904%	0.000	92.712%	92.091%	94.567%	105.348%	95.223%
σ		n/a	n/a	0.000	n/a	n/a	n/a	2.451%	n/a
%RSD		2.810	2.474	0.000	1.320	1.639	0.621	2.326	1.501

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:54:52	99.880	100.800	476.600	25130.000	25060.000	98.760	102.400	103.500
2	14:55:00	104.000	103.600	485.000	25460.000	25270.000	99.120	103.500	102.700
3	14:55:08	103.300	106.000	493.100	26370.000	25770.000	100.700	102.800	103.400
x		102.376%	103.439%	96.973%	102.607%	101.472%	99.520%	102.880%	103.208%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.135	2.526	1.703	2.502	1.436	1.029	0.518	0.419

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:54:52	104.000	104.800	102.100	101.500	105.800	106.000	0.000	94.580
2	14:55:00	105.300	106.800	103.800	100.600	105.700	105.200	0.000	93.580
3	14:55:08	102.100	105.800	105.700	101.000	104.900	102.600	0.000	94.500
x		103.816%	105.789%	103.872%	101.071%	105.461%	104.595%	0.000	94.220%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		1.539	0.918	1.754	0.451	0.436	1.708	0.000	0.592

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:54:52	87.063%	97.640	98.640	82.821%	99.380	100.400	98.670	102.900
2	14:55:00	89.250%	95.660	98.460	83.321%	98.030	99.960	99.570	103.400
3	14:55:08	90.246%	95.860	99.200	82.019%	97.800	99.520	101.400	104.000
x		88.853%	96.385%	98.771%	82.720%	98.404%	99.970%	99.896%	103.440%
σ		1.628%	n/a	n/a	0.657%	n/a	n/a	n/a	n/a
%RSD		1.833	1.133	0.391	0.794	0.869	0.457	1.416	0.535

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:54:52	79.980%	94.380	92.380	93.780	93.330	93.590	84.950%	84.622%
2	14:55:00	82.128%	94.480	91.080	90.130	92.090	94.350	84.813%	84.671%
3	14:55:08	84.602%	94.340	94.780	91.290	92.710	93.910	84.331%	83.424%
x		82.237%	94.399%	92.747%	91.735%	92.712%	93.951%	84.698%	84.239%
σ		2.313%	n/a	n/a	n/a	n/a	n/a	0.325%	0.706%
%RSD		2.813	0.077	2.022	2.035	0.666	0.402	0.384	0.838

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:54:52	98.810	101.500	98.210	98.700	98.480	73.224%
2	14:55:00	97.290	99.950	97.510	98.260	97.400	74.006%
3	14:55:08	91.320	94.760	92.380	94.430	94.350	77.883%
x		95.806%	98.733%	96.031%	97.130%	96.745%	75.038%
σ		n/a	n/a	n/a	n/a	n/a	2.495%
%RSD		4.130	3.573	3.315	2.418	2.216	3.324

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:38	117.128%	-0.004	-1.616	-1.698	0.000	4.411	5.123	5.010
2	14:59:46	121.896%	-0.005	-1.697	-1.812	0.000	3.115	4.149	4.161
3	14:59:54	115.196%	-0.006	-1.471	-1.747	0.000	3.294	3.834	4.162
x		118.073%	-0.005	-1.595	-1.752	0.000	3.607	4.369	4.444
σ		3.449%	0.001	0.115	0.057	0.000	0.702	0.672	0.490
%RSD		2.921	22.700	7.204	3.253	0.000	19.460	15.370	11.030

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:38	0.801	2.490	0.000	4.698	0.465	3.493	115.441%	0.000
2	14:59:46	0.660	0.159	0.000	3.138	1.072	4.007	116.877%	0.008
3	14:59:54	0.699	0.657	0.000	2.825	3.224	2.431	115.195%	0.055
x		0.720	1.102	0.000	3.553	1.587	3.310	115.838%	0.021
σ		0.073	1.228	0.000	1.003	1.450	0.804	0.908%	0.029
%RSD		10.120	111.400	0.000	28.230	91.340	24.290	0.784	138.800

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:38	0.039	0.004	0.013	8.667	9.581	0.003	0.032	0.026
2	14:59:46	0.057	0.007	0.014	7.058	6.871	0.006	0.013	-0.038
3	14:59:54	0.036	0.005	0.009	6.397	4.362	0.005	0.016	-0.012
x		0.044	0.005	0.012	7.374	6.938	0.005	0.020	-0.008
σ		0.011	0.002	0.002	1.168	2.610	0.001	0.010	0.032
%RSD		25.960	30.450	19.270	15.830	37.620	27.460	48.800	394.500

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:38	-0.006	0.035	0.182	0.055	0.117	0.326	0.000	0.015
2	14:59:46	-0.007	-0.032	0.116	0.033	0.052	0.262	0.000	0.009
3	14:59:54	0.010	0.073	0.065	0.029	0.100	0.164	0.000	0.008
x		-0.001	0.025	0.121	0.039	0.090	0.251	0.000	0.010
σ		0.010	0.053	0.059	0.014	0.033	0.082	0.000	0.004
%RSD		1116.000	210.400	48.650	35.330	37.290	32.570	0.000	35.970

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:38	95.068%	0.789	0.704	98.739%	-0.003	0.013	-0.025	0.016
2	14:59:46	96.994%	0.545	0.497	99.575%	-0.004	0.011	-0.063	0.014
3	14:59:54	98.167%	0.482	0.456	99.444%	-0.007	0.010	-0.078	0.021
x		96.743%	0.605	0.552	99.253%	-0.004	0.011	-0.055	0.017
σ		1.564%	0.162	0.133	0.450%	0.002	0.002	0.028	0.003
%RSD		1.617	26.820	24.100	0.453	46.290	14.260	49.970	20.600

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:38	93.096%	0.196	0.131	0.108	0.045	0.012	93.112%	92.231%
2	14:59:46	93.370%	0.185	0.108	0.045	0.030	0.032	93.838%	93.364%
3	14:59:54	94.661%	0.124	0.096	-0.000	0.019	0.038	92.974%	92.441%
x		93.709%	0.168	0.112	0.051	0.031	0.027	93.308%	92.679%
σ		0.836%	0.039	0.018	0.054	0.013	0.014	0.464%	0.603%
%RSD		0.892	23.020	15.700	106.300	40.620	50.300	0.498	0.651

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	14:59:38	0.009	0.008	-0.005	0.006	-0.007	91.072%
2	14:59:46	0.009	0.009	-0.012	0.000	-0.011	91.755%
3	14:59:54	0.007	0.006	-0.017	-0.004	-0.011	93.274%
x		0.008	0.007	-0.011	0.001	-0.010	92.034%
σ		0.001	0.002	0.006	0.005	0.002	1.127%
%RSD		16.870	21.780	51.830	699.300	21.610	1.225

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:24	100.585%	-0.009	0.054	0.309	0.000	4506.000	4625.000	4348.000
2	15:04:32	103.422%	-0.013	0.010	-0.323	0.000	4291.000	4757.000	4791.000
3	15:04:40	103.963%	-0.007	0.121	-0.107	0.000	4173.000	4592.000	4563.000
x		102.656%	-0.010	0.062	-0.040	0.000	4323.000	4658.000	4568.000
σ		1.814%	0.003	0.056	0.322	0.000	168.900	87.180	221.600
%RSD		1.767	32.230	91.010	795.000	0.000	3.907	1.871	4.852

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:24	0.940	3576.000	0.000	438.100	59270.000	61210.000	102.087%	0.334
2	15:04:32	1.298	3907.000	0.000	475.900	61770.000	63130.000	95.227%	0.352
3	15:04:40	1.241	3738.000	0.000	418.800	60390.000	60140.000	97.423%	0.300
x		1.159	3740.000	0.000	444.200	60480.000	61500.000	98.246%	0.328
σ		0.192	165.500	0.000	29.060	1254.000	1514.000	3.503%	0.026
%RSD		16.600	4.425	0.000	6.541	2.074	2.462	3.565	8.045

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:24	0.102	0.057	196.200	1320.000	1532.000	0.920	0.731	0.079
2	15:04:32	0.113	0.061	217.600	1393.000	1624.000	1.011	0.756	0.025
3	15:04:40	0.090	0.064	218.700	1350.000	1573.000	0.899	0.752	0.064
x		0.102	0.061	210.800	1354.000	1576.000	0.943	0.746	0.056
σ		0.012	0.003	12.640	36.600	46.180	0.059	0.013	0.028
%RSD		11.450	5.744	5.997	2.703	2.930	6.285	1.761	50.120

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:24	0.093	1.229	0.987	4.409	0.019	3.005	0.000	87.190
2	15:04:32	0.161	1.118	0.796	4.512	0.020	2.675	0.000	87.440
3	15:04:40	0.101	1.077	1.466	4.478	0.024	3.401	0.000	86.590
x		0.118	1.141	1.083	4.466	0.021	3.027	0.000	87.070
σ		0.037	0.079	0.345	0.053	0.003	0.363	0.000	0.435
%RSD		31.660	6.892	31.850	1.180	13.280	12.000	0.000	0.500

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:24	87.264%	1.110	0.986	84.862%	-0.010	0.001	-0.033	-0.002
2	15:04:32	87.981%	0.924	0.969	84.673%	-0.023	0.011	-0.074	0.002
3	15:04:40	88.239%	0.977	0.996	86.054%	-0.012	0.000	-0.062	-0.002
x		87.828%	1.004	0.984	85.196%	-0.015	0.004	-0.057	-0.001
σ		0.505%	0.096	0.013	0.749%	0.007	0.006	0.021	0.002
%RSD		0.575	9.562	1.359	0.879	47.730	152.800	37.110	262.100

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:24	83.330%	-0.005	0.030	-0.025	36.780	36.950	86.805%	86.717%
2	15:04:32	84.151%	-0.017	0.038	-0.049	35.770	37.470	86.770%	87.165%
3	15:04:40	83.964%	-0.021	0.017	-0.094	36.110	37.720	87.511%	87.234%
x		83.815%	-0.014	0.028	-0.056	36.220	37.380	87.028%	87.038%
σ		0.430%	0.008	0.011	0.035	0.513	0.393	0.418%	0.281%
%RSD		0.514	56.680	37.800	62.820	1.415	1.051	0.480	0.323

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	15:04:24	0.020	0.020	-0.047	-0.060	-0.061	86.866%
2	15:04:32	0.023	0.022	-0.055	-0.054	-0.060	86.922%
3	15:04:40	0.024	0.021	-0.060	-0.071	-0.070	85.824%
x		0.022	0.021	-0.054	-0.062	-0.064	86.538%
σ		0.002	0.001	0.007	0.009	0.005	0.618%
%RSD		9.036	4.380	12.280	14.490	8.252	0.714

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:07	93.160%	-0.043	-2.118	-1.745	0.000	296.800	3.505	3.137
2	15:09:15	99.637%	-0.024	-2.089	-1.813	0.000	321.600	3.301	3.099
3	15:09:23	99.652%	-0.012	-1.889	-1.824	0.000	305.700	3.346	2.874
x		97.483%	-0.026	-2.032	-1.794	0.000	308.100	3.384	3.037
σ		3.744%	0.016	0.125	0.043	0.000	12.550	0.107	0.142
%RSD		3.840	60.460	6.128	2.383	0.000	4.073	3.163	4.675

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:07	3.207	187.300	0.000	0.603	72.900	69.000	93.872%	0.048
2	15:09:15	3.654	202.800	0.000	1.518	76.750	79.070	86.828%	0.021
3	15:09:23	3.183	190.500	0.000	0.524	66.470	71.320	91.282%	0.028
x		3.348	193.500	0.000	0.882	72.040	73.130	90.661%	0.032
σ		0.265	8.189	0.000	0.552	5.191	5.276	3.563%	0.014
%RSD		7.916	4.231	0.000	62.630	7.206	7.214	3.930	42.880

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:07	-0.116	0.120	0.050	3.179	3.374	0.004	0.011	0.368
2	15:09:15	0.129	0.128	0.055	2.697	3.637	0.007	0.005	0.364
3	15:09:23	0.054	0.120	0.038	2.243	2.478	0.008	0.003	0.344
x		0.022	0.123	0.048	2.706	3.163	0.006	0.006	0.359
σ		0.125	0.005	0.009	0.468	0.608	0.002	0.004	0.013
%RSD		562.000	3.792	18.190	17.280	19.210	26.350	65.480	3.577

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:07	0.369	1.398	1.403	0.010	-0.010	3.815	0.000	0.114
2	15:09:15	0.351	1.437	1.535	0.010	0.001	4.065	0.000	0.115
3	15:09:23	0.366	1.457	1.628	0.014	-0.005	3.997	0.000	0.118
x		0.362	1.431	1.522	0.011	-0.005	3.959	0.000	0.116
σ		0.010	0.030	0.113	0.002	0.005	0.129	0.000	0.002
%RSD		2.653	2.086	7.436	20.400	116.800	3.263	0.000	1.492

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:07	85.695%	0.009	0.069	88.829%	-0.005	-0.007	-0.032	0.016
2	15:09:15	86.957%	-0.006	0.033	90.169%	-0.012	-0.000	-0.068	0.014
3	15:09:23	87.504%	-0.012	0.022	89.161%	-0.018	-0.001	-0.091	0.035
x		86.718%	-0.003	0.041	89.386%	-0.012	-0.003	-0.064	0.022
σ		0.928%	0.011	0.025	0.698%	0.007	0.004	0.030	0.012
%RSD		1.070	341.500	59.580	0.780	56.040	125.400	46.590	54.870

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:07	86.728%	0.421	0.045	-0.026	0.087	0.021	85.106%	84.321%
2	15:09:15	84.686%	0.514	0.046	-0.072	0.094	0.067	88.584%	87.076%
3	15:09:23	87.363%	0.516	0.052	-0.075	0.059	0.062	85.900%	85.587%
x		86.259%	0.484	0.048	-0.058	0.080	0.050	86.530%	85.661%
σ		1.399%	0.054	0.004	0.028	0.018	0.025	1.823%	1.379%
%RSD		1.621	11.220	8.003	47.960	23.060	50.280	2.107	1.610

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	15:09:07	0.000	0.001	-0.054	-0.056	-0.059	90.512%
2	15:09:15	0.000	-0.001	-0.063	-0.062	-0.067	87.229%
3	15:09:23	-0.001	-0.002	-0.051	-0.073	-0.066	90.523%
x		-0.000	-0.001	-0.056	-0.064	-0.064	89.422%
σ		0.001	0.001	0.006	0.008	0.005	1.899%
%RSD		1107.000	157.200	10.920	13.330	7.126	2.124

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:13:48	107.536%	-0.020	-1.827	-2.518	0.000	53.140	0.400	0.444
2	15:13:56	102.914%	0.006	-2.279	-2.162	0.000	53.280	0.169	0.272
3	15:14:04	107.819%	-0.029	-2.328	-2.292	0.000	55.630	0.324	0.364
x		106.090%	-0.015	-2.145	-2.324	0.000	54.020	0.298	0.360
σ		2.754%	0.018	0.276	0.180	0.000	1.399	0.118	0.086
%RSD		2.596	125.800	12.880	7.736	0.000	2.589	39.640	23.860

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:13:48	0.500	37.600	0.000	-3.243	8.652	11.120	106.974%	-0.034
2	15:13:56	0.443	35.530	0.000	-4.083	7.490	10.000	106.458%	-0.024
3	15:14:04	0.497	36.750	0.000	-2.978	16.850	12.800	101.620%	0.009
x		0.480	36.630	0.000	-3.435	11.000	11.310	105.018%	-0.016
σ		0.032	1.044	0.000	0.577	5.104	1.409	2.953%	0.022
%RSD		6.688	2.849	0.000	16.790	46.410	12.460	2.812	137.700

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:13:48	-0.030	0.019	-0.031	0.417	0.563	-0.002	0.028	0.072
2	15:13:56	0.045	0.020	-0.013	0.270	0.460	0.000	0.028	0.043
3	15:14:04	0.056	0.024	-0.012	0.256	0.574	0.001	0.022	0.039
x		0.024	0.021	-0.019	0.314	0.532	-0.000	0.026	0.051
σ		0.047	0.002	0.010	0.089	0.063	0.002	0.003	0.018
%RSD		199.800	10.890	55.880	28.310	11.800	837.800	13.010	35.110

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:13:48	0.095	0.300	0.491	-0.000	-0.026	0.556	0.000	0.028
2	15:13:56	0.070	0.370	0.452	0.004	-0.012	0.669	0.000	0.023
3	15:14:04	0.052	0.332	0.454	-0.003	-0.002	1.139	0.000	0.020
x		0.072	0.334	0.466	0.000	-0.013	0.788	0.000	0.024
σ		0.022	0.035	0.022	0.004	0.012	0.309	0.000	0.004
%RSD		29.930	10.520	4.730	8314.000	89.920	39.210	0.000	16.030

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:13:48	89.641%	-0.075	-0.051	91.176%	-0.015	0.003	-0.034	-0.000
2	15:13:56	90.893%	-0.063	-0.062	92.190%	-0.016	-0.001	-0.068	0.007
3	15:14:04	91.586%	0.005	-0.079	92.499%	-0.013	-0.000	-0.094	0.001
x		90.707%	-0.044	-0.064	91.955%	-0.015	0.000	-0.065	0.003
σ		0.985%	0.043	0.014	0.692%	0.001	0.002	0.030	0.003
%RSD		1.086	97.180	21.830	0.752	9.257	471.300	46.200	137.300

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:13:48	87.839%	0.044	0.004	-0.040	0.024	0.007	87.646%	86.527%
2	15:13:56	86.909%	0.006	-0.015	-0.113	0.001	-0.013	88.617%	87.279%
3	15:14:04	87.410%	0.030	-0.006	-0.126	-0.010	0.013	87.627%	87.256%
x		87.386%	0.027	-0.006	-0.093	0.005	0.002	87.963%	87.021%
σ		0.466%	0.020	0.010	0.046	0.017	0.014	0.566%	0.428%
%RSD		0.533	73.210	171.500	49.890	348.600	576.900	0.643	0.492

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	15:13:48	-0.001	-0.002	-0.086	-0.075	-0.088	89.071%
2	15:13:56	-0.000	-0.001	-0.080	-0.082	-0.088	88.077%
3	15:14:04	-0.001	0.000	-0.084	-0.081	-0.087	90.168%
x		-0.001	-0.001	-0.083	-0.079	-0.088	89.106%
σ		0.001	0.001	0.003	0.004	0.001	1.046%
%RSD		88.740	125.200	3.295	4.709	0.748	1.174

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:09	114.664%	-0.031	-2.720	-2.991	0.000	-3.857	-0.223	-0.230
2	15:22:17	118.708%	-0.015	-2.674	-2.913	0.000	-3.895	-0.253	-0.208
3	15:22:25	123.840%	-0.011	-3.011	-3.055	0.000	-3.718	-0.292	-0.267
x		119.071%	-0.019	-2.802	-2.986	0.000	-3.824	-0.256	-0.235
σ		4.599%	0.010	0.183	0.071	0.000	0.093	0.034	0.029
%RSD		3.862	53.870	6.518	2.372	0.000	2.437	13.420	12.510

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:09	-0.023	-0.655	0.000	-4.295	-2.047	-1.252	108.968%	-0.015
2	15:22:17	-0.008	0.331	0.000	-4.279	-4.861	-1.815	107.985%	-0.034
3	15:22:25	0.049	0.644	0.000	-4.586	-4.725	-2.157	106.150%	0.045
x		0.006	0.107	0.000	-4.387	-3.878	-1.741	107.701%	-0.001
σ		0.038	0.678	0.000	0.173	1.587	0.457	1.430%	0.041
%RSD		622.400	635.200	0.000	3.943	40.930	26.230	1.328	3165.000

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:09	0.033	-0.002	-0.043	-0.381	-0.612	-0.001	0.029	-0.023
2	15:22:17	0.025	-0.004	-0.043	-0.381	-0.312	-0.001	0.024	-0.016
3	15:22:25	0.020	-0.004	-0.039	-0.354	-0.651	0.001	0.035	-0.039
x		0.026	-0.003	-0.042	-0.372	-0.525	-0.001	0.029	-0.026
σ		0.007	0.001	0.002	0.016	0.185	0.001	0.006	0.012
%RSD		24.860	38.030	5.465	4.283	35.300	208.400	19.130	45.240

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:09	0.000	0.095	0.101	-0.003	-0.017	0.068	0.000	-0.004
2	15:22:17	-0.003	0.034	0.232	-0.022	-0.021	0.118	0.000	-0.000
3	15:22:25	-0.051	0.137	0.084	-0.006	-0.021	0.024	0.000	-0.002
x		-0.018	0.089	0.139	-0.010	-0.020	0.070	0.000	-0.002
σ		0.029	0.052	0.081	0.010	0.003	0.047	0.000	0.002
%RSD		159.700	58.860	58.280	99.390	14.340	67.640	0.000	95.450

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:09	90.444%	-0.131	-0.113	91.064%	-0.019	-0.004	-0.024	0.002
2	15:22:17	91.879%	-0.092	-0.103	91.163%	-0.027	-0.004	-0.056	-0.009
3	15:22:25	92.392%	-0.104	-0.103	91.886%	-0.022	-0.004	-0.075	0.005
x		91.571%	-0.109	-0.106	91.371%	-0.023	-0.004	-0.052	-0.001
σ		1.010%	0.020	0.005	0.449%	0.004	0.000	0.026	0.007
%RSD		1.103	18.180	5.131	0.491	18.310	8.602	49.330	810.100

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:09	85.599%	-0.076	-0.003	-0.036	0.028	0.033	89.281%	88.056%
2	15:22:17	88.485%	-0.075	-0.027	-0.093	0.028	0.009	86.942%	86.093%
3	15:22:25	88.508%	-0.077	-0.019	-0.119	0.008	0.037	87.607%	86.815%
x		87.531%	-0.076	-0.017	-0.083	0.021	0.026	87.943%	86.988%
σ		1.673%	0.001	0.012	0.042	0.011	0.015	1.205%	0.993%
%RSD		1.912	1.424	73.490	51.060	52.210	57.800	1.370	1.142

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	15:22:09	-0.002	-0.000	0.010	-0.004	-0.009	85.733%
2	15:22:17	-0.002	-0.001	-0.008	-0.006	-0.015	89.206%
3	15:22:25	-0.001	-0.001	-0.010	-0.005	-0.014	90.019%
x		-0.002	-0.001	-0.003	-0.005	-0.013	88.320%
σ		0.001	0.000	0.011	0.001	0.004	2.276%
%RSD		31.370	48.750	408.600	18.240	28.420	2.577

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:26:52	108.889%	43.790	786.200	874.200	0.000	44830.000	44660.000	45800.000
2	15:27:00	103.106%	47.200	785.400	877.200	0.000	43920.000	43770.000	42240.000
3	15:27:08	102.033%	44.070	779.300	800.200	0.000	44030.000	45020.000	44460.000
x		104.676%	45.020	783.600	850.500	0.000	44260.000	44490.000	44170.000
σ		3.688%	1.890	3.778	43.640	0.000	499.500	644.900	1801.000
%RSD		3.523	4.198	0.482	5.130	0.000	1.129	1.450	4.077

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:26:52	1773.000	8855.000	0.000	44640.000	44920.000	44110.000	105.261%	857.900
2	15:27:00	1654.000	8932.000	0.000	41840.000	43190.000	43920.000	109.492%	829.400
3	15:27:08	1759.000	8782.000	0.000	43140.000	42530.000	43500.000	104.931%	854.800
x		1729.000	8856.000	0.000	43210.000	43540.000	43840.000	106.561%	847.400
σ		64.940	75.080	0.000	1398.000	1235.000	312.500	2.544%	15.670
%RSD		3.756	0.848	0.000	3.235	2.835	0.713	2.387	1.849

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:26:52	458.800	189.100	446.700	941.700	1096.000	443.100	472.700	239.800
2	15:27:00	444.200	185.900	428.500	942.100	1088.000	439.400	460.900	230.700
3	15:27:08	446.800	188.300	452.200	965.500	1132.000	457.400	476.900	237.100
x		449.900	187.800	442.500	949.800	1105.000	446.600	470.200	235.900
σ		7.807	1.663	12.390	13.640	23.250	9.500	8.304	4.692
%RSD		1.735	0.885	2.801	1.436	2.104	2.127	1.766	1.989

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:26:52	240.300	513.300	498.800	39.750	11.250	10.800	0.000	849.600
2	15:27:00	232.200	509.500	497.700	38.790	11.070	10.490	0.000	846.500
3	15:27:08	237.300	514.900	496.700	39.830	10.860	11.220	0.000	839.800
x		236.600	512.600	497.800	39.460	11.060	10.840	0.000	845.300
σ		4.073	2.789	1.059	0.576	0.196	0.365	0.000	5.017
%RSD		1.721	0.544	0.213	1.461	1.775	3.365	0.000	0.594

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:26:52	87.474%	920.700	921.700	83.012%	43.910	45.240	50.520	105.400
2	15:27:00	88.690%	930.700	929.900	82.149%	43.540	44.780	50.020	107.100
3	15:27:08	90.392%	927.500	926.400	83.048%	43.710	44.190	49.620	105.400
x		88.852%	926.300	926.000	82.736%	43.720	44.740	50.060	106.000
σ		1.466%	5.090	4.068	0.509%	0.185	0.528	0.449	1.007
%RSD		1.650	0.549	0.439	0.615	0.424	1.181	0.896	0.951

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:26:52	80.805%	1739.000	434.200	444.100	763.000	1701.000	85.803%	85.044%
2	15:27:00	83.905%	1735.000	442.900	433.700	645.900	1673.000	84.384%	83.867%
3	15:27:08	83.389%	1739.000	461.000	459.800	537.500	1707.000	86.023%	84.956%
x		82.700%	1738.000	446.000	445.800	648.800	1694.000	85.403%	84.622%
σ		1.661%	2.319	13.670	13.150	112.800	18.440	0.890%	0.655%
%RSD		2.008	0.134	3.065	2.950	17.380	1.089	1.042	0.775

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	15:26:52	44.980	46.300	18.300	18.370	18.150	75.290%
2	15:27:00	42.620	44.120	17.390	17.790	17.660	78.860%
3	15:27:08	43.890	45.140	17.560	18.010	17.870	76.441%
x		43.830	45.190	17.750	18.060	17.890	76.864%
σ		1.178	1.094	0.479	0.291	0.243	1.822%
%RSD		2.688	2.420	2.700	1.613	1.359	2.371

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:37	89.184%	0.869	18.230	17.740	0.000	6526.000	320.700	329.800
2	15:31:44	79.046%	1.044	18.410	20.640	0.000	6409.000	305.300	305.100
3	15:31:52	77.616%	1.048	17.770	20.440	0.000	6382.000	313.200	285.000
x		81.949%	0.987	18.140	19.610	0.000	6439.000	313.100	306.600
σ		6.307%	0.102	0.327	1.622	0.000	76.310	7.674	22.410
%RSD		7.696	10.330	1.803	8.273	0.000	1.185	2.451	7.310

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:37	24.290	11180.000	0.000	1527.000	1330.000	1325.000	70.095%	1.478
2	15:31:44	22.650	10800.000	0.000	1517.000	1284.000	1347.000	67.527%	1.290
3	15:31:52	21.140	10150.000	0.000	1416.000	1257.000	1290.000	68.845%	1.219
x		22.690	10710.000	0.000	1487.000	1291.000	1321.000	68.822%	1.329
σ		1.574	517.200	0.000	61.660	36.880	28.570	1.284%	0.134
%RSD		6.938	4.829	0.000	4.148	2.858	2.163	1.866	10.050

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:37	-0.251	0.441	1.635	8.702	13.420	0.019	0.248	8.737
2	15:31:44	-0.697	0.470	1.516	9.254	13.320	0.026	0.298	8.705
3	15:31:52	-0.148	0.475	1.512	8.249	14.720	0.018	0.240	8.676
x		-0.365	0.462	1.554	8.735	13.820	0.021	0.262	8.706
σ		0.291	0.019	0.070	0.503	0.779	0.004	0.031	0.031
%RSD		79.760	4.069	4.492	5.761	5.635	19.470	11.950	0.354

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:37	8.232	13.960	14.090	0.118	0.131	1.270	0.000	24.860
2	15:31:44	8.727	15.290	14.360	0.117	0.146	0.463	0.000	24.780
3	15:31:52	8.481	14.820	14.270	0.123	0.147	1.128	0.000	25.020
x		8.480	14.690	14.240	0.119	0.141	0.954	0.000	24.890
σ		0.248	0.672	0.141	0.003	0.009	0.430	0.000	0.124
%RSD		2.920	4.576	0.987	2.551	6.494	45.150	0.000	0.497

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:37	81.524%	5.242	5.343	81.925%	-0.004	0.006	0.006	0.156
2	15:31:44	83.790%	4.382	4.255	82.191%	-0.006	0.011	-0.044	0.165
3	15:31:52	82.568%	3.531	3.678	82.454%	-0.008	0.021	-0.048	0.145
x		82.627%	4.385	4.425	82.190%	-0.006	0.012	-0.029	0.155
σ		1.134%	0.856	0.846	0.264%	0.002	0.008	0.030	0.010
%RSD		1.372	19.520	19.110	0.322	29.340	62.220	105.600	6.288

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:37	78.991%	4.144	2.719	2.623	15.740	15.960	84.397%	83.555%
2	15:31:44	79.086%	3.627	2.309	2.241	15.790	15.790	84.850%	84.021%
3	15:31:52	80.308%	3.251	1.801	1.711	15.270	15.630	83.401%	84.900%
x		79.461%	3.674	2.276	2.191	15.600	15.790	84.216%	84.159%
σ		0.735%	0.449	0.460	0.458	0.287	0.168	0.741%	0.683%
%RSD		0.924	12.210	20.200	20.900	1.837	1.063	0.880	0.812

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	15:31:37	0.024	0.021	-0.004	-0.024	-0.014	85.385%
2	15:31:44	0.026	0.023	-0.003	-0.014	-0.011	85.230%
3	15:31:52	0.020	0.023	-0.003	-0.006	-0.010	86.303%
x		0.024	0.022	-0.003	-0.015	-0.012	85.640%
σ		0.003	0.001	0.001	0.009	0.002	0.580%
%RSD		12.440	5.738	24.720	59.850	19.660	0.678

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:19	85.026%	8.262	19.300	17.900	0.000	13330.000	4054.000	4003.000
2	15:36:27	77.119%	8.649	19.940	20.070	0.000	13560.000	4010.000	4025.000
3	15:36:35	82.771%	7.911	17.550	17.490	0.000	12420.000	3805.000	3749.000
x		81.639%	8.274	18.930	18.490	0.000	13100.000	3957.000	3926.000
σ		4.073%	0.369	1.234	1.383	0.000	602.800	133.100	153.600
%RSD		4.989	4.457	6.519	7.482	0.000	4.602	3.364	3.913

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:19	134.600	6088.000	0.000	3019.000	13890.000	13880.000	73.585%	0.671
2	15:36:27	133.400	6173.000	0.000	2909.000	13610.000	13520.000	71.289%	0.724
3	15:36:35	129.300	5930.000	0.000	2864.000	13030.000	13260.000	71.740%	0.704
x		132.400	6064.000	0.000	2930.000	13510.000	13550.000	72.204%	0.700
σ		2.757	123.300	0.000	79.930	438.900	312.100	1.216%	0.027
%RSD		2.082	2.033	0.000	2.728	3.249	2.303	1.685	3.813

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:19	-0.689	0.492	1435.000	5.352	53.630	0.134	0.649	95.260
2	15:36:27	0.967	0.484	1411.000	4.990	48.500	0.113	0.651	96.610
3	15:36:35	-0.347	0.515	1410.000	5.077	54.230	0.134	0.730	94.270
x		-0.023	0.497	1419.000	5.140	52.120	0.127	0.677	95.380
σ		0.874	0.016	14.110	0.189	3.150	0.012	0.046	1.176
%RSD		3826.000	3.241	0.995	3.675	6.044	9.823	6.822	1.233

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:19	94.360	64.400	60.700	0.363	0.242	3.592	0.000	246.400
2	15:36:27	95.830	64.980	59.150	0.393	0.242	4.235	0.000	242.800
3	15:36:35	93.340	65.210	62.000	0.406	0.185	3.261	0.000	243.700
x		94.510	64.860	60.620	0.387	0.223	3.696	0.000	244.300
σ		1.252	0.420	1.427	0.022	0.033	0.495	0.000	1.849
%RSD		1.325	0.648	2.354	5.639	14.880	13.390	0.000	0.757

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:19	83.242%	0.980	1.049	79.959%	-0.002	0.023	0.727	0.813
2	15:36:27	84.447%	0.896	0.853	81.396%	0.010	0.027	0.632	0.846
3	15:36:35	85.247%	0.779	0.823	80.312%	0.001	0.014	0.737	0.826
x		84.312%	0.885	0.909	80.556%	0.003	0.021	0.699	0.828
σ		1.009%	0.101	0.123	0.749%	0.006	0.007	0.058	0.017
%RSD		1.197	11.390	13.520	0.929	227.900	30.610	8.326	2.019

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:19	77.376%	1.483	0.670	0.632	347.900	353.600	82.215%	81.171%
2	15:36:27	77.304%	1.324	0.566	0.518	342.600	350.300	83.239%	83.860%
3	15:36:35	79.672%	1.289	0.483	0.442	338.700	343.800	82.055%	81.808%
x		78.117%	1.365	0.573	0.530	343.100	349.200	82.503%	82.280%
σ		1.347%	0.104	0.094	0.096	4.621	4.939	0.642%	1.405%
%RSD		1.724	7.584	16.380	18.030	1.347	1.414	0.779	1.708

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	15:36:19	0.445	0.468	0.165	0.124	0.153	80.582%
2	15:36:27	0.489	0.482	0.181	0.155	0.163	78.862%
3	15:36:35	0.436	0.469	0.170	0.180	0.161	81.834%
x		0.457	0.473	0.172	0.153	0.159	80.426%
σ		0.028	0.008	0.008	0.028	0.005	1.492%
%RSD		6.164	1.723	4.729	18.280	3.282	1.855

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:04	82.675%	2.302	12.600	13.260	0.000	9699.000	2786.000	2797.000
2	15:41:12	74.287%	2.602	13.210	13.280	0.000	9352.000	2755.000	2569.000
3	15:41:19	72.425%	2.400	11.670	12.110	0.000	9603.000	2783.000	2645.000
x		76.462%	2.435	12.490	12.880	0.000	9551.000	2775.000	2670.000
σ		5.460%	0.153	0.775	0.672	0.000	178.800	17.500	116.400
%RSD		7.141	6.283	6.205	5.215	0.000	1.872	0.631	4.360

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:04	27.870	6185.000	0.000	3496.000	8182.000	7932.000	66.427%	0.688
2	15:41:12	24.350	5497.000	0.000	3057.000	7349.000	7348.000	70.000%	0.634
3	15:41:19	24.530	5537.000	0.000	3005.000	7159.000	7399.000	66.679%	0.731
x		25.580	5740.000	0.000	3186.000	7563.000	7560.000	67.702%	0.684
σ		1.984	386.500	0.000	269.600	543.900	323.200	1.994%	0.049
%RSD		7.755	6.733	0.000	8.463	7.191	4.275	2.945	7.096

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:04	0.500	0.438	3046.000	95.080	123.300	0.141	0.208	35.700
2	15:41:12	-0.912	0.422	2720.000	94.830	119.700	0.139	0.176	34.190
3	15:41:19	-0.262	0.458	2908.000	97.540	122.200	0.124	0.220	34.300
x		-0.225	0.439	2892.000	95.820	121.700	0.135	0.201	34.730
σ		0.706	0.018	163.600	1.499	1.876	0.009	0.023	0.840
%RSD		314.400	4.043	5.658	1.564	1.541	6.640	11.440	2.417

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:04	35.500	23.590	21.970	0.379	0.151	3.909	0.000	110.300
2	15:41:12	33.100	22.040	20.700	0.319	0.169	3.902	0.000	111.100
3	15:41:19	32.910	23.310	21.150	0.354	0.125	4.407	0.000	110.300
x		33.840	22.980	21.270	0.351	0.148	4.073	0.000	110.600
σ		1.444	0.823	0.645	0.030	0.022	0.290	0.000	0.463
%RSD		4.267	3.583	3.034	8.600	14.970	7.111	0.000	0.419

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:04	81.389%	0.396	0.424	82.768%	0.033	0.052	0.267	0.361
2	15:41:12	82.328%	0.321	0.426	81.809%	0.037	0.059	0.249	0.387
3	15:41:19	83.202%	0.265	0.273	82.405%	0.029	0.036	0.217	0.410
x		82.306%	0.327	0.374	82.327%	0.033	0.049	0.245	0.386
σ		0.907%	0.066	0.088	0.484%	0.004	0.012	0.025	0.025
%RSD		1.102	20.210	23.440	0.588	11.550	24.960	10.310	6.356

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:04	77.827%	1.108	0.637	0.592	149.900	154.100	84.626%	84.060%
2	15:41:12	80.364%	1.049	0.560	0.473	149.500	151.100	82.937%	82.189%
3	15:41:19	80.585%	1.045	0.571	0.386	147.000	148.200	83.240%	82.703%
x		79.592%	1.067	0.589	0.484	148.800	151.100	83.601%	82.984%
σ		1.532%	0.035	0.042	0.103	1.565	2.962	0.900%	0.966%
%RSD		1.925	3.318	7.078	21.340	1.052	1.960	1.077	1.165

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	15:41:04	0.557	0.564	0.129	0.137	0.141	77.919%
2	15:41:12	0.563	0.562	0.148	0.135	0.136	83.085%
3	15:41:19	0.552	0.570	0.176	0.141	0.151	84.152%
x		0.557	0.565	0.151	0.138	0.143	81.719%
σ		0.005	0.004	0.024	0.003	0.008	3.334%
%RSD		0.943	0.731	15.700	2.162	5.610	4.080

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:45:48	83.663%	1.753	21.400	22.970	0.000	8175.000	963.600	984.600
2	15:45:56	75.641%	2.017	20.350	23.220	0.000	8042.000	925.600	854.400
3	15:46:04	81.696%	1.879	20.020	19.920	0.000	8032.000	952.200	949.600
x		80.333%	1.883	20.590	22.030	0.000	8083.000	947.100	929.600
σ		4.181%	0.132	0.719	1.840	0.000	79.590	19.530	67.390
%RSD		5.204	6.993	3.494	8.351	0.000	0.985	2.062	7.250

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:45:48	770.300	18170.000	0.000	1880.000	3442.000	3327.000	69.381%	8.302
2	15:45:56	737.000	16150.000	0.000	1740.000	3292.000	3305.000	69.458%	7.306
3	15:46:04	825.600	17390.000	0.000	1818.000	3201.000	3233.000	65.718%	8.089
x		777.600	17240.000	0.000	1813.000	3312.000	3288.000	68.186%	7.899
σ		44.750	1020.000	0.000	70.150	121.600	49.410	2.138%	0.524
%RSD		5.755	5.919	0.000	3.870	3.671	1.503	3.135	6.639

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:45:48	1.140	0.963	10.620	516.400	543.000	0.084	1.008	13.510
2	15:45:56	-0.065	0.986	10.060	532.300	552.300	0.077	1.008	13.520
3	15:46:04	1.571	1.037	10.760	555.800	575.700	0.080	1.043	13.550
x		0.882	0.995	10.480	534.900	557.000	0.080	1.020	13.530
σ		0.848	0.038	0.372	19.830	16.860	0.003	0.021	0.019
%RSD		96.150	3.824	3.544	3.708	3.028	4.179	2.014	0.144

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:45:48	13.120	30.400	29.360	0.245	0.095	1.775	0.000	48.540
2	15:45:56	13.210	30.800	30.410	0.290	0.149	1.166	0.000	48.210
3	15:46:04	13.870	31.470	30.300	0.261	0.083	1.624	0.000	48.040
x		13.400	30.890	30.020	0.266	0.109	1.522	0.000	48.260
σ		0.410	0.543	0.574	0.023	0.035	0.318	0.000	0.257
%RSD		3.060	1.757	1.912	8.524	32.050	20.860	0.000	0.532

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:45:48	83.194%	0.175	0.223	83.348%	-0.014	0.028	0.022	0.067
2	15:45:56	84.898%	0.277	0.223	83.035%	-0.003	0.015	-0.048	0.087
3	15:46:04	85.830%	0.121	0.229	83.877%	-0.002	0.023	-0.038	0.065
x		84.641%	0.191	0.225	83.420%	-0.006	0.022	-0.021	0.073
σ		1.337%	0.080	0.004	0.426%	0.007	0.006	0.038	0.012
%RSD		1.580	41.640	1.641	0.511	108.100	29.290	178.100	16.720

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:45:48	78.711%	1.028	0.372	0.320	14.330	14.300	86.276%	86.551%
2	15:45:56	81.298%	0.963	0.384	0.246	14.160	14.300	85.073%	85.210%
3	15:46:04	79.509%	0.992	0.373	0.254	13.990	14.450	85.975%	86.509%
x		79.839%	0.994	0.376	0.274	14.160	14.350	85.775%	86.090%
σ		1.325%	0.033	0.006	0.040	0.171	0.091	0.626%	0.762%
%RSD		1.659	3.269	1.696	14.760	1.208	0.631	0.730	0.885

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	15:45:48	0.010	0.015	1.514	1.260	1.344	83.848%
2	15:45:56	0.015	0.013	1.328	1.217	1.293	86.786%
3	15:46:04	0.012	0.013	1.479	1.279	1.347	83.602%
x		0.012	0.014	1.441	1.252	1.328	84.745%
σ		0.002	0.001	0.099	0.032	0.031	1.772%
%RSD		18.820	5.515	6.865	2.527	2.303	2.091

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:50:33	81.782%	0.326	26.620	29.960	0.000	9449.000	638.700	669.800
2	15:50:40	77.823%	0.411	24.620	29.930	0.000	9389.000	603.400	612.900
3	15:50:48	81.273%	0.356	23.590	25.600	0.000	8842.000	645.900	656.200
x		80.293%	0.364	24.950	28.500	0.000	9226.000	629.300	646.300
σ		2.154%	0.043	1.538	2.510	0.000	334.400	22.720	29.730
%RSD		2.682	11.830	6.164	8.809	0.000	3.624	3.610	4.600

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:50:33	66.830	14610.000	0.000	1653.000	3688.000	3665.000	65.838%	1.278
2	15:50:40	60.340	13530.000	0.000	1566.000	3597.000	3606.000	62.606%	1.363
3	15:50:48	60.180	13530.000	0.000	1587.000	3486.000	3390.000	61.945%	1.546
x		62.450	13890.000	0.000	1602.000	3590.000	3554.000	63.463%	1.396
σ		3.791	624.500	0.000	45.110	101.400	145.000	2.083%	0.137
%RSD		6.070	4.496	0.000	2.816	2.826	4.080	3.282	9.828

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:50:33	-0.964	0.973	17.040	71.440	87.720	0.115	0.378	30.700
2	15:50:40	0.810	1.025	17.160	72.230	83.870	0.123	0.294	31.430
3	15:50:48	-0.272	1.079	17.370	74.040	87.860	0.122	0.368	30.080
x		-0.142	1.026	17.190	72.570	86.480	0.120	0.347	30.740
σ		0.894	0.053	0.168	1.332	2.264	0.005	0.046	0.675
%RSD		629.200	5.197	0.980	1.835	2.618	3.787	13.240	2.195

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:50:33	30.180	20.200	21.230	0.378	0.036	2.034	0.000	46.420
2	15:50:40	30.800	20.590	20.630	0.371	0.031	1.898	0.000	45.780
3	15:50:48	30.950	21.910	20.730	0.377	0.031	2.232	0.000	46.340
x		30.640	20.900	20.870	0.375	0.033	2.055	0.000	46.180
σ		0.411	0.893	0.322	0.004	0.003	0.168	0.000	0.348
%RSD		1.340	4.275	1.542	0.997	9.444	8.178	0.000	0.754

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:50:33	80.116%	0.527	0.597	81.075%	-0.011	-0.003	0.011	0.087
2	15:50:40	81.322%	0.587	0.602	83.033%	0.000	-0.001	0.005	0.103
3	15:50:48	80.894%	0.501	0.525	81.617%	-0.004	0.003	-0.027	0.092
x		80.777%	0.538	0.575	81.908%	-0.005	-0.000	-0.004	0.094
σ		0.611%	0.044	0.043	1.011%	0.006	0.003	0.021	0.008
%RSD		0.757	8.159	7.457	1.234	112.500	1984.000	583.900	8.406

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:50:33	77.772%	1.201	1.857	1.804	4.736	4.818	83.751%	82.906%
2	15:50:40	77.124%	1.143	1.767	1.799	5.147	4.688	86.123%	86.126%
3	15:50:48	79.155%	1.113	1.717	1.532	4.648	4.521	82.788%	83.974%
x		78.017%	1.152	1.780	1.711	4.844	4.676	84.221%	84.335%
σ		1.037%	0.045	0.071	0.156	0.267	0.149	1.717%	1.640%
%RSD		1.330	3.868	3.983	9.098	5.506	3.192	2.038	1.945

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	15:50:33	0.006	0.005	0.179	0.150	0.157	80.905%
2	15:50:40	0.003	0.004	0.215	0.195	0.177	79.042%
3	15:50:48	0.003	0.004	0.225	0.153	0.168	82.911%
x		0.004	0.004	0.206	0.166	0.167	80.953%
σ		0.002	0.001	0.025	0.025	0.010	1.935%
%RSD		42.580	13.230	11.910	14.990	5.959	2.390

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:55:15	103.668%	99.710	86.000	99.170	0.000	49010.000	47420.000	47530.000
2	15:55:23	94.489%	104.500	94.830	97.580	0.000	48330.000	49120.000	50130.000
3	15:55:31	106.850%	89.420	84.770	85.900	0.000	47430.000	46900.000	48050.000
x		101.669%	97.885%	88.533%	94.217%	0.000	96.516%	95.624%	97.143%
σ		6.418%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		6.313	7.886	6.198	7.690	0.000	1.635	2.434	2.834

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:55:15	476.800	4919.000	0.000	49200.000	48990.000	48880.000	103.389%	93.630
2	15:55:23	462.400	4840.000	0.000	45010.000	45130.000	46220.000	105.071%	92.940
3	15:55:31	461.500	4703.000	0.000	48520.000	45780.000	46900.000	102.620%	91.370
x		93.381%	96.414%	0.000	95.155%	93.265%	94.667%	103.693%	92.648%
σ		n/a	n/a	0.000	n/a	n/a	n/a	1.253%	n/a
%RSD		1.839	2.265	0.000	4.722	4.437	2.927	1.209	1.249

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:55:15	103.900	105.300	495.400	25800.000	25720.000	99.810	105.000	105.300
2	15:55:23	101.900	105.600	481.100	26360.000	26160.000	101.800	103.200	102.900
3	15:55:31	103.500	105.600	486.300	25660.000	25450.000	98.300	101.300	100.700
x		103.098%	105.521%	97.518%	103.769%	103.108%	99.961%	103.164%	102.960%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.042	0.167	1.486	1.417	1.403	1.734	1.834	2.243

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:55:15	105.900	107.800	104.500	102.400	106.200	104.600	0.000	93.170
2	15:55:23	103.400	108.600	105.800	100.600	104.500	104.600	0.000	92.300
3	15:55:31	99.310	103.900	103.100	96.420	99.740	97.520	0.000	87.000
x		102.860%	106.774%	104.458%	99.798%	103.499%	102.229%	0.000	90.825%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		3.225	2.364	1.310	3.064	3.244	3.991	0.000	3.682

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:55:15	88.764%	96.640	97.880	84.840%	97.260	98.750	98.590	101.400
2	15:55:23	91.152%	95.470	97.050	85.969%	95.570	98.090	97.610	103.400
3	15:55:31	95.634%	89.370	91.970	88.788%	90.950	93.330	93.330	97.800
x		91.850%	93.827%	95.633%	86.532%	94.591%	96.724%	96.512%	100.883%
σ		3.488%	n/a	n/a	2.034%	n/a	n/a	n/a	n/a
%RSD		3.797	4.159	3.345	2.350	3.451	3.056	2.899	2.834

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	15:55:15	82.195%	93.270	89.910	89.770	90.180	92.110	85.927%	85.231%
2	15:55:23	85.193%	93.190	95.070	92.340	91.140	91.360	85.592%	84.631%
3	15:55:31	88.009%	88.600	88.730	85.070	84.910	86.890	89.122%	87.710%
x		85.133%	91.688%	91.236%	89.062%	88.744%	90.121%	86.881%	85.857%
σ		2.907%	n/a	n/a	n/a	n/a	n/a	1.949%	1.632%
%RSD		3.415	2.920	3.692	4.140	3.776	3.131	2.243	1.901

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	15:55:15	100.400	105.000	101.900	103.400	102.500	70.450%
2	15:55:23	94.780	99.000	97.340	99.650	99.140	73.539%
3	15:55:31	90.290	94.410	92.190	93.950	93.380	76.810%
x		95.159%	99.462%	97.143%	99.013%	98.325%	73.600%
σ		n/a	n/a	n/a	n/a	n/a	3.181%
%RSD		5.328	5.328	5.006	4.825	4.674	4.322

CCB3 5/9/2016 4:00:56 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:04	116.161%	-0.017	-2.324	-2.303	0.000	2.712	5.718	5.823
2	16:00:11	113.676%	-0.002	-2.351	-2.173	0.000	2.695	5.781	5.061
3	16:00:19	114.782%	-0.011	-2.045	-2.494	0.000	2.377	5.280	5.240
x		114.873%	-0.010	-2.240	-2.323	0.000	2.594	5.593	5.375
σ		1.245%	0.007	0.169	0.161	0.000	0.189	0.273	0.399
%RSD		1.084	73.990	7.562	6.941	0.000	7.271	4.878	7.414

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:04	0.943	6.606	0.000	3.224	1.746	4.976	117.639%	0.026
2	16:00:11	0.716	3.163	0.000	2.217	3.866	4.318	121.554%	0.057
3	16:00:19	0.833	3.845	0.000	2.297	3.245	4.504	117.847%	0.034
x		0.831	4.538	0.000	2.579	2.952	4.600	119.013%	0.039
σ		0.114	1.823	0.000	0.560	1.090	0.339	2.203%	0.016
%RSD		13.660	40.170	0.000	21.700	36.920	7.374	1.851	41.560

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:04	0.057	0.010	0.028	10.080	9.549	0.011	0.023	-0.011
2	16:00:11	0.036	0.009	0.018	8.214	8.503	0.015	0.012	-0.002
3	16:00:19	0.027	0.010	0.038	7.306	7.291	0.013	0.000	-0.014
x		0.040	0.010	0.028	8.534	8.448	0.013	0.012	-0.009
σ		0.016	0.001	0.010	1.415	1.130	0.002	0.011	0.006
%RSD		39.050	5.734	34.540	16.580	13.380	16.090	96.420	70.670

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:04	0.018	-0.021	0.141	0.057	0.124	0.245	0.000	0.007
2	16:00:11	-0.018	-0.052	0.239	0.077	0.082	0.097	0.000	0.010
3	16:00:19	-0.007	0.035	0.161	0.036	0.051	0.321	0.000	0.006
x		-0.002	-0.013	0.181	0.057	0.086	0.221	0.000	0.008
σ		0.018	0.044	0.052	0.021	0.037	0.114	0.000	0.002
%RSD		821.400	355.100	28.770	36.190	42.620	51.390	0.000	27.080

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:04	95.856%	0.674	0.632	97.126%	-0.012	0.009	-0.025	0.019
2	16:00:11	96.778%	0.534	0.526	97.957%	-0.013	0.015	-0.057	0.008
3	16:00:19	98.384%	0.427	0.486	97.809%	0.001	0.013	-0.097	0.024
x		97.006%	0.545	0.548	97.630%	-0.008	0.012	-0.060	0.017
σ		1.279%	0.124	0.075	0.443%	0.008	0.003	0.036	0.008
%RSD		1.319	22.700	13.760	0.454	93.940	21.600	60.420	48.380

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:04	89.581%	0.139	0.117	0.071	0.025	0.026	91.510%	90.096%
2	16:00:11	91.641%	0.169	0.154	0.010	0.050	0.029	91.724%	90.200%
3	16:00:19	91.479%	0.098	0.110	-0.007	0.039	0.029	91.890%	89.936%
x		90.901%	0.136	0.127	0.025	0.038	0.028	91.708%	90.077%
σ		1.145%	0.036	0.024	0.041	0.012	0.002	0.191%	0.133%
%RSD		1.260	26.280	18.830	165.200	32.080	6.625	0.208	0.148

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:00:04	0.012	0.011	-0.056	-0.066	-0.071	87.642%
2	16:00:11	0.013	0.009	-0.060	-0.067	-0.068	88.229%
3	16:00:19	0.010	0.007	-0.064	-0.072	-0.074	88.168%
x		0.012	0.009	-0.060	-0.069	-0.071	88.013%
σ		0.002	0.002	0.004	0.003	0.003	0.323%
%RSD		13.170	22.370	6.715	4.666	4.254	0.366

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:04:49	88.535%	1.332	18.650	21.640	0.000	29120.000	11220.000	10870.000
2	16:04:57	92.820%	1.254	17.530	20.260	0.000	27690.000	10940.000	11400.000
3	16:05:05	79.536%	1.275	19.930	21.070	0.000	27820.000	11240.000	11690.000
x		86.963%	1.287	18.700	20.990	0.000	28210.000	11140.000	11320.000
σ		6.780%	0.040	1.205	0.694	0.000	788.300	168.100	418.200
%RSD		7.796	3.124	6.440	3.307	0.000	2.794	1.510	3.695

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:04:49	30.950	7013.000	0.000	4838.000	68450.000	69790.000	77.266%	1.052
2	16:04:57	33.170	7053.000	0.000	4947.000	69670.000	68610.000	74.723%	1.215
3	16:05:05	31.080	6816.000	0.000	4498.000	64640.000	66700.000	73.746%	0.881
x		31.730	6961.000	0.000	4761.000	67590.000	68370.000	75.245%	1.049
σ		1.244	126.800	0.000	233.900	2621.000	1560.000	1.817%	0.168
%RSD		3.921	1.822	0.000	4.913	3.878	2.282	2.415	15.960

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:04:49	0.628	1.171	37410.000	39.010	251.800	3.660	3.501	14.420
2	16:04:57	0.980	1.231	38800.000	39.620	244.800	3.719	3.885	14.760
3	16:05:05	0.898	1.226	38080.000	39.560	245.100	3.645	3.685	14.660
x		0.835	1.209	38100.000	39.400	247.200	3.675	3.690	14.610
σ		0.185	0.033	697.100	0.334	3.975	0.039	0.192	0.174
%RSD		22.090	2.754	1.830	0.848	1.608	1.063	5.196	1.191

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:04:49	14.360	42.070	41.050	1.465	0.215	9.247	0.000	708.900
2	16:04:57	14.670	43.530	41.270	1.494	0.215	9.974	0.000	705.000
3	16:05:05	15.020	42.790	41.130	1.394	0.231	9.630	0.000	701.800
x		14.680	42.800	41.150	1.451	0.220	9.617	0.000	705.200
σ		0.332	0.729	0.110	0.052	0.009	0.363	0.000	3.556
%RSD		2.260	1.704	0.268	3.551	4.103	3.777	0.000	0.504

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:04:49	81.649%	0.990	1.026	77.363%	0.029	0.061	3.754	4.027
2	16:04:57	82.459%	0.790	0.880	77.329%	0.043	0.062	4.058	3.999
3	16:05:05	83.373%	0.890	0.865	77.802%	0.041	0.059	3.808	4.114
x		82.494%	0.890	0.923	77.498%	0.038	0.061	3.873	4.046
σ		0.863%	0.100	0.089	0.264%	0.008	0.002	0.162	0.060
%RSD		1.046	11.230	9.636	0.341	20.010	2.496	4.185	1.480

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:04:49	73.415%	0.431	0.885	0.822	175.600	180.200	81.276%	81.717%
2	16:04:57	73.794%	0.437	0.802	0.675	176.100	180.400	81.132%	81.170%
3	16:05:05	74.151%	0.327	0.839	0.768	172.700	176.000	82.559%	82.196%
x		73.787%	0.398	0.842	0.755	174.800	178.800	81.656%	81.695%
σ		0.368%	0.062	0.042	0.074	1.798	2.470	0.786%	0.513%
%RSD		0.498	15.480	4.936	9.841	1.029	1.381	0.962	0.628

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:04:49	0.174	0.178	0.080	0.045	0.052	70.004%
2	16:04:57	0.155	0.162	0.079	0.049	0.064	71.280%
3	16:05:05	0.184	0.165	0.078	0.047	0.053	71.210%
x		0.171	0.169	0.079	0.047	0.056	70.831%
σ		0.015	0.009	0.001	0.002	0.007	0.717%
%RSD		8.627	5.080	1.515	4.668	12.260	1.013

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:34	75.704%	0.864	114.600	136.400	0.000	75750.000	12060.000	12460.000
2	16:09:42	72.149%	0.962	114.100	138.000	0.000	76290.000	12160.000	11690.000
3	16:09:49	71.689%	1.054	123.700	127.800	0.000	75550.000	12370.000	12330.000
x		73.181%	0.960	117.500	134.100	0.000	75860.000	12200.000	12160.000
σ		2.197%	0.095	5.416	5.507	0.000	383.400	155.900	411.300
%RSD		3.002	9.884	4.609	4.108	0.000	0.505	1.278	3.382

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:34	8.243	6131.000	0.000	5228.000	129700.000	129200.000	68.292%	0.500
2	16:09:42	7.731	5735.000	0.000	4989.000	127700.000	130500.000	68.968%	0.600
3	16:09:49	7.347	5449.000	0.000	4788.000	122600.000	128500.000	67.294%	0.693
x		7.774	5772.000	0.000	5002.000	126700.000	129400.000	68.185%	0.598
σ		0.450	342.500	0.000	220.300	3638.000	1036.000	0.842%	0.097
%RSD		5.787	5.935	0.000	4.404	2.872	0.800	1.235	16.190

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:34	0.565	0.604	34660.000	767.800	1242.000	5.821	3.464	31.990
2	16:09:42	0.853	0.580	33370.000	758.200	1223.000	5.903	3.383	31.090
3	16:09:49	-0.959	0.561	35120.000	784.000	1276.000	6.117	3.456	31.250
x		0.153	0.582	34380.000	770.000	1247.000	5.947	3.435	31.450
σ		0.974	0.022	904.500	13.050	26.600	0.153	0.045	0.480
%RSD		635.700	3.704	2.631	1.694	2.133	2.568	1.300	1.525

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:34	31.480	54.320	52.980	4.894	0.278	20.890	0.000	982.400
2	16:09:42	30.710	53.020	50.810	4.882	0.198	20.590	0.000	968.800
3	16:09:49	31.860	55.550	51.080	4.830	0.234	20.090	0.000	962.900
x		31.350	54.300	51.620	4.868	0.236	20.530	0.000	971.400
σ		0.586	1.266	1.179	0.034	0.040	0.404	0.000	10.030
%RSD		1.870	2.332	2.283	0.700	16.910	1.967	0.000	1.032

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:34	78.786%	2.015	2.282	71.449%	0.006	0.026	1.649	1.758
2	16:09:42	80.012%	2.046	2.125	72.867%	0.011	0.014	1.654	1.809
3	16:09:49	82.684%	2.138	2.312	73.927%	0.016	0.037	1.577	1.822
x		80.494%	2.066	2.240	72.748%	0.011	0.026	1.627	1.796
σ		1.993%	0.064	0.100	1.244%	0.005	0.011	0.043	0.034
%RSD		2.476	3.111	4.470	1.710	49.070	43.490	2.649	1.893

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:34	70.890%	0.794	0.125	0.066	320.800	322.800	77.032%	77.525%
2	16:09:42	71.845%	0.809	0.120	-0.014	319.400	327.100	78.071%	79.023%
3	16:09:49	74.387%	0.747	0.129	0.050	319.300	322.400	79.524%	77.469%
x		72.374%	0.784	0.125	0.034	319.800	324.100	78.209%	78.006%
σ		1.808%	0.032	0.004	0.043	0.846	2.584	1.251%	0.882%
%RSD		2.498	4.121	3.355	125.700	0.265	0.797	1.600	1.130

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:09:34	0.712	0.756	0.061	0.049	0.049	68.868%
2	16:09:42	0.756	0.773	0.093	0.058	0.052	69.279%
3	16:09:49	0.709	0.726	0.065	0.027	0.035	71.012%
x		0.726	0.751	0.073	0.045	0.046	69.719%
σ		0.026	0.024	0.018	0.016	0.009	1.138%
%RSD		3.612	3.141	24.220	35.940	19.890	1.632

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:18	82.167%	0.823	107.300	113.500	0.000	69450.000	12440.000	12310.000
2	16:14:26	79.263%	0.799	105.000	107.100	0.000	64830.000	11780.000	11650.000
3	16:14:34	85.855%	0.592	97.320	102.400	0.000	66050.000	11600.000	11660.000
x		82.428%	0.738	103.200	107.700	0.000	66780.000	11940.000	11870.000
σ		3.303%	0.127	5.230	5.581	0.000	2390.000	439.600	377.200
%RSD		4.008	17.240	5.068	5.182	0.000	3.579	3.682	3.177

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:18	59.090	6776.000	0.000	4498.000	119200.000	122700.000	78.707%	1.612
2	16:14:26	54.450	6217.000	0.000	4287.000	117300.000	119700.000	78.128%	1.479
3	16:14:34	56.790	6287.000	0.000	4445.000	119200.000	119500.000	74.643%	1.314
x		56.770	6427.000	0.000	4410.000	118600.000	120700.000	77.159%	1.468
σ		2.322	304.300	0.000	109.600	1102.000	1813.000	2.198%	0.149
%RSD		4.090	4.735	0.000	2.486	0.930	1.502	2.849	10.170

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:18	-0.327	0.475	24380.000	54.750	491.100	0.550	2.076	25.040
2	16:14:26	1.290	0.436	23560.000	52.240	445.300	0.537	2.079	24.890
3	16:14:34	-0.414	0.450	24400.000	57.600	516.200	0.589	2.009	25.340
x		0.183	0.454	24110.000	54.860	484.200	0.559	2.055	25.090
σ		0.959	0.019	478.000	2.680	35.980	0.027	0.039	0.228
%RSD		524.100	4.287	1.982	4.885	7.430	4.824	1.920	0.909

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:18	24.610	26.550	23.910	3.580	0.304	17.450	0.000	909.800
2	16:14:26	24.930	25.910	24.280	3.699	0.280	17.760	0.000	898.100
3	16:14:34	25.650	26.750	25.740	3.760	0.260	18.550	0.000	906.000
x		25.060	26.400	24.650	3.680	0.281	17.920	0.000	904.600
σ		0.537	0.440	0.965	0.092	0.022	0.570	0.000	5.961
%RSD		2.143	1.665	3.917	2.497	7.872	3.181	0.000	0.659

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:18	82.775%	1.199	1.225	71.707%	0.034	0.057	2.161	2.371
2	16:14:26	83.721%	1.216	1.158	74.481%	0.043	0.041	2.169	2.210
3	16:14:34	84.592%	1.134	1.142	72.519%	0.029	0.042	2.136	2.382
x		83.696%	1.183	1.175	72.902%	0.035	0.047	2.155	2.321
σ		0.909%	0.043	0.044	1.426%	0.007	0.009	0.018	0.096
%RSD		1.086	3.671	3.744	1.957	19.010	19.080	0.818	4.140

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:18	73.506%	0.435	0.139	0.098	304.700	308.600	77.263%	76.936%
2	16:14:26	71.848%	0.348	0.117	0.081	308.600	318.600	80.813%	81.466%
3	16:14:34	73.865%	0.405	0.134	0.041	308.700	314.600	78.338%	77.723%
x		73.073%	0.396	0.130	0.073	307.300	313.900	78.805%	78.708%
σ		1.076%	0.044	0.011	0.029	2.258	5.048	1.821%	2.421%
%RSD		1.472	11.120	8.661	39.690	0.735	1.608	2.310	3.075

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:14:18	0.463	0.499	0.100	0.095	0.082	72.528%
2	16:14:26	0.503	0.529	0.122	0.071	0.097	67.208%
3	16:14:34	0.462	0.482	0.127	0.075	0.088	72.142%
x		0.476	0.504	0.116	0.081	0.089	70.626%
σ		0.023	0.023	0.014	0.013	0.007	2.967%
%RSD		4.878	4.644	12.440	16.290	8.449	4.201

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:03	86.375%	0.076	-0.374	0.189	0.000	8329.000	3205.000	3248.000
2	16:19:11	78.388%	0.089	-0.265	0.268	0.000	8256.000	3223.000	2994.000
3	16:19:19	81.345%	0.111	0.476	0.038	0.000	7508.000	3096.000	3079.000
x		82.036%	0.092	-0.054	0.165	0.000	8031.000	3175.000	3107.000
σ		4.038%	0.018	0.463	0.117	0.000	454.100	68.710	129.700
%RSD		4.922	19.440	849.600	70.770	0.000	5.655	2.165	4.176

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:03	17.020	11850.000	0.000	1449.000	7015.000	6832.000	69.913%	0.813
2	16:19:11	14.110	10490.000	0.000	1292.000	6611.000	6526.000	71.767%	1.123
3	16:19:19	16.370	11510.000	0.000	1321.000	6665.000	6449.000	69.181%	1.213
x		15.840	11280.000	0.000	1354.000	6764.000	6603.000	70.287%	1.050
σ		1.527	708.400	0.000	83.370	219.600	202.600	1.333%	0.210
%RSD		9.644	6.279	0.000	6.158	3.247	3.068	1.896	19.970

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:03	0.483	0.570	194.600	4426.000	4566.000	4.980	7.029	5.304
2	16:19:11	-0.838	0.575	179.600	4394.000	4477.000	4.804	6.726	5.239
3	16:19:19	0.420	0.574	190.100	4438.000	4567.000	4.710	6.874	5.121
x		0.022	0.573	188.100	4419.000	4536.000	4.832	6.877	5.221
σ		0.745	0.003	7.692	22.390	51.630	0.137	0.152	0.093
%RSD		3464.000	0.513	4.090	0.507	1.138	2.837	2.204	1.779

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:03	5.428	22.150	20.890	0.354	0.039	2.903	0.000	62.270
2	16:19:11	4.880	21.320	22.090	0.365	0.021	2.520	0.000	61.020
3	16:19:19	5.224	21.610	21.160	0.403	0.027	2.515	0.000	61.460
x		5.177	21.690	21.380	0.374	0.029	2.646	0.000	61.580
σ		0.277	0.420	0.630	0.026	0.010	0.222	0.000	0.638
%RSD		5.350	1.934	2.944	6.829	33.020	8.404	0.000	1.035

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:03	81.820%	-0.004	-0.034	84.588%	-0.019	-0.008	-0.056	0.059
2	16:19:11	84.136%	-0.046	-0.035	84.493%	-0.022	-0.003	-0.054	0.054
3	16:19:19	84.404%	-0.049	-0.040	84.125%	-0.011	-0.006	-0.099	0.069
x		83.454%	-0.033	-0.036	84.402%	-0.017	-0.005	-0.070	0.061
σ		1.421%	0.025	0.003	0.244%	0.006	0.002	0.025	0.008
%RSD		1.703	76.600	8.869	0.289	31.730	44.540	36.230	12.450

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:03	79.577%	0.890	0.107	0.016	13.540	13.860	85.961%	85.473%
2	16:19:11	80.999%	1.046	0.154	0.004	13.630	13.740	85.580%	84.415%
3	16:19:19	81.520%	0.857	0.104	-0.061	13.040	13.510	86.224%	86.059%
x		80.698%	0.931	0.122	-0.013	13.400	13.700	85.922%	85.316%
σ		1.006%	0.101	0.028	0.042	0.320	0.181	0.324%	0.833%
%RSD		1.246	10.860	22.870	308.500	2.385	1.318	0.377	0.977

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:19:03	0.027	0.035	-0.061	-0.066	-0.069	78.557%
2	16:19:11	0.040	0.031	-0.073	-0.073	-0.075	81.739%
3	16:19:19	0.025	0.041	-0.071	-0.062	-0.075	83.060%
x		0.031	0.036	-0.069	-0.067	-0.073	81.119%
σ		0.008	0.005	0.006	0.006	0.003	2.315%
%RSD		25.400	14.820	9.029	8.692	4.627	2.854

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:44	87.670%	1.547	19.470	21.960	0.000	12890.000	2201.000	2230.000
2	16:23:52	83.434%	1.666	21.870	23.180	0.000	13500.000	2250.000	2180.000
3	16:24:00	76.723%	1.486	23.400	21.990	0.000	12970.000	2255.000	2339.000
x		82.609%	1.566	21.580	22.370	0.000	13120.000	2236.000	2250.000
σ		5.520%	0.091	1.982	0.696	0.000	334.500	29.690	81.200
%RSD		6.682	5.840	9.185	3.110	0.000	2.549	1.328	3.609

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:44	51.070	14150.000	0.000	1550.000	6464.000	6278.000	75.700%	1.638
2	16:23:52	50.210	14300.000	0.000	1536.000	6346.000	6401.000	73.653%	1.925
3	16:24:00	52.420	14210.000	0.000	1535.000	6083.000	6281.000	70.934%	1.576
x		51.230	14220.000	0.000	1540.000	6298.000	6320.000	73.429%	1.713
σ		1.114	74.540	0.000	8.074	195.100	70.240	2.391%	0.186
%RSD		2.175	0.524	0.000	0.524	3.099	1.111	3.256	10.850

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:44	0.630	0.662	2.380	27.580	48.720	0.031	0.809	6.261
2	16:23:52	-0.059	0.684	2.472	28.780	50.630	0.040	0.729	6.078
3	16:24:00	0.939	0.715	2.523	28.360	47.780	0.025	0.743	6.061
x		0.503	0.687	2.458	28.240	49.050	0.032	0.760	6.133
σ		0.511	0.026	0.073	0.611	1.452	0.008	0.043	0.111
%RSD		101.600	3.846	2.965	2.163	2.961	24.320	5.639	1.807

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:44	6.258	25.090	23.040	0.265	0.359	1.929	0.000	79.940
2	16:23:52	5.995	24.710	24.350	0.241	0.353	2.047	0.000	80.090
3	16:24:00	6.041	25.660	25.060	0.261	0.313	2.404	0.000	79.810
x		6.098	25.150	24.150	0.256	0.342	2.127	0.000	79.950
σ		0.141	0.477	1.026	0.013	0.025	0.248	0.000	0.142
%RSD		2.305	1.895	4.246	5.165	7.335	11.640	0.000	0.177

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:44	82.281%	0.028	0.003	83.936%	-0.014	-0.000	0.022	0.049
2	16:23:52	83.179%	0.017	-0.018	82.421%	-0.012	-0.004	-0.033	0.047
3	16:24:00	83.043%	0.016	-0.039	81.896%	-0.017	-0.006	-0.082	0.062
x		82.834%	0.021	-0.018	82.751%	-0.014	-0.003	-0.031	0.053
σ		0.484%	0.007	0.021	1.059%	0.003	0.003	0.052	0.008
%RSD		0.584	33.070	118.400	1.280	17.810	89.380	166.700	15.210

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:44	77.619%	0.177	0.005	-0.040	4.642	4.776	85.127%	84.662%
2	16:23:52	79.870%	0.157	0.005	-0.091	4.726	4.702	83.608%	82.641%
3	16:24:00	78.903%	0.172	0.006	-0.171	4.686	4.681	84.031%	83.763%
x		78.797%	0.168	0.005	-0.100	4.685	4.720	84.255%	83.689%
σ		1.129%	0.011	0.000	0.066	0.042	0.050	0.784%	1.012%
%RSD		1.433	6.286	8.708	65.440	0.893	1.061	0.930	1.210

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:23:44	0.011	0.011	-0.018	-0.038	-0.038	78.748%
2	16:23:52	0.016	0.010	-0.035	-0.037	-0.038	82.461%
3	16:24:00	0.011	0.010	-0.022	-0.039	-0.037	81.131%
x		0.013	0.010	-0.025	-0.038	-0.038	80.780%
σ		0.003	0.001	0.009	0.001	0.000	1.881%
%RSD		23.860	5.018	36.040	3.592	1.055	2.329

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:25	101.458%	-0.022	16.160	18.760	0.000	38.870	1.753	1.652
2	16:28:33	89.639%	-0.032	17.080	20.060	0.000	40.590	1.969	1.779
3	16:28:41	96.020%	-0.043	17.740	17.370	0.000	39.450	1.461	1.965
x		95.706%	-0.032	16.990	18.730	0.000	39.640	1.728	1.799
σ		5.915%	0.011	0.793	1.349	0.000	0.872	0.255	0.157
%RSD		6.181	33.520	4.663	7.200	0.000	2.199	14.780	8.735

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:25	6.360	67.480	0.000	-1.203	12.150	6.443	79.327%	0.068
2	16:28:33	5.595	68.100	0.000	-2.017	6.303	6.813	80.099%	0.067
3	16:28:41	6.539	68.770	0.000	-1.713	10.330	6.735	77.792%	0.084
x		6.165	68.110	0.000	-1.644	9.597	6.664	79.073%	0.073
σ		0.502	0.646	0.000	0.411	2.993	0.195	1.174%	0.010
%RSD		8.136	0.948	0.000	25.010	31.190	2.930	1.485	13.100

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:25	-0.978	0.487	0.209	1.632	2.050	0.012	0.036	0.139
2	16:28:33	0.747	0.487	0.145	1.508	2.015	0.010	0.048	0.166
3	16:28:41	0.372	0.474	0.187	1.470	2.279	0.009	0.053	0.190
x		0.047	0.483	0.180	1.537	2.115	0.010	0.046	0.165
σ		0.907	0.007	0.033	0.085	0.143	0.002	0.009	0.025
%RSD		1936.000	1.503	18.110	5.526	6.779	17.710	19.380	15.450

