DEPARTMENT OF THE NAVY – NAVFAC SOUTHWEST
Naval Facilities Engineering Command
1220 Pacific Highway, San Diego, California 92132-5190

Final

PRELIMINARY ASSESSMENT/SITE INSPECTION REPORT INSTALLATION RESTORATION PROGRAM SITE 75 AGRICULTURAL WELL KAYO-SB

NAVAL WEAPONS STATION SEAL BEACH SEAL BEACH, CALIFORNIA

September 4, 2012

Contract No.: N62473-09-D-2613
Task Order No.: 0018
Document Control No.: AMJV-2613-0018-0010.R1

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EXECUTIVE SUMMARY

This Preliminary Assessment and Site Inspection (PA/SI) presents environmental investigation activities conducted at Installation Restoration Program Site 75 (Site 75), Naval Weapons Station (NAVWPNSTA) Seal Beach, Seal Beach, California.

The PA/SI was conducted primarily to evaluate whether or not the volatile organic compounds (VOCs) previously discovered in groundwater pumped from former agricultural well KAYO-SB, located on U.S. Navy (Navy) property, originate from a source within the Navy property line, and if additional assessment is required by the Navy. This investigation was designed to provide characterization data to evaluate human health and ecological contaminant exposure pathways and to update the conceptual site model (CSM) for Site 75.

Geologically, the site is located in the Los Angeles sedimentary basin within a topographic low formed between the Bolsa Chica Mesa to the southeast and Landing Hill to the northwest. The erosion of uplifting mountain ranges was followed by sediment transport and ultimate deposition in the area as interbedded gravel, sands, silts, and clays. The depositional environment ranged from the floodplain/lagoonal setting characteristic of the Recent Age deposition to a higher energy littoral sedimentation environment of the underlying Pleistocene sediments. For the purposes of this investigation, two sandy geologic units are of primary interest. They are located between the surface and 100 feet below ground surface (bgs).

Agricultural well KAYO-SB was originally drilled to a total depth of 320 feet bgs in 1926 and completed with steel casing screened at multiple intervals from approximately 200 to 300 feet bgs. On September 23, 2004, the Orange County Water District (OCWD) collected a groundwater sample for chemical analysis from the well during routine water quality sampling. Chemical analysis of the September 23, 2004, OCWD groundwater sample reported detections of the following VOCs:

- tetrachloroethene (PCE) at 1.8 micrograms per liter (µg/L)
- trichloroethene (TCE) at 25.3 µg/L
- 1,l-dichloroethene (1,1-DCE) at 30.3 µg/L
- 1,1,1-trichloroethane (1,1,1-TCA) was reported at trace levels
- 1,1-dichloroethane (1,1-DCA) at 13.8 µg/L

As a result, the Navy immediately decommissioned well KAYO-SB to prevent exposure to human receptors (Tetra Tech EC, Inc., 2007), and the well area was designated Site 75 in the Installation Restoration Program.

Site reconnaissance was conducted in early 2011, including a site visit and research of available documents pertaining to several nearby sites that have either ongoing or previously closed VOC contamination-related cases. The field-work phase of the investigation was initiated on July 6, 2011. The PA/SI field activities included continuous coring by sonic drilling, on-site VOC screening, well installation, and groundwater sampling.

During the field work phase, the investigation included collection of near-real-time chemical and geological data at the same time when the wells were being drilled. These near-real-time methods included on-site, rapid turnaround, screening-level chemical analysis coupled with comprehensive soil classification from the drilled soil cores. These data enabled efficient groundwater well design and installation to specifically intercept the contaminated intervals of interest.

During evaluation of the data from the initial boring (SB75MW01), VOC screening detections were reported shallower than 100 feet bgs, but not below. This preliminary finding limited the subsequent investigation focus to the two VOC-impacted transmissive sandy intervals above 100 feet bgs.

The screening and lithologic data from SB75MW01 and subsequent borings were used to design pairs of monitoring wells at five locations that targeted the two transmissive sandy intervals of interest. In each pair, one well intercepted the shallow sandy interval near 40 feet bgs (shallow interval) and the other well intercepted the deep sandy interval at approximately 90 feet bgs (deep interval). Each of the wells was fitted with a dedicated well pump configured for low-flow groundwater sampling.

After well installation and development, two rounds of groundwater sampling were conducted. The groundwater samples from the ten wells were analyzed by an off-site laboratory for VOCs by EPA Method 8260B. The groundwater analytical data were used in conjunction with hydrogeologic data and historical data to develop the PA/SI conceptual site model and conclusions. In summary:

- In addition to the VOCs reported from the analysis of the September 23, 2004, OCWD sample from well KAYO-SB, the VOCs cis-1,2-dichloroethene (cis-1,2-DCE), 1,2-dichloroethane (1,2-DCA), and vinyl chloride (VC), were reported in the PA/SI data. Based on typical industrial use as solvents, PCE, TCE, 1,1,1-TCA, and 1,2-DCA are likely the primary contaminants of concern. The other products are likely impurities and/or degradation products. A typical release scenario would involve leakage of industrial solvents at or near the ground surface where they were used or stored, with subsequent downward infiltration and dissolution in groundwater, then migration within the groundwater in a down gradient direction.
- VOCs were reported in groundwater from the shallow and deep interval wells at groundwater monitoring wells SB75MW04 and SB75MW05, located to the east of Navy property. VOCs were also reported from the monitoring wells at location SB75MW01, positioned approximately 75 feet hydraulically up gradient from the location of former agricultural well KAYO-SB.
- With the exception of some occurrences of two degradation products (1,1-DCA and VC), the reported VOC concentrations in the shallow off-property well SB75MW05A are greater than any of the other monitoring wells. The VOC concentrations in the deep interval are reported to be greater at onsite well SB75MW01B.
- TCE, 1,1-DCE, and 1,1-DCA were reported at relatively low concentrations in the shallow well at on-site well cluster SB75MW02. The deeper well had no detectable

VOCs. These wells are approximately 480 feet northwest of KAYO-SB, with the shallow well cross-gradient (roughly parallel flow) to SB75MW01A.

- One of the well pair locations (SB75MW03A and SB75MW03B), located southwest (and down gradient) of well KAYO-SB, had no reported VOC detections in both the shallow and the deep screened wells.
- Groundwater elevation data from both of the transmissive intervals show groundwater flow from the east onto NAVWPNSTA Seal Beach.
- This distribution of VOCs in the subsurface reported in this PA/SI indicate the VOC release occurred outside the study area, in the upgradient east direction.
- Data from this investigation suggest the VOCs in SB75MW01B result from downward vertical migration of VOCs from the upper shallow interval in the annular space of KAYO-SB as induced by pumping at the agricultural well.

Based on the outcome of the Data Quality Objectives (DQO) decision rule in the Sampling and Analysis Plan for this project (AMJV, 2011a), the VOCs did not originate from a Navy source. The groundwater flow gradients and the distribution pattern of the chlorinated VOCs in the groundwater of the shallow sandy unit indicate the source of the VOCs is to the east, upgradient of the Navy property. The levels of VOCs in the shallow unit groundwater, near a residential neighborhood, indicate the need for further investigation by the property owner of the release to evaluate for potential risk to short-term and long-term occupants along the path of the contaminant plume.