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:25	0.208	0.146	0.225	0.070	-0.003	1.081	0.000	0.041
2	16:28:33	0.216	0.082	0.076	0.068	-0.009	1.173	0.000	0.030
3	16:28:41	0.197	0.139	0.398	0.058	-0.009	1.006	0.000	0.042
x		0.207	0.122	0.233	0.065	-0.007	1.087	0.000	0.037
σ		0.010	0.035	0.162	0.007	0.003	0.084	0.000	0.006
%RSD		4.664	28.820	69.300	10.240	47.650	7.715	0.000	17.080

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:25	85.906%	-0.121	-0.102	88.795%	-0.028	-0.005	-0.076	0.012
2	16:28:33	86.783%	-0.116	-0.093	88.830%	-0.020	-0.006	-0.089	0.001
3	16:28:41	87.391%	-0.107	-0.138	88.855%	-0.024	-0.002	-0.097	0.014
x		86.693%	-0.115	-0.111	88.827%	-0.024	-0.004	-0.088	0.009
σ		0.747%	0.007	0.023	0.030%	0.004	0.002	0.011	0.007
%RSD		0.861	6.075	21.100	0.034	17.130	38.110	12.220	82.100

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:25	82.623%	0.193	0.008	-0.059	0.066	0.004	85.716%	85.220%
2	16:28:33	82.533%	0.205	0.032	-0.097	0.046	0.040	87.045%	87.842%
3	16:28:41	82.603%	0.176	-0.009	-0.125	0.027	0.043	86.397%	87.076%
x		82.586%	0.191	0.010	-0.094	0.046	0.029	86.386%	86.713%
σ		0.047%	0.014	0.021	0.033	0.020	0.021	0.665%	1.348%
%RSD		0.057	7.423	206.900	35.140	42.880	73.460	0.770	1.555

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:28:25	-0.001	-0.002	-0.075	-0.077	-0.082	85.448%
2	16:28:33	-0.002	-0.001	-0.070	-0.074	-0.077	84.152%
3	16:28:41	-0.000	0.000	-0.074	-0.070	-0.077	85.290%
x		-0.001	-0.001	-0.073	-0.074	-0.079	84.963%
σ		0.001	0.001	0.003	0.003	0.003	0.707%
%RSD		90.870	120.700	3.891	4.557	3.798	0.832

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:07	110.506%	-0.024	1.370	1.391	0.000	4.284	0.245	0.260
2	16:33:15	112.987%	-0.033	0.947	0.918	0.000	3.768	0.139	0.168
3	16:33:23	101.798%	-0.034	1.495	1.324	0.000	4.203	0.224	0.301
x		108.430%	-0.030	1.271	1.211	0.000	4.085	0.203	0.243
σ		5.876%	0.006	0.287	0.256	0.000	0.277	0.056	0.068
%RSD		5.419	18.520	22.600	21.160	0.000	6.787	27.600	28.120

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:07	1.482	17.290	0.000	-4.882	-3.004	0.511	101.246%	0.060
2	16:33:15	1.444	15.020	0.000	-4.681	1.449	-1.227	97.969%	-0.063
3	16:33:23	1.426	12.600	0.000	-5.118	-2.079	1.127	96.689%	0.023
x		1.451	14.970	0.000	-4.894	-1.211	0.137	98.635%	0.007
σ		0.029	2.345	0.000	0.219	2.350	1.221	2.351%	0.063
%RSD		1.982	15.670	0.000	4.475	194.000	891.500	2.383	902.200

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:07	0.132	0.077	0.053	-0.246	-0.441	-0.001	0.038	0.028
2	16:33:15	0.173	0.086	0.051	-0.170	-0.154	0.003	0.028	0.018
3	16:33:23	0.087	0.075	0.085	-0.188	-0.470	0.001	0.045	-0.003
x		0.131	0.079	0.063	-0.201	-0.355	0.001	0.037	0.014
σ		0.043	0.006	0.019	0.039	0.175	0.002	0.009	0.016
%RSD		32.880	7.421	30.200	19.610	49.140	185.600	23.620	110.300

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:07	0.066	0.083	0.161	0.001	-0.015	0.481	0.000	0.008
2	16:33:15	0.004	0.106	0.237	-0.003	-0.020	0.370	0.000	0.005
3	16:33:23	0.101	0.138	0.230	0.001	-0.035	0.423	0.000	0.007
x		0.057	0.109	0.209	-0.000	-0.024	0.425	0.000	0.007
σ		0.049	0.027	0.042	0.002	0.010	0.055	0.000	0.001
%RSD		86.680	25.010	20.180	517.300	44.020	12.980	0.000	20.690

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:07	86.020%	-0.077	-0.097	90.443%	-0.009	0.005	-0.067	-0.004
2	16:33:15	88.194%	-0.086	-0.100	90.736%	-0.027	-0.002	-0.094	0.001
3	16:33:23	88.871%	-0.134	-0.114	92.116%	-0.029	0.002	-0.122	-0.005
x		87.695%	-0.099	-0.104	91.098%	-0.022	0.002	-0.094	-0.003
σ		1.490%	0.031	0.009	0.893%	0.011	0.003	0.027	0.003
%RSD		1.699	31.340	8.500	0.981	52.060	185.300	28.960	106.500

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:07	82.895%	-0.075	-0.027	-0.075	0.007	0.007	85.946%	85.514%
2	16:33:15	83.183%	-0.103	-0.021	-0.176	0.018	0.011	86.981%	85.805%
3	16:33:23	85.678%	-0.090	-0.033	-0.198	0.033	-0.006	86.674%	86.258%
x		83.919%	-0.089	-0.027	-0.149	0.019	0.004	86.534%	85.859%
σ		1.531%	0.014	0.006	0.065	0.013	0.008	0.531%	0.375%
%RSD		1.824	15.390	22.520	43.690	66.940	219.500	0.614	0.436

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:33:07	-0.001	-0.001	-0.082	-0.083	-0.087	81.526%
2	16:33:15	0.001	-0.001	-0.082	-0.080	-0.081	81.328%
3	16:33:23	-0.001	-0.002	-0.080	-0.081	-0.083	83.579%
x		-0.000	-0.002	-0.081	-0.081	-0.084	82.144%
σ		0.001	0.001	0.001	0.002	0.003	1.246%
%RSD		1037.000	35.560	1.386	2.013	3.300	1.517

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:50	79.192%	46.660	871.600	900.000	0.000	48760.000	47710.000	47150.000
2	16:37:58	81.189%	44.880	821.600	893.600	0.000	44720.000	44700.000	45060.000
3	16:38:06	78.820%	44.890	773.000	870.700	0.000	47340.000	43860.000	42530.000
x		79.734%	45.480	822.100	888.100	0.000	46940.000	45420.000	44910.000
σ		1.274%	1.027	49.290	15.400	0.000	2048.000	2027.000	2317.000
%RSD		1.597	2.259	5.996	1.734	0.000	4.362	4.463	5.160

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:50	1718.000	8210.000	0.000	45630.000	47450.000	48800.000	74.814%	923.500
2	16:37:58	1781.000	8583.000	0.000	48530.000	49560.000	50380.000	72.026%	914.500
3	16:38:06	1635.000	7953.000	0.000	45400.000	46440.000	47920.000	74.331%	889.900
x		1711.000	8248.000	0.000	46520.000	47820.000	49030.000	73.724%	909.300
σ		73.400	316.900	0.000	1744.000	1592.000	1246.000	1.490%	17.380
%RSD		4.288	3.842	0.000	3.748	3.329	2.541	2.021	1.912

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:50	581.200	242.700	501.300	1175.000	1387.000	545.800	574.400	284.000
2	16:37:58	602.900	252.200	520.900	1214.000	1427.000	564.700	591.200	288.200
3	16:38:06	582.900	242.900	489.200	1179.000	1377.000	540.400	569.600	280.500
x		589.000	246.000	503.800	1189.000	1397.000	550.300	578.400	284.200
σ		12.080	5.437	16.010	21.310	26.690	12.770	11.360	3.840
%RSD		2.051	2.210	3.178	1.792	1.911	2.320	1.965	1.351

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:50	282.400	560.400	533.000	42.700	10.900	11.590	0.000	873.500
2	16:37:58	286.600	570.300	535.000	42.980	10.760	9.959	0.000	869.200
3	16:38:06	280.500	558.400	526.800	42.080	10.340	10.450	0.000	868.300
x		283.200	563.000	531.600	42.590	10.670	10.660	0.000	870.400
σ		3.121	6.379	4.227	0.461	0.290	0.835	0.000	2.776
%RSD		1.102	1.133	0.795	1.083	2.716	7.830	0.000	0.319

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:50	80.293%	994.700	977.700	76.211%	46.190	46.870	49.580	109.100
2	16:37:58	80.997%	991.500	982.800	76.508%	45.980	46.930	50.090	109.200
3	16:38:06	81.224%	984.700	971.000	76.906%	46.090	47.100	49.970	108.100
x		80.838%	990.300	977.200	76.542%	46.090	46.970	49.880	108.800
σ		0.485%	5.071	5.964	0.349%	0.106	0.121	0.265	0.615
%RSD		0.600	0.512	0.610	0.456	0.229	0.258	0.532	0.565

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:50	72.532%	1814.000	448.200	451.600	1421.000	1782.000	82.118%	81.941%
2	16:37:58	71.754%	1842.000	459.600	446.400	1264.000	1809.000	82.410%	81.994%
3	16:38:06	72.152%	1834.000	450.600	454.400	1113.000	1790.000	81.882%	82.061%
x		72.146%	1830.000	452.800	450.800	1266.000	1794.000	82.137%	81.999%
σ		0.389%	14.630	6.013	4.016	153.800	13.900	0.264%	0.060%
%RSD		0.539	0.799	1.328	0.891	12.150	0.775	0.322	0.073

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:37:50	49.350	51.040	19.680	19.980	19.850	69.130%
2	16:37:58	48.730	50.790	19.470	19.550	19.550	69.399%
3	16:38:06	48.660	50.430	19.710	20.100	19.840	69.343%
x		48.910	50.760	19.620	19.880	19.740	69.291%
σ		0.376	0.307	0.131	0.284	0.169	0.142%
%RSD		0.769	0.605	0.669	1.430	0.855	0.204

180-54267-H-13-D MSD 5/9/2016 4:43:25 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:33	76.836%	45.020	860.800	852.600	0.000	46180.000	46290.000	45250.000
2	16:42:40	75.351%	43.670	841.800	822.100	0.000	43920.000	44680.000	44530.000
3	16:42:48	76.656%	40.290	791.300	789.500	0.000	44260.000	44600.000	45570.000
x		76.281%	42.990	831.300	821.400	0.000	44790.000	45190.000	45120.000
σ		0.810%	2.439	35.920	31.560	0.000	1219.000	951.800	529.800
%RSD		1.062	5.674	4.321	3.842	0.000	2.721	2.106	1.174

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:33	1751.000	8164.000	0.000	43790.000	44950.000	47270.000	68.965%	918.700
2	16:42:40	1639.000	7498.000	0.000	43520.000	45680.000	47040.000	67.802%	923.700
3	16:42:48	1785.000	7903.000	0.000	46370.000	45790.000	47000.000	65.055%	909.900
x		1725.000	7855.000	0.000	44560.000	45470.000	47100.000	67.274%	917.500
σ		76.640	335.300	0.000	1572.000	456.800	150.200	2.008%	7.021
%RSD		4.443	4.269	0.000	3.528	1.005	0.319	2.984	0.765

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:33	574.900	245.200	514.500	1181.000	1388.000	548.200	578.500	286.000
2	16:42:40	601.500	246.100	513.700	1187.000	1369.000	548.700	572.200	282.800
3	16:42:48	631.000	258.300	518.200	1229.000	1441.000	565.300	589.300	289.000
x		602.500	249.900	515.500	1199.000	1399.000	554.100	580.000	285.900
σ		28.100	7.304	2.422	26.330	37.220	9.742	8.645	3.122
%RSD		4.664	2.923	0.470	2.197	2.660	1.758	1.491	1.092

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:33	283.400	578.600	546.200	44.280	11.390	10.460	0.000	859.700
2	16:42:40	277.300	576.400	545.700	43.340	11.400	11.620	0.000	844.700
3	16:42:48	287.000	593.400	567.600	44.060	11.670	12.120	0.000	852.100
x		282.600	582.800	553.200	43.900	11.490	11.400	0.000	852.200
σ		4.917	9.251	12.540	0.490	0.156	0.853	0.000	7.494
%RSD		1.740	1.587	2.267	1.117	1.362	7.482	0.000	0.879

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:33	75.690%	970.300	981.100	72.352%	46.440	47.000	50.920	108.900
2	16:42:40	76.812%	966.700	973.100	73.121%	45.540	46.690	49.820	108.000
3	16:42:48	76.888%	964.800	958.400	73.233%	46.170	46.570	49.790	108.700
x		76.464%	967.300	970.800	72.902%	46.050	46.750	50.180	108.500
σ		0.671%	2.789	11.510	0.480%	0.462	0.220	0.646	0.453
%RSD		0.877	0.288	1.186	0.658	1.004	0.471	1.287	0.418

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:33	68.069%	1782.000	442.100	443.400	1551.000	1767.000	78.011%	78.570%
2	16:42:40	68.834%	1786.000	443.200	436.700	1454.000	1755.000	78.579%	78.739%
3	16:42:48	69.174%	1756.000	439.700	444.800	1449.000	1750.000	78.462%	78.894%
x		68.692%	1775.000	441.700	441.700	1485.000	1757.000	78.351%	78.734%
σ		0.566%	16.280	1.827	4.328	57.570	8.791	0.300%	0.162%
%RSD		0.823	0.918	0.414	0.980	3.877	0.500	0.383	0.206

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:42:33	47.690	49.400	19.450	19.620	19.300	67.248%
2	16:42:40	47.300	48.820	19.010	19.520	19.140	68.196%
3	16:42:48	46.650	48.760	18.960	19.040	18.840	68.984%
x		47.210	48.990	19.140	19.390	19.090	68.143%
σ		0.529	0.357	0.269	0.313	0.231	0.869%
%RSD		1.120	0.728	1.404	1.616	1.209	1.276

180-54267-H-13-B PDS 5/9/2016 4:48:09 PM

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:16	84.206%	43.210	764.300	873.300	0.000	46100.000	44730.000	45080.000
2	16:47:24	73.767%	46.380	897.100	916.700	0.000	45500.000	46420.000	46320.000
3	16:47:32	79.672%	41.340	796.800	812.900	0.000	43640.000	44700.000	45370.000
x		79.215%	43.640	819.400	867.600	0.000	45080.000	45280.000	45590.000
σ		5.234%	2.551	69.250	52.130	0.000	1283.000	981.400	647.100
%RSD		6.608	5.845	8.451	6.008	0.000	2.845	2.167	1.419

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:16	1743.000	8481.000	0.000	47510.000	48940.000	49510.000	71.960%	901.400
2	16:47:24	1763.000	8113.000	0.000	43220.000	45820.000	47310.000	71.986%	925.100
3	16:47:32	1804.000	8462.000	0.000	47500.000	46570.000	47350.000	67.660%	935.100
x		1770.000	8352.000	0.000	46080.000	47110.000	48060.000	70.535%	920.500
σ		30.740	207.700	0.000	2471.000	1629.000	1260.000	2.490%	17.280
%RSD		1.737	2.487	0.000	5.364	3.458	2.622	3.530	1.878

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:16	571.000	247.200	511.000	1198.000	1390.000	546.800	568.900	281.900
2	16:47:24	525.600	244.400	503.100	1182.000	1350.000	544.700	567.200	275.500
3	16:47:32	602.300	253.200	529.300	1238.000	1436.000	572.500	589.000	285.400
x		566.300	248.300	514.400	1206.000	1392.000	554.700	575.100	280.900
σ		38.560	4.492	13.470	28.900	42.790	15.500	12.100	4.995
%RSD		6.808	1.809	2.618	2.397	3.074	2.795	2.105	1.778

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:16	279.700	576.400	545.900	42.350	10.480	10.270	0.000	881.600
2	16:47:24	273.100	568.600	543.200	41.880	10.450	10.600	0.000	871.400
3	16:47:32	280.200	578.700	555.200	43.490	10.840	10.650	0.000	861.900
x		277.700	574.500	548.100	42.570	10.590	10.510	0.000	871.600
σ		3.981	5.291	6.303	0.826	0.218	0.205	0.000	9.874
%RSD		1.434	0.921	1.150	1.940	2.055	1.950	0.000	1.133

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:16	75.824%	989.500	994.000	72.121%	46.950	48.050	52.760	111.800
2	16:47:24	77.183%	976.000	995.500	72.873%	46.150	47.080	50.750	109.400
3	16:47:32	79.220%	972.300	982.700	74.336%	44.990	46.660	49.770	109.200
x		77.409%	979.300	990.700	73.110%	46.030	47.260	51.090	110.100
σ		1.709%	9.081	6.980	1.126%	0.985	0.711	1.528	1.454
%RSD		2.208	0.927	0.705	1.541	2.140	1.505	2.990	1.321

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:16	71.781%	1807.000	456.900	440.300	1181.000	1778.000	76.421%	76.506%
2	16:47:24	72.994%	1807.000	456.500	445.400	858.600	1770.000	77.867%	78.266%
3	16:47:32	74.173%	1808.000	470.800	453.200	527.800	1710.000	78.806%	78.923%
x		72.983%	1807.000	461.400	446.300	855.900	1753.000	77.698%	77.899%
σ		1.196%	0.243	8.122	6.516	326.900	37.440	1.201%	1.250%
%RSD		1.639	0.013	1.760	1.460	38.190	2.136	1.546	1.604

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:47:16	46.640	48.560	19.160	19.360	19.270	70.456%
2	16:47:24	46.540	48.580	19.150	19.480	19.270	70.210%
3	16:47:32	46.390	47.760	18.820	19.390	19.320	70.180%
x		46.520	48.300	19.040	19.410	19.280	70.282%
σ		0.126	0.468	0.191	0.062	0.029	0.152%
%RSD		0.271	0.969	1.001	0.318	0.153	0.216

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:59	113.586%	93.440	91.810	92.150	0.000	48600.000	49900.000	49770.000
2	16:52:07	107.436%	99.340	93.040	91.200	0.000	48010.000	47460.000	48140.000
3	16:52:15	115.320%	89.130	85.820	86.560	0.000	48200.000	48920.000	49090.000
x		112.114%	93.971%	90.221%	89.969%	0.000	96.539%	97.517%	97.998%
σ		4.143%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		3.695	5.454	4.282	3.326	0.000	0.621	2.519	1.673

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:59	497.000	4833.000	0.000	48240.000	46720.000	47240.000	108.107%	95.130
2	16:52:07	469.900	4772.000	0.000	45240.000	44880.000	46200.000	110.147%	93.350
3	16:52:15	486.100	4872.000	0.000	47650.000	45790.000	46920.000	108.182%	96.480
x		96.866%	96.512%	0.000	94.083%	91.597%	93.571%	108.812%	94.987%
σ		n/a	n/a	0.000	n/a	n/a	n/a	1.157%	n/a
%RSD		2.811	1.039	0.000	3.376	2.007	1.137	1.063	1.653

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:59	96.380	99.100	491.300	25410.000	25440.000	100.600	103.200	103.700
2	16:52:07	95.020	99.060	474.200	25260.000	25210.000	99.900	99.580	99.740
3	16:52:15	100.200	100.900	491.800	25160.000	25070.000	97.930	100.800	103.100
x		97.214%	99.689%	97.150%	101.095%	100.975%	99.490%	101.218%	102.160%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.780	1.062	2.066	0.496	0.734	1.407	1.823	2.066

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:59	104.000	104.000	102.000	102.400	102.800	104.500	0.000	93.320
2	16:52:07	102.600	103.900	104.000	99.970	102.400	100.600	0.000	92.320
3	16:52:15	102.300	103.700	101.900	100.200	103.800	102.400	0.000	92.200
x		102.951%	103.834%	102.638%	100.866%	103.005%	102.495%	0.000	92.617%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		0.862	0.144	1.162	1.330	0.715	1.915	0.000	0.665

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:59	87.141%	100.200	100.900	81.090%	95.470	98.260	97.330	102.200
2	16:52:07	89.285%	98.530	100.200	80.758%	96.980	98.230	97.530	102.700
3	16:52:15	89.888%	98.850	101.000	82.412%	99.420	100.200	99.670	101.900
x		88.771%	99.182%	100.703%	81.420%	97.289%	98.895%	98.178%	102.267%
σ		1.444%	n/a	n/a	0.875%	n/a	n/a	n/a	n/a
%RSD		1.627	0.875	0.454	1.075	2.048	1.138	1.316	0.430

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:59	78.706%	96.690	98.430	98.980	95.030	95.750	82.916%	82.395%
2	16:52:07	79.898%	96.620	98.520	97.740	92.620	95.170	83.145%	81.443%
3	16:52:15	78.738%	96.740	95.190	95.240	93.110	94.730	83.863%	83.589%
x		79.114%	96.684%	97.381%	97.319%	93.589%	95.217%	83.308%	82.476%
σ		0.679%	n/a	n/a	n/a	n/a	n/a	0.494%	1.075%
%RSD		0.858	0.058	1.947	1.957	1.362	0.540	0.593	1.303

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:51:59	98.670	101.400	97.890	99.060	98.780	69.398%
2	16:52:07	95.950	99.500	96.670	97.400	98.030	71.069%
3	16:52:15	102.000	104.900	101.400	101.000	101.000	68.947%
x		98.857%	101.938%	98.636%	99.164%	99.276%	69.805%
σ		n/a	n/a	n/a	n/a	n/a	1.118%
%RSD		3.039	2.704	2.464	1.835	1.571	1.601

CCB4 5/9/2016 4:57:40 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:46	114.270%	0.012	-0.580	-0.304	0.000	2.499	6.817	6.751
2	16:56:54	114.978%	0.008	-0.293	-0.829	0.000	2.292	6.790	6.235
3	16:57:02	114.097%	-0.022	-1.064	-0.469	0.000	2.486	6.813	6.045
x		114.448%	-0.001	-0.645	-0.534	0.000	2.426	6.806	6.344
σ		0.467%	0.019	0.390	0.269	0.000	0.116	0.015	0.366
%RSD		0.408	2745.000	60.390	50.310	0.000	4.789	0.217	5.764

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:46	0.854	5.299	0.000	3.442	3.363	7.239	119.774%	0.093
2	16:56:54	0.885	4.056	0.000	2.585	5.100	5.843	120.696%	0.084
3	16:57:02	0.794	7.284	0.000	3.591	1.162	6.946	116.115%	0.054
x		0.845	5.547	0.000	3.206	3.208	6.676	118.862%	0.077
σ		0.046	1.628	0.000	0.543	1.974	0.736	2.423%	0.021
%RSD		5.494	29.350	0.000	16.940	61.510	11.030	2.038	26.980

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:46	0.028	0.010	0.054	9.562	8.429	0.009	0.024	-0.010
2	16:56:54	0.051	0.016	0.049	7.892	6.948	0.016	0.003	-0.013
3	16:57:02	0.027	0.007	0.039	7.262	6.360	0.016	0.002	-0.005
x		0.035	0.011	0.047	8.239	7.246	0.014	0.010	-0.009
σ		0.014	0.005	0.008	1.188	1.066	0.004	0.012	0.004
%RSD		39.490	44.240	16.070	14.420	14.710	30.670	121.700	46.770

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:46	-0.015	-0.016	0.121	0.079	0.148	0.337	0.000	0.020
2	16:56:54	-0.013	-0.065	0.139	0.068	0.087	0.283	0.000	0.019
3	16:57:02	0.028	-0.038	-0.048	0.057	0.060	0.317	0.000	0.019
x		-0.000	-0.039	0.070	0.068	0.098	0.312	0.000	0.020
σ		0.024	0.025	0.103	0.011	0.045	0.027	0.000	0.000
%RSD		95640.000	62.660	146.700	16.250	46.010	8.749	0.000	1.750

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:46	91.241%	1.414	1.535	92.888%	-0.010	0.007	-0.034	0.038
2	16:56:54	92.663%	1.175	1.247	94.152%	-0.011	0.009	-0.087	0.026
3	16:57:02	93.092%	1.114	1.097	93.830%	-0.007	0.016	-0.109	0.027
x		92.332%	1.234	1.293	93.624%	-0.009	0.011	-0.077	0.030
σ		0.969%	0.159	0.223	0.657%	0.002	0.004	0.038	0.007
%RSD		1.049	12.880	17.210	0.702	18.680	40.100	49.960	22.930

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:46	86.121%	0.442	0.374	0.311	0.017	0.028	85.967%	85.700%
2	16:56:54	87.385%	0.346	0.388	0.224	0.047	0.035	86.997%	86.670%
3	16:57:02	88.656%	0.303	0.326	0.209	0.027	0.015	87.514%	85.924%
x		87.387%	0.364	0.363	0.248	0.031	0.026	86.826%	86.098%
σ		1.267%	0.071	0.032	0.055	0.015	0.010	0.788%	0.508%
%RSD		1.450	19.460	8.932	22.240	49.290	39.340	0.907	0.590

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	16:56:46	0.027	0.037	-0.057	-0.070	-0.069	84.217%
2	16:56:54	0.032	0.032	-0.067	-0.067	-0.070	83.493%
3	16:57:02	0.029	0.031	-0.067	-0.077	-0.076	86.478%
x		0.029	0.033	-0.064	-0.071	-0.072	84.729%
σ		0.003	0.003	0.006	0.005	0.004	1.557%
%RSD		9.619	9.388	9.577	6.951	5.161	1.838

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:01:34	83.755%	0.271	12.520	14.050	0.000	3379.000	73.650	71.020
2	17:01:42	86.796%	0.219	11.710	11.140	0.000	3169.000	70.240	70.860
3	17:01:49	81.341%	0.194	11.260	13.300	0.000	3129.000	67.700	69.430
x		83.964%	0.228	11.830	12.830	0.000	3226.000	70.530	70.440
σ		2.734%	0.039	0.637	1.512	0.000	134.200	2.987	0.875
%RSD		3.256	17.230	5.379	11.780	0.000	4.161	4.235	1.242

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:01:34	44.170	9632.000	0.000	456.500	277.800	285.600	68.032%	1.524
2	17:01:42	45.650	9385.000	0.000	449.900	255.900	283.100	68.717%	1.614
3	17:01:49	41.490	9151.000	0.000	433.100	256.000	282.500	68.373%	1.516
x		43.770	9389.000	0.000	446.500	263.200	283.700	68.374%	1.552
σ		2.110	240.600	0.000	12.070	12.610	1.654	0.343%	0.054
%RSD		4.821	2.562	0.000	2.703	4.790	0.583	0.501	3.502

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:01:34	-0.396	0.739	7.848	48.360	47.800	0.185	0.963	3.163
2	17:01:42	-0.552	0.766	7.760	47.470	50.100	0.165	0.911	2.886
3	17:01:49	-0.249	0.793	7.572	47.580	49.190	0.167	0.864	2.801
x		-0.399	0.766	7.727	47.800	49.030	0.172	0.913	2.950
σ		0.151	0.027	0.141	0.488	1.160	0.011	0.049	0.189
%RSD		37.960	3.562	1.827	1.021	2.366	6.368	5.411	6.422

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:01:34	3.133	28.140	27.380	0.200	0.047	0.870	0.000	4.075
2	17:01:42	3.044	28.320	27.520	0.158	0.080	1.191	0.000	4.087
3	17:01:49	3.018	28.450	28.290	0.160	0.017	1.269	0.000	4.047
x		3.065	28.300	27.730	0.173	0.048	1.110	0.000	4.070
σ		0.060	0.157	0.487	0.024	0.032	0.212	0.000	0.021
%RSD		1.968	0.555	1.756	13.880	66.090	19.070	0.000	0.512

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:01:34	80.554%	0.730	0.746	82.549%	-0.018	0.003	-0.071	0.048
2	17:01:42	81.778%	0.714	0.699	82.696%	-0.013	-0.007	-0.082	0.045
3	17:01:49	82.484%	0.588	0.556	83.797%	-0.014	-0.008	-0.098	0.033
x		81.605%	0.677	0.667	83.014%	-0.015	-0.004	-0.083	0.042
σ		0.977%	0.078	0.099	0.682%	0.003	0.006	0.014	0.008
%RSD		1.197	11.450	14.820	0.822	17.840	167.500	16.370	17.980

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:01:34	78.159%	0.959	0.532	0.366	3.558	3.795	83.837%	82.599%
2	17:01:42	80.016%	0.842	0.410	0.238	3.661	3.751	82.380%	82.483%
3	17:01:49	80.299%	0.776	0.406	0.196	3.467	3.492	83.416%	83.164%
x		79.491%	0.859	0.449	0.267	3.562	3.680	83.211%	82.749%
σ		1.163%	0.093	0.072	0.089	0.097	0.164	0.750%	0.364%
%RSD		1.462	10.780	16.010	33.220	2.726	4.446	0.901	0.440

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:01:34	0.038	0.038	-0.037	-0.030	-0.042	81.656%
2	17:01:42	0.034	0.040	-0.023	-0.033	-0.038	83.621%
3	17:01:49	0.036	0.039	-0.030	-0.048	-0.044	83.949%
x		0.036	0.039	-0.030	-0.037	-0.041	83.075%
σ		0.002	0.001	0.007	0.009	0.003	1.240%
%RSD		5.787	2.652	23.610	25.120	7.891	1.493

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:06:17	86.386%	0.851	114.200	130.200	0.000	78980.000	12410.000	12810.000
2	17:06:24	79.579%	1.105	106.800	125.400	0.000	76370.000	12520.000	11800.000
3	17:06:32	88.373%	0.907	99.690	116.600	0.000	75440.000	11990.000	12160.000
x		84.780%	0.954	106.900	124.100	0.000	76930.000	12310.000	12260.000
σ		4.612%	0.134	7.238	6.878	0.000	1835.000	281.500	512.400
%RSD		5.440	14.000	6.772	5.543	0.000	2.385	2.287	4.180

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:06:17	6.783	6169.000	0.000	5243.000	128100.000	129700.000	74.301%	0.398
2	17:06:24	5.848	5607.000	0.000	4728.000	119700.000	124400.000	76.170%	0.646
3	17:06:32	6.706	5798.000	0.000	5229.000	128300.000	126900.000	71.075%	0.595
x		6.446	5858.000	0.000	5067.000	125400.000	127000.000	73.849%	0.546
σ		0.519	285.600	0.000	293.500	4878.000	2648.000	2.577%	0.131
%RSD		8.052	4.875	0.000	5.792	3.891	2.085	3.490	23.920

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:06:17	-0.832	0.389	33760.000	665.300	1124.000	5.652	3.419	29.950
2	17:06:24	0.541	0.365	31690.000	636.500	1034.000	5.270	3.054	28.960
3	17:06:32	-0.093	0.365	33820.000	680.000	1124.000	5.850	3.303	30.770
x		-0.128	0.373	33090.000	660.600	1094.000	5.591	3.259	29.890
σ		0.687	0.014	1216.000	22.150	52.000	0.295	0.187	0.903
%RSD		535.800	3.631	3.674	3.353	4.752	5.273	5.732	3.021

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:06:17	30.410	48.110	47.140	3.140	0.206	17.660	0.000	924.500
2	17:06:24	29.960	47.380	44.760	3.222	0.176	19.060	0.000	918.600
3	17:06:32	30.150	47.330	43.680	2.990	0.193	17.760	0.000	908.900
x		30.180	47.600	45.190	3.117	0.192	18.160	0.000	917.300
σ		0.229	0.435	1.769	0.118	0.015	0.778	0.000	7.848
%RSD		0.760	0.915	3.914	3.774	7.863	4.284	0.000	0.856

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:06:17	81.677%	2.045	2.068	71.665%	0.006	0.015	1.496	1.737
2	17:06:24	82.005%	2.117	2.111	73.260%	-0.002	0.008	1.622	1.670
3	17:06:32	83.864%	1.995	2.191	72.824%	-0.009	0.014	1.495	1.609
x		82.515%	2.052	2.124	72.583%	-0.002	0.012	1.538	1.672
σ		1.179%	0.061	0.062	0.824%	0.007	0.004	0.073	0.064
%RSD		1.429	2.985	2.926	1.135	459.100	30.530	4.752	3.814

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:06:17	72.086%	0.423	0.145	0.076	308.900	307.400	78.258%	78.093%
2	17:06:24	71.830%	0.358	0.125	0.036	300.500	306.600	78.589%	78.990%
3	17:06:32	71.957%	0.434	0.111	0.058	309.400	316.000	79.704%	78.885%
x		71.958%	0.405	0.127	0.057	306.300	310.000	78.850%	78.656%
σ		0.128%	0.041	0.017	0.020	4.986	5.169	0.757%	0.490%
%RSD		0.178	10.090	13.380	34.970	1.628	1.667	0.960	0.623

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:06:17	0.680	0.698	0.041	0.029	0.024	70.213%
2	17:06:24	0.726	0.723	0.044	0.025	0.022	69.876%
3	17:06:32	0.719	0.709	0.050	0.034	0.030	68.717%
x		0.708	0.710	0.045	0.029	0.025	69.602%
σ		0.025	0.013	0.005	0.004	0.004	0.785%
%RSD		3.533	1.835	10.180	14.970	17.250	1.127

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:39	115.733%	-0.020	-2.470	-2.390	0.000	-5.209	-0.288	-0.168
2	17:14:47	119.493%	-0.034	-2.618	-2.734	0.000	-5.146	-0.171	-0.164
3	17:14:55	105.854%	-0.029	-2.576	-2.486	0.000	-5.052	-0.199	-0.291
x		113.693%	-0.028	-2.555	-2.536	0.000	-5.136	-0.219	-0.208
σ		7.044%	0.007	0.076	0.177	0.000	0.079	0.061	0.072
%RSD		6.196	26.450	2.978	6.996	0.000	1.545	27.980	34.720

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:39	-0.047	4.225	0.000	-5.368	-1.908	-2.740	115.850%	-0.036
2	17:14:47	0.024	1.764	0.000	-5.465	-3.774	-3.213	114.911%	-0.054
3	17:14:55	-0.022	2.123	0.000	-5.727	-1.336	-3.190	113.978%	-0.026
x		-0.015	2.704	0.000	-5.520	-2.339	-3.048	114.913%	-0.039
σ		0.036	1.329	0.000	0.185	1.275	0.267	0.936%	0.014
%RSD		235.500	49.160	0.000	3.359	54.510	8.759	0.814	36.090

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:39	0.019	-0.003	0.134	-0.580	-0.590	0.002	0.050	0.028
2	17:14:47	0.051	-0.000	0.133	-0.651	-0.879	0.000	0.022	-0.036
3	17:14:55	0.035	0.001	0.147	-0.651	-0.732	0.000	0.043	-0.054
x		0.035	-0.001	0.138	-0.627	-0.734	0.001	0.038	-0.021
σ		0.016	0.002	0.008	0.041	0.144	0.001	0.015	0.043
%RSD		46.770	330.400	5.488	6.544	19.680	126.600	37.810	207.800

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:39	-0.035	-0.088	0.001	-0.005	-0.031	0.388	0.000	-0.004
2	17:14:47	-0.040	-0.131	-0.039	-0.015	-0.021	0.249	0.000	0.001
3	17:14:55	-0.061	-0.173	0.010	-0.013	-0.026	0.597	0.000	0.000
x		-0.045	-0.131	-0.009	-0.011	-0.026	0.412	0.000	-0.001
σ		0.014	0.042	0.026	0.005	0.005	0.175	0.000	0.003
%RSD		30.520	32.290	278.200	45.830	18.380	42.550	0.000	337.600

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:39	86.738%	-0.019	-0.064	90.336%	-0.017	-0.002	-0.076	-0.005
2	17:14:47	87.783%	-0.047	-0.044	90.699%	-0.030	-0.006	-0.085	-0.006
3	17:14:55	88.823%	-0.052	-0.073	90.454%	-0.021	0.003	-0.109	-0.002
x		87.781%	-0.039	-0.060	90.496%	-0.023	-0.002	-0.090	-0.005
σ		1.043%	0.018	0.015	0.185%	0.007	0.005	0.017	0.002
%RSD		1.188	45.560	24.740	0.205	29.700	245.100	19.270	44.790

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:39	83.285%	-0.108	-0.011	-0.106	0.007	-0.009	83.619%	82.463%
2	17:14:47	83.691%	-0.107	-0.037	-0.140	-0.024	-0.016	83.963%	83.678%
3	17:14:55	84.266%	-0.106	-0.027	-0.181	-0.009	-0.016	84.370%	83.651%
x		83.747%	-0.107	-0.025	-0.142	-0.009	-0.014	83.984%	83.264%
σ		0.493%	0.001	0.013	0.038	0.016	0.004	0.376%	0.694%
%RSD		0.588	0.897	53.340	26.500	185.400	30.210	0.448	0.833

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:14:39	0.005	0.004	-0.082	-0.085	-0.085	82.625%
2	17:14:47	0.006	0.006	-0.085	-0.072	-0.086	81.552%
3	17:14:55	0.006	0.004	-0.078	-0.084	-0.089	81.366%
x		0.006	0.005	-0.082	-0.080	-0.087	81.847%
σ		0.001	0.001	0.003	0.007	0.002	0.680%
%RSD		10.480	22.400	3.917	8.764	2.081	0.830

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:25	105.495%	-0.023	-2.649	-2.491	0.000	-5.618	-0.307	-0.277
2	17:19:33	112.892%	-0.019	-2.712	-2.705	0.000	-5.493	-0.344	-0.375
3	17:19:41	114.005%	-0.025	-2.625	-3.001	0.000	-5.622	-0.304	-0.360
x		110.797%	-0.022	-2.662	-2.732	0.000	-5.578	-0.318	-0.338
σ		4.625%	0.003	0.045	0.256	0.000	0.073	0.022	0.053
%RSD		4.175	13.590	1.685	9.369	0.000	1.316	7.017	15.660

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:25	-0.126	3.327	0.000	-5.692	-6.526	-2.949	115.186%	-0.045
2	17:19:33	-0.072	1.663	0.000	-5.416	-4.507	-3.251	108.789%	-0.034
3	17:19:41	-0.077	2.222	0.000	-5.759	-9.501	-3.178	110.064%	-0.044
x		-0.091	2.404	0.000	-5.622	-6.844	-3.126	111.346%	-0.041
σ		0.030	0.847	0.000	0.182	2.512	0.158	3.385%	0.006
%RSD		32.890	35.230	0.000	3.228	36.700	5.051	3.040	14.440

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:25	0.062	-0.003	0.019	-0.723	-1.024	0.000	-0.001	-0.019
2	17:19:33	0.026	0.002	0.013	-0.636	-1.006	0.000	0.067	-0.036
3	17:19:41	0.033	-0.000	0.027	-0.702	-1.259	0.001	0.057	-0.040
x		0.040	-0.000	0.020	-0.687	-1.096	0.000	0.041	-0.032
σ		0.019	0.003	0.007	0.045	0.142	0.000	0.037	0.011
%RSD		47.750	565.900	35.260	6.582	12.910	74.180	88.800	34.400

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:25	0.006	0.084	0.219	-0.023	-0.031	0.346	0.000	-0.001
2	17:19:33	-0.032	0.065	0.295	-0.028	-0.016	0.257	0.000	-0.008
3	17:19:41	-0.052	-0.081	0.049	-0.016	-0.021	-0.083	0.000	-0.000
x		-0.026	0.023	0.188	-0.022	-0.023	0.174	0.000	-0.003
σ		0.029	0.090	0.126	0.006	0.007	0.226	0.000	0.005
%RSD		113.600	401.000	67.230	25.670	32.070	130.400	0.000	156.400

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:25	87.301%	-0.118	-0.124	91.203%	-0.019	-0.003	-0.057	-0.001
2	17:19:33	88.974%	-0.106	-0.124	91.394%	-0.017	-0.005	-0.100	0.000
3	17:19:41	90.130%	-0.120	-0.119	91.502%	-0.028	-0.004	-0.122	0.000
x		88.801%	-0.115	-0.122	91.366%	-0.022	-0.004	-0.093	-0.000
σ		1.422%	0.007	0.003	0.151%	0.006	0.001	0.033	0.001
%RSD		1.601	6.395	2.140	0.165	27.110	29.760	35.610	316.800

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:25	84.176%	-0.137	-0.023	-0.121	-0.021	-0.032	85.793%	84.640%
2	17:19:33	84.806%	-0.142	-0.028	-0.164	-0.005	-0.014	85.882%	83.986%
3	17:19:41	86.460%	-0.135	-0.041	-0.197	-0.017	-0.014	84.740%	83.517%
x		85.147%	-0.138	-0.030	-0.160	-0.014	-0.020	85.472%	84.048%
σ		1.180%	0.004	0.009	0.038	0.008	0.010	0.635%	0.564%
%RSD		1.385	2.574	30.100	23.970	56.000	50.950	0.743	0.671

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:19:25	0.004	0.004	-0.074	-0.070	-0.079	82.742%
2	17:19:33	0.004	0.001	-0.078	-0.072	-0.078	83.439%
3	17:19:41	0.001	0.005	-0.069	-0.078	-0.079	85.428%
x		0.003	0.003	-0.074	-0.074	-0.079	83.870%
σ		0.002	0.002	0.004	0.004	0.001	1.394%
%RSD		58.560	76.370	5.847	5.640	0.755	1.662

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:08	122.678%	47.410	791.200	874.200	0.000	47640.000	46580.000	45270.000
2	17:24:16	114.277%	47.380	851.200	868.100	0.000	47270.000	46460.000	47190.000
3	17:24:24	114.707%	47.470	770.900	897.900	0.000	46560.000	45350.000	44080.000
x		117.221%	47.420	804.400	880.100	0.000	47160.000	46130.000	45520.000
σ		4.731%	0.050	41.790	15.720	0.000	545.200	678.400	1571.000
%RSD		4.036	0.106	5.195	1.787	0.000	1.156	1.471	3.451

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:08	1777.000	8892.000	0.000	45350.000	44870.000	45290.000	114.895%	842.300
2	17:24:16	1724.000	8717.000	0.000	43620.000	42950.000	43810.000	114.337%	851.100
3	17:24:24	1679.000	8646.000	0.000	43390.000	42850.000	44600.000	117.335%	829.700
x		1727.000	8752.000	0.000	44120.000	43550.000	44570.000	115.523%	841.000
σ		48.650	126.500	0.000	1069.000	1136.000	738.200	1.594%	10.750
%RSD		2.817	1.446	0.000	2.423	2.608	1.656	1.380	1.278

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:08	432.700	179.300	439.800	905.700	1070.000	436.800	447.800	224.000
2	17:24:16	445.400	181.000	432.800	905.300	1051.000	433.400	455.800	232.400
3	17:24:24	422.800	178.700	421.900	925.100	1071.000	439.600	453.100	228.300
x		433.600	179.700	431.500	912.000	1064.000	436.600	452.200	228.200
σ		11.310	1.197	9.050	11.300	11.230	3.105	4.066	4.184
%RSD		2.607	0.666	2.097	1.239	1.056	0.711	0.899	1.833

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:08	225.900	494.000	477.200	37.810	10.640	9.761	0.000	829.000
2	17:24:16	235.300	496.000	484.100	38.280	10.720	10.380	0.000	839.500
3	17:24:24	230.300	486.900	477.400	38.120	10.480	10.030	0.000	831.900
x		230.500	492.300	479.500	38.070	10.610	10.060	0.000	833.500
σ		4.729	4.778	3.924	0.238	0.122	0.311	0.000	5.436
%RSD		2.052	0.971	0.818	0.624	1.147	3.091	0.000	0.652

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:08	88.911%	881.400	889.100	83.177%	42.010	42.930	47.580	102.700
2	17:24:16	89.398%	916.100	916.100	82.780%	43.260	44.750	50.160	105.600
3	17:24:24	91.161%	918.000	923.900	83.602%	42.940	43.400	48.330	103.900
x		89.823%	905.200	909.700	83.186%	42.740	43.690	48.690	104.000
σ		1.184%	20.610	18.230	0.411%	0.647	0.943	1.330	1.450
%RSD		1.318	2.277	2.004	0.494	1.513	2.159	2.731	1.394

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:08	81.715%	1701.000	422.000	423.900	1009.000	1654.000	83.299%	82.651%
2	17:24:16	79.921%	1738.000	436.900	440.600	956.200	1726.000	84.705%	84.189%
3	17:24:24	81.064%	1756.000	456.100	448.100	715.400	1731.000	84.422%	82.869%
x		80.900%	1732.000	438.300	437.500	893.600	1704.000	84.142%	83.236%
σ		0.908%	28.030	17.050	12.380	156.500	43.120	0.744%	0.833%
%RSD		1.123	1.619	3.890	2.831	17.520	2.531	0.884	1.000

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:24:08	40.200	41.650	16.430	16.910	16.710	78.742%
2	17:24:16	43.950	44.950	17.310	17.510	17.410	74.956%
3	17:24:24	41.880	42.960	16.600	16.830	16.870	77.059%
x		42.010	43.180	16.780	17.080	17.000	76.919%
σ		1.877	1.662	0.467	0.373	0.367	1.897%
%RSD		4.468	3.848	2.782	2.185	2.162	2.467

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:28:51	116.104%	51.440	911.800	933.100	0.000	49270.000	49300.000	49800.000
2	17:28:59	124.390%	46.840	817.500	815.900	0.000	47400.000	47590.000	46920.000
3	17:29:06	118.509%	48.540	829.300	871.400	0.000	46370.000	48010.000	46010.000
x		119.667%	48.940	852.900	873.500	0.000	47680.000	48300.000	47580.000
σ		4.263%	2.330	51.400	58.620	0.000	1469.000	888.500	1980.000
%RSD		3.562	4.761	6.026	6.711	0.000	3.082	1.840	4.161

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:28:51	1945.000	9366.000	0.000	45510.000	45070.000	46010.000	118.482%	920.300
2	17:28:59	1785.000	8731.000	0.000	43820.000	44030.000	45470.000	120.055%	876.500
3	17:29:06	1680.000	8612.000	0.000	44670.000	43810.000	44750.000	119.054%	879.000
x		1803.000	8903.000	0.000	44670.000	44310.000	45410.000	119.197%	891.900
σ		133.400	405.400	0.000	843.900	673.500	630.300	0.796%	24.630
%RSD		7.399	4.554	0.000	1.889	1.520	1.388	0.668	2.762

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:28:51	426.600	175.100	460.900	900.000	1054.000	430.000	454.500	231.700
2	17:28:59	418.200	173.000	449.400	898.200	1054.000	434.100	451.600	230.100
3	17:29:06	420.600	176.100	447.600	907.000	1050.000	436.900	450.600	226.000
x		421.800	174.700	452.600	901.700	1053.000	433.600	452.200	229.300
σ		4.309	1.561	7.179	4.642	2.510	3.491	2.014	2.912
%RSD		1.022	0.893	1.586	0.515	0.238	0.805	0.445	1.270

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:28:51	232.300	488.100	473.700	38.400	10.490	10.190	0.000	830.600
2	17:28:59	230.700	484.200	473.500	38.080	10.550	10.600	0.000	822.100
3	17:29:06	226.600	483.900	471.100	37.790	10.130	9.777	0.000	825.200
x		229.900	485.400	472.700	38.090	10.390	10.190	0.000	826.000
σ		2.931	2.331	1.456	0.307	0.226	0.409	0.000	4.305
%RSD		1.275	0.480	0.308	0.806	2.170	4.015	0.000	0.521

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:28:51	89.796%	926.500	928.100	83.966%	43.030	43.580	47.660	103.800
2	17:28:59	91.225%	920.200	925.800	84.634%	43.160	43.470	47.830	103.500
3	17:29:06	92.295%	921.800	926.900	84.173%	43.340	43.690	48.970	103.500
x		91.105%	922.800	926.900	84.258%	43.170	43.580	48.150	103.600
σ		1.253%	3.291	1.191	0.342%	0.156	0.106	0.709	0.210
%RSD		1.376	0.357	0.129	0.406	0.361	0.242	1.471	0.203

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:28:51	80.700%	1736.000	443.500	447.000	623.100	1706.000	85.629%	83.532%
2	17:28:59	81.255%	1735.000	443.200	452.100	612.700	1713.000	85.706%	84.610%
3	17:29:06	82.777%	1753.000	460.700	460.000	318.400	1704.000	85.039%	83.023%
x		81.577%	1741.000	449.100	453.000	518.100	1708.000	85.458%	83.722%
σ		1.076%	9.938	10.050	6.558	173.000	4.829	0.365%	0.811%
%RSD		1.318	0.571	2.237	1.448	33.390	0.283	0.427	0.968

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:28:51	45.460	46.040	18.070	18.280	18.070	70.649%
2	17:28:59	45.510	46.410	17.970	18.000	18.040	70.718%
3	17:29:06	43.170	44.320	17.360	17.420	17.510	73.782%
x		44.720	45.590	17.800	17.900	17.880	71.716%
σ		1.340	1.114	0.387	0.441	0.315	1.790%
%RSD		2.997	2.443	2.173	2.464	1.762	2.495

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:34	74.455%	-0.020	3.763	3.987	0.000	41.420	2.583	2.659
2	17:33:42	78.189%	-0.021	2.403	2.702	0.000	41.560	2.383	2.105
3	17:33:50	77.080%	-0.021	2.262	2.579	0.000	40.290	2.437	2.522
x		76.574%	-0.021	2.809	3.089	0.000	41.090	2.468	2.428
σ		1.918%	0.001	0.829	0.780	0.000	0.695	0.103	0.289
%RSD		2.504	3.561	29.500	25.240	0.000	1.691	4.189	11.880

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:34	1.586	-0.926	0.000	28.960	10.570	20.410	67.370%	0.677
2	17:33:42	1.662	-1.213	0.000	30.270	22.450	20.880	65.069%	0.783
3	17:33:50	1.768	0.110	0.000	31.490	31.300	23.200	61.167%	0.973
x		1.672	-0.676	0.000	30.240	21.440	21.500	64.535%	0.811
σ		0.091	0.696	0.000	1.266	10.400	1.493	3.135%	0.150
%RSD		5.469	102.800	0.000	4.185	48.510	6.943	4.858	18.470

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:34	-0.300	0.916	0.472	3.166	5.746	0.072	0.504	0.650
2	17:33:42	1.352	1.007	0.449	2.976	5.841	0.084	0.374	0.587
3	17:33:50	-0.137	1.021	0.486	3.349	6.782	0.115	0.505	0.565
x		0.305	0.982	0.469	3.164	6.123	0.090	0.461	0.601
σ		0.911	0.057	0.019	0.186	0.573	0.022	0.075	0.044
%RSD		298.600	5.816	4.011	5.885	9.350	24.070	16.370	7.293

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:34	0.758	5.597	5.928	0.215	0.001	2.617	0.000	0.091
2	17:33:42	0.599	6.287	6.684	0.213	0.019	2.010	0.000	0.069
3	17:33:50	0.699	6.474	6.144	0.188	-0.011	2.106	0.000	0.078
x		0.685	6.119	6.252	0.205	0.003	2.244	0.000	0.079
σ		0.081	0.462	0.389	0.015	0.015	0.326	0.000	0.011
%RSD		11.770	7.542	6.224	7.453	488.800	14.540	0.000	13.700

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:34	79.026%	6.144	6.073	82.497%	-0.011	-0.006	-0.043	0.183
2	17:33:42	80.203%	4.809	4.738	83.387%	-0.023	-0.001	-0.088	0.131
3	17:33:50	82.326%	4.267	4.040	84.371%	-0.020	0.002	-0.129	0.106
x		80.518%	5.073	4.950	83.418%	-0.018	-0.002	-0.087	0.140
σ		1.672%	0.966	1.033	0.937%	0.006	0.004	0.043	0.039
%RSD		2.077	19.050	20.880	1.124	35.920	264.000	49.320	27.840

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:34	76.804%	4.711	2.786	2.707	0.370	0.270	82.192%	81.351%
2	17:33:42	76.901%	3.862	2.210	1.991	0.286	0.260	82.183%	81.949%
3	17:33:50	79.595%	3.271	1.848	1.710	0.324	0.298	82.772%	82.783%
x		77.767%	3.948	2.282	2.136	0.327	0.276	82.383%	82.028%
σ		1.584%	0.724	0.473	0.514	0.042	0.020	0.337%	0.719%
%RSD		2.037	18.330	20.740	24.070	12.860	7.205	0.410	0.877

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:33:34	0.006	0.004	-0.015	-0.026	-0.022	80.151%
2	17:33:42	0.005	0.004	-0.006	-0.020	-0.019	81.464%
3	17:33:50	0.005	0.003	-0.018	-0.027	-0.030	81.576%
x		0.005	0.004	-0.013	-0.025	-0.024	81.064%
σ		0.001	0.001	0.006	0.004	0.006	0.793%
%RSD		20.260	17.360	46.980	15.930	24.020	0.978

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:38:17	99.782%	-0.018	-1.618	-1.642	0.000	5.089	0.527	0.753
2	17:38:25	90.597%	-0.008	-1.276	-1.449	0.000	5.282	0.381	0.674
3	17:38:33	91.043%	-0.029	-1.491	-1.467	0.000	4.670	0.493	0.413
x		93.807%	-0.018	-1.462	-1.519	0.000	5.014	0.467	0.613
σ		5.179%	0.011	0.173	0.107	0.000	0.313	0.077	0.178
%RSD		5.521	58.540	11.830	7.029	0.000	6.244	16.430	28.970

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:38:17	1.092	-1.690	0.000	4.252	-4.045	0.524	72.116%	0.456
2	17:38:25	1.046	-0.306	0.000	4.070	-5.269	-0.851	71.908%	0.197
3	17:38:33	0.881	-4.617	0.000	3.824	-1.040	0.816	68.962%	0.238
x		1.006	-2.205	0.000	4.049	-3.451	0.163	70.996%	0.297
σ		0.111	2.201	0.000	0.215	2.176	0.890	1.764%	0.139
%RSD		11.000	99.830	0.000	5.314	63.050	545.100	2.484	46.730

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:38:17	1.494	0.692	0.168	1.086	2.022	0.076	0.101	0.207
2	17:38:25	0.321	0.667	0.163	1.041	2.355	0.068	0.128	0.205
3	17:38:33	-1.269	0.685	0.163	1.201	3.460	0.079	0.090	0.216
x		0.182	0.681	0.165	1.109	2.612	0.075	0.106	0.209
σ		1.387	0.013	0.003	0.083	0.753	0.006	0.020	0.006
%RSD		762.800	1.933	1.886	7.473	28.820	7.879	18.640	2.882

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:38:17	0.275	0.878	1.076	0.146	-0.018	1.793	0.000	0.020
2	17:38:25	0.292	0.905	0.976	0.084	0.004	2.174	0.000	0.022
3	17:38:33	0.268	1.070	0.985	0.123	-0.029	2.292	0.000	0.021
x		0.278	0.951	1.012	0.118	-0.014	2.086	0.000	0.021
σ		0.012	0.104	0.056	0.031	0.017	0.261	0.000	0.001
%RSD		4.431	10.950	5.502	26.690	120.700	12.500	0.000	4.499

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:38:17	81.704%	1.131	1.173	83.023%	-0.019	-0.005	-0.063	0.046
2	17:38:25	83.321%	1.088	1.064	85.500%	-0.028	-0.002	-0.095	0.039
3	17:38:33	84.223%	1.090	1.022	84.198%	-0.022	-0.003	-0.126	0.024
x		83.082%	1.103	1.086	84.241%	-0.023	-0.003	-0.095	0.036
σ		1.276%	0.025	0.078	1.239%	0.004	0.002	0.031	0.011
%RSD		1.536	2.230	7.155	1.471	19.150	51.470	33.290	30.760

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:38:17	77.034%	1.166	0.706	0.611	0.122	0.140	83.832%	83.676%
2	17:38:25	77.536%	1.118	0.799	0.596	0.124	0.141	85.107%	84.212%
3	17:38:33	79.531%	1.137	0.691	0.568	0.091	0.092	82.047%	82.454%
x		78.034%	1.140	0.732	0.592	0.112	0.124	83.662%	83.447%
σ		1.321%	0.024	0.059	0.022	0.018	0.028	1.537%	0.901%
%RSD		1.692	2.108	8.012	3.723	16.150	22.600	1.837	1.080

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:38:17	0.001	0.001	-0.080	-0.082	-0.085	82.128%
2	17:38:25	0.005	0.002	-0.075	-0.085	-0.082	81.977%
3	17:38:33	0.002	0.004	-0.083	-0.085	-0.086	85.573%
x		0.003	0.002	-0.079	-0.084	-0.085	83.226%
σ		0.002	0.002	0.004	0.002	0.002	2.034%
%RSD		72.250	75.070	5.270	1.965	2.539	2.444

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:58	67.375%	-0.022	140.500	148.800	0.000	151000.000	40240.000	39880.000
2	17:43:06	66.400%	0.008	131.300	137.900	0.000	144400.000	38100.000	37840.000
3	17:43:14	64.704%	-0.025	126.500	141.700	0.000	144300.000	36170.000	34810.000
x		66.160%	-0.013	132.700	142.800	0.000	146600.000	38170.000	37510.000
σ		1.352%	0.018	7.147	5.493	0.000	3861.000	2038.000	2554.000
%RSD		2.043	139.200	5.384	3.847	0.000	2.634	5.339	6.809

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:58	1.717	35680.000	0.000	280300.000	201900.000	210100.000	75.297%	4.597
2	17:43:06	1.940	34920.000	0.000	271200.000	200000.000	206300.000	72.001%	5.099
3	17:43:14	1.746	35780.000	0.000	274900.000	200200.000	208700.000	72.138%	4.701
x		1.801	35460.000	0.000	275400.000	200700.000	208400.000	73.145%	4.799
σ		0.121	472.200	0.000	4565.000	1041.000	1909.000	1.865%	0.265
%RSD		6.728	1.332	0.000	1.657	0.519	0.916	2.549	5.520

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:58	0.057	0.563	2210.000	40030.000	40390.000	24.640	23.160	0.121
2	17:43:06	0.982	0.596	2245.000	41480.000	41880.000	25.630	23.870	0.143
3	17:43:14	1.014	0.524	2128.000	41020.000	41600.000	25.400	24.450	0.097
x		0.684	0.561	2195.000	40850.000	41290.000	25.220	23.820	0.120
σ		0.543	0.036	60.140	740.200	793.200	0.516	0.648	0.023
%RSD		79.420	6.428	2.740	1.812	1.921	2.046	2.719	19.230

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:58	0.440	2.694	3.128	126.800	0.241	7.681	0.000	541.000
2	17:43:06	0.414	3.178	3.299	127.700	0.292	7.684	0.000	534.700
3	17:43:14	0.396	2.799	3.225	131.300	0.295	7.238	0.000	529.200
x		0.417	2.890	3.217	128.600	0.276	7.535	0.000	535.000
σ		0.022	0.254	0.086	2.411	0.030	0.257	0.000	5.878
%RSD		5.247	8.799	2.672	1.875	11.020	3.406	0.000	1.099

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:58	68.270%	0.904	1.068	60.852%	-0.016	0.000	-0.068	0.076
2	17:43:06	69.262%	0.873	1.004	61.751%	-0.025	-0.005	-0.060	0.059
3	17:43:14	71.844%	0.836	1.005	64.253%	-0.028	0.001	-0.107	0.090
x		69.792%	0.871	1.026	62.285%	-0.023	-0.001	-0.078	0.075
σ		1.845%	0.034	0.037	1.762%	0.006	0.003	0.025	0.016
%RSD		2.644	3.893	3.611	2.829	25.910	249.300	32.360	20.630

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:58	62.312%	1.130	0.882	0.795	46.630	46.360	68.080%	68.655%
2	17:43:06	62.626%	0.982	0.989	0.742	45.950	46.680	69.946%	70.026%
3	17:43:14	62.370%	1.094	0.921	0.830	47.680	48.980	72.051%	71.575%
x		62.436%	1.069	0.931	0.789	46.750	47.340	70.025%	70.085%
σ		0.167%	0.077	0.054	0.044	0.872	1.432	1.987%	1.461%
%RSD		0.268	7.227	5.841	5.611	1.864	3.025	2.837	2.085

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:42:58	0.002	0.001	-0.067	-0.056	-0.072	61.050%
2	17:43:06	0.003	0.003	-0.055	-0.063	-0.067	59.869%
3	17:43:14	0.001	0.001	-0.061	-0.069	-0.072	56.238%
x		0.002	0.001	-0.061	-0.063	-0.070	59.052%
σ		0.001	0.001	0.006	0.007	0.003	2.508%
%RSD		49.310	63.610	9.917	10.490	4.668	4.246

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:42	70.124%	-0.014	32.900	38.740	0.000	54700.000	6905.000	6723.000
2	17:47:50	65.024%	-0.035	35.730	40.920	0.000	55640.000	7110.000	6830.000
3	17:47:58	64.839%	-0.025	36.610	37.770	0.000	51280.000	7070.000	7124.000
x		66.662%	-0.025	35.080	39.150	0.000	53870.000	7028.000	6892.000
σ		2.999%	0.011	1.938	1.613	0.000	2295.000	108.800	207.200
%RSD		4.499	44.020	5.526	4.120	0.000	4.260	1.548	3.006

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:42	6.836	11340.000	0.000	36060.000	48840.000	49880.000	64.750%	1.941
2	17:47:50	5.546	10570.000	0.000	32820.000	45250.000	46960.000	65.411%	2.302
3	17:47:58	6.004	11080.000	0.000	33350.000	45290.000	46570.000	61.203%	1.905
x		6.129	11000.000	0.000	34080.000	46460.000	47810.000	63.788%	2.049
σ		0.654	390.300	0.000	1739.000	2059.000	1811.000	2.263%	0.220
%RSD		10.670	3.549	0.000	5.104	4.433	3.788	3.547	10.710

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:42	2.239	1.121	1189.000	6902.000	7182.000	11.870	6.999	1.397
2	17:47:50	0.321	1.066	1121.000	6950.000	7213.000	11.970	7.324	1.352
3	17:47:58	-0.471	1.115	1220.000	7461.000	7689.000	12.450	7.376	1.432
x		0.696	1.101	1177.000	7104.000	7361.000	12.100	7.233	1.394
σ		1.394	0.030	50.610	309.600	284.400	0.309	0.204	0.040
%RSD		200.100	2.726	4.300	4.358	3.863	2.551	2.822	2.859

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:42	1.676	9.565	9.335	26.090	0.350	6.021	0.000	132.400
2	17:47:50	1.526	8.651	8.936	26.250	0.281	7.101	0.000	131.200
3	17:47:58	1.573	9.698	9.220	26.360	0.300	6.393	0.000	132.600
x		1.592	9.305	9.164	26.230	0.310	6.505	0.000	132.000
σ		0.077	0.570	0.206	0.131	0.035	0.549	0.000	0.742
%RSD		4.823	6.129	2.243	0.501	11.430	8.439	0.000	0.562

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:42	76.674%	1.034	1.062	76.105%	-0.020	-0.000	-0.061	0.063
2	17:47:50	78.959%	0.974	1.074	76.446%	-0.023	0.003	-0.097	0.028
3	17:47:58	78.757%	0.998	1.015	76.134%	-0.014	0.006	-0.102	0.053
x		78.130%	1.002	1.050	76.228%	-0.019	0.003	-0.087	0.048
σ		1.265%	0.031	0.031	0.189%	0.005	0.003	0.022	0.018
%RSD		1.619	3.048	2.988	0.248	25.140	113.700	25.730	37.380

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:42	71.012%	0.814	0.810	0.810	19.720	20.050	79.871%	79.840%
2	17:47:50	73.892%	0.842	0.857	0.696	20.150	20.470	80.147%	79.483%
3	17:47:58	75.459%	0.712	0.822	0.757	19.750	19.820	78.327%	78.910%
x		73.454%	0.789	0.830	0.754	19.870	20.110	79.449%	79.411%
σ		2.255%	0.069	0.024	0.057	0.244	0.332	0.981%	0.470%
%RSD		3.070	8.713	2.937	7.570	1.227	1.650	1.235	0.591

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:47:42	0.003	0.005	0.033	0.020	0.025	71.107%
2	17:47:50	0.005	0.003	0.025	0.011	0.012	72.198%
3	17:47:58	0.004	0.003	0.013	0.030	0.024	76.176%
x		0.004	0.004	0.024	0.020	0.020	73.161%
σ		0.001	0.001	0.010	0.010	0.007	2.668%
%RSD		30.520	34.960	43.270	48.380	35.750	3.647

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:25	111.656%	111.000	89.480	99.700	0.000	52750.000	51350.000	49170.000
2	17:52:33	111.848%	103.200	96.310	95.420	0.000	50930.000	51910.000	50760.000
3	17:52:41	125.407%	91.140	83.880	87.360	0.000	49790.000	49880.000	49790.000
x		116.304%	101.779%	89.892%	94.160%	0.000	102.311%	102.087%	99.812%
σ		7.884%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		6.779	9.851	6.922	6.653	0.000	2.920	2.050	1.612

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:25	464.100	5263.000	0.000	49190.000	47840.000	48710.000	120.860%	95.350
2	17:52:33	489.800	5191.000	0.000	47760.000	45800.000	47700.000	119.830%	99.040
3	17:52:41	500.000	5146.000	0.000	50820.000	47300.000	47710.000	117.462%	96.070
x		96.923%	104.001%	0.000	98.510%	93.956%	96.077%	119.384%	96.821%
σ		n/a	n/a	0.000	n/a	n/a	n/a	1.743%	n/a
%RSD		3.812	1.130	0.000	3.107	2.257	1.207	1.460	2.020

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:25	93.520	96.330	473.800	24650.000	24190.000	94.810	96.910	97.900
2	17:52:33	97.480	96.490	490.500	23920.000	23640.000	93.440	97.280	100.000
3	17:52:41	100.300	98.900	495.500	24370.000	24080.000	94.300	96.690	99.080
x		97.104%	97.239%	97.322%	97.236%	95.891%	94.185%	96.958%	98.993%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		3.512	1.483	2.337	1.512	1.216	0.738	0.303	1.068

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:25	99.640	101.000	98.540	97.710	101.500	104.200	0.000	91.760
2	17:52:33	98.900	99.120	97.070	98.110	102.900	100.600	0.000	91.270
3	17:52:41	100.800	101.100	99.090	98.900	102.400	102.400	0.000	91.200
x		99.789%	100.420%	98.233%	98.243%	102.268%	102.393%	0.000	91.411%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		0.975	1.124	1.062	0.614	0.708	1.755	0.000	0.337

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:25	91.692%	94.320	95.670	83.053%	96.030	98.480	98.410	102.700
2	17:52:33	92.908%	93.850	97.040	85.536%	96.810	97.570	95.930	101.000
3	17:52:41	93.752%	94.120	95.580	86.044%	97.730	97.980	95.770	100.400
x		92.784%	94.099%	96.099%	84.878%	96.859%	98.013%	96.704%	101.376%
σ		1.035%	n/a	n/a	1.600%	n/a	n/a	n/a	n/a
%RSD		1.116	0.254	0.850	1.885	0.880	0.465	1.529	1.129

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:25	81.815%	94.190	94.430	91.010	91.750	93.060	81.836%	80.820%
2	17:52:33	81.433%	93.750	91.210	92.140	92.160	94.280	84.804%	84.766%
3	17:52:41	82.617%	93.040	88.050	88.150	91.600	92.660	84.988%	84.317%
x		81.955%	93.661%	91.233%	90.432%	91.835%	93.334%	83.876%	83.301%
σ		0.604%	n/a	n/a	n/a	n/a	n/a	1.769%	2.160%
%RSD		0.737	0.618	3.499	2.277	0.316	0.902	2.109	2.593

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:52:25	93.270	97.590	95.810	97.120	97.090	72.354%
2	17:52:33	103.400	106.600	102.800	104.600	103.500	67.426%
3	17:52:41	100.300	103.800	100.700	100.400	100.500	69.959%
x		98.985%	102.657%	99.774%	100.702%	100.352%	69.913%
σ		n/a	n/a	n/a	n/a	n/a	2.465%
%RSD		5.228	4.486	3.589	3.729	3.174	3.525

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:57:12	117.078%	-0.023	-1.558	-1.630	0.000	3.617	7.496	7.949
2	17:57:19	116.786%	0.010	-1.818	-1.912	0.000	4.104	7.384	7.233
3	17:57:28	119.798%	0.003	-2.085	-1.831	0.000	4.308	7.729	7.098
x		117.887%	-0.003	-1.820	-1.791	0.000	4.010	7.536	7.427
σ		1.661%	0.017	0.264	0.145	0.000	0.355	0.176	0.458
%RSD		1.409	573.800	14.480	8.105	0.000	8.846	2.339	6.162

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:57:12	1.144	14.620	0.000	7.972	5.392	9.482	118.757%	0.042
2	17:57:19	1.050	10.940	0.000	7.060	8.309	8.567	119.373%	0.059
3	17:57:28	0.960	12.190	0.000	7.678	6.128	7.544	118.884%	0.086
x		1.051	12.580	0.000	7.570	6.610	8.531	119.005%	0.062
σ		0.092	1.874	0.000	0.466	1.517	0.969	0.325%	0.022
%RSD		8.745	14.890	0.000	6.154	22.950	11.360	0.273	35.200

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:57:12	0.017	0.008	0.072	10.660	10.960	0.017	0.004	-0.001
2	17:57:19	0.072	0.014	0.053	8.739	7.355	0.011	0.003	-0.003
3	17:57:28	0.052	0.008	0.060	7.555	7.157	0.015	0.068	0.016
x		0.047	0.010	0.062	8.983	8.492	0.014	0.025	0.004
σ		0.028	0.004	0.009	1.565	2.144	0.003	0.037	0.010
%RSD		59.110	35.940	15.020	17.420	25.240	18.840	149.300	268.400

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:57:12	-0.001	0.021	0.145	0.073	0.112	0.218	0.000	0.022
2	17:57:19	0.024	0.077	0.089	0.057	0.107	0.309	0.000	0.026
3	17:57:28	0.047	0.030	0.126	0.059	0.114	0.109	0.000	0.019
x		0.024	0.043	0.120	0.063	0.111	0.212	0.000	0.022
σ		0.024	0.030	0.028	0.009	0.004	0.100	0.000	0.003
%RSD		101.600	70.760	23.470	14.420	3.431	47.280	0.000	14.630

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:57:12	94.352%	0.770	0.826	96.805%	-0.011	0.004	-0.087	0.027
2	17:57:19	95.041%	0.622	0.674	96.847%	-0.006	0.021	-0.094	0.021
3	17:57:28	96.383%	0.565	0.576	96.856%	-0.002	0.010	-0.123	0.020
x		95.258%	0.652	0.692	96.836%	-0.007	0.012	-0.101	0.023
σ		1.033%	0.106	0.126	0.027%	0.005	0.009	0.019	0.004
%RSD		1.084	16.220	18.200	0.028	71.760	75.660	18.990	17.330

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	17:57:12	89.834%	0.208	0.142	0.027	0.039	0.026	86.004%	84.584%
2	17:57:19	88.410%	0.198	0.135	0.005	0.083	0.064	89.138%	86.841%
3	17:57:28	89.859%	0.142	0.120	-0.064	0.045	0.042	88.010%	86.861%
x		89.368%	0.182	0.132	-0.011	0.055	0.044	87.718%	86.095%
σ		0.830%	0.036	0.011	0.048	0.024	0.019	1.587%	1.308%
%RSD		0.928	19.470	8.383	438.000	42.930	43.060	1.810	1.520

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	17:57:12	0.015	0.014	-0.083	-0.081	-0.083	87.302%
2	17:57:19	0.014	0.013	-0.072	-0.074	-0.082	84.774%
3	17:57:28	0.010	0.014	-0.084	-0.082	-0.085	84.586%
x		0.013	0.013	-0.080	-0.079	-0.083	85.554%
σ		0.003	0.000	0.006	0.004	0.002	1.517%
%RSD		20.570	2.257	8.034	5.553	1.863	1.773

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:56	68.496%	-0.022	38.040	41.150	0.000	55840.000	7610.000	7378.000
2	18:02:04	63.461%	-0.030	38.120	43.100	0.000	52240.000	7452.000	7455.000
3	18:02:12	69.169%	-0.013	33.210	36.980	0.000	52140.000	7351.000	7411.000
x		67.042%	-0.022	36.460	40.410	0.000	53410.000	7471.000	7415.000
σ		3.119%	0.008	2.809	3.128	0.000	2107.000	130.100	38.670
%RSD		4.653	38.940	7.704	7.741	0.000	3.945	1.742	0.522

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:56	9.528	12570.000	0.000	38240.000	51950.000	52110.000	61.417%	3.047
2	18:02:04	9.378	12550.000	0.000	37260.000	51990.000	53270.000	60.457%	3.251
3	18:02:12	9.223	12520.000	0.000	37230.000	51030.000	51430.000	60.956%	2.798
x		9.377	12550.000	0.000	37580.000	51660.000	52270.000	60.943%	3.032
σ		0.153	26.320	0.000	573.100	542.300	932.500	0.480%	0.227
%RSD		1.627	0.210	0.000	1.525	1.050	1.784	0.788	7.480

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:56	-0.325	1.180	1266.000	8670.000	8938.000	12.640	7.715	1.786
2	18:02:04	-0.909	1.176	1259.000	8817.000	9072.000	12.520	7.491	1.853
3	18:02:12	-0.875	1.200	1238.000	8716.000	8939.000	12.590	7.277	1.873
x		-0.703	1.185	1254.000	8735.000	8983.000	12.580	7.494	1.837
σ		0.328	0.013	14.780	75.150	76.860	0.057	0.219	0.046
%RSD		46.660	1.059	1.178	0.860	0.856	0.452	2.922	2.481

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:56	2.031	6.742	6.194	37.300	0.289	6.387	0.000	140.300
2	18:02:04	2.018	6.192	6.099	37.060	0.382	6.404	0.000	137.600
3	18:02:12	1.894	6.381	6.141	36.740	0.481	6.234	0.000	137.200
x		1.981	6.438	6.145	37.030	0.384	6.342	0.000	138.400
σ		0.075	0.279	0.048	0.280	0.096	0.094	0.000	1.685
%RSD		3.809	4.339	0.777	0.757	24.990	1.482	0.000	1.218

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:56	76.247%	1.112	1.037	73.211%	-0.017	-0.007	-0.055	0.050
2	18:02:04	78.289%	0.969	1.005	74.141%	-0.014	-0.003	-0.082	0.030
3	18:02:12	79.210%	0.978	0.975	73.895%	-0.020	-0.001	-0.136	0.051
x		77.916%	1.019	1.006	73.749%	-0.017	-0.004	-0.091	0.044
σ		1.516%	0.080	0.031	0.482%	0.003	0.003	0.041	0.012
%RSD		1.946	7.844	3.073	0.653	18.340	72.440	45.120	26.680

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:56	71.542%	0.903	0.844	0.735	21.730	21.750	78.055%	77.845%
2	18:02:04	72.704%	0.834	0.801	0.653	21.110	21.720	78.403%	78.211%
3	18:02:12	73.960%	0.819	0.780	0.585	21.510	21.650	78.512%	77.970%
x		72.735%	0.852	0.808	0.658	21.450	21.710	78.324%	78.009%
σ		1.209%	0.045	0.033	0.075	0.314	0.054	0.239%	0.186%
%RSD		1.662	5.275	4.044	11.390	1.463	0.248	0.305	0.238

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:01:56	0.006	0.003	0.107	0.111	0.104	72.385%
2	18:02:04	0.004	0.002	0.076	0.095	0.091	75.985%
3	18:02:12	0.005	0.002	0.119	0.091	0.097	75.236%
x		0.005	0.002	0.101	0.099	0.097	74.535%
σ		0.001	0.001	0.022	0.010	0.007	1.900%
%RSD		22.910	27.850	21.890	10.520	6.878	2.549

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:39	69.728%	0.010	187.200	211.700	0.000	62720.000	15390.000	14830.000
2	18:06:46	68.805%	0.010	182.700	194.400	0.000	62130.000	15370.000	14930.000
3	18:06:54	69.595%	0.024	182.500	187.900	0.000	55920.000	14970.000	15480.000
x		69.376%	0.015	184.200	198.000	0.000	60260.000	15240.000	15080.000
σ		0.499%	0.008	2.669	12.320	0.000	3768.000	236.900	352.400
%RSD		0.719	53.780	1.449	6.221	0.000	6.252	1.555	2.337

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:39	36.420	10460.000	0.000	5126.000	125400.000	133000.000	64.276%	2.150
2	18:06:46	39.510	10830.000	0.000	5227.000	129800.000	133500.000	60.761%	1.680
3	18:06:54	41.450	11060.000	0.000	5422.000	130200.000	130900.000	60.707%	1.647
x		39.130	10780.000	0.000	5259.000	128500.000	132500.000	61.915%	1.826
σ		2.535	301.500	0.000	150.200	2671.000	1358.000	2.045%	0.281
%RSD		6.479	2.796	0.000	2.857	2.079	1.025	3.303	15.400

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:39	6.995	1.945	14.510	84.340	587.500	2.420	8.518	5.292
2	18:06:46	3.714	2.123	14.910	89.150	647.000	2.573	9.042	5.569
3	18:06:54	4.447	2.012	15.650	88.200	609.200	2.462	9.236	5.545
x		5.052	2.027	15.020	87.230	614.500	2.485	8.932	5.469
σ		1.722	0.090	0.580	2.548	30.130	0.079	0.371	0.154
%RSD		34.080	4.453	3.860	2.921	4.903	3.195	4.157	2.809

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:39	5.532	299.300	291.400	13.730	1.872	9.538	0.000	524.200
2	18:06:46	6.162	306.700	295.100	14.220	1.712	11.090	0.000	526.500
3	18:06:54	5.542	301.700	300.000	13.610	1.894	10.310	0.000	523.900
x		5.745	302.500	295.500	13.850	1.826	10.310	0.000	524.900
σ		0.361	3.772	4.308	0.321	0.099	0.776	0.000	1.420
%RSD		6.278	1.247	1.458	2.317	5.434	7.527	0.000	0.271

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:39	75.162%	3.287	3.303	70.666%	-0.031	0.000	0.690	0.847
2	18:06:46	76.465%	3.448	3.187	69.007%	-0.016	-0.007	0.586	0.794
3	18:06:54	77.116%	3.257	3.070	70.118%	-0.024	-0.006	0.553	0.760
x		76.248%	3.331	3.187	69.930%	-0.023	-0.004	0.610	0.800
σ		0.995%	0.103	0.116	0.845%	0.008	0.004	0.072	0.044
%RSD		1.305	3.090	3.652	1.209	32.560	96.180	11.730	5.464

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:39	68.448%	0.904	0.452	0.360	339.300	344.900	75.801%	75.783%
2	18:06:46	68.760%	1.031	0.476	0.393	345.200	349.600	75.675%	75.576%
3	18:06:54	68.544%	0.893	0.440	0.409	346.700	348.300	77.069%	76.617%
x		68.584%	0.943	0.456	0.388	343.700	347.600	76.182%	75.992%
σ		0.160%	0.077	0.018	0.025	3.914	2.428	0.771%	0.551%
%RSD		0.233	8.155	4.026	6.435	1.139	0.698	1.012	0.725

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:06:39	0.009	0.008	0.168	0.149	0.157	70.874%
2	18:06:46	0.009	0.009	0.175	0.147	0.160	70.778%
3	18:06:54	0.010	0.009	0.195	0.123	0.167	70.008%
x		0.009	0.009	0.180	0.140	0.161	70.554%
σ		0.000	0.000	0.014	0.015	0.005	0.475%
%RSD		4.753	3.365	7.868	10.590	3.040	0.673

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:23	72.143%	-0.015	76.460	78.120	0.000	54630.000	14330.000	14450.000
2	18:11:31	76.377%	-0.004	65.050	75.230	0.000	55840.000	13770.000	13530.000
3	18:11:39	68.169%	-0.017	74.780	80.780	0.000	53350.000	14230.000	14770.000
x		72.230%	-0.012	72.100	78.040	0.000	54610.000	14110.000	14250.000
σ		4.104%	0.007	6.159	2.778	0.000	1248.000	296.100	641.500
%RSD		5.682	58.860	8.542	3.560	0.000	2.286	2.099	4.502

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:23	0.883	14770.000	0.000	404.500	125400.000	132800.000	67.737%	0.964
2	18:11:31	0.858	14360.000	0.000	431.500	133600.000	139300.000	64.324%	1.132
3	18:11:39	0.948	15460.000	0.000	440.700	133600.000	134700.000	59.888%	1.376
x		0.896	14860.000	0.000	425.600	130900.000	135600.000	63.983%	1.157
σ		0.047	556.400	0.000	18.820	4728.000	3349.000	3.936%	0.207
%RSD		5.188	3.744	0.000	4.423	3.612	2.470	6.151	17.900

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:23	2.318	1.063	109.900	2.040	483.300	2.037	2.244	6.459
2	18:11:31	3.101	1.182	112.000	2.190	481.900	1.988	2.220	6.491
3	18:11:39	1.360	1.275	115.800	2.565	516.100	2.185	2.337	6.764
x		2.260	1.173	112.600	2.265	493.800	2.070	2.267	6.571
σ		0.872	0.106	3.019	0.270	19.320	0.102	0.062	0.168
%RSD		38.580	9.016	2.682	11.940	3.913	4.947	2.729	2.551

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:23	7.023	23.280	18.830	12.660	0.252	7.750	0.000	322.300
2	18:11:31	7.095	23.920	17.420	12.360	0.247	7.936	0.000	314.500
3	18:11:39	7.370	25.240	19.660	13.030	0.254	8.102	0.000	323.600
x		7.163	24.150	18.640	12.680	0.251	7.929	0.000	320.100
σ		0.183	1.001	1.134	0.334	0.004	0.176	0.000	4.964
%RSD		2.556	4.146	6.082	2.629	1.508	2.217	0.000	1.551

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:23	73.181%	0.168	0.256	71.363%	-0.021	-0.001	-0.058	0.034
2	18:11:31	74.381%	0.149	0.218	71.249%	-0.026	-0.002	-0.097	0.045
3	18:11:39	73.917%	0.134	0.196	70.376%	-0.023	0.000	-0.099	0.018
x		73.826%	0.150	0.223	70.996%	-0.023	-0.001	-0.085	0.032
σ		0.605%	0.017	0.030	0.540%	0.003	0.001	0.023	0.014
%RSD		0.820	11.430	13.460	0.761	12.150	121.800	27.220	42.950

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:23	67.025%	0.576	0.270	0.139	1022.000	1035.000	76.567%	77.251%
2	18:11:31	67.555%	0.621	0.206	0.156	1022.000	1042.000	77.263%	77.346%
3	18:11:39	69.546%	0.675	0.240	0.131	997.800	1007.000	75.360%	75.314%
x		68.042%	0.624	0.238	0.142	1014.000	1028.000	76.397%	76.637%
σ		1.329%	0.050	0.032	0.013	14.000	18.580	0.963%	1.147%
%RSD		1.954	7.964	13.560	9.166	1.381	1.807	1.261	1.496

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:11:23	0.003	0.003	-0.071	-0.068	-0.072	63.955%
2	18:11:31	0.002	0.001	-0.076	-0.079	-0.080	64.695%
3	18:11:39	0.006	0.004	-0.068	-0.075	-0.073	68.261%
x		0.004	0.003	-0.072	-0.074	-0.075	65.637%
σ		0.002	0.001	0.004	0.006	0.004	2.302%
%RSD		57.300	50.590	5.737	7.671	5.664	3.507

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:08	69.285%	-0.018	72.730	73.510	0.000	44310.000	13190.000	13250.000
2	18:16:16	70.160%	-0.014	68.700	66.470	0.000	43790.000	13640.000	13500.000
3	18:16:24	68.509%	-0.017	63.650	73.080	0.000	43050.000	12760.000	12940.000
x		69.318%	-0.016	68.360	71.020	0.000	43720.000	13200.000	13230.000
σ		0.826%	0.002	4.550	3.944	0.000	636.500	435.200	281.000
%RSD		1.191	14.210	6.656	5.553	0.000	1.456	3.298	2.124

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:08	11.280	13290.000	0.000	352.200	124000.000	127700.000	60.271%	1.281
2	18:16:16	10.630	13190.000	0.000	351.300	122900.000	127700.000	58.481%	1.180
3	18:16:24	11.350	13300.000	0.000	382.600	134600.000	134800.000	55.920%	0.958
x		11.090	13260.000	0.000	362.000	127200.000	130100.000	58.224%	1.140
σ		0.400	62.820	0.000	17.780	6482.000	4127.000	2.187%	0.165
%RSD		3.607	0.474	0.000	4.912	5.097	3.173	3.756	14.470

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:08	2.649	1.536	560.300	15.480	540.100	1.113	2.977	16.630
2	18:16:16	5.818	1.791	570.000	15.090	492.400	1.080	3.003	16.430
3	18:16:24	4.472	1.743	581.800	16.090	544.400	1.157	3.275	17.600
x		4.313	1.690	570.700	15.550	525.600	1.117	3.085	16.890
σ		1.590	0.136	10.790	0.507	28.870	0.039	0.165	0.624
%RSD		36.870	8.017	1.890	3.257	5.492	3.461	5.357	3.697

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:08	16.910	19.970	12.560	8.574	3.265	10.440	0.000	292.000
2	18:16:16	17.020	21.130	13.910	9.183	3.441	10.670	0.000	291.400
3	18:16:24	17.800	20.320	13.500	8.775	3.652	10.330	0.000	288.300
x		17.240	20.470	13.330	8.844	3.452	10.480	0.000	290.600
σ		0.487	0.592	0.692	0.310	0.194	0.174	0.000	1.970
%RSD		2.823	2.893	5.194	3.509	5.611	1.657	0.000	0.678

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:08	73.106%	0.060	0.047	71.090%	-0.019	-0.002	-0.095	0.048
2	18:16:16	73.959%	0.020	0.110	71.670%	-0.034	-0.006	-0.109	0.044
3	18:16:24	75.448%	-0.038	0.041	72.546%	-0.020	-0.003	-0.126	0.008
x		74.171%	0.014	0.066	71.769%	-0.024	-0.004	-0.110	0.033
σ		1.186%	0.050	0.038	0.733%	0.008	0.002	0.016	0.022
%RSD		1.598	355.600	58.310	1.021	34.390	56.680	14.400	66.290

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:08	68.993%	0.711	0.166	0.079	1060.000	1070.000	74.773%	74.814%
2	18:16:16	69.563%	0.416	0.153	0.032	1046.000	1050.000	74.503%	76.267%
3	18:16:24	69.551%	0.411	0.156	0.058	1068.000	1079.000	77.341%	77.017%
x		69.369%	0.513	0.158	0.056	1058.000	1067.000	75.539%	76.032%
σ		0.326%	0.172	0.007	0.024	11.190	14.920	1.566%	1.120%
%RSD		0.470	33.460	4.408	42.190	1.057	1.399	2.074	1.473

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:16:08	0.004	0.001	-0.083	-0.072	-0.086	71.502%
2	18:16:16	0.008	0.004	-0.073	-0.071	-0.078	71.616%
3	18:16:24	0.006	0.004	-0.072	-0.068	-0.080	68.814%
x		0.006	0.003	-0.076	-0.070	-0.081	70.644%
σ		0.002	0.002	0.006	0.002	0.004	1.586%
%RSD		31.830	58.500	8.027	3.029	5.104	2.245

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:52	83.752%	-0.027	-2.215	-2.686	0.000	13.150	0.734	0.936
2	18:21:00	81.606%	-0.023	-2.668	-2.563	0.000	13.170	0.783	0.600
3	18:21:08	85.330%	-0.039	-2.920	-3.078	0.000	10.720	0.820	0.835
x		83.563%	-0.030	-2.601	-2.775	0.000	12.350	0.779	0.790
σ		1.869%	0.008	0.357	0.269	0.000	1.406	0.043	0.172
%RSD		2.237	28.330	13.740	9.686	0.000	11.390	5.545	21.800

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:52	3.354	-0.540	0.000	3.829	10.540	10.060	65.550%	0.159
2	18:21:00	3.180	-1.670	0.000	4.006	13.870	9.486	64.097%	0.051
3	18:21:08	3.095	-2.505	0.000	4.293	7.107	7.808	63.296%	0.315
x		3.209	-1.572	0.000	4.043	10.500	9.117	64.314%	0.175
σ		0.132	0.986	0.000	0.234	3.380	1.169	1.143%	0.133
%RSD		4.120	62.740	0.000	5.796	32.180	12.820	1.777	75.880

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:52	1.713	0.937	0.151	1.907	4.342	0.045	0.198	0.268
2	18:21:00	1.730	0.963	0.162	2.065	3.809	0.047	0.228	0.237
3	18:21:08	-1.669	0.969	0.139	2.032	4.821	0.046	0.182	0.237
x		0.591	0.956	0.150	2.001	4.324	0.046	0.202	0.247
σ		1.958	0.017	0.011	0.084	0.507	0.001	0.023	0.018
%RSD		331.100	1.752	7.600	4.187	11.720	2.399	11.440	7.308

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:52	0.279	1.207	1.649	0.161	-0.022	2.695	0.000	0.038
2	18:21:00	0.390	1.271	1.894	0.148	0.007	2.563	0.000	0.051
3	18:21:08	0.273	1.491	1.538	0.158	-0.017	2.797	0.000	0.033
x		0.314	1.323	1.694	0.156	-0.011	2.685	0.000	0.041
σ		0.066	0.149	0.182	0.007	0.016	0.118	0.000	0.009
%RSD		21.060	11.280	10.750	4.517	146.500	4.379	0.000	22.600

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:52	78.606%	-0.138	-0.081	81.450%	-0.013	-0.009	-0.085	0.017
2	18:21:00	80.342%	-0.104	-0.072	82.162%	-0.028	-0.007	-0.105	0.015
3	18:21:08	82.105%	-0.088	-0.096	82.537%	-0.029	-0.007	-0.118	0.019
x		80.351%	-0.110	-0.083	82.050%	-0.023	-0.008	-0.103	0.017
σ		1.750%	0.025	0.013	0.552%	0.009	0.001	0.017	0.002
%RSD		2.178	23.160	15.100	0.673	38.440	11.840	16.110	11.490

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:52	74.621%	0.600	0.134	0.004	0.110	0.099	81.437%	81.884%
2	18:21:00	75.181%	0.511	0.123	0.021	0.104	0.146	82.927%	82.944%
3	18:21:08	76.639%	0.518	0.150	-0.009	0.115	0.121	82.193%	81.084%
x		75.480%	0.543	0.136	0.005	0.109	0.122	82.186%	81.971%
σ		1.041%	0.049	0.014	0.015	0.006	0.023	0.745%	0.933%
%RSD		1.380	9.059	10.220	285.400	5.276	19.110	0.906	1.138

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:20:52	0.001	0.000	-0.080	-0.075	-0.080	80.647%
2	18:21:00	0.001	-0.000	-0.066	-0.075	-0.080	79.717%
3	18:21:08	0.000	-0.001	-0.079	-0.065	-0.079	82.638%
x		0.001	-0.000	-0.075	-0.072	-0.080	81.001%
σ		0.001	0.000	0.008	0.006	0.001	1.492%
%RSD		79.280	158.500	10.190	8.080	1.209	1.843

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:38	80.704%	-0.042	-2.784	-2.968	0.000	1.467	0.169	0.280
2	18:25:46	82.662%	-0.031	-2.708	-3.264	0.000	1.181	0.110	-0.033
3	18:25:54	81.983%	-0.031	-2.828	-3.143	0.000	1.272	0.222	0.226
x		81.783%	-0.034	-2.773	-3.125	0.000	1.306	0.167	0.158
σ		0.994%	0.007	0.061	0.149	0.000	0.146	0.056	0.167
%RSD		1.216	19.290	2.203	4.766	0.000	11.200	33.820	106.300

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:38	0.796	-2.443	0.000	0.447	-2.711	-1.399	71.484%	0.068
2	18:25:46	0.861	-1.823	0.000	1.350	-2.770	-0.721	67.415%	0.076
3	18:25:54	0.788	0.450	0.000	1.872	-1.106	0.109	65.501%	0.128
x		0.815	-1.272	0.000	1.223	-2.196	-0.670	68.133%	0.091
σ		0.040	1.523	0.000	0.721	0.944	0.755	3.055%	0.032
%RSD		4.866	119.700	0.000	58.930	42.990	112.700	4.484	35.700

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:38	0.510	0.727	0.110	1.231	1.647	0.040	0.067	0.088
2	18:25:46	-0.520	0.766	0.090	1.294	4.892	0.045	0.083	0.108
3	18:25:54	-1.183	0.818	0.107	1.420	2.731	0.029	0.044	0.130
x		-0.398	0.770	0.103	1.315	3.090	0.038	0.064	0.109
σ		0.853	0.046	0.011	0.096	1.652	0.008	0.020	0.021
%RSD		214.600	5.910	10.410	7.300	53.460	21.790	30.440	19.140

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:38	0.124	0.652	0.912	0.127	-0.023	2.279	0.000	0.022
2	18:25:46	0.161	0.819	0.708	0.096	-0.029	2.101	0.000	0.012
3	18:25:54	0.170	0.831	0.959	0.112	-0.017	1.996	0.000	0.017
x		0.152	0.767	0.860	0.112	-0.023	2.126	0.000	0.017
σ		0.024	0.100	0.134	0.015	0.006	0.143	0.000	0.005
%RSD		16.000	13.030	15.520	13.590	25.310	6.734	0.000	30.250

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:38	79.965%	-0.079	-0.073	83.711%	-0.019	-0.002	-0.082	0.011
2	18:25:46	81.494%	-0.109	-0.099	83.901%	-0.025	-0.008	-0.125	0.011
3	18:25:54	82.198%	-0.073	-0.103	84.365%	-0.026	-0.009	-0.132	0.008
x		81.219%	-0.087	-0.092	83.993%	-0.023	-0.007	-0.113	0.010
σ		1.142%	0.019	0.016	0.336%	0.003	0.004	0.027	0.002
%RSD		1.406	22.010	17.410	0.401	14.200	56.550	23.580	15.230

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:38	75.712%	0.363	0.194	0.059	0.550	0.422	82.211%	82.105%
2	18:25:46	78.108%	0.361	0.177	-0.000	0.506	0.511	81.209%	80.466%
3	18:25:54	78.492%	0.323	0.139	-0.006	0.441	0.466	81.464%	80.760%
x		77.437%	0.349	0.170	0.018	0.499	0.466	81.628%	81.110%
σ		1.506%	0.022	0.028	0.036	0.055	0.044	0.521%	0.874%
%RSD		1.945	6.440	16.460	203.700	10.990	9.522	0.638	1.077

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:25:38	0.008	0.004	-0.079	-0.085	-0.090	77.977%
2	18:25:46	0.002	0.002	-0.079	-0.091	-0.087	81.826%
3	18:25:54	0.005	0.003	-0.089	-0.077	-0.085	82.301%
x		0.005	0.003	-0.083	-0.084	-0.087	80.701%
σ		0.003	0.001	0.006	0.007	0.003	2.372%
%RSD		55.890	37.000	6.954	8.160	2.944	2.939

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:24	115.975%	-0.009	318.700	304.900	0.000	82820.000	13850.000	14090.000
2	18:30:32	105.432%	-0.017	321.500	328.000	0.000	85190.000	13860.000	13440.000
3	18:30:40	114.575%	-0.028	294.400	316.500	0.000	78400.000	12980.000	13050.000
x		111.994%	-0.018	311.500	316.500	0.000	82130.000	13560.000	13530.000
σ		5.726%	0.010	14.930	11.550	0.000	3444.000	508.800	527.700
%RSD		5.113	54.120	4.793	3.650	0.000	4.193	3.751	3.901

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:24	4.150	15460.000	0.000	11530.000	126200.000	132500.000	110.817%	1.521
2	18:30:32	4.156	14650.000	0.000	11080.000	124900.000	129200.000	110.785%	1.802
3	18:30:40	4.139	15110.000	0.000	11890.000	128100.000	129100.000	108.499%	1.506
x		4.148	15080.000	0.000	11500.000	126400.000	130300.000	110.034%	1.610
σ		0.009	406.000	0.000	407.800	1640.000	1911.000	1.329%	0.167
%RSD		0.210	2.693	0.000	3.546	1.297	1.467	1.208	10.360

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:24	5.822	2.801	136.800	103.000	475.100	7.173	16.950	3.386
2	18:30:32	5.797	2.738	131.700	103.900	475.300	7.291	16.830	3.461
3	18:30:40	6.049	2.903	135.500	105.300	463.000	7.166	17.240	3.542
x		5.889	2.814	134.700	104.100	471.200	7.210	17.010	3.463
σ		0.139	0.083	2.611	1.123	7.029	0.070	0.209	0.078
%RSD		2.355	2.956	1.939	1.079	1.492	0.975	1.227	2.261

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:24	3.845	81.820	79.340	29.650	0.890	6.218	0.000	841.200
2	18:30:32	3.648	82.790	79.080	29.510	1.040	5.759	0.000	837.000
3	18:30:40	3.788	83.540	80.550	29.080	1.018	6.183	0.000	831.300
x		3.761	82.720	79.660	29.420	0.983	6.053	0.000	836.500
σ		0.101	0.864	0.786	0.296	0.081	0.255	0.000	4.982
%RSD		2.694	1.044	0.987	1.006	8.254	4.215	0.000	0.596

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:24	86.670%	12.410	12.700	82.107%	-0.012	-0.003	-0.017	0.057
2	18:30:32	88.216%	12.360	12.990	82.918%	-0.020	-0.002	-0.064	0.056
3	18:30:40	89.585%	12.390	12.680	81.836%	-0.015	-0.010	-0.058	0.052
x		88.157%	12.390	12.790	82.287%	-0.016	-0.005	-0.046	0.055
σ		1.458%	0.028	0.172	0.563%	0.004	0.004	0.026	0.003
%RSD		1.654	0.225	1.344	0.684	24.110	89.720	55.570	4.921

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:24	77.310%	-0.096	0.483	0.302	310.700	316.100	81.156%	80.638%
2	18:30:32	78.052%	-0.089	0.478	0.273	317.500	322.300	82.052%	81.345%
3	18:30:40	78.131%	-0.118	0.474	0.312	309.000	317.100	81.802%	81.896%
x		77.831%	-0.101	0.478	0.296	312.400	318.500	81.670%	81.293%
σ		0.453%	0.015	0.005	0.021	4.481	3.324	0.462%	0.631%
%RSD		0.582	14.880	1.003	6.977	1.434	1.044	0.566	0.776

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:30:24	0.017	0.020	2.613	2.372	2.549	67.661%
2	18:30:32	0.022	0.017	2.652	2.478	2.517	68.259%
3	18:30:40	0.017	0.017	2.605	2.444	2.547	69.244%
x		0.019	0.018	2.624	2.431	2.538	68.388%
σ		0.003	0.002	0.025	0.054	0.018	0.799%
%RSD		13.400	10.530	0.960	2.225	0.702	1.169

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:09	119.939%	-0.010	32.130	36.100	0.000	19700.000	7472.000	7414.000
2	18:35:16	114.964%	-0.028	29.760	33.730	0.000	20270.000	7520.000	7242.000
3	18:35:25	112.989%	-0.030	30.090	35.530	0.000	19620.000	7401.000	7089.000
x		115.964%	-0.023	30.660	35.120	0.000	19870.000	7464.000	7249.000
σ		3.581%	0.011	1.286	1.235	0.000	355.600	60.060	162.600
%RSD		3.088	48.620	4.194	3.517	0.000	1.790	0.805	2.243

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:09	16.940	8488.000	0.000	1385.000	53500.000	54100.000	120.523%	0.721
2	18:35:16	15.940	7673.000	0.000	1297.000	51290.000	54100.000	118.809%	0.811
3	18:35:25	15.620	8147.000	0.000	1346.000	53300.000	55030.000	116.463%	0.882
x		16.160	8103.000	0.000	1343.000	52700.000	54410.000	118.598%	0.805
σ		0.688	409.100	0.000	43.970	1222.000	537.700	2.038%	0.081
%RSD		4.257	5.049	0.000	3.275	2.318	0.988	1.718	10.030

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:09	2.200	0.677	7.317	14.070	171.200	0.188	2.087	4.504
2	18:35:16	2.199	0.682	7.191	16.050	177.400	0.208	2.209	4.302
3	18:35:25	2.156	0.662	7.191	14.850	168.900	0.206	2.086	4.294
x		2.185	0.673	7.233	14.990	172.500	0.200	2.127	4.367
σ		0.025	0.010	0.073	1.001	4.411	0.011	0.071	0.119
%RSD		1.158	1.549	1.004	6.676	2.557	5.607	3.342	2.721

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:09	4.776	7.557	7.008	1.739	1.309	3.965	0.000	161.000
2	18:35:16	4.380	7.305	7.625	1.840	1.226	3.945	0.000	159.400
3	18:35:25	4.681	7.535	6.542	1.707	1.151	4.117	0.000	158.600
x		4.612	7.466	7.058	1.762	1.229	4.009	0.000	159.700
σ		0.207	0.140	0.543	0.069	0.079	0.094	0.000	1.220
%RSD		4.483	1.873	7.701	3.917	6.466	2.349	0.000	0.764

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:09	84.818%	0.463	0.483	81.553%	-0.021	-0.005	0.041	0.142
2	18:35:16	86.369%	0.429	0.434	81.985%	-0.029	0.002	0.013	0.140
3	18:35:25	87.090%	0.421	0.422	82.723%	-0.020	-0.007	-0.007	0.103
x		86.093%	0.438	0.446	82.087%	-0.023	-0.003	0.015	0.128
σ		1.161%	0.022	0.032	0.592%	0.005	0.005	0.024	0.022
%RSD		1.349	5.081	7.244	0.721	21.210	157.500	157.700	17.050

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:09	76.811%	-0.104	0.348	0.177	238.200	240.600	81.000%	80.078%
2	18:35:16	79.455%	-0.097	0.337	0.178	234.700	236.800	79.560%	78.335%
3	18:35:25	78.085%	-0.092	0.341	0.145	238.400	241.900	81.316%	80.507%
x		78.117%	-0.098	0.342	0.167	237.100	239.800	80.625%	79.640%
σ		1.322%	0.006	0.005	0.019	2.094	2.649	0.936%	1.150%
%RSD		1.693	6.165	1.551	11.270	0.883	1.105	1.161	1.444

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:35:09	0.001	0.004	-0.069	-0.058	-0.069	75.131%
2	18:35:16	0.004	0.003	-0.074	-0.065	-0.077	78.189%
3	18:35:25	0.003	0.000	-0.064	-0.063	-0.066	73.870%
x		0.003	0.002	-0.069	-0.062	-0.071	75.730%
σ		0.001	0.002	0.005	0.004	0.006	2.221%
%RSD		47.100	73.760	7.065	6.316	8.426	2.933

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:39:53	118.855%	0.047	38.260	40.380	0.000	38000.000	7186.000	7075.000
2	18:40:01	114.417%	0.045	34.730	40.310	0.000	37530.000	7116.000	7179.000
3	18:40:09	110.692%	0.045	36.500	39.020	0.000	36730.000	7120.000	7077.000
x		114.654%	0.046	36.500	39.910	0.000	37420.000	7141.000	7110.000
σ		4.087%	0.001	1.764	0.766	0.000	642.800	39.150	59.400
%RSD		3.564	2.146	4.832	1.920	0.000	1.718	0.548	0.835

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:39:53	12.570	17020.000	0.000	4377.000	75530.000	80700.000	119.911%	2.967
2	18:40:01	12.290	17540.000	0.000	4566.000	80510.000	80740.000	114.541%	2.820
3	18:40:09	11.970	16690.000	0.000	4324.000	75710.000	78180.000	112.503%	2.835
x		12.280	17080.000	0.000	4422.000	77250.000	79870.000	115.651%	2.874
σ		0.297	426.800	0.000	127.100	2824.000	1464.000	3.827%	0.081
%RSD		2.415	2.498	0.000	2.875	3.655	1.833	3.309	2.832

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:39:53	6.042	0.532	259.500	257.300	471.000	2.204	3.510	19.930
2	18:40:01	6.184	0.604	261.100	271.000	501.500	2.388	3.740	20.060
3	18:40:09	6.294	0.566	260.600	267.500	484.200	2.354	3.878	20.210
x		6.173	0.567	260.400	265.300	485.600	2.315	3.710	20.070
σ		0.126	0.036	0.845	7.125	15.300	0.098	0.186	0.143
%RSD		2.045	6.341	0.325	2.686	3.150	4.218	5.012	0.712

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:39:53	20.280	44.120	43.130	10.070	0.684	1.897	0.000	144.300
2	18:40:01	20.310	44.360	44.290	9.882	0.666	1.701	0.000	142.600
3	18:40:09	20.780	44.470	44.240	10.100	0.712	2.459	0.000	143.300
x		20.460	44.320	43.890	10.020	0.687	2.019	0.000	143.400
σ		0.279	0.180	0.654	0.121	0.023	0.393	0.000	0.852
%RSD		1.364	0.406	1.489	1.207	3.379	19.470	0.000	0.594

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:39:53	83.795%	0.431	0.505	79.763%	-0.018	-0.002	-0.053	0.019
2	18:40:01	85.912%	0.445	0.509	80.229%	-0.024	-0.002	-0.114	0.025
3	18:40:09	85.284%	0.423	0.463	80.655%	-0.014	-0.004	-0.110	0.028
x		84.997%	0.433	0.492	80.215%	-0.019	-0.003	-0.092	0.024
σ		1.087%	0.011	0.026	0.446%	0.005	0.001	0.034	0.004
%RSD		1.279	2.550	5.244	0.556	25.620	37.310	36.600	17.310

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:39:53	76.454%	-0.079	0.609	0.535	267.900	274.500	79.276%	79.170%
2	18:40:01	78.226%	-0.089	0.639	0.510	269.100	272.700	78.579%	77.180%
3	18:40:09	77.920%	-0.085	0.597	0.387	267.000	272.000	80.027%	79.716%
x		77.533%	-0.084	0.615	0.478	268.000	273.000	79.294%	78.689%
σ		0.947%	0.005	0.022	0.079	1.068	1.275	0.724%	1.335%
%RSD		1.222	5.898	3.535	16.600	0.399	0.467	0.913	1.696

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:39:53	0.014	0.013	0.018	0.007	-0.000	72.752%
2	18:40:01	0.017	0.010	0.009	-0.014	-0.006	75.100%
3	18:40:09	0.015	0.010	0.016	0.011	0.009	72.813%
x		0.015	0.011	0.014	0.001	0.001	73.555%
σ		0.001	0.001	0.005	0.013	0.008	1.338%
%RSD		9.192	13.540	35.390	1040.000	758.100	1.820

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:44:35	109.782%	-0.012	44.040	47.670	0.000	42780.000	11150.000	11020.000
2	18:44:43	111.976%	0.001	39.480	45.270	0.000	41980.000	11050.000	10480.000
3	18:44:51	111.464%	-0.018	39.050	45.070	0.000	41900.000	10420.000	10200.000
x		111.074%	-0.010	40.860	46.010	0.000	42220.000	10870.000	10570.000
σ		1.148%	0.010	2.765	1.448	0.000	486.700	397.400	416.400
%RSD		1.033	104.200	6.766	3.148	0.000	1.153	3.655	3.941

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:44:35	13.270	15540.000	0.000	452.800	105000.000	108900.000	113.339%	0.982
2	18:44:43	12.990	14760.000	0.000	445.500	102900.000	107400.000	112.967%	1.104
3	18:44:51	12.890	15030.000	0.000	460.500	107200.000	110900.000	110.066%	1.060
x		13.050	15110.000	0.000	452.900	105000.000	109100.000	112.124%	1.049
σ		0.194	393.700	0.000	7.520	2160.000	1751.000	1.792%	0.062
%RSD		1.486	2.606	0.000	1.660	2.057	1.605	1.598	5.933

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:44:35	3.399	0.708	1.485	1.856	319.500	0.150	0.529	34.580
2	18:44:43	3.511	0.718	1.518	1.547	339.000	0.167	0.577	33.590
3	18:44:51	3.509	0.763	1.563	2.050	343.500	0.172	0.601	34.040
x		3.473	0.730	1.522	1.818	334.000	0.163	0.569	34.070
σ		0.064	0.029	0.039	0.254	12.770	0.011	0.037	0.495
%RSD		1.838	4.028	2.573	13.980	3.825	6.994	6.454	1.453

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:44:35	34.450	18.790	17.060	1.725	0.246	5.134	0.000	244.400
2	18:44:43	33.410	18.840	15.800	1.697	0.252	5.310	0.000	243.000
3	18:44:51	34.760	18.210	16.310	1.643	0.305	5.446	0.000	243.100
x		34.210	18.610	16.390	1.688	0.268	5.297	0.000	243.500
σ		0.703	0.353	0.633	0.042	0.032	0.156	0.000	0.756
%RSD		2.055	1.898	3.863	2.471	12.120	2.951	0.000	0.311

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:44:35	84.613%	-0.015	0.020	80.716%	-0.024	-0.000	-0.056	0.019
2	18:44:43	86.428%	-0.020	0.002	80.456%	-0.025	0.000	-0.096	0.027
3	18:44:51	87.012%	-0.032	-0.007	80.394%	-0.022	-0.007	-0.113	0.023
x		86.018%	-0.022	0.005	80.522%	-0.024	-0.003	-0.088	0.023
σ		1.251%	0.009	0.014	0.171%	0.002	0.004	0.029	0.004
%RSD		1.455	39.100	298.000	0.212	7.223	161.500	32.860	16.500

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:44:35	76.690%	-0.139	0.468	0.387	589.700	599.700	80.336%	79.348%
2	18:44:43	79.385%	-0.128	0.451	0.302	583.000	593.000	78.781%	77.991%
3	18:44:51	78.203%	-0.112	0.516	0.337	588.100	594.900	80.977%	79.481%
x		78.093%	-0.126	0.478	0.342	586.900	595.900	80.031%	78.940%
σ		1.351%	0.014	0.034	0.043	3.502	3.479	1.129%	0.824%
%RSD		1.730	10.750	7.031	12.440	0.597	0.584	1.411	1.044

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:44:35	0.006	0.005	-0.021	-0.054	-0.044	70.800%
2	18:44:43	0.007	0.007	-0.026	-0.051	-0.050	73.590%
3	18:44:51	0.004	0.003	-0.043	-0.056	-0.052	73.078%
x		0.005	0.005	-0.030	-0.054	-0.049	72.489%
σ		0.001	0.002	0.011	0.002	0.005	1.485%
%RSD		23.010	41.640	37.140	4.491	9.266	2.049

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:49:19	118.586%	101.900	90.050	101.500	0.000	54290.000	52910.000	51420.000
2	18:49:26	114.418%	111.100	93.760	98.980	0.000	52340.000	52990.000	50520.000
3	18:49:34	112.465%	111.300	94.540	96.770	0.000	49640.000	50870.000	50570.000
x		115.157%	108.111%	92.784%	99.071%	0.000	104.183%	104.510%	101.672%
σ		3.126%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		2.715	4.952	2.582	2.370	0.000	4.476	2.301	1.003

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:49:19	520.200	5323.000	0.000	52680.000	49980.000	50160.000	115.404%	97.520
2	18:49:26	475.400	5046.000	0.000	47860.000	46440.000	48840.000	120.288%	96.500
3	18:49:34	482.400	4950.000	0.000	47250.000	46830.000	48630.000	119.349%	96.350
x		98.528%	102.127%	0.000	98.521%	95.493%	98.418%	118.347%	96.790%
σ		n/a	n/a	0.000	n/a	n/a	n/a	2.591%	n/a
%RSD		4.889	3.793	0.000	6.036	4.063	1.684	2.190	0.661

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:49:19	97.870	98.080	503.700	24480.000	24250.000	94.440	97.630	99.040
2	18:49:26	95.490	95.610	473.200	23570.000	23550.000	91.680	93.380	95.720
3	18:49:34	94.440	96.200	480.400	24550.000	24280.000	94.160	95.690	96.030
x		95.932%	96.632%	97.159%	96.802%	96.104%	93.424%	95.566%	96.930%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.830	1.333	3.281	2.251	1.717	1.626	2.225	1.894

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:49:19	100.700	102.700	101.200	99.330	103.300	103.400	0.000	93.750
2	18:49:26	98.070	100.100	98.240	97.740	104.300	102.200	0.000	92.760
3	18:49:34	97.290	99.180	100.200	97.960	101.500	103.100	0.000	92.550
x		98.681%	100.680%	99.863%	98.344%	103.036%	102.928%	0.000	93.018%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		1.794	1.820	1.488	0.877	1.353	0.599	0.000	0.690

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:49:19	86.792%	95.770	97.180	80.044%	97.080	99.000	100.100	104.900
2	18:49:26	88.700%	94.620	97.240	80.994%	97.570	98.990	99.760	103.100
3	18:49:34	89.924%	94.760	97.790	81.056%	96.180	99.340	98.600	104.200
x		88.472%	95.048%	97.404%	80.698%	96.943%	99.110%	99.499%	104.065%
σ		1.578%	n/a	n/a	0.567%	n/a	n/a	n/a	n/a
%RSD		1.784	0.660	0.346	0.703	0.726	0.199	0.807	0.894

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:49:19	77.470%	95.390	93.020	92.220	94.130	94.650	79.424%	79.472%
2	18:49:26	78.088%	94.670	93.000	91.880	93.970	96.150	80.572%	80.392%
3	18:49:34	79.783%	95.710	97.200	95.270	93.750	94.040	79.763%	79.190%
x		78.447%	95.257%	94.405%	93.126%	93.951%	94.948%	79.920%	79.685%
σ		1.198%	n/a	n/a	n/a	n/a	n/a	0.590%	0.629%
%RSD		1.527	0.558	2.561	2.001	0.202	1.139	0.738	0.789

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:49:19	95.510	99.690	97.630	97.640	97.710	70.134%
2	18:49:26	97.400	101.600	98.360	98.980	98.730	69.177%
3	18:49:34	94.440	98.010	95.820	97.790	97.940	70.104%
x		95.783%	99.768%	97.268%	98.138%	98.127%	69.805%
σ		n/a	n/a	n/a	n/a	n/a	0.544%
%RSD		1.569	1.797	1.343	0.747	0.544	0.779

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:54:03	113.858%	-0.008	-2.155	-2.431	0.000	5.610	8.892	8.349
2	18:54:11	118.000%	0.023	-2.541	-2.533	0.000	5.241	7.579	7.965
3	18:54:20	115.759%	-0.003	-2.233	-2.374	0.000	5.543	8.167	8.180
x		115.872%	0.004	-2.310	-2.446	0.000	5.465	8.213	8.164
σ		2.073%	0.017	0.204	0.081	0.000	0.197	0.658	0.193
%RSD		1.789	409.500	8.823	3.305	0.000	3.597	8.006	2.358

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:54:03	1.112	10.580	0.000	6.129	7.140	8.327	121.872%	0.057
2	18:54:11	1.008	9.428	0.000	5.961	4.655	9.208	121.204%	0.066
3	18:54:20	1.093	12.910	0.000	7.434	6.512	8.250	114.187%	0.037
x		1.071	10.970	0.000	6.508	6.102	8.595	119.087%	0.053
σ		0.056	1.771	0.000	0.807	1.292	0.532	4.257%	0.015
%RSD		5.202	16.140	0.000	12.390	21.180	6.192	3.575	27.270

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:54:03	0.044	0.009	0.076	9.220	8.496	0.011	0.011	-0.023
2	18:54:11	0.057	0.008	0.080	7.960	8.722	0.018	0.018	-0.031
3	18:54:20	0.057	0.012	0.072	7.390	7.085	0.015	0.028	0.011
x		0.053	0.010	0.076	8.190	8.101	0.014	0.019	-0.014
σ		0.007	0.002	0.004	0.936	0.887	0.003	0.009	0.022
%RSD		13.760	20.630	5.154	11.430	10.950	21.290	44.580	153.400

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:54:03	-0.037	-0.008	0.064	0.076	0.150	0.228	0.000	0.031
2	18:54:11	-0.006	0.128	0.051	0.069	0.153	0.377	0.000	0.022
3	18:54:20	0.015	-0.088	0.158	0.050	0.107	0.106	0.000	0.019
x		-0.009	0.011	0.091	0.065	0.137	0.237	0.000	0.024
σ		0.027	0.109	0.059	0.013	0.026	0.136	0.000	0.006
%RSD		279.600	1011.000	64.580	20.550	18.850	57.370	0.000	26.730

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:54:03	90.032%	0.564	0.610	93.157%	-0.003	0.014	-0.095	0.026
2	18:54:11	91.145%	0.456	0.485	91.901%	-0.027	0.006	-0.091	0.021
3	18:54:20	92.587%	0.428	0.410	92.792%	-0.006	0.008	-0.136	0.011
x		91.255%	0.483	0.502	92.617%	-0.012	0.009	-0.107	0.019
σ		1.281%	0.072	0.101	0.646%	0.013	0.004	0.025	0.008
%RSD		1.404	14.840	20.140	0.697	104.400	42.130	23.460	40.620

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:54:03	83.630%	0.129	0.089	-0.063	0.054	0.057	84.859%	83.188%
2	18:54:11	85.741%	0.105	0.099	-0.109	0.058	0.054	83.211%	82.930%
3	18:54:20	85.725%	0.056	0.076	-0.098	0.073	0.026	84.319%	82.608%
x		85.032%	0.097	0.088	-0.090	0.061	0.046	84.130%	82.909%
σ		1.214%	0.038	0.011	0.024	0.010	0.017	0.840%	0.290%
%RSD		1.428	38.970	12.590	26.820	15.930	36.650	0.999	0.350

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:54:03	0.015	0.013	-0.053	-0.055	-0.064	82.842%
2	18:54:11	0.012	0.010	-0.067	-0.063	-0.069	85.531%
3	18:54:20	0.015	0.011	-0.069	-0.062	-0.073	84.088%
x		0.014	0.011	-0.063	-0.060	-0.069	84.153%
σ		0.001	0.001	0.009	0.004	0.005	1.346%
%RSD		10.340	12.210	14.020	7.007	7.006	1.599

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:48	119.255%	-0.002	85.600	97.000	0.000	76310.000	16190.000	16200.000
2	18:58:56	114.926%	-0.003	86.240	91.670	0.000	75590.000	16310.000	16500.000
3	18:59:04	120.740%	-0.005	80.720	88.250	0.000	72970.000	16170.000	15980.000
x		118.307%	-0.003	84.190	92.310	0.000	74960.000	16220.000	16230.000
σ		3.021%	0.002	3.018	4.411	0.000	1757.000	72.360	261.400
%RSD		2.553	52.970	3.585	4.779	0.000	2.344	0.446	1.611

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:48	1.360	22360.000	0.000	509.400	149800.000	150700.000	117.145%	1.594
2	18:58:56	1.242	21650.000	0.000	472.800	140000.000	144200.000	120.956%	1.551
3	18:59:04	1.329	22850.000	0.000	511.200	142500.000	146200.000	115.682%	1.364
x		1.310	22290.000	0.000	497.800	144100.000	147000.000	117.928%	1.503
σ		0.061	603.800	0.000	21.690	5039.000	3341.000	2.723%	0.122
%RSD		4.681	2.709	0.000	4.357	3.497	2.272	2.309	8.139

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:48	3.787	0.427	169.500	-1.578	467.700	0.244	11.190	10.160
2	18:58:56	3.758	0.410	161.400	-1.493	436.500	0.222	10.970	9.878
3	18:59:04	3.789	0.445	166.900	-1.692	422.600	0.252	11.140	10.360
x		3.778	0.427	165.900	-1.587	442.300	0.239	11.100	10.130
σ		0.017	0.018	4.153	0.100	23.100	0.015	0.112	0.245
%RSD		0.458	4.103	2.503	6.289	5.223	6.437	1.013	2.412

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:48	10.850	17.810	12.120	5.391	0.269	15.710	0.000	328.800
2	18:58:56	10.710	16.760	11.410	5.205	0.305	16.350	0.000	325.600
3	18:59:04	11.100	17.080	13.560	5.324	0.296	17.110	0.000	323.900
x		10.890	17.220	12.360	5.307	0.290	16.390	0.000	326.100
σ		0.194	0.538	1.093	0.095	0.019	0.703	0.000	2.520
%RSD		1.781	3.128	8.844	1.782	6.543	4.287	0.000	0.773

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:48	86.493%	0.227	0.262	80.210%	-0.019	-0.008	-0.055	0.027
2	18:58:56	88.006%	0.253	0.305	81.595%	-0.020	-0.004	-0.093	0.038
3	18:59:04	88.790%	0.301	0.243	83.279%	-0.018	-0.007	-0.093	0.033
x		87.763%	0.260	0.270	81.695%	-0.019	-0.006	-0.080	0.033
σ		1.167%	0.037	0.032	1.537%	0.001	0.002	0.022	0.006
%RSD		1.330	14.400	11.890	1.881	3.248	32.290	27.190	17.290

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:48	79.770%	-0.079	0.271	0.173	1151.000	1166.000	79.073%	78.672%
2	18:58:56	79.939%	-0.092	0.292	0.112	1141.000	1164.000	79.599%	79.298%
3	18:59:04	78.888%	-0.101	0.278	0.142	1143.000	1161.000	82.615%	82.038%
x		79.532%	-0.090	0.280	0.142	1145.000	1164.000	80.429%	80.003%
σ		0.564%	0.011	0.011	0.031	5.349	2.520	1.911%	1.791%
%RSD		0.709	11.990	3.901	21.520	0.467	0.217	2.377	2.238

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	18:58:48	0.003	0.004	-0.070	-0.060	-0.075	75.569%
2	18:58:56	0.004	0.004	-0.062	-0.076	-0.079	74.162%
3	18:59:04	0.005	0.002	-0.064	-0.074	-0.072	72.646%
x		0.004	0.003	-0.065	-0.070	-0.076	74.126%
σ		0.001	0.001	0.004	0.009	0.003	1.462%
%RSD		32.970	24.940	6.007	12.650	4.223	1.972

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:31	117.938%	-0.007	87.810	103.400	0.000	79410.000	16430.000	16760.000
2	19:03:39	118.169%	0.012	90.040	98.990	0.000	74240.000	16000.000	15890.000
3	19:03:47	117.504%	-0.012	89.970	94.350	0.000	73850.000	16040.000	16180.000
x		117.871%	-0.002	89.280	98.920	0.000	75830.000	16160.000	16280.000
σ		0.337%	0.013	1.268	4.532	0.000	3104.000	236.000	443.800
%RSD		0.286	604.400	1.420	4.582	0.000	4.094	1.461	2.727

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:31	0.991	23640.000	0.000	521.800	150000.000	150700.000	118.404%	1.489
2	19:03:39	1.088	22350.000	0.000	485.800	139200.000	143900.000	119.329%	1.408
3	19:03:47	0.996	22080.000	0.000	495.300	141000.000	143800.000	116.939%	1.375
x		1.025	22690.000	0.000	501.000	143400.000	146100.000	118.224%	1.424
σ		0.054	834.800	0.000	18.670	5760.000	3972.000	1.205%	0.059
%RSD		5.316	3.680	0.000	3.726	4.017	2.718	1.019	4.117

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:31	3.344	0.339	215.100	-1.385	471.300	0.451	11.150	10.450
2	19:03:39	3.430	0.366	209.000	-1.532	432.000	0.383	10.970	9.951
3	19:03:47	3.482	0.360	209.100	-1.699	414.400	0.391	10.570	10.130
x		3.419	0.355	211.100	-1.539	439.200	0.409	10.900	10.180
σ		0.070	0.014	3.541	0.157	29.100	0.037	0.299	0.255
%RSD		2.048	3.989	1.678	10.210	6.625	9.030	2.747	2.508

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:31	11.190	17.840	13.340	5.380	0.301	15.940	0.000	317.700
2	19:03:39	10.820	18.220	13.280	5.364	0.213	14.980	0.000	317.800
3	19:03:47	11.160	17.540	13.090	5.340	0.320	15.750	0.000	315.600
x		11.060	17.870	13.240	5.361	0.278	15.560	0.000	317.000
σ		0.205	0.345	0.131	0.020	0.057	0.509	0.000	1.262
%RSD		1.855	1.929	0.990	0.375	20.680	3.272	0.000	0.398

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:31	86.722%	0.149	0.177	80.148%	-0.018	-0.006	-0.063	0.037
2	19:03:39	87.357%	0.206	0.226	79.673%	-0.028	-0.007	-0.087	0.032
3	19:03:47	88.341%	0.164	0.188	80.752%	-0.026	-0.001	-0.125	0.026
x		87.473%	0.173	0.197	80.191%	-0.024	-0.005	-0.092	0.032
σ		0.816%	0.029	0.026	0.541%	0.006	0.003	0.031	0.005
%RSD		0.933	16.940	13.120	0.674	23.460	63.600	33.990	16.910

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:31	76.349%	-0.106	0.447	0.321	1139.000	1154.000	80.562%	79.082%
2	19:03:39	78.369%	-0.118	0.396	0.232	1108.000	1113.000	79.203%	78.638%
3	19:03:47	77.113%	-0.118	0.422	0.201	1118.000	1140.000	81.974%	80.760%
x		77.277%	-0.114	0.422	0.251	1121.000	1136.000	80.580%	79.494%
σ		1.020%	0.007	0.026	0.062	15.980	21.060	1.386%	1.119%
%RSD		1.320	5.968	6.114	24.820	1.424	1.855	1.720	1.408

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:03:31	1.300	1.293	-0.026	-0.026	-0.025	71.449%
2	19:03:39	1.237	1.229	-0.031	-0.026	-0.031	74.123%
3	19:03:47	1.264	1.332	-0.016	-0.020	-0.026	70.757%
x		1.267	1.285	-0.025	-0.024	-0.027	72.110%
σ		0.032	0.052	0.008	0.004	0.003	1.777%
%RSD		2.518	4.052	32.150	15.210	11.290	2.465

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:17	119.240%	-0.012	15.710	18.340	0.000	16310.000	3376.000	3274.000
2	19:08:25	114.024%	-0.008	14.970	18.250	0.000	15530.000	3332.000	3158.000
3	19:08:32	113.497%	0.001	14.480	16.180	0.000	14830.000	3251.000	3253.000
x		115.587%	-0.007	15.050	17.590	0.000	15560.000	3320.000	3228.000
σ		3.174%	0.007	0.620	1.220	0.000	738.100	63.820	62.300
%RSD		2.746	101.900	4.118	6.939	0.000	4.745	1.923	1.930

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:17	0.190	4572.000	0.000	99.180	29590.000	30230.000	117.119%	0.256
2	19:08:25	0.090	4427.000	0.000	93.790	28230.000	28720.000	120.892%	0.195
3	19:08:32	0.151	4132.000	0.000	88.770	27280.000	27960.000	119.392%	0.190
x		0.144	4377.000	0.000	93.910	28370.000	28970.000	119.134%	0.214
σ		0.050	224.100	0.000	5.204	1163.000	1155.000	1.900%	0.037
%RSD		34.880	5.119	0.000	5.541	4.101	3.987	1.594	17.400

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:17	0.713	0.071	43.130	-0.766	80.850	0.085	2.400	2.274
2	19:08:25	0.684	0.069	40.860	-0.738	69.120	0.074	2.204	2.188
3	19:08:32	0.718	0.067	41.020	-0.776	67.280	0.088	2.263	2.155
x		0.705	0.069	41.670	-0.760	72.420	0.082	2.289	2.205
σ		0.018	0.002	1.265	0.019	7.360	0.007	0.100	0.061
%RSD		2.616	2.985	3.036	2.556	10.160	8.903	4.383	2.782

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:17	2.396	3.644	2.174	1.088	0.032	3.016	0.000	63.270
2	19:08:25	2.380	3.635	2.648	1.040	0.007	3.346	0.000	63.280
3	19:08:32	2.300	3.731	2.953	1.049	0.054	3.295	0.000	63.270
x		2.359	3.670	2.592	1.059	0.031	3.219	0.000	63.270
σ		0.051	0.053	0.393	0.025	0.023	0.178	0.000	0.007
%RSD		2.177	1.441	15.140	2.396	75.590	5.523	0.000	0.011

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:17	87.181%	-0.086	-0.071	86.622%	-0.027	-0.005	-0.094	0.001
2	19:08:25	87.938%	-0.106	-0.074	86.323%	-0.029	-0.006	-0.141	0.006
3	19:08:32	88.946%	-0.090	-0.078	87.138%	-0.024	-0.008	-0.126	0.006
x		88.022%	-0.094	-0.074	86.695%	-0.027	-0.006	-0.120	0.004
σ		0.885%	0.011	0.004	0.412%	0.003	0.001	0.024	0.003
%RSD		1.006	11.350	5.007	0.475	9.850	19.360	19.840	69.750

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:17	80.847%	-0.100	0.061	-0.072	220.800	226.000	82.692%	81.058%
2	19:08:25	81.895%	-0.153	0.034	-0.096	217.900	221.600	82.556%	81.838%
3	19:08:32	81.625%	-0.128	0.040	-0.073	221.300	222.100	84.711%	83.409%
x		81.456%	-0.127	0.045	-0.080	220.000	223.200	83.320%	82.102%
σ		0.544%	0.026	0.014	0.013	1.868	2.377	1.207%	1.198%
%RSD		0.667	20.850	31.720	16.820	0.849	1.065	1.449	1.459

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:08:17	0.222	0.233	-0.064	-0.072	-0.075	78.966%
2	19:08:25	0.234	0.232	-0.063	-0.069	-0.070	80.590%
3	19:08:32	0.258	0.257	-0.070	-0.065	-0.073	77.649%
x		0.238	0.241	-0.066	-0.069	-0.073	79.069%
σ		0.018	0.014	0.004	0.003	0.003	1.473%
%RSD		7.681	5.958	6.166	4.650	3.786	1.863

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:02	118.375%	-0.028	6.355	6.787	0.000	13050.000	1895.000	1887.000
2	19:13:09	117.263%	-0.015	6.972	7.433	0.000	13020.000	1794.000	1815.000
3	19:13:18	113.253%	-0.019	7.048	7.084	0.000	12720.000	1851.000	1855.000
x		116.297%	-0.021	6.792	7.101	0.000	12930.000	1847.000	1852.000
σ		2.694%	0.007	0.380	0.323	0.000	184.600	50.770	35.920
%RSD		2.316	34.280	5.592	4.551	0.000	1.428	2.749	1.939

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:02	39.580	2540.000	0.000	1147.000	6264.000	6048.000	109.107%	0.889
2	19:13:09	36.950	2410.000	0.000	1093.000	6131.000	5978.000	110.852%	0.752
3	19:13:18	38.180	2413.000	0.000	1077.000	5936.000	5806.000	110.305%	0.841
x		38.240	2454.000	0.000	1106.000	6111.000	5944.000	110.088%	0.827
σ		1.314	73.970	0.000	36.650	165.000	124.800	0.893%	0.069
%RSD		3.436	3.014	0.000	3.314	2.700	2.099	0.811	8.385

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:02	0.203	0.187	65.180	129.600	139.800	0.105	0.367	1.324
2	19:13:09	0.202	0.188	65.080	130.100	143.900	0.103	0.368	1.408
3	19:13:18	0.201	0.188	63.970	134.400	143.800	0.086	0.378	1.427
x		0.202	0.188	64.740	131.300	142.500	0.098	0.371	1.386
σ		0.001	0.000	0.670	2.645	2.342	0.010	0.006	0.055
%RSD		0.567	0.217	1.035	2.014	1.643	10.530	1.611	3.975

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:02	1.425	7.106	6.785	0.101	0.067	0.960	0.000	32.020
2	19:13:09	1.378	6.889	7.156	0.122	0.017	0.813	0.000	31.560
3	19:13:18	1.356	7.195	7.017	0.097	0.022	0.807	0.000	31.620
x		1.386	7.063	6.986	0.107	0.035	0.860	0.000	31.730
σ		0.035	0.158	0.188	0.013	0.028	0.087	0.000	0.250
%RSD		2.546	2.230	2.684	12.320	78.060	10.080	0.000	0.789

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:02	86.734%	-0.147	-0.122	86.929%	-0.021	-0.005	-0.061	0.028
2	19:13:09	88.500%	-0.132	-0.117	87.906%	-0.018	-0.005	-0.076	0.033
3	19:13:18	89.310%	-0.155	-0.145	86.757%	-0.022	-0.005	-0.137	0.037
x		88.182%	-0.145	-0.128	87.197%	-0.020	-0.005	-0.091	0.033
σ		1.318%	0.012	0.015	0.620%	0.002	0.000	0.040	0.004
%RSD		1.494	8.355	11.410	0.711	10.260	8.893	43.930	13.170

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:02	81.697%	-0.153	-0.011	-0.176	19.840	20.330	82.547%	82.764%
2	19:13:09	81.650%	-0.165	-0.027	-0.165	19.600	20.210	83.584%	82.847%
3	19:13:18	83.694%	-0.162	-0.020	-0.203	19.690	19.860	81.536%	81.418%
x		82.347%	-0.160	-0.020	-0.181	19.710	20.130	82.556%	82.343%
σ		1.167%	0.006	0.008	0.019	0.122	0.245	1.024%	0.802%
%RSD		1.417	3.931	42.080	10.700	0.619	1.217	1.240	0.975

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:13:02	0.004	0.004	0.053	0.015	0.038	80.907%
2	19:13:09	0.008	0.005	0.059	0.040	0.046	79.813%
3	19:13:18	0.006	0.002	0.043	0.073	0.040	83.037%
x		0.006	0.004	0.052	0.043	0.041	81.252%
σ		0.002	0.001	0.008	0.029	0.004	1.640%
%RSD		36.620	35.750	15.290	68.690	10.620	2.018

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:17:46	120.007%	-0.029	0.290	0.921	0.000	15160.000	1438.000	1418.000
2	19:17:54	120.356%	-0.031	0.101	0.510	0.000	14330.000	1523.000	1532.000
3	19:18:01	116.751%	-0.023	0.726	0.853	0.000	14970.000	1437.000	1424.000
x		119.038%	-0.028	0.372	0.761	0.000	14820.000	1466.000	1458.000
σ		1.989%	0.005	0.321	0.220	0.000	434.100	49.290	64.040
%RSD		1.671	16.320	86.160	28.880	0.000	2.929	3.361	4.393

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:17:46	76.170	618.400	0.000	616.500	1962.000	2019.000	117.415%	0.282
2	19:17:54	82.050	641.000	0.000	642.300	2055.000	1945.000	111.794%	0.049
3	19:18:01	74.700	599.800	0.000	614.600	2025.000	2028.000	113.308%	0.084
x		77.640	619.800	0.000	624.500	2014.000	1997.000	114.173%	0.138
σ		3.890	20.620	0.000	15.490	47.170	45.760	2.908%	0.126
%RSD		5.011	3.327	0.000	2.481	2.342	2.291	2.547	90.990

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:17:46	0.096	0.181	0.909	2.422	6.644	0.063	0.202	0.448
2	19:17:54	0.138	0.196	1.019	2.384	8.230	0.058	0.202	0.563
3	19:18:01	0.168	0.190	0.926	2.167	7.835	0.069	0.243	0.551
x		0.134	0.189	0.952	2.324	7.570	0.063	0.216	0.521
σ		0.036	0.008	0.059	0.137	0.826	0.005	0.024	0.063
%RSD		26.960	4.087	6.182	5.907	10.910	8.541	10.980	12.190

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:17:46	0.490	1.841	1.928	0.051	0.008	0.354	0.000	20.100
2	19:17:54	0.529	1.779	2.008	0.050	0.060	0.372	0.000	19.480
3	19:18:01	0.515	1.578	1.993	0.055	0.046	0.377	0.000	19.320
x		0.512	1.733	1.977	0.052	0.038	0.368	0.000	19.630
σ		0.020	0.138	0.043	0.002	0.027	0.012	0.000	0.411
%RSD		3.845	7.934	2.159	4.605	70.800	3.276	0.000	2.093

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:17:46	86.242%	-0.102	-0.118	85.902%	-0.018	-0.005	-0.099	0.001
2	19:17:54	88.288%	-0.110	-0.091	88.278%	-0.012	0.001	-0.136	-0.005
3	19:18:01	88.688%	-0.075	-0.082	87.310%	-0.025	0.007	-0.139	0.011
x		87.739%	-0.096	-0.097	87.163%	-0.019	0.001	-0.125	0.002
σ		1.312%	0.018	0.019	1.195%	0.006	0.006	0.022	0.008
%RSD		1.495	19.210	19.250	1.371	34.220	627.200	17.870	365.100

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:17:46	81.605%	-0.040	0.009	-0.134	4.877	4.831	80.237%	79.404%
2	19:17:54	83.630%	-0.067	0.006	-0.133	4.808	4.627	82.581%	81.351%
3	19:18:01	80.761%	-0.055	0.030	-0.159	4.640	4.804	83.923%	83.125%
x		81.999%	-0.054	0.015	-0.142	4.775	4.754	82.247%	81.293%
σ		1.475%	0.014	0.013	0.014	0.122	0.111	1.865%	1.861%
%RSD		1.798	24.970	84.240	10.150	2.548	2.334	2.268	2.289

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:17:46	0.007	0.005	-0.030	-0.040	-0.036	84.075%
2	19:17:54	0.009	0.005	-0.029	-0.033	-0.032	83.155%
3	19:18:01	0.007	0.007	-0.023	-0.044	-0.041	80.099%
x		0.008	0.006	-0.028	-0.039	-0.036	82.443%
σ		0.001	0.001	0.004	0.005	0.004	2.081%
%RSD		13.840	22.520	13.700	13.670	11.910	2.525

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:22:30	116.618%	-0.036	31.800	33.800	0.000	16610.000	9013.000	8673.000
2	19:22:39	117.899%	-0.026	31.120	31.450	0.000	15640.000	9526.000	9506.000
3	19:22:46	119.551%	-0.021	27.440	29.450	0.000	15260.000	8947.000	8839.000
x		118.023%	-0.028	30.120	31.560	0.000	15830.000	9162.000	9006.000
σ		1.470%	0.008	2.348	2.177	0.000	694.000	316.700	441.200
%RSD		1.246	29.190	7.795	6.898	0.000	4.383	3.456	4.899

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:22:30	6.627	522.700	0.000	2892.000	45120.000	46650.000	116.821%	0.071
2	19:22:39	7.540	578.300	0.000	3149.000	47170.000	46940.000	109.923%	0.022
3	19:22:46	7.205	536.900	0.000	3092.000	46710.000	47230.000	108.539%	-0.005
x		7.124	545.900	0.000	3044.000	46330.000	46940.000	111.761%	0.029
σ		0.462	28.910	0.000	134.600	1074.000	289.100	4.436%	0.038
%RSD		6.488	5.295	0.000	4.421	2.318	0.616	3.969	131.400

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:22:30	0.129	0.937	0.403	17.930	152.100	0.150	23.840	13.380
2	19:22:39	0.134	1.056	0.419	18.610	152.200	0.152	24.110	12.810
3	19:22:46	0.145	0.999	0.403	18.540	146.300	0.139	24.000	13.190
x		0.136	0.997	0.408	18.360	150.200	0.147	23.980	13.130
σ		0.008	0.060	0.009	0.374	3.389	0.007	0.134	0.293
%RSD		5.935	5.971	2.183	2.037	2.257	4.975	0.560	2.234

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:22:30	13.550	23.150	22.240	0.557	0.878	1.352	0.000	355.400
2	19:22:39	13.280	23.090	23.200	0.574	0.784	1.636	0.000	353.600
3	19:22:46	13.450	23.860	23.040	0.505	0.729	1.718	0.000	353.300
x		13.430	23.370	22.820	0.545	0.797	1.569	0.000	354.100
σ		0.133	0.428	0.515	0.036	0.075	0.192	0.000	1.134
%RSD		0.992	1.831	2.258	6.592	9.466	12.250	0.000	0.320

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:22:30	85.798%	2.193	2.324	84.445%	-0.027	-0.002	-0.069	0.011
2	19:22:39	86.707%	2.384	2.359	84.463%	-0.027	-0.004	-0.071	0.011
3	19:22:46	87.233%	2.362	2.330	84.772%	-0.030	-0.001	-0.120	0.032
x		86.579%	2.313	2.338	84.560%	-0.028	-0.002	-0.087	0.018
σ		0.726%	0.104	0.019	0.184%	0.001	0.001	0.028	0.012
%RSD		0.838	4.509	0.812	0.217	5.052	56.930	32.820	67.400

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:22:30	79.110%	-0.103	0.106	-0.059	11.030	11.040	82.272%	81.190%
2	19:22:39	80.470%	-0.117	0.124	-0.071	10.410	10.660	80.788%	80.081%
3	19:22:46	80.352%	-0.097	0.087	-0.097	10.680	11.000	82.430%	81.512%
x		79.977%	-0.106	0.106	-0.076	10.700	10.900	81.830%	80.928%
σ		0.753%	0.010	0.019	0.020	0.310	0.210	0.906%	0.751%
%RSD		0.942	9.724	17.590	25.990	2.893	1.922	1.107	0.927

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:22:30	0.002	0.002	1.925	1.860	1.890	76.578%
2	19:22:39	0.002	-0.000	2.008	1.867	1.926	79.892%
3	19:22:46	0.001	0.001	2.059	1.901	1.934	77.642%
x		0.002	0.001	1.997	1.876	1.917	78.037%
σ		0.000	0.001	0.068	0.022	0.024	1.692%
%RSD		19.180	126.400	3.399	1.179	1.244	2.169

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:16	120.301%	-0.023	5.095	6.067	0.000	11810.000	1224.000	1190.000
2	19:27:24	120.631%	-0.039	5.280	6.318	0.000	11240.000	1232.000	1253.000
3	19:27:32	111.007%	-0.039	4.674	6.259	0.000	11290.000	1200.000	1176.000
x		117.313%	-0.034	5.016	6.215	0.000	11450.000	1218.000	1206.000
σ		5.464%	0.009	0.310	0.131	0.000	314.800	16.590	41.310
%RSD		4.657	26.560	6.185	2.114	0.000	2.750	1.361	3.424

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:16	85.200	1907.000	0.000	738.900	4244.000	4261.000	110.254%	0.192
2	19:27:24	90.260	1913.000	0.000	735.900	4223.000	4086.000	109.847%	0.164
3	19:27:32	84.520	1823.000	0.000	734.100	4191.000	4192.000	108.420%	0.148
x		86.660	1881.000	0.000	736.300	4219.000	4180.000	109.507%	0.168
σ		3.136	50.600	0.000	2.456	26.740	88.160	0.963%	0.022
%RSD		3.618	2.690	0.000	0.334	0.634	2.109	0.880	13.120

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:16	0.193	0.162	37.730	8.040	17.540	0.043	0.139	5.739
2	19:27:24	0.179	0.160	38.450	8.516	20.290	0.043	0.167	5.700
3	19:27:32	0.228	0.161	37.550	8.298	17.500	0.046	0.152	5.774
x		0.200	0.161	37.910	8.285	18.440	0.044	0.153	5.738
σ		0.026	0.001	0.473	0.239	1.597	0.002	0.014	0.037
%RSD		12.900	0.561	1.249	2.881	8.660	3.699	9.001	0.647

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:16	5.656	12.250	12.210	0.069	0.019	0.451	0.000	31.000
2	19:27:24	5.546	12.420	12.220	0.072	-0.002	0.563	0.000	30.760
3	19:27:32	6.001	12.730	12.090	0.104	0.037	0.743	0.000	30.860
x		5.734	12.460	12.170	0.082	0.018	0.586	0.000	30.870
σ		0.238	0.241	0.072	0.019	0.019	0.148	0.000	0.120
%RSD		4.142	1.934	0.588	23.670	106.500	25.200	0.000	0.388

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:16	85.683%	-0.122	-0.121	87.550%	-0.017	-0.007	-0.109	0.014
2	19:27:24	87.751%	-0.126	-0.106	87.261%	-0.014	-0.005	-0.133	0.001
3	19:27:32	87.968%	-0.113	-0.090	87.395%	-0.030	-0.004	-0.145	0.012
x		87.134%	-0.121	-0.105	87.402%	-0.020	-0.005	-0.129	0.009
σ		1.261%	0.007	0.015	0.144%	0.008	0.002	0.018	0.007
%RSD		1.447	5.458	14.700	0.165	41.540	28.490	14.160	80.290

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:16	80.495%	-0.174	-0.036	-0.156	9.973	10.710	82.800%	82.086%
2	19:27:24	82.010%	-0.166	-0.035	-0.183	10.270	10.700	82.207%	80.847%
3	19:27:32	81.987%	-0.178	-0.027	-0.212	9.716	10.330	82.268%	82.369%
x		81.498%	-0.173	-0.032	-0.183	9.985	10.580	82.425%	81.767%
σ		0.868%	0.006	0.005	0.028	0.276	0.216	0.326%	0.810%
%RSD		1.065	3.534	15.620	15.370	2.760	2.045	0.396	0.990

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:27:16	0.005	0.002	-0.027	-0.025	-0.032	82.102%
2	19:27:24	0.003	0.002	-0.025	-0.042	-0.037	84.216%
3	19:27:32	0.003	0.003	-0.035	-0.051	-0.042	83.976%
x		0.004	0.002	-0.029	-0.039	-0.037	83.431%
σ		0.001	0.001	0.005	0.014	0.005	1.158%
%RSD		32.650	26.020	18.800	34.510	12.740	1.387

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:32:01	116.606%	-0.017	23.160	26.990	0.000	12900.000	19250.000	18850.000
2	19:32:09	111.440%	-0.039	24.220	26.450	0.000	13130.000	19650.000	19320.000
3	19:32:17	109.980%	-0.041	24.270	24.600	0.000	12180.000	19420.000	19370.000
x		112.675%	-0.032	23.880	26.020	0.000	12730.000	19440.000	19180.000
σ		3.482%	0.013	0.628	1.252	0.000	492.700	200.400	286.600
%RSD		3.090	40.990	2.629	4.814	0.000	3.869	1.031	1.494

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:32:01	19.720	5923.000	0.000	2150.000	19590.000	20770.000	111.598%	0.700
2	19:32:09	19.210	5787.000	0.000	2142.000	19290.000	20140.000	111.525%	0.831
3	19:32:17	19.830	5749.000	0.000	2111.000	19220.000	20000.000	110.640%	0.998
x		19.590	5819.000	0.000	2134.000	19370.000	20310.000	111.254%	0.843
σ		0.332	91.470	0.000	20.720	199.600	411.300	0.533%	0.149
%RSD		1.693	1.572	0.000	0.971	1.030	2.026	0.479	17.690

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:32:01	1.469	0.495	24.120	92.990	144.600	0.093	0.396	0.322
2	19:32:09	1.549	0.479	23.810	91.480	143.500	0.071	0.330	0.278
3	19:32:17	1.489	0.477	23.880	93.850	148.300	0.065	0.314	0.280
x		1.502	0.484	23.940	92.770	145.500	0.076	0.347	0.294
σ		0.042	0.010	0.163	1.201	2.562	0.014	0.044	0.025
%RSD		2.793	2.066	0.679	1.295	1.761	18.920	12.590	8.545