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ACRONYMS AND ABBREVIATIONS

AMJV	Accord MACTEC Joint Venture
bgs	below ground surface
BRADY	Richard Brady & Associates
CERCLA	Comprehensive Environmental Response, Compensation, and Liability
CLP	contract laboratory program
COC	chain of custody
CSM	conceptual site model
°C	degree Celsius
DCA	dichloroethane
DCE	dichloroethene
DERP	Defense Environmental Restoration Program
DNAPL	dense non-aqueous phase liquid
DO	dissolved oxygen
DOD	Department of Defense
DoN	Department of the Navy
DQO	data quality objective
DTSC	California Department of Toxic Substances Control
DWR	Department of Water Resources
%D	percent difference
EMAX	EMAX Laboratories, Inc.
°F	degree Fahrenheit
ft.	feet
ft./ft.	feet per foot
IDW	investigation-derived waste
LCS	laboratory control samples
MCL	State of California Maximum Contaminant Levels
MDL	method detection limits
MS	matrix spike
MSD	matrix spike duplicate
µg/L	micrograms per liter
NAVD 88	North American Vertical Datum 1988
NAVFAC	Naval Facilities Engineering Command
Navy	U.S. Navy
NAVWPNSTA	Naval Weapons Station
NTU	nephelometric turbidity units
NWS	National Weather Service
OCHCA	Orange County Health Care Agency
OCWD	Orange County Water District
ORP	oxidation-reduction potential
PARCC	precision, accuracy, representativeness, completeness, and comparability
PA/SI	Preliminary Assessment/Site Inspection
PCE	tetrachloroethene
POC	point of contact
PSL	project screening levels
PT	performance testing

QA/QC	quality assurance/quality control
QAO	Quality Assurance Officer
QL	quantitation limits
RL	reporting limit
RPD	relative percent difference
RPM	Remedial Project Manager
RRF	relative response factor
RWQCB	Regional Water Quality Control Board
r^2	linear regression
%R	percent recovery
%RSD	percent relative standard deviation
SAP	sampling and analysis plan
SARA	Superfund Amendments and Reauthorization Act
SDG	sample delivery group
Site 75	Installation Restoration Program Site 75
TCA	trichloroethane
TCE	trichloroethene
UFGU	Upper Fine Grained Unit
USC	United States Code
US EPA	United States Environmental Protection Agency
VC	vinyl chloride
VOC	volatile organic compound

1.0 INTRODUCTION

This report describes a Preliminary Assessment/Site Inspection (PA/SI) that was conducted at Installation Restoration Program Site 75 (Site 75), Naval Weapons Station (NAVWPNSTA) Seal Beach, Seal Beach, California. This document was prepared by the Accord MACTEC Joint Venture (AMJV) which is comprised of Accord Engineering, Inc. and AMEC (formerly MACTEC Engineering and Consulting, Inc.), and Richard Brady & Associates (BRADY) for the Department of the Navy (DoN), Naval Facility Engineering Command Southwest under contract N62473-09-D-2613, Delivery Order Number 0018.

The PA/SI field investigation included site reconnaissance, soil borings, field analytical screening, well installation, well development, and groundwater sampling. This investigation was conducted in accordance with the Final Work Plan/Sampling and Analysis Plan (SAP) and SAP Addendum 01 (AMJV 2011a, AMJV 2011b).

1.1 Objective

Agricultural well KAYO-SB was used as an irrigation well for a portion of NAVWPNSTA Seal Beach that was leased for crop production. Well water samples from KAYO-SB were collected in September 2004 by the Orange County Water District (OCWD) (Appendix A). Additional groundwater samples were collected from three depths within the well during decommissioning of well KAYO-SB in 2006 (Tetra Tech EC, Inc. 2007). The laboratory reported detections of the following volatile organic compounds (VOCs):

- tetrachloroethene (PCE)
- 1,1-dichloroethene (1,1-DCE)
- 1,1,l-trichloroethane (1,1,1-TCA)
- 1,2-dichloroethane (1,2-DCA)
- trichloroethene (TCE)
- cis-1,2-dichloroethene (cis-1,2-DCE)
- 1,1-dichloroethane (1,1-DCA)
- vinyl chloride (VC)

The objective of this investigation is to evaluate whether or not the VOCs reported in groundwater from former agricultural well KAYO-SB originate from a source within the Navy property line. Additionally, this investigation is designed to provide characterization data to assess the exposure pathways to human health and the environment and update the conceptual site model (CSM) for Site 75 to determine if there is a need for further investigation or remediation.

1.2 Regulatory Framework

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) established a series of nationwide federal programs to identify, characterize, and mitigate or control contamination from hazardous waste disposal and spill sites. One of these programs, the Defense Environmental Restoration Program (DERP), is codified in SARA Section 21 (10 United States Code [U.S.C.] 2701). The

DERP specifies Navy and Marine Corps personnel responsibilities, describes the various steps of the IR Program, and assures consistency with regulatory guidelines for evaluation of hazardous waste site conditions.

The Department of Defense (DOD) developed the IR Program to identify, assess, characterize, and remediate or control contamination from past hazardous waste-disposal operations and hazardous materials spills at U.S. Navy (Navy) and Marine Corps installations. The program was established to comply with federal requirements regarding remediation of hazardous waste sites. These federal requirements are outlined in CERCLA, as amended by SARA.

Former agricultural Well KAYO-SB has been classified as an Installation Restoration Program site, designated Site 75. The site is in the Preliminary Assessment/Site Inspection (PA/SI) stage, where the potential for a release of hazardous substance at the site is evaluated.

The Navy is the lead Federal agency on this project. The state regulatory agency is the California Department of Toxic Substances Control (DTSC), and the California Regional Water Quality Control Board, (RWQCB), Santa Ana Region.

1.3 Scope of Work

The scope of work for this investigation included the following:

- Reconnaissance of the site and vicinity
- Development of planning documents
- Filing the substantive information for drilling permits and obtaining right-of-way encroachment permits
- Mobilization of field equipment including the drill rig, analytical screening equipment, and investigative waste containment
- Use of continuous coring sonic drilling and logging by a Professional Geologist to identify hydraulically transmissive strata
- Use of onsite VOC screening by EPA Method 8265
- Use of onsite Method 8265 VOC analytical data and lithologic logs to identify the two transmissive sandy intervals with the greatest VOC impact
- Design of monitoring well screen intervals during the field operations using the drilling logs and onsite laboratory data
- Installation of a monitoring well pair near the location of former well KAYO-SB such that one of the well pair members discretely intercepts the deeper of the VOC-impacted, transmissive sandy intervals and the other is similarly screened within the shallower of the VOC impacted, transmissive sandy intervals
- Installation of monitoring well pairs at two other locations on NAVWPNSTA Seal Beach targeting the same strata as the pair of wells near former well KAYO-SB

- Installation of additional monitoring wells to the east and northeast of KAYO-SB, off of NAVWPNSTA Seal Beach, targeting the same strata as the pair of wells near former well KAYO-SB
- Collection of two rounds of groundwater samples from the new wells for off-site laboratory analysis of groundwater for EPA Method 8260B
- Production of the PA/SI Report

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2.0 SITE INFORMATION

Information about Site 75's site description, site history, and previous investigations are presented in this section.