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:32:01	0.322	1.422	1.670	0.261	1.706	3.373	0.000	61.740
2	19:32:09	0.362	1.370	1.666	0.288	1.816	3.383	0.000	61.560
3	19:32:17	0.281	1.362	1.449	0.290	1.863	2.915	0.000	61.050
x		0.321	1.384	1.595	0.279	1.795	3.224	0.000	61.450
σ		0.041	0.033	0.126	0.016	0.081	0.267	0.000	0.361
%RSD		12.640	2.368	7.925	5.843	4.510	8.295	0.000	0.587

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:32:01	83.925%	0.630	0.546	82.372%	-0.020	-0.004	-0.095	-0.001
2	19:32:09	85.302%	0.689	0.594	82.106%	-0.030	0.001	-0.129	0.003
3	19:32:17	86.716%	0.667	0.613	83.020%	-0.039	-0.006	-0.158	-0.003
x		85.314%	0.662	0.584	82.499%	-0.029	-0.003	-0.127	-0.001
σ		1.395%	0.030	0.035	0.470%	0.009	0.003	0.032	0.003
%RSD		1.636	4.525	5.939	0.570	31.380	118.800	24.920	547.000

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:32:01	77.174%	-0.154	0.053	-0.076	10.260	10.660	80.582%	79.473%
2	19:32:09	77.779%	-0.171	0.036	-0.109	10.200	10.560	80.065%	80.137%
3	19:32:17	78.356%	-0.141	0.045	-0.133	10.390	10.590	81.224%	79.596%
x		77.770%	-0.155	0.045	-0.106	10.280	10.600	80.624%	79.735%
σ		0.591%	0.015	0.009	0.029	0.098	0.054	0.581%	0.353%
%RSD		0.760	9.846	18.980	27.100	0.952	0.508	0.720	0.443

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:32:01	0.001	0.000	-0.049	-0.064	-0.060	79.454%
2	19:32:09	0.000	0.000	-0.058	-0.054	-0.063	79.618%
3	19:32:17	0.003	0.001	-0.054	-0.061	-0.063	79.888%
x		0.001	0.000	-0.054	-0.059	-0.062	79.653%
σ		0.002	0.001	0.004	0.005	0.002	0.219%
%RSD		116.500	164.800	8.240	8.836	3.078	0.275

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:47	119.070%	-0.012	4.768	4.402	0.000	8576.000	1073.000	1064.000
2	19:36:55	116.507%	-0.020	4.264	4.566	0.000	8197.000	1010.000	1022.000
3	19:37:03	115.942%	-0.006	3.940	4.855	0.000	8804.000	996.500	981.100
x		117.173%	-0.013	4.324	4.608	0.000	8526.000	1027.000	1022.000
σ		1.667%	0.007	0.417	0.230	0.000	306.800	41.050	41.620
%RSD		1.423	54.910	9.646	4.986	0.000	3.599	3.998	4.071

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:47	215.900	378.500	0.000	732.300	2579.000	2649.000	112.641%	0.085
2	19:36:55	214.200	398.100	0.000	785.700	2671.000	2630.000	110.097%	0.107
3	19:37:03	206.600	380.400	0.000	773.000	2784.000	2722.000	109.627%	0.127
x		212.200	385.700	0.000	763.700	2678.000	2667.000	110.789%	0.106
σ		4.977	10.830	0.000	27.900	102.700	48.930	1.622%	0.021
%RSD		2.345	2.809	0.000	3.654	3.837	1.835	1.464	19.750

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:47	0.089	0.132	65.320	38.320	42.320	0.411	0.734	28.090
2	19:36:55	0.078	0.143	65.240	38.420	41.000	0.406	0.721	26.630
3	19:37:03	0.094	0.130	62.900	37.270	44.010	0.400	0.689	26.850
x		0.087	0.135	64.490	38.000	42.440	0.406	0.714	27.190
σ		0.008	0.007	1.374	0.634	1.512	0.006	0.023	0.784
%RSD		9.268	5.188	2.130	1.669	3.562	1.422	3.273	2.884

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:47	27.390	13.440	14.030	0.160	0.044	0.573	0.000	16.830
2	19:36:55	26.470	13.840	14.160	0.130	0.024	0.704	0.000	16.950
3	19:37:03	27.550	13.420	14.140	0.156	0.018	0.566	0.000	16.680
x		27.140	13.570	14.110	0.149	0.029	0.615	0.000	16.820
σ		0.580	0.236	0.072	0.017	0.014	0.078	0.000	0.137
%RSD		2.138	1.736	0.511	11.200	47.230	12.630	0.000	0.813

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:47	84.532%	-0.145	-0.135	85.445%	-0.021	-0.000	-0.092	0.014
2	19:36:55	85.989%	-0.143	-0.147	85.037%	-0.035	-0.008	-0.106	0.005
3	19:37:03	86.719%	-0.147	-0.146	86.706%	-0.030	-0.004	-0.098	0.002
x		85.747%	-0.145	-0.143	85.729%	-0.029	-0.004	-0.099	0.007
σ		1.113%	0.002	0.007	0.870%	0.007	0.004	0.007	0.006
%RSD		1.298	1.277	4.958	1.015	24.440	95.540	6.784	84.560

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:47	79.136%	-0.171	-0.023	-0.149	7.913	8.225	80.906%	79.255%
2	19:36:55	81.231%	-0.171	-0.029	-0.182	7.925	7.887	78.614%	78.596%
3	19:37:03	79.631%	-0.183	-0.023	-0.211	8.219	8.515	81.137%	81.369%
x		79.999%	-0.175	-0.025	-0.181	8.019	8.209	80.219%	79.740%
σ		1.095%	0.007	0.003	0.031	0.173	0.315	1.395%	1.449%
%RSD		1.369	3.808	12.920	17.160	2.155	3.831	1.739	1.817

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:36:47	0.008	0.007	0.987	0.865	0.934	81.235%
2	19:36:55	0.005	0.005	1.005	0.936	0.938	82.983%
3	19:37:03	0.008	0.006	1.041	0.935	0.966	79.934%
x		0.007	0.006	1.011	0.912	0.946	81.384%
σ		0.002	0.001	0.027	0.041	0.018	1.530%
%RSD		28.410	13.010	2.717	4.485	1.865	1.880

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:33	109.821%	-0.018	-1.286	-1.691	0.000	1722.000	208.000	208.600
2	19:41:41	120.779%	-0.042	-1.888	-2.143	0.000	1642.000	203.400	201.400
3	19:41:49	123.991%	-0.035	-2.402	-2.237	0.000	1628.000	200.700	201.900
x		118.197%	-0.032	-1.858	-2.024	0.000	1664.000	204.100	203.900
σ		7.429%	0.012	0.558	0.292	0.000	50.330	3.681	4.013
%RSD		6.286	39.090	30.040	14.440	0.000	3.025	1.804	1.968

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:33	44.350	84.940	0.000	143.700	493.200	524.900	114.557%	0.037
2	19:41:41	43.610	72.730	0.000	137.900	510.100	513.700	114.546%	0.064
3	19:41:49	43.790	78.700	0.000	148.200	490.400	510.100	111.010%	0.059
x		43.920	78.790	0.000	143.200	497.900	516.200	113.371%	0.053
σ		0.389	6.102	0.000	5.174	10.690	7.723	2.045%	0.014
%RSD		0.886	7.745	0.000	3.613	2.147	1.496	1.803	27.000

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:33	1.758	0.065	13.020	33.660	35.240	0.073	0.193	5.138
2	19:41:41	1.793	0.055	12.890	33.600	36.320	0.064	0.285	5.303
3	19:41:49	1.774	0.052	13.080	35.040	34.980	0.081	0.202	5.458
x		1.775	0.057	13.000	34.100	35.510	0.073	0.227	5.300
σ		0.018	0.007	0.097	0.813	0.714	0.008	0.051	0.160
%RSD		1.008	11.650	0.748	2.384	2.009	11.380	22.340	3.026

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:33	5.304	2.743	3.121	0.009	-0.011	0.163	0.000	3.433
2	19:41:41	5.471	2.768	3.267	0.030	-0.016	-0.074	0.000	3.338
3	19:41:49	5.707	3.075	3.013	0.012	-0.012	0.288	0.000	3.438
x		5.494	2.862	3.134	0.017	-0.013	0.125	0.000	3.403
σ		0.202	0.185	0.128	0.011	0.003	0.184	0.000	0.056
%RSD		3.684	6.460	4.071	67.480	22.250	146.500	0.000	1.651

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:33	86.671%	-0.144	-0.129	89.899%	-0.029	-0.002	-0.098	0.001
2	19:41:41	88.656%	-0.137	-0.149	88.886%	-0.021	-0.002	-0.150	-0.002
3	19:41:49	89.312%	-0.127	-0.141	89.769%	-0.024	-0.009	-0.146	-0.004
x		88.213%	-0.136	-0.139	89.518%	-0.025	-0.005	-0.131	-0.002
σ		1.375%	0.009	0.010	0.551%	0.004	0.004	0.029	0.002
%RSD		1.559	6.416	7.179	0.616	15.490	79.240	22.150	126.800

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:33	82.116%	-0.164	-0.039	-0.191	1.635	1.767	81.583%	80.894%
2	19:41:41	82.972%	-0.150	-0.042	-0.196	1.819	1.776	82.274%	81.531%
3	19:41:49	82.708%	-0.157	-0.042	-0.201	1.683	1.784	83.856%	82.383%
x		82.598%	-0.157	-0.041	-0.196	1.712	1.776	82.571%	81.602%
σ		0.438%	0.007	0.002	0.005	0.096	0.009	1.165%	0.747%
%RSD		0.530	4.632	3.929	2.543	5.588	0.479	1.411	0.915

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:41:33	0.002	-0.000	3.673	3.472	3.530	89.061%
2	19:41:41	0.003	-0.000	3.773	3.383	3.584	87.913%
3	19:41:49	0.002	0.001	3.761	3.416	3.567	86.276%
x		0.002	0.000	3.736	3.424	3.561	87.750%
σ		0.001	0.001	0.055	0.045	0.028	1.400%
%RSD		31.920	5018.000	1.470	1.316	0.777	1.595

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:46:15	122.441%	106.600	90.040	100.200	0.000	53060.000	53330.000	52780.000
2	19:46:23	116.552%	110.000	89.490	98.210	0.000	55680.000	55340.000	53030.000
3	19:46:31	115.510%	112.100	91.550	97.790	0.000	53640.000	53160.000	49760.000
x		118.168%	109.581%	90.356%	98.726%	0.000	108.254%	107.888%	103.712%
σ		3.737%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		3.163	2.522	1.181	1.290	0.000	2.549	2.252	3.517

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:46:15	554.400	5552.000	0.000	52680.000	49890.000	49600.000	118.393%	97.070
2	19:46:23	515.000	5232.000	0.000	49640.000	47400.000	49200.000	118.812%	96.330
3	19:46:31	484.400	5279.000	0.000	48650.000	46730.000	48580.000	121.982%	96.450
x		103.587%	107.082%	0.000	100.647%	96.015%	98.254%	119.729%	96.614%
σ		n/a	n/a	0.000	n/a	n/a	n/a	1.963%	n/a
%RSD		6.769	3.228	0.000	4.170	3.464	1.046	1.639	0.410

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:46:15	94.120	95.490	492.900	24300.000	24210.000	93.280	94.930	96.620
2	19:46:23	96.280	95.350	483.700	24160.000	23970.000	92.970	94.470	97.730
3	19:46:31	92.260	93.840	469.000	24010.000	23620.000	90.660	91.840	93.370
x		94.220%	94.894%	96.372%	96.628%	95.732%	92.306%	93.747%	95.905%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		2.133	0.964	2.506	0.611	1.229	1.552	1.775	2.358

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:46:15	97.610	101.300	99.150	97.430	101.800	102.100	0.000	92.490
2	19:46:23	98.510	99.020	96.950	97.590	102.100	103.500	0.000	92.240
3	19:46:31	94.490	98.070	97.830	95.540	100.600	101.900	0.000	91.920
x		96.871%	99.453%	97.975%	96.851%	101.488%	102.509%	0.000	92.218%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		2.177	1.648	1.130	1.175	0.781	0.848	0.000	0.309

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:46:15	86.962%	94.610	95.950	79.451%	95.890	97.510	99.110	102.500
2	19:46:23	88.514%	94.200	96.060	81.421%	96.720	98.120	98.610	100.700
3	19:46:31	90.066%	94.220	95.680	80.424%	95.680	96.830	98.930	103.200
x		88.514%	94.344%	95.897%	80.432%	96.099%	97.486%	98.886%	102.145%
σ		1.552%	n/a	n/a	0.985%	n/a	n/a	n/a	n/a
%RSD		1.753	0.249	0.201	1.225	0.571	0.665	0.256	1.269

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:46:15	77.658%	93.110	93.180	90.730	92.770	93.790	77.995%	77.572%
2	19:46:23	77.462%	94.820	90.510	90.260	93.360	93.960	80.486%	79.872%
3	19:46:31	79.388%	94.030	95.020	92.760	93.800	94.000	78.773%	78.106%
x		78.169%	93.985%	92.903%	91.250%	93.307%	93.918%	79.084%	78.517%
σ		1.060%	n/a	n/a	n/a	n/a	n/a	1.275%	1.204%
%RSD		1.356	0.907	2.445	1.459	0.552	0.119	1.612	1.533

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:46:15	93.960	97.470	95.390	96.800	96.640	70.086%
2	19:46:23	98.670	101.800	97.840	99.180	98.990	67.915%
3	19:46:31	93.760	97.730	95.320	97.030	96.810	69.806%
x		95.465%	98.990%	96.182%	97.667%	97.479%	69.269%
σ		n/a	n/a	n/a	n/a	n/a	1.181%
%RSD		2.912	2.435	1.495	1.343	1.344	1.705

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	119.563%	-0.015	-3.198	-2.904	0.000	7.836	8.349	7.938
2	19:51:10	120.953%	-0.005	-2.872	-3.085	0.000	7.082	9.132	8.869
3	19:51:18	116.104%	-0.014	-2.682	-3.018	0.000	6.347	8.263	7.909
x		118.873%	-0.012	-2.917	-3.002	0.000	7.088	8.581	8.239
σ		2.497%	0.006	0.261	0.091	0.000	0.745	0.479	0.546
%RSD		2.101	48.690	8.945	3.043	0.000	10.510	5.582	6.631

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	1.358	9.613	0.000	9.027	12.050	10.800	119.498%	0.050
2	19:51:10	1.360	10.760	0.000	8.243	8.687	9.074	119.365%	0.137
3	19:51:18	1.188	6.952	0.000	7.204	7.921	8.877	119.439%	0.042
x		1.302	9.107	0.000	8.158	9.552	9.582	119.434%	0.076
σ		0.099	1.952	0.000	0.915	2.194	1.055	0.067%	0.053
%RSD		7.582	21.430	0.000	11.210	22.970	11.010	0.056	69.280

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	0.061	0.012	0.086	9.581	9.259	0.014	0.004	-0.019
2	19:51:10	0.078	0.012	0.087	7.886	8.091	0.019	0.014	0.011
3	19:51:18	0.060	0.009	0.074	7.459	7.135	0.014	0.028	-0.015
x		0.066	0.011	0.083	8.308	8.161	0.016	0.015	-0.008
σ		0.010	0.001	0.008	1.122	1.064	0.003	0.012	0.016
%RSD		15.680	13.330	9.140	13.510	13.030	17.790	77.090	217.000

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	-0.007	-0.079	0.099	0.080	0.108	0.321	0.000	0.031
2	19:51:10	0.040	-0.062	0.102	0.063	0.179	0.229	0.000	0.033
3	19:51:18	-0.007	-0.058	0.101	0.036	0.105	0.252	0.000	0.033
x		0.009	-0.067	0.101	0.059	0.131	0.267	0.000	0.032
σ		0.027	0.011	0.001	0.022	0.042	0.048	0.000	0.002
%RSD		312.400	16.710	1.240	37.040	32.100	17.900	0.000	4.979

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	90.638%	0.532	0.553	91.928%	-0.005	0.008	-0.103	0.027
2	19:51:10	92.248%	0.501	0.457	93.792%	-0.012	0.007	-0.134	0.020
3	19:51:18	93.076%	0.387	0.357	92.860%	-0.011	0.010	-0.137	0.009
x		91.988%	0.473	0.456	92.860%	-0.009	0.008	-0.125	0.019
σ		1.240%	0.076	0.098	0.932%	0.003	0.002	0.019	0.009
%RSD		1.348	16.120	21.480	1.003	36.860	22.090	14.990	47.000

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	85.357%	0.118	0.079	-0.019	0.101	0.056	83.396%	82.121%
2	19:51:10	85.552%	0.034	0.111	-0.084	0.048	0.066	86.373%	83.862%
3	19:51:18	86.015%	0.051	0.087	-0.105	0.073	0.038	84.019%	81.763%
x		85.641%	0.067	0.092	-0.069	0.074	0.053	84.596%	82.582%
σ		0.338%	0.045	0.017	0.045	0.026	0.014	1.570%	1.123%
%RSD		0.394	66.250	17.930	64.770	35.590	26.770	1.856	1.360

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:51:02	0.013	0.016	-0.005	-0.016	-0.017	86.517%
2	19:51:10	0.015	0.014	-0.012	0.006	-0.007	82.858%
3	19:51:18	0.016	0.014	-0.011	0.005	-0.010	86.367%
x		0.015	0.015	-0.009	-0.001	-0.011	85.248%
σ		0.002	0.001	0.004	0.012	0.005	2.070%
%RSD		11.320	9.901	41.730	841.800	47.070	2.429

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:48	121.441%	-0.026	-3.248	-3.514	0.000	-4.214	1.318	1.131
2	19:55:56	111.232%	-0.027	-3.344	-3.422	0.000	-4.022	1.466	1.120
3	19:56:04	111.717%	-0.036	-3.478	-3.546	0.000	-4.339	1.102	0.965
x		114.797%	-0.030	-3.357	-3.494	0.000	-4.192	1.295	1.072
σ		5.759%	0.005	0.116	0.065	0.000	0.160	0.183	0.093
%RSD		5.017	17.620	3.453	1.847	0.000	3.807	14.160	8.682

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:48	0.596	8.806	0.000	-2.059	4.082	4.703	111.993%	0.039
2	19:55:56	0.527	7.428	0.000	-2.533	2.327	2.958	116.085%	0.027
3	19:56:04	0.403	7.954	0.000	-3.072	3.167	2.925	115.605%	-0.027
x		0.509	8.063	0.000	-2.555	3.192	3.529	114.561%	0.013
σ		0.098	0.696	0.000	0.507	0.878	1.017	2.237%	0.035
%RSD		19.300	8.626	0.000	19.840	27.500	28.820	1.953	267.300

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:48	0.034	0.049	0.223	0.574	0.398	0.002	0.007	-0.048
2	19:55:56	0.034	0.050	0.212	0.376	0.435	0.000	0.013	-0.053
3	19:56:04	0.057	0.050	0.204	0.302	-0.089	-0.001	-0.007	-0.054
x		0.042	0.050	0.213	0.417	0.248	0.000	0.004	-0.052
σ		0.013	0.000	0.010	0.141	0.293	0.002	0.010	0.004
%RSD		31.730	0.776	4.541	33.700	118.000	1003.000	241.400	6.841

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:48	-0.035	0.364	0.486	0.006	0.002	-0.033	0.000	0.000
2	19:55:56	-0.022	0.312	0.440	-0.003	0.025	0.097	0.000	0.005
3	19:56:04	-0.038	0.167	0.439	-0.003	-0.013	0.054	0.000	0.003
x		-0.032	0.281	0.455	-0.000	0.005	0.040	0.000	0.003
σ		0.008	0.102	0.027	0.005	0.019	0.066	0.000	0.002
%RSD		26.390	36.350	5.900	23580.000	397.300	167.500	0.000	77.570

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:48	89.811%	-0.055	-0.031	91.822%	-0.028	0.000	-0.115	-0.004
2	19:55:56	91.445%	-0.072	-0.058	93.154%	-0.029	0.000	-0.118	-0.004
3	19:56:04	92.809%	-0.071	-0.078	94.151%	-0.030	-0.001	-0.150	-0.004
x		91.355%	-0.066	-0.056	93.042%	-0.029	-0.000	-0.128	-0.004
σ		1.501%	0.010	0.024	1.169%	0.001	0.001	0.019	0.000
%RSD		1.643	14.890	42.880	1.256	4.948	267.100	15.120	3.766

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:48	85.768%	-0.106	-0.010	-0.145	-0.021	-0.016	82.454%	82.218%
2	19:55:56	84.896%	-0.103	-0.018	-0.184	-0.021	-0.019	84.995%	83.996%
3	19:56:04	88.144%	-0.105	-0.018	-0.185	-0.017	-0.028	85.021%	83.796%
x		86.269%	-0.104	-0.015	-0.171	-0.020	-0.021	84.157%	83.337%
σ		1.681%	0.002	0.005	0.023	0.002	0.006	1.475%	0.974%
%RSD		1.948	1.477	31.460	13.260	9.587	30.240	1.752	1.169

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	19:55:48	-0.001	0.000	-0.020	-0.010	-0.028	88.849%
2	19:55:56	-0.001	-0.000	0.002	-0.013	-0.018	86.430%
3	19:56:04	0.001	0.000	-0.005	-0.022	-0.014	89.213%
x		-0.000	-0.000	-0.008	-0.015	-0.020	88.164%
σ		0.001	0.000	0.011	0.007	0.007	1.513%
%RSD		448.700	3246.000	143.100	43.660	35.390	1.716

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:34	121.017%	50.760	894.400	958.400	0.000	49600.000	49000.000	49390.000
2	20:00:42	109.237%	54.580	966.000	978.300	0.000	50970.000	50260.000	51140.000
3	20:00:50	119.542%	49.200	855.200	941.100	0.000	48600.000	48910.000	49760.000
x		116.599%	51.510	905.200	959.300	0.000	49720.000	49390.000	50100.000
σ		6.418%	2.766	56.190	18.630	0.000	1191.000	753.000	917.900
%RSD		5.504	5.370	6.208	1.942	0.000	2.396	1.525	1.832

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:34	2004.000	10260.000	0.000	49520.000	47740.000	48760.000	118.208%	912.700
2	20:00:42	2055.000	10110.000	0.000	47850.000	46240.000	48090.000	116.615%	925.300
3	20:00:50	1977.000	10070.000	0.000	49960.000	46790.000	48610.000	115.942%	900.900
x		2012.000	10140.000	0.000	49110.000	46920.000	48490.000	116.921%	913.000
σ		39.840	100.500	0.000	1109.000	757.600	349.600	1.164%	12.210
%RSD		1.980	0.991	0.000	2.257	1.615	0.721	0.995	1.337

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:34	440.700	178.700	472.200	933.900	1076.000	451.100	460.100	234.100
2	20:00:42	457.200	184.900	465.700	947.100	1096.000	448.200	452.600	229.300
3	20:00:50	462.200	185.500	467.300	944.400	1064.000	443.900	449.100	227.900
x		453.400	183.000	468.400	941.800	1079.000	447.700	453.900	230.400
σ		11.250	3.769	3.377	6.990	15.930	3.617	5.656	3.249
%RSD		2.482	2.059	0.721	0.742	1.477	0.808	1.246	1.410

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:34	238.100	490.000	474.200	38.770	11.160	11.310	0.000	868.200
2	20:00:42	232.800	497.000	483.300	38.610	10.510	10.470	0.000	870.700
3	20:00:50	228.800	495.300	486.800	38.850	11.190	11.290	0.000	866.400
x		233.200	494.100	481.400	38.740	10.950	11.020	0.000	868.400
σ		4.658	3.652	6.510	0.126	0.386	0.475	0.000	2.151
%RSD		1.997	0.739	1.352	0.325	3.528	4.313	0.000	0.248

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:34	88.157%	928.200	943.800	81.200%	44.100	43.990	49.390	106.200
2	20:00:42	88.744%	927.200	947.700	80.011%	44.060	44.530	50.160	107.000
3	20:00:50	89.502%	921.800	942.200	81.419%	43.500	44.250	49.690	107.600
x		88.801%	925.700	944.500	80.877%	43.880	44.260	49.750	106.900
σ		0.674%	3.451	2.826	0.758%	0.332	0.270	0.390	0.723
%RSD		0.759	0.373	0.299	0.937	0.757	0.609	0.784	0.676

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:34	76.409%	1828.000	460.500	460.500	1161.000	1832.000	82.528%	80.859%
2	20:00:42	78.548%	1830.000	452.300	440.600	899.700	1774.000	79.807%	79.229%
3	20:00:50	79.196%	1806.000	440.800	440.600	1031.000	1783.000	80.324%	79.282%
x		78.051%	1821.000	451.200	447.200	1030.000	1796.000	80.887%	79.790%
σ		1.459%	13.250	9.897	11.500	130.500	31.130	1.445%	0.926%
%RSD		1.869	0.728	2.194	2.572	12.670	1.733	1.787	1.161

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:00:34	44.150	45.750	17.540	17.810	17.710	72.565%
2	20:00:42	42.260	43.640	17.380	17.730	17.630	76.262%
3	20:00:50	42.840	44.270	17.690	17.840	17.900	75.300%
x		43.080	44.550	17.540	17.800	17.740	74.709%
σ		0.970	1.079	0.155	0.059	0.143	1.918%
%RSD		2.252	2.423	0.881	0.331	0.805	2.567

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:16	91.113%	3.744	99.650	95.590	0.000	170.000	66240.000	66320.000
2	20:05:24	93.785%	3.851	80.710	91.920	0.000	187.400	59330.000	57100.000
3	20:05:32	86.369%	3.870	96.580	95.460	0.000	230.000	60270.000	59170.000
x		90.422%	3.822	92.310	94.320	0.000	195.800	61950.000	60860.000
σ		3.756%	0.068	10.170	2.080	0.000	30.840	3750.000	4834.000
%RSD		4.154	1.785	11.010	2.205	0.000	15.750	6.053	7.943

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:16	12880.000	2311.000	0.000	197.200	281300.000	295500.000	83.722%	2620.000
2	20:05:24	10900.000	2078.000	0.000	184.700	277700.000	286300.000	86.882%	2406.000
3	20:05:32	10400.000	2019.000	0.000	176.000	268400.000	281100.000	85.692%	2491.000
x		11400.000	2136.000	0.000	185.900	275800.000	287600.000	85.432%	2506.000
σ		1310.000	154.200	0.000	10.650	6664.000	7311.000	1.596%	107.600
%RSD		11.500	7.221	0.000	5.728	2.416	2.542	1.868	4.293

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:16	32.830	2279.000	12780.000	5730.000	6537.000	6.726	252.200	36.760
2	20:05:24	44.920	2242.000	11530.000	5522.000	6243.000	6.333	242.500	35.850
3	20:05:32	36.290	2244.000	11630.000	5615.000	6358.000	6.437	245.100	35.840
x		38.020	2255.000	11980.000	5622.000	6379.000	6.499	246.600	36.150
σ		6.226	20.630	698.100	104.200	148.000	0.204	4.996	0.529
%RSD		16.380	0.915	5.829	1.853	2.321	3.131	2.026	1.464

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:16	37.910	15.480	11.280	2.846	3.576	0.484	0.000	139.600
2	20:05:24	37.920	15.440	11.280	2.978	3.366	1.284	0.000	139.800
3	20:05:32	36.940	15.190	10.750	2.817	3.099	0.713	0.000	138.500
x		37.590	15.370	11.100	2.881	3.347	0.827	0.000	139.300
σ		0.560	0.155	0.307	0.086	0.239	0.412	0.000	0.718
%RSD		1.490	1.011	2.763	2.976	7.138	49.840	0.000	0.516

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:16	84.156%	20.770	21.660	64.528%	0.774	6.530	0.755	0.340
2	20:05:24	84.278%	19.420	20.050	65.021%	0.702	6.589	0.713	0.343
3	20:05:32	85.920%	18.950	19.450	65.027%	0.662	6.661	0.601	0.363
x		84.784%	19.710	20.390	64.859%	0.713	6.593	0.689	0.349
σ		0.985%	0.945	1.146	0.286%	0.057	0.066	0.080	0.013
%RSD		1.162	4.792	5.619	0.441	7.998	0.998	11.560	3.616

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:16	63.987%	8.185	3.632	3.511	99.120	100.500	67.899%	67.006%
2	20:05:24	65.032%	7.528	2.859	2.736	97.750	98.080	67.944%	67.879%
3	20:05:32	64.891%	7.373	2.778	2.553	99.040	100.600	67.870%	67.030%
x		64.637%	7.695	3.090	2.933	98.640	99.710	67.904%	67.305%
σ		0.567%	0.431	0.472	0.509	0.771	1.413	0.037%	0.497%
%RSD		0.877	5.604	15.260	17.340	0.782	1.417	0.055	0.739

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:05:16	0.043	0.039	0.966	0.927	0.962	65.665%
2	20:05:24	0.035	0.043	1.048	1.054	1.006	65.620%
3	20:05:32	0.035	0.033	1.025	0.935	0.969	66.196%
x		0.038	0.038	1.013	0.972	0.979	65.827%
σ		0.005	0.005	0.042	0.071	0.024	0.320%
%RSD		13.120	13.580	4.184	7.310	2.416	0.487

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:58	87.434%	-0.017	49.970	49.810	0.000	95070.000	7752.000	7809.000
2	20:10:06	86.194%	-0.009	46.750	54.160	0.000	106000.000	8215.000	7827.000
3	20:10:14	88.574%	-0.032	46.690	47.540	0.000	96910.000	7923.000	7890.000
x		87.401%	-0.019	47.800	50.500	0.000	99320.000	7963.000	7842.000
σ		1.190%	0.012	1.876	3.366	0.000	5840.000	234.000	42.690
%RSD		1.362	59.520	3.924	6.665	0.000	5.880	2.938	0.544

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:58	43.760	4181.000	0.000	53520.000	317400.000	320400.000	95.950%	3.400
2	20:10:06	41.800	4222.000	0.000	58030.000	344500.000	342900.000	91.112%	3.720
3	20:10:14	45.240	4351.000	0.000	59000.000	343000.000	339200.000	88.491%	3.621
x		43.600	4251.000	0.000	56850.000	335000.000	334200.000	91.851%	3.580
σ		1.726	88.590	0.000	2924.000	15220.000	12070.000	3.784%	0.164
%RSD		3.960	2.084	0.000	5.143	4.545	3.611	4.120	4.584

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:58	1.241	0.810	19.870	2389.000	3434.000	0.643	3.072	14.330
2	20:10:06	1.057	0.885	20.180	2496.000	3557.000	0.618	2.875	14.520
3	20:10:14	1.357	0.886	21.640	2549.000	3532.000	0.600	2.979	15.010
x		1.218	0.860	20.570	2478.000	3508.000	0.620	2.975	14.620
σ		0.151	0.044	0.946	81.600	65.330	0.022	0.099	0.355
%RSD		12.390	5.056	4.602	3.293	1.863	3.505	3.312	2.425

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:58	14.990	13.530	13.620	2.122	0.431	7.314	0.000	278.100
2	20:10:06	15.010	13.990	13.650	2.056	0.513	6.749	0.000	277.000
3	20:10:14	15.330	13.960	13.810	2.067	0.440	7.695	0.000	277.100
x		15.110	13.830	13.690	2.082	0.461	7.252	0.000	277.400
σ		0.193	0.261	0.104	0.035	0.045	0.476	0.000	0.632
%RSD		1.279	1.886	0.762	1.701	9.774	6.563	0.000	0.228

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:58	75.207%	2.470	2.479	68.540%	-0.017	0.414	-0.057	0.029
2	20:10:06	76.683%	2.209	2.365	67.862%	-0.019	0.391	-0.112	0.028
3	20:10:14	77.549%	2.106	2.180	69.089%	-0.021	0.388	-0.142	0.039
x		76.480%	2.262	2.341	68.497%	-0.019	0.398	-0.104	0.032
σ		1.184%	0.188	0.150	0.615%	0.002	0.015	0.043	0.006
%RSD		1.549	8.302	6.428	0.897	10.990	3.678	41.820	18.060

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:58	66.889%	0.427	0.610	0.448	2.524	2.469	72.320%	71.044%
2	20:10:06	68.528%	0.396	0.567	0.399	2.386	2.272	71.952%	70.770%
3	20:10:14	67.804%	0.363	0.568	0.351	2.565	2.527	73.313%	71.886%
x		67.741%	0.395	0.581	0.399	2.492	2.423	72.528%	71.233%
σ		0.821%	0.032	0.025	0.048	0.094	0.133	0.704%	0.582%
%RSD		1.212	8.109	4.232	12.150	3.755	5.507	0.970	0.816

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:09:58	0.004	0.004	0.151	0.105	0.101	61.611%
2	20:10:06	0.008	0.002	0.099	0.098	0.094	64.728%
3	20:10:14	0.003	0.006	0.114	0.099	0.103	61.680%
x		0.005	0.004	0.121	0.101	0.099	62.673%
σ		0.003	0.002	0.027	0.004	0.005	1.780%
%RSD		53.230	49.270	21.850	3.925	4.746	2.840

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:44	75.999%	-0.021	1941.000	2059.000	0.000	6173.000	19980.000	19940.000
2	20:14:52	78.953%	-0.030	1903.000	1940.000	0.000	5950.000	20080.000	19400.000
3	20:15:00	81.292%	-0.011	1754.000	1786.000	0.000	6259.000	21060.000	20990.000
x		78.748%	-0.020	1866.000	1928.000	0.000	6127.000	20370.000	20110.000
σ		2.653%	0.010	98.670	136.800	0.000	159.600	598.000	809.400
%RSD		3.368	46.960	5.288	7.095	0.000	2.604	2.935	4.025

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:44	5.264	815.500	0.000	600.200	44750.000	46820.000	102.784%	0.422
2	20:14:52	5.096	797.000	0.000	600.100	44610.000	47510.000	100.828%	0.380
3	20:15:00	5.926	840.100	0.000	653.300	46790.000	49690.000	90.865%	0.543
x		5.429	817.600	0.000	617.900	45380.000	48000.000	98.159%	0.448
σ		0.439	21.630	0.000	30.700	1221.000	1498.000	6.392%	0.085
%RSD		8.083	2.645	0.000	4.970	2.691	3.120	6.512	18.850

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:44	0.008	0.054	464.000	1378.000	1491.000	0.100	0.133	0.004
2	20:14:52	0.103	0.057	460.000	1391.000	1519.000	0.105	0.093	-0.004
3	20:15:00	0.035	0.061	496.400	1514.000	1630.000	0.117	0.121	0.028
x		0.049	0.057	473.500	1428.000	1547.000	0.107	0.115	0.009
σ		0.049	0.003	19.960	74.700	73.420	0.009	0.020	0.016
%RSD		100.300	5.621	4.215	5.232	4.747	8.408	17.750	173.800

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:44	0.399	0.018	0.034	0.619	-0.018	12.920	0.000	358.700
2	20:14:52	0.390	0.124	0.216	0.623	-0.007	12.850	0.000	354.300
3	20:15:00	0.326	0.245	0.254	0.555	-0.018	12.680	0.000	355.100
x		0.372	0.129	0.168	0.599	-0.014	12.810	0.000	356.000
σ		0.040	0.114	0.118	0.038	0.006	0.124	0.000	2.296
%RSD		10.680	88.230	70.030	6.368	42.950	0.964	0.000	0.645

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:44	75.344%	15.120	15.420	73.810%	-0.023	0.183	-0.053	0.022
2	20:14:52	76.520%	15.260	15.090	73.897%	-0.026	0.180	-0.108	0.032
3	20:15:00	77.532%	15.560	15.200	74.506%	-0.035	0.154	-0.120	0.035
x		76.465%	15.310	15.240	74.071%	-0.028	0.172	-0.094	0.030
σ		1.095%	0.223	0.166	0.380%	0.006	0.016	0.036	0.007
%RSD		1.432	1.456	1.089	0.513	21.370	9.356	38.010	22.100

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:44	70.255%	0.104	0.210	0.054	2.901	3.178	71.580%	71.403%
2	20:14:52	70.310%	0.113	0.143	0.007	3.002	3.008	72.834%	72.665%
3	20:15:00	70.984%	0.099	0.140	0.018	3.127	2.971	72.237%	71.679%
x		70.516%	0.105	0.165	0.026	3.010	3.052	72.217%	71.916%
σ		0.406%	0.007	0.040	0.025	0.113	0.111	0.627%	0.664%
%RSD		0.576	6.871	24.120	93.600	3.760	3.622	0.868	0.923

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:14:44	0.000	-0.001	-0.068	-0.066	-0.074	74.585%
2	20:14:52	0.000	-0.002	-0.058	-0.063	-0.067	73.529%
3	20:15:00	-0.000	0.001	-0.061	-0.062	-0.076	73.990%
x		0.000	-0.001	-0.062	-0.064	-0.072	74.035%
σ		0.000	0.001	0.005	0.002	0.005	0.529%
%RSD		278.500	163.700	8.742	3.716	6.416	0.715

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Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:27	76.482%	5.843	61.310	63.990	0.000	114700.000	10460.000	10310.000
2	20:19:35	80.092%	5.162	56.250	55.230	0.000	109100.000	9870.000	9997.000
3	20:19:43	75.150%	5.291	57.610	57.570	0.000	109100.000	9965.000	9604.000
x		77.241%	5.432	58.390	58.930	0.000	111000.000	10100.000	9971.000
σ		2.557%	0.362	2.618	4.536	0.000	3221.000	315.400	354.500
%RSD		3.310	6.664	4.483	7.697	0.000	2.903	3.123	3.555

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:27	2557.000	72630.000	0.000	16320.000	87380.000	90500.000	81.015%	558.700
2	20:19:35	2663.000	73480.000	0.000	16200.000	83930.000	87640.000	80.915%	530.200
3	20:19:43	2404.000	66960.000	0.000	15410.000	82710.000	88620.000	78.939%	526.200
x		2541.000	71020.000	0.000	15980.000	84670.000	88920.000	80.289%	538.400
σ		130.400	3545.000	0.000	495.800	2424.000	1452.000	1.171%	17.680
%RSD		5.132	4.992	0.000	3.104	2.863	1.633	1.458	3.284

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:27	345.900	238.900	677.800	6074.000	6322.000	16.440	124.000	46.060
2	20:19:35	343.300	241.400	684.500	6093.000	6316.000	16.340	119.800	45.740
3	20:19:43	354.800	249.500	682.000	6272.000	6554.000	16.960	122.200	45.410
x		348.000	243.300	681.400	6146.000	6398.000	16.580	122.000	45.740
σ		6.015	5.568	3.399	109.400	135.800	0.334	2.108	0.323
%RSD		1.729	2.289	0.499	1.780	2.123	2.013	1.727	0.706

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:27	45.780	544.300	541.500	131.000	1.251	3.761	0.000	1295.000
2	20:19:35	45.570	549.400	536.800	129.200	1.264	3.229	0.000	1282.000
3	20:19:43	45.130	555.000	549.900	130.400	1.198	3.410	0.000	1288.000
x		45.490	549.600	542.700	130.200	1.238	3.466	0.000	1288.000
σ		0.329	5.348	6.628	0.885	0.035	0.270	0.000	6.664
%RSD		0.724	0.973	1.221	0.680	2.833	7.801	0.000	0.517

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:27	85.487%	3.644	3.661	70.305%	0.029	0.373	65.920	68.440
2	20:19:35	88.134%	3.565	3.625	70.439%	0.024	0.251	66.580	69.530
3	20:19:43	88.839%	3.329	3.479	70.848%	0.033	0.261	68.310	70.630
x		87.487%	3.513	3.588	70.531%	0.028	0.295	66.930	69.530
σ		1.767%	0.164	0.096	0.283%	0.004	0.068	1.232	1.097
%RSD		2.020	4.678	2.689	0.401	14.790	22.930	1.841	1.578

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:27	67.458%	0.433	7.301	7.558	8.022	7.936	75.381%	75.633%
2	20:19:35	68.582%	0.341	7.246	7.332	8.214	8.014	75.313%	75.961%
3	20:19:43	69.436%	0.360	7.520	7.358	7.767	8.031	76.611%	75.436%
x		68.492%	0.378	7.356	7.416	8.001	7.994	75.768%	75.677%
σ		0.992%	0.049	0.145	0.124	0.224	0.051	0.731%	0.265%
%RSD		1.448	12.860	1.971	1.669	2.803	0.633	0.964	0.350

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:19:27	2.315	2.349	9.246	7.612	8.205	65.031%
2	20:19:35	2.232	2.208	9.045	7.343	8.045	68.216%
3	20:19:43	2.112	2.212	8.741	7.275	7.857	69.732%
x		2.220	2.256	9.011	7.410	8.036	67.660%
σ		0.102	0.080	0.254	0.178	0.175	2.400%
%RSD		4.608	3.552	2.820	2.402	2.172	3.547

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:11	70.932%	5.555	47.160	52.110	0.000	103900.000	9243.000	8716.000
2	20:24:19	67.851%	5.006	49.720	49.100	0.000	100000.000	9027.000	9319.000
3	20:24:28	62.742%	5.592	46.420	55.390	0.000	101400.000	9065.000	8387.000
x		67.175%	5.384	47.760	52.200	0.000	101800.000	9112.000	8807.000
σ		4.137%	0.328	1.731	3.147	0.000	1966.000	115.500	472.300
%RSD		6.158	6.087	3.623	6.028	0.000	1.932	1.267	5.363

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:11	2249.000	67310.000	0.000	15930.000	84180.000	88530.000	75.152%	507.800
2	20:24:19	2452.000	68800.000	0.000	15550.000	85020.000	86570.000	71.549%	519.200
3	20:24:28	2218.000	66580.000	0.000	15650.000	84820.000	90440.000	69.793%	498.400
x		2306.000	67570.000	0.000	15710.000	84670.000	88510.000	72.165%	508.500
σ		127.000	1134.000	0.000	196.600	435.300	1937.000	2.732%	10.430
%RSD		5.506	1.678	0.000	1.251	0.514	2.188	3.786	2.050

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:11	368.700	255.100	672.400	6190.000	6445.000	16.050	122.600	45.760
2	20:24:19	375.600	267.000	701.800	6527.000	6836.000	16.950	125.700	46.770
3	20:24:28	397.100	271.500	680.000	6539.000	6791.000	16.600	126.500	47.870
x		380.500	264.500	684.700	6419.000	6691.000	16.530	124.900	46.800
σ		14.790	8.481	15.270	197.700	214.200	0.451	2.058	1.053
%RSD		3.888	3.206	2.230	3.080	3.201	2.727	1.647	2.249

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:11	46.060	577.400	561.300	131.000	1.161	3.961	0.000	1307.000
2	20:24:19	46.980	597.500	582.000	134.200	1.269	3.613	0.000	1305.000
3	20:24:28	47.730	595.500	573.800	134.000	1.185	3.425	0.000	1294.000
x		46.920	590.100	572.400	133.100	1.205	3.666	0.000	1302.000
σ		0.833	11.070	10.450	1.792	0.057	0.272	0.000	6.959
%RSD		1.774	1.876	1.826	1.347	4.695	7.423	0.000	0.534

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:11	84.196%	3.156	3.382	70.251%	0.028	0.095	71.310	71.350
2	20:24:19	85.456%	3.175	3.315	69.794%	0.013	0.080	70.420	72.590
3	20:24:28	86.511%	3.024	3.299	71.522%	0.030	0.077	69.210	70.690
x		85.388%	3.118	3.332	70.523%	0.024	0.084	70.310	71.540
σ		1.159%	0.082	0.044	0.895%	0.009	0.010	1.053	0.968
%RSD		1.357	2.636	1.316	1.270	38.760	11.430	1.497	1.352

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:11	67.659%	0.195	6.663	6.615	7.446	7.690	74.564%	75.501%
2	20:24:19	69.514%	0.178	7.126	6.973	7.478	7.703	75.335%	75.103%
3	20:24:28	69.097%	0.135	6.621	6.395	7.760	7.536	76.104%	77.403%
x		68.757%	0.169	6.804	6.661	7.562	7.643	75.335%	76.002%
σ		0.973%	0.031	0.280	0.292	0.173	0.093	0.770%	1.229%
%RSD		1.416	18.390	4.118	4.386	2.288	1.211	1.022	1.617

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:24:11	2.164	2.252	9.075	7.593	8.034	71.868%
2	20:24:19	2.065	2.175	8.628	7.211	7.701	73.363%
3	20:24:28	2.213	2.308	9.359	7.813	8.278	70.253%
x		2.147	2.245	9.020	7.539	8.004	71.828%
σ		0.075	0.067	0.368	0.304	0.290	1.556%
%RSD		3.511	2.982	4.085	4.034	3.617	2.166

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:56	77.189%	1.058	8.053	9.477	0.000	23080.000	2075.000	2012.000
2	20:29:04	79.628%	1.117	7.514	8.460	0.000	22620.000	2067.000	1973.000
3	20:29:12	73.921%	1.215	8.112	9.261	0.000	21670.000	1981.000	1984.000
x		76.912%	1.130	7.893	9.066	0.000	22460.000	2041.000	1990.000
σ		2.863%	0.080	0.330	0.536	0.000	715.000	52.010	20.050
%RSD		3.723	7.037	4.177	5.911	0.000	3.184	2.548	1.008

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:56	506.200	14930.000	0.000	3374.000	18100.000	18060.000	75.934%	111.700
2	20:29:04	485.200	14790.000	0.000	3330.000	17480.000	16650.000	77.270%	109.200
3	20:29:12	478.400	14490.000	0.000	3231.000	17190.000	17120.000	76.250%	109.500
x		489.900	14740.000	0.000	3312.000	17590.000	17280.000	76.485%	110.100
σ		14.510	223.400	0.000	72.980	464.600	714.700	0.698%	1.349
%RSD		2.961	1.516	0.000	2.204	2.641	4.137	0.913	1.226

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:56	76.980	55.230	142.100	1350.000	1407.000	3.636	27.970	10.940
2	20:29:04	73.310	54.130	133.700	1373.000	1399.000	3.650	27.380	10.680
3	20:29:12	75.970	53.590	135.300	1345.000	1392.000	3.684	27.520	10.930
x		75.420	54.320	137.000	1356.000	1400.000	3.657	27.620	10.850
σ		1.897	0.838	4.481	14.930	7.330	0.025	0.307	0.148
%RSD		2.515	1.543	3.270	1.101	0.524	0.675	1.111	1.368

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:56	10.680	137.400	136.500	29.240	0.293	0.576	0.000	292.000
2	20:29:04	10.260	133.300	132.900	29.010	0.203	0.665	0.000	289.700
3	20:29:12	10.950	133.500	131.100	29.040	0.263	1.110	0.000	287.100
x		10.630	134.700	133.500	29.100	0.253	0.784	0.000	289.600
σ		0.346	2.338	2.738	0.128	0.046	0.286	0.000	2.451
%RSD		3.260	1.735	2.050	0.441	18.040	36.530	0.000	0.846

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:56	80.094%	0.563	0.649	77.143%	-0.010	0.021	14.050	14.440
2	20:29:04	81.810%	0.634	0.590	76.503%	-0.013	0.010	13.640	14.850
3	20:29:12	82.526%	0.550	0.577	78.185%	-0.021	0.009	13.670	14.240
x		81.477%	0.582	0.605	77.277%	-0.015	0.013	13.790	14.510
σ		1.250%	0.045	0.038	0.849%	0.005	0.007	0.230	0.315
%RSD		1.534	7.747	6.301	1.098	36.870	52.670	1.668	2.173

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:56	72.596%	-0.045	1.281	1.160	1.570	1.508	77.854%	78.102%
2	20:29:04	74.347%	-0.046	1.354	1.231	1.571	1.483	77.342%	77.763%
3	20:29:12	73.232%	-0.046	1.374	1.201	1.483	1.559	79.900%	79.239%
x		73.392%	-0.046	1.336	1.198	1.541	1.517	78.365%	78.368%
σ		0.886%	0.001	0.049	0.036	0.050	0.038	1.354%	0.773%
%RSD		1.207	2.062	3.657	2.986	3.270	2.536	1.728	0.987

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:28:56	0.441	0.468	1.678	1.455	1.526	77.353%
2	20:29:04	0.413	0.421	1.756	1.382	1.500	79.250%
3	20:29:12	0.443	0.462	1.769	1.450	1.541	76.258%
x		0.432	0.450	1.734	1.429	1.522	77.620%
σ		0.017	0.026	0.049	0.041	0.021	1.514%
%RSD		3.868	5.729	2.838	2.887	1.374	1.950

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User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:17	81.099%	1.028	17.070	17.160	0.000	321.500	469.400	467.000
2	20:37:25	85.874%	0.972	14.050	16.320	0.000	415.300	498.600	463.500
3	20:37:33	84.684%	0.907	15.380	14.580	0.000	405.200	488.400	483.000
x		83.886%	96.904%	309.942%	320.404%	0.000	475.858%	485.459%	471.168%
σ		2.486%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		2.963	6.264	9.773	8.237	0.000	13.530	3.050	2.206

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:17	27.240	478.900	0.000	433.800	436.400	431.100	91.423%	4.684
2	20:37:25	27.790	476.300	0.000	468.800	432.800	447.400	87.135%	4.882
3	20:37:33	27.910	455.700	0.000	457.400	433.000	438.600	84.172%	5.093
x		92.158%	94.063%	0.000	453.362%	434.048%	439.038%	87.577%	97.723%
σ		n/a	n/a	0.000	n/a	n/a	n/a	3.646%	n/a
%RSD		1.293	2.700	0.000	3.938	0.476	1.859	4.163	4.185

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:17	0.969	2.057	4.793	50.320	52.140	0.471	0.910	2.014
2	20:37:25	0.935	2.027	4.805	52.990	53.520	0.516	1.068	2.165
3	20:37:33	0.947	2.105	4.976	55.230	56.120	0.536	1.050	2.102
x		95.027%	103.152%	97.157%	105.700%	107.851%	101.515%	100.932%	104.689%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		1.846	1.909	2.108	4.651	3.745	6.637	8.600	3.621

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:17	2.191	5.638	5.232	0.965	4.907	5.202	0.000	4.322
2	20:37:25	2.335	5.602	5.567	0.964	5.028	5.238	0.000	4.287
3	20:37:33	2.009	5.562	6.005	1.102	5.064	4.719	0.000	4.271
x		108.932%	112.012%	112.028%	101.059%	99.990%	101.066%	0.000	85.866%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		7.493	0.680	6.921	7.848	1.649	5.733	0.000	0.605

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:17	79.519%	4.146	4.028	82.305%	0.866	0.932	0.807	1.080
2	20:37:25	81.541%	4.050	3.992	83.430%	0.829	0.927	0.743	1.076
3	20:37:33	82.595%	4.119	4.059	83.295%	0.927	0.980	0.787	1.105
x		81.218%	82.098%	80.521%	83.010%	87.410%	94.646%	77.890%	108.685%
σ		1.563%	n/a	n/a	0.614%	n/a	n/a	n/a	n/a
%RSD		1.925	1.195	0.828	0.740	5.626	3.082	4.161	1.423

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:17	76.157%	4.187	1.772	1.487	8.288	8.549	78.342%	78.249%
2	20:37:25	77.446%	4.210	1.782	1.612	8.861	8.420	80.297%	78.360%
3	20:37:33	78.406%	4.241	1.759	1.485	8.261	8.760	79.050%	78.458%
x		77.336%	84.255%	88.556%	76.389%	84.702%	85.764%	79.229%	78.356%
σ		1.129%	n/a	n/a	n/a	n/a	n/a	0.990%	0.104%
%RSD		1.459	0.634	0.641	4.780	4.003	2.004	1.249	0.133

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:37:17	0.855	0.862	0.912	0.933	0.910	81.959%
2	20:37:25	0.828	0.843	0.901	0.917	0.904	81.767%
3	20:37:33	0.847	0.833	0.934	0.845	0.889	84.053%
x		84.344%	84.565%	91.593%	89.830%	90.076%	82.593%
σ		n/a	n/a	n/a	n/a	n/a	1.268%
%RSD		1.653	1.763	1.829	5.249	1.177	1.535

CCV 1929644 5/9/2016 8:47:41 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:46:49	105.347%	91.520	85.140	86.780	0.000	49610.000	50990.000	51860.000
2	20:46:57	100.681%	97.710	83.820	94.880	0.000	50370.000	46070.000	47300.000
3	20:47:05	92.838%	107.800	91.090	92.550	0.000	48630.000	48760.000	46770.000
x		99.622%	99.001%	86.683%	91.403%	0.000	99.071%	97.212%	97.286%
σ		6.321%	n/a	n/a	n/a	0.000	n/a	n/a	n/a
%RSD		6.345	8.287	4.468	4.565	0.000	1.758	5.065	5.755

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:46:49	518.800	5307.000	0.000	54310.000	49730.000	50140.000	96.600%	100.300
2	20:46:57	456.900	4946.000	0.000	49220.000	48200.000	49570.000	101.245%	92.980
3	20:47:05	424.600	4626.000	0.000	45020.000	44130.000	46390.000	104.592%	94.460
x		93.347%	99.200%	0.000	99.035%	94.710%	97.400%	100.812%	95.909%
σ		n/a	n/a	0.000	n/a	n/a	n/a	4.014%	n/a
%RSD		10.260	6.870	0.000	9.403	6.112	4.147	3.981	4.034

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:46:49	105.600	105.400	529.600	26200.000	25950.000	97.390	102.000	104.100
2	20:46:57	96.230	98.500	488.500	25760.000	25650.000	99.330	101.800	100.600
3	20:47:05	99.960	98.860	476.600	24780.000	24670.000	93.770	99.860	98.400
x		100.584%	100.920%	99.645%	102.316%	101.688%	96.830%	101.216%	101.026%
σ		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
%RSD		4.673	3.847	5.577	2.855	2.631	2.911	1.164	2.829

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:46:49	104.300	105.900	103.300	101.000	106.100	106.000	0.000	92.930
2	20:46:57	99.240	101.300	99.440	101.000	102.400	102.600	0.000	91.160
3	20:47:05	98.650	99.230	97.290	97.560	101.200	101.100	0.000	91.780
x		100.738%	102.169%	100.023%	99.849%	103.222%	103.220%	0.000	91.957%
σ		n/a	n/a	n/a	n/a	n/a	n/a	0.000	n/a
%RSD		3.090	3.363	3.066	1.986	2.485	2.419	0.000	0.976

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:46:49	82.866%	94.470	95.470	77.413%	96.520	98.530	98.780	101.900
2	20:46:57	85.962%	95.090	95.570	78.933%	94.760	95.260	94.610	99.560
3	20:47:05	86.452%	92.650	95.630	80.266%	96.880	96.610	96.620	99.800
x		85.093%	94.067%	95.558%	78.871%	96.050%	96.799%	96.671%	100.425%
σ		1.944%	n/a	n/a	1.428%	n/a	n/a	n/a	n/a
%RSD		2.285	1.350	0.085	1.810	1.182	1.694	2.160	1.285

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:46:49	73.945%	93.890	88.740	88.460	93.630	94.550	78.707%	79.058%
2	20:46:57	75.405%	94.690	98.120	100.700	95.010	95.460	80.241%	79.508%
3	20:47:05	76.260%	92.650	88.330	90.670	90.570	93.050	80.516%	80.278%
x		75.203%	93.747%	91.731%	93.289%	93.070%	94.356%	79.821%	79.615%
σ		1.171%	n/a	n/a	n/a	n/a	n/a	0.975%	0.617%
%RSD		1.557	1.097	6.037	7.009	2.442	1.290	1.221	0.775

Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:46:49	91.010	94.350	90.360	91.230	90.910	74.535%
2	20:46:57	90.390	92.120	87.820	89.660	89.210	73.577%
3	20:47:05	94.070	97.010	93.950	95.340	93.800	72.533%
x		91.822%	94.496%	90.708%	92.078%	91.307%	73.548%
σ		n/a	n/a	n/a	n/a	n/a	1.001%
%RSD		2.144	2.587	3.397	3.181	2.541	1.361

CCB8 5/9/2016 8:52:27 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

Run	Time	6Li	9Be	10B	11B	13C	23Na	25Mg	26Mg
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:51:35	117.250%	-0.026	-2.396	-3.002	0.000	12.450	11.410	11.650
2	20:51:43	106.058%	0.004	-2.607	-3.112	0.000	11.890	11.030	10.360
3	20:51:51	113.349%	-0.013	-3.072	-3.028	0.000	11.660	10.820	11.370
x		112.219%	-0.012	-2.692	-3.047	0.000	12.000	11.090	11.120
σ		5.681%	0.015	0.346	0.057	0.000	0.404	0.295	0.681
%RSD		5.063	129.900	12.840	1.875	0.000	3.363	2.660	6.123

Run	Time	27Al	28Si	37Cl	39K	43Ca	44Ca	45Sc	47Ti
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:51:35	0.892	4.809	0.000	9.253	9.568	11.160	112.644%	0.030
2	20:51:43	0.857	2.785	0.000	8.342	11.160	10.600	110.784%	0.097
3	20:51:51	0.917	5.566	0.000	9.311	9.348	9.730	103.606%	0.138
x		0.889	4.387	0.000	8.969	10.030	10.500	109.011%	0.088
σ		0.030	1.438	0.000	0.543	0.989	0.719	4.772%	0.055
%RSD		3.377	32.790	0.000	6.060	9.860	6.850	4.378	62.110

Run	Time	51V	52Cr	55Mn	56Fe	57Fe	59Co	60Ni	63Cu
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:51:35	0.077	0.019	0.126	10.070	10.680	0.022	0.015	-0.017
2	20:51:43	0.076	0.015	0.114	8.999	8.651	0.017	0.013	-0.020
3	20:51:51	0.061	0.016	0.113	8.296	7.295	0.019	-0.008	0.012
x		0.071	0.017	0.118	9.122	8.875	0.019	0.007	-0.008
σ		0.009	0.002	0.007	0.894	1.702	0.002	0.013	0.017
%RSD		12.800	11.310	6.214	9.805	19.180	10.950	192.300	209.800

Run	Time	65Cu	66Zn	68Zn	75As	78Se	82Se	83Kr	88Sr
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:51:35	-0.013	-0.032	0.053	0.051	0.194	0.288	0.000	0.031
2	20:51:43	-0.018	-0.066	0.175	0.045	0.122	0.260	0.000	0.018
3	20:51:51	-0.010	0.050	0.115	0.054	0.056	0.214	0.000	0.025
x		-0.014	-0.016	0.114	0.050	0.124	0.254	0.000	0.025
σ		0.004	0.059	0.061	0.004	0.069	0.038	0.000	0.007
%RSD		29.280	374.400	53.390	8.581	56.060	14.800	0.000	28.070

Run	Time	89Y	95Mo	98Mo	103Rh	107Ag	109Ag	111Cd	114Cd
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:51:35	88.224%	0.496	0.567	90.588%	-0.009	0.017	-0.093	0.021
2	20:51:43	89.241%	0.444	0.462	91.718%	-0.013	0.022	-0.128	0.021
3	20:51:51	90.295%	0.411	0.395	91.318%	-0.007	0.013	-0.146	0.020
x		89.253%	0.450	0.475	91.208%	-0.010	0.017	-0.122	0.021
σ		1.036%	0.042	0.087	0.573%	0.003	0.004	0.027	0.001
%RSD		1.161	9.421	18.290	0.628	31.510	25.370	22.210	3.030

Run	Time	115In	118Sn	121Sb	123Sb	135Ba	137Ba	159Tb	165Ho
		ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1	20:51:35	82.585%	0.136	0.121	-0.008	0.035	0.064	84.223%	83.125%
2	20:51:43	82.970%	0.121	0.111	-0.065	0.066	0.065	85.731%	84.177%
3	20:51:51	85.811%	0.114	0.084	-0.065	0.092	0.060	83.797%	82.967%
x		83.789%	0.124	0.106	-0.046	0.065	0.063	84.584%	83.423%
σ		1.762%	0.011	0.019	0.033	0.029	0.003	1.016%	0.658%
%RSD		2.103	9.060	18.120	72.150	44.230	4.275	1.202	0.788

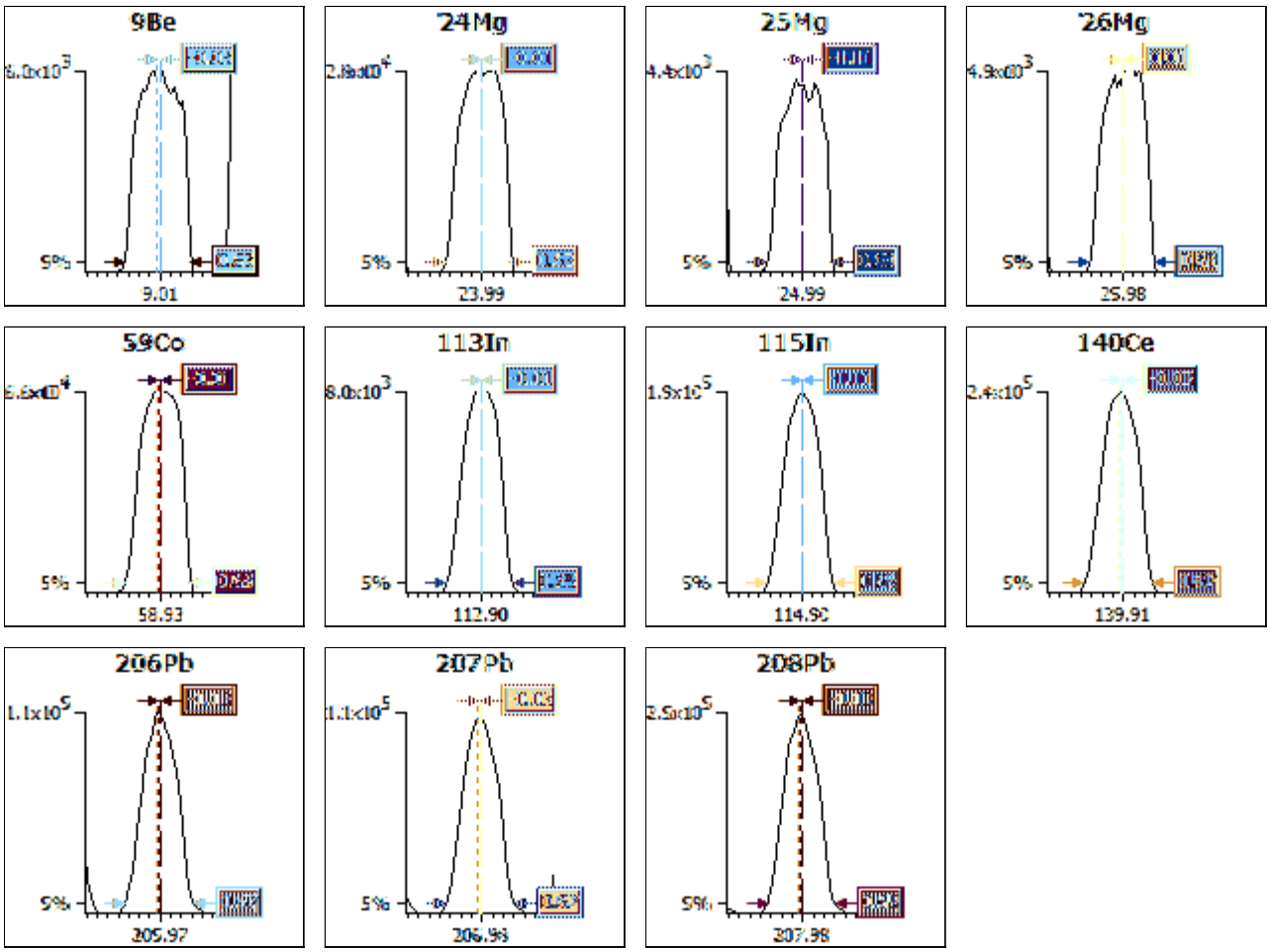
Run	Time	203Tl	205Tl	206Pb	207Pb	208Pb	209Bi
		ppb	ppb	ppb	ppb	ppb	ppb
1	20:51:35	0.016	0.017	0.128	0.103	0.103	84.518%
2	20:51:43	0.018	0.012	0.101	0.098	0.100	85.476%
3	20:51:51	0.016	0.015	0.107	0.114	0.101	87.739%
x		0.016	0.015	0.112	0.105	0.101	85.911%
σ		0.001	0.002	0.014	0.008	0.002	1.654%
%RSD		6.903	14.380	12.650	8.065	1.720	1.926

Performance Report

Sample details
Sample name : ITUNE
Acquired at : 5/9/2016 7:24:03 AM
Report name : EPA ILMO5.2/6020A 2.1 [3/15/2013 11:49:53 AM]

Mass Calibration verification

Acquisition parameters
Sweeps : 25
Dwell : 2.0 mSecs
Point spacing : 0.02 amu
Peak width measured at 5% of the peak maximum



Analyte	Limits			Results	
	Max. width	Min. width	Max. error	Peak width	Peak error
9Be	0.90	0.45	0.10	0.63	-0.03
24Mg	0.90	0.45	0.10	0.63	-0.01
25Mg	0.90	0.45	0.10	0.63	-0.01
26Mg	0.90	0.45	0.10	0.63	0.01
59Co	0.90	0.45	0.10	0.63	-0.01
113In	0.90	0.45	0.10	0.65	-0.01
115In	0.90	0.45	0.10	0.65	-0.01
140Ce	0.90	0.45	0.10	0.67	-0.03
206Pb	0.90	0.45	0.10	0.67	-0.03
207Pb	0.90	0.45	0.10	0.67	-0.03
208Pb	0.90	0.45	0.10	0.65	-0.03

Sample details
Sample name : ITUNE
Acquired at : 5/9/2016 7:24:03 AM
Report name : EPA ILMO5.2/6020A 2.1 [3/15/2013 11:49:53 AM]

Tune conditions

Major	
Extraction	-129
Lens 1	2.0
Focus	26.3
D1	-41.6
Pole Bias	3.0
Hexapole Bias	-3.0
Nebuliser	0.92
Sampling Depth	150

Minor	
Lens 2	-21.2
Lens 3	-165.5
Forward power	1349
Horizontal	58
Vertical	449
D2	-160
DA	-80.0
Cool	13.0
Auxiliary	0.90

Global	
Standard resolution	n/a
High resolution	n/a
Analogue Detector	n/a
PC Detector	n/a

Add. Gases	
He/H2	0.00
He/NH3	0.00

Sensitivity and stability results

Acquisition parameters
Sweeps : 150

Run	Time	5Bkg	9Be	24Mg	25Mg	26Mg	56Ar O	59Co	137Ba++
Dwell (mSecs)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Limits	%RSD	-	5.0%	5.0%	5.0%	5.0%	-	5.0%	-
	Countrate	-	>500	>500	>500	>500	-	>5000	-
1	7:24:50 AM	0	5619	25853	3531	4151	128098	62591	1
2	7:26:15 AM	0	5323	24829	3437	4059	123845	60755	3
3	7:27:40 AM	0	5227	23915	3327	4037	119898	60083	3
4	7:29:05 AM	0	5202	23948	3362	3889	118492	60130	3
5	7:30:30 AM	0	5076	23489	3281	3781	116455	58838	1
x		0	5289	24407	3388	3983	121358	60479	2
σ		0.00	204.00	943.73	98.36	147.17	4637.03	1369.98	1.25
%RSD		0.000	3.857	3.867	2.903	3.695	3.821	2.265	62.361

Run	Time	138Ba++	101Bkg	113In	115In	138Ba	140Ce	156Ce O	206Pb
Dwell (mSecs)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Limits	%RSD	-	-	5.0%	5.0%	-	5.0%	-	5.0%
	Countrate	-	-	>200	>5000	-	>10000	-	>500
1	7:24:50 AM	22	0	8373	190661	3075	237796	2569	114306
2	7:26:15 AM	22	0	8209	188568	3030	235336	2559	113597
3	7:27:40 AM	24	0	8327	189761	2961	236320	2543	113275
4	7:29:05 AM	22	0	8268	189416	2918	234833	2548	113557
5	7:30:30 AM	21	0	8239	188825	2946	234299	2513	112703
x		22	0	8283	189446	2986	235717	2546	113488
σ		1.02	0.04	66.72	826.70	64.84	1380.44	21.09	580.43
%RSD		4.641	136.931	0.805	0.436	2.171	0.586	0.828	0.511

Run	Time	207Pb	208Pb	220Bkg
Dwell (mSecs)		0.0	0.0	0.0
Limits	%RSD	5.0%	5.0%	-
	Countrate	>500	>500	<2500
1	7:24:50 AM	104375	252421	0
2	7:26:15 AM	103194	250974	0
3	7:27:40 AM	103576	251146	0
4	7:29:05 AM	102828	249778	0
5	7:30:30 AM	102596	248966	0
x		103314	250657	0
σ		699.96	1330.58	0.04
%RSD		0.678	0.531	136.931

Ratio results

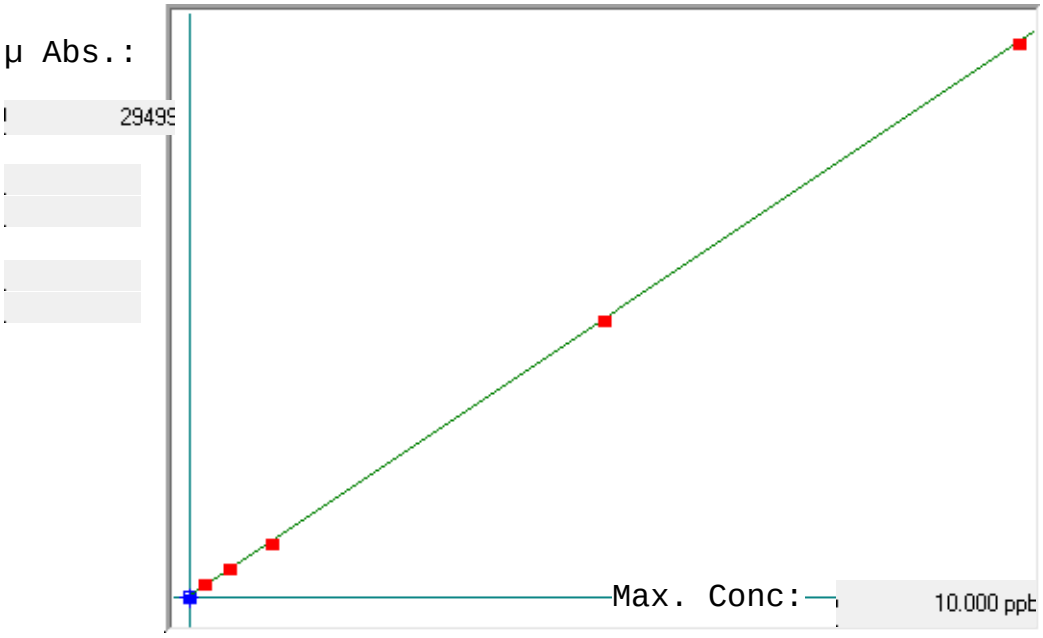
Run	Time	156Ce O/140Ce
Ratio limits		<0.0500
1	7:24:50 AM	0
2	7:26:15 AM	0

3	7:27:40 AM	0
4	7:29:05 AM	0
5	7:30:30 AM	0
x		0.0108
σ		0.00
%RSD		0.5647

Result : The performance report passed.