2.1 Site Description

NAVWPNSTA Seal Beach is located in Orange County, California, in the City of Seal Beach, which is approximately 20 miles south of Los Angeles. Nearby communities include the cites of Huntington Beach, Westminster, Los Alamitos, and Garden Grove (Figure 2-1). NAVWPNSTA Seal Beach is a Navy ordnance storage, loading, unloading and maintenance installation that was commissioned in 1944 (Commander Navy Installations Command 2012).

Site 75 is associated with former agricultural well KAYO-SB and is located near the eastern boundary of NAVWPNSTA Seal Beach. The site is in an unimproved area of the base approximately 1,300 feet south of Bolsa Avenue and approximately 800 feet west of the eastern boundary of NAVWPNSTA Seal Beach formed by Bolsa Chica Street (Figure 2-2).

Well KAYO-SB was drilled in 1926 and has been used historically as an agricultural irrigation well. Well KAYO-SB was originally drilled to 320 feet below ground surface (bgs) and was completed as a well with casing to 299 feet bgs. The well was originally screened (perforated) at three intervals: 203 to 208 feet bgs, 233 to 240 feet bgs, and 297 to 299 feet bgs (Tetra Tech EC, Inc. 2007). No documentation has been found regarding the materials used to fill the annular space, but considering the age and purpose of the well, it is reasonable to assume that most of the annular space was filled with gravel or sand effectively providing a filter pack, and the near surface annular space likely filled with the concrete well head.

According to a 1994 video log report, the well was originally constructed with 16-inch-diameter steel casing from ground surface to 200 feet (ft.) bgs and 14-inch-diameter steel casing below 200 ft. bgs. After the video log was complete, a 12-inch-diameter steel inner casing was installed in the well, and the annular space between the inner and the outer casing was backfilled with pea gravel. The inner casing was perforated beginning at approximately 200 feet bgs (Tetra Tech EC, Inc. 2007). A figure depicting the well construction is presented in Appendix B.

2.2 Land Use

Well KAYO-SB has been used historically as an agricultural irrigation well for a portion of NAVWPNSTA Seal Beach leased out for crop production. Topographic maps from 1901, 1934, 1935, 1950, 1951, 1965, 1972, 1981 and aerial photographs from 1927, 1938, 1947, 1952, 1956, 1960, 1968, 1977, 1983, 1990, 1994, 2002, and 2005 (Appendix C) show that the site appears to have either been vacant or used for agriculture. There does not appear to be any prior site history associated with chemical storage, disposal, release, or generation at Site 75.

2.3 Previous Investigations

2.3.1 Groundwater Analyses from Irrigation Well KAYO-SB

On September 23, 2004, the OCWD collected a groundwater sample from a distribution pipe from irrigation well KAYO-SB. The sample was analyzed by the OCWD laboratory for VOCs including fuel oxygenates, 1,4-dioxane, and perchlorate. The results (Appendix A) reported detections of several VOCs. After receipt of the OCWD sampling results, the Navy immediately decommissioned well KAYO-SB.

The well was then sealed under the supervision of the Orange County Health Care Agency (OCHCA) in November 2006 to prevent human or ecological exposure to irrigation water or use in agricultural production (Tetra Tech EC, Inc. 2007). The well decommissioning report (Appendix B) reported that a video log was performed showing that the inner casing was screened from 208.6 ft. bgs to at least 286.7 feet bgs at which point accumulated sediments had plugged the deeper section of the well. After the video log was completed, three groundwater samples were collected from depths of 208, 240, and 280 feet bgs using low-flow sampling. Laboratory analysis reported detections of VOCs. Due to the geometry of the well casings and filter pack, there was not enough information to confirm the depth of the formation from which the VOCs originated. The well was then sealed by grouting and capping the well casing.

The analytical results from these investigations, reported in micrograms per liter (µg/L), are summarized below.

Table 2-1. Historical Analytical Results for Well KAYO-SB

Sample Information	PCE µg/L	TCE µg/L	1,1-DCE µg/L	cis,1,2-DCE µg/L	1,1,1-TCA µg/L	1,1-DCA µg/L	1,2-DCA µg/L	VC µg/L
Well Discharge, September, 2004	1.8	25.3	30.3	NR	Trace	13.8	NR	NR
Well sample 208 ft. bgs November, 2006	15	140	170	0.57 J	1.7	75	0.37 J	0.43 J
Well Sample 240 ft. bgs November, 2006	4.7	43	46	ND	0.50 J	21	ND	ND
Well Sample 280 ft. bgs November, 2006	2.3	22	23	ND	0.24 J	11	ND	ND

ND: not detected
NR: not reported

2.3.2 Investigation of the Nearby Boeing Site

Extensive environmental investigation has been conducted at the nearby Boeing Site. The following describes historical hydrogeologic data from the Boeing site investigations pertaining to the water bearing zones and aquitard intervals in the vicinity (Haley & Aldrich, Inc. 2005).

The data from the Boeing site describes four shallow water-bearing intervals identified beneath the nearby Boeing site referred to collectively as the shallow water-bearing zones. The grain size distribution within these water bearing intervals ranges from the silt and clay of the upper fine grained unit (UFGU) to medium grained sands and gravels of the 60-foot sand. Individually, these zones are identified as the UFGU, 45-foot sand, 60-foot sand, and the 90-foot sand/silt. Separating the four water bearing units are fine grained, low permeability units composed primarily of interbedded clays and silts. The predominantly westerly groundwater gradient within these shallow intervals ranges from 0.001 feet per foot (ft./ft.) to 0.004 ft./ft. (Haley & Aldrich, Inc. 2005).

Underlying the shallow water-bearing units are the Alpha Aquifer and Beta Aquifer of the Pleistocene Lakewood Formation. The Alpha Aquifer is composed primarily of poorly graded, fine to medium sand and gravels and extends from approximately 130 to 200 feet bgs. Groundwater gradient in the Alpha Aquifer reportedly ranges from 0.0002 to 0.0006 ft./ft., with a variable but predominantly eastward direction (Haley & Aldrich, Inc. 2009). The Alpha and Beta Aquifers are separated by an interbedded silt and clay interval (Haley & Aldrich, Inc. 2009). The Beta Aquifer is composed primarily of medium to coarse sand and gravel extending from approximately 230 feet to approximately 300 feet below grade. Figure 2-3 shows the generalized stratigraphy at the Boeing Site. The Beta Aquifer gradient was reported at 0.002 ft./ft., with a predominantly northeast but variable groundwater flow (Haley & Aldrich, Inc. 2009).