METHG

Linear



A= 0.0000e+000

B= 3.3961e-004

C= -1.6263e-002

Rho= 0.9999701

Accept= Accepted

Accepted Date=

04/28/16 12:27

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
0.0 ppb	0.000	-0.020	-0.020	-10	0.000	-10				
0.2 ppb	0.200	0.250	0.050	783	0.0 %	783				
0.5 ppb	0.500	0.510	0.010	1549	0.0 %	1549				
1.0 ppb	1.000	0.957	-0.043	2867	0.0 %	2867				
5.0 ppb	5.000	5.001	0.001	14774	0.0 %	14774				
10 ppb	10.000	10.002	0.002	29499	0.0 %	29499				

R60428E-Raw

Method: METHG Operator: Admin Date of Analysis: 28 Apr 2016 12:15:34

Seq ID	Type	Sample ID	Extended ID	Date	Conc.	Units	Stnd Conc	µ Abs	Method	Chapter
4088	Std	0.0 ppb - 1		28 Apr 2016 12:15:53	-	ppb	0.0000	-10	METHG	R60428E
4089	Std	0.2 ppb - 1		28 Apr 2016 12:17:46	-	ppb	0.2000	783	METHG	R60428E
4090	Std	0.5 ppb - 1		28 Apr 2016 12:19:40	-	ppb	0.5000	1549	METHG	R60428E
4091	Std	1.0 ppb - 1		28 Apr 2016 12:21:35	-	ppb	1.0000	2867	METHG	R60428E
4092	Std	5.0 ppb - 1		28 Apr 2016 12:23:31	-	ppb	5.0000	14774	METHG	R60428E
4093	Std	10 ppb - 1		28 Apr 2016 12:25:28	-	ppb	10.0000	29499	METHG	R60428E
4094	CK STND	ICV - 1		28 Apr 2016 12:27:47	101.5% 2.5386	ppb	-	7523	METHG	R60428E
4095	CK STND	ICB - 1		28 Apr 2016 12:30:15	-0.1008	ppb	-	-249	METHG	R60428E
4096	CK STND	CRA - 1		28 Apr 2016 12:32:17	111.1% 0.2221	ppb	-	702	METHG	R60428E
4097	CK STND	CCV - 1		28 Apr 2016 12:34:09	102.9% 5.1427	ppb	-	15191	METHG	R60428E
4098	CK STND	CCB - 1		28 Apr 2016 12:36:04	-0.1100	ppb	-	-276	METHG	R60428E
4099	SMPL	MB 180-174675/1-A - 1		28 Apr 2016 12:38:18	-0.0169	ppb	-	-2	METHG	R60428E
4100	SMPL	LCS 180-174675/2-A - 1		28 Apr 2016 12:40:10	2.7801	ppb	-	8234	METHG	R60428E
4101	SMPL	180-54214-J-1-A - 1		28 Apr 2016 12:42:01	-0.1032	ppb	-	-256	METHG	R60428E
4102	SMPL	180-54214-J-1-B MS - 1		28 Apr 2016 12:44:08	1.1105	ppb	-	3318	METHG	R60428E
4103	SMPL	180-54214-J-1-C MSD - 1		28 Apr 2016 12:46:00	0.9377	ppb	-	2809	METHG	R60428E
4104	SMPL	180-54214-K-2-A - 1		28 Apr 2016 12:47:58	-0.1158	ppb	-	-293	METHG	R60428E
4105	SMPL	180-54205-L-1-A - 1		28 Apr 2016 12:49:55	0.0119	ppb	-	83	METHG	R60428E
4106	SMPL	MB 180-174624/1-A - 1		28 Apr 2016 12:51:47	0.0469	ppb	-	186	METHG	R60428E
4107	SMPL	LCS 180-174624/2-A - 1		28 Apr 2016 12:53:39	2.5817	ppb	-	7650	METHG	R60428E
4108	SMPL	600-129551-A-1-B - 1		28 Apr 2016 12:55:32	-0.1192	ppb	-	-303	METHG	R60428E
4109	CK STND	CCV - 1		28 Apr 2016 12:57:37	104.4% 5.2225	ppb	-	15426	METHG	R60428E
4110	CK STND	CCB - 1		28 Apr 2016 12:59:29	-0.0906	ppb	-	-219	METHG	R60428E
4111	SMPL	600-129551-A-2-B - 1		28 Apr 2016 13:01:44	0.0272	ppb	-	128	METHG	R60428E
4112	SMPL	600-129551-E-3-B - 1		28 Apr 2016 13:03:38	0.0231	ppb	-	116	METHG	R60428E
4113	SMPL	600-129551-C-3-B MS - 1		28 Apr 2016 13:05:32	0.7591	ppb	-	2283	METHG	R60428E
4114	SMPL	600-129551-E-3-C MSD - 1		28 Apr 2016 13:07:24	0.5716	ppb	-	1731	METHG	R60428E
4115	SMPL	600-129551-B-4-B - 1		28 Apr 2016 13:09:25	-0.1158	ppb	-	-293	METHG	R60428E
4116	SMPL	600-129666-A-1-B - 1		28 Apr 2016 13:11:31	0.0279	ppb	-	130	METHG	R60428E
4117	SMPL	600-129666-A-2-B - 1		28 Apr 2016 13:13:23	0.0286	ppb	-	132	METHG	R60428E
4118	SMPL	600-129666-C-3-B - 1		28 Apr 2016 13:15:15	0.0435	ppb	-	176	METHG	R60428E
4119	SMPL	600-129666-C-4-B - 1		28 Apr 2016 13:17:07	0.0333	ppb	-	146	METHG	R60428E
4120	SMPL	600-129666-C-5-B - 1		28 Apr 2016 13:19:00	0.0194	ppb	-	105	METHG	R60428E
4121	CK STND	CCV - 1		28 Apr 2016 13:20:52	103.4% 5.1709	ppb	-	15274	METHG	R60428E
4122	CK STND	CCB - 1		28 Apr 2016 13:22:44	-0.0855	ppb	-	-204	METHG	R60428E
4123	SMPL	PB 180-174599/1-B - 1		28 Apr 2016 13:25:00	0.0034	ppb	-	58	METHG	R60428E
4124	SMPL	180-54201-B-1-A - 1		28 Apr 2016 13:26:53	0.0187	ppb	-	103	METHG	R60428E
4125	SMPL	180-54201-B-2-A - 1		28 Apr 2016 13:28:46	0.0218	ppb	-	112	METHG	R60428E
4126	SMPL	180-54201-B-3-A - 1		28 Apr 2016 13:30:40	0.0153	ppb	-	93	METHG	R60428E
4127	SMPL	180-54201-B-4-A - 1		28 Apr 2016 13:32:34	0.0201	ppb	-	107	METHG	R60428E
4128	SMPL	180-54201-B-5-A - 1		28 Apr 2016 13:34:25	0.0211	ppb	-	110	METHG	R60428E
4129	SMPL	180-54198-G-1-A - 1		28 Apr 2016 13:36:17	0.0248	ppb	-	121	METHG	R60428E
4130	SMPL	180-54198-G-2-A - 1		28 Apr 2016 13:38:09	0.0163	ppb	-	96	METHG	R60428E
4131	SMPL	180-54206-C-2-A - 1		28 Apr 2016 13:40:01	0.0381	ppb	-	160	METHG	R60428E
4132	SMPL	180-54206-C-3-A - 1		28 Apr 2016 13:41:53	0.0323	ppb	-	143	METHG	R60428E
4133	CK STND	CCV - 1		28 Apr 2016 13:43:45	101.5% 5.0748	ppb	-	14991	METHG	R60428E
4134	CK STND	CCB - 1		28 Apr 2016 13:45:38	-0.1005	ppb	-	-248	METHG	R60428E
4135	SMPL	180-54231-D-1-A - 1		28 Apr 2016 13:47:53	-0.0003	ppb	-	47	METHG	R60428E
4136	SMPL	180-54231-D-2-A - 1		28 Apr 2016 13:49:46	0.0116	ppb	-	82	METHG	R60428E
4137	SMPL	MB 180-174718/1-A - 1		28 Apr 2016 13:51:38	0.0272	ppb	-	128	METHG	R60428E
4138	SMPL	LCS 180-174718/2-A - 1		28 Apr 2016 13:53:30	2.6469	ppb	-	7842	METHG	R60428E
4139	SMPL	600-129836-A-1-C - 1		28 Apr 2016 13:55:24	-0.1103	ppb	-	-277	METHG	R60428E
4140	SMPL	600-129836-A-1-D MS - 1		28 Apr 2016 13:57:33	1.0206	ppb	-	3053	METHG	R60428E
4141	SMPL	600-129836-A-1-E MSD - 1		28 Apr 2016 13:59:26	0.9302	ppb	-	2787	METHG	R60428E
4142	SMPL	600-129836-A-2-C - 1		28 Apr 2016 14:01:24	-0.1202	ppb	-	-306	METHG	R60428E
4143	SMPL	600-129836-C-3-C - 1		28 Apr 2016 14:03:21	0.0075	ppb	-	70	METHG	R60428E
4144	SMPL	600-129836-C-4-C - 1		28 Apr 2016 14:05:13	-0.0027	ppb	-	40	METHG	R60428E
4145	CK STND	CCV - 1		28 Apr 2016 14:07:05	99.6% 4.9787	ppb	-	14708	METHG	R60428E
4146	CK STND	CCB - 1		28 Apr 2016 14:08:58	-0.0662	ppb	-	-147	METHG	R60428E
4147	SMPL	600-129836-C-5-C - 1		28 Apr 2016 14:11:16	-0.0163	ppb	-	0	METHG	R60428E
4148	SMPL	600-129836-C-6-C - 1		28 Apr 2016 14:13:09	0.0075	ppb	-	70	METHG	R60428E
4149	SMPL	600-129836-C-7-C - 1		28 Apr 2016 14:15:01	-0.0152	ppb	-	3	METHG	R60428E
4150	SMPL	600-129836-C-8-C - 1		28 Apr 2016 14:16:54	-0.0081	ppb	-	24	METHG	R60428E
4151	SMPL	600-129741-A-1-C - 1		28 Apr 2016 14:18:47	-0.0003	ppb	-	47	METHG	R60428E
4152	SMPL	600-129741-A-2-C - 1		28 Apr 2016 14:20:40	0.0106	ppb	-	79	METHG	R60428E
4153	SMPL	600-129741-A-3-C - 1		28 Apr 2016 14:22:32	0.0187	ppb	-	103	METHG	R60428E
4154	SMPL	600-129741-A-4-C - 1		28 Apr 2016 14:24:26	0.0106	ppb	-	79	METHG	R60428E
4155	SMPL	600-129741-A-5-C - 1		28 Apr 2016 14:26:20	0.0017	ppb	-	53	METHG	R60428E
4156	SMPL	600-129741-A-6-C - 1		28 Apr 2016 14:28:12	0.0068	ppb	-	68	METHG	R60428E
4157	CK STND	CCV - 1		28 Apr 2016 14:30:04	95.4% 4.7701	ppb	-	14094	METHG	R60428E
4158	CK STND	CCB - 1		28 Apr 2016 14:31:57	-0.1069	ppb	-	-267	METHG	R60428E
4159	SMPL	600-129728-B-5-C - 1		28 Apr 2016 14:34:13	-0.0251	ppb	-	-26	METHG	R60428E
4160	SMPL	600-129728-B-6-C - 1		28 Apr 2016 14:36:05	0.0058	ppb	-	65	METHG	R60428E
4161	SMPL	PB 180-174645/1-D - 1		28 Apr 2016 14:37:57	-0.0088	ppb	-	22	METHG	R60428E
4162	SMPL	180-54136-B-1-C - 1		28 Apr 2016 14:39:49	0.0381	ppb	-	160	METHG	R60428E
4163	SMPL	180-54136-B-2-M - 1		28 Apr 2016 14:41:42	0.0455	ppb	-	182	METHG	R60428E
4164	SMPL	180-54136-B-2-N MS - 1		28 Apr 2016 14:43:34	4.7100	ppb	-	13917	METHG	R60428E
4165	SMPL	180-54136-B-2-O MSD - 1		28 Apr 2016 14:45:28	4.7494	ppb	-	14033	METHG	R60428E
4166	SMPL	180-54136-B-3-C - 1		28 Apr 2016 14:47:50	-0.1596	ppb	-	-422	METHG	R60428E
4167	SMPL	MB 180-174623/1-A - 1		28 Apr 2016 14:50:13	0.0174	ppb	-	99	METHG	R60428E
4168	SMPL	LCS 180-174623/2-A - 1		28 Apr 2016 14:52:05	2.6605	ppb	-	7882	METHG	R60428E
4169	CK STND	CCV - 1		28 Apr 2016 14:53:57	94.3% 4.7141	ppb	-	13929	METHG	R60428E
4170	CK STND	CCB - 1		28 Apr 2016 14:56:06	-0.1035	ppb	-	-257	METHG	R60428E
4171	SMPL	LB 180-174497/5-C - 1		28 Apr 2016 14:58:21	0.0381	ppb	-	160	METHG	R60428E
4172	SMPL	180-54128-A-1-I - 1		28 Apr 2016 15:00:14	0.0568	ppb	-	215	METHG	R60428E
4173	SMPL	LB 180-174498/2-C - 1		28 Apr 2016 15:02:07	0.0428	ppb	-	174	METHG	R60428E
4174	SMPL	180-54156-A-1-B - 1		28 Apr 2016 15:03:59	0.0167	ppb	-	97	METHG	R60428E
4175	SMPL	180-54159-A-1-B - 1		28 Apr 2016 15:05:52	0.0191	ppb	-	104	METHG	R60428E
4176	SMPL	180-54161-A-1-B - 1		28 Apr 2016 15:07:45	0.0208	ppb	-	109	METHG	R60428E
4177	SMPL	180-54174-A-1-B - 1		28 Apr 2016 15:09:38	0.0109	ppb	-	80	METHG	R60428E
4178	SMPL	180-54174-A-2-B - 1		28 Apr 2016 15:11:31	0.0126	ppb	-	85	METHG	R60428E
4179	SMPL	180-54175-A-1-B - 1		28 Apr 2016 15:13:24	0.0197	ppb	-	106	METHG	R60428E
4180	SMPL	MB 180-174701/1-A - 1		28 Apr 2016 15:15:18	0.0445	ppb	-	179	METHG	R60428E
4181	CK STND	CCV - 1		28 Apr 2016 15:17:11	96.1% 4.8044	ppb	-	14195	METHG	R60428E
4182	CK STND	CCB - 1		28 Apr 2016 15:19:04	-0.0811	ppb	-	-191	METHG	R60428E
4183	SMPL	180-54164-A-1-F - 1		28 Apr 2016 15:21:21	-0.0013	ppb	-	44	METHG	R60428E
4184	SMPL	LB 180-174628/9-B - 1		28 Apr 2016 15:23:13	0.0089	ppb	-	74	METHG	R60428E
4185	SMPL	LCS 180-174701/2-A - 1		28 Apr 2016 15:25:06	2.7199	ppb	-	8057	METHG	R60428E
4186	SMPL	LCSD 180-174701/3-A - 1		28 Apr 2016 15:26:59	2.4072	ppb	-	7136	METHG	R60428E
4187	CK STND	CCV - 1		28 Apr 2016 15:29:07	93.8% 4.6900	ppb	-	13858	METHG	R60428E
4188	CK STND	CCB - 1		28 Apr 2016 15:31:15	-0.0961	ppb	-	-235	METHG	R60428E

Rack	Cup	Sample ID	Exten	Wt.	Vol.	Cup Action
1	1	MB 180-174675/1-A		1.0000	1.0000	
1	2	LCS 180-174675/2-A		1.0000	1.0000	
1	3	180-54214-J-1-A		1.0000	1.0000	
1	4	180-54214-J-1-B MS		1.0000	1.0000	
1	5	180-54214-J-1-C MSD		1.0000	1.0000	
1	6	180-54214-K-2-A		1.0000	1.0000	
1	7	180-54205-L-1-A		1.0000	1.0000	
1	8	MB 180-174624/1-A		1.0000	1.0000	
1	9	LCS 180-174624/2-A		1.0000	1.0000	
1	10	600-129551-A-1-B		1.0000	1.0000	
1	11	600-129551-A-2-B		1.0000	1.0000	
1	12	600-129551-E-3-B		1.0000	1.0000	
1	13	600-129551-C-3-B MS		1.0000	1.0000	
1	14	600-129551-E-3-C MSD		1.0000	1.0000	
1	15	600-129551-B-4-B		1.0000	1.0000	
1	16	600-129666-A-1-B		1.0000	1.0000	
1	17	600-129666-A-2-B		1.0000	1.0000	
1	18	600-129666-C-3-B		1.0000	1.0000	
1	19	600-129666-C-4-B		1.0000	1.0000	
1	20	600-129666-C-5-B		1.0000	1.0000	
1	21	PB 180-174599/1-B		1.0000	1.0000	
1	22	180-54201-B-1-A		1.0000	1.0000	
1	23	180-54201-B-2-A		1.0000	1.0000	
1	24	180-54201-B-3-A		1.0000	1.0000	
1	25	180-54201-B-4-A		1.0000	1.0000	
1	26	180-54201-B-5-A		1.0000	1.0000	
1	27	180-54198-G-1-A		1.0000	1.0000	
1	28	180-54198-G-2-A		1.0000	1.0000	
1	29	180-54206-C-2-A		1.0000	1.0000	
1	30	180-54206-C-3-A		1.0000	1.0000	
1	31	180-54231-D-1-A		1.0000	1.0000	
1	32	180-54231-D-2-A		1.0000	1.0000	
1	33	MB 180-174718/1-A		1.0000	1.0000	
1	34	LCS 180-174718/2-A		1.0000	1.0000	
1	35	600-129836-A-1-C		1.0000	1.0000	
1	36	600-129836-A-1-D MS		1.0000	1.0000	
1	37	600-129836-A-1-E MSD		1.0000	1.0000	
1	38	600-129836-A-2-C		1.0000	1.0000	
1	39	600-129836-C-3-C		1.0000	1.0000	
1	40	600-129836-C-4-C		1.0000	1.0000	
1	41	600-129836-C-5-C		1.0000	1.0000	
1	42	600-129836-C-6-C		1.0000	1.0000	
1	43	600-129836-C-7-C		1.0000	1.0000	
1	44	600-129836-C-8-C		1.0000	1.0000	
1	45	600-129741-A-1-C		1.0000	1.0000	

Rack	Cup	Sample ID	Exten	Wt.	Vol.	Cup Action
1	46	600-129741-A-2-C		1.0000	1.0000	
1	47	600-129741-A-3-C		1.0000	1.0000	
1	48	600-129741-A-4-C		1.0000	1.0000	
1	49	600-129741-A-5-C		1.0000	1.0000	
1	50	600-129741-A-6-C		1.0000	1.0000	
1	51	600-129728-B-5-C		1.0000	1.0000	
1	52	600-129728-B-6-C		1.0000	1.0000	
1	53	PB 180-174645/1-D		1.0000	1.0000	
1	56	180-54136-B-1-C		1.0000	1.0000	
1	57	180-54136-B-2-M		1.0000	1.0000	
1	58	180-54136-B-2-N MS		1.0000	1.0000	
1	59	180-54136-B-2-O MSD		1.0000	1.0000	
1	60	180-54136-B-3-C		1.0000	1.0000	
1	54	MB 180-174623/1-A		1.0000	1.0000	
1	55	LCS 180-174623/2-A		1.0000	1.0000	
2	1	LB 180-174497/5-C		1.0000	1.0000	
2	2	180-54128-A-1-I		1.0000	1.0000	
2	3	LB 180-174498/2-C		1.0000	1.0000	
2	7	180-54156-A-1-B		1.0000	1.0000	
2	8	180-54159-A-1-B		1.0000	1.0000	
2	9	180-54161-A-1-B		1.0000	1.0000	
2	10	180-54174-A-1-B		1.0000	1.0000	
2	11	180-54174-A-2-B		1.0000	1.0000	
2	12	180-54175-A-1-B		1.0000	1.0000	
2	4	MB 180-174701/1-A		1.0000	1.0000	
2	13	180-54164-A-1-F		1.0000	1.0000	
2	14	LB 180-174628/9-B		1.0000	1.0000	
2	5	LCS 180-174701/2-A		1.0000	1.0000	
2	6	LCSD 180-174701/3-A		1.0000	1.0000	
2	15			1.0000	1.0000	
2	16			1.0000	1.0000	
2	17			1.0000	1.0000	
2	18			1.0000	1.0000	
2	19			1.0000	1.0000	
2	20			1.0000	1.0000	
2	21			1.0000	1.0000	
2	22			1.0000	1.0000	
2	23			1.0000	1.0000	
2	24			1.0000	1.0000	
2	25			1.0000	1.0000	
2	26			1.0000	1.0000	
2	27			1.0000	1.0000	
2	28			1.0000	1.0000	
2	29			1.0000	1.0000	
2	30			1.0000	1.0000	

METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Batch Number: 174710 Batch Start Date: 04/28/16 09:15 Batch Analyst: Anderson, Alexis N

Batch Method: 3005A Batch End Date: 04/28/16 12:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MTAPITTICPMS 00022	MTAPITTMSA 00028	MTAPITTMSC 00034	
MB 180-174710/1		3005A, 6020A		50 mL	50 mL				
LCS 180-174710/2		3005A, 6020A		50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	
LCSD 180-174710/3		3005A, 6020A		50 mL	50 mL	0.5 mL	0.5 mL	0.5 mL	
PB 180-174645/1-A		3005A, 6020A		50 mL	50 mL				
600-129836-A-1-A	ER-4	3005A, 6020A	D	50 mL	50 mL				
600-129836-A-2-A	FB-4	3005A, 6020A	D	50 mL	50 mL				
600-129836-C-3-A	MW-01	3005A, 6020A	D	50 mL	50 mL				
600-129836-C-4-A	MW-02-DUP	3005A, 6020A	D	50 mL	50 mL				
600-129836-C-5-A	MW-02	3005A, 6020A	D	50 mL	50 mL				
600-129836-C-6-A	MW-03	3005A, 6020A	D	50 mL	50 mL				
600-129836-C-7-A	MW-20	3005A, 6020A	D	50 mL	50 mL				
600-129836-C-8-A	MW-21	3005A, 6020A	D	50 mL	50 mL				

Batch Notes	
Batch Comment	Metals D2
Lot # of hydrochloric acid	2.5ml 1896333
Lot # of Nitric Acid	1ml 1905529
Hot Block ID	HB3
Pipette ID	J1102764U
Analyst ID - Spike Witness Analyst	ANA
Thermometer ID	32112640 B6 CF0.0
Digestion Tube/Cup ID	ENVEXPRESS 1504103
Uncorrected Temperature	95C Celsius

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Batch Number: 174710 Batch Start Date: 04/28/16 09:15 Batch Analyst: Anderson, Alexis N

Batch Method: 3005A Batch End Date: 04/28/16 12:30

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Batch Number: 174702 Batch Start Date: 04/28/16 08:25 Batch Analyst: Reichenbach, Emilie V

Batch Method: 7470A Batch End Date: 04/28/16 10:25

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MHgworkingCal 01276	MHgWorkingicv 01245		
ICV 180-174702/7		7470A, 7470A		50 mL	50 mL		1.25 mL		
ICB 180-174702/8		7470A, 7470A		50 mL	50 mL				
CRA 180-174702/9		7470A, 7470A		50 mL	50 mL	0.1 mL			
CCV 180-174702/10		7470A, 7470A		50 mL	50 mL	2.5 mL			
CCB 180-174702/11		7470A, 7470A		50 mL	50 mL				

Batch Notes	
Hydroxylamine Hydrochloride ID	3ml 1918826 HG-DISP-C6
Batch Comment	HG-DISP-05C4676
Sulfuric Acid Lot Number	2.5ml 1905544 HG-DISP-7N8924
Lot # of Nitric Acid	1.25ml 1905543 HG-DISP-N1
Hot Block ID	HB3
Potassium Persulfate ID	4ml 1917921 HG-DISP-KS4
Potassium Permanganate ID	7.5ml 1919634 HG-DISP-KMNO4
Pipette ID	L1201611U
Stannous Chloride ID	1921262
Analyst ID - Spike Witness Analyst	EVR
Temperature	95C
Thermometer ID	IP33-14 0.0 E4
Digestion Tube/Cup ID	ENV.EXPRESS 1504103

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Batch Number: 174718 Batch Start Date: 04/28/16 10:25 Batch Analyst: Reichenbach, Emilie V

Batch Method: 7470A Batch End Date: 04/28/16 12:25

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MHgworkingCal 01276			
MB 180-174718/1		7470A, 7470A		50 mL	50 mL				
LCS 180-174718/2		7470A, 7470A		50 mL	50 mL	1.25 mL			
600-129836-A-1-A	ER-4	7470A, 7470A	D	50 mL	50 mL				
600-129836-A-1-A MS	ER-4	7470A, 7470A	D	50 mL	50 mL	0.5 mL			
600-129836-A-1-A MSD	ER-4	7470A, 7470A	D	50 mL	50 mL	0.5 mL			
600-129836-A-2-A	FB-4	7470A, 7470A	D	50 mL	50 mL				
600-129836-C-3-A	MW-01	7470A, 7470A	D	50 mL	50 mL				
600-129836-C-4-A	MW-02-DUP	7470A, 7470A	D	50 mL	50 mL				
600-129836-C-5-A	MW-02	7470A, 7470A	D	50 mL	50 mL				
600-129836-C-6-A	MW-03	7470A, 7470A	D	50 mL	50 mL				
600-129836-C-7-A	MW-20	7470A, 7470A	D	50 mL	50 mL				
600-129836-C-8-A	MW-21	7470A, 7470A	D	50 mL	50 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 600-129836-1

SDG No.:

Batch Number: 174718 Batch Start Date: 04/28/16 10:25 Batch Analyst: Reichenbach, Emilie V

Batch Method: 7470A Batch End Date: 04/28/16 12:25

Batch Notes	
Hydroxylamine Hydrochloride ID	3ml 1918826 HG-DISP-C6
Batch Comment	HG-DISP-05C4676
Sulfuric Acid Lot Number	2.5ml 1905544 HG-DISP-7N8924
Lot # of Nitric Acid	1.25ml 1905543 HG-DISP-N1
Hot Block ID	HB2
Potassium Persulfate ID	4ml 1923366 DISP-KS4
Potassium Permanganate ID	7.5ml 1922819 HG-DISP-KMNO4
Pipette ID	L1201611U
Stannous Chloride ID	1921262
Analyst ID - Spike Witness Analyst	EVR
Temperature	95C
Thermometer ID	IP29-14 0.0 E4
Digestion Tube/Cup ID	ENV.EXPRESS 1504103

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-129836-1

SDG No.:

Project: Jones Road Groundwater Plume

Client Sample ID	Lab Sample ID
MW-01	600-129836-3
MW-02-DUP	600-129836-4
MW-02	600-129836-5
MW-03	600-129836-6
MW-20	600-129836-7
MW-21	600-129836-8

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-01
Lab Sample ID: 600-129836-3
Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 09:05
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	7.35	0.200	0.0675	mg/L			1	350.1
	Nitrate Nitrite as N	0.0170	0.0500	0.0170	mg/L	U		1	353.2
14265-44-2	Orthophosphate	16.8	1.25	0.259	mg/L		H	25	4500 P E-1999
	Orthophosphorus as PO4	51.6	3.83	0.794	mg/L		H	25	4500 P E-1999
7440-44-0	Total Organic Carbon	1690	100	43.7	mg/L			100	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-02-DUP
Lab Sample ID: 600-129836-4
Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 15:25
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.555	0.200	0.0675	mg/L			1	350.1
	Nitrate Nitrite as N	0.0170	0.0500	0.0170	mg/L	U		1	353.2
14265-44-2	Orthophosphate	4.01	1.25	0.259	mg/L		H	25	4500 P E-1999
	Orthophosphorus as PO4	12.3	3.83	0.794	mg/L		H	25	4500 P E-1999
7440-44-0	Total Organic Carbon	94.0	4.00	1.75	mg/L			4	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-02
Lab Sample ID: 600-129836-5
Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 15:25
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.517	0.200	0.0675	mg/L			1	350.1
	Nitrate Nitrite as N	0.0170	0.0500	0.0170	mg/L	U		1	353.2
14265-44-2	Orthophosphate	5.32	1.25	0.259	mg/L		H	25	4500 P E-1999
	Orthophosphorus as PO4	16.3	3.83	0.794	mg/L		H	25	4500 P E-1999
7440-44-0	Total Organic Carbon	89.9	4.00	1.75	mg/L			4	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-03
Lab Sample ID: 600-129836-6
Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 16:50
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	2.42	0.250	0.0850	mg/L			5	353.2
14265-44-2	Orthophosphate	0.314	0.0500	0.0104	mg/L		H	1	4500 P E-1999
	Orthophosphorus as PO4	0.963	0.153	0.0318	mg/L		H	1	4500 P E-1999
7440-44-0	Total Organic Carbon	14.1	4.00	1.75	mg/L			4	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-20
Lab Sample ID: 600-129836-7
Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 14:00
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	0.0170	0.0500	0.0170	mg/L	U		1	353.2
14265-44-2	Orthophosphate	0.0150	0.0500	0.0104	mg/L	J	H	1	4500 P E-1999
	Orthophosphorus as PO4	0.0461	0.153	0.0318	mg/L	J	H	1	4500 P E-1999
7440-44-0	Total Organic Carbon	5.29	4.00	1.75	mg/L			4	5310 D-2000

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-21
Lab Sample ID: 600-129836-8
Lab Name: TestAmerica Houston
Job No.: 600-129836-1
SDG ID.:
Matrix: Water
Date Sampled: 04/22/2016 10:55
Reporting Basis: WET
Date Received: 04/25/2016 09:49

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7664-41-7	Ammonia	0.0675	0.200	0.0675	mg/L	U		1	350.1
	Nitrate Nitrite as N	2.74	0.100	0.0340	mg/L			2	353.2
14265-44-2	Orthophosphate	0.0255	0.0500	0.0104	mg/L	J	H	1	4500 P E-1999
	Orthophosphorus as PO4	0.0783	0.153	0.0318	mg/L	J	H	1	4500 P E-1999
7440-44-0	Total Organic Carbon	1.28	1.00	0.437	mg/L			1	5310 D-2000

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Analyst: SC1 Batch Start Date: 05/10/2016

Reporting Units: mg/L Analytical Batch No.: 188226

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
9	ICV	10:51	Ammonia	5.158	5.00	103	90-110		WETSNH3ICV_00023
10	ICB	10:52	Ammonia	0.0675				U	
21	CCV	11:04	Ammonia	5.175	5.00	103	90-110		WETSNH3CAL_00012
22	CCB	11:05	Ammonia	0.0675				U	
33	CCV	11:18	Ammonia	5.123	5.00	102	90-110		WETSNH3CAL_00012
34	CCB	11:19	Ammonia	0.0675				U	
45	CCV	11:31	Ammonia	5.167	5.00	103	90-110		WETSNH3CAL_00012
46	CCB	11:32	Ammonia	0.0675				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Analyst: EAS Batch Start Date: 04/29/2016

Reporting Units: mg/L Analytical Batch No.: 187527

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	18:48	Nitrate Nitrite as N	1.000	1.00	100	90-110		WETSICINO2_00019
2	ICB	18:48	Nitrate Nitrite as N	0.0170				U	
13	CCV	18:48	Nitrate Nitrite as N	0.9990					
14	CCB	18:48	Nitrate Nitrite as N	0.0170				U	
25	CCV	18:48	Nitrate Nitrite as N	0.9890					
26	CCB	18:48	Nitrate Nitrite as N	0.0170				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Analyst: KRD Batch Start Date: 04/25/2016

Reporting Units: mg/L Analytical Batch No.: 187154

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
1	ICV	19:55	Orthophosphate	0.5258	0.500	105	90-110		WETSPHOSIS_00020
			Orthophosphorus as PO4	1.612	1.53	105	90-110		WETSPHOSIS_00020
2	ICB	19:55	Orthophosphate	0.0104				U	
			Orthophosphorus as PO4	0.0318				U	
12	CCV	19:55	Orthophosphate	0.5240	0.500	105	90-110		WETSPHOSCS_00022
			Orthophosphorus as PO4	1.607	1.53	105	90-110		WETSPHOSCS_00022
13	CCB	19:55	Orthophosphate	0.0104				U	
			Orthophosphorus as PO4	0.0318				U	
20	CCV	19:56	Orthophosphate	0.5467	0.500	109	90-110		WETSPHOSCS_00022
			Orthophosphorus as PO4	1.676	1.53	109	90-110		WETSPHOSCS_00022
21	CCB	19:56	Orthophosphate	0.0104				U	
			Orthophosphorus as PO4	0.0318				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Analyst: EC1 Batch Start Date: 05/10/2016

Reporting Units: mg/L Analytical Batch No.: 188280

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
7	ICV	11:36	Total Organic Carbon	10.92	10.0	109	85-115		TOCISCAL_00320
8	ICB	11:36	Total Organic Carbon	0.437				U	
19	CCV	11:36	Total Organic Carbon	11.28	10.0	113	85-115		TOCSLCS_00217
20	CCB	11:36	Total Organic Carbon	0.4630				J	
31	CCV	11:36	Total Organic Carbon	11.13	10.0	111	85-115		TOCSLCS_00217
32	CCB	11:36	Total Organic Carbon	0.437				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Analyst: EC1 Batch Start Date: 05/11/2016

Reporting Units: mg/L Analytical Batch No.: 188334

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICB	09:05	Total Organic Carbon	0.437				U	
19	CCV	09:05	Total Organic Carbon	10.81	10.0	108	85-115		TOCSLCS_00217
20	CCB	09:05	Total Organic Carbon	0.437				U	
23	CCV	09:05	Total Organic Carbon	10.75	10.0	108	85-115		TOCSLCS_00217
24	CCB	09:05	Total Organic Carbon	0.437				U	

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 188226 Date: 05/10/2016 10:53 Prep Batch: 188184 Date: 05/10/2016 06:56							
350.1	MB 600-188184/1-A	Ammonia	0.0675	U	mg/L	0.200	1
Batch ID: 187527 Date: 04/29/2016 18:48							
353.2	MB 600-187527/4	Nitrate Nitrite as N	0.0170	U	mg/L	0.0500	1
Batch ID: 187154 Date: 04/25/2016 19:55							
4500 P E-1999	MB 600-187154/3	Orthophosphate	0.0104	U	mg/L	0.0500	1
4500 P E-1999	MB 600-187154/3	Orthophosphorus as PO4	0.0318	U	mg/L	0.153	1
Batch ID: 188280 Date: 05/10/2016 11:36							
5310 D-2000	MB 600-188280/9	Total Organic Carbon	0.437	U	mg/L	1.00	1
Batch ID: 188334 Date: 05/11/2016 09:05							
5310 D-2000	MB 600-188334/9	Total Organic Carbon	0.437	U	mg/L	1.00	1

FORM III-IN

5-IN
MATRIX SPIKE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 188226	Date: 05/10/2016 11:12		Prep Batch: 188184			Date: 05/10/2016 06:56					
350.1	600-129836-3	Ammonia	7.35		mg/L						
350.1	600-129836-3 MS	Ammonia	12.06		mg/L	5.00	94	90-110			
Batch ID: 187527	Date: 04/29/2016 18:48										
353.2	600-129796-D-6	Nitrate Nitrite as N	0.419		mg/L						F1
353.2	600-129796-D-6 MS	Nitrate Nitrite as N	1.223		mg/L	1.00	80	80-120			
Batch ID: 187154	Date: 04/25/2016 19:55										
4500 P E-1999	600-129836-5	Orthophosphate	5.32		mg/L						H
4500 P E-1999	600-129836-5 MS	Orthophosphate	17.78		mg/L	12.5	100	75-125			
4500 P E-1999	600-129836-5	Orthophosphorus as PO4	16.3		mg/L						H
4500 P E-1999	600-129836-5 MS	Orthophosphorus as PO4	54.51		mg/L	38.3	100	75-125			
Batch ID: 188280	Date: 05/10/2016 11:36										
5310 D-2000	600-130341-C-1	Total Organic Carbon	10.8		mg/L						
5310 D-2000	600-130341-C-1 MS	Total Organic Carbon	22.08		mg/L	10.0	113	80-120			
Batch ID: 188334	Date: 05/11/2016 09:05										
5310 D-2000	600-129836-8	Total Organic Carbon	1.28		mg/L						
5310 D-2000	600-129836-8 MS	Total Organic Carbon	11.82		mg/L	10.0	105	80-120			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

5-IN
MATRIX SPIKE DUPLICATE SAMPLE RECOVERY
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 188226	Date: 05/10/2016 11:13		Prep Batch: 188184			Date: 05/10/2016 06:56					
350.1	600-129836-3 MSD	Ammonia	12.24		mg/L	5.00	98	90-110	2	20	
Batch ID: 187527	Date: 04/29/2016 18:48										
353.2	600-129796-D-6 MSD	Nitrate Nitrite as N	1.139		mg/L	1.00	72	80-120	7	20	F1
Batch ID: 187154	Date: 04/25/2016 19:56										
4500 P E-1999	600-129836-5 MSD	Orthophosphate	17.73		mg/L	12.5	99	75-125	0	20	
4500 P E-1999	600-129836-5 MSD	Orthophosphorus as PO4	54.38		mg/L	38.3	99	75-125	0	20	
Batch ID: 188280	Date: 05/10/2016 11:36										
5310 D-2000	600-130341-C-1 MSD	Total Organic Carbon	21.81		mg/L	10.0	110	80-120	1	20	
Batch ID: 188334	Date: 05/11/2016 09:05										
5310 D-2000	600-129836-8 MSD	Total Organic Carbon	12.05		mg/L	10.0	108	80-120	2	20	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM V-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 188226	Date: 05/10/2016 10:54		Prep Batch: 188184			Date: 05/10/2016 06:56					
						LCS Source: WETSNH3ICV_00023					
350.1	LCS 600-188184/2-A	Ammonia	4.972		mg/L	5.00	99	90-110			
Batch ID: 187527	Date: 04/29/2016 18:48										
						LCS Source: WETSICINO2_00019					
353.2	LCS 600-187527/5	Nitrate Nitrite as N	0.9980		mg/L	1.00	100	90-110			
Batch ID: 187154	Date: 04/25/2016 19:55										
						LCS Source: WETSPHOSIS_00020					
4500 P E-1999	LCS 600-187154/4	Orthophosphate	0.5275		mg/L	0.500	105	90-110			
4500 P E-1999	LCS 600-187154/4	Orthophosphorus as PO4	1.617		mg/L	1.53	105	90-110			
Batch ID: 188280	Date: 05/10/2016 11:36										
						LCS Source: TOCISCAL_00320					
5310 D-2000	LCS 600-188280/10	Total Organic Carbon	10.85		mg/L	10.0	108	85-115			
Batch ID: 188334	Date: 05/11/2016 09:05										
						LCS Source: TOCISCAL_00320					
5310 D-2000	LCS 600-188334/10	Total Organic Carbon	10.67		mg/L	10.0	107	85-115			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 MDL Date: 04/30/2014 10:41

Prep Method: 350.1

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ammonia		0.2	0.067487

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: WC07

Method: 350.1 XMDL Date: 04/30/2014 10:42

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ammonia		0.2	0.067487

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 353.2 MDL Date: 07/09/2012 10:23

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Nitrate Nitrite as N		0.05	0.017

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 353.2 XMDL Date: 05/05/2014 08:21

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Nitrate Nitrite as N		0.05	0.017

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: 4500 P E-1999 MDL Date: 05/05/2014 08:22

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Orthophosphate		0.05	0.010379
Orthophosphorus as PO4		0.153	0.031759

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: WC24-Spec

Method: 4500 P E-1999 XMDL Date: 05/05/2014 08:22

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Orthophosphate		0.05	0.010379
Orthophosphorus as PO4		0.153	0.031759

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 5310 D-2000 MDL Date: 07/10/2012 14:07

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Total Organic Carbon		1	0.437

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job Number: 600-129836-1

SDG Number:

Matrix: Water Instrument ID: WC01

Method: 5310 D-2000 XMDL Date: 07/10/2012 14:07

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Total Organic Carbon		1	0.437

12-IN
PREPARATION LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Prep Method: 350.1

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 600-188184/1-A	05/10/2016 06:56	188184		100	100
LCS 600-188184/2-A	05/10/2016 06:56	188184		100	100
600-129836-3	05/10/2016 06:56	188184		100	100
600-129836-3 MS	05/10/2016 06:56	188184		100	100
600-129836-3 MSD	05/10/2016 06:56	188184		100	100
600-129836-4	05/10/2016 06:56	188184		100	100
600-129836-5	05/10/2016 06:56	188184		100	100
600-129836-6	05/10/2016 06:56	188184		100	100
600-129836-7	05/10/2016 06:56	188184		100	100
600-129836-8	05/10/2016 06:56	188184		100	100

FORM XII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: WC07 Analysis Method: 350.1

Start Date: 05/10/2016 10:41 End Date: 05/10/2016 11:45

Lab Sample Id	D/F	Type	Time	Analytes																							
				NH3																							
ZZZZZZ			10:41																								
ZZZZZZ			10:43																								
ZZZZZZ			10:44																								
ZZZZZZ			10:45																								
ZZZZZZ			10:46																								
ZZZZZZ			10:47																								
ZZZZZZ			10:48																								
ZZZZZZ			10:49																								
ICV 600-188226/9	1		10:51	X																							
ICB 600-188226/10	1		10:52	X																							
MB 600-188184/1-A	1	T	10:53	X																							
LCS 600-188184/2-A	1	T	10:54	X																							
ZZZZZZ			10:55																								
ZZZZZZ			10:56																								
ZZZZZZ			10:57																								
ZZZZZZ			10:58																								
ZZZZZZ			11:00																								
ZZZZZZ			11:01																								
ZZZZZZ			11:02																								
ZZZZZZ			11:03																								
CCV 600-188226/21	1		11:04	X																							
CCB 600-188226/22	1		11:05	X																							
ZZZZZZ			11:06																								
ZZZZZZ			11:07																								
ZZZZZZ			11:09																								
ZZZZZZ			11:10																								
600-129836-3	1	T	11:11	X																							
600-129836-3 MS	1	T	11:12	X																							
600-129836-3 MSD	1	T	11:13	X																							
600-129836-4	1	T	11:14	X																							
600-129836-5	1	T	11:15	X																							
600-129836-6	1	T	11:16	X																							
CCV 600-188226/33	1		11:18	X																							
CCB 600-188226/34	1		11:19	X																							
600-129836-7	1	T	11:20	X																							
600-129836-8	1	T	11:21	X																							
ZZZZZZ			11:22																								
ZZZZZZ			11:23																								
ZZZZZZ			11:24																								
ZZZZZZ			11:25																								
ZZZZZZ			11:27																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: WC07 Analysis Method: 350.1

Start Date: 05/10/2016 10:41 End Date: 05/10/2016 11:45

Lab Sample Id	D/F	Type	Time	Analytes																							
				NH3																							
ZZZZZZ			11:28																								
ZZZZZZ			11:29																								
ZZZZZZ			11:30																								
CCV 600-188226/45	1		11:31	X																							
CCB 600-188226/46	1		11:32	X																							
ZZZZZZ			11:33																								
ZZZZZZ			11:35																								
ZZZZZZ			11:36																								
ZZZZZZ			11:37																								
ZZZZZZ			11:38																								
ZZZZZZ			11:39																								
ZZZZZZ			11:40																								
ZZZZZZ			11:41																								
ZZZZZZ			11:42																								
CCV 600-188226/56			11:44																								
CCB 600-188226/57			11:45																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 353.2

Start Date: 04/29/2016 18:48 End Date: 04/29/2016 18:48

Lab Sample Id	D/F	Type	Time	Analytes																							
				NNO32																							
ICV 600-187527/1	1		18:48	X																							
ICB 600-187527/2	1		18:48	X																							
ZZZZZZ			18:48																								
MB 600-187527/4	1	T	18:48	X																							
LCS 600-187527/5	1	T	18:48	X																							
ZZZZZZ			18:48																								
600-129796-D-6 MS	1	T	18:48	X																							
600-129796-D-6 MSD	1	T	18:48	X																							
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
CCV 600-187527/13	1		18:48	X																							
CCB 600-187527/14	1		18:48	X																							
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
600-129836-3	1	T	18:48	X																							
600-129836-4	1	T	18:48	X																							
600-129836-5	1	T	18:48	X																							
600-129836-6	5	T	18:48	X																							
600-129836-7	1	T	18:48	X																							
600-129836-8	2	T	18:48	X																							
ZZZZZZ			18:48																								
CCV 600-187527/25	1		18:48	X																							
CCB 600-187527/26	1		18:48	X																							
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
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ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
CCV 600-187527/39			18:48																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 353.2

Start Date: 04/29/2016 18:48 End Date: 04/29/2016 18:48

Lab Sample Id	D/F	Type	Time	Analytes																							
				NNO32																							
CCB 600-187527/40			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
CCV 600-187527/46			18:48																								
CCB 600-187527/47			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
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ZZZZZZ			18:48																								
ZZZZZZ			18:48																								
ZZZZZZ			18:48																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: WC24-Spec Analysis Method: 4500 P E-1999

Start Date: 04/25/2016 19:55 End Date: 04/25/2016 19:56

Lab Sample Id	D/F	Type	Time	Analytes	
				O-PO4	PO4
ICV 600-187154/1	1		19:55	X	X
ICB 600-187154/2	1		19:55	X	X
MB 600-187154/3	1	T	19:55	X	X
LCS 600-187154/4	1	T	19:55	X	X
ZZZZZZ			19:55		
ZZZZZZ			19:55		
ZZZZZZ			19:55		
ZZZZZZ			19:55		
ZZZZZZ			19:55		
600-129836-3	25	T	19:55	X	X
600-129836-4	25	T	19:55	X	X
CCV 600-187154/12	1		19:55	X	X
CCB 600-187154/13	1		19:55	X	X
600-129836-5	25	T	19:55	X	X
600-129836-5 MS	25	T	19:55	X	X
600-129836-5 MSD	25	T	19:56	X	X
600-129836-6	1	T	19:56	X	X
600-129836-7	1	T	19:56	X	X
600-129836-8	1	T	19:56	X	X
CCV 600-187154/20	1		19:56	X	X
CCB 600-187154/21	1		19:56	X	X

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: WC01 Analysis Method: 5310 D-2000

Start Date: 05/10/2016 11:36 End Date: 05/10/2016 11:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				TOC																							
RINSE 600-188280/1			11:36																								
RINSE 600-188280/2			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ICV 600-188280/7	1		11:36	X																							
ICB 600-188280/8	1		11:36	X																							
MB 600-188280/9	1	T	11:36	X																							
LCS 600-188280/10	1	T	11:36	X																							
ZZZZZZ			11:36																								
600-130341-C-1 MS	1	T	11:36	X																							
600-130341-C-1 MSD	1	T	11:36	X																							
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
600-129836-4	4	T	11:36	X																							
600-129836-5	4	T	11:36	X																							
600-129836-6	4	T	11:36	X																							
CCV 600-188280/19	1		11:36	X																							
CCB 600-188280/20	1		11:36	X																							
600-129836-7	4	T	11:36	X																							
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
CCV 600-188280/31	1		11:36	X																							
CCB 600-188280/32	1		11:36	X																							
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
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ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								

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13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: WC01 Analysis Method: 5310 D-2000

Start Date: 05/10/2016 11:36 End Date: 05/10/2016 11:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				TOC																							
ZZZZZZ			11:36																								
CCV 600-188280/43			11:36																								
CCB 600-188280/44			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
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ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
CCV 600-188280/55			11:36																								
CCB 600-188280/56			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
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ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
CCV 600-188280/67			11:36																								
CCB 600-188280/68			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
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ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
CCV 600-188280/79			11:36																								
CCB 600-188280/80			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: WC01 Analysis Method: 5310 D-2000

Start Date: 05/10/2016 11:36 End Date: 05/10/2016 11:36

Lab Sample Id	D/F	Type	Time	Analytes																							
				TOC																							
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
ZZZZZZ			11:36																								
CCV 600-188280/87			11:36																								
CCB 600-188280/88			11:36																								

Prep Types:
T = Total/NA

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13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Instrument ID: WC01 Analysis Method: 5310 D-2000

Start Date: 05/11/2016 09:05 End Date: 05/11/2016 09:05

Lab Sample Id	D/F	Type	Time	Analytes																							
				TOC																							
RINSE 600-188334/1			09:05																								
RINSE 600-188334/2			09:05																								
ZZZZZZ			09:05																								
ZZZZZZ			09:05																								
ZZZZZZ			09:05																								
ZZZZZZ			09:05																								
ICV 600-188334/7			09:05																								
ICB 600-188334/8	1		09:05	X																							
MB 600-188334/9	1	T	09:05	X																							
LCS 600-188334/10	1	T	09:05	X																							
600-129836-8	1	T	09:05	X																							
600-129836-8 MS	1	T	09:05	X																							
600-129836-8 MSD	1	T	09:05	X																							
ZZZZZZ			09:05																								
ZZZZZZ			09:05																								
ZZZZZZ			09:05																								
ZZZZZZ			09:05																								
ZZZZZZ			09:05																								
CCV 600-188334/19	1		09:05	X																							
CCB 600-188334/20	1		09:05	X																							
ZZZZZZ			09:05																								
600-129836-3	100	T	09:05	X																							
CCV 600-188334/23	1		09:05	X																							
CCB 600-188334/24	1		09:05	X																							

Prep Types:
T = Total/NA

FORM XIII-IN

B.# 188184/188226

Author: houston_wetchem_inst

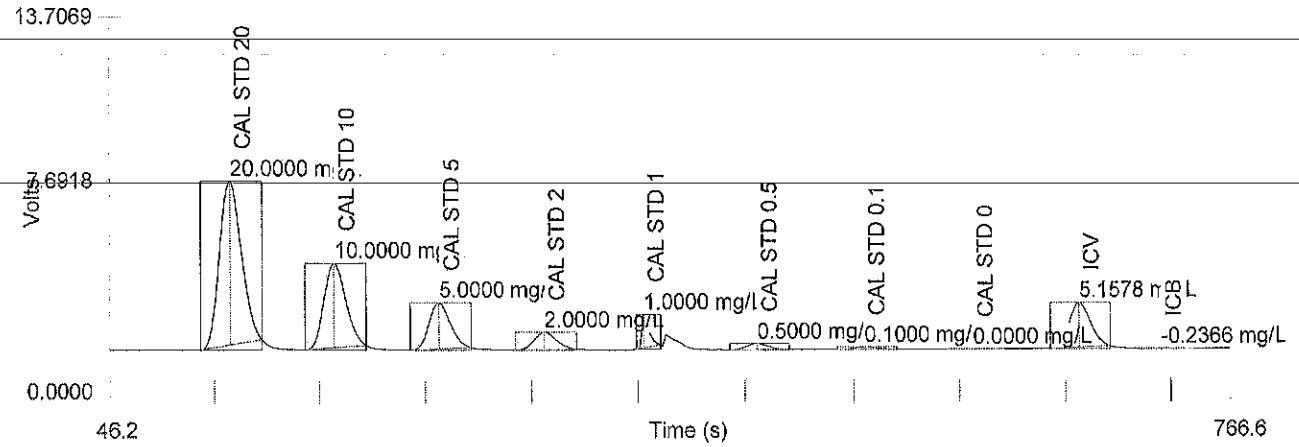
Date : 5/10/2016

Original Run Filename: OM_5-10-2016_10-41-06AM.OMN created 5/10/2016 10:41:06 AM
Original Run Author's Signature: [houston_wetchem_inst]
Current Run Filename: OM_5-10-2016_10-41-06AM.OMN last modified 5/10/2016 11:46:55 AM
Current Run Author's Signature: [houston_wetchem_inst]
Description: AMMONIA 350.1

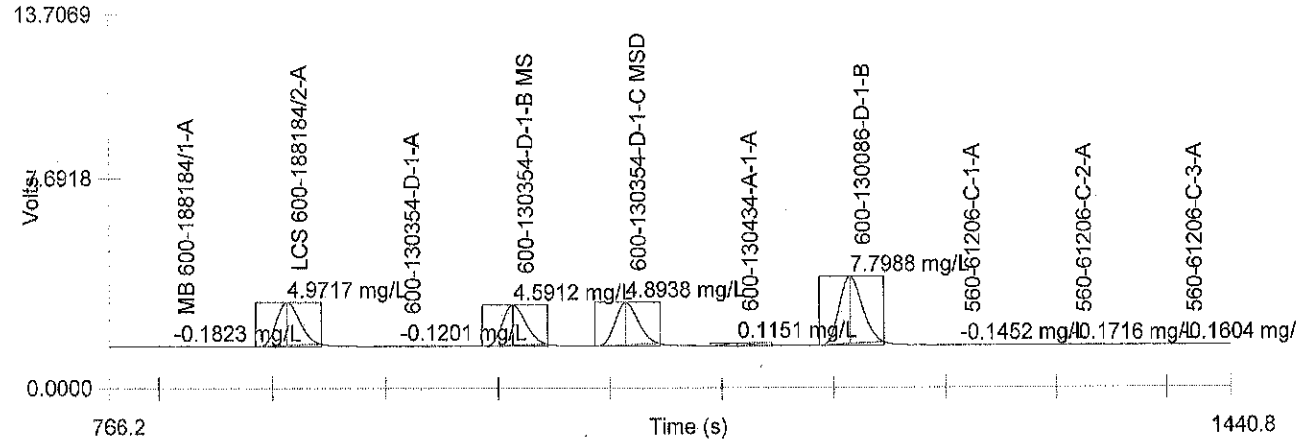
5/10/16

Sample	Rep.	Cup No.	Channel 1 AMMONIA (mg/L)
CAL STD 20	1	S1	20.0000
CAL STD 10	1	S2	10.0000
CAL STD 5	1	S3	5.0000
CAL STD 2	1	S4	2.0000
CAL STD 1	1	S5	1.0000
CAL STD 0.5	1	S6	0.5000
CAL STD 0.1	1	S7	0.1000
CAL STD 0	1	S8	0.0000
ICV	1	1	5.1578
		Calibration:	Table/Fig. 1
ICB	1	2	-0.2366
MB 600-188184/1-A	1	3	-0.1823
LCS 600-188184/2-A	1	4	4.9717
600-130354-D-1-A	1	5	-0.1201
600-130354-D-1-B MS	1	6	4.5912
600-130354-D-1-C MSD	1	7	4.8938
600-130434-A-1-A	1	8	0.1151
600-130086-D-1-B	1	9	7.7988
560-61206-C-1-A	1	10	-0.1452
560-61206-C-2-A	1	11	-0.1716
560-61206-C-3-A	1	12	-0.1604
ccv	1	13	5.1745
ccb	1	14	-0.1920
560-61206-C-4-A	1	15	-0.1748
560-61206-C-5-A	1	16	-0.1767
600-129356-C-1-A	1	17	-0.0335
600-130314-B-1-A	1	18	-0.0223
600-129836-A-3-A	1	19	7.3497
600-129836-A-3-B MS	1	20	12.0589
600-129836-A-3-C MSD	1	21	12.2427
600-129836-A-4-A	1	22	0.5553
600-129836-A-5-A	1	23	0.5172
600-129836-A-6-A	1	24	-0.1265
ccv	1	25	5.1226
ccb	1	26	-0.1887
600-129836-A-7-A	1	27	-0.1645
600-129836-A-8-A	1	28	-0.1751
600-130459-C-1-A	1	29	4.7818
600-130262-B-1-A	1	30	0.0904
600-130262-A-10-A	1	31	0.1475
600-130262-A-24-A	1	32	0.0968
MB 600-188184/27-A	1	33	-0.1825
LCS 600-188184/28-A	1	34	4.9473
600-130038-A-4-A	1	35	-0.1465
600-130038-A-4-B MS	1	36	5.2510
ccv	1	37	5.1668
ccb	1	38	-0.1907
600-130038-A-4-C MSD	1	39	5.1868
600-130466-A-1-A	1	40	0.5750
600-130377-A-1-A	1	41	-0.1127
600-130466-A-4-A	1	42	1.3821
600-130375-A-1-A	1	43	-0.1097
MB 600-188184/36-A	1	44	-0.1861
600-130024-A-6-B	1	45	4.7428
600-130024-A-6-B	1	46	4.4848
600-130024-A-6-B	1	47	3.8200
ccv	1	48	5.1900
ccb	1	49	-0.1888

Channel 1 (Detector 1) : Set 1 of 6



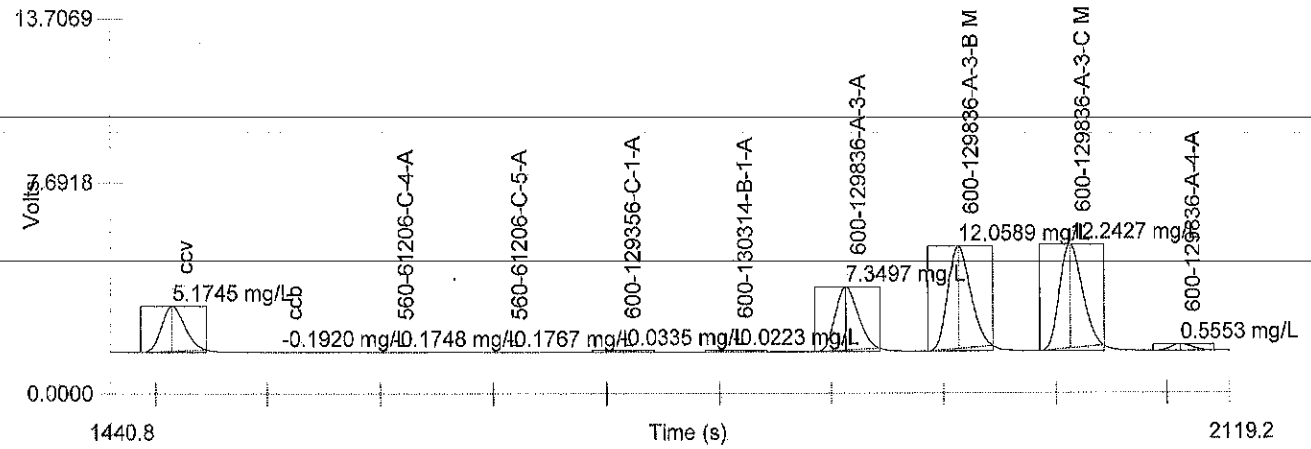
Channel 1 (Detector 1) : Set 2 of 6



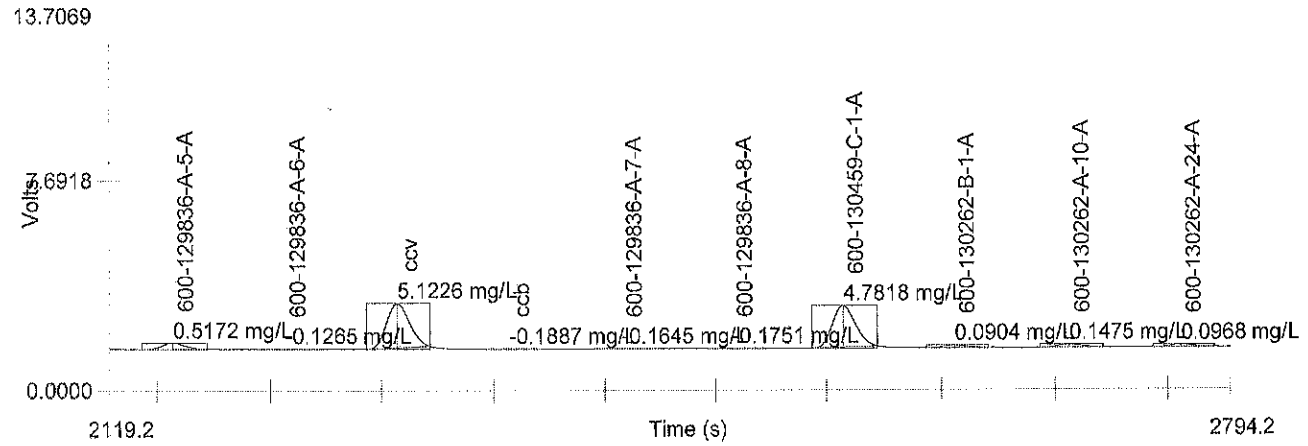
Author: houston_wetchem_inst

Date : 5/10/2016

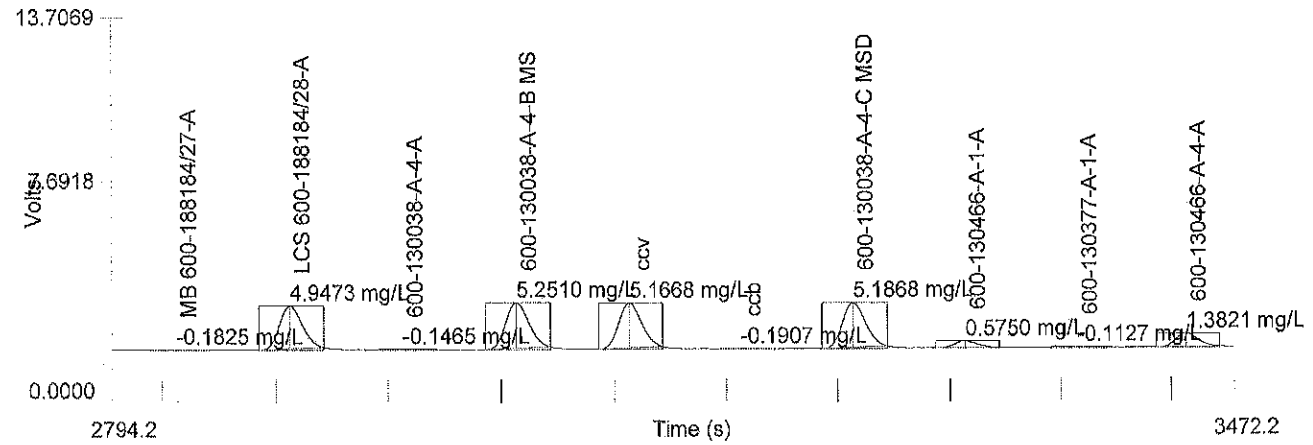
Channel 1 (Detector 1) : Set 3 of 6



Channel 1 (Detector 1) : Set 4 of 6



Channel 1 (Detector 1) : Set 5 of 6



Author: houston_wetchem_inst

Date : 5/10/2016

Channel 1 (Detector 1) : Set 6 of 6

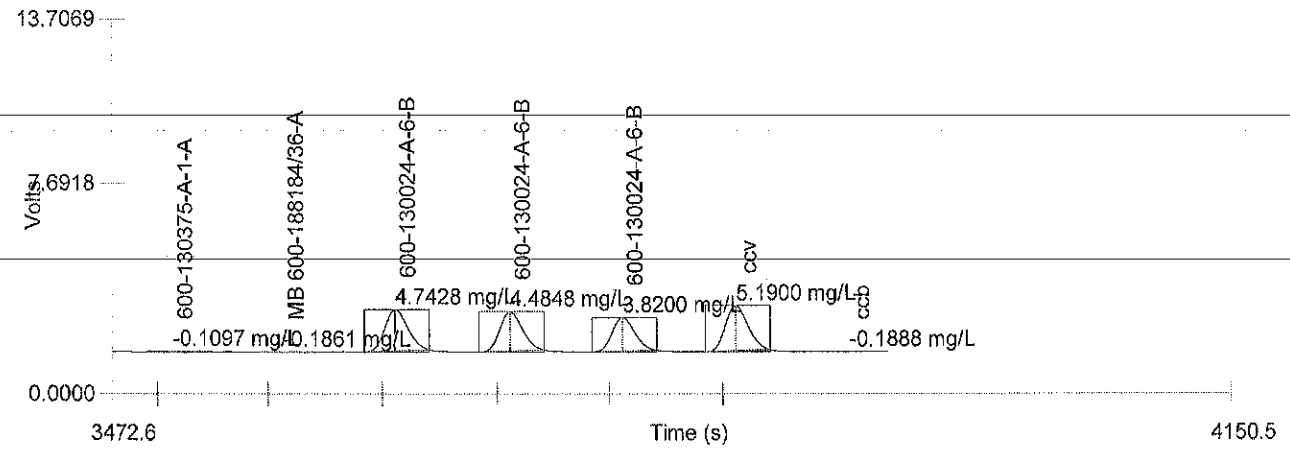
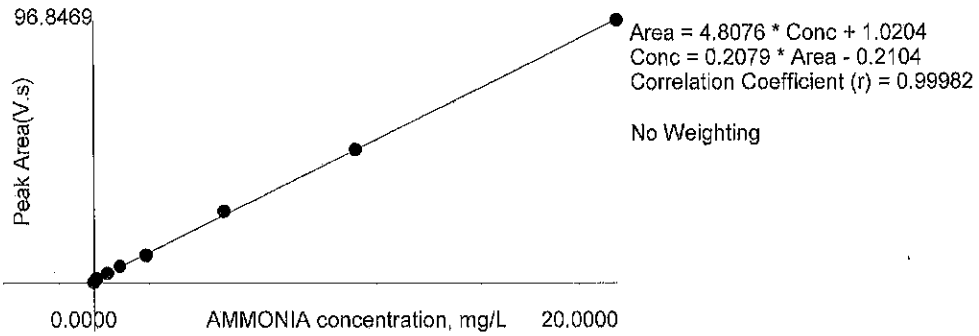


Table 1: AMMONIA

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	20.0000	1	96.8469	5.9807	0.3	5/10/2016	10:43:34 AM
2	10.0000	1	49.1225	3.0873	-0.1	5/10/2016	10:44:40 AM
3	5.0000	1	26.4202	1.6881	-5.4	5/10/2016	10:45:48 AM
4	2.0000	1	10.2378	0.6341	3.7	5/10/2016	10:46:56 AM
5	1.0000	1	6.0542	1.2289	-3.9	5/10/2016	10:48:04 AM
6	0.5000	1	3.4289	0.2226	-0.1	5/10/2016	10:49:13 AM
7	0.1000	1	1.4367	0.0918	4.3	5/10/2016	10:50:22 AM
8	0.0000	1	0.1887	0.0116		5/10/2016	10:51:31 AM

Figure 1: AMMONIA



353.2 # 187527

Author: Houston_wetchem_Inst

Date : 4/29/2016

Original Run Filename: OM_4-29-2016_04-24-03PM.OMN created 4/29/2016 4:24:03 PM
Original Run Author's Signature: [Houston_wetchem_Inst]
Current Run Filename: OM_4-29-2016_04-24-03PM.OMN last modified 4/29/2016 5:15:02 PM
Current Run Author's Signature: [Houston_wetchem_Inst]
Description: NO2+NO3

NO_2 ICV/LCS # 2057213
NO_3 RS # 2020813
NO_2 CCV # 2088855

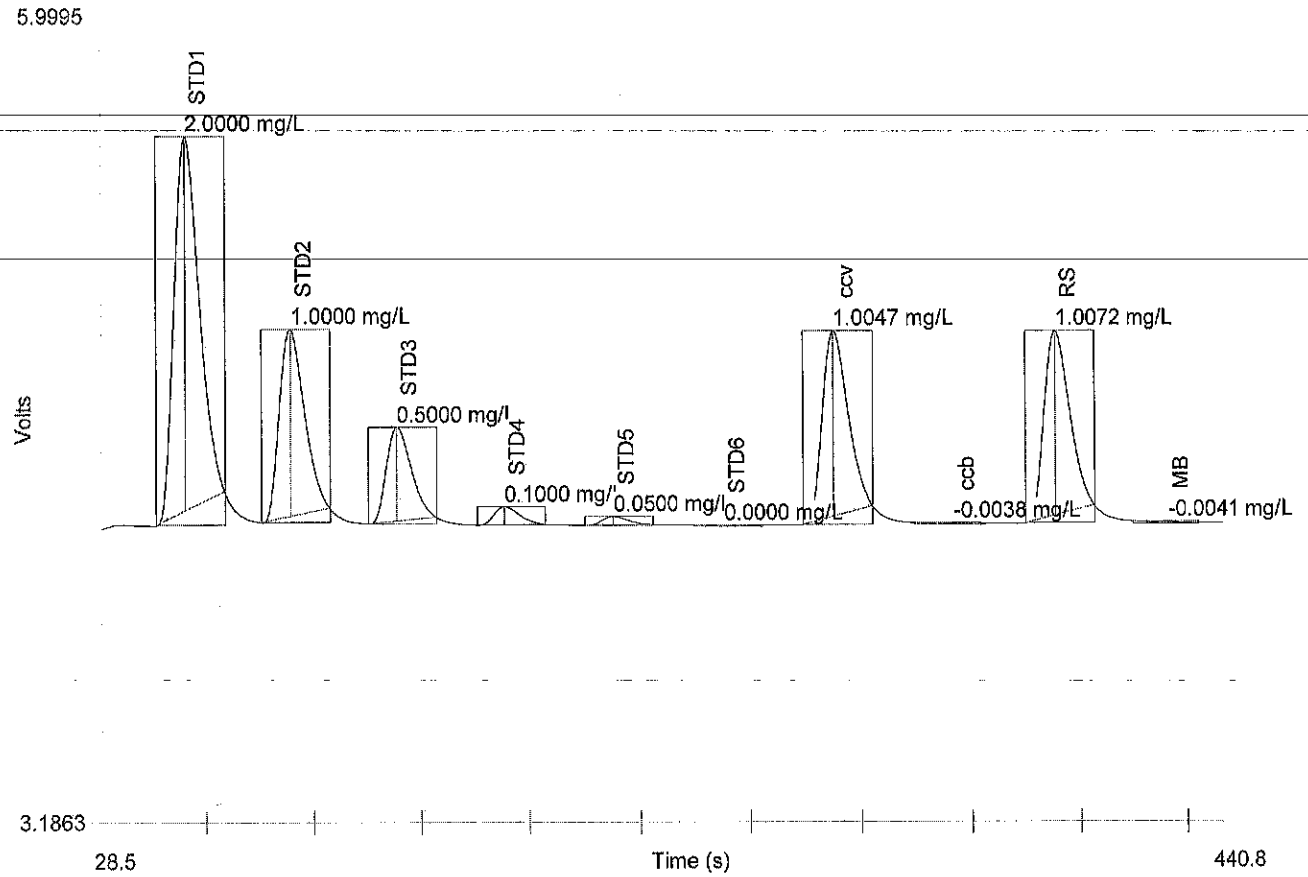
Sample	Rep.	Channel 1 Nitrate + Nitrite (mg/L)
STD1	1	2.0000
STD2	1	1.0000
STD3	1	0.5000
STD4	1	0.1000
STD5	1	0.0500
STD6	1	0.0000
ccv	1	1.0047
Calibration:		Table/Fig. 1
ccb	1	-0.0038
RS	1	1.0072
MB	1	-0.0041
LCS	1	0.9987
600-129796-D-6	1	0.4196
600-129796-D-6ms	1	1.2233
600-129796-D-6msd	1	1.3918
600-129828-B-1@5	1	0.6485
600-129841-C-1	1	0.0877
600-129841-B-2	1	0.2334
600-130018-B-1	1	0.1824
CCV	1	0.9997
CCB	1	-0.0032
600-129896-C-1	1	0.3511
600-129896-C-2	1	0.0466
600-129896-C-3	1	0.0623
600-129836-D-3	1	0.0158
600-129836-D-4	1	0.0127
600-129836-D-5	1	0.0118
600-129836-D-6@5	1	0.4845
600-129836-D-7	1	0.0131
600-129836-D-8@2	1	1.3693
600-130090-C-1 @10	1	1.7469
ccv	1	0.9896
ccb	1	-0.0004
600-130090-C-1 MS@10	1	3.4473
600-130090-C-1 MSD@10	1	3.3040
600-130090-C-2@10	1	0.0041
600-130090-C-3@10	1	0.0121
600-130090-C-5@10	1	0.1826
600-130090-C-6@10	1	0.1820
600-130090-C-7@10	1	0.6599
600-130090-C-8@10	1	0.3623
600-130090-C-9@10	1	1.9582
600-130090-C-10@10	1	0.4069
600-130090-C-11@10	1	0.0854
600-130090-C-12@10	1	0.0265
ccv	1	0.9639
ccb	1	-0.0005
600-130089-C-1@10	1	0.0936
600-130089-C-2@10	1	0.0063
600-130089-C-3@10	1	-0.0005
600-130089-C-4@10	1	0.0047
600-130089-C-6@10	1	0.0012
ccv	1	0.9369
ccb	1	-0.0058