2.3.3 Investigations at other nearby Sites

As described in the Work Plan (AMJV 2011a), there are several sites to the east of NAVWPNSTA Seal Beach that have reported releases of VOCs. Investigations of those sites were generally focused on depths shallower than 35 ft. bgs, and generally described the soils as being silt and clay with sand, silty sand, and clayey sand interbeds (AMJV 2011a).

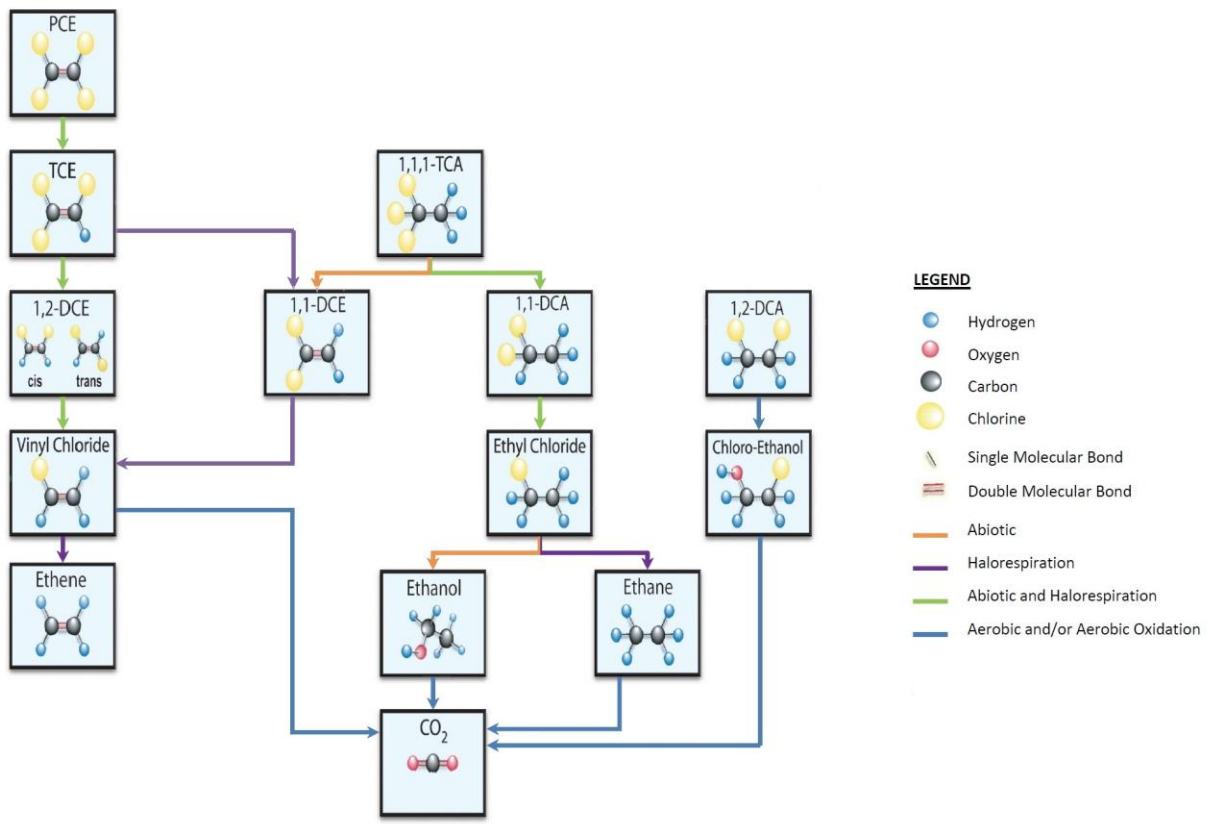
Deeper stratigraphic data was reported from an investigation at Centrilift, located to the east of the study area at 5421 Argosy Avenue. Based on direct push soil sampling at four locations, the report concluded that there is a sandy water bearing unit from approximately 45 to 60 feet below ground surface. That unit was reported to contain a thin horizontal silty clay and clay layer in some regions. The sand in the unit was described as consisting of both fine grained sand layers as well as medium to coarse grained layers. Groundwater samples were collected with a hydropunch from the sandy unit between 40 and 60 ft. bgs. The groundwater samples were reported to contain VOCs (GeoTrans, Inc. 2009).

2.4 Chemical Information

This section describes the typical uses and potential origins of the VOCs previously reported in groundwater from well KAYO-SB. The VOCs fall into two categories – chemicals used as industrial solvents including PCE, TCE, 1,1,1-TCA, and 1,2-DCA and chemicals that are

commonly impurities and/or degradation products of the industrial solvents as they chemically degrade in the environment. Figure 2-4 depicts the degradation sequence for the chlorinated hydrocarbons PCE, TCE, 1,1,1-TCA and 1,2-DCA.

Figure 2-4. Degradation of PCE, TCE, 1,1,1-TCA, and 1,2-DCA



2.4.1 PCE

PCE is a chlorinated hydrocarbon solvent and a chemical intermediate (any chemical substance produced during the conversion of some reactant to a product). An estimate of the current industrial use for PCE is: 55% for chemical intermediates, 25% for metal cleaning and vapor degreasing, 15% for dry cleaning and textile processing, and 5% for other unspecified uses (ATSDR 2011).

2.4.2 TCE

TCE is an excellent extraction solvent. The use of TCE in the United States is estimated as follows: 80% for vapor degreasing of fabricated metal parts, 5% for chemical intermediates, 5% for miscellaneous uses, and 10% for exports. The most important use of TCE, vapor degreasing of metal parts, is closely associated with the automotive and metals industries (ATSDR 2011). TCE is also a degradation byproduct of PCE (ITRC 1999)

2.4.3 1,1,1-TCA

1,1,1-TCA was developed initially as a safer solvent to replace other chlorinated and flammable solvents. Currently, 1,1,1-TCA is almost entirely used as a precursor for hydrofluorocarbons. 1,1,1-TCA was used in industry primarily for cold-cleaning, dip cleaning, bucket cleaning, and vapor degreasing operations. In 1995, 1,1,1-TCA was used for the following: hydrochlorofluorocarbon intermediate 60%, vapor degreasing and cold cleaning 25% (through 1995), adhesives 5%, coatings and inks 3%, textiles 2%, and electronics and miscellaneous 5% (ATSDR 2011).

2.4.4 1,2-DCA

1,2-DCA is a chemical intermediate for the manufacture of plastics, rubber and synthetic fibers; a solvent used for resins and fats, photography, photocopying, cosmetics and drugs; and a fumigant used for grains and orchards. 1,2-DCA was also an additive in leaded gasoline (EPA 2012a).

2.4.5 Other VOCs

The following description includes 1,1-DCE, 1,2-DCE, 1,1-DCA, and vinyl chloride which are present in the groundwater of the study area but likely are impurities and/or degradation products of the principal solvents discussed above.

1,1-DCE is byproduct from the degradation of TCE and 1,1,1-TCA (ITRC 1999; EPA 1998).

1,2-DCE is byproduct from the degradation of TCE (ITRC 1999), and occurs as the isomers cis-1,2-DCE and trans-1,2-DCE. The two forms are typically present as a mixture. 1,2-DCE is used as an intermediate chemical in the manufacture of other chemicals and is used as a solvent for waxes and resins, in the extraction of rubber, as a refrigerant, in the manufacture of pharmaceuticals and artificial pearls, and in the extraction of oils and fats from fish and meat. (ATSDR 2011; EPA 2012b). The cis-1,2-DCE isomer is the isomer that was reported in the sample from former well KAYO-SB.

1,1-DCA is a degradation byproduct that is produced by reductive dechlorination of 1,1,1-TCA (ITRC 1999). As an industrial chemical, the largest individual use of 1,1-DCA is as an intermediate in the manufacture of other products such as vinyl chloride, 1,1,1-TCA, and to a lesser extent high vacuum rubber. It also has limited use as a solvent (ATSDR 2011).

Vinyl chloride is a colorless gas with a sweet odor. Vinyl chloride is byproduct from the degradation of 1,1-DCE and 1,2-DCE (ITRC 1999). Approximately 98% of all vinyl chloride produced is used to manufacture PVC materials (ATSDR 2011).

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3.0 ENVIRONMENTAL SETTING

Information about Site 75's geological setting, hydrogeology, topography, and climate are presented in this section.

3.1 Regional Geology

The site is located in the Los Angeles sedimentary basin within a topographic low formed between the Bolsa Chica Mesa to the southeast and Landing Hill to the northwest. Current topography in the area is reflective of the late Pliocene and Pleistocene movement along the northwest-trending Newport-Inglewood structural zone to the southwest of the site.

The Newport-Inglewood structural zone is an active belt of anticlinal folds and faults that became active approximately 20 million years ago. The northwest trending structural zone approaches to approximately 10,000 feet southwest of the site with a predominantly right lateral displacement and a dip direction in the seaward (southwest) direction. Figure 3-1 shows the faults in the vicinity of the site.

According to the 1968 State of California Department of Water Resources (DWR) Bulletin 63-2, there is topographical evidence of the active Newport-Inglewood fault in the area although the fault has not ruptured the most recent surficial sediments. Site 75 lies within the lower lying topography of the Sunset Gap between nearby uplifted topographic remnants of the structural zone including the Bolsa Chica Mesa southeast of the site and Landing Hill to the northwest (DWR, 1968).

The regional geology of the area is described as a predominantly fine grained, Recent Age sediment interval extending from the surface down to the variable erosional depth of the Pleistocene surface located in this area at over 100 feet below grade. According to the 1956 Geological Survey Water Supply Paper, the depositional environment for this finer-grained, Recent Age sediment was floodplain/lagoonal characterized as "largely silt within extensive thin stringers of highly permeable material" (Geological Survey, 1956).

In the study area vicinity, the Pleistocene-Age, Alpha Aquifer of the Lakewood Formation underlies the predominantly fine-grained Recent Age sediment (Haley & Aldrich, 2009). The Pleistocene Alpha Aquifer was emplaced in a littoral deposition environment characterized by coarser sand to gravel size deposition (Geological Survey, 1956).

Two geologic units are relevant to this PA/SI, the Recent Alluvium extending to approximately 110 feet and the underlying upper Pleistocene Lakewood Formation containing both the Alpha and Beta Aquifers. The Recent Alluvium contains the transmissive sandy intervals that are the primary units discussed in this investigation. Separating the Recent Alluvium and the thicker sandy intervals within the underlying Lakewood Formation are fine grained intervals composed primarily of silt with varying clay and granular material ranging from fine grained sand up to gravel size.

3.2 Regional Hydrogeology

The geologic units containing regional water-bearing zones within the study depths of the PA/SI include the shallow water-bearing zones of the Recent Alluvium and the upper Pleistocene Lakewood Formation that contains the Alpha and Beta Aquifers (Haley & Aldrich, Inc., 2009).

Historical data from nearby sites generally indicate a westerly regional groundwater gradient within the Recent Alluvium. The deeper transmissive intervals at Site 75 (the Alpha and Beta Aquifers) are reportedly subject to groundwater gradient direction changes (Haley & Aldrich, Inc., 2005).

The Newport-Inglewood fault zone generally parallels the coastline to the seaward side of the site. The significance of the Newport-Inglewood fault zone to Site 75 is as a barrier to salt water intrusion to the Recent, Pleistocene, and upper Pliocene sand and gravel aquifers in the area.

Due to increasing demand on the groundwater resource, the piezometric surface in the vicinity reached its lowest point in 1959. The landward groundwater gradient resulted in some saltwater intrusion in more permeable areas along the Newport Inglewood fault zone. Mitigation measures including artificial recharge and controlled pumping have restored piezometric levels in the vicinity (DWR, 1958).

3.3 Topography and Climate

Site 75 lies within the Sunset Gap at an approximate elevation of 14 feet North American Vertical Datum 1988 (NAVD 88) between the uplifted remnants of the Bolsa Chica Mesa southeast of the site and Landing Hill to the northwest. Site 75 and the general surrounding area are relatively flat (Figure 3-2). A large drainage channel running parallel to Bolsa Chica Road is located to the east of Site 75.

The Seal Beach area is characterized by a Mediterranean climate with warm to hot, dry summers and cool, wet winters. Based on Long Beach climate data, temperatures range from an average yearly high of 75 degrees Fahrenheit (^{o}F) to an average low of 55 ^{o}F with an average annual rainfall of 12.94 inches (National Weather Service, 2010).

4.0 TECHNICAL APPROACH

The principal goal of this PA/SI was to evaluate whether or not the VOCs previously discovered in groundwater from former agricultural well KAYO-SB, located on Navy property, originate from a source within the Navy property line. The PA/SI technical approach discussed in this section includes soil boring measurements, well installation, and groundwater sampling.

4.1 Data Quality Objectives

This investigation was designed using the data quality objective (DQO) process as detailed by the United States Environmental Protection Agency (U.S. EPA, 2006). The DQO process is designed to define the project objectives and assure that the quality of data collected supports the objectives. The full DQO process, summarized in this section, was presented in the Work Plan's SAP (AMJV, 2011a).

The technical approach was designed to generate representative groundwater analytical results from an array of five pairs of monitoring wells. The five pairs of wells were designed to sample two sandy transmissive intervals that contain groundwater with dissolved target VOCs including PCE, TCE, DCE, TCA, DCA, and/or VC, as determined by on-site screening using EPA Method 8265.

Off-site laboratory analysis of groundwater samples from the five well pairs provides data to answer the following decision question presented in SAP Worksheet #11:

1. Are PCE, TCE, DCE, TCA, DCA, and/or VC concentrations increasing in an off-property direction?

   Yes: Conclude that target VOCs in groundwater are migrating from an up gradient non-Navy source. Based on the updated CSM resulting from the sampling and the file reviews, evaluate the need for additional sampling to resolve data gaps.