5/2/16

Author: Houston_wetchem_Inst

Date : 4/29/2016

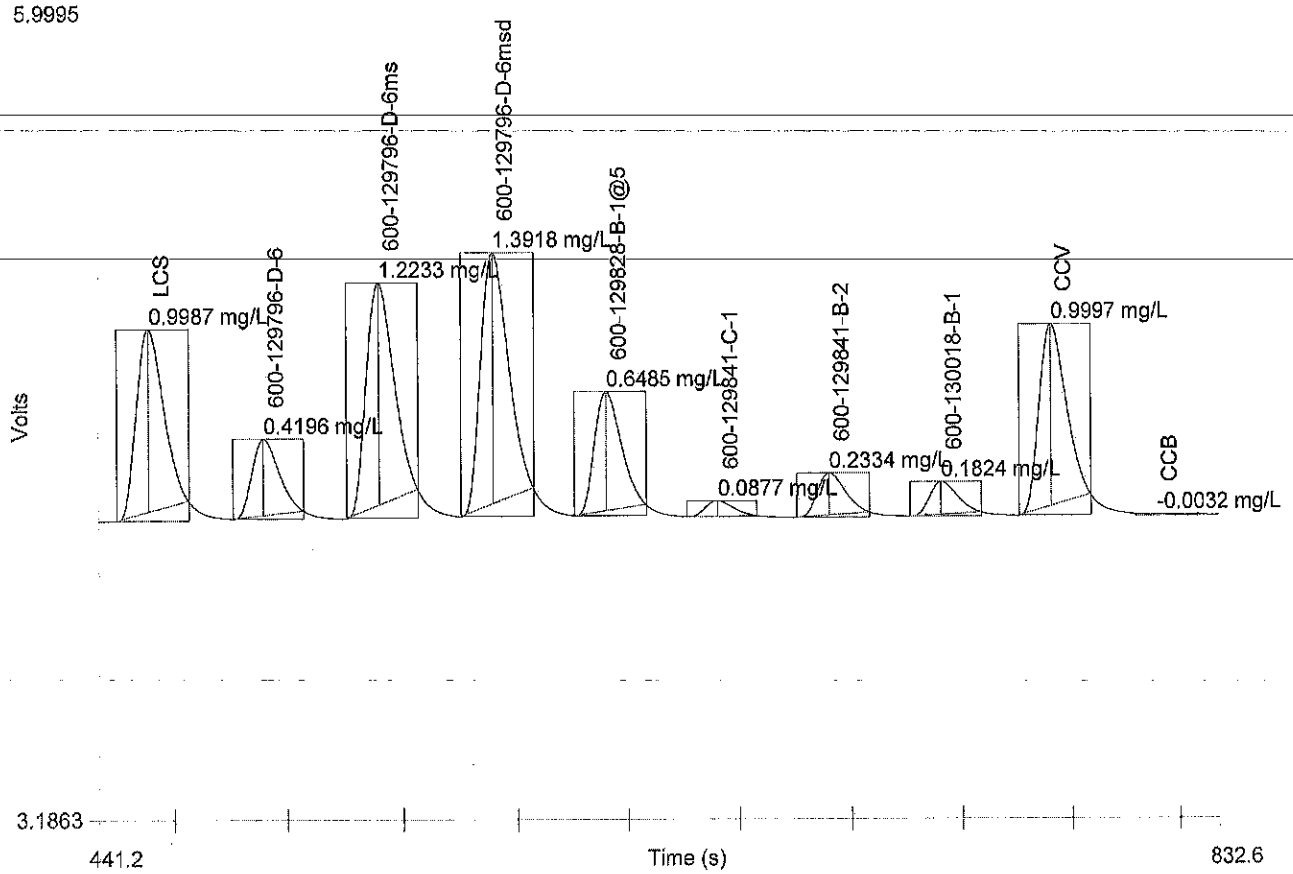
Channel 1 (NO3+NO2) : Set 1 of 6



Author: Houston_wetchem_Inst

Date : 4/29/2016

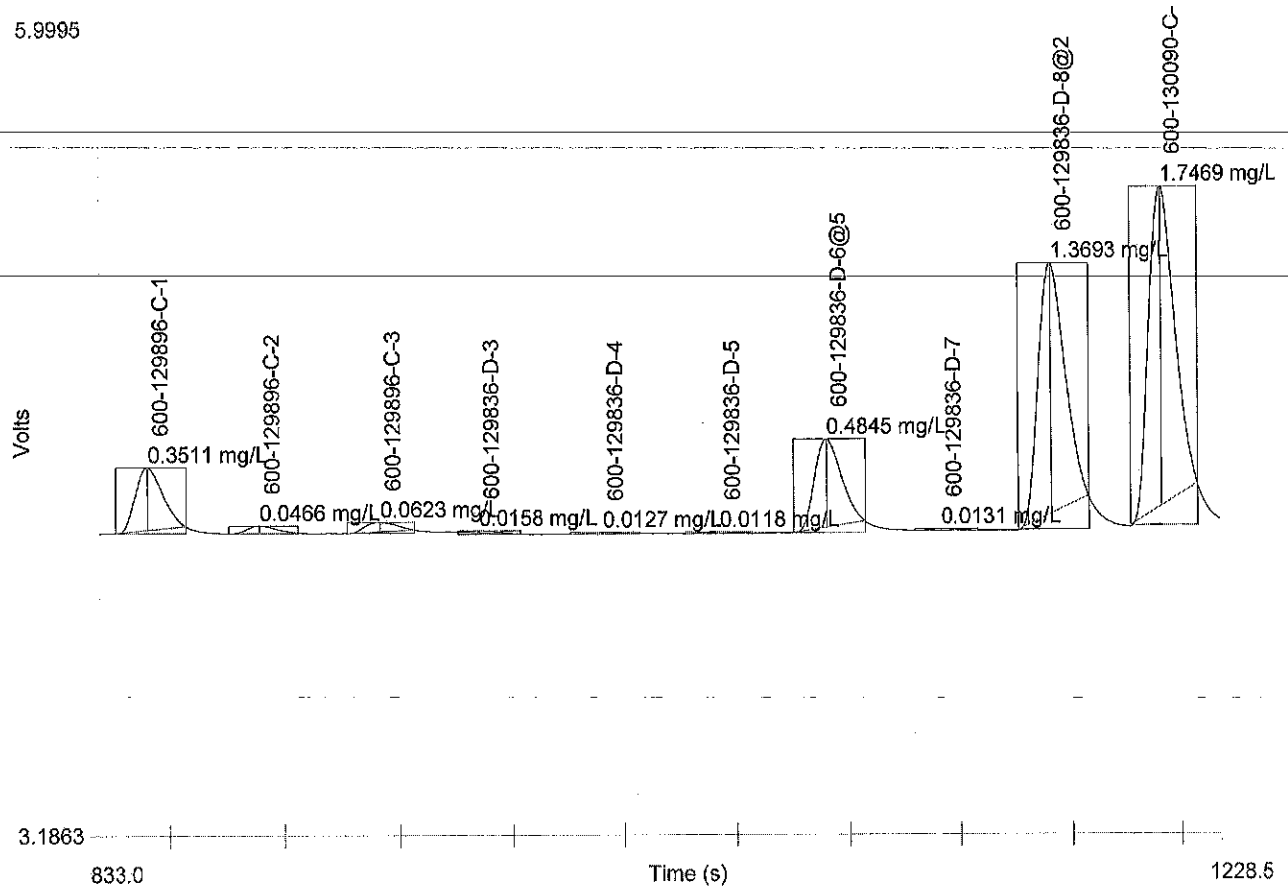
Channel 1 (NO3+NO2) : Set 2 of 6



Author: Houston_wetchem_Inst

Date : 4/29/2016

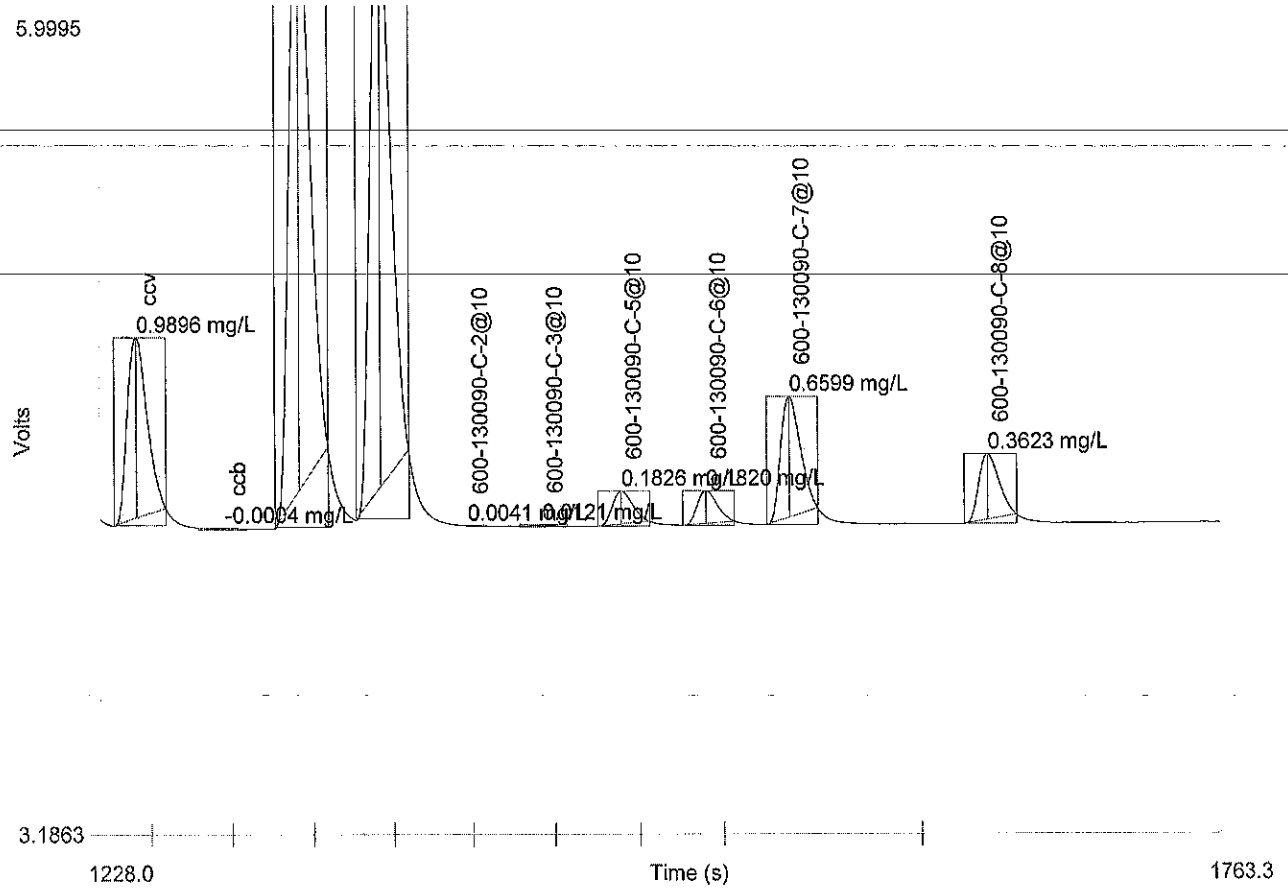
Channel 1 (NO3+NO2) : Set 3 of 6



Author: Houston_wetchem_Inst

Date : 4/29/2016

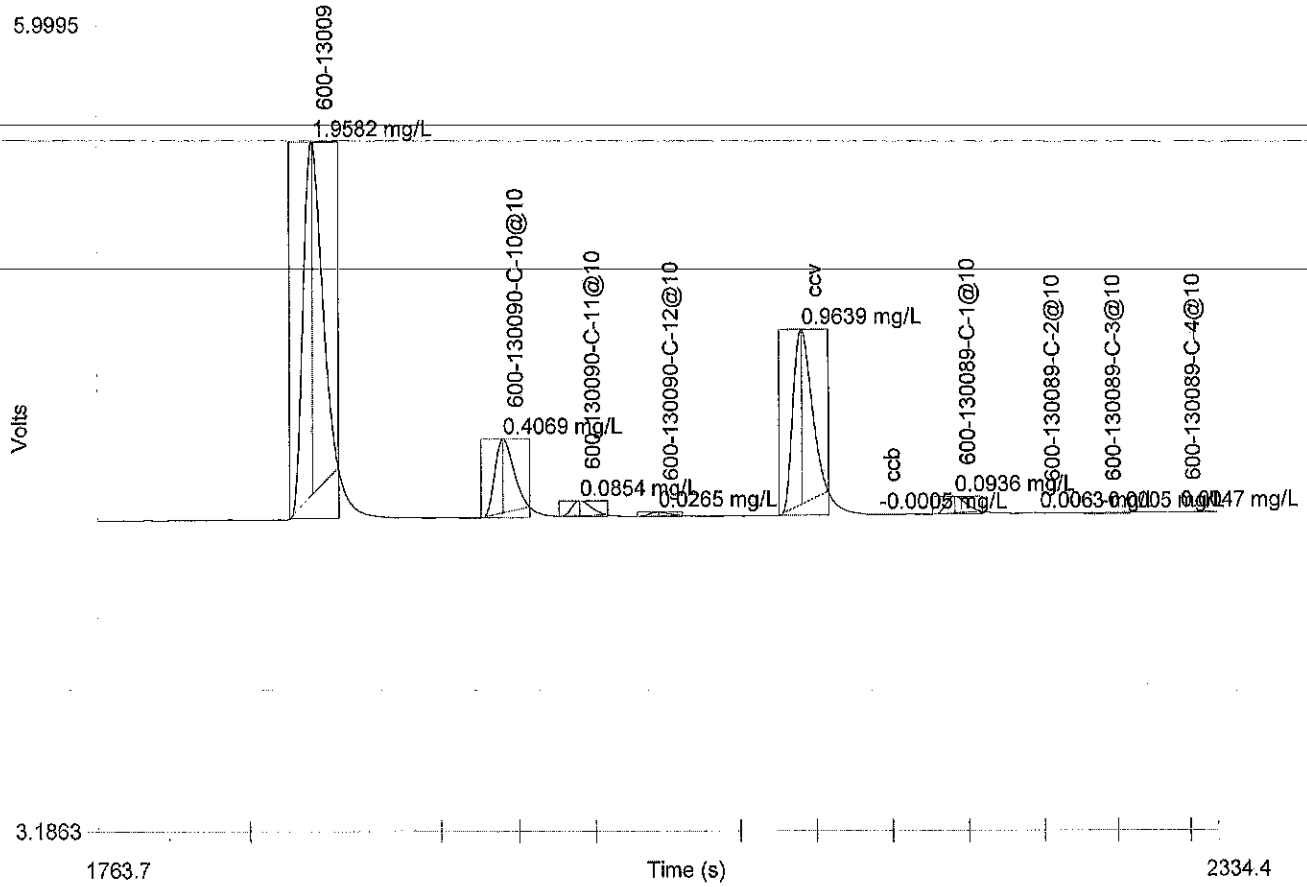
Channel 1 (NO3+NO2) : Set 4 of 6



Author: Houston_wetchem_Inst

Date : 4/29/2016

Channel 1 (NO3+NO2) : Set 5 of 6



Author: Houston_wetchem_Inst

Date : 4/29/2016

Channel 1 (NO3+NO2) : Set 6 of 6

5.9995

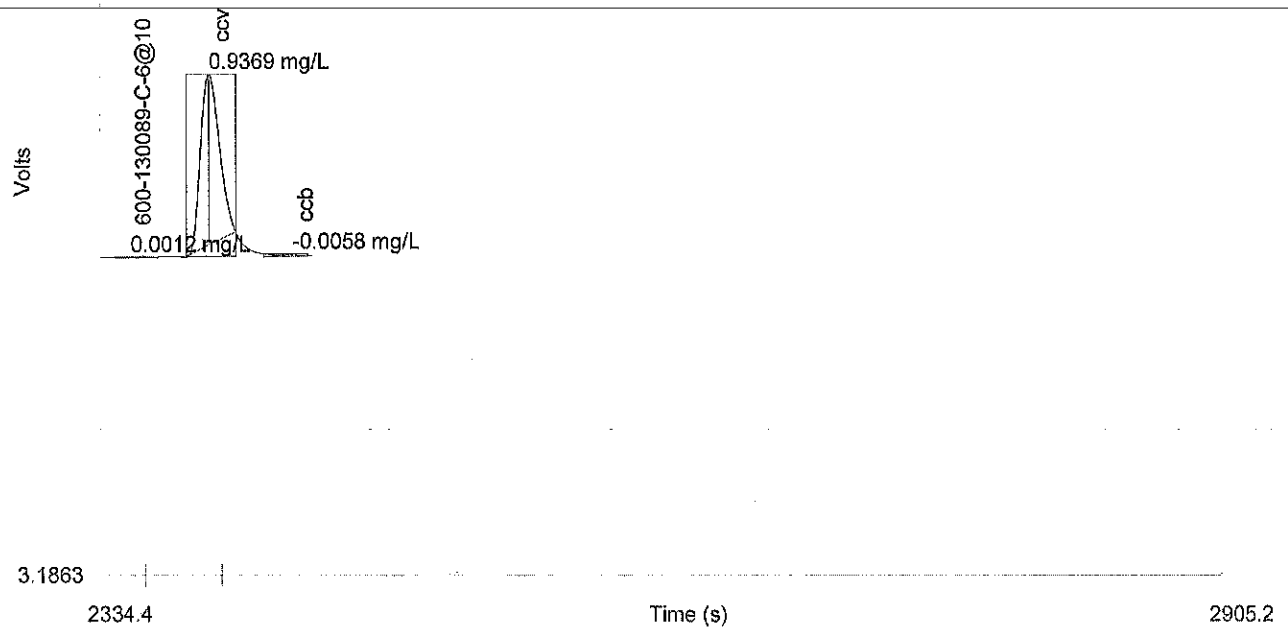


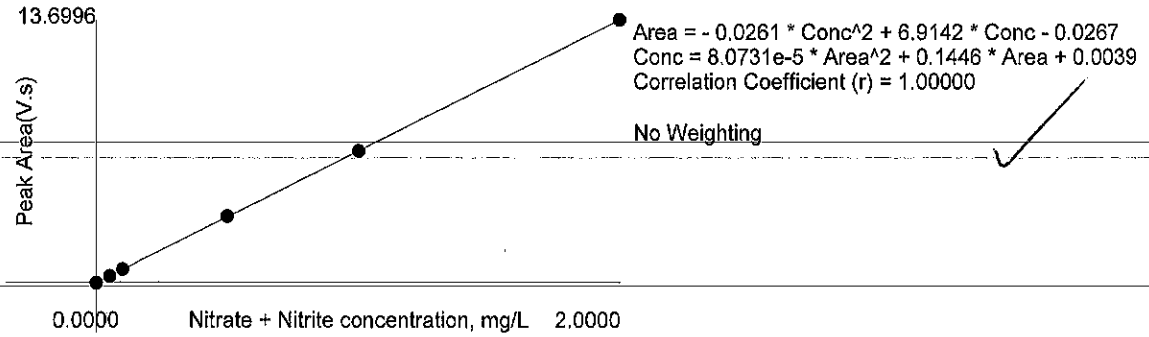
Table 1: Nitrate + Nitrite

	Conc. (mg/L)	Rep	Peak Area (Volt-s)	Peak Height (Volts)	% Residual	Detection Date	Detection Time
1	2.0000	1	13.6996	1.3046	-0.0	4/29/2016	5:17:17 PM
2	1.0000	1	6.8480	0.6528	0.2	4/29/2016	5:17:17 PM
3	0.5000	1	3.4420	0.3280	-0.5	4/29/2016	5:17:17 PM
4	0.1000	1	0.6654	0.0633	-0.1	4/29/2016	5:17:17 PM
5	0.0500	1	0.3157	0.0300	1.0	4/29/2016	5:17:17 PM
6	0.0000	1	-0.0313	-0.0026		4/29/2016	5:17:17 PM

Author: Houston_wetchem_Inst

Date : 4/29/2016

Figure 1: Nitrate + Nitrite



****
** EC 5.10.16 188280 SEQUENCE **
****

TOC Unit: toc
051016 Tue May 10 11:36:01 2016

5/11/16

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	TOC	Sample	1	5.000	0	1.00	No	
2	RINSE	TOC	Sample	1	5.000	0	1.00	No	
3	0	TOC	Std. 1	1	5.000	0	1.00	No	
4	1 ppm	TOC	Std. 2	1	5.000	0	1.00	No	
5	10 ppm	TOC	Std. 3	1	5.000	0	1.00	No	
6	25 ppm	TOC	Std. 4	1	5.000	0	1.00	No	
7	ICV	TOC	Sample	1	5.000	0	1.00	No	
8	ICB	TOC	Sample	1	5.000	0	1.00	No	
9	MB	TOC	Sample	1	5.000	0	1.00	No	
10	LCS	TOC	Sample	1	5.000	0	1.00	No	
11	600-130341-C-1	TOC	Sample	1	5.000	0	1.00	No	
12	ms 130341-C-1	TOC	Sample	1	5.000	0	1.00	No	
13	msd 130341-C-1	TOC	Sample	1	5.000	0	1.00	No	
14	130366-J-1@500	TOC	Sample	1	5.000	0	1.00	No	
15	129836-D-3@4	TOC	Sample	1	5.000	0	1.00	No	
16	129836-D-4@4	TOC	Sample	1	5.000	0	1.00	No	
17	129836-D-5@4	TOC	Sample	1	5.000	0	1.00	No	
18	129836-D-6@4	TOC	Sample	1	5.000	0	1.00	No	
19	CCV	TOC	Sample	1	5.000	0	1.00	No	
20	CCB	TOC	Sample	1	5.000	0	1.00	No	
21	129836-D-7@4	TOC	Sample	1	5.000	0	1.00	No	
22	129836-D-8@4	TOC	Sample	1	5.000	0	1.00	No	
23	130460-A-224	TOC	Sample	1	5.000	0	1.00	No	
24	130460-A-3@4	TOC	Sample	1	5.000	0	1.00	No	
25	600-130216-B-7	TOC	Sample	1	5.000	0	1.00	No	
26	ms 130216-B-7	TOC	Sample	1	5.000	0	1.00	No	
27	msd 130216-B-7	TOC	Sample	1	5.000	0	1.00	No	
28	130559-C-1@4	TOC	Sample	1	5.000	0	1.00	No	
29	130495-C-4@4	TOC	Sample	1	5.000	0	1.00	No	
30	130216-C-8@4	TOC	Sample	1	5.000	0	1.00	No	
31	CCV	TOC	Sample	1	5.000	0	1.00	No	
32	CCB	TOC	Sample	1	5.000	0	1.00	No	
33	130278-C-1@2	TOC	Sample	1	5.000	0	1.00	No	
34	130484-D-1@2	TOC	Sample	1	5.000	0	1.00	No	
35	130354-G-1@2	TOC	Sample	1	5.000	0	1.00	No	
36	130577-C-1@2	TOC	Sample	1	5.000	0	1.00	No	
37	130578-C-1@2	TOC	Sample	1	5.000	0	1.00	No	
38	130593-C-1@2	TOC	Sample	1	5.000	0	1.00	No	
39	MB	TOC	Sample	1	5.000	0	1.00	No	
40	LCS	TOC	Sample	1	5.000	0	1.00	No	
41	600-130495-B-5	TOC	Sample	1	5.000	0	1.00	No	
42	ms 130495-B-5	TOC	Sample	1	5.000	0	1.00	No	
43	CCV	TOC	Sample	1	5.000	0	1.00	No	
44	CCB	TOC	Sample	1	5.000	0	1.00	No	

****
** SEQUENCE **
****

TOC Unit: toc
051016 Tue May 10 11:36:01 2016

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
45	msd 130495-B-5	TOC	Sample	1	5.000	0	1.00	No	
46	130595-D-1@2	TOC	Sample	1	5.000	0	1.00	No	
47	600-130047-Q-1	TOC	Sample	1	5.000	0	1.00	No	
48	600-130299-C-1	TOC	Sample	1	5.000	0	1.00	No	
49	600-130314-A-3	TOC	Sample	1	5.000	0	1.00	No	
50	600-130354-B-3	TOC	Sample	1	5.000	0	1.00	No	
51	600-130354-B-4	TOC	Sample	1	5.000	0	1.00	No	
52	600-130354-B-5	TOC	Sample	1	5.000	0	1.00	No	
53	600-130354-B-6	TOC	Sample	1	5.000	0	1.00	No	
54	600-130354-B-7	TOC	Sample	1	5.000	0	1.00	No	
55	CCV	TOC	Sample	1	5.000	0	1.00	No	
56	CCB	TOC	Sample	1	5.000	0	1.00	No	
57	600-130495-A-2	TOC	Sample	1	5.000	0	1.00	No	
58	ms 130495-A-2	TOC	Sample	1	5.000	0	1.00	No	
59	msd 130495-A-2	TOC	Sample	1	5.000	0	1.00	No	
60	600-130401-C-1	TOC	Sample	1	5.000	0	1.00	No	
61	600-130401-C-2	TOC	Sample	1	5.000	0	1.00	No	
62	600-130216-A-2	TOC	Sample	1	5.000	0	1.00	No	
63	600-130216-A-4	TOC	Sample	1	5.000	0	1.00	No	
64	600-130399-B-1	TOC	Sample	1	5.000	0	1.00	No	
65	600-130409-D-6	TOC	Sample	1	5.000	0	1.00	No	
66	600-130399-B-2	TOC	Sample	1	5.000	0	1.00	No	
67	CCV	TOC	Sample	1	5.000	0	1.00	No	
68	CCB	TOC	Sample	1	5.000	0	1.00	No	
69	600-130484-B-5	TOC	Sample	1	5.000	0	1.00	No	
70	600-130484-B-6	TOC	Sample	1	5.000	0	1.00	No	
71	MB	TOC	Sample	1	5.000	0	1.00	No	
72	LCS	TOC	Sample	1	5.000	0	1.00	No	
73	600-130296-C-1	TOC	Sample	1	5.000	0	1.00	No	
74	ms 130296-C-1	TOC	Sample	1	5.000	0	1.00	No	
75	msd 130296-C-1	TOC	Sample	1	5.000	0	1.00	No	
76	600-130484-B-4	TOC	Sample	1	5.000	0	1.00	No	
77	600-130484-B-3	TOC	Sample	1	5.000	0	1.00	No	
78	600-130501-A-1	TOC	Sample	1	5.000	0	1.00	No	
79	CCV	TOC	Sample	1	5.000	0	1.00	No	
80	CCB	TOC	Sample	1	5.000	0	1.00	No	
81	600-130576-B-1	TOC	Sample	1	5.000	0	1.00	No	
82	600-130595-B-3	TOC	Sample	1	5.000	0	1.00	No	
83	600-130595-B-4	TOC	Sample	1	5.000	0	1.00	No	
84	600-130595-B-5	TOC	Sample	1	5.000	0	1.00	No	
85	600-130595-B-6	TOC	Sample	1	5.000	0	1.00	No	
86	600-130595-B-7	TOC	Sample	1	5.000	0	1.00	No	
87	CCV	TOC	Sample	1	5.000	0	1.00	No	
88	CCB	TOC	Sample	1	5.000	0	1.00	No	

```
*****************************************************************
**                OI Analytical Model 1010 TOC                 **
**                          RUN SETUP                          **
*****************************************************************

TOC Unit: toc
Operator:   Unknown
Data Path:  C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\051016
WinTOC Version:  5.2                    Firmware Version:   5.2
WinTOC Revision:  rev 242                Firmware Revision:  rev 365

Report To File:  Enabled                Naming Mode:  Automatic
Prefix:  TAL   Index:    1

*****************************************************************
**                        CONFIGURATION                        **
*****************************************************************

TOC Unit: toc
Analysis Mode:  TIC/TOC     Spl Intro:  Autosampler 88
Remote Start :  OFF

Loop Size:  5 mL        Actual Volume  1mL   5mL   10mL   25mL
                        -------------  ----  ----  -----  -----
                         Loop A (uL):  1009  4970  10000  25000
                         Loop B (uL):  1008  4980  10000  25000

Tray Type:              88 Vial  Vial Option:        Preacidification
Needle Depth:           97 %     Preacid Volume (uL):              500
Wash Needle Depth:      94 %     Preacid Purge Time (min:sec):   1:30

            TIC    TOC    TC
Blank      ----   ----   ----          Linearization Coeff:  60000
 Average:    58    523      0

                          Sample Transfer Times (sec)
        Initial Fill                Loop Fill              Sample Inject
     Non-AS    AS  AS w/Sep   Non-AS    AS  AS w/Sep          (all)
     ------  ----- --------   ------  ----- --------      -------------
1mL:    0.0    0.0      0.0      0.0    0.0      0.0            0.0
5mL:    8.1    8.1      6.8      5.1    5.1      4.2            9.3
10mL:   0.0    0.0      0.0      0.0    0.0      0.0            0.0
25mL:   0.0    0.0      0.0      n/a    n/a      n/a            0.0

Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range:   0.000 ppmC,  Max Signal Range:   0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00
       Conc. Alarm Setpoints (ppm C)
          Low        |    High
      -----------    | -----------
TIC:     0.000           0.000
TOC:     0.000           0.000
TC:      0.000           0.000

*****************************************************************
**                        CALIBRATION                          **
*****************************************************************

TOC Unit: toc
CA42116  Sat May 07 15:04:23 2016

Std. #  Used  Conc. (ppm)  Volume (mL)
------  ----  -----------  -----------      RF (ugC/k-cts):     1.333
   1    Yes        0.000        5.000       R-Squared:         0.9988
   2    Yes        1.000        5.000       Offset (cts):          757
   3    Yes       10.000        5.000       Offset (ugC):       -1.010
   4    Yes       25.000        5.000       Calibration Mode:     TOC
   5    No         0.000        5.000       Allow Editing:      No
```

Rep	Std. 1	Std. 2	Std. 3	Std. 4	Std. 5
1	1645	2689	39598	93447	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-

(* = unused)

****
** METHODS **
****

TOC Unit: toc
TOC Tue Mar 08 14:06:13 2016

Acid Volume: 200 uL
Oxidant Volume: 1000 uL
Auto-Repeat Time: 00:00:00 (hr:min:sec)

Rinse Volume (mL): 25
Rinses Per Rep: 0
Rinses Per Sample: 1

	TIC	TOC	TC
React: (min:sec):	02:00	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

****
** SEQUENCE **
****

TOC Unit: toc
051016 Tue May 10 11:36:01 2016

Start Pos/Vial #: 1, Stop Pos/Vial #: 88

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	toc	Sample	1	5.000	0	1.00	No	
2	RINSE	toc	Sample	1	5.000	0	1.00	No	
3	0	toc	Std. 1	1	5.000	0	1.00	No	
4	1 ppm	toc	Std. 2	1	5.000	0	1.00	No	
5	10 ppm	toc	Std. 3	1	5.000	0	1.00	No	
6	25 ppm	toc	Std. 4	1	5.000	0	1.00	No	
7	ICV	toc	Sample	1	5.000	0	1.00	No	
8	ICB	toc	Sample	1	5.000	0	1.00	No	
9	MB	toc	Sample	1	5.000	0	1.00	No	
10	LCS	toc	Sample	1	5.000	0	1.00	No	
11	600-130341-C-1	toc	Sample	1	5.000	0	1.00	No	
12	ms 130341-C-1	toc	Sample	1	5.000	0	1.00	No	
13	msd 130341-C-1	toc	Sample	1	5.000	0	1.00	No	
14	130366-J-1@500	toc	Sample	1	5.000	0	1.00	No	
15	129836-D-3@4	toc	Sample	1	5.000	0	1.00	No	
16	129836-D-4@4	toc	Sample	1	5.000	0	1.00	No	
17	129836-D-5@4	toc	Sample	1	5.000	0	1.00	No	
18	129836-D-6@4	toc	Sample	1	5.000	0	1.00	No	
19	CCV	toc	Sample	1	5.000	0	1.00	No	
20	CCB	toc	Sample	1	5.000	0	1.00	No	
21	129836-D-7@4	toc	Sample	1	5.000	0	1.00	No	
22	129836-D-8@4	toc	Sample	1	5.000	0	1.00	No	
23	130460-A-224	toc	Sample	1	5.000	0	1.00	No	
24	130460-A-3@4	toc	Sample	1	5.000	0	1.00	No	
25	600-130216-B-7	toc	Sample	1	5.000	0	1.00	No	
26	ms 130216-B-7	toc	Sample	1	5.000	0	1.00	No	
27	msd 130216-B-7	toc	Sample	1	5.000	0	1.00	No	
28	130559-C-1@4	toc	Sample	1	5.000	0	1.00	No	
29	130495-C-4@4	toc	Sample	1	5.000	0	1.00	No	
30	130216-C-8@4	toc	Sample	1	5.000	0	1.00	No	
31	CCV	toc	Sample	1	5.000	0	1.00	No	
32	CCB	toc	Sample	1	5.000	0	1.00	No	

34	130484-D-1@2	toc	Sample	1	5.000	0	1.00	No
35	130354-G-1@2	toc	Sample	1	5.000	0	1.00	No
36	130577-C-1@2	toc	Sample	1	5.000	0	1.00	No
37	130578-C-1@2	toc	Sample	1	5.000	0	1.00	No
38	130593-C-1@2	toc	Sample	1	5.000	0	1.00	No
39	MB	toc	Sample	1	5.000	0	1.00	No
40	LCS	toc	Sample	1	5.000	0	1.00	No
41	600-130495-B-5	toc	Sample	1	5.000	0	1.00	No
42	ms 130495-B-5	toc	Sample	1	5.000	0	1.00	No
43	CCV	toc	Sample	1	5.000	0	1.00	No
44	CCB	toc	Sample	1	5.000	0	1.00	No
45	msd 130495-B-5	toc	Sample	1	5.000	0	1.00	No
46	130595-D-1@2	toc	Sample	1	5.000	0	1.00	No
47	600-130047-Q-1	toc	Sample	1	5.000	0	1.00	No
48	600-130299-C-1	toc	Sample	1	5.000	0	1.00	No
49	600-130314-A-3	toc	Sample	1	5.000	0	1.00	No
50	600-130354-B-3	toc	Sample	1	5.000	0	1.00	No
51	600-130354-B-4	toc	Sample	1	5.000	0	1.00	No
52	600-130354-B-5	toc	Sample	1	5.000	0	1.00	No
53	600-130354-B-6	toc	Sample	1	5.000	0	1.00	No
54	600-130354-B-7	toc	Sample	1	5.000	0	1.00	No
55	CCV	toc	Sample	1	5.000	0	1.00	No
56	CCB	toc	Sample	1	5.000	0	1.00	No
57	600-130495-A-2	toc	Sample	1	5.000	0	1.00	No
58	ms 130495-A-2	toc	Sample	1	5.000	0	1.00	No
59	msd 130495-A-2	toc	Sample	1	5.000	0	1.00	No
60	600-130401-C-1	toc	Sample	1	5.000	0	1.00	No
61	600-130401-C-2	toc	Sample	1	5.000	0	1.00	No
62	600-130216-A-2	toc	Sample	1	5.000	0	1.00	No
63	600-130216-A-4	toc	Sample	1	5.000	0	1.00	No
64	600-130399-B-1	toc	Sample	1	5.000	0	1.00	No
65	600-130409-D-6	toc	Sample	1	5.000	0	1.00	No
66	600-130399-B-2	toc	Sample	1	5.000	0	1.00	No
67	CCV	toc	Sample	1	5.000	0	1.00	No
68	CCB	toc	Sample	1	5.000	0	1.00	No
69	600-130484-B-5	toc	Sample	1	5.000	0	1.00	No
70	600-130484-B-6	toc	Sample	1	5.000	0	1.00	No
71	MB	toc	Sample	1	5.000	0	1.00	No
72	LCS	toc	Sample	1	5.000	0	1.00	No
73	600-130296-C-1	toc	Sample	1	5.000	0	1.00	No
74	ms 130296-C-1	toc	Sample	1	5.000	0	1.00	No
75	msd 130296-C-1	toc	Sample	1	5.000	0	1.00	No
76	600-130484-B-4	toc	Sample	1	5.000	0	1.00	No
77	600-130484-B-3	toc	Sample	1	5.000	0	1.00	No
78	600-130501-A-1	toc	Sample	1	5.000	0	1.00	No
79	CCV	toc	Sample	1	5.000	0	1.00	No
80	CCB	toc	Sample	1	5.000	0	1.00	No
81	600-130576-B-1	toc	Sample	1	5.000	0	1.00	No
82	600-130595-B-3	toc	Sample	1	5.000	0	1.00	No
83	600-130595-B-4	toc	Sample	1	5.000	0	1.00	No
84	600-130595-B-5	toc	Sample	1	5.000	0	1.00	No
85	600-130595-B-6	toc	Sample	1	5.000	0	1.00	No
86	600-130595-B-7	toc	Sample	1	5.000	0	1.00	No
87	CCV	toc	Sample	1	5.000	0	1.00	No
88	CCB	toc	Sample	1	5.000	0	1.00	No

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*****************************************************************
**                    RESULTS - 051016                         **
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TOC Unit: toc

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL001	431	0.497	0.100	13808	17.710	3.560

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)

1	TAL002	263	0.273	0.055	8787	11.017	2.214

STD. 1		TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
Rep	Datafile			
1	TAL003	4854	0.000	0.000

** Calibration:
RF (ugC/k-cts): 1.356
R-Squared: 0.9967
Offset (cts): 2137
Offset (ugC): -2.900

STD. 2		TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
Rep	Datafile			
1	TAL004	4164	4.975	1.000

** Calibration:
RF (ugC/k-cts): 1.369
R-Squared: 0.9982
Offset (cts): 2820
Offset (ugC): -3.862

STD. 3		TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
Rep	Datafile			
1	TAL005	40739	49.750	10.000

** Calibration:
RF (ugC/k-cts): 1.368
R-Squared: 0.9978
Offset (cts): 3067
Offset (ugC): -4.196

STD. 4		TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
Rep	Datafile			
1	TAL006	93368	124.375	25.000

** Calibration:
RF (ugC/k-cts): 1.369
R-Squared: 0.9978
Offset (cts): 3075
Offset (ugC): -4.211

SAMPLES		TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
Rep	Datafile						
1	TAL007	350	0.400	0.080	40197	54.315	10.918

SAMPLES		TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
Rep	Datafile						
1	TAL008	233	0.240	0.048	1826	1.784	0.359

SAMPLES		TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
Rep	Datafile						
1	TAL009	205	0.201	0.041	1813	1.766	0.355

SAMPLES TIC TIC TIC TOC TOC TOC

Rep	Datafile	Area (cts)	Mass (ugC)	Conc (ppm)	Area (cts)	Mass (ugC)	Conc (ppm)
1	TAL010	272	0.293	0.059	39937	53.959	10.846

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL011	5824	7.894	1.587	39857	53.849	10.824

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL012	6165	8.361	1.681	80750	109.833	22.077

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL013	5764	7.812	1.570	79790	108.519	21.813

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL014	160	0.140	0.028	43548	58.903	11.840

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL015	25424	34.727	6.980	285308	389.880	78.368

A-Linear range exceeded (130ugC). 10May2016 17:12

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL016	19255	26.281	5.283	85936	116.933	23.504

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL017	19430	26.521	5.331	82235	111.866	22.486

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL018	11747	16.003	3.217	13332	17.536	3.525

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL019	259	0.275	0.055	41527	56.136	11.284

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL020	275	0.297	0.060	2207	2.305	0.463

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL021	16180	22.072	4.437	5331	6.582	1.323

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL022	10675	14.535	2.922	3116	3.550	0.714

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL023	2094	2.787	0.560	41162	55.636	11.183

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL024	1979	2.630	0.529	33852	45.628	9.172

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL025	3209	4.314	0.867	29870	40.177	8.076

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL026	3298	4.436	0.892	70450	95.732	19.243

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL027	3202	4.304	0.865	69483	94.408	18.977

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL028	1913	2.540	0.511	22980	30.744	6.180

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL029	3985	5.376	1.081	22421	29.979	6.026

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)

1	TAL030	3360	4.521	0.909	24369	32.646	6.562

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL031	258	0.274	0.055	40973	55.377	11.131

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL032	338	0.383	0.077	2057	2.100	0.422

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL033	4459	6.025	1.211	53950	73.143	14.702

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL034	12938	17.633	3.544	39675	53.600	10.774

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL035	13284	18.107	3.640	38213	51.599	10.372

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL036	4941	6.685	1.344	48366	65.499	13.165

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL037	19807	27.037	5.435	43188	58.410	11.741

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL038	7443	10.110	2.032	26669	35.795	7.195

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL039	289	0.316	0.064	1594	1.466	0.295

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL040	234	0.241	0.048	40367	54.548	10.964

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL041	2493	3.334	0.670	27369	36.753	7.387

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL042	2425	3.240	0.651	67942	92.299	18.552

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL043	250	0.263	0.053	40522	54.760	11.007

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL044	313	0.349	0.070	1492	1.327	0.267

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL045	2511	3.358	0.675	68277	92.757	18.645

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL046	19397	26.476	5.322	46203	62.537	12.570

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL047	4819	6.518	1.310	41074	55.516	11.159

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL048	2818	3.779	0.760	42011	56.798	11.417

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL049	2555	3.418	0.687	53444	72.451	14.563

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL050	6034	8.181	1.645	34764	46.877	9.422

SAMPLES	TIC Area	TIC Mass	TIC Conc	TOC Area	TOC Mass	TOC Conc

Rep	Datafile	(cts)	(ugC)	(ppm)	(cts)	(ugC)	(ppm)
1	TAL051	3397	4.571	0.919	32552	43.849	8.814

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL052	4335	5.855	1.177	33747	45.485	9.143

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL053	2767	3.709	0.746	28615	38.459	7.730

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL054	1504	1.980	0.398	23287	31.165	6.264

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL055	268	0.287	0.058	40274	54.420	10.939

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL056	430	0.509	0.102	1427	1.238	0.249

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL057	1151	1.496	0.301	28928	38.887	7.817

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL058	1292	1.689	0.340	69280	94.131	18.921

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL059	1249	1.631	0.328	69141	93.940	18.882

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL060	2782	3.729	0.750	21656	28.932	5.815

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL061	3029	4.067	0.818	24198	32.412	6.515

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL062	1735	2.296	0.461	26501	35.565	7.149

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL063	2107	2.805	0.564	25871	34.702	6.975

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL064	2065	2.748	0.552	11347	14.818	2.979

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL065	7298	9.912	1.992	90158	122.713	24.666

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL066	4546	6.144	1.235	16751	22.217	4.466

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL067	263	0.281	0.056	39769	53.729	10.800

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL068	305	0.338	0.068	1148	0.856	0.172

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL069	5310	7.190	1.445	31184	41.976	8.437

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL070	6302	8.548	1.718	32141	43.286	8.701

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL071	346	0.394	0.079	1373	1.164	0.234

SAMPLES TIC TIC TIC TOC TOC TOC

Rep	Datafile	Area (cts)	Mass (ugC)	Conc (ppm)	Area (cts)	Mass (ugC)	Conc (ppm)
1	TAL072	267	0.286	0.058	40050	54.114	10.877

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL073	1036	1.339	0.269	17353	23.041	4.631

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL074	973	1.253	0.252	58519	79.398	15.960

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL075	1027	1.327	0.267	59500	80.741	16.229

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL076	2395	3.199	0.643	51107	69.251	13.920

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL077	1571	2.071	0.416	42617	57.628	11.583

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL078	1249	1.631	0.328	42614	57.624	11.583

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL079	272	0.293	0.059	41277	55.794	11.215

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL080	491	0.593	0.119	1737	1.662	0.334

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL081	1530	2.015	0.405	20322	27.105	5.448

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)

1	TAL082	2999	4.026	0.809	28993	38.976	7.834

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL083	6296	8.540	1.717	37182	50.187	10.088

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL084	2711	3.632	0.730	46265	62.622	12.587

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL085	2579	3.451	0.694	48654	65.893	13.245

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL086	2564	3.431	0.690	49137	66.554	13.378

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL087	290	0.318	0.064	40556	54.806	11.016

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL088	481	0.579	0.116	1429	1.240	0.249

****
** EC 5.11.16 188334 SEQUENCE **
****

TOC Unit: toc
051116 Wed May 11 13:09:05 2016

5/11/16

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	TOC	Sample	1	5.000	0	1.00	No	
2	RINSE	TOC	Sample	1	5.000	0	1.00	No	
3	0	TOC	Std. 1	1	5.000	0	1.00	No	
4	1 ppm	TOC	Std. 2	1	5.000	0	1.00	No	
5	10 ppm	TOC	Std. 3	1	5.000	0	1.00	No	
6	25 ppm	TOC	Std. 4	1	5.000	0	1.00	No	
7	ICV	TOC	Sample	1	5.000	0	1.00	No	
8	ICB	TOC	Sample	1	5.000	0	1.00	No	
9	MB	TOC	Sample	1	5.000	0	1.00	No	
10	LCS	TOC	Sample	1	5.000	0	1.00	No	
11	600-129836-D-8	TOC	Sample	1	5.000	0	1.00	No	
12	ms 129836-D-8	TOC	Sample	1	5.000	0	1.00	No	
13	msd 129836-D-8	TOC	Sample	1	5.000	0	1.00	No	
14	130608-A-1@100	TOC	Sample	1	5.000	0	1.00	No	
15	130543-A-1@20	TOC	Sample	1	5.000	0	1.00	No	
16	129836-D-3@20	TOC	Sample	1	5.000	0	1.00	No	
17	600-130595-B-8	TOC	Sample	1	5.000	0	1.00	No	
18	600-130595-B-9	TOC	Sample	1	5.000	0	1.00	No	
19	CCV	TOC	Sample	1	5.000	0	1.00	No	
20	CCB	TOC	Sample	1	5.000	0	1.00	No	
21	130608-A-1@200	TOC	Sample	1	5.000	0	1.00	No	
22	129836-D-3@100	TOC	Sample	1	5.000	0	1.00	No	
23	CCV	TOC	Sample	1	5.000	0	1.00	No	
24	CCB	TOC	Sample	1	5.000	0	1.00	No	

```
*****************************************************************
**                OI Analytical Model 1010 TOC                 **
**                          RUN SETUP                          **
*****************************************************************

TOC Unit: toc
Operator:   Unknown
Data Path:  C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\051116
WinTOC Version:  5.2                    Firmware Version:  5.2
WinTOC Revision:  rev 242                Firmware Revision:  rev 365

Report To File:  Enabled                 Naming Mode:  Automatic
Prefix:  TAL   Index:    1

*****************************************************************
**                        CONFIGURATION                        **
*****************************************************************

TOC Unit: toc
Analysis Mode:  TIC/TOC     Spl Intro:  Autosampler 88
Remote Start :  OFF

Loop Size:  5 mL        Actual Volume  1mL   5mL   10mL   25mL
                        -------------  ----  ----  -----  -----
                         Loop A (uL):  1009  4970  10000  25000
                         Loop B (uL):  1008  4980  10000  25000

Tray Type:              88 Vial  Vial Option:        Preacidification
Needle Depth:           97 %     Preacid Volume (uL):             500
Wash Needle Depth:      94 %     Preacid Purge Time (min:sec):   1:30

            TIC    TOC    TC
Blank      ----   ----   ----            Linearization Coeff:  60000
 Average:    58    523      0

                         Sample Transfer Times (sec)
          Initial Fill          |        Loop Fill        | Sample Inject
     Non-AS    AS  AS w/Sep     | Non-AS    AS  AS w/Sep  |    (all)
     ------  ----- --------     | ------  ----- --------  | -------------
1mL:    0.0    0.0      0.0     |    0.0    0.0      0.0  |       0.0
5mL:    8.1    8.1      6.8     |    5.1    5.1      4.2  |       9.3
10mL:   0.0    0.0      0.0     |    0.0    0.0      0.0  |       0.0
25mL:   0.0    0.0      0.0     |    n/a    n/a      n/a  |       0.0

Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range:   0.000 ppmC,  Max Signal Range:   0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00
       Conc. Alarm Setpoints (ppm C)
          Low        |    High
      -----------    | -----------
TIC:      0.000          0.000
TOC:      0.000          0.000
TC:       0.000          0.000

*****************************************************************
**                        CALIBRATION                          **
*****************************************************************

TOC Unit: toc
CA42116  Tue May 10 15:22:55 2016

Std. #  Used  Conc. (ppm)  Volume (mL)
------  ----  -----------  -----------      RF (ugC/k-cts):     1.369
   1    Yes        0.000        5.000       R-Squared:         0.9978
   2    Yes        1.000        5.000       Offset (cts):          3075
   3    Yes       10.000        5.000       Offset (ugC):       -4.211
   4    Yes       25.000        5.000       Calibration Mode:     TOC
   5    No         0.000        5.000       Allow Editing:      No
```

Rep	Std. 1	Std. 2	Std. 3	Std. 4	Std. 5
1	4854	4164	40739	93368	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-

(* = unused)

****
** METHODS **
****

TOC Unit: toc
TOC Tue Mar 08 14:06:13 2016

Acid Volume: 200 uL
Oxidant Volume: 1000 uL
Auto-Repeat Time: 00:00:00 (hr:min:sec)

Rinse Volume (mL): 25
Rinses Per Rep: 0
Rinses Per Sample: 1

	TIC	TOC	TC
React: (min:sec):	02:00	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

****
** SEQUENCE **
****

TOC Unit: toc
051116 Wed May 11 09:04:15 2016

Start Pos/Vial #: 1, Stop Pos/Vial #: 20

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	toc	Sample	1	5.000	0	1.00	No	
2	RINSE	toc	Sample	1	5.000	0	1.00	No	
3	0	toc	Std. 1	1	5.000	0	1.00	No	
4	1 ppm	toc	Std. 2	1	5.000	0	1.00	No	
5	10 ppm	toc	Std. 3	1	5.000	0	1.00	No	
6	25 ppm	toc	Std. 4	1	5.000	0	1.00	No	
7	ICV	toc	Sample	1	5.000	0	1.00	No	
8	ICB	toc	Sample	1	5.000	0	1.00	No	
9	MB	toc	Sample	1	5.000	0	1.00	No	
10	LCS	toc	Sample	1	5.000	0	1.00	No	
11	600-129836-D-8	toc	Sample	1	5.000	0	1.00	No	
12	ms 129836-D-8	toc	Sample	1	5.000	0	1.00	No	
13	msd 129836-D-8	toc	Sample	1	5.000	0	1.00	No	
14	130608-A-1@100	toc	Sample	1	5.000	0	1.00	No	
15	130543-A-1@20	toc	Sample	1	5.000	0	1.00	No	
16	129836-D-3@20	toc	Sample	1	5.000	0	1.00	No	
17	600-130595-B-8	toc	Sample	1	5.000	0	1.00	No	
18	600-130595-B-9	toc	Sample	1	5.000	0	1.00	No	
19	CCV	toc	Sample	1	5.000	0	1.00	No	
20	CCB	toc	Sample	1	5.000	0	1.00	No	

****
** RESULTS - 051116 **
****

TOC Unit: toc

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL001	155	0.133	0.027	2112	2.175	0.437

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL002	153	0.130	0.026	1460	1.283	0.258

STD. 1 Rep	Datafile	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL003	1322	0.000	0.000

** Calibration:
RF (ugC/k-cts): 1.341
R-Squared: 0.9988
Offset (cts): 1514
Offset (ugC): -2.031

STD. 2 Rep	Datafile	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL004	2057	4.975	1.000

** Calibration:
RF (ugC/k-cts): 1.325
R-Squared: 0.9976
Offset (cts): 567
Offset (ugC): -0.751

STD. 3 Rep	Datafile	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL005	39653	49.750	10.000

** Calibration:
RF (ugC/k-cts): 1.327
R-Squared: 0.9984
Offset (cts): 348
Offset (ugC): -0.462

STD. 4 Rep	Datafile	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL006	91493	124.375	25.000

** Calibration:
RF (ugC/k-cts): 1.353
R-Squared: 0.9978
Offset (cts): 533
Offset (ugC): -0.722

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL007	337	0.377	0.076	39764	53.085	10.670

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL008	220	0.219	0.044	1268	1.008	0.203

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)

1	TAL009	208	0.203	0.041	1199	0.914	0.184

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL010	319	0.353	0.071	39762	53.083	10.670

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL011	28752	38.817	7.802	5233	6.372	1.281

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL012	29543	39.887	8.018	43977	58.785	11.816

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL013	27966	37.754	7.589	44852	59.969	12.054

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL014	606	0.741	0.149	96865	130.332	26.197

A-Linear range exceeded (130ugC). 11May2016 11:55

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL015	639	0.786	0.158	75367	101.249	20.352

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL016	3349	4.452	0.895	335952	453.770	91.210

A-Linear range exceeded (130ugC). 11May2016 12:19

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL017	16162	21.786	4.379	39107	52.197	10.492

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL018	15731	21.203	4.262	40376	53.913	10.837

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL019	309	0.340	0.068	40289	53.796	10.813

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL020	398	0.460	0.093	1405	1.193	0.240

```
*****************************************************************
**                OI Analytical Model 1010 TOC                 **
**                          RUN SETUP                          **
*****************************************************************
```

TOC Unit: toc
Operator: Unknown
Data Path: C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\051116
WinTOC Version: 5.2 Firmware Version: 5.2
WinTOC Revision: rev 242 Firmware Revision: rev 365

Report To File: Enabled Naming Mode: Automatic
Prefix: TAL Index: 21

```
*****************************************************************
**                        CONFIGURATION                        **
*****************************************************************
```

TOC Unit: toc
Analysis Mode: TIC/TOC Spl Intro: Autosampler 88
Remote Start : OFF

Loop Size: 5 mL

Actual Volume	1mL	5mL	10mL	25mL
Loop A (uL):	1009	4970	10000	25000
Loop B (uL):	1008	4980	10000	25000

Tray Type: 88 Vial Vial Option: Preacidification
Needle Depth: 97 % Preacid Volume (uL): 500
Wash Needle Depth: 94 % Preacid Purge Time (min:sec): 1:30

	TIC	TOC	TC
Blank Average:	58	523	0

Linearization Coeff: 60000

Sample Transfer Times (sec)

	Initial Fill Non-AS	Initial Fill AS	Initial Fill AS w/Sep	Loop Fill Non-AS	Loop Fill AS	Loop Fill AS w/Sep	Sample Inject (all)
1mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5mL:	8.1	8.1	6.8	5.1	5.1	4.2	9.3
10mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25mL:	0.0	0.0	0.0	n/a	n/a	n/a	0.0

Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range: 0.000 ppmC, Max Signal Range: 0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00

Conc. Alarm Setpoints (ppm C)

	Low	High
TIC:	0.000	0.000
TOC:	0.000	0.000
TC:	0.000	0.000

```
*****************************************************************
```

```
*****************************************************************
**                          CALIBRATION                        **
*****************************************************************

TOC Unit: toc
CA42116  Wed May 11 10:18:02 2016

Std. #  Used  Conc. (ppm)  Volume (mL)
------  ----  -----------  -----------        RF (ugC/k-cts):     1.353
   1    Yes       0.000        5.000          R-Squared:         0.9978
   2    Yes       1.000        5.000          Offset (cts):         533
   3    Yes      10.000        5.000          Offset (ugC):      -0.722
   4    Yes      25.000        5.000          Calibration Mode:    TOC
   5    No        0.000        5.000          Allow Editing:      No

Rep  Std. 1   Std. 2   Std. 3   Std. 4   Std. 5
--- -------- -------- -------- -------- --------
 1     1322     2057    39653    91493        -
 2       -        -        -        -        -
 3       -        -        -        -        -
 4       -        -        -        -        -
 5       -        -        -        -        -          (* = unused)
 6       -        -        -        -        -
 7       -        -        -        -        -
 8       -        -        -        -        -
 9       -        -        -        -        -
10       -        -        -        -        -

*****************************************************************
**                           METHODS                           **
*****************************************************************

TOC Unit: toc
TOC  Tue Mar 08 14:06:13 2016
  Acid Volume:            200 uL              Rinse Volume (mL):  25
  Oxidant Volume:        1000 uL              Rinses Per Rep:      0
  Auto-Repeat Time:  00:00:00 (hr:min:sec)    Rinses Per Sample:   1

                        TIC    TOC    TC
                       -----  -----  -----
  React: (min:sec):    02:00  02:30  02:30
  Detect: (min:sec):   01:00  01:30  01:30

*****************************************************************
**                          SEQUENCE                           **
*****************************************************************

TOC Unit: toc
051116  Wed May 11 13:09:05 2016

Start Pos/Vial #:  21, Stop Pos/Vial #:  24

Pos/     Sample          Method     Run    #   Vol    #   Dil  Ovr Remarks
Vial      Name                      Type  Rep  (mL)  Blk  Fact Rng
---- --------------- ------------ ------ --- ------ --- ----- --- -------
  1  RINSE           toc          Sample   1  5.000   0 1.00 No
  2  RINSE           toc          Sample   1  5.000   0 1.00 No
  3  0               toc          Std. 1   1  5.000   0 1.00 No
  4  1 ppm           toc          Std. 2   1  5.000   0 1.00 No
  5  10 ppm          toc          Std. 3   1  5.000   0 1.00 No
  6  25 ppm          toc          Std. 4   1  5.000   0 1.00 No
  7  ICV             toc          Sample   1  5.000   0 1.00 No
  8  ICB             toc          Sample   1  5.000   0 1.00 No
  9  MB              toc          Sample   1  5.000   0 1.00 No
 10  LCS             toc          Sample   1  5.000   0 1.00 No
 11  600-129836-D-8  toc          Sample   1  5.000   0 1.00 No
 12  ms 129836-D-8   toc          Sample   1  5.000   0 1.00 No
 13  msd 129836-D-8  toc          Sample   1  5.000   0 1.00 No
 14  130608-A-1@100  toc          Sample   1  5.000   0 1.00 No
 15  130543-A-1@20   toc          Sample   1  5.000   0 1.00 No
 16  129836-D-3@20   toc          Sample   1  5.000   0 1.00 No
 17  600-130595-B-8  toc          Sample   1  5.000   0 1.00 No
 18  600-130595-B-9  toc          Sample   1  5.000   0 1.00 No
```

19	CCV	toc	Sample	1	5.000	0	1.00	No
20	CCB	toc	Sample	1	5.000	0	1.00	No
21	130608-A-1@200	toc	Sample	1	5.000	0	1.00	No
22	129836-D-3@100	toc	Sample	1	5.000	0	1.00	No
23	CCV	toc	Sample	1	5.000	0	1.00	No
24	CCB	toc	Sample	1	5.000	0	1.00	No

```
*********************************************************************
**                        RESULTS - 051116                         **
*********************************************************************
```

TOC Unit: toc

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL021	457	0.540	0.108	48984	65.558	13.177

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL022	934	1.185	0.238	62517	83.866	16.857

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL023	293	0.318	0.064	40068	53.497	10.753

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL024	183	0.169	0.034	1634	1.503	0.302

****
** EC 5.11.16 188334 SEQUENCE **
****

TOC Unit: toc
051116 Wed May 11 13:09:05 2016

5/11/16

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	TOC	Sample	1	5.000	0	1.00	No	
2	RINSE	TOC	Sample	1	5.000	0	1.00	No	
3	0	TOC	Std. 1	1	5.000	0	1.00	No	
4	1 ppm	TOC	Std. 2	1	5.000	0	1.00	No	
5	10 ppm	TOC	Std. 3	1	5.000	0	1.00	No	
6	25 ppm	TOC	Std. 4	1	5.000	0	1.00	No	
7	ICV	TOC	Sample	1	5.000	0	1.00	No	
8	ICB	TOC	Sample	1	5.000	0	1.00	No	
9	MB	TOC	Sample	1	5.000	0	1.00	No	
10	LCS	TOC	Sample	1	5.000	0	1.00	No	
11	600-129836-D-8	TOC	Sample	1	5.000	0	1.00	No	
12	ms 129836-D-8	TOC	Sample	1	5.000	0	1.00	No	
13	msd 129836-D-8	TOC	Sample	1	5.000	0	1.00	No	
14	130608-A-1@100	TOC	Sample	1	5.000	0	1.00	No	
15	130543-A-1@20	TOC	Sample	1	5.000	0	1.00	No	
16	129836-D-3@20	TOC	Sample	1	5.000	0	1.00	No	
17	600-130595-B-8	TOC	Sample	1	5.000	0	1.00	No	
18	600-130595-B-9	TOC	Sample	1	5.000	0	1.00	No	
19	CCV	TOC	Sample	1	5.000	0	1.00	No	
20	CCB	TOC	Sample	1	5.000	0	1.00	No	
21	130608-A-1@200	TOC	Sample	1	5.000	0	1.00	No	
22	129836-D-3@100	TOC	Sample	1	5.000	0	1.00	No	
23	CCV	TOC	Sample	1	5.000	0	1.00	No	
24	CCB	TOC	Sample	1	5.000	0	1.00	No	

```
*******************************************************************
**                  OI Analytical Model 1010 TOC                 **
**                          RUN SETUP                            **
*******************************************************************

TOC Unit: toc
Operator:   Unknown
Data Path:  C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\051116
WinTOC Version:  5.2                    Firmware Version:  5.2
WinTOC Revision:  rev 242                Firmware Revision:  rev 365

Report To File:  Enabled                Naming Mode:  Automatic
Prefix:  TAL   Index:    1

*******************************************************************
**                         CONFIGURATION                         **
*******************************************************************

TOC Unit: toc
Analysis Mode:  TIC/TOC     Spl Intro:  Autosampler 88
Remote Start :  OFF

Loop Size:  5 mL        Actual Volume  1mL   5mL   10mL   25mL
                        -------------  ----  ----  -----  -----
                         Loop A (uL):  1009  4970  10000  25000
                         Loop B (uL):  1008  4980  10000  25000

Tray Type:              88 Vial  Vial Option:        Preacidification
Needle Depth:           97 %     Preacid Volume (uL):             500
Wash Needle Depth:      94 %     Preacid Purge Time (min:sec):   1:30

            TIC    TOC    TC
Blank      ----   ----   ----            Linearization Coeff:  60000
 Average:    58    523      0

                         Sample Transfer Times (sec)
          Initial Fill          |        Loop Fill        | Sample Inject
     Non-AS    AS  AS w/Sep     | Non-AS    AS  AS w/Sep  |    (all)
     ------  ----- --------     | ------  ----- --------  | -------------
1mL:    0.0    0.0      0.0     |    0.0    0.0      0.0  |       0.0
5mL:    8.1    8.1      6.8     |    5.1    5.1      4.2  |       9.3
10mL:   0.0    0.0      0.0     |    0.0    0.0      0.0  |       0.0
25mL:   0.0    0.0      0.0     |    n/a    n/a      n/a  |       0.0

Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range:   0.000 ppmC,  Max Signal Range:   0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00
       Conc. Alarm Setpoints (ppm C)
          Low        |     High
       -----------   | -----------
TIC:      0.000          0.000
TOC:      0.000          0.000
TC:       0.000          0.000

*******************************************************************
**                         CALIBRATION                           **
*******************************************************************

TOC Unit: toc
CA42116  Tue May 10 15:22:55 2016

Std. #  Used  Conc. (ppm)  Volume (mL)
------  ----  -----------  -----------      RF (ugC/k-cts):     1.369
   1    Yes        0.000        5.000       R-Squared:         0.9978
   2    Yes        1.000        5.000       Offset (cts):         3075
   3    Yes       10.000        5.000       Offset (ugC):       -4.211
   4    Yes       25.000        5.000       Calibration Mode:     TOC
   5    No         0.000        5.000       Allow Editing:      No
```

Rep	Std. 1	Std. 2	Std. 3	Std. 4	Std. 5
1	4854	4164	40739	93368	-
2	-	-	-	-	-
3	-	-	-	-	-
4	-	-	-	-	-
5	-	-	-	-	-
6	-	-	-	-	-
7	-	-	-	-	-
8	-	-	-	-	-
9	-	-	-	-	-
10	-	-	-	-	-

(* = unused)

****
** METHODS **
****

TOC Unit: toc
TOC Tue Mar 08 14:06:13 2016

Acid Volume: 200 uL
Oxidant Volume: 1000 uL
Auto-Repeat Time: 00:00:00 (hr:min:sec)

Rinse Volume (mL): 25
Rinses Per Rep: 0
Rinses Per Sample: 1

	TIC	TOC	TC
React: (min:sec):	02:00	02:30	02:30
Detect: (min:sec):	01:00	01:30	01:30

****
** SEQUENCE **
****

TOC Unit: toc
051116 Wed May 11 09:04:15 2016

Start Pos/Vial #: 1, Stop Pos/Vial #: 20

Pos/ Vial	Sample Name	Method	Run Type	# Rep	Vol (mL)	# Blk	Dil Fact	Ovr Rng	Remarks
1	RINSE	toc	Sample	1	5.000	0	1.00	No	
2	RINSE	toc	Sample	1	5.000	0	1.00	No	
3	0	toc	Std. 1	1	5.000	0	1.00	No	
4	1 ppm	toc	Std. 2	1	5.000	0	1.00	No	
5	10 ppm	toc	Std. 3	1	5.000	0	1.00	No	
6	25 ppm	toc	Std. 4	1	5.000	0	1.00	No	
7	ICV	toc	Sample	1	5.000	0	1.00	No	
8	ICB	toc	Sample	1	5.000	0	1.00	No	
9	MB	toc	Sample	1	5.000	0	1.00	No	
10	LCS	toc	Sample	1	5.000	0	1.00	No	
11	600-129836-D-8	toc	Sample	1	5.000	0	1.00	No	
12	ms 129836-D-8	toc	Sample	1	5.000	0	1.00	No	
13	msd 129836-D-8	toc	Sample	1	5.000	0	1.00	No	
14	130608-A-1@100	toc	Sample	1	5.000	0	1.00	No	
15	130543-A-1@20	toc	Sample	1	5.000	0	1.00	No	
16	129836-D-3@20	toc	Sample	1	5.000	0	1.00	No	
17	600-130595-B-8	toc	Sample	1	5.000	0	1.00	No	
18	600-130595-B-9	toc	Sample	1	5.000	0	1.00	No	
19	CCV	toc	Sample	1	5.000	0	1.00	No	
20	CCB	toc	Sample	1	5.000	0	1.00	No	

****
** RESULTS - 051116 **
****

TOC Unit: toc

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL001	155	0.133	0.027	2112	2.175	0.437

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL002	153	0.130	0.026	1460	1.283	0.258

STD. 1 Rep	Datafile	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL003	1322	0.000	0.000

** Calibration:
RF (ugC/k-cts): 1.341
R-Squared: 0.9988
Offset (cts): 1514
Offset (ugC): -2.031

STD. 2 Rep	Datafile	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL004	2057	4.975	1.000

** Calibration:
RF (ugC/k-cts): 1.325
R-Squared: 0.9976
Offset (cts): 567
Offset (ugC): -0.751

STD. 3 Rep	Datafile	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL005	39653	49.750	10.000

** Calibration:
RF (ugC/k-cts): 1.327
R-Squared: 0.9984
Offset (cts): 348
Offset (ugC): -0.462

STD. 4 Rep	Datafile	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL006	91493	124.375	25.000

** Calibration:
RF (ugC/k-cts): 1.353
R-Squared: 0.9978
Offset (cts): 533
Offset (ugC): -0.722

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL007	337	0.377	0.076	39764	53.085	10.670

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL008	220	0.219	0.044	1268	1.008	0.203

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)

1	TAL009	208	0.203	0.041	1199	0.914	0.184

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL010	319	0.353	0.071	39762	53.083	10.670

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL011	28752	38.817	7.802	5233	6.372	1.281

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL012	29543	39.887	8.018	43977	58.785	11.816

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL013	27966	37.754	7.589	44852	59.969	12.054

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL014	606	0.741	0.149	96865	130.332	26.197

A-Linear range exceeded (130ugC). 11May2016 11:55

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL015	639	0.786	0.158	75367	101.249	20.352

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL016	3349	4.452	0.895	335952	453.770	91.210

A-Linear range exceeded (130ugC). 11May2016 12:19

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL017	16162	21.786	4.379	39107	52.197	10.492

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL018	15731	21.203	4.262	40376	53.913	10.837

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL019	309	0.340	0.068	40289	53.796	10.813

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL020	398	0.460	0.093	1405	1.193	0.240

```
*********************************************************************
**                  OI Analytical Model 1010 TOC                   **
**                          RUN SETUP                              **
*********************************************************************
```

TOC Unit: toc
Operator: Unknown
Data Path: C:\PROGRA~1\OIANAL~1\TOCREP~1\DATA10\051116
WinTOC Version: 5.2 Firmware Version: 5.2
WinTOC Revision: rev 242 Firmware Revision: rev 365

Report To File: Enabled Naming Mode: Automatic
Prefix: TAL Index: 21

```
*********************************************************************
**                         CONFIGURATION                           **
*********************************************************************
```

TOC Unit: toc
Analysis Mode: TIC/TOC Spl Intro: Autosampler 88
Remote Start : OFF

Loop Size: 5 mL

Actual Volume	1mL	5mL	10mL	25mL
Loop A (uL):	1009	4970	10000	25000
Loop B (uL):	1008	4980	10000	25000

Tray Type: 88 Vial Vial Option: Preacidification
Needle Depth: 97 % Preacid Volume (uL): 500
Wash Needle Depth: 94 % Preacid Purge Time (min:sec): 1:30

	TIC	TOC	TC
Blank Average:	58	523	0

Linearization Coeff: 60000

Sample Transfer Times (sec)

	Initial Fill Non-AS	Initial Fill AS	Initial Fill AS w/Sep	Loop Fill Non-AS	Loop Fill AS	Loop Fill AS w/Sep	Sample Inject (all)
1mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5mL:	8.1	8.1	6.8	5.1	5.1	4.2	9.3
10mL:	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25mL:	0.0	0.0	0.0	n/a	n/a	n/a	0.0

Analog Concentration Signal indicates TIC
Analog Conc. Signal Timer is ON, Timer duration (h:m:s): 30350:26:59
Min Signal Range: 0.000 ppmC, Max Signal Range: 0.000 ppmC

Alarms DISABLED
Alarm Relay Timer is OFF, Timer duration (h:m:s): 00:00:00

Conc. Alarm Setpoints (ppm C)

	Low	High
TIC:	0.000	0.000
TOC:	0.000	0.000
TC:	0.000	0.000

```
*********************************************************************
```

```
*****************************************************************
**                          CALIBRATION                        **
*****************************************************************

TOC Unit: toc
CA42116  Wed May 11 10:18:02 2016

Std. #  Used  Conc. (ppm)  Volume (mL)
------  ----  -----------  -----------      RF (ugC/k-cts):     1.353
   1    Yes       0.000        5.000        R-Squared:         0.9978
   2    Yes       1.000        5.000        Offset (cts):          533
   3    Yes      10.000        5.000        Offset (ugC):       -0.722
   4    Yes      25.000        5.000        Calibration Mode:     TOC
   5    No        0.000        5.000        Allow Editing:      No

Rep  Std. 1   Std. 2   Std. 3   Std. 4   Std. 5
--- -------- -------- -------- -------- --------
 1     1322     2057    39653    91493        -
 2       -        -        -        -        -
 3       -        -        -        -        -
 4       -        -        -        -        -
 5       -        -        -        -        -          (* = unused)
 6       -        -        -        -        -
 7       -        -        -        -        -
 8       -        -        -        -        -
 9       -        -        -        -        -
10       -        -        -        -        -

*****************************************************************
**                           METHODS                           **
*****************************************************************

TOC Unit: toc
TOC  Tue Mar 08 14:06:13 2016
  Acid Volume:            200 uL              Rinse Volume (mL):  25
  Oxidant Volume:        1000 uL              Rinses Per Rep:      0
  Auto-Repeat Time:  00:00:00 (hr:min:sec)    Rinses Per Sample:   1

                       TIC    TOC    TC
                      -----  -----  -----
  React: (min:sec):   02:00  02:30  02:30
  Detect: (min:sec):  01:00  01:30  01:30

*****************************************************************
**                          SEQUENCE                           **
*****************************************************************

TOC Unit: toc
051116  Wed May 11 13:09:05 2016

Start Pos/Vial #:  21, Stop Pos/Vial #:  24

Pos/     Sample          Method      Run    #   Vol    #   Dil  Ovr Remarks
Vial      Name                       Type  Rep  (mL)  Blk  Fact Rng
---- --------------- ------------ ------ --- ------ --- ----- --- -------
  1  RINSE           toc          Sample   1  5.000   0 1.00 No
  2  RINSE           toc          Sample   1  5.000   0 1.00 No
  3  0               toc          Std. 1   1  5.000   0 1.00 No
  4  1 ppm           toc          Std. 2   1  5.000   0 1.00 No
  5  10 ppm          toc          Std. 3   1  5.000   0 1.00 No
  6  25 ppm          toc          Std. 4   1  5.000   0 1.00 No
  7  ICV             toc          Sample   1  5.000   0 1.00 No
  8  ICB             toc          Sample   1  5.000   0 1.00 No
  9  MB              toc          Sample   1  5.000   0 1.00 No
 10  LCS             toc          Sample   1  5.000   0 1.00 No
 11  600-129836-D-8  toc          Sample   1  5.000   0 1.00 No
 12  ms 129836-D-8   toc          Sample   1  5.000   0 1.00 No
 13  msd 129836-D-8  toc          Sample   1  5.000   0 1.00 No
 14  130608-A-1@100  toc          Sample   1  5.000   0 1.00 No
 15  130543-A-1@20   toc          Sample   1  5.000   0 1.00 No
 16  129836-D-3@20   toc          Sample   1  5.000   0 1.00 No
 17  600-130595-B-8  toc          Sample   1  5.000   0 1.00 No
 18  600-130595-B-9  toc          Sample   1  5.000   0 1.00 No
```

19	CCV	toc	Sample	1	5.000	0	1.00	No
20	CCB	toc	Sample	1	5.000	0	1.00	No
21	130608-A-1@200	toc	Sample	1	5.000	0	1.00	No
22	129836-D-3@100	toc	Sample	1	5.000	0	1.00	No
23	CCV	toc	Sample	1	5.000	0	1.00	No
24	CCB	toc	Sample	1	5.000	0	1.00	No

```
*********************************************************************
**                      RESULTS - 051116                           **
*********************************************************************
```

TOC Unit: toc

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL021	457	0.540	0.108	48984	65.558	13.177

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL022	934	1.185	0.238	62517	83.866	16.857

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL023	293	0.318	0.064	40068	53.497	10.753

SAMPLES Rep	Datafile	TIC Area (cts)	TIC Mass (ugC)	TIC Conc (ppm)	TOC Area (cts)	TOC Mass (ugC)	TOC Conc (ppm)
1	TAL024	183	0.169	0.034	1634	1.503	0.302

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Batch Number: 188184 Batch Start Date: 05/10/16 06:56 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	WETSNH3ICV 00023		
MB 600-188184/1		350.1, 350.1		100 mL	100 mL	<2 SU			
LCS 600-188184/2		350.1, 350.1		100 mL	100 mL	<2 SU	0.5 mL		
600-129836-A-3	MW-01	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-129836-A-3 MS	MW-01	350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-129836-A-3 MSD	MW-01	350.1, 350.1	T	100 mL	100 mL	<2 SU	0.5 mL		
600-129836-A-4	MW-02-DUP	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-129836-A-5	MW-02	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-129836-A-6	MW-03	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-129836-A-7	MW-20	350.1, 350.1	T	100 mL	100 mL	<2 SU			
600-129836-A-8	MW-21	350.1, 350.1	T	100 mL	100 mL	<2 SU			

Batch Notes	
Pipette ID	wc47,wc53,wc63

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Batch Number: 188226 Batch Start Date: 05/10/16 10:41 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	CalcMsg	WETSNH3CAL 00012	WETSNH3ICV 00023
ICV 600-188226/9		350.1		5 mL	5 mL	<2 SU	OK		0.025 mL
ICB 600-188226/10		350.1		5 mL	5 mL	<2 SU	OK		
MB 600-188184/1-A		350.1		5 mL	5 mL	<2 SU	OK		
LCS 600-188184/2-A		350.1		5 mL	5 mL	<2 SU	OK		
CCV 600-188226/21		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-188226/22		350.1		5 mL	5 mL	<2 SU	OK		
600-129836-A-3-A	MW-01	350.1	T	5 mL	5 mL	<2 SU	OK		
600-129836-A-3-B MS	MW-01	350.1	T	5 mL	5 mL	<2 SU	OK		
600-129836-A-3-C MSD	MW-01	350.1	T	5 mL	5 mL	<2 SU	OK		
600-129836-A-4-A	MW-02-DUP	350.1	T	5 mL	5 mL	<2 SU	OK		
600-129836-A-5-A	MW-02	350.1	T	5 mL	5 mL	<2 SU	OK		
600-129836-A-6-A	MW-03	350.1	T	5 mL	5 mL	<2 SU	OK		
CCV 600-188226/33		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-188226/34		350.1		5 mL	5 mL	<2 SU	OK		
600-129836-A-7-A	MW-20	350.1	T	5 mL	5 mL	<2 SU	OK		
600-129836-A-8-A	MW-21	350.1	T	5 mL	5 mL	<2 SU	OK		
CCV 600-188226/45		350.1		5 mL	5 mL	<2 SU	OK	0.025 mL	
CCB 600-188226/46		350.1		5 mL	5 mL	<2 SU	OK		

Batch Notes	
Pipette ID	wc47,wc53,wc63
Perform Calculation (0=No, 1=Yes)	1

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Batch Number: 188226 Batch Start Date: 05/10/16 10:41 Batch Analyst: Cemer, Sejfudin

Batch Method: 350.1 Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Batch Number: 187527 Batch Start Date: 04/29/16 18:48 Batch Analyst: Sineva, Ekaterina A