   No: Conclude that the Navy is the likely source of target VOCs identified in groundwater in the vicinity of former agricultural well KAYO-SB. Plan appropriate future actions.

Additionally, the onsite screening data would be used to decide if the concentration threshold for dense non-aqueous phase liquid (DNAPL) presence was met triggering SAP required soil sample collection for off-site laboratory analyses.

The certainty of DNAPL presence is not assured at concentrations less than the solubility of the target analyte. The range of contaminant concentrations and the corresponding likelihood of DNAPL presence used for this investigation are as follows:

Table 4-1. Numerical DNAPL Evaluation

Media	Screening Categories	DNAPL Screening Numerical Criteria
Water	No DNAPL	<12 mg/L (TCE) OR <1.5 mg/L (PCE) (1% of solubility)
Water	Potential DNAPL	12 – 120 mg/L (TCE) or 1.5 – 15 mg/L (PCE)
Water	Probable DNAPL	120 – 1,200 mg/L (TCE) or 15 – 150 mg/L (PCE)
Water	DNAPL Present	>1,200 mg/L (TCE) or >150 mg/L (PCE)
Soil	No DNAPL	<100 mg/kg
Soil	Potential DNAPL	100 – 500 mg/kg
Soil	Probable DNAPL	100 – 500 mg/kg
Soil	DNAPL Present	>1,000 mg/kg

Reference: Westinghouse Savannah River Company (June, 2001)

If the soil samples were collected and submitted to an off-site analytical laboratory for DNAPL evaluation, analytical results would be used to answer the following decision question:

2. Are PCE, TCE, DCE, TCA, DCA, and/or VC present at concentrations greater than 100 mg/kg (Westinghouse, 2001), thereby indicating potential residual soil contamination (DNAPL)?

   Yes: Conclude that the residual soil contamination (DNAPL) is located near a source area, evaluate whether or not the source area is within Navy property.

   No: Conclude that residual soil contamination (DNAPL) was not encountered during the investigation. Refer to decision rule #1 to evaluate source.

4.2 Identifying the Transmissive Intervals with Target VOCs.

This investigation identified two VOC-impacted transmissive sandy units with the greatest VOC impact within the study depth of approximately 300 feet below the surface. The investigation strategy to define the two greatest VOC-impacted transmissive sandy units began with the initial boring adjacent to, and to the approximate depth of, former well KAYO-SB. The soil cores extracted from this initial groundwater well and from the representative cores from the four subsequent PA/SI groundwater well-pair locations were sampled for near-real-time chemical screening analysis and logged for soil characterization at two vertical foot intervals. Because the two wells comprising a pair were closely spaced (typical within 15 to 20 feet), the deeper well was drilled first and screened for VOCs to guide discrete well screen installation within the two VOC impacted sandy intervals (deep and the shallow intervals) of the well pair.

Screening for VOCs using EPA Method 8265 allows screening level analysis for target analytes concurrently extracted from both the groundwater and soil in a core sample. This "bulk matrix" screening analysis was selected for the near-real-time evaluation of the saturated soil samples taken from the well drilling core samples. EPA Method 8265 screening analyses reports the bulk matrix sample analyses as a total of the concentrations of the target analytes adsorbed onto the solid phase and dissolved within the liquid. Because of similar mass to charge ratios, VC and 1,2-DCA are reported as a sum because EPA Method 8265 does not differentiate between them. Similarly, the method does not differentiate between the DCE isomers.

The EPA Method 8265 screening data is subject to some bias due to the following factors related to the behavior of the bulk matrix:

- Sandy materials can be biased low due to less pore water, less sorption, and pore water draining from the bulk matrix sample before a sample could be collected.
- Finer grained (silt/clay) samples can be biased toward higher VOC concentrations because there is more pore water volume, more potential sorption, and less pore water loss through drainage.

Regarding comparison of screening data across the different intervals within the study zone it is ideal to compare zones of equal soil type. Since the bias is primarily dependent on grain size and water content, less comparable results are expected if comparing screening analytical results from a fine grained sand interval to a coarse grained sand interval.

Because the nature of the EPA Method 8265 bias is to amplify screening detections within the fine grained (clay/silt) intervals, the result is to strengthen the identification of greatest VOC impact within the two transmissive sandy intervals.

4.3 Well Design

The screened intervals of the monitoring wells were designed in the field using the Triad approach of systematic planning, dynamic work plan strategies, and real-time technology (EPA 2004). Prior to well installation at each of the five well pair locations, the screening analytical data and lithologic log that were generated from the deeper of the two borings were evaluated. From the screening analytical data and lithologic log, the depths of the two transmissive sandy intervals with the greatest VOC impact were identified. In the case where no VOC screening detections were reported at a well pair location, the transmissive sandy interval of interest would be identified by lithologic and screening analytical data correlation with an adjacent VOC impacted PA/SI well pair. In this manner, each member of the well pair was then designed and installed with a screened water intake interval to discretely intercept the two most VOC impacted transmissive sandy intervals of interest. These two VOC impacted transmissive sandy intervals are referred to in this report as the shallow and deep intervals. Considering the depth of the boreholes and well construction challenges presented by heaving sands that could be expected based on the drillers knowledge of the area, installing pairs of wells was chosen instead of multiple-completion nested wells.

In the event clarification was needed to support well installation issues, the DQO planning team was consulted. The DQO planning team identified to address the problems at the site includes the Naval Facilities Engineering Command (NAVFAC) Remedial Project Manager (RPM) and Quality Assurance Officer (QAO), NAVWPNSTA Seal Beach Point of Contact (POC), regulatory agency partners from DTSC and RWQCB, and technical support from the Project Team.

4.4 Groundwater Sampling

Dedicated bladder pumps were installed in each well following well development. Two rounds of sampling were conducted using low flow sampling techniques.

4.5 Laboratory Analysis

Based on the compounds initially reported from the previous sampling of well KAYO-SB and in accordance with the SAP, the following compounds were reported for this investigation by EPA Method 8260B analysis:

- PCE
- TCE
- 1,1-DCE
- cis-1,2-DCE
- 1,1,1-TCA
- 1,1-DCA
- 1,2-DCA
- VC

All off-site laboratory data was validated by Laboratory Data Consultants of Carlsbad, CA, under the EPA Level III and IV guidelines. For this assessment, data validation was performed to Level III criteria on 90% of the data and to Level IV on 10% of the data.

5.0 FIELD INVESTIGATION

During the boring operations for well installations, a total of 335 soil samples and five pore water samples were collected for screening analysis from soil cores and screened for VOCs using EPA Method 8265. The screening analytical data were used to design five pairs of monitoring wells. Two rounds of groundwater sampling of the monitoring wells, laboratory analysis, and validation were performed. Details of the field investigation are presented below.

5.1 Mobilization

5.1.1 Site Reconnaissance

Site reconnaissance was conducted prior to any field activities. Multiple site visits were conducted by the AMJV and BRADY project team. The site was reviewed and evaluated for access and other logistics.

5.1.2 Permitting and Approvals

The substantive information for well installation permits were provided to OCHCA. Dig permits and hot work permits were obtained from the Navy. Dig Alert notifications were secured prior to initiation of field activities. Right of way permits were obtained from the City of Huntington Beach for all off-site well locations. A copy of the pertinent information provided to OCHCA and notifications are presented in Appendix D.

5.1.3 Utility Clearance

Prior to drilling, the proposed boring locations were cleared for underground utilities by a third party subsurface geophysical surveyor. As a final check for the absence of utilities, the first 5 feet of each borehole was hand augured. If refusal was encountered in the upper 5 feet, the borehole was filled and a new borehole was located a few feet away and the upper 5 feet hand augured.

5.2 Well Drilling and Installation

5.2.1 Sonic Drilling

Sonic drilling employs the use of high-frequency, resonant energy to advance a core barrel or casing into subsurface formations. During drilling, the resonant energy is transferred down the drill string to the bit face at various sonic frequencies. Simultaneously rotating the drill string evenly distributes the energy and impact at the bit face. Sonic drilling produces a continuous, core sample. Core recovery is near 100 percent and offers among the best subsurface information available (Boart Longyear 2010).

The sonic drilling method advances a casing as the borehole is drilled. The typical method is to advance a core barrel, which is overridden by a larger diameter drill string that cases the open borehole and prevents collapse. The typical method used at the site was:

1. A 7-inch-diameter core barrel was sonically advanced into the undisturbed formation.
2. An 8-inch-diameter casing was sonically driven over the core barrel.

3. The core barrel was extracted and brought to the surface for sample extraction.
4. The soil core was extruded into plastic bags approximately 3 feet in length. The soil core was then labeled for depth and transferred to the sampling team for processing.
5. If heaving sands entered the casing, the core barrel was utilized to clean out the casing.
6. Once the casing was cleaned out, the core barrel was advanced into the undisturbed formation.
7. The process was continued to desired depth.

A total of 12 borings were drilled. Monitoring wells were constructed in 10 of the borings. One boring (SB75MW01) was sealed from total depth (299 ft.) to ground surface. Another boring (SB75MW01B) had a monitoring well unsuccessfully installed in it, which was destroyed and sealed.

5.2.2 Soil Screening Samples

Soil screening samples were collected from the deep boring at each of the five well pair locations. For VOC screening and well design purposes, the results from the deep boring were inferred to represent the conditions at the shallow boring, located approximately 15 to 20 feet away.

Once the drillers transferred the soil cores to the sampling team, the bagged core segments were aligned on the ground on a second layer of plastic sheeting for processing and documentation. Soil samples for screening were collected immediately. Concurrent with sample collection, the soil core temperatures were measured and recorded by another team member. The soil core bag was slit open with a utility knife, and soil was collected at 2-foot intervals using disposable open ended plastic syringes. The syringe was used to cut a consistent volume (plug) of approximately 5 grams of material out of the soil core. The plug was extruded from the syringe into 40 mL VOC vials containing 20 mL of distilled water which were then capped and placed on ice. The samples were submitted to the on-site chemist for VOC screening analysis using EPA Method 8265.

5.2.3 Pore Water Screening Samples

During the core extrusion and recovery sequence at initial boring SB75MW01, pore water was observed draining from some of the more permeable sections of the core and accumulating in the bottom of the plastic core containment bags. The field team collected some of this water for screening analysis. The pore water screening was added to the investigation to help evaluate VOCs in the most transmissive intervals. Five pore water samples were collected from the soil cores from this boring. Pore water screening samples were not collected from the other borings. The groundwater samples collected for analytical screening were not chemically preserved, but were placed on ice as soon as possible after collection and immediately submitted to the on-site chemist for VOC screening.

5.2.4 Lithologic Logging

At each well pair location, the deeper well was drilled first. The continuous core from this deeper well was logged by a California Registered Professional Geologist. Samples for detailed lithological description were collected every two vertical feet along the continuous soil core. The shallower well was drilled second, generally 15 to 20 feet away from the deep well. The soil core from the adjacent shallow well boring was also logged.

5.2.5 Initial Exploratory Boring

The initial exploratory boring SB75MW01 was located approximately 75 feet east-southeast of former well KAYO-SB. The boring was drilled from 0 to 97 feet bgs with 8-inch casing and 7-inch core barrel, then from 97 feet to the total depth at 299 feet with 7-inch casing and 6-inch core barrel. The boring was discontinued after penetrating approximately 10 feet into Beta Aquifer sand at the bottom of the boring, which was the goal for establishing the target total depth.

Following assessment of the EPA Method 8265 screening data from the sampling of the initial boring, the DQO planning team was informed via electronic mail that there were no VOC screening detections reported deeper than 100 feet bgs. The DQO planning team concurred that the investigation going forward would be limited to approximately 100 feet bgs to focus on the two transmissive sandy zones with reported VOC screening detections. Based on the sandy intervals logged in SB75MW01 and the reported VOC screening data, preliminary well designs would target a shallow interval from approximately 37 to 47 feet bgs and a deep interval from approximately 87 to 97 feet. The DQO planning team also agreed to expand the number of wells to 5 pairs of wells (10 wells total) targeting the shallow and deep intervals at 5 locations.

The well installation in initial boring SB75MW01 failed because the deep interval was intruded by concrete/bentonite grout. In order to construct an effective monitoring well, the field team decided to completely seal the entire length of the SB75MW01 borehole with concrete grout and drill new borings (SB75MW01A and SB75MW01B) for installation of the shallow and deep monitoring well pairs.

5.2.6 Well Installation

The monitoring well pairs were drilled and installed as close together as practical, within approximately 15 to 20 feet of each other. The deeper well was drilled first for analytical screening and lithologic logging. The shallow well was identified with an A suffix, and a B or C suffix on the well name indicated the deeper well.

In general, monitoring wells were constructed as follows:

1. In the case where the boring was deeper than the target screened interval, pour bentonite pellets into cased borehole to seal the bottom of the borehole to 2 feet below bottom of screened interval.
2. Pour filter pack sand into cased borehole fill the borehole to the bottom of the screened interval. The type of sand was dependent on the lithology; #2/16 sand was used as a filter

pack for intervals screened only through sands and #0/30 sand was used as a filter pack for intervals screened through strata that included silt beds.

3. Insert well casing into cased borehole. Each monitoring well was constructed of manufacturer-cleaned and wrapped, flush-threaded, 4-inch diameter, Schedule 80 PVC casing, with a 10-foot long 0.010-inch slotted casing. Centralizers were used approximately every 30 feet.
4. Pour filter pack sand into cased borehole to fill the annular space to the top of the screened interval, withdrawing sonic casing as appropriate for operations.
5. Pour #0/30 sand to bring the filter pack 2 feet above screened interval, then add approximately 2 feet of bentonite pellets on top of the filter pack, withdrawing sonic casing as appropriate for operations.
6. Tremie pump liquid grout into borehole to the base of surface completion, withdrawing sonic casing as appropriate for operations. The liquid grout was mixed onsite in 55-gallon drums using six 47-lb sacks of Portland cement and ¼ sack (12 ½ lbs.) of M-1 Wyoming bentonite gel.