Batch Method: 353.2 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WETSICINO2 00019	WETSNO2ICV 00023		
ICV 600-187527/1		353.2		5 mL	5 mL	0.005 mL			
ICB 600-187527/2		353.2		5 mL	5 mL				
MB 600-187527/4		353.2		5 mL	5 mL				
LCS 600-187527/5		353.2		5 mL	5 mL	0.005 mL			
600-129796-D-6 MS		353.2	T	5 mL	5 mL	0.005 mL			
600-129796-D-6 MSD		353.2	T	5 mL	5 mL	0.005 mL			
CCV 600-187527/13		353.2		5 mL	5 mL		0.005 mL		
CCB 600-187527/14		353.2		5 mL	5 mL				
600-129836-D-3	MW-01	353.2	T	5 mL	5 mL				
600-129836-D-4	MW-02-DUP	353.2	T	5 mL	5 mL				
600-129836-D-5	MW-02	353.2	T	5 mL	5 mL				
600-129836-D-6 ^5	MW-03	353.2	T	5 mL	5 mL				
600-129836-D-7	MW-20	353.2	T	5 mL	5 mL				
600-129836-D-8 ^2	MW-21	353.2	T	5 mL	5 mL				
CCV 600-187527/25		353.2		5 mL	5 mL		0.005 mL		
CCB 600-187527/26		353.2		5 mL	5 mL				

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Batch Number: 185607 Batch Start Date: 04/01/16 14:25 Batch Analyst: Daniel, Kevin R

Batch Method: 4500 P E-1999 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	UnCorResp	ColorBlk	ORTHO_1PPM 00001	WETSPHOSCS 00022
IC 600-185607/1		4500 P E-1999		5 mL	5 mL	0.000	0.000		
IC 600-185607/2		4500 P E-1999		5 mL	5 mL	0.005	0.000	50 uL	
IC 600-185607/3		4500 P E-1999		5 mL	5 mL	0.029	0.000	250 uL	
IC 600-185607/4		4500 P E-1999		5 mL	5 mL	0.059	0.000		10 uL
IC 600-185607/5		4500 P E-1999		5 mL	5 mL	0.148	0.000		25 uL
IC 600-185607/6		4500 P E-1999		5 mL	5 mL	0.301	0.000		50 uL
IC 600-185607/7		4500 P E-1999		5 mL	5 mL	0.567	0.000		100 uL

Batch Notes	
Ammonium Molybdate ID	2048489
Potassium Antimonyl Tartrate ID	2101213
Pipette ID	wc62 wc45a wc40
Sulfuric Acid Reagent ID Number	2154654

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Batch Number: 187154 Batch Start Date: 04/25/16 19:55 Batch Analyst: Daniel, Kevin R

Batch Method: 4500 P E-1999 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	UnCorResp	ColorBlk	WETSPHOSCS 00022	WETSPHOSIS 00020
ICV 600-187154/1		4500 P E-1999		5 mL	5 mL	0.000	0.303		50 uL
ICB 600-187154/2		4500 P E-1999		5 mL	5 mL	0.000	0.000		
MB 600-187154/3		4500 P E-1999		5 mL	5 mL	0.000	0.000		
LCS 600-187154/4		4500 P E-1999		5 mL	5 mL	0.000	0.304		50 uL
600-129836-B-3	MW-01	4500 P E-1999	T	5 mL	5 mL	0.044	0.431		
600-129836-B-4	MW-02-DUP	4500 P E-1999	T	5 mL	5 mL	0.028	0.122		
CCV 600-187154/12		4500 P E-1999		5 mL	5 mL	0.000	0.302	50 uL	
CCB 600-187154/13		4500 P E-1999		5 mL	5 mL	0.000	0.000		
600-129836-B-5	MW-02	4500 P E-1999	T	5 mL	5 mL	0.029	0.153		
600-129836-B-5 MS	MW-02	4500 P E-1999	T	5 mL	5 mL	0.029	0.438		50 uL
600-129836-B-5 MSD	MW-02	4500 P E-1999	T	5 mL	5 mL	0.029	0.437		50 uL
600-129836-B-6	MW-03	4500 P E-1999	T	5 mL	5 mL	0.036	0.218		
600-129836-B-7	MW-20	4500 P E-1999	T	5 mL	5 mL	0.041	0.052		
600-129836-B-8	MW-21	4500 P E-1999	T	5 mL	5 mL	0.022	0.039		
CCV 600-187154/20		4500 P E-1999		5 mL	5 mL	0.000	0.315	50 uL	
CCB 600-187154/21		4500 P E-1999		5 mL	5 mL	0.000	0.000		

Batch Notes	
Ammonium Molybdate ID	2173221
Ascorbic Acid ID	2185186
Potassium Antimonyl Tartrate ID	2101213
Pipette ID	wc62 wc45a
Sulfuric Acid Reagent ID Number	2178875

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Batch Number: 187154 Batch Start Date: 04/25/16 19:55 Batch Analyst: Daniel, Kevin R

Batch Method: 4500 P E-1999 Batch End Date:

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Batch Number: 188280 Batch Start Date: 05/10/16 11:36 Batch Analyst: Contreras, Enrique

Batch Method: 5310 D-2000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TOCISCAL 00320	TOCSLCS 00217	WETSTOCICV 00033			
ICV 600-188280/7		5310 D-2000		12 mL					
LCS 600-188280/10		5310 D-2000		12 mL					
600-130341-C-1 MS		5310 D-2000	T			0.12 mL			
600-130341-C-1 MSD		5310 D-2000	T			0.12 mL			
CCV 600-188280/19		5310 D-2000			12 mL				
CCV 600-188280/31		5310 D-2000			12 mL				

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Houston Job No.: 600-129836-1

SDG No.:

Batch Number: 188334 Batch Start Date: 05/11/16 09:05 Batch Analyst: Contreras, Enrique

Batch Method: 5310 D-2000 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	TOCISCAL 00320	TOCSLCS 00217	WETSTOCICV 00033			
LCS 600-188334/10		5310 D-2000		12 mL					
600-129836-D-8 MS	MW-21	5310 D-2000	T			0.12 mL			
600-129836-D-8 MSD	MW-21	5310 D-2000	T			0.12 mL			
CCV 600-188334/19		5310 D-2000			12 mL				
CCV 600-188334/23		5310 D-2000			12 mL				

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

USEPA CLP COC (LAB COPY)

DateShipped: 4/22/2016
CarrierName: FedEx
AirbillNo: 7761 7765 6408

CHAIN OF CUSTODY RECORD

No: 6-042216-171850-0012

Lab: TestAmerica Laboratories, Inc. - Houston
Lab Contact: Cathy Upton
Lab Phone: 713-690-4444

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
ER-4		Water/ Aaron Bugher	Grab	VOA(21)	1007 (Ice to 4C & HCl) (3)	ER-4	04/22/2016 11:25	
FB-4		Water/ Aaron Bugher	Grab	VOA(21)	1015 (Ice to 4C & HCl) (3)	FB-4	04/22/2016 11:15	
MW-01		Ground Water/ Aaron Bugher	Grab	VOA(21), MEE(21)	1017 (Ice to 4C & HCl), 1019 (Ice to 4C & HCl) (5)	MW-01	04/22/2016 09:05	
MW-02		Ground Water/ Aaron Bugher	Grab	VOA(21), MEE(21)	1023 (Ice to 4C & HCl), 1025 (Ice to 4C & HCl) (5)	MW-02	04/22/2016 15:25	
MW-02-DUP		Ground Water/ Aaron Bugher	Grab	VOA(21), MEE(21)	1111 (Ice to 4C & HCl), 1113 (Ice to 4C & HCl) (5)	MW-02-DUP	04/22/2016 15:25	
MW-03		Ground Water/ Aaron Bugher	Grab	VOA(21), MEE(21)	1029 (Ice to 4C & HCl), 1031 (Ice to 4C & HCl) (5)	MW-03	04/22/2016 16:50	
MW-20		Ground Water/ Aaron Bugher	Grab	VOA(21), MEE(21)	1071 (Ice to 4C & HCl), 1073 (Ice to 4C & HCl) (5)	MW-20	04/22/2016 14:00	
MW-21		Ground Water/ Aaron Bugher	Grab	VOA(21), MEE(21)	1077 (Ice to 4C & HCl), 1079 (Ice to 4C & HCl) (5)	MW-21	04/22/2016 10:55	
TB-4		Water/ Aaron Bugher	Grab	VOA(21)	1110 (Ice to 4C & HCl) (2)	TB-4	04/22/2016 07:00	

Special Instructions:

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: VOA=VOA, MEE=Methane, Ethane, Ethene (RSK-175)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	[illegible] EA	4-22-16/1800	[illegible]	4/25 [illegible]	

600-129836 Chain of Custody

USEPA CLP COC (LAB COPY)

DateShipped: 4/22/2016
CarrierName: FedEx
AirbillNo: 7761 7765 4758

CHAIN OF CUSTODY RECORD

No: 6-042216-171849-0011

Lab: TestAmerica Laboratories, Inc. - Houston
Lab Contact: Cathy Upton
Lab Phone: 713-690-4444

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
ER-4		Water/ Aaron Bugher	Grab	Metals(21)	1008 (Ice to 4C) (1)	ER-4	04/22/2016 11:25	
FB-4		Water/ Aaron Bugher	Grab	Metals(21)	1016 (Ice to 4C) (1)	FB-4	04/22/2016 11:15	
MW-01		Ground Water/ Aaron Bugher	Grab	Metals(21)	1018 (Ice to 4C) (1)	MW-01	04/22/2016 09 05	
MW-03		Ground Water/ Aaron Bugher	Grab	Metals(21)	1030 (Ice to 4C) (1)	MW-03	04/22/2016 16:50	
MW-20		Ground Water/ Aaron Bugher	Grab	Metals(21)	1072 (Ice to 4C) (1)	MW-20	04/22/2016 14:00	
MW-21		Ground Water/ Aaron Bugher	Grab	Metals(21)	1078 (Ice to 4C) (1)	MW-21	04/22/2016 10:55	

Special Instructions:

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: Metals=Dissolved Metals + Hg (not field filtered)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	[signature] FA	4-22-16/1800	[signature]	4/25 9:49	

USEPA CLP COC (LAB COPY)

DateShipped: 4/22/2016
CarrierName: FedEx
AirbillNo: 7761 7765 1428

CHAIN OF CUSTODY RECORD

No: 6-042116-165827-0009

Lab: TestAmerica Laboratories, Inc. - Houston
Lab Contact: Cathy Upton
Lab Phone: 713-690-4444

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
MW-01		Ground Water/ Aaron Bugher	Grab	N and NH3(21), TOC(21)	1020 (Ice to 4C & H2SO4), 1021 (Ice to 4C & H2SO4) (2)	MW-01	04/22/2016 09:05	
MW-02		Ground Water/ Aaron Bugher	Grab	N and NH3(21)	1026 (Ice to 4C & H2SO4) (1)	MW-02	04/22/2016 15:25	
MW-02-DUP		Ground Water/ Aaron Bugher	Grab	N and NH3(21)	1114 (Ice to 4C & H2SO4) (1)	MW-02-DUP	04/22/2016 15:25	
MW-03		Ground Water/ Aaron Bugher	Grab	N and NH3(21), TOC(21)	1032 (Ice to 4C & H2SO4), 1033 (Ice to 4C & H2SO4) (2)	MW-03	04/22/2016 16:50	
MW-20		Ground Water/ Aaron Bugher	Grab	N and NH3(21), TOC(21)	1074 (Ice to 4C & H2SO4), 1075 (Ice to 4C & H2SO4) (2)	MW-20	04/22/2016 14:00	
MW-21		Ground Water/ Aaron Bugher	Grab	N and NH3(21), TOC(21)	1080 (Ice to 4C & H2SO4), 1081 (Ice to 4C & H2SO4) (2)	MW-21	04/22/2016 10:55	

Special Instructions:

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: N and NH3=Nitrate Nitrite as N and Ammonia, TOC=Total Organic Carbon (EPA 415.2)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	[signature] EA	4-22-16/1800	[signature]	4/25 9:49	

USEPA CLP COC (LAB COPY)

DateShipped: 4/22/2016
CarrierName: FedEx
AirbillNo: 7761 7765 4287

CHAIN OF CUSTODY RECORD

No: 6-042216-171848-0010

Lab: TestAmerica Laboratories, Inc. - Houston
Lab Contact: Cathy Upton
Lab Phone: 713-690-4444

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
MW-01		Ground Water/ Aaron Bugher	Grab	Ortho-phosphate(21)	1022 (Ice to 4C) (1)	MW-01	04/22/2016 09:05	
MW-02		Ground Water/ Aaron Bugher	Grab	Metals(21), TOC(21), Ortho-phosphate(21)	1024 (Ice to 4C), 1027 (Ice to 4C & H2SO4), 1028 (Ice to 4C) (3)	MW-02	04/22/2016 15:25	
MW-02-DUP		Ground Water/ Aaron Bugher	Grab	Metals(21), TOC(21), Ortho-phosphate(21)	1112 (Ice to 4C), 1115 (Ice to 4C & H2SO4), 1116 (Ice to 4C) (3)	MW-02-DUP	04/22/2016 15:25	
MW-03		Ground Water/ Aaron Bugher	Grab	Ortho-phosphate(21)	1034 (Ice to 4C) (1)	MW-03	04/22/2016 16:50	
MW-20		Ground Water/ Aaron Bugher	Grab	Ortho-phosphate(21)	1076 (Ice to 4C) (1)	MW-20	04/22/2016 14:00	
MW-21		Ground Water/ Aaron Bugher	Grab	Ortho-phosphate(21)	1082 (Ice to 4C) (1)	MW-21	04/22/2016 10.55	

Special Instructions:

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key: Ortho-phosphate=Ortho-phosphate (EPA 365.1), Metals=Dissolved Metals + Hg (not field filtered), TOC=Total Organic Carbon (EPA 415.2)

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	Aaron Bugher EA	4-22-16/1800	Jeremy L. Ulmer	4/25 9:49	

TestAmerica Houston

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

'16 APR 25 9:49

Sample Receipt Checklist

Date/Time Received: _____

JOB NUMBER: _____ CLIENT: USEPA

UNPACKED BY: _____ CARRIER/DRIVER: FedEx

Custody Seal Present: ☑ YES ☐ NO Number of Coolers Received: 4

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
BW	Y / N	Y / N	1.2	550	-0.5	~~1.7~~ 0.7
Wht	Y / N	Y / N	4.1	550	-0.5	~~4.9~~ 3.6
RW	Y / N	Y / N	2.4	550	-0.5	~~2.9~~ 2.9
Wht	Y / N	Y / N	1.0	550	-0.5	~~1.5~~ 0.5
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N			need to	SUBTRACT temp
	Y / N	Y / N				
	Y / N	Y / N				

JCH 4/25/16

CF = correction factor

Samples received on ice? ☑ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☑ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO Acid preserved are<pH 2: ☑ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☑ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		☑

COMMENTS: 7761 7765 6408

7761 7765 4758

7761 7765 1428

7761 7765 4207

ortho read out of hold

HS-SA-WI-013 Rev. 3; 07/01/2014

Part # 1594659-434

(Time & Temperature Sensit

****Package Must M

600-129836 Waybill

ORIGIN ID:LKSA (713) 690-4444
TEST AMERICA HOUSTON
TESTAMERICA HOUSTON
6310 ROTHWAY ST

HOUSTON, TX 77040
UNITED STATES US

SHIP DATE: 26APR16
ACTWGT: 30.0 LB MAN
CAD: 361217/CAFE2807
DIMS: 19x19x13 IN

BILL RECIPIENT

A
7523
04.21

521C1/1042/SF03

TO SAMPLE RECEIVING
TEST AMERICA INC
301 ALPHA DRIVE

PITTSBURGH PA 152382907
(412) 963-7058
REF: S600-44826

FedEx
Express

J1412140738D1aw

TRK# 0201 6706 1408 7523

WED - 27 APR AA
STANDARD OVERNIGHT

NA AGCA

15238
PA-US PIT

Uncorrected temp 4.6 °C
Thermometer ID 1

SF 0 Initials CMK

SR-001 effective 7/26/13

TestAmerica Houston
6310 Rothway Street
Ho[illegible], TX 77040
[illegible] (713) 690-4444 Fax (713) 690-8646

Chain of Custody Record

600-129691 Chain of Custody

TestAmer
THE LEADER IN ENVIRONMENTA

C[illegible] Information (Sub Contract Lab)	Sampler:	Lab PM: Tigrett, Lance C	QC No: 600-19963.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: lance.tigrett@testamericainc.com	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.			Job #: 600-129691-1
Address: 301 Alpha Drive, RIDC Park,	Due Date Requested: 4/26/2016		
City: Pittsburgh	TAT Requested (days):		
State, Zip: PA, 15238			
Phone: 412-963-7058(Tel) 412-963-2468(Fax)	PO #:		
Email:	WO #:		
Project Name: N6C0585	Project #: 60007292		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	608_PCB/608_Prep_PCB (MOD) Copy Analytes	625_LL/625_LL_Prep Semivolatile Organic Compounds (GC/MS)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
N6C0585-01 (600-129691-1)	4/18/16	10:40 Central		Water			X	X		

Possible Hazard Identification
Unconfirmed

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:	
Relinquished by:	Date/Time: 4/26/16 1600	Company: TA	Received by:	Date/Time: 4/27/16	905	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:		Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:		Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Upton, Cathy

From: Appel, Patrick [pappel@eaest.com]
Sent: Monday, April 25, 2016 1:07 PM
To: Upton, Cathy; Bugher, Aaron
Cc: Thomas, Duane; Guth, Ryan
Subject: RE: Jones Road - Sampling
Follow Up Flag: Follow up
Flag Status: Red

Please go ahead and analyze the samples for orthophosphate.

Thanks
Pat

From: Upton, Cathy [mailto:Cathy.Upton@testamericainc.com]
Sent: Monday, April 25, 2016 11:31 AM
To: Bugher, Aaron <abugher@eaest.com>
Cc: Appel, Patrick <pappel@eaest.com>; Thomas, Duane <djthomas@eaest.com>; Guth, Ryan <rguth@eaest.com>
Subject: RE: Jones Road - Sampling

We checked the coolers and the box was checked for Monday delivery by noon. All coolers were within temperature requirements.

However, since the samples for orthophosphate were taken on the 22nd, they are out of hold. Do you still want us to analyze the samples for this method?

All other analyses can be performed.

Thank you,

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: Project Feedback

CATHY L UPTON
Project Manager I

TestAmerica Houston
THE LEADER IN ENVIRONMENTAL TESTING

Tel: 713.690.4444 ext. 108
www.testamericainc.com

From: Bugher, Aaron [mailto:abugher@eaest.com]
Sent: Monday, April 25, 2016 10:20 AM
To: Upton, Cathy
Cc: Appel, Patrick; Thomas, Duane; Guth, Ryan
Subject: RE: Jones Road - Sampling

Wonderful, I do not remember if I marked Saturday, but apparently I didn't mark them that way.

Will you let us know immediately if they are out of temp.

I am shipping VOA vials today for delivery tomorrow morning. That will be the end of the samples, for now.

Aaron

From: Upton, Cathy [mailto:Cathy.Upton@testamericainc.com]
Sent: Monday, April 25, 2016 10:17 AM
To: Bugher, Aaron <abugher@eaest.com>
Cc: Appel, Patrick <pappel@eaest.com>; Thomas, Duane <djthomas@eaest.com>; Guth, Ryan <rguth@eaest.com>
Subject: RE: Jones Road - Sampling

Aaron, did you mark Saturday delivery on the coolers? We just received them this morning, so they might be out of temp.

Thank you,

Please let us know if we met your expectations by rating the service you received from TestAmerica on this project by visiting our website at: Project Feedback

CATHY L UPTON
Project Manager I

TestAmerica Houston
THE LEADER IN ENVIRONMENTAL TESTING

Tel: 713.690.4444 ext. 108
www.testamericainc.com

From: Bugher, Aaron [mailto:abugher@eaest.com]
Sent: Saturday, April 23, 2016 11:37 PM
To: Upton, Cathy
Cc: Appel, Patrick; Thomas, Duane; Guth, Ryan
Subject: Jones Road - Sampling

Cathy,

I did not put a PO number on the 4 days of coolers this week.

The PO for everything you have received this week, plus the coolers arriving tomorrow will be for the PO# 14709.

Thank you,
Aaron

Aaron Bugher
Engineer-In-Training
EA Engineering, Science, and Technology, Inc., PBC
405 S. Highway 121, Suite C-100
Lewisville, TX 75067
Office: 972-315-3922 Ext. 1243
Direct: 972-459-5031

Email: abugher@eaest.com

Be sustainable, think about environmental responsibilities before printing.

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 600-129836-1

Login Number: 129836
List Number: 1
Creator: Hilton, Jeremy C

List Source: TestAmerica Houston

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.7/3.6/1.9/0.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 600-129836-1

Login Number: 129836
List Number: 2
Creator: Watson, Debbie

List Source: TestAmerica Pittsburgh
List Creation: 04/27/16 11:22 AM

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

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

MEMORANDUM

Date: August 23, 2016

To: Pamela Moss, EA Engineering

From: Larry Penfold, TestAmerica

Subject: Jones Road Groundwater Plume Project, Sample Collected 4/22/2016, TestAmerica Job # 600-129836-1

This is a follow up to our conversations last week concerning revised reports for TestAmerica Job # 600-129836-1, analysis of groundwater samples collected 4/22/2016. The original report was issued on 5/13/2016. Patrick Appel was informed by e-mail on 7/27/2016 that cis- and trans-1,2-DCE isomers were switched and that the lab was working on correcting the problem. The lab issued revised reports on 7/27/2016 and on 8/16/2016, and the results for vinyl chloride for the four affected samples are summarized here:

Results Reported for Vinyl Chloride (ug/L)

Report Date	MW-01 600-129836-3	MW-02-DUP 600-129836-4	MW-02 600-129836-5	MW-03 600-129836-6	MW-20 600-129836-7
5/13/2016	381	270	237	0.663 J	932
7/27/2016	631	270	237	0.663J	932
8/16/2016	386	270	237	0.663	932

Question: Why did vinyl chloride result for sample MW-01 change when it was the DCE isomers that were switched?

Answer: As discussed in our telephone conversation, to correct reporting errors our LIMS system requires that the underlying raw data is also corrected. We first correct the chromatography method, then reprocess the affected samples, and then generate revised reports. This ensures that reported results are consistently supported by the analytical raw data. Unfortunately, the results for sample MW-01 (TestAmerica sample ID 600-129836-3) were reprocessed using the initial calibration (ICAL) that was in effect on in late July, rather than the ICAL that was in effect in early May when the samples were analyzed. It was necessary to reprocess the data for MW-01 again using the correct ICAL, and a second revised report was issued on 8/16/2016

There remains a slight (1%) difference in the vinyl chloride results reported for sample MW-01, 381 ug/L on 5/13/201 versus 386 ug/L on 8/16/2016. After checking with our corporate IT group, we conclude that this is likely due to updates made company-wide to the chromatography software during the period May 2016 through August 2016 producing small differences in the integration of the peak for the internal standard fluorobenzene that is associated with vinyl chloride, which in turn affected the calculated vinyl chloride concentration. Measured concentrations for other compounds associated with the internal standard also changed, but the final results for the other compounds rounded to the value originally reported.

ATTACHMENT C

FIELD FORMS

GROUND WATER LEVEL DATA

Station Number: _____ Recorded By: _____ Date: _____ Location: _____

Project Name: Jones Rd Recorded By: DT Date: 11/23/15 Measuring Device: _____

Project Number: _____ Developing Device: _____

WELL NO.	TIME	CASING SIZE	CASING ELEVATION	WATER DEPTH	~~PSH DEPTH~~ Screen Bottom	WATER ELEVATION	TOTAL DEPTH	AMOUNT BAILED	OBSERVATIONS/ COMMENTS
MW01	1102	2"		25.16	35				
MW02		2"		23.21	35				
MW03		2"		22.21	35				could not locate - will check pics
MW-04		2"		21.39	35				
MW-05		2"		22.32	35				
MW-06		2"		34.01	35				
MW-07		2"		28.68	35				
MW-08		2"		20.14	~~35~~ 35.5				driven over - likely full of rain water
MW-09		2"		27.28	35				
MW-10		4"		143.72	290				
MW-11R		4"		143.38	269				
MW-12		4"		141.07	280				
MW-13		4"		141.94	296				
MW-14		4"		138.41	280				
MW-15		4"		140.18	294				

TK 600 Ft tubing

GROUND WATER LEVEL DATA

Station Number:_____ Recorded By: Date: Location:_____

Project Name:_____ _____ _____ Measuring Device:_____

Project Number:_____ _____ _____ Developing Device:_____

WELL NO.	TIME	CASING SIZE	CASING ELEVATION	WATER DEPTH	PSH DEPTH (Screen Bottom)	WATER ELEVATION	TOTAL DEPTH	AMOUNT BAILED	OBSERVATIONS/ COMMENTS
MW-16		4"		140.97	278				
MW-17		4"		223.21	410				
MW-18		4"		144.18	284				
MW-19		4"		146.18	240				
MW-20		2"		27.92	30				
MW-21		2"		27.61	30				
MW-22		2"		49.52	53				
MW-23		2"		46.67	53				
MW-24		2"		20.37	53				
MW-25		2"		29.41	28		30.0	*	well nearly dry
SVE 1		2"		109.64	122				
SVE-2		2"		110.33	122				
SVE 3		2"		108.85	122				
SVE-4		2"		109.84	122				
SVE-5		2"		109.58					

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 12/03/15

Field Record of Well Purging and Sampling

Well ID: MW-01 Sample ID: Sample Time: 0755

Casing diameter/type: 2" PVC
Screened interval(s): 2.5-35
Total depth: 35
Initial depth to water (w/o pump): 25.03
Final depth to water (w/o pump): 25.33
Measuring point: **North side of casing**

Well location: Stone Fort Halal Market
Sampling personnel: Dvany, T, John B
Sampling method: low flow micro purge
Water level indicator: Heron
Water quality meter: YSI Pro
Pump depth setting: 30

Weather: Sunny 45°F
Pump type/model: Monsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
0739	22.2	862	20.1	1.57	6.99	94.1	25.41	225	111		
0742	23.9	895	12.4	1.03	6.65	73.2	25.54	300	149		
0745	25.2	926	9.6	0.80	6.60	53.7	25.64	300	114		
1048	25.5	931	8.2	0.67	6.60	41.0	25.71	350	88.5		-slight drawdown
1051	25.8	934	7.4	0.60	6.60	26.6	25.81	350	58.9		

Recorded By: DJ

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 12/03/15

Field Record of Well Purging and Sampling

Well ID: MW-02 Sample ID: Sample Time: 0935

Casing diameter/type: 2" PVC
Screened interval(s): 2.5' - ~~35~~ 35
Total depth: 35'
Initial depth to water (w/o pump): 23.18
Final depth to water (w/o pump): 23.58
Measuring point: **North side of casing**

Well location: NW Corner, Shopping Center lot
Weather: Sunny, 60°F
Sampling personnel: Duane Thomas, John Barner
Sampling method: low flow micro purge
Water level indicator: Heron
Water quality meter: YSI Pro
Pump depth setting: 30
Pump type/model: Monsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
0914	22.3	817	31.3	2.68	6.73	148.7	24.30	225	463		
0917	22.4	847	26.8	2.31	6.72	125.6	24.35	250	464		
0920	23.5	866	27.6	2.33	6.72	110.7	24.56	250	415		
0923	23.8	875	33.0	2.82	6.72	98.6	24.72	325	229		
0926	24.0	880	34.1	2.88	6.74	90.3	24.83	275	144		
0929	23.7	878	31.5	2.63	6.74	83.7	24.82	250	104		

Recorded By: DT

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 12/03/15

Field Record of Well Purging and Sampling

Well ID: MW-03 Sample ID: Sample Time: 1050

Casing diameter/type: 2" PVC
Well location: Behind Mekong Rest
Weather: Sunny 60°F
Screened interval(s): 2.5-35
Sampling personnel: Duane T. John B
Total depth: 35
Sampling method: lowflow micropurge
Initial depth to water (w/o pump): 22.21
Water level indicator: Heron
Final depth to water (w/o pump): 22.23
Water quality meter: YSI, Pro
Measuring point: **North side of casing**
Pump depth setting: 30'
Pump type/model: Marsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1033	20.2	878	24.3	2.14	6.56	140.3	22.50	300	308		
1036	20.3	902	18.7	1.66	6.59	123.7	22.56	250	286		
1039	21.8	925	16.1	1.41	6.62	110.6	22.62	400	195		
1042	21.8	966	13.3	1.16	6.60	99.4	22.60	400	97.9		
1045	21.1	1003	11.8	1.04	6.60	91.2	22.48	250	52.5		
1048	21.2	1014	11.2	0.99	6.60	84.2	22.48	250	49.9		

Dry well purge

Recorded By: DT

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 6
Date: 12/02/15

Field Record of Well Purging and Sampling

Well ID: MW-04 Sample ID: Sample Time: 1355

Casing diameter/type: 2" PVC
Well location: Behind Center at N treeline
Weather: Partly sunny 65°F
Screened interval(s): 2-35'
Sampling personnel: Duane T, John B
Total depth: 35'
Sampling method: Low flow micropurge
Initial depth to water (w/o pump): 21.63
Water level indicator: Heron
Final depth to water (w/o pump):
Water quality meter: YSI PRO
Measuring point: **North side of casing**
Pump depth setting: ~~30'~~ 29'
Pump type/model: Monsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1335	20.8	1475	24.8	2.17	7.04	-123.9	22.80	275	917		-removed mud plug
1338	21.6	1483	10.5	0.90	6.80	-171.7	23.10	375	242		-well had no lid, or no tight
1341	21.5	1463	9.7	0.85	6.77	-181.6	22.95	225	264		lid and was buried in mud
1344	21.5	1470	8.9	0.78	6.75	-186.2	22.95	275	193		-cleared mud plug
1347	21.7	1477	8.0	0.70	6.74	-189.1	22.98	275	118		-water very turbid.
1350	21.8	1478	7.6	0.67	6.74	-191.6	22.98	250	74.7		

1.5 gal purged
(purged agitated water from surging)

Recorded By: DT

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 12/02/15

Field Record of Well Purging and Sampling

Well ID: MW-05 Sample ID: Sample Time: 1140

Casing diameter/type: 2" PVC
Well location: Behind Shopping Center
Weather: Cloudy ~60°F
Screened interval(s): 2'-35
Sampling personnel: Duane T. John B.
Total depth: 35.5'
Sampling method: low flow micro purge
Initial depth to water (w/o pump): 22.50
Water level indicator: Heron
Final depth to water (w/o pump): 22.64
Water quality meter: YSI Pro
Measuring point: **North side of casing**
Pump depth setting: 29
Pump type/model: Monsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1123	21.9	1077	10.0	0.88	6.64	19.2	22.89	425	OR		- High turbidity
1126	22.2	1084	11.9	1.02	6.58	-1.2	22.79	200	OR		
1129	22.6	1081	9.6	0.82	6.58	-29.4	22.94	250	827		
1132	22.6	1076	9.1	0.82	6.59	-56.4	22.94	350	456		
1135	22.8	1078	8.8	0.76	6.59	-73.6	22.98	300	292		
1138	22.7	1075	8.4	0.72	6.60	-95.7	22.90	125	148		

~ Purge 0.5 gal

Recorded By: DT

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 11/30/15

Field Record of Well Purging and Sampling

Well ID: MW-a2 Sample ID: Sample Time:

Casing diameter/type: 2" PVC
Screened interval(s): 2-35'
Total depth: 35'
Initial depth to water (w/o pump): 33.76
Final depth to water (w/o pump):
Measuring point: **North side of casing**

Well location: SW Corner lot
Sampling personnel: John Bonner, Duane T
Sampling method: Low flow micropurge
Water level indicator: Heron
Water quality meter: YSI Pro+
Pump depth setting: 34.5

Weather: Cloudy 50°F
Pump type/model: SS Monsoon

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
											X Very low water level may not low flow
			X LOW FLOW NOT POSSIBLE								
			-no water from well, from pump								
			-will try grab with bailer 12/01								
			-will bail dry, sample 12/01								

Recorded By: DT

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 4/01/15

Field Record of Well Purging and Sampling

Well ID: MW-07 Sample ID: Sample Time:

Casing diameter/type: 2" PVC
Well location: BFE lot
Weather: Rain, 50°F
Screened interval(s): 20-35'
Sampling personnel: Duane Thomas, John B
Total depth: 35'
Sampling method: low flow micropurge
Initial depth to water (w/o pump): 28.43
Water level indicator: Heron
Final depth to water (w/o pump):
Water quality meter: YSI Pro
Measuring point: **North side of casing**
Pump depth setting: 31'
Pump type/model: Pro Monsoon

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
			X	Casing	Bent.		Well	not	allow		
			2"	bailer	or	2"	pump				
			will	try	pencil	bailer	or	peristaltic			
			later	in	the	week.					

Recorded By: DT

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 12/02/15

Field Record of Well Purging and Sampling

Well ID: MW-08 Sample ID: Sample Time: 1025

Casing diameter/type: 2" PVC
Screened interval(s): 20.5-35.5
Total depth: 36.5
Initial depth to water (w/o pump): 20.12
Final depth to water (w/o pump): 20.22
Measuring point: **North side of casing**

Well location: BBQ Wood
Sampling personnel: Duane Thomas
Sampling method: Low flow micropurge
Water level indicator: Heron
Water quality meter: YSI Pro
Pump depth setting: 25'

Weather: Partly Cloudy 60°
Pump type/model: Monsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1005	22.3	388.7	12.1	1.01	7.08	-87.0	20.50	300	565		- water filled well
1008	23.0	405.3	8.6	0.72	7.18	-117.0	20.65	400	698		debris
1011	23.2	414.0	7.6	0.65	7.18	-126.4	20.55	250	451		- odor of mud & debris
1014	23.1	433.1	7.2	0.62	7.05	-141.9	20.59	300	298		from filling during
1017	23.4	462.1	6.9	0.58	7.16	-147.4	20.60	425	198		destruction
1020	23.5	476.2	6.8	0.58	7.07	-140.0	20.74	425	158		- turbidity clearing
1023	23.4	493.7	6.6	0.56	7.07	-157.5	21.0	425	109		

≈ 1.0 gal purged

Recorded By: DT

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 12

Field Record of Well Purging and Sampling

Well ID: MW-09 Sample ID: Sample Time: 0915

Casing diameter/type: 2" PVC
Well location: Ace South lot
Weather: Partly Cloudy 60°F
Screened interval(s): 20-35
Sampling personnel: Duane Thomas
Total depth: 35
Sampling method: low flow micropurge
Initial depth to water (w/o pump): 26.96
Water level indicator: Heron
Final depth to water (w/o pump): 27.74
Water quality meter: YSI PRO
Measuring point: **North side of casing**
Pump depth setting: 30'
Pump type/model: Monsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
0857 ~~20.0~~	19.9	673	26.5	2.53	6.92	160.9	28.19	250	700		water slightly tested
0900	20.6	691	24.9	2.23	6.71	156.1	27.91	200	272		
0903	21.3	698	22.4	1.98	6.66	152.6	28.13	200	367		
0906	21.3	702	21.2	1.88	6.65	150.0	28.19	200	315		
0909	22.1	710	19.7	1.70	6.65	147.2	28.20	200	258		
0912	22.1	712	18.5	1.60	6.65	143.6	28.25	175	184		

↑ 0.5 gal Purged

Recorded By: DT

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 12/02/15

Field Record of Well Purging and Sampling

Well ID: MW-20 Sample ID: Sample Time:

Casing diameter/type: 2" PVC
Screened interval(s): 25-30
Total depth: 32'
Initial depth to water (w/o pump): 27.73
Final depth to water (w/o pump):
Measuring point: **North side of casing**

Well location: Center West Main lot
Sampling personnel: Ryan Thomas, John B
Sampling method: Low flow micro purge
Water level indicator: Heron
Water quality meter: YSI Pro
Pump depth setting:

Weather: Partly Cloudy
Pump type/model: Monsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
											*only 2.23' of water
	MW-20	will not									water extremely turbid
		low flow - not enough water									
		will bail dry then sample									
		- water basically mud									

Recorded By: DT

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: _____

Field Record of Well Purging and Sampling

Well ID: MW-21 Sample ID: _____ Sample Time: 1335

Casing diameter/type: 2" PVC
Screened interval(s): 25-30
Total depth: 32'
Initial depth to water (w/o pump): 27.49
Final depth to water (w/o pump): 27.76
Measuring point: **North side of casing**

Well location: Storefront, Cove Level
Sampling personnel: Duane T, John B
Sampling method: Low flow micro purge
Water level indicator: Heron
Water quality meter: YSI Pro
Pump depth setting: 29'

Weather: Cloudy, cool - 50°
Pump type/model: Monsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1321	23.7	1086	14.0	1.17	6.60	259.7	28.55	150	OR		-water turbid
1324	23.9	1097	15.1	1.26	6.50	239.1	28.42	150	OR		-very fine particles
1327	23.3	1084	14.3	1.22	6.51	228.1	28.21	150	OR		
1330	25.9	1147	11.9	0.97	6.52	211.5	29.00	350	OR		
1333	26.2	1154	10.0	0.80	6.52	202.1	29.00	150	OR		-probe on pump

≈ 0.5 gal purged

Recorded By: DT

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 11/3/15

Field Record of Well Purging and Sampling

Well ID: MW-22 Sample ID: Sample Time: 1358

Casing diameter/type: 2" PVC Well location: SW Corner Cypress Weather: Cloudy 50°
Screened interval(s): Sampling personnel: Duane Thomas, John Bonner
Total depth: 55.50 Sampling method: Low flow micropurge
Initial depth to water (w/o pump): 49.34 Water level indicator: Heron
Final depth to water (w/o pump): ~~55.50~~ 49.40 Water quality meter: YSI Pro
Measuring point: **North side of casing** Pump depth setting: 53' Pump type/model: Monsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1334	22.9	1030	43.2	3.47	6.46	196.9		325	26.9		* Water levels low
1337	24.4	1089	21.4	1.75	6.43	186.6	50.88	275	319		≈ 6' of water in well
1340	24.2	1089	13.2	1.10	6.45	178.0	50.71	225	946		- water turbid, check
1343	24.5	1094	11.3	0.95	6.46	172.4	50.49	200	OVER		blank 10.3 NTU
1346	24.1	1085	10.90	0.91	6.47	166.0	49.70	175	949		- very fine particles in
1349	23.9	1082	10.28	0.86	6.47	162.5	49.75	250	OVER		- raising pump to see if
1352	24.5	1096	9.5	0.78	6.47	156.5	49.75	150	OVER		turbidity clears
1355	24.6	1091	9.2	0.77	6.48	139.0	49.89	300	OVER		- super fine particles,
											pump pulled to 51'
							~~1~~ 3.0				
									Purged		

Recorded By: DJ

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 10/01/15

Field Record of Well Purging and Sampling

Well ID: MW-23 Sample ID: Sample Time: 0845

Casing diameter/type: 2" PVC Well location: BFE lot Weather: Rain, 50°F
Screened interval(s): 48-53' Sampling personnel: Duane T & John B
Total depth: 55' Sampling method: Low Flow Micropurge
Initial depth to water (w/o pump): ~~45.19~~ 46.42 Water level indicator: Heron
Final depth to water (w/o pump): 46.42 Water quality meter: YSI Pro
Measuring point: North side of casing Pump depth setting: 50.5 Pump type/model: 3S Monsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (uS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
0832	23.5	617	21.9	1.55	6.81	6.81	48.01	225	27.6		
0835	22.5	620	17.7	1.54	6.78	-1796.4	47.80	233.7	33.4		*ORP seems to be affected
0838	23.0	630	15.8	1.34	6.78	-1326.7	47.63	225	160		by injectate
0841	22.8	622	15.4	1.32	6.79	-1884.8	47.40	150	192		
0844	22.2	634	15.1	1.29	6.79	-1860.7	47.35	100	158		

1 Purge 1 Gal

well dr

Recorded By: DT

Jones Road Superfund Site -
Harris County, Texas

Sheet 1 of 1
Date: 12/01/15

Field Record of Well Purging and Sampling

Well ID: MW-24 Sample ID: Sample Time: 1010

Casing diameter/type: 2" PVC
Screened interval(s): 48-53
Total depth: 55
Initial depth to water (w/o pump): 9.81
Final depth to water (w/o pump): 21.74
Measuring point: **North side of casing**

Well location: O'Reilly Lot
Sampling personnel: John Bonner, Duane T
Sampling method: Low Flow micropurge
Water level indicator: Heron
Water quality meter: YSI Pro
Pump depth setting: 50.5'

Weather: Rain, clouds 50° F
Pump type/model: Monsoon Pro

Time	Temp (°C)	Conductiv (mS/cm) or (µS/cm)	%DO	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
0953	22.3	388.3	205	1.78	8.42	251.6	20.48	200	41.4		~slight drawdown
0956	22.6	533	16.5	1.39	7.18	236.8	21.10	250	48.8		
0959	21.8	528	15.8	1.34	7.12	230.4	21.75	350	65.9		
1002	23.9	546	12.9	1.07	7.11	224.4	22.01	200	53.5		
1005	23.3	521	12.1	1.03	7.19	214.6	22.70	200	33.8		

Purge 0.5 gal

Recorded By: DT

GROUND WATER LEVEL DATA

Station Number: _____ Recorded By: _____ Date: _____ Location: _____

Project Name: Jonesboro GW Plume Recorded By: DJ Date: 04/19 Measuring Device: Heron

Project Number: 14342129 Developing Device: _____

WELL NO.	TIME	CASING SIZE	CASING ELEVATION	WATER DEPTH	PSH DEPTH	WATER ELEVATION	TOTAL DEPTH	AMOUNT BAILED	OBSERVATIONS/ COMMENTS
MW-25	10:16 04/19	2"		28.15	~~27.50~~	X	29.50		
MW-24	1053	2"		16.39			54.56		
MW-23	1103	2"		45.31			54.49		
MW-07	1112	2"		27.45			35.20		
MW-21	1117	2"		25.38			29.31		
MW-06	1138	2"		32.27			35.16		Injectate
MW-22	1143	2"		48.19			54.60		
MW-20	1151	2"		26.50			29.50		
MW-05	1239	2"		16.80			35.50		
MW-04	1245	2"		13.10			33.15		
MW-02	1255	2"		17.01			35.50		
MW-08	1320	2"		15.25					
MW-09	1325	2"		24.40			37.71		
MW-02	1333	2"		19.01			34.54		
MW-01	1350	2"		21.40			34.79		strong mixture smell

-covered in injectate

Jones Road Ground Water Plume Superfund Site, Houston, Harris County, Texas

Sheet 1 of 1
Date: 22 APR 2016

Ground Water Sampling Data Sheet

Well ID: MW-02 Sample ID: Sample Time: 15:25

Casing diameter/type: 2" PVC
Screened interval(s):
Total depth: 34.54
Initial depth to water (w/o pump): 17.10
Final depth to water (w/o pump): 20.70
Measuring point: North side of casing

Well location: SHAW 1000-PARK & Jones Rd. Weather: Sunny ~ 78° lt. Windy.
Sampling personnel:
Sampling method: Low-flow micropurge ✓
Water level indicator:
Water quality meter: YSI Pro Plus
Pump depth setting: 31' BTOC Pump type/model: SS. Monsoon

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate ~~(L/min) or~~ (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
14:54											Pump on
14:56	24.6	0.62	2.3	0.17	6.24	-112.6	18.42	400	2198 AU	—	-Black Precipitant (PPT) & Rechargy Odor.
14:59	24.8	0.62	0.5	0.06	6.08	-92.5	19.03	350	1126	—	
15:02	24.9	0.62	-0.1	---	6.00	-98.5	20.20	500	952	—	
15:05	25.1	0.63	-0.7	---	6.02	-100.4	20.75	400	627 AU	—	flow fluctuating (uncontrollably)
15:08	24.7	0.63	-0.7	---	6.04	-99.2	21.70	275	-76 NTU	—	ODD TURBIDITY READING
15:11	25.3	0.66	-1.2	---	6.08	-98.3	21.90	300	-67 NTU	—	10 NTU STD = 9.73 ✓
15:14	24.9	0.66	-0.9	---	6.09	-98.3	22.60	200	-73 NTU	—	
15:17	25.2	0.65	-1.2	---	6.11	-98.2	22.65	200	53.0	—	SAMPLE

Recorded By: R. Goth, GIT

11/25/2015

Jones Road Ground Water Plume Superfund Site, Houston, Harris County, Texas

Sheet 1 of 1
Date: 22 Apr 2016

Ground Water Sampling Data Sheet

Well ID: MW-03 Sample ID: Sample Time: 16:50

Casing diameter/type: 2" PVC
Well location: Behind MEKONG
Weather: Sunny ~ 79°
Screened interval(s):
Sampling personnel: RG & AB
Total depth: 35.5
Sampling method: Low-flow micropurge
Initial depth to water (w/o pump): 16.00
Water level indicator: Solinst
Final depth to water (w/o pump): 16.42
Water quality meter: YSI
Measuring point: North side of casing
Pump depth setting: 33.0
Pump type/model: SS HURRICANE

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate ~~(L/min) or~~ (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
16:37					PUMP		ON				All OTW include 7" riser
16:39	22.8	0.96	56.1	4.61	6.98	80.2	16.38	175	137 AU	—	(temp installed due to water)
16:42	22.2	0.95	44.8	3.89	6.68	85.0	16.55	450	219 AU	—	
16:45	22.3	0.95	44.8	3.89	6.66	88.3	16.52	450	123	—	
16:48	22.2	0.94	44.1	3.82	6.65	92.1	16.52	450	62 NTU	—	
										—	SAMPLE.

Recorded By: Ryan Guth

11/25/2015

Ground Water Sampling Data Sheet

Well ID: MW-04 Sample ID: Sample Time: 0845

Casing diameter/type: 2" PVC
Screened interval(s): 20-35'
Total depth: 33
Initial depth to water (w/o pump): 12.65
Final depth to water (w/o pump): 13.40
Measuring point: **North side of casing**

Well location: Behind Mekong
Sampling personnel: DT + AB
Sampling method: **Low-flow** micropurge
Water level indicator: Heron
Water quality meter: YSI Pro Plus
Pump depth setting: 30'

Weather: Humid, Overcast / Rain
Pump type/model: Masoan SS

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
0828	20.4	0.98	2.2	0.19	7.03	-0.7	13.31	300	50.7		
0831	20.5	0.98	0.5	0.03	6.65	-30.2	Level	300	—		- Start draw down
0835	20.5	0.98	0.3	0.02	6.66	-37.9	14.93	300	52.1		
0838	20.5	0.98	0.2	0.00	6.67	-40.4	15.21	400	52.0		
0841	20.6	0.98	-0.4	0.00	6.69	-42.0	15.38	300	45.2		

0.75 gal purged

Recorded By: DT

Ground Water Sampling Data Sheet

Well ID: MW-05 Sample ID: Sample Time: 1055

Casing diameter/type: 2" PVC
Well location: Behind Shopping center
Weather: Rain / overcast
Screened interval(s): 25.50 - 35.50
Sampling personnel: DT & AB
Total depth: 35.50
Sampling method: Low-flow micropurge
Initial depth to water (w/o pump): 16.32
Water level indicator: Heron
Final depth to water (w/o pump): 16.60
Water quality meter: YSI Pro Plus
Measuring point: North side of casing
Pump depth setting: 30
Pump type/model: Monsoon SS

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
0933	22.1	0.392	44.5	3.87	7.35	146.6	16.68	350	653N		- water cycled
0936	22.1	0.383	34.6	3.03	7.09	143.6	16.97	500	787N		- slight drawdown
0939	22.1	0.375	32.2	2.79	7.10	143.2	16.98	400	45		
0942	22.2	0.373	30.3	2.64	7.11	143.2	16.77	200	41		
0945											
			- Suspended		- RAIN						
1044	21.8	0.366	26.6	2.37	7.44	177.6	16.88	400	105		
1047	21.7	0.368	28.6	2.49	7.33	174.7	16.79	150	93.8		
1050	21.8	0.369	28.9	2.53	7.23	171.9	16.89	350	69.3		
1053	22.1	0.376	27.1	2.55	7.20	168.4	16.90	200	52.3		
				~ 0.75 gal							
					Purged						

Recorded By: DT

Jones Road Ground Water Plume Superfund Site, Houston, Harris County, Texas

Sheet 1 of 1
Date: 04/21/16

Ground Water Sampling Data Sheet

Well ID: MW-06 Sample ID: Sample Time: 1430

Casing diameter/type: 2" PVC
Screened interval(s): 20-35'
Total depth: 35.16
Initial depth to water (w/o pump): 26.71
Final depth to water (w/o pump): 29.80
Measuring point: North side of casing

Well location: SW site corner
Sampling personnel: DT & AB
Sampling method: Low-flow micropurge
Water level indicator: Heron
Water quality meter: YSI Pro Plus
Pump depth setting: 34'

Weather: Cloudy/Rain
Pump type/model: Monsoon 2"

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1417	23.6	0.57	24.3	1.89	6.12	12.9	27.49	200	615		- lots of injectate in
1420	24.3	0.58	10.7	0.89	6.10	2.2	27.80	300	35		water
1423	25.1	0.53	6.2	0.51	6.10	-2.1	28.10	250	~~1038~~	139	- Strong odor
1426	25.2	0.58	5.1	0.43	6.10	-1.3	28.42	50	111		- very turbid, gray
1429	25.4	0.58	4.1	0.33	6.11	-0.4	28.82	400	189		10.38 - Turbidity meter
											standard dump test
											- slight drawdown/slow
											recharge
		Approx	≈	0.50	total gal purged						

Recorded By: DT

11/25/2015

Ground Water Sampling Data Sheet

Well ID: MW-08 Sample ID: Sample Time: 1500

Casing diameter/type: 2" PVC
Screened interval(s): 10-35'
Total depth: 33.58
Initial depth to water (w/o pump): 15.25
Final depth to water (w/o pump): 15.32
Measuring point: North side of casing

Well location: Wood lot
Sampling personnel: DT & AB
Sampling method: Low-flow micropurge
Water level indicator: Heron
Water quality meter: YSI Pro Plus
Pump depth setting: 32'

Weather: Overcast humid,
Pump type/model: Monsoon SS 2"

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1444	24.3	0.79	10.6	0.84	6.91	132.9	15.30	400	716.40		water turbid due to
1447	23.8	0.78	1.8	0.15	6.71	31.5	15.39	300	948		surface completion during
1450	23.6	0.78	1.0	0.08	6.69	16.1	15.30	200	658		destroyed. Well is under
1453	25.2	0.80	0.4	0.03	6.70	12.7	15.35	600	620		13" wood debris, no pad
1456	24.0	0.78	0.01	0.01	6.71	6.2	15.41	300	4.0		

≈ 1.0 gal purged

Recorded By: DT

Ground Water Sampling Data Sheet

Well ID: MW-09 Sample ID: Sample Time: 1305

Casing diameter/type: 2" PVC
Screened interval(s): 20'-40'
Total depth: 37.71
Initial depth to water (w/o pump): 24.40
Final depth to water (w/o pump): 24.41
Measuring point: North side of casing

Well location: Ace Laydown area
Sampling personnel: DT + AB
Sampling method: Low-flow micropurge
Water level indicator: Huston
Water quality meter: YSI Pro Plus
Pump depth setting: 34.0'

Weather: Overcast/wet
Pump type/model: Monsoon

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1248	21.9	0.74	23.8	2.07	7.03	190.1	24.20	-	110		
1250	22.3	0.75	22.0	1.86	6.72	193.7	24.10	150	110		
1253	22.7	0.75	19.9	1.69	6.70	191.9	24.20	300	21		
1256	23.2	0.75	23.2	1.53	6.70	193.5	24.30	500	29.8		
1259	23.0	0.74	18.3	1.53	6.70	196.7	25.00	500	68.7		

Total Purge 0.75 gal

Recorded By: DT

Jones Road Ground Water Plume Superfund Site, Houston, Harris County, Texas

Sheet 1 of 1
Date: 2 Aug 2015

Ground Water Sampling Data Sheet

Well ID: MW-20 Sample ID: Sample Time: 1400

Casing diameter/type: 2" PVC
Well location: Cypress
Weather: Clear, Sunny
Screened interval(s):
Sampling personnel: RG / AB
Total depth: 29.5
Sampling method: Low-flow micropurge
Initial depth to water (w/o pump): 25.35
Water level indicator: Solinst
Final depth to water (w/o pump): 25.42
Water quality meter: YSI - Pro Plus
Measuring point: North side of casing
Pump depth setting: ~~28.5~~ 28.0
Pump type/model: Monsoon (Stainless Steel)

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
13:30											Pump on
13:32	26.9	1.13	3.5	0.27	6.44	145.9	25.78	200	2629	—	
13:35	27.1	1.12	2.7	0.21	6.33	114.5	~~25.85~~ 25.81 (RG)	300	1635	—	
13:38	27.6	1.13	1.1	0.08	6.29	87.1	26.85	350	132	~1 gal	Flow fluctuating
13:41	27.8	1.13	0.0	0.00	6.29	58.2	26.26	450	122	—	
13:44	27.5	1.12	-0.2	---	6.31	40.8	26.37	450	77.6	—	Key parameters stabilized

By: Ryan Groth, GIT

11/25/2015

Jones Road Ground Water Plume Superfund Site, Houston, Harris County, Texas

Sheet 4 of 1
Date: 04/22/16

Ground Water Sampling Data Sheet

Well ID: MW-21 Sample ID: Sample Time: 10:55

Casing diameter/type: 2" PVC
Screened interval(s): 25-30'
Total depth: 30'
Initial depth to water (w/o pump): 24.42
Final depth to water (w/o pump): 24.46
Measuring point: North side of casing

Well location: Four Paws Store Front
Sampling personnel: AB + RG
Sampling method: Low-flow micropurge
Water level indicator: Heron
Water quality meter: YSI Pro Plus
Pump depth setting: 28'

Weather: Sunny 78°F
Pump type/model: Monsoon SS 2"

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
10:19											Pump on
10:25	25°	1.00	2.1	0.17	6.74	194	24.90	500	63.4	—	
10:28	25.1	0.99	1.4	0.11	6.58	194.6	24.92	500	51.0	—	
10:31	25.5	0.99	0.3	0.02	6.56	196.8	24.89	400	25.7	—	
10:34	25.6	1.00	0.1	0.01	6.55	195.7	24.92	400	15.3	—	
10:37	25.5	0.99	-0.3	---	6.55	193.0	24.97	450	9.87		

Recorded By: DT / RG

Ground Water Sampling Data Sheet

Well ID: MW-22 Sample ID: Sample Time: 1535

Casing diameter/type: 2" PVC
Well location: SW Corner lot
Weather: Cloudy/Rain
Screened interval(s): 50-55
Sampling personnel: DT↓AB
Total depth: 55'
Sampling method: Low-flow micropurge
Initial depth to water (w/o pump): 46.73
Water level indicator: Heron
Final depth to water (w/o pump): 47.19
Water quality meter: YSI Pro Plus
Measuring point: North side of casing
Pump depth setting: 52
Pump type/model: Masoda 55

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1522	24.2	1.23	12.0	0.97	6.36	-37.8	48.21	400	210 OV		- water turbid
1525	24.7	1.22	2.5	0.19	6.30	-38.9	48.29	200	184 OV		- strong inorg. odor
1528	25.1	1.21	1.0	0.09	6.26	-34.8	48.28	300	- over		
1531	25.7	1.19	0.4	0.03	6.21	-21.0	48.52	682	- over		
1534	25.9	1.18	0.1	0.01	6.21	-14.7	48.46	300	158.0		

Total Purge 0.75 gal

Recorded By: DT

Ground Water Sampling Data Sheet

Well ID: MW-23 Sample ID: Sample Time: 1420

Casing diameter/type: 2" PVC
Screened interval(s): 45.0-54.49
Total depth: 54.49
Initial depth to water (w/o pump): 45.18
Final depth to water (w/o pump): 45.54
Measuring point: North side of casing

Well location: BFE lot
Sampling personnel: DJ + SB
Sampling method: Low-flow micropurge
Water level indicator: Heron
Water quality meter: YSI Pro +
Pump depth setting: 52

Weather: Rain/clouds
Pump type/model: Monsoon SS

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1405	24.6	0.61	24.5	1.83	7.01	176.0	46.35	125	OR		- water turbid
1408	24.7	0.61	6.7	0.55	6.94	169.0	46.63	325	OR		- cloudy orange
1411	25.2	0.62	4.6	0.38	6.93	159.9	46.99	250	OR		- likely injection related
1414	25.6	0.63	4.5	0.37	6.93	152.3	47.38	325	OR		- slight ionized odor
1417	25.6	0.63	4.7	0.38	6.93	144.0	47.38	300	OR		

~ 0.75 gal Purged

Recorded By: DJ

Jones Road Ground Water Plume Superfund Site, Houston, Harris County, Texas

Sheet 1 of 1
Date: 04/20/16

Ground Water Sampling Data Sheet

Well ID: MW-24 Sample ID: Sample Time: 1205

Casing diameter/type: 2" PVC
Screened interval(s): 30-35'
Total depth: 55.0
Initial depth to water (w/o pump): 16.41
Final depth to water (w/o pump): 20.86
Measuring point: North side of casing

Well location: O'Reilly Lot
Sampling personnel: DT + AB
Sampling method: Low-flow micropurge
Water level indicator: Heron
Water quality meter: YSI Pro Plus
Pump depth setting: 52

Weather: Rain, 76°F
Pump type/model: Monsoon 2" SS

5 min	Δ < 10%	Δ < 10%			Δ < 0.1 pH		Δ < 0.3 ft	< 1L/min		< 0.5 L/min	Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
1149 1123.7	23.7	0.259	29.2	2.4	9.45	142.2	16.45	150	~~10~~ 52.3		9.93 Cal on turbidity
1152	24.4	0.51	4.4	3.9	7.51	157.8	17.46	200	131		- slight drawdown
1155	24.4	0.53	2.9	2.9	7.11	152.4	18.19	~~1~~80	78		- slow recharge, slight
1158	23.8	0.53	2.4	0.21	7.06	146.8	18.48	350	11		drawdown
1201	24.4	0.54	2.5	0.21	7.04	143.3	19.66	200	92.8		
1204	24.3	0.54	2.5	0.20	7.04	137.9	20.23	200	75.4		

~20 Total Purge

Recorded By: DT

11/25/2015

ATTACHMENT D

VISTA GEOSCIENCE INJECTION REPORT

Vista GeoScience

Expert Environmental Support Services for Site Investigation & Remediation

August 18, 2016

Patrick Appel
EA Engineering, Science, and Technology, LLC
405 South Highway 121, Building C, Suite 100
Lewisville, TX 75067

Via E-Mail: mailto:pappel@eaest.com

RE: DRAFT REPORT; Vista GeoScience Project No. 15250.02
Jones Road Superfund Site, EHC Liquid ISCR Reagent Injections

Dear Patrick:

Enclosed is Vista's summary remediation and injection application report for the above referenced project. The report includes a project overview, pre-mobilization and injection activities, summary tables and charts, injections logs, and site photos.

We will be anxious to hear any feedback from you as well as post-injection monitoring data you can provide. We truly appreciate providing these services to EA Engineering and look forward to working with you again on your future projects.

Please feel to call us if you have any questions or comments regarding this report.

Sincerely,

TJ Haley

TJ Haley

Gulf Coast Regional Manager

tjhaley@vistageoscience.com

Draft Report

EHC - Liquid In-Situ Injection, Jones Road Superfund Site Harris County, Texas EPA Identification No. TXN000605460

Prepared for:

EA Engineering, Science, and Technology, Inc.

EA Engineering, Science, and Technology
Lewisville, Texas
March 2016

Rocky Mountain Region
303.277.1694

Vista GeoScience
info@vistageoscience.com

Gulf Coast Region
281.310.5560

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Application of EHC-L Solution at Jones Road Superfund Site, Houston, Texas

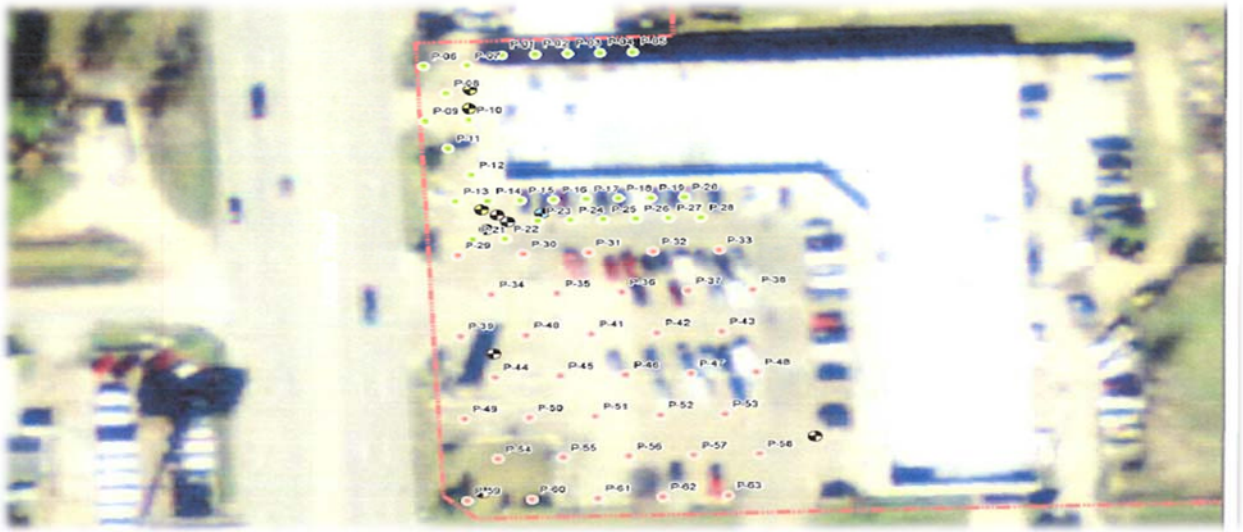
1. Background and Project Overview

EA contracted Vista Geoscience (Vista) to install Peroxy Chem's EHC-Liquid ISCR Reagent (EHC-L) solution for remediation of contaminants at the Jones Road Superfund Site located at 11600 Jones Road Houston TX, starting on January 22nd and continuing through February 3rd of 2016.

The site is located in the northwest portion of Harris County, Texas. The source of site contamination is the former Bell Dry Cleaners facility, which was located within the Cypress Shopping Center at 11600 Jones Road, approximately 0.5 miles north of the intersection of Jones Road and Farm to Market (FM) 1960, outside the city limits of northwest Houston, Texas. The Cypress Shopping Center was constructed in 1984, and the former Bell facility began dry cleaning operations sometime in 1988, using perchloroethylene (PCE). The former Bell facility continued operating through May 2002 when the dry cleaning operations were shut down. Hazardous substances present at the site include PCE, and related daughter products including trichloroethylene (TCE), cis-1,2-dichloroethylene (DCE), and vinyl chloride (VC).

The site has undergone numerous investigations beginning in 1994 and continuing through 2008. The site was proposed to the National Priorities List (NPL) on 30 April 2003, and was finalized to the NPL on 29 September 2003. From August 2003 through May 2008, the Texas Commission on Environmental Quality's (TCEQ's) state-lead contractor performed a remedial investigation (RI) and feasibility study at the site, which characterized the nature and extent of constituents present in environmental media at the site. During the RI, 19 monitoring wells were installed across the area of the site (Figure 2). Soil, ground water, and vapor intrusion samples were collected, and a bench scale treatability study was completed to evaluate the application of in situ chemical oxidation and bioremediation treatment technologies. Routine quarterly ground water sampling was also performed.

Site air photo with injection locations



2. Pre-Mobilization Activities

All applicable licenses, insurance, MSDS, JSA, and health and safety plans from Vista Geoscience were provided and reviewed by EA prior to mobilizing to the site on January 22nd 2016.

On January 22nd 2016 Vista mobilized to the Jones Road Superfund site located at 11600 Jones Road Houston Texas for pre-injection project activities. The activities are listed below.

- Staging of Injection Equipment.
- Set up of Security fence with privacy screen, around staging and mixing area.
- Private Locates conducted by Advanced Utility Locating Services
- Received mixing and holding tanks
- Set up mixing and transfer pumps.
- Filling of Water tanks.
- Adding amendments to water to assist with removing oxygen from the water.
- Received partial shipment of chemicals.

Over the next couple of days Vista mixed and prepared injection solutions so that dissolved oxygen (DO) levels were below 0.5 milligrams per liter and oxidation reduction potential (ORP) was less than 0 mV and negative. This was achieved by adding EHC-L at a rate of 1 gallon per thousand gallons of water. Vista also added sodium sulfite at the rate of .005 pounds per gallon of water. DO and ORP parameters dropped within the 24 hours specified by EA in the scope of work.

Injection Staging and mixing area

3. Injection Event

1.1 Mobilization and Site Preparation

Vista mobilized the remaining injection equipment to 11600 Jones Road on January 25th, 2016 including the custom Clean-Inject™ slurry remediation unit, a track mounted Geoprobe 7822DT, a track mounted Geoprobe 6610DT direct push rig with direct-push injection tooling, a 40 HR HAZWOPER trained crew, and site work zone delineation equipment. The site was secured using highly visible road cones with caution tape, injection hose ramps and an exclusion area was marked off. The Vista Crew met with EA

project team members to locate and identify the injection locations, participate in the Vista health and safety meeting and review the injection process.

The first day was spent checking DO and ORP levels in the mixing and water holding tanks, completion of the mixing and transfer systems, and transferring EHC-L solution to mixing tank. Unloading and staging of injection hoses and injection tooling.

The EHC-L mixture was deemed thicker than first anticipated. Due to this, anaerobic water was added to the drums of EHC-L and mixed with a paddle mixer on a hand held drill prior to being transferred with a 2-inch trash pump and a 1-inch air diagram pump into the recirculation line of the mixing tank to help sheer it up. Once the right amount of EHC-L was reached, the EHC-L dry mix and potassium bicarbonate was added using the same mixing and transfer procedure as the EHC-L. The total mixture was allowed to recirculate from the bottom of the tank through a 2-inch hose back to the bottom of the tank to not allow for the re-introduction of oxygen to the solution.

Figure 1

After the solution was allowed to recirculate for at least 10 minutes, the DO and ORP levels were again checked to insure they did not change or go up after mixing. Once it was deemed those levels where within specifications, the appropiate amount of Dehalococcoides (DHC) inoculum was added.

The injection locations were separated into two different areas, A and B. Each area had a different ratio of the EHC-L product to water and different injection intervals (see Table 1). The target injection intervals were four foot thick zones, so Vista utilized a 1.5" custom retractable injection tool with a four foot stainless steel wire wrapped screen. Injections were monitored using digital flow and pressure gauges, and were documented by the operator. Less than one gallon of surfacing was experienced at some of the locations. Each location was started individually and with increased pressure in 5 PSI increments. See the attached injection logs in Appendix A for individual flows, volumes, and notes. After injections were completed, boring locations were backfilled with bentonite and patched with concrete to match the existing surface. Any spilled product was vacuumed up and used for re-injection after being screened for solids and debris.

Table 1. Injection Summary Table

		Injection Interval		Injectate Mixture					Total Volume
	Point	Top ft bgs	Bottom ft bgs	Water (gal)	EHC-L (drum)	Dry Mix (lbs)	$KHCO_3$ (lbs)	DHC Liters	Injection (gal)
A-Injection Points	P-01	28	32	400	2	100	44	0.9	505
	P-02	28	32	400	2	100	44	0.9	505
	P-03	28	32	400	2	100	44	0.9	505
	P-04	28	32	400	2	100	44	0.9	505
	P-05	28	32	400	2	100	44	0.9	505
	P-06	28	32	400	2	100	44	0.9	505
	P-07	28	32	400	2	100	44	0.9	505
	P-08	28	32	400	2	100	44	0.9	505
	P-09	28	32	400	2	100	44	0.9	505
	P-10	28	32	400	2	100	44	0.9	505
	P-11	28	32	400	2	100	44	0.9	505
	P-12	27	31	400	2	100	44	0.9	505
	P-13	27	31	400	2	100	44	0.9	505
	P-14	27	31	400	2	100	44	0.9	505
	P-15	27	31	400	2	100	44	0.9	505
	P-16	27	31	400	2	100	44	0.9	505
	P-17	27	31	400	2	100	44	0.9	505
	P-18	27	31	400	2	100	44	0.9	505
	P-19	27	31	400	2	100	44	0.9	505
	P-20	27	31	400	2	100	44	0.9	505
	P-21	27	31	400	2	100	44	0.9	505
	P-22	27	31	400	2	100	44	0.9	505
	P-23	27	31	400	2	100	44	0.9	505
	P-24	27	31	400	2	100	44	0.9	505
	P-25	27	31	400	2	100	44	0.9	505
	P-26	27	31	400	2	100	44	0.9	505
	P-27	27	31	400	2	100	44	0.9	505
	P-28	27	31	400	2	100	44	0.9	505

		Injection Interval		Injectate Mixture					Total Volume
	Point	Top ft bgs	Bottom ft bgs	Water (gal)	EHC-L (drum)	Dry Mix (lbs)	$KHCO_3$ (lbs)	DHC Liters	Injection (gal)
B-Injection Points	P-29	28	32	850	2	100	88	1.8	955
	P-30	28	32	850	2	100	88	1.8	955
	P-31	28	32	850	2	100	88	1.8	955
	P-32	28	32	850	2	100	88	1.8	955
	P-33	28	32	850	2	100	88	1.8	955
	P-34	29	33	850	2	100	88	1.8	955
	P-35	29	33	850	2	100	88	1.8	955
	P-36	29	33	850	2	100	88	1.8	955
	P-37	29	33	850	2	100	88	1.8	955
	P-38	29	33	850	2	100	88	1.8	955
	P-39	29	33	850	2	100	88	1.8	955
	P-40	29	33	850	2	100	88	1.8	955
	P-41	29	33	850	2	100	88	1.8	955
	P-42	29	33	850	2	100	88	1.8	955
B-Injection Points	P-43	29	33	850	2	100	88	1.8	955
	P-44	29	33	850	2	100	88	1.8	955
	P-45	29	33	850	2	100	88	1.8	955
	P-46	29	33	850	2	100	88	1.8	955
	P-47	29	33	850	2	100	88	1.8	955
	P-48	29	33	850	2	100	88	1.8	955
	P-49	29	33	850	2	100	88	1.8	955
	P-50	29	33	850	2	100	88	1.8	955
	P-51	29	33	850	2	100	88	1.8	955
	P-52	29	33	850	2	100	88	1.8	955
	P-53	29	33	850	2	100	88	1.8	955
	P-54	29	33	850	2	100	88	1.8	955
	P-55	29	33	850	2	100	88	1.8	955
	P-56	29	33	850	2	100	88	1.8	955
	P-57	29	33	850	2	100	88	1.8	955
	P-58	29	33	850	2	100	88	1.8	955
	P-59	29	33	850	2	100	88	1.8	955
	P-60	50	54	850	2	100	88	1.8	955
	P-61	50	54	850	2	100	88	1.8	955
	P-62	50	54	850	2	100	88	1.8	955
	P-63	50	54	850	2	100	88	1.8	955

1.2 Area A

Area	Injection Points	Date Started	Date Completed	Top of Injection Interval	Bottom of Injection Interval	Interval Lentgh	Target Water (gal)	EHC - L (gal)	Target Dry Mix (lbs)	Target KHCO3 (lbs)	Target DHC (lts)	Target Total Volume (gal)
A	P - 01	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 02	1/30/16	1/30/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 03	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 04	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 05	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 06	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 07	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 08	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 09	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 10	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 11	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 12	1/29/16	1/29/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 13	1/30/16	1/30/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 14	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 15	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 16	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 17	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 18	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 19	1/29/16	1/29/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 20	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 21	1/30/16	1/30/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 22	1/30/16	1/30/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 23	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 24	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 25	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 26	1/29/16	1/29/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 27	1/29/16	1/29/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	P - 28	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0
	Area Totals						11200.0	2800.0	1400.0	1232.0	25.2	14140.0

1.3 Area B

Area	Injection Points	Date Started	Date Completed	Top of Injection Interval	Bottom of Injection Interval	Interval Lentgh	Target Water (gal)	EHC - L (gal)	Target Dry Mix (lbs)	Target KHCO3 (lbs)	Target DHC (lts)	Target Total Volume (gal)
B	P - 29	1/27/16	1/27/16	28	32	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 30	1/30/16	1/30/16	28	32	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 31	1/27/16	1/27/16	28	32	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 32	1/30/16	1/30/16	28	32	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 33	1/27/16	1/27/16	28	32	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 34	1/27/16	1/27/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 35	1/30/16	1/30/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 36	1/30/16	1/30/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 37	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 38	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 39	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 40	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 41	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 42	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 43	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 44	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 45	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 46	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 47	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 48	1/27/16	1/27/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 49	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 50	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 51	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 52	1/27/16	1/27/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 53	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 54	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 55	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 56	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 57	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 58	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 59	1/27/16	1/27/16	46	50	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 60	1/27/16	1/27/16	50	54	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 61	1/26/16	1/26/16	50	54	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 62	1/31/16	1/31/16	50	54	4	850.0	100.0	50.0	88.0	1.8	955.0
	P - 63	1/26/16	1/26/16	50	54	4	850.0	100.0	50.0	88.0	1.8	955.0
	Area Totals						29750.0	3500.0	1750.0	3080.0	63.0	33425.0

4. Summary

A total of 6,489 gallons of EHC-L, 3,344 pounds of EHC-L Dry Mix, 4,798 pounds of potassium bicarbonate, 108 liters of DHC, and 40,948 gallons of water were injected into the 63 locations over eight days. The injections and site cleanup were concluded on February 2nd after which all equipment and debris were mobilized offsite.

Appendix A: Project Photos

Cleaning Out EHC-L Drums

Injection set up – Area A

Multiple Point Injection Manifold

Injection set up – Area B

Flow meters

Protective Hose Ramps

Appendix B: Injection Logs

Area	Injection Points	Date Started	Date Completed	Top of Injection Interval	Bottom of Injection Interval	Interval Lentgh	Target Water (gal)	EHC - L (gal)	Target Dry Mix (lbs)	Target KHCO3 (lbs)	Target DHC (lts)	Target Total Volume (gal)	Actual Water Injected (gal)	Difference	Actual EHC - L Injected	Difference	Actual Dry Mix Injected (lbs)	Difference	Actual KHCO3 Injected	Difference	Actual DHC Injected (lts)	Difference	Actual Total Volume Injected	Difference
A	P - 01	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 02	1/30/16	1/30/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 03	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 04	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 05	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 06	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 07	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 08	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 09	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 10	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 11	1/29/16	1/29/16	28	32	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 12	1/29/16	1/29/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 13	1/30/16	1/30/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 14	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 15	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 16	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 17	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 18	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 19	1/29/16	1/29/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 20	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 21	1/30/16	1/30/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 22	1/30/16	1/30/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 23	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 24	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 25	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 26	1/29/16	1/29/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 27	1/29/16	1/29/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	P - 28	1/28/16	1/28/16	27	31	4	400.0	100.0	50.0	44.0	0.9	505.0	400.0	0.0	100.0	0.0	50.0	0.0	44.0	0.0	0.9	0.0	505.0	0.0
	Area Totals						11200.0	2800.0	1400.0	1232.0	25.2	14140.0	11200.0	0.0	2800.0	0.0	1400.0	0.0	1232.0	0.0	25.2	0.0	14140.0	0.0

Area	Injection Points	Date Started	Date Completed	Top of Injection Interval	Bottom of Injection Interval	Interval Lentgh	Target Water (gal)	EHC - L (gal)	Target Dry Mix (lbs)	Target KHCO3 (lbs)	Target DHC (lts)	Target Total Volume (gal)	Actual Water Injected (gal)	Difference	Actual EHC - L Injected	Difference	Actual Dry Mix Injected (lbs)	Difference	Actual KHCO3 Injected	Difference	Actual DHC Injected (lts)	Difference	Actual Total Volume Injected	Difference
B	P - 29	1/27/16	1/27/16	28	32	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 30	1/30/16	1/30/16	28	32	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 31	1/27/16	1/27/16	28	32	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 32	1/30/16	1/30/16	28	32	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 33	1/27/16	1/27/16	28	32	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 34	1/27/16	1/27/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 35	1/30/16	1/30/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 36	1/30/16	1/30/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 37	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 38	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 39	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 40	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 41	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 42	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 43	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 44	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	163.0	-63.0	115.0	-65.0	250.0	-162.0	8.3	-6.5	1033.0	-78.0
	P - 45	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	163.0	-63.0	115.0	-65.0	250.0	-162.0	8.3	-6.5	1033.0	-78.0
	P - 46	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 47	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 48	1/27/16	1/27/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 49	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 50	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 51	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 52	1/27/16	1/27/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 53	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 54	2/1/16	2/1/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	163.0	-63.0	115.0	-65.0	250.0	-162.0	8.3	-6.5	1033.0	-78.0
	P - 55	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 56	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 57	1/26/16	1/26/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 58	1/31/16	1/31/16	29	33	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 59	1/27/16	1/27/16	46	50	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	P - 60	1/27/16	1/27/16	50	54	4	850.0	100.0	50.0	88.0	1.8	955.0	850.0	0.0	100.0	0.0	50.0	0.0	88.0	0.0	1.8	0.0	955.0	0.0
	Area Totals						27200.0	3200.0	1600.0	2816.0	57.6	30560.0	27200.0	0.0	3389.0	-189.0	1795.0	-195.0	3302.0	-486.0	77.2	-19.6	30794.0	-234.0

BOS 200 Injection Log

Project No.: 15250.02 Site: Jones Road Superfund Site AREA: B Page: 1

Client: EA - Engineering, Science, and Technology Injected Product: EHC - L, Dry Mix, KHCO3, DHC Date(s): 1/26/2016

Address: 11600 Jones Road, Houston Texas Injection Crew: TJ Haley, Rich Freeman, David Fontana, Byron Pitulski Drill Rig:

Area B Point No.	Date (2015)	Start Time	End Time	Top Interval Depth (feet)	Bottom Interval Depth (feet)	Initial Press. (psi)	Flow Press. (psi)	Flow Rate (gpm)	Target Water (gal.)	Target EHC - L (gal.)	Target Dry Mix (lbs)	Target KHCO3 (lbs.)	Target DHC (lts)	Target Total Volume (gal.)	Injected Water (gal.)	Injected EHC - L (gal.)	InjectedDry Mix (lbs)	Injected KHCO3 (lbs.)	Injected DHC (lts)	Injected Total Volume (gal.)	Surfacing Yes or No	Notes/Comments:
55	1/26/16	9:30	11:30	29	33	65	55	5	850	100	50	88	1.8	955	596	70	35	62	1.26	670	No	
		11:30	12:18				70	7							254	30	15	26	0.54	285	No	Turned Flow up as per Client
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
63	1/26/16	9:40	11:30	50	54	65	55	5	850	100	50	88	1.8	955	561	66	33	58	1.19	630	No	
		11:30	12:24				65	7							289	34	17	30	0.61	325	No	Turned Flow up as per Client
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
53	1/26/16	10:40	11:30	29	33	65	50	5	850	100	50	88	1.8	955	267	31	16	28	0.57	300	No	
		11:30	13:12				55	6.5							583	69	34	60	1.23	655	No	Turned Flow up as per Client
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
61	1/26/16	11:00	11:30	50	54	70	55	5	850	100	50	88	1.8	955	134	16	8	14	0.28	150	No	
		11:30	13:37				60	6.5							716	84	42	74	1.52	805	No	Turned Flow up as per Client
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
57	1/26/16	14:36	17:16	29	33	70	60	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
41	1/26/16	15:29	17:45	29	33	60	50	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
39	1/26/16	15:45	18:17	29	33	85	80	5.5	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
Page Totals															#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		

BOS 200 Injection Log

Project No.: 15250.02 Site: Jones Road Superfund Site AREA: B Page: 1

Client: EA - Engineering, Science, and Technology Injected Product: EHC - L, Dry Mix, KHCO3, DHC Date(s): 1/27/2016

Address: 11600 Jones Road, Houston Texas Injection Crew: TJ Haley, Rich Freeman, David Fontana, Byron Pitulski Drill Rig:

Area B Point No.	Date (2015)	Start Time	End Time	Top Interval Depth (feet)	Bottom Interval Depth (feet)	Initial Press. (psi)	Flow Press. (psi)	Flow Rate (gpm)	Target Water (gal.)	Target EHC - L (gal.)	Target Dry Mix (lbs)	Target KHCO3 (lbs.)	Target DHC (lts)	Target Total Volume (gal.)	Injected Water (gal.)	Injected EHC - L (gal.)	InjectedDry Mix (lbs)	Injected KHCO3 (lbs.)	Injected DHC (lts)	Injected Total Volume (gal.)	Surfacing Yes or No	Notes/Comments:
60	1/27/16	9:30	11:47	50	54	85	80	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
52	1/27/16	9:35	11:52	29	33	70	65	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
33	1/27/16	10:10	12:15	28	32	70	60	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
34	1/27/16	10:40	12:53	28	32	80	70	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
59	1/27/16	13:53	16:15	46	50	90	80	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	Refusal at 50 feet, Instructed to Inject by client
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
31	1/27/16	14:50	17:06	28	32	65	60	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
29	1/27/16	15:30	17:45	28	32	70	65	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
Page Totals															#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		

BOS 200 Injection Log

Project No.: 15250.02 Site: Jones Road Superfund Site AREA: A Page: 1

Client: EA - Engineering, Science, and Technology Injected Product: EHC - L, Dry Mix, KHCO3, DHC Date(s): 1/28/2016

Address: 11600 Jones Road, Houston Texas Injection Crew: TJ Haley, Rich Freeman, David Fontana, Byron Pitulski Drill Rig:

Area B Point No.	Date (2015)	Start Time	End Time	Top Interval Depth (feet)	Bottom Interval Depth (feet)	Initial Press. (psi)	Flow Press. (psi)	Flow Rate (gpm)	Target Water (gal.)	Target EHC - L (gal.)	Target Dry Mix (lbs)	Target KHCO3 (lbs.)	Target DHC (lts)	Target Total Volume (gal.)	Injected Water (gal.)	Injected EHC - L (gal.)	InjectedDry Mix (lbs)	Injected KHCO3 (lbs.)	Injected DHC (lts)	Injected Total Volume (gal.)	Surfacing Yes or No	Notes/Comments:
17	1/28/16	8:45	10:03	27	31	70	65	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
14	1/28/16	8:45	9:59	27	31	100	95	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
28	1/28/16	9:27	10:43	27	31	90	80	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
23	1/28/16	9:36	10:03	27	31	80	70	7	400	100	50	44	0.9	505	156	39	20	17	0.35	197	Yes	Surfacing < 1 gallon out of MW - 1, 5 feet to the South
		10:03	11:13			70	65	5							244	61	30	27	0.55	308		
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
20	1/28/16	10:08	11:23	27	31	65	60	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
18	1/28/16	12:40	13:52	27	31	80	75	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
16	1/28/16	13:00	13:02	27	31	100	0	0	400	100	50	44	0.9	505	0	0	0	0	0.00	0	No	Max pressure achived, pulled rods tool did not open
		16:20	17:38	27	31	70	60	7							400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
25	1/28/16	13:41	14:50	27	31	70	65	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
24	1/28/16	16:10	17:28	27	31	80	70	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
Page Totals															#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		

BOS 200 Injection Log

Project No.: 15250.02 Site: Jones Road Superfund Site AREA: A Page: 1

Client: EA - Engineering, Science, and Technology Injected Product: EHC - L, Dry Mix, KHCO3, DHC Date(s): 1/29/2016

Address: 11600 Jones Road, Houston Texas Injection Crew: TJ Haley, Rich Freeman, David Fontana, Byron Pitulski Drill Rig:

Area B Point No.	Date (2015)	Start Time	End Time	Top Interval Depth (feet)	Bottom Interval Depth (feet)	Initial Press. (psi)	Flow Press. (psi)	Flow Rate (gpm)	Target Water (gal.)	Target EHC - L (gal.)	Target Dry Mix (lbs)	Target KHCO3 (lbs.)	Target DHC (lts)	Target Total Volume (gal.)	Injected Water (gal.)	Injected EHC - L (gal.)	InjectedDry Mix (lbs)	Injected KHCO3 (lbs.)	Injected DHC (lts)	Injected Total Volume (gal.)	Surfacing Yes or No	Notes/Comments:
19	1/29/16	8:15	9:28	27	31	80	70	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
9	1/29/16	8:20	9:31	28	32	70	65	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
27	1/29/16	8:25	9:35	27	31	80	70	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
6	1/29/16	8:30	8:33	28	32	80	70	7	400	100	50	44	0.9	505	16	4	2	2	0.04	20	Yes	Surfacing out of well < 1 gallon cut flow rate
		8:40	8:44				50	5							40	10	5	4	0.09	50	Yes	Still surfacing, stop injection, will add to Point 7
	Point Totals								400	100	50	44	0.9	505	55	14	7	6	0.12	70		
26	1/29/16	9:00	10:21	27	31	70	65	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
5	1/29/16	13:13	14:25	28	32	85	80	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
8	1/29/16	13:20	14:15	28	32	80	75	7	400	100	50	44	0.9	505	259	65	32	28	0.58	327	Yes	Surfacing out of IW -33, approx 3 feet North
		14:15	14:54				65	5							141	35	18	16	0.32	178		
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
3	1/29/16	13:50	15:07	28	32	75	70	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
10	1/29/16	13:45	14:15	28	32	85	80	7	400	100	50	44	0.9	505	148	37	19	16	0.33	187	Yes	Surfaing out of IW -33, approx 3 feet South
		14:15	15:26				75	5							252	63	31	28	0.57	318		
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
Page Totals															#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		

BOS 200 Injection Log

Project No.: 15250.02 Site: Jones Road Superfund Site AREA: A Page: 2

Client: EA - Engineering, Science, and Technology Injected Product: EHC - L, Dry Mix, KHCO3, DHC Date(s): 1/29/2016

Address: 11600 Jones Road, Houston Texas Injection Crew: TJ Haley, Rich Freeman, David Fontana, Byron Pitulski Drill Rig:

Area B Point No.	Date (2015)	Start Time	End Time	Top Interval Depth (feet)	Bottom Interval Depth (feet)	Initial Press. (psi)	Flow Press. (psi)	Flow Rate (gpm)	Target Water (gal.)	Target EHC - L (gal.)	Target Dry Mix (lbs)	Target KHCO3 (lbs.)	Target DHC (lts)	Target Total Volume (gal.)	Injected Water (gal.)	Injected EHC - L (gal.)	InjectedDry Mix (lbs)	Injected KHCO3 (lbs.)	Injected DHC (lts)	Injected Total Volume (gal.)	Surfacing Yes or No	Notes/Comments:
11	1/29/16	14:35	15:56	28	32	80	75	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
1	1/29/16	15:18	16:35	28	32	75	70	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
12	1/29/16	15:45	16:58	27	31	80	75	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
4	1/29/16	16:05	17:17	28	32	85	80	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
	Point Totals								0	0	0	0	0	0	0	0	0	0	0.0	0		
	Point Totals								0	0	0	0	0	0	0	0	0	0	0.0	0		
	Point Totals								0	0	0	0	0	0	0	0	0	0	0.0	0		
Page Totals															#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		

BOS 200 Injection Log

Project No.: 15250.02 Site: Jones Road Superfund Site AREA: A / B Page: 1

Client: EA - Engineering, Science, and Technology Injected Product: EHC - L, Dry Mix, KHCO3, DHC Date(s): 1/30/2016

Address: 11600 Jones Road, Houston Texas Injection Crew: TJ Haley, Rich Freeman, David Fontana, Byron Pitulski Drill Rig:

Area Point No.	Date (2015)	Start Time	End Time	Top Interval Depth (feet)	Bottom Interval Depth (feet)	Initial Press. (psi)	Flow Press. (psi)	Flow Rate (gpm)	Target Water (gal.)	Target EHC - L (gal.)	Target Dry Mix (lbs)	Target KHCO3 (lbs.)	Target DHC (lts)	Target Total Volume (gal.)	Injected Water (gal.)	Injected EHC - L (gal.)	InjectedDry Mix (lbs)	Injected KHCO3 (lbs.)	Injected DHC (lts)	Injected Total Volume (gal.)	Surfacing Yes or No	Notes/Comments:
13	1/30/16	9:25	10:43	27	31	80	75	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
21	1/30/16	9:22	10:35	27	31	100	95	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
2	1/30/16	10:04	11:16	28	32	80	70	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
22	1/30/16	10:06	11:18	27	31	75	70	7	400	100	50	44	0.9	505	400	100	50	44	0.90	505	No	
	Point Totals								400	100	50	44	0.9	505	400	100	50	44	0.9	505		
35	1/30/16	12:43	15:11	29	33	100	90	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
32	1/30/16	13:15	15:42	28	32	90	80	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
36	1/30/16	13:09	15:35	29	33	75	70	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
	Point Totals								0	0	0	0	0	0	0	0	0	0	0.0	0		
	Point Totals								0	0	0	0	0	0	0	0	0	0	0.0	0		
Page Totals															#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		

BOS 200 Injection Log

Project No.: 15250.02 Site: Jones Road Superfund Site AREA: B Page: 1

Client: EA - Engineering, Science, and Technology Injected Product: EHC - L, Dry Mix, KHCO3, DHC Date(s): 1/31/2016

Address: 11600 Jones Road, Houston Texas Injection Crew: TJ Haley, Rich Freeman, David Fontana, Byron Pitulski Drill Rig:

Area Point No.	Date (2015)	Start Time	End Time	Top Interval Depth (feet)	Bottom Interval Depth (feet)	Initial Press. (psi)	Flow Press. (psi)	Flow Rate (gpm)	Target Water (gal.)	Target EHC - L (gal.)	Target Dry Mix (lbs)	Target KHCO3 (lbs.)	Target DHC (lts)	Target Total Volume (gal.)	Injected Water (gal.)	Injected EHC - L (gal.)	InjectedDry Mix (lbs)	Injected KHCO3 (lbs.)	Injected DHC (lts)	Injected Total Volume (gal.)	Surfacing Yes or No	Notes/Comments:
62	1/31/16	7:57	10:22	50	54	80	70	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
38	1/31/16	8:00	10:25	29	33	75	70	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
56	1/31/16	8:30	10:53	29	33	80	70	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
37	1/31/16	8:35	10:58	29	33	85	80	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
58	1/31/16	11:45	14:06	29	33	80	75	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
51	1/31/16	12:17	14:30	29	33	70	65	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
42	1/31/16	12:15	14:28	29	33	70	65	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
	Point Totals								0	0	0	0	0	0	0	0	0	0	0.0	0		
	Point Totals								0	0	0	0	0	0	0	0	0	0	0.0	0		
Page Totals															#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		

BOS 200 Injection Log

Project No.: 15250.02 Site: Jones Road Superfund Site AREA: B Page: 1

Client: EA - Engineering, Science, and Technology Injected Product: EHC - L, Dry Mix, KHCO3, DHC Date(s): 2/1/2016

Address: 11600 Jones Road, Houston Texas Injection Crew: TJ Haley, Rich Freeman, David Fontana, Byron Pitulski Drill Rig:

Area Point No.	Date (2015)	Start Time	End Time	Top Interval Depth (feet)	Bottom Interval Depth (feet)	Initial Press. (psi)	Flow Press. (psi)	Flow Rate (gpm)	Target Water (gal.)	Target EHC - L (gal.)	Target Dry Mix (lbs)	Target KHCO3 (lbs.)	Target DHC (lts)	Target Total Volume (gal.)	Injected Water (gal.)	Injected EHC - L (gal.)	InjectedDry Mix (lbs)	Injected KHCO3 (lbs.)	Injected DHC (lts)	Injected Total Volume (gal.)	Surfacing Yes or No	Notes/Comments:
54	2/1/16	8:00	10:26	29	33	70	65	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
40	2/1/16	8:05	10:31	29	33	75	70	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
49	2/1/16	8:10	10:37	29	33	80	75	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
46	2/1/16	8:15	10:42	29	33	75	70	7	850	100	50	88	1.8	955	850	100	50	88	1.80	955	No	
	Point Totals								850	100	50	88	1.8	955	850	100	50	88	1.8	955		
50	2/1/16	12:40	15:06	29	33	65	60	7	850	100	50	88	1.8	955	850	163	115	250	8.33	1033	No	Added extra materials as per client
		15:30	17:00	29	33	65	60	7												630		Tank and system rinse, used anaerobic water
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
44	2/1/16	12:50	15:16	29	33	75	70	7	850	100	50	88	1.8	955	850	163	115	250	8.33	1033	No	Added extra materials as per client
	Point Totals								#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		
	Point Totals								0	0	0	0	0	0	0	0	0	0	0.0	0		
	Point Totals								0	0	0	0	0	0	0	0	0	0	0.0	0		
	Point Totals								0	0	0	0	0	0	0	0	0	0	0.0	0		
Page Totals															#REF!	#REF!	#REF!	#REF!	#REF!	#REF!		

Tank Number	Date	Time	Volume	Batch	Outside Temputure	DO mg/L	Comments
1	1/23/16	9:00	3400	B	39	0.38	Added 4 gallons EHC- L and 20 lbs Sodium Sulfite
2	1/23/16	9:20	3400	B	39	0.33	Added 4 gallons EHC- L and 20 lbs Sodium Sulfite
3	1/23/16	9:40	3400	B	39	0.28	Added 4 gallons EHC- L and 20 lbs Sodium Sulfite
1	1/23/16	15:00	3400	B	57	0.33	
2	1/23/16	15:25	3400	B	57	0.23	
3	1/23/16	15:45	3400	**B**	57	0.26	
1	1/24/16	10:45	3400	**B**	61	0.33	
2	1/24/16	11:00	3400	**B**	61	0.32	
3	1/24/16	11:30	3400	**B**	61	0.3	
3	1/25/16	15:00	3400	B	58	0.13	Added Entire Batch B Solution
3	1/26/16	8:00	3400	B	44	0.23	
3	1/26/16	14:45	3400	B	46	0.1	ORP -354, New B Batch
3	1/27/16		3400	B			
1	1/27/16		3400	B			
3	1/27/16	13:36	3400	B	52	0.2	ORP - 304
1	1/27/16	16:04	3200	A	51	0.22	
3	1/28/16	7:25	3200	A	39	0.23	ORP -344
1	1/28/16	7:40	3200	A	39	6.4	Added 20 lbs Sodium Sulfite
1	1/28/16	12:14	3200	A	59	0.33	
3	1/28/16	16:00	3200	A	66	0.24	ORP - 314
1	1/29/16	9:40	3200	A	54	0.25	
3	1/29/16	13:00	3200	A	72	0.28	ORP - 316
1	1/30/16	7:30	1600	A	55	0.39	
3	1/30/16	9:06	1600	A	59	0.22	ORP - 336
2	1/30/16	9:30	3400	B	59	0.21	
3	1/30/16	12:24	3400	B	71	0.22	ORP - 320
1	1/30/16	15:00	3400	B	75	0.23	
3	1/31/16	7:32	3400	B	63	0.1	ORP - 392
2	1/31/16	8:00	3400	B	63	0.34	
3	1/31/16	11:40	3400	B	72	0.24	
1	1/31/16	13:00	3400	B	75	0.37	

ATTACHMENT E

FIELD NOTES

Location Harris Co, TX Date 01/21/16

Project / Client Bonny Rd, EPA Region VI

Site walk / Pre-launch injection meeting

0735 Depart for site

WEATHER: Mostly cloudy and becoming windy with thunderstorms likely in afternoon High 69°F. Winds 20-30 mph. Chance of rain 100%

PLAN FOR THE DAY: Site walk with EPA/TCEQ et all, injection prewalk

0738 Arrive on site

TCEQ: Marilyn Long

EPA: Camile

SEKO:

EA Duane Thomas, Pat Appel

0940 Meet with SEKO staff for 5 year review site walk

1000-1400 Site Walk

1405 Meet with property manager Jesse to go over injection activities scheduled to begin next day

1500 Meeting concluded

1555 Depart site to pick up pallet jack for drum unloading in am.

Location Harris Co, TX Date 01/22/16

Project / Client Jones Rd, EPA Region VI

~~Site walk~~ Mobilization for injection activities

0630 Depart for office

WEATHER: Mostly Cloudy early, then sunshine for the afternoon. High 53°F. Winds NNW at 15-25 mph.

0700 Depart for site

0705 Safety Meeting

* Truck with injection drums on site.

PLAN FOR THE DAY: Begin mobilizing equipment and materials

* Bill of lading has no bacteria for morning
- Bill of lading also has a liftgate truck being sent by Quality Transport with a lift gate. The truck had neither. The charge rate will be checked.

0745 Unloading of drums begins

- Security Fence in place

* Photo: unloading and fencing for trailer

* OHC + K Incorporate not on Friday delivery. Will confirm with Proxy

0900 Confirm with Proxy chem that 2nd delivery will take place Monday mornings 8am

1030 A gray Mitsubishi SUV is in Fenced in area. Tags are long expired. EA had mentioned SUV to property management. Vista and EA

Location Harris Co, TX Date 01/22/16

Project / Client Jones Rd GW Plume EPA 6

Mobilization

SUV will remain in fenced in process area. Both EA + Vista documented vehicle with photos
1218 2nd Rain for Rent tank onsite
- 3rd party locator continues to mark on property lines
1333 Vista preparing to begin pumping + filling water tanks
1400 Receive call from UPS. Holding DHC at main facility. Will go pick up DHC.
1526 Return to site with DHC,
* DO reading for mixing tanks 7.0 Co mg/dl
- more sodium bicarbonate added
1526 - 1800 Stage equipment, condition mixing tanks water
1805 Depart Site

Location Harris Co, TX Date 01/23/16

Project / Client Jones Rd GW Plume, EPA 6

Mobilization

0700 Report for Office
WEATHER: Sunny, high 57°F winds light and variable
PLAN FOR THE DAY: Continue staging equipment. Continue to condition water to make it anerobic
0730 Safety Meeting
0850 DO check on 3 tanks has dropped
Mix tank 1: 0.30
Mix tank 2: .33
Batch tank: 0.28 (tank 3)
* Photo: Plumbing prep of tanks
1120 Supplies shipper bringing replacement ball valve for pumping trailer will not be on site until 1400
1140 Photo: Staged drums behind shopping center
1430 Drums staged behind building where property manager suggested
1430 - ~~1330~~ Set up completed for the day
1530 Depart Site

Location Harris Co, TX Date 01/25/16

Project / Client Jones Rd GW Plume, EPA Region 6

Mixing / Injection

0630 Depart for site
0700 Arrive on site
WEATHER: Mix of clouds and sun in morning followed by mostly cloudy skies + a few showers in afternoon. High near 75°F. Winds S-SSW at 10-15 mph. Chance of rain 50%
0715 Safety Meeting
PLAN FOR THE DAY: Begin mixing injectable batch of injectate. Possibly begin injections
0730 EA Jay S onsite
0815 Begin moving EHC to batch tank
0862 EHC difficult to move through bladder pump due to viscosity. Vista cutting the drums with ≈ 8 gal water to move - pumping still slow
0935 Pump augmented to use both bladder pump and trash pump
0935 Trouble shooting mixing system
1120 Depart Site to pick up YSI for ORP readings
1228 Return to site. Mixing set up continuing - system is mixing. Vista getting system optimized
1530 Mixing continued

Location Harris Co, TX Date 01/25/16

Project / Client Jones Rd GW

Mixing / Injection

DO meter: 0.20 → 0.13
YSI DO: 1.23 mg/L 0.50
ORP: -360 -307
Batch 1: 8 drums EHC
8 Bags ~~KHCO3~~ EHC Prep
7.5 Bags $KHCO_3$
20 ~~Bags~~ Pounds Sodium Sulfite per tank
3400 gal water
1530-1800 Continue injection prep
1800 Depart Site

Location Harris Co, TX Date 01/26/15

Project / Client Jones Rd GW Plume, EPAG

GW Injection

0630 Depart for Site
0700 Arrive on site
WEATHER: Overcast with rain showers. High near 55°. Winds NNE at 10-20mph. Chance of rain 60%.
0730 Safety Meeting
PLAN FOR THE DAY: Begin injection of B concentration points
Will check more DO & ORP one last time before injecting
Proposed Points (B conc.) 55 + 58 (shallow)
61, 63 (deep + shallow)
0735 Begin drawing point 55
*Photo: drawing rods at point 55
Pre Injection Chemistry: DO: 0.27 mg/l
ORP: -327
0849 Begin adding DMC to injectate 7.2L
*Photo: Adding DMC to mix
0916 Point 55 injection started
0926 - 5.05 gal min reached point 55 at 50psi
0926 Point 63 started
- 5.50 gpm at 52 psi
0931 Visha will start drawing rods at point 53 (deep)

Location Harris Co, TX Date 01/26/15

Project / Client Jones Rd GW Plume EPAG

GW Injection

MW-61:	DTW	36.23	1105	1109	1153
	TD	35.00			
MW-22:	DTW	47.98	47.84	47.60	46.60
	TD				

1000 Begin drawing rods at 53 & 61
1025 Rig on #61 has to shift hole. Rod was pulled off plumb by subsurface object
1030 Point #53 injection started
Donald Hawes
11627 Echo Springs
832-647-5214 no message deep
1130 Visha will begin testing at higher pressure and gpm
- will run at ≈ 60 psi which will pump injectate at 6.5 - 7.0 gpm to sample points
1153 DTW MW-22 46.50
1212 Point 55 finished 955.13 total gal
1218 Point 63 finished 955.14 total gal
1233 Begin setup for batch #2
*Photo: Setting up batch #2
1312 Point 53 Complete 955.60 total gal
1332 MW-06 DTW 30.95
≈ 1.4 foot rise in MW-06 over 4 hrs

Location Harris Co, TX Date 01/26/16

Project / Client Jones Rd GW Plume, EPA Region 6

GW Injections

Batch 2 Constituents
- 8 Drums ELS
- 8 Bags Dry Mix
- 7.5 Bags Potassium ($KHCO_3$)
- 7.2 Liters DHC

1337 Point C61 Complete 955.0 gallons
1350 Take WQ readings of batch tank
DO: 0.10 mg/L YSI: 1.71
ORP: -353
1406 Begin driving rods for Point 57
1431 Begin driving rods for point 43
+ Photo: Driving Point 43
1456 Begin injection on 43, 57
1500 Begin injection on C13
1503 Begin driving on Pt. 41
1505 Begin driving on pt 39
1521 Begin injecting pt C11
1515 Begin injection pt 39
1716 Point 57 done at 955 gal
1722 Point C13 done at 955 gal
1725 Vapta begins pulling pts 57 & C13
1730 Vapta will begin batch #3 prep in advance of tomorrow's injections
1745 Point 41 complete 955 gal

Location Harris Co, TX Date 01/26/16

Project / Client Jones Rd GW Plume, EPA C

GW Injections

1817 Point 39 Completed 955.0 gal
1830 Batch #3 No Change (B conc.)
- 8 drums EHC
- 8 bags dry mix
- 7.5 bags $KHCO_3$

* DHC will not be added until morning
1900 Depart Site

Location Harris Co, TX Date 01/27/16

Project / Client Jones Rd GW Plume, EPA 6

GW Injections

0630 Depart for site
0700 Arrive on site
WEATHER: Some clouds this evening will give way to clear skies overnight. Low 33°F Winds light and variable
0730 Safety Meeting
PLAN FOR THE DAY: Continue ~~[illegible]~~ injections
0715 Set up for driving rods at point 60, 52
Batch:
ORP -291
DO 0.23mg/L
*Photo: Driving point 60
* Utility crew is running horizontal drill for utility install. Equipment causing some points
- spoke to foreman & work should on take 2 hours
0802 Begin pumping 60, 52
MW-22:
DTW 47.60
MW-06: 31.65
0830 Generator has quit, begin repairs
*Photo: pumping borings
0923 Point 60 restarted
- Points 33, 34 will be started next

Location Harris Co, TX Date 01/27/16

Project / Client Jones Rd GW Plume, EPA 6

GW Injections

1000 Point 33 started
- Aerial Video & Pics taken
1026 Point 34 started
1047 Additional linebackers/hose protectors delivered to site
*Photo Vestra cleaning drums for disposal
1147 Point 60 completed 955 gal
1148 Point 52 completed 955 gal
1200 Begin prep on Batch #4 (Bcore)
- Point 59 will be next
1217 Begin driving point 59
*Photo: driving point 59
1220 Will begin driving point 48
1253 Point 34 completed 955 gal
1255 Begin driving point 48
1305 Driving out point 59 will not extend past 50'. Injection zone is 46 - 50' bgs
- Injection at 59 proceeding with no issues
*Photo Injection at point 48
1415 78220 Geoprobe Broken Down
1445 Start injection on point 31
1455 Begin driving point 29
1526 Begin injection on pt 29

Location Harris Co, TX Date 01/27/16

Project / Client Jones Rd GW Plume, EPA Region VI GW Injections

* Photo: Vista repairing borehole with concrete
1601 Vista pre-conditioning water in tank 1 for A concentration injections taking place tomorrow
- DO. 22 Tank 1
- Tank 2 contains pre-conditioned water for B concentration
* No Change in Batch 4 (B conc.) than previous mixes
1622 Pt 48 complete 955 gal
- 1615 for pilot point 59 955 gal
* 78020 Geoprobe still down
1642 78020 repaired/running
1658 Beginning Batch 5 (A conc.) mixing 16 Drums EHC, 7 Bags $KHCO_3$, 400 lb dry mix, 3200 gal H_2O
1706 Point 31 Completed 955 gal
1745 Point 29 completed 955 gal
1745-1830 Clean up & mix/circulate batch
1835 Depart Site

Location Harris Co, TX Date 01/28/16

Project / Client Jones Rd GW Plume, EPA Reg. 6 GW Injections

0630 Depart for Site
0700 Arrive on site
WEATHER: Sunny, high 68°F. Winds W at 5-10 mph
0715 Safety Meeting
PLAN FOR THE DAY: Continue injections at A concentration points
Ross set up on A points 14 and 17
Batch 5:
DO: 0.23 mg/l
ORP: -344
* Photo: setup on 14 & 17
0854 14 & 17 both injecting
* Photo: Driving pt 28
* Photo: Spill kit for possible daylighting
* Owner of Mekong Restaurant complained about blocking off his parking spaces. We agreed to shift the next 2 daring locations for 1 ring to his spaces so we can remove the exclusion zone from the front of his store
0924 Begin injecting point 28
* Points are taking fluid well. 7-8 gpm at 40-60 psi. Vista will drive additional rods at pts 15 and 21 to speed operation

Location Harris Co, TX Date 01/28/16

Project / Client Jones Rd GW Plume

GW Injections

0959 Daylighting out of MW-01
- will reduce pressure
1009 Start injection at Pt 16
0959 Point 14 completed 450 gal
1003 Point 17 completed 450 gal
1008 Point 20 injection started
1023 Point 23 injection completed
1130 Property manager Jesse is upset about store front injection locations. He said we are taking up too much space. I explained to him we are trying to clear storefront locations as quickly as possible with priority. We aim to have all store front injection points done by end of day.
1200 Mekong Storefront clear of equipment.
*Photo: Mekong storefront cleared
1223 Point 18 pump hooked up to injection trailer
* Point 16 being pushed.
- both rigs functional. Both still need minor repairs.
* Point 24 will be moved 3 feet west to avoid proximity to CMT-01
1223 Point 18 injection started

Location Harris Co. TX Date 01/28/16

Project / Client Jones Rd GW Plume

GW Injections

1302 Point 16 not taking fluid
1310 Begin drilling point 25
*Point 16 will be removed and re-drilled
*Photo: Driving and removing pump 16 & 25
1339 Begin injecting point 25
1420 Vista begins A concentration mix
1450 Point 25 Completed
-- Point 23 completed, Point 18 completed
1515 Set up on point 24
1548 Batch #6 Completed
DO: 5.26 mg/l
ORP: -318
*Injections will continue on #16 (re-pushed) and begin on #24
1620 Daylighting near point 19. Likely from a hose and not liquid from the ground.
* Photo: Liquid on ground near pt 19
1645 Begin injections at 16 & 24
1730 Point 24 Completed 450 gal
1734 Point 16 Completed
1734 - 1840 Cleanup
1850 Depart Site - 10 points completed

Location Harris Co, TX Date 01/29/16

Project / Client Jones Rd EPA Region 6

GW Injections

0630 Depart for site
0700 Arrive on site
WEATHER: Sunny, high 76°F. Winds SSW at 10-15 mph
0715 Safety Meeting
PLAN FOR THE DAY: Continue "A" concentration injections
0720 Continue laying out linebackers across lot towards building
- Points 6, 27, 19 driven
*Photo: setting up linebackers
*Photo: Driving point 6
- Batch 6 being recirculated
0740 Begin driving point 9
0819 Point 19 injection started
0821 Point 09 injection started
0840 Daylighting at MW-02 Coming from ground surrounding pad and grout seal around well
-will have to try a low pressure or move away from MW-02
*Photo: Daylighting from MW-02
* EA will combine points 6 & 7 due to utilities restricting movement of 6. Point 7 will have to be moved due to

Location Harris Co, TX Date 01/29/16

Project / Client Jones Rd GW Plume, EPA 6

GW Injections

utilities anyway. The new point for both 6 & 7 will be approximately 1/2 distance between the 2 points. The combined point 6+7 will recieve double volume or 1010 gallons
* Photo: location 7 in utility cluster
0925 Pumping on 26, 19, 27 and 9
*Photo: Point 6+7 new location
Injections Completed
092819 injection completed
0931 9 ↓
0935 27 injection completed
* Tank 1 conditioned
0951 Point 6+7 (1010 gal) started
- no daylighting from MW-02 as of yet
1026 Point 26 completed
* Rig will be moved behind building for points 01-05
*Photo: Rig setting up on pt 5
1037 Rig setting up on point 13
1115 Begin mixing batch #7 (A conc)
*Photo: Cleaning drums for disposal
Point 6: 70 gal prior to daylighting
Point 6+7 940 gallons

Location Harris Co, TX Date 01/28/16

Project / Client Jones Rd GW Plume EPA-6

GW Injection

Point 6+7 finished at 1215
- Points 05 + [redacted] driven ready for injection

Batch 7 ORP + DO readings:
12:58 ORP: -316
DO: 0.28

13:12 - Point 05 - Injection - Begin - 80 psi / 7 gallons per minute (gpm)

13:15 - [redacted] driving point 03 / Completed @ 13:55

13:15 - driving point 08
point 08 completed @ 13:32

13:33 - Begin driving point 10

13:58 - complete driving point 10

13:59 - Begin injection of point 03

14:07 Begin driving point 11

14:[redacted] - Complete driving point 11

14:10 - Begin driving point 01

14:11 - Begin injection of point 10: 7 gpm / 60 psi

14:11 - Begin injection of point 08 / 60 psi

* Some daylight @ IW-3 (photo)

14:25 Injection of point 05 completed

Location Harris Co., TX Date 01/29/2016

Project / Client Jones Rd GW Plume

GW Injection

14:30 - Begin injection of point 11 60 psi

15:00 - Injection of point 08 completed

15:10 - point 01 - being completed

15:15 - Begin Injection - Point 01

15:16 - Begin driving point 12

15:23 - Injection of point 01 - 60 psi

15:30 - Injection of point 03 completed

15:35 - Complete driving point 12

15:40 - Begin driving point 04

15:41 - Begin injection of point 12

15:42 - Complete injection of point 10

1640 Begin prep for batch 8
- will be mixed in morning
- prep water will not meet 24 hour prep time
- mix will be final 1% conc. batch for 4 holes

1705 Begin pulling Point 12

*Photo: pulling point 12

1720 Complete Point 03 injection

Location Harris Co, TX Date 01/29/16

Project / Client Jones Rd GW Plume, EPA 6

GW Injections

1725 Begin clean up

- 14 total A concentration holes completed

1830 Depart Site

Location Harris Co, TX Date 01/30/16

Project / Client Jones Rd GW Plume EPA 6

GW Injections

0630 Depart for Site

0700 Arrive on site

WEATHER: Fog early, becoming mostly sunny this afternoon high 77°F. Winds SSW at 10-20 mph

PLAN FOR THE DAY: Continue + complete A concentration locations, continue + resume B concentration locations

0710 Safety Meeting

0720 Begin driving locations

+ begin placing linemarkers

* Will mix 48 locations north of A concentration to complete A points

Batch 8

- 8 drums EHC
- 8 bags dry mix 3.6 L DHC
- 4 bags $KHCO_3$
- 1600 gal water

* Photo: Setting up safety devices for lot and driving location 13

- 4 A locations Remaining 6, 13, 21 & 22

Batch 8 Readings

DO: 0.22 mg/L

ORP: -338

Location Harris Co, TX Date 01/30/16

Project / Client Jones Rd GW Plume

GW Injections

0924 Begin injection at point 21
0930 Begin moving rig behind the building to point 02
0936 Point 36 not accepting fluid - leaking from ~~many~~ hose connection
- may be subsurface or hose
- hose connection bad
0938 Begin injection at point 13
0942 Begin driving point 2
* Photo: driving point 2
1000 Begin injection at Point 22
* Photo: ~~Poring~~ Injecting point 22
1013 Point 13 completed
1035 Point 21 completed
1116 Point 2 completed
1118 Point 22 completed
- Begin mixing B batch
* All A points COMPLETE
* Next points to be injected are 30, 32, 35, 36 (B Conc.)
1200 Begin setup & driving points
* Photo: Setup for Drum & injections 30, 32, 35, 36
Batch #9 (B conc)
DO: 0.22 mg/l ORP - 320

Location Harris Co, TX Date 01/30/16

Project / Client Jones Rd GW Plume

GW Injections

1235 Start injection 35
1248 Start injection 30
1312 Start injection at 36
1318 Start injection at point 32
1520 Point 35 Complete 95T gal
* Vista will not attempt a 3rd batch injection today. Vista will prep batch 10 & mix tonight
1512 Point 30 Complete
1542 Point 32 injection complete
1546 Point 36 injection complete
* Photo: Vista plugging point 35 with hole plug
1600 Begin mixing batch #10. (B conc)
- 8 drums EHC
- 8 bags dry mix
- 7.5 bags KHCO3
- 3400 gal water
- 7.2 liters DHC
1400 - 800 Cleanup for the day
1840 - Depart Site

Location Harris Co, TX Date 01/31/16

Project / Client Jones Rd GW Plume

GW Injections

0630 Depart for site
0700 Arrive on site
WEATHER: Clouds in the morning. Some decrease in clouds later in the day. High near 80°F. Winds SSW at 10-20 mph.
0715 Safety Meeting
PLAN FOR THE DAY: Continue B concentration injections
0720 Begin pushing rods at 62, (deep), 38 37 and 56
- 2nd 42, 47, 58 + 51 2nd batch
Begin injections
0754 Begin injections at 62 at
* Rear gate is not open. Will call Jessie to get lock combination. No shops are open Sunday it appears
0800 Left message with property owner/manager Jessie. If we do not hear a response we will cut + replace the locks
0958 Begin staging for batch 11.
1018 Point 38 complete
1025 Point 37 complete
* Photo: Pulling rods from points 37 + 58
1110 Points 56, 62 complete begin pulling

Location Harris Co, TX Date 01/31/16

Project / Client Jones Rd GW Plume

GW Injections

* Photo: Mixing $KHCO_3$ into batch 11
1117 Vista begins driving rods at point 47
Batch 11 mix unchanged
- DO 0.24 mg/l
- ORP - 320
* Photo: Working over 42, 47, 58 51
1337 Begin mixing batch 12
1406 Point 47 completed
1427 Point 51 completed
1448 Point 42 drive pulled
1500 Point 58 drive pulled
1530 - 1730 Cleanup
1745 - Depart site

Location Harris Co, TX Date 02/01/16

Project / Client Jones Rd GW Plume
GW Injections

0630 Report for site
0700 Arrive on site
WEATHER: Areas of dense fog in a.m. Cloudy skies this morning will become partly cloudy this afternoon. High 78°F. Winds SSE at 15-25 mph
0715 Safety Meeting
PLAN FOR THE DAY: Complete 7 final injection locations
0716 Begin driving rods at locations 40, 46, 49 and 50.
*Photos: driving point 46
*Photo: driving point 54
Batch 12 Parameters,
DO: 0.17 mg/l
ORP: 0-122
*No change in batch ingredients
*Photo: adding DHC to mix
0858 All 4 points 40 46, 49, 54 being injected
*Photo: Setup on 40, 46
0911 Vista starting preliminary demobing activities, preparing for injection completion
0942 Staging final batch
- extra DHC (4 drums) will be mixed in to final batch

Location Harris Co, TX Date 02/01/16

Project / Client Jones Rd GW Plume
GW Injections

1040 Points 40, 44, 49, 50 injection complete
Batch 13
10 Drums EHC
13 Bags Dry Mix
15 Bags $KHCO_3$
25L DHC
2515 gal H_2O (anaerobic)
1044 Begin mixing Batch 13
1046 Begin pulling rods at points 40, 46, 49, 50
- Will begin driving remaining points 44, 49 and 50
1105 Injection Mixed
DO: 0.24 mg/L
ORP: -216
1118 Vista begins cleaning/washing water holding tanks
*Photo: cleaning tanks.
* Wash water being used is anaerobic water from tank 2. All wash water will be injected into last point
*Photo: pressure washing staging area.

Location Harris Co, TX Date 02/01/16

Project / Client Jones Rd GW Plume, EPA6

GW Injections

1558 De-Mob prep & tank wash continuing
1729 Tanks washed, trailer cleaning continuing
1530 Begin pulling rods from points 50, 44, 45
* Photo: pulling rods out point 50
1530 - 1830 Pull rods, clean equipment/de-mob prep
1835 Depart Site

Location HarrisCo, TX Date 02/02/16

Project / Client Jones Rd GW Plume, EPA6

GW Injections

0630 Depart for site
0700 Arrive on site
WEATHER: Partly Cloudy Skies, High 74°F
Winds WNW at 10-15 mph
0715 Safety Meeting
PLAN FOR THE DAY: Continue de-mob from site
0720 Begin staging Geoprobes for de-mob
* Photo: staging Geoprobes
* Photo: All drums removed & used from behind building
0930 Rain for rent picks up batch tank
1047 Transporter on site to load materials
* Photo: loading Geoprobe
* Visha will take the majority of the drums
- Visha cannot use pallets
- will stack near drums behind building
1443 Rain for Rent returns for tank #2
1456 2nd Rain for rent truck returns for tank 1
* Photo: loading tank 1
* Photo: power washing staging area
1615 Continue power washing lot
* Photo: powerwashing lot

Location Harris Co, TX Date 02/02/16

Project / Client Jones Rd GW Plume

De-Mob

1500 - 1800 Complete de-mob, fencing, fork lift and portolet will be picked up 02/03

1825 Depart site

Location Date

Project / Client

CONTENTS

PAGE	REFERENCE	DATE

Location Harris Co, TX Date 11/16/15

Project / Client Jones Rd GW Plume

PDB install

0700 Arrive at office
0830 Depart for site
WEATHER: Scattered showers and thunderstorms developing early afternoon. Cloudy. Temperature rising near 70°F. Winds SE at 10 to 15 mph. Chance of rain 50%
PLAN FOR THE DAY:
Install PDB's at deep wells at Jones Rd Site
0800-1000 Conference call
1015 Set up on MW-16
- Bottom clip ≈ 57' from bottom 59 to top clip
- top clip to cap =
DTW: Interface Probe too short ≈ 150'
Photo: installing PDB MW-16
PDB ≈ 300' ⇒ 278'
Deployment time 1109
1116 Mob to MW-15
DTW ≈ 150'
Photo: MW-15 install
PDB deployment ≈ 280'
1139 Mob to MW-13
PDB - 12' from weight.

Location Harris Co, TX Date 11/6/15

Project / Client Jones Rd EPA Region 6

PDB deployment

DTW ≈ 155

PDB ~~LEVEL~~ 290-12' = 278'

1157 Arrive at MW-12

Clip from weight 32'

DTW ≈ 156

* Tether off 80' TD either off or tether too long - cut tether, weight on bottom - bag 30' above weight or

1228 Mob to MW-17 & 18

- MW-18

DTW ≈ 168

Clip 10' from weight

* Weight on bottom at 300'

- caps may be wrong

* Map wrong MW-18 is west of 17

- tether off 40'

MW-17

Clip 25' up from weight

DTW - 250'

PDB set 420'

1357 Mob to 11-R

Clip up 37' from weight

DTW : 160'

PDB depth 235

* TD calculated ≈ 220'

Location Harris Co, TX Date 11/6/15

Project / Client Jones Rd EPA Region 6

PDB deployment

1415 Mob to MW-14

Clip 24' up from weight

DTW : 160'

* TD ≈ 268 was marked at 295

PDB set at 244

1436 Mob to MW-19

* TD's have been off - will tag should be 362'

- tagged TD at ≈ 265'

- tag line breaks from reel, lost in well

- will retrieve after setting rest

1504 Mob to MW-8

- vault under water & water in vault

- Clip 55' from bottom

TD on table 342

- weight on bottom 284

DTW - 152

PDB set 229

1602 Return to MW-19 to retrieve tape & tag

- 65' to weight & clip

DTW - 150

TD ≈ 268

PDB 203'

Location Harris Co, TX Date 11/16/15

Project / Client Jones Rd EPA Region 5

PDB Deployment

1620 Mob to SVE-1 & 3
SVE-1
Weight to clip 11'
PDB Set 115'
1645 Mob to SVE-3
Weight to clip 11'
1701 Mob to SVE-2
Weight to clip 12'
PDB Set 115
1514 Mob to ~~IW01~~ SVE-4
Weight to clip 11'
PDB set 115
1734 Setup on SVE-5
Weight to clip 11'
PDB set 115

* Many of the PDB tether lengths needed adjustment due to TD for MW's being much shallower than well construction documents showed.

TD's for	MW11R:	Drillers 295.00	Actual 270'
	MW-14	294.00	258
	MW-19	312.0	265

EPA will relay TD's on Monday 11/23

Location Harris Co, TX Date 11/18/15

Project / Client Jones Rd, EPA Region 5th

~~PDB Deployment~~ Access Agreements

0700 Arrive at office
WEATHER: Sunny High 79°F Winds light and variable
PLAN FOR THE DAY: Rectify or ammend available well maps, Attempt to gain access agreements for properties on list with wells remaining on property
1300 Arrive at 10903 Tower Oaks
- 2 lots 2 wells, 1 operational
- signed agreement would like results
1339 Mob to 10815 ~~Tower Oaks~~ Woodedge
- newer construction
- not on list
1400 Mob to 11635 Oak Valley
- Bisha
- left agreement on door
1403 Mob to 11547 Oak Valley
- Marcus Zepeda
- no answer
- left agreement on door
1410 Mob to 11135 Forest Valley
Laturgue, Aybra
left agreement on screen door

Location Harris Co, TX Date 11/19/15

Project / Client Jones Rd EPA 6

Access agreements

1417 Mob to 11106 Tall Timbers
- TCEQ pump
  pump disconnected
- house was vacant + being foreclosed during R+A

1427 Mob to 11104 Timbercrest
- Pedraza owned / has been uncooperative in past
- business, 11104 Aspen air Cooling Inc
- left agreement on door

1444 - Tried to locate 11203 Timber Hollow
- do not belive address exists
  - will follow up on HCAD

- 1445 Mob to 11608 Timber Hollow

Location Harris Co, TX Date 10/28/15

Project / Client Jones Rd, EPA 6

MW Gauging + Tagging

1043 - Report for site
1050 - Arrive on site
WEATHER: Sunny, High 63°F. Winds light + variable.
PLAN FOR THE DAY - Gauge all mw's for sampling event.
1050 - 1306 Gauge wells
* Spoke to Kelly Mat 11602 property, Jones with MW-08 on it. Owner was unaware that well was destroyed. Owner also confirmed well has been disconnected from house - RA confirms well not functioning
1342 Could not locate MW-05
- will look for 2011 sample pics
Mob to MW-16
1348 - 1700 Gauge Wells

Location: Harris Co, TX Date: 11/30/15
Project / Client: Jones Rd EPA 6
LF GW Sampling

0645 Arrive at office
0700-1110 Scribe trouble shooting
WEATHER: Cloudy Temperatures steady near 57°F. Winds light and variable.
1115 Report for site
PLAN FOR THE DAY:
Begin low flow sampling
1200 Begin set up on MW-06 (MS/MSD)
* DTW 33.76, TD 35'
- very low water level - may not low flow
- may move MS/MSD
1215 Mob to MW-22
* Photo MW-22
- MS/MSD sites will be moved from well MW-06 to MW-22 due to low water levels
1315-1500 take & process samples
1358 SAMPLE TIME MW-22
* Water was turbid, but stable throughout purge
1500 Return to office to process samples
TB SAMPLE TIME 0700
FB-1 SAMPLE TIME 1415
ER-1 SAMPLE TIME 1425

Location: Harris Co, TX Date: 12/01/15
Project / Client: Jones Rd, EPA 6
LF GW Sampling

0630 Arrive at office
WEATHER: Showers early, then cloudy in the afternoon. High 58°F. Winds NNE 5-10 mph. Chance of rain 40%
PLAN FOR THE DAY: Continue low flow sampling.
0715 Arrive onsite
- light rain
0718 Prepare to sample MW-06 with a bailer
- Will have to put water into clean vessel to pump and filter
- will return to - + Metals + MW-04 volume
- 0738 Mob to MW-07
* Well casing bend, will not take pump. Peristaltic will not push 31' of head space will try to bail 3 well volumes 0.16 g/ft x 6.57 3.15 gal
- bailer getting hung up, casing bent
- removed 1 gal
* Will attempt with smaller bailer
0812 Move on to MW-23
0845 Sample TIME MW-23

Location Harris Co, TX Date 12/22/15

Project / Client Jones Rd GW Plume EPA-6

LF GW Samples

0935 Mob to MW-24
1010 SAMPLE TIME MW-24
1015 FB#2 SAMPLE TIME
1045 ER#2 SAMPLE TIME
1110 Mob to MW-07
- will sample with pencil bailer
after purging remaining 2 gal
- Poured 3 gal will let set
1125 return to sump MW-06 with bailer
1130 MW-06 SAMPLE TIME
- full recovery achieved
1135 Mob to MW-07
1215 SAMPLE TIME MW-07 & MW07RP
1255 Mob to MW21
* Photo MW-2
- slight drawdown, WL indicator
resting on pump
1335 SAMPLE TIME MW-21
- very slow recharge, well running dry
- water very turbid
1336 HAS Process Samples
1400 return to office to process
samples

Location Harris Co, TX Date 12/22/15

Project / Client Jones Rd GW Plume EPAC

LF GW Samples

0630 Arrive at office
WEATHER: Partly cloudy, High 67°F.
Winds N at 5-10 mph
PLAN FOR THE DAY - Continue low flow
sampling of Jones Rd Site
0729 Arrive onsite at MW-20
DTW = 27.73' only 2.27' of water
in well
Tried to low flow with no success.
- all volume taken up in hose
* WATER EXTREMELY TURBID
- will bail dry then resample later
- mob to MW-25 to purge well
0834 Arrive at MW-25
* Well DRY - WILL NOT
ENTER BAILER
DTW - 29.48 TD: 29.70
- not enough water to trigger valve ball
in bailer
* Photo MW-25
- well dry will not bailor sample
0843 Mob to MW-09
* Photo MW-09
0915 SAMPLE TIME MW-09

Location: Harris Co, TX Date: 12/02/15

Project / Client: Jones Rd Region 6

LF GW Sampling

0940 Mob to MW-08

TD 35' - well pad, manway cap destroyed

- ≈ 1.5 feet of fill and rock in well from well destruction

1025 SAMPLE TIME MW-08

*Photo: Sampling MW-08

1105 Mob to MW-05

*Photo MW-05

* No lid, riser & cap need replaced

1140 Sample Time MW-05

1145 Sample TIME FB-3

1214 SAMPLE TIME BR#3

1231 Mob to MW-04

*Photo: MW-04

- MW-04 plugged with mud along sidewalls of casing. Pump would not move water. Plugged with mud.

- Cleared mud with pump and bailer will reset

1355 SAMPLE TIME MW-04

1417 Mob to MW-20

* MW-20 sampled with bailer after purged dry

Location: Harris Co, TX Date: 12/02/15

Project / Client: Jones Rd FEPA Region VI

LF GW Sampling

1440 MW-20 SAMPLE TIME

1440 - 1520 Process samples

1530 Depart Site to process samples for delivery

Location Harris Co, TX Date 12/03/15

Project / Client Jones Rd EPA Co

LF GW Sample

0630 Depart for site

WEATHER: Sunny, High 63° winds NNE at 5-10 mph

PLAN FOR THE DAY:

Complete GW sampling of on site MW's

0700 Back gate still not open, will get with management about setting code will set up on MW-01

0755 SAMPLE TIME MW-01

0830 FB #4 SAMPLE TIME

0835 Mob to MW-02(DUP)

0935 SAMPLE TIME MW-02(DUP)

Photo MW-02

1013 Mob to MW-03

1050 SAMPLE TIME MW03

1120 SAMPLE TIME ER-4

1240 Process samples

Location Harris Co, TX Date 12/04/15

Project / Client Jones Rd, EPA Co

Sub-Slab sample point install

0700 Arrive at site

WEATHER: Sunny. High around 70°F. Winds light and variable

PLAN FOR THE DAY: Begin install of permanent, subslab sample points in grocery store, former hair salon + Mekong restaurant.

1015 Depart for site

1030 J. Stroup, D.T. + John B onsite

1030-1200 Scout sample point locations

1205-1500 Install sample points

1730 Depart Site

Location: Harris Co, TX Date: 12/08/15

Project / Client: Jones Rd GW Plume, EPA 6

Indoor air/sub slab leak test

1300 Depart for site

WEATHER: Sunny, High 73°F Winds SSW at 5-10 mph

PLAN FOR THE DAY: Prep CMT Sampling, begin & complete leak testing for suma cans and sub slab sample points

EPA: John Bonner
Duane T
Jason Stroup

1340 Begin testing suma cans & sub slab points for leakage

* Photo: pressure & leak test of suma can
* Photo: Set up of Ass-104

1350-1748 Set up & leak test sample points

* Indo-Pak Grocery under construction with wet paint. Back ground PID reading around 470 ppb.

Location: Harris Co, TX Date: 12/09/15

Project / Client: Jones Rd GW Plume

Indor / Sub slab / Outdoor air

0730 Depart for Site

WEATHER: AM fog, becoming sunny early afternoon. High 77°F. Winds WSW at 5-10 mph.

PLAN FOR THE DAY: Complete air sampling

0740 Begin setting up indoor air cans

0740-1100 Set up cans

1200 Begin inspecting cans at approximately 1/2 time

* ASI-106-12092015 suma can at - 8 at 1248
- End Time ASI-106-12092015 1248

1300 Begin setup on CMT well

1300-1400 Gage Well channels
- place tubing down channel 3
- tubing not long enough to reach plug

1400-1600 Measure CMT tubing

* Tubing only 140' - will only reach upper 2 channels

1600 Begin processing suma cans for delivery

1732 Erich Riche with TIA confirms that Ass-105-120915-B was sufficient volume after 9 hours

Location Harris Co, TX Date 12/09/15

Project / Client 14342127 Jones Rd EPA 6

IV Sampling

1755 Process last sample
1800 Depart Site

Location Harris County TX Date 12/10/15

Project / Client Jones Rd EPA 6

PDB Sampling

0700 Arrive onsite
WEATHER: Fog, then sun brightness 78°F
winds S at 10-15 mph
PLAN FOR THE DAY: Begin PDB sampling
0730 Arrive at MW-16
-confirm tether length at 248
-attempt TD - too much friction on tape
0810 SAMPLE TIME MW-16
0851 Mob to MW-15
Shaw TD: 305
EA TD: 289.5
PDB Set: 278'
~~0915~~ 0905 Sample Time MW-15 (DUP)
0935 Mob to MW-13
Shaw TD: 300
EA TD: 297.8
PDB set: 286
0950 SAMPLE TIME MW-13
1010 Mob to MW-14
Shaw TD: 294.0
EA TD: 281.5
PDB SET: 253.5
*PDB reset to 263.5 in the screen
1020 SAMPLE TIME 1020 MW-14

Location: Harris Co, TX Date: 12/10/15
Project / Client: Jones Rd EPAG
PDB samples

1052 Mob to MW-11R
Show TD 295
EA TD: 251.7
PDB Set: 240'
* Screen starts 249' - will consult pm
* SAMPLE TIME 11R 1120
* PDB interval adjusted to 230' toc
Waiting on equipment from PM on wells that have silted in
1257 Mob to SVE-1
- SVE wells not silted in
* FB-5 SAMPLE TIME 1305
* 1310 SAMPLE TIME SVE-1
1320 Mob to SVE-3
1325 SVE-2 SAMPLE TIME
1326 Set up for ER-5
1330 SAMPLE TIME ER-5
1336 Mob to SVE-2
1350 SAMPLE TIME SVE-2
1355 Mob to SVE-04 (DUP)
1400 SAMPLE TIME SVE-04
1413 Mob to SVE-05
1415 SAMPLE TIME SVE-05
1431 Mob to MW-12

Location: Harris Co, TX Date: 12/10/15
Project / Client: Jones Rd EPAG
PDB Samples

450 EA Continues to sample from where PDB's were set
- Wells likely to be re-developed due to silting in, or other obstructions
1453 At MW-12
Show TD: 301'
EA TD: 231.3'
Sample Interval: 203'
1505 SAMPLE TIME MW-12
- PDB filled re-deployed at same interval 203'
1520 At MW-17 + 18
- MW-17
Show TD: 445
EA TD: NA
PDB Deployment: 420
1535 SAMPLE TIME MW-17
1542 Begin MW-18
- no need to TD
- Tether not altered
~~1550~~ SAMPLE TIME MW-18
1545 or
1554 Mob to MW-19
Show TD:

Location Harris Co, TX Date 12/10/15

Project / Client Jones Rd GW Plum

PDB sampling

EATD

PDB set 199.6'

1620 SAMPLE TIME MW-19

1625 Moo to MW-10

Shaw TD: 342'

EA TD: 291.05

PDB set 229'

1640 SAMPLE TIME MW-10

~ 40' tether left

1705 Depart Site to process samples

Location Harris Co, TX Date 12/14/15

Project / Client Jones Rd, GW Plume

Arrows

1330 Depart for site

WEATHER: Sunny, High 73°F. Winds SSW at 5-10mph

PLAN FOR THE DAY: Visit listed remaining well locations with access agreements

1338 11602 - Appears to be home, will talk

- Parabel Camp Owner agrees to sample tomorrow 1500hrs

11635 - No one home (Oak

11620 - Belligerent owner in past has been new resident

11623 - Well intact, no one home

11547 Oak Valley - Tepeda - non-Responsive

- historically will not answer door

11534 Oak Valley not home - will return

11102 Forrest Valley - no one home

- well in place

1500 - 1600 Continue access, no further agreements

Location: Harris Co, TX Date: 12/15/15
Project: Jones Rd. EPA Region VI
Site walk, Tap sampling

1250 Depart for site
WEATHER: Considerable cloudiness with occasional rain showers. Thunder possible. High 76°F. Winds SE at 10-15mph. Chance of rain 50%
PLAN FOR THE DAY: Conduct site walk with drilling vendors, conduct tap sampling if time.
1300. Begin site walk, Cayne Christensen only vendor present.
1400 Complete site walk
1405 Begin re-type at 10903 Tower Oaks for tap sampling - Sample TO10903
- Recycling business
- 1410 SAMPLE TIME TO10903
1435 Stopped at #11102 to check for operable well. Tennant says well was disconnected when city line was installed
1440 Arrive at 11618 Timber Hollow
1500 SAMPLE TIME TH11618
1505 Mob to 11618 Timber Hollow
1515 SAMPLE TIME TIMBER HOLLOW 11618 TH 11618
1520 SAMPLE TIME FB6

Location: Harris Co, TX Date: 12/15/15
Project: Jones Rd. EPA 6
Tap Sampling

1529 Mob to OV 11623 for potential access
- no answer to door
1532 Mob to 11625 Oak Valley for potential access
- no answer
1535 Mob to 11534 Oak Valley to scan potential access
1545-1630, Access effort
* Resident at 11534 Oak Valley James Manzinso reported to EPA that White Oak MUD district visited his home in 2012 and told him he could not have his well functional and be on their service line. Mr Manzinso said a work crew was sent out and his electrical box & well connectors were destroyed. He said the MUD district threatened him with a minimum 5000 gal volume bill per month as long as the well was attached. He said other houses on the street were told the same. The majority of listed residents from the PA activity that EPA has visited has confirmed that nearly all the wells on our "remaining residential well list have been disconnected

Location Harris Co, TX Date 12/16/15

Project / Client Jones Rd GW Plume EPA 6

CMT sampling

0730-0850 Load up CMT equipment

WEATHER: Chance of morning shower - Generally Cloudy, high 64. Winds N at 10-15 mph

PLAN for the day: Begin CMT well sampling

0900 Depart for site

- power inverter will not run compressor will get generator

0940 Setup on CMT-01-01

X 1020 Sample Time CMT-01-01

- clean - takes ≈ 1hr of purge to clear gels from tubing

1100 Setup on CMT-02-02

X 1205 SAMPLE TIME CMT-01-02

1210 Begin setup on channel 3

X Sample time CMT-01-03 1258

1330 SAMPLE TIME EP #6

X Only 2 VOAs possible for CMT-01-03 due to very slow recharge

1422 Begin setup for CMT-01-04

X Tubing has so much friction on it it is unclear if we are reaching screen

1500 Sample time CMT-01-04

1500 - 1545 Process samples

1546 Depart Site to process samples

Location Harris Co, TX Date 12/17/15

Project / Client Jones Rd GW Plume EPA 6

CMT Sampling

0730 Arrive at office

WEATHER: Mainly clear, sunny high 66°F

0900 Arrive onsite

~~0900~~ PLAN FOR THE DAY: Complete or channels 5-7 of CMT-01

0900 - 1030 attempt to get pump tubing down to TD in channels 5-7

X The tubing will not advance past 100 ft.

- This was an issue with channels 3-4 as well.

- DT calls PM. Well channels seem to be compressed, will not allow tubing to pass ≈100'

- EP to call Solinst about well condition

- 1230 begin to demob sampling

1350 depart site

Location Houston/Harris Co., TX Date

Project / Client Jones Rd GW Plume/ EPA Region VI

Location Harris Co, TX Date 04/19/16

Project / Client Jones Rd EPA 6

GW Sampling

0670 Report for office
0730 Report office to purchase supplies & lab supplies
0930 Return to site
WEATHER: Cloudy early followed by heavy thunderstorms in afternoon. High 77°F
Winds ESE at 5-10 mph. Chance of rain 100%
1-2 inches expected
0940 Safety Meeting
PLAN FOR THE DAY: Begin gauging & groundwater sampling
0945 set up on MW-25, begin site wide shallow well gauging
1300 Attempt to gauge MW-08
under 2/3" of wood debris & stump
- well found
1400 Attempt to gauge MW-01
- covered with coagulated injectate
- WL can't be obtained yet
- will try and develop with bailer
1420 Set up on MW-08
1530 SAMPLE TIME MW-08
1536 Moved to MW-25 for Grab
* Grab only, insufficient water for

Location Harris Co, TX Date 04/19/16

Project / Client Jones Rd GW Plume

GW Sampling

low-flow
1550 SAMPLE TIME MW-25
1610 SAMPLE TIME FB-1
1615 SAMPLE TIME ER-1
1623 Mob to purge MW-07
3 well casings volumes = 8.8 gal
1730 Depart Site to process samples

Location Harris Co, TX Date 04/20/16

Project / Client Jones Rd GW Plume

GW Sampling

0630 Depart for office
0700 Arrive at office
* HEAVY FLOODING IN THE AREA
WEATHER: Scattered thunderstorms, some may be severe 1-2 inches expected. Heavy flooding & road closures expected. High 88°F Winds light & variable
0730 Safety Meeting
PLAN FOR THE DAY: Continue shallow well sampling at Jones Rd Site.
0740-1000 Process & deliver samples to TA Houston
* Heavy Rain in area 1000
1045 Return to Site
1050 Set up on MW-24
1205 Sample Time MW-24
*Photo: Sampling MW-24
1230 SAMPLE TIME FB #2
1235 SAMPLE TIME ER #2
1420 SAMPLE TIME MW-23
*Photo: SAMPLE MW-23
*Photo: Hand drilling the remainder of MW-07
* Well is damaged & cannot pass pump or

Location Harris Co, TX Date 04/24/16

Project / Client Jones Rd, EPA 6

Shallow Well GW Sampling

3' X 2" bailer. Well will be bailed with bailer until 8.2 gallons removed

1525 SAMPLE TIME MW-07

1602 Return to office to prep sample for delivery.

Location Harris Co, TX Date 04/21/16

Project / Client Jones Rd EPA 6

Shallow GW

0620 Depart for office

0730 Depart for site

0800 Begin set up on MW-4

WEATHER: Thunderstorms likely. Rainfall locally heavy at times. A few storms may be severe. High 80°F. Winds light + variable. Chance of rain 90%

0810 Safety Meeting

KEY FOR THE DAY:

Continue sampling shallow SVE wells

0808 Continue set up on MW-04

*Photo: MW-04

0845 SAMPLE TIME MW-04

0831 Steady Rain

0925 Set up on MW-05

*Photo: Set up on MW-05

0945 Storm arrives

1031 Light rain - will continue

1055 SAMPLE TIME MW-05

1222 Set up on MW-09

*Photo: Set up on MW-09

1305 SAMPLE TIME MW-09

1348 Mob to MW-06

*Photo: Set up on MW-06

Location Harris Co, TX Date 04/21/10

Project / Client Jones Rd EPAG

GW sampling

*low water volume in well! If well will not low flow, will purge dry and bail sample tomorrow

1430 SAMPLE TIME MW-06

1500 Begin Set up on MW-22

*Photo: MW-22

1535 SAMPLE TIME MW22

1535 - 1617 Process Sampler

1429 Depart Site to process sampler for delivery

Location Harris Co, TX Date 09/22/15

Project / Client Jones Rd EPAG

GW Sampling

0700 Depart for office

0720 Arrive at office

WEATHER: Mainly sunny, High 84°F Winds NNW at 5-10 mph

0730 Safety Meeting

PLAN FOR THE DAY: Continue shallow well GW Sampling (Post Injection)

0734 Begin load up

* SVE WELLS TO BE SAMPLED

SVE-6

SVE-7

SVE-8

SVE-9

~~SVE-10~~

0830 MW-01 has build up of solid injected material while trying to purge will try purging the well with hand bailer to clear well of material before sampling

- Photo: hand bailing material - note gray water

∴ Will hand bail 3 well volumes or less

0915 SAMPLE TIME MW-01

0949 Moved to MW-27

Location Harris Co, TX Date 04/22/16

Project / Client Jones Rd GW Plume EPA

Shallow Well GW sampling (post inj)

*Photo: Setup on MW-21 Sample time: 10:55
FB-4 Sample time: 11:15, ER-4: 11:25
move to MW-20 to setup
14:00 Sample time
move to MW-02 to setup
15:25 Sample time (DUP)
move to MW-03
Drain & Divert water / setup
16:50 Sample time
Return to office to process samples.

Aaron B

4/22/16

Location Harris Co, TX Date 4/23/16

Project / Client Jones Rd GW Plume EPA (post inj)

Shallow Well GW Sampling (post inj)

08:00 Aaron B. Ryan G. on site
gauging water levels on SVE-wells

SVE-8	103.75'
SVE-9	106.25'
SVE-6	109.0'
SVE-7	109.0'

Setup on SVE-09
11:35 Sample time VAT
11:45 FB-5 Sample time
11:55 ER-5 Sample time
setup SVE-06
13:40 Sample time
setup SVE-07
14:50 Sample time
Setup SVE-08
Sample time
Depart for office

Aaron B

4/22/16

ATTACHMENT F

PHOTOGRAPHIC DOCUMENTATION

Photograph No. 1 (30 November 2015)
Description: Purging MW-06

Photograph No. 2 (30 November 2015)
Description: Preparing to do low-flow sampling in MW-22

Photograph No.3 (1 December 2015)
Description: Low flow sampling in MW-24

Photograph No. 4 (2 December 2015)
Description: Water purge from MW-20

Photograph No. 5 (3 December 2015)
Description: Low flow purging and sampling MW-02

Photograph No. 1 (25 January 2016)
Description: EHC pre-mix

Photograph No. 2 (25 January 2016)
Description: Injection Tool

Photograph No.3 (25 January 2016)
Description: Nitrogen Tank and DHC Injection Set Up

Photograph No. 4 (26 January 2016)
Description: Driving Injection Rods at Point 63

Photograph No. 5 (26 January 2016)
Description: Connecting

Photograph No. 6 (26 January 2016)
Description: Pumping EHC

Photograph No. 7 (26 January 2016)
Description: Checking DO and ORP levels prior to injection.

Photograph No. 8 (27 January 2016)
Description: Injection rod during injection.

Photograph No. 9 (29 January 2016)
Description: Concrete repair bore hole

Photograph No. 10 (29 January 2016)
Description: Daylighting from IW-3

Photograph No. 11 (30 January 2016)
Description: Setting up safety devices.

Photograph No. 12 (1 February 2016)
Description: Staging drums for removal.

Photograph No. 1 (18 April 2016)
Description: MW-02

Photograph No. 2 (18 April 2016)
Description: MW-03

Photograph No.3 (18 April 2016)
Description: MW-08 hidden under 8 inches of soil

Photograph No. 4 (18 April 2016)
Description: MW-20

ATTACHMENT G

STATE OF TEXAS INJECTION WELL REPORTS

STATE OF TEXAS WELL REPORT for Tracking #430595

Owner:	**US EPA Region 6**	Owner Well #:	**P1 - P63**
Address:	**1445 Ross Ave Suite 1200 Dallas, TX 75202**	Grid #:	**65-04-4**
		Latitude:	**29° 56' 32.38" N**
Well Location:	**11600 Jones Rd Houston, TX 77070**	Longitude:	**095° 35' 04.6" W**
	Multiple boring locations throughout the shopping center parking lot. 63 locations 10 foot on center varying in depth of 33 - 54 feet bgs. Injection of emulsified vegetable oil into each location for groundwater remediation purposes.	Elevation:	**No Data**
Well County:	**Harris**		
Number of Wells Drilled:	**63**		
Type of Work:	**Groundwater Remediation Borings**	Proposed Use:	**Environmental Soil Boring**

Drilling Start Date: **1/22/2016** Drilling End Date: **2/3/2016**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**1.5**	**0**	**54**

Drilling Method: **Direct Push**

Borehole Completion: **Plugged**

Annular Seal Data: **No Data**

Seal Method: **Tremie**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **No Data**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Patched to match existing surface - asphalt or con** **Surface Completion by Driller**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Plug Information:

Description (number of sacks & material)	Top Depth (ft.)	Bottom Depth (ft.)
Bentonite	**1**	**54**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	**No Data**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **Yes**

Top Depth (ft.)	Bottom Depth (ft.)	Natural Injurious Constituents	Unnatural Injurious Constituents
33	**54**		**Hazardous Waste Contamination**

The driller did certify that while drilling, deepening or otherwise altering the above described well, injurious water or constituents was encountered and the landowner or person having the well drilled was informed that such well must be completed or plugged in such a manner as to avoid injury or pollution.

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Vista GeoScience**

130 Capital Drive
Suite C
Golden, CO 80401

Driller Name: **Mike Martin** License Number: **59374**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**54**	**Silt & Clays**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
No Data			

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
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