The monitoring wells in the agricultural field were completed with monument well boxes constructed of a steel well casing with locking lid set in a concrete pad with four traffic bollards. The monitoring wells in the street were completed at ground surface with locking caps on the well casings and 12-inch-diameter traffic-rated flush-mounted secured well boxes set in concrete well pads. A summary of the well construction information is provided in Table 5-1 and well and boring logs are presented in Appendix E. The well construction logs were provided to OCHCA.

Following installation of deep well SB75MW02B, excessive sediment, filter pack and formational material flowed into the casing and the well had to be destroyed. Well SB75MW02C was drilled on August 15 and 16, 2011 to replace failed well SB75MW02B. After inspection of the well materials extracted during destruction of well SB75MW02B, there were some inconclusive indications of damage to the screened interval that allowed the sediment and filter pack material inside the well casing. The replacement well was designated SB75MW02C.

5.2.7 Well Development and Pump Installation

Well development for most of the wells began on August 4, 2011 and continued through August 9, 2011. Well SBMW7502C was developed on August 23, 2011. All wells were developed using a Smeal™ development rig by a combination of surging, bailing, and pumping with concurrent stability measurements. With the exception of well SB75MW02C, all wells were purged until the measured turbidity was less than 5 nephelometric turbidity units (NTUs) or until 3 borehole volumes were removed. Well SB75MW02C was developed for more than 6 hours, and the well was pumped dry during the process. The deep sand at well SB75MW02C has a higher silt and clay content than at the other well clusters, giving the unit a lower permeability resulting in slow recharge to the well and more turbid water. Due to very slow recharge rates, only approximately 1.5 borehole volumes were able to be removed, and final turbidity was 95.7 NTUs. Each well was fitted with a dedicated, low-flow bladder pump for groundwater sampling. Specifications for the pumps and well development data are presented in Appendix F.

5.2.8 Boring Location Survey

All ten wells were surveyed for elevation by a California Licensed Surveyor. The surveyor permanently marked the survey point on the well casing to index subsequent groundwater measurements. The survey report is included in Appendix G.

5.3 Groundwater Sampling

5.3.1 Groundwater Sampling

Two rounds of groundwater samples were collected from the 10 monitoring wells on September 27 - 29, 2011, and again on December 27 - 28, 2011. Groundwater samples were collected in accordance with the Final Work Plan/SAP and SAP Addendum 01 (AMJV 2011a, AMJV 2011b). Depth to groundwater was measured in each monitoring well prior to purging. The depth to groundwater was measured using a water level meter marked in 0.01-foot increments relative to the surveyor's index mark on the well casing.

Groundwater wells were purged and sampled using the dedicated bladder pumps installed in the wells. Water-quality indicator parameters including pH, temperature, conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity were measured. Measurements were recorded on the well sampling logs (Appendix H). Groundwater samples were collected after all indicator parameters stabilized within the predetermined range for each parameter of interest for three readings. Groundwater purge parameters are presented in Table 5-2. After chemical indicator parameters stabilized, groundwater samples were collected from the discharge tube of the bladder pump into the appropriate laboratory prepared and preserved sampling containers. The sample containers were then labeled, packaged for shipping, and stored on ice in insulated coolers pending transport to the certified laboratory under chain of custody (COC) protocols.

5.3.2 Sample Handling and Custody

Samples were packaged to allow the samples to be delivered to EMAX Laboratories, Inc. (EMAX) in Torrance, California, undisturbed and in good condition. Immediately after sample collection, sample labels were filled out and affixed to each sample container. Each sample was placed in a re-sealable plastic bag to keep the sample container and label dry, as well as prevent any spills from coming into contact with other samples. Sufficient packing material was used to prevent sample containers from making contact during transport. Enough wet ice was added to maintain sample temperatures between 2 and 4 degrees Celsius (°C).

The COC forms were completed and signed by AMJV field personnel and relinquished to the EMAX courier on-site during pickup of the ice chests. The AMJV field personnel retained a copy of the signed COC. Because the samples were relinquished on-site to the EMAX courier, custody seals were not used on the ice chests.

Samples accumulated before transfer to the laboratory were stored in an ice-filled chest and properly protected from breakage. Samples were not held on site for more than 24 hours.

All sample information was recorded on COC forms using the sample identification numbers described in the Final SAP (AMJV, 2011a). COCs were completed using waterproof ink and in

a manner to ensure entries were legible. Any errors made by the individual completing the COC were crossed out with a single line, initialed, and dated.

Upon receipt, the laboratory representative signed the COC form and recorded the temperature of the temperature blank on the COC form and on the Sample Receipt form.

5.3.3 Decontamination Procedures

Sonic core barrels and casings were decontaminated between each well location with a high pressure steam cleaning unit, except for two borings at the well pair location nearest well KAYO-SB, which included boring well SB75MW01 and adjacent deep interval well SB75MW01B. Sonic core barrels and casings from borings SB75MW01 and SB75MW01B were decontaminated using high pressure water. All decontamination rinse water was collected and transferred to 55-gallon drums for temporary on-site storage.

All non-disposable sampling equipment was decontaminated prior to, and between each sampling event to prevent the introduction of extraneous material into samples and to prevent cross-contamination between samples. Decontamination of small, non-disposable sample equipment was conducted in accordance with the SAP.

5.4 Investigation-Derived Waste (IDW) Management and Disposal

The principal wastes generated during fieldwork included soil cuttings and water from drilling and well development activities. Soil from drilling activities was containerized in three solid-waste roll-off bins. Two were located near well KAYO-SB providing access for the on-base wells and borings (SB75MW01 through SB75MW03B). The bin for off-site wells SB75MW04A through SB75MW05B was located on Argosy Street immediately east of well SB75MW04. Secondary containment was constructed around each of the roll-off bins as per the work plan. Water was drummed then transferred to a Baker tank located on-base to the north of the site.

Following characterization and approval from the receiving facility, IDW was disposed of as follows:

- Soil was transported as solid non-hazardous waste to South Yuma County Landfill Arizona on September 28, 2011.
- Water was transported as non–hazardous liquid to Crosby and Overton, Inc. in Long Beach CA on October 14, 2011 and on February 16, 2012.

IDW documentation is included in Appendix I.

6.0 DATA QUALITY ASSESSMENT

The Quality Assurance/Quality Control (QA/QC) program is described in detail in the Final SAP (AMJV 2011a) and documents the monitoring, testing, evaluation, and augmentation of data-generating components of the investigation. All sampling activities conducted during this investigation were done under strict adherence to the QA/QC protocols documented in the SAP. The following sections describe the QA/QC procedures applied to this investigation for screening-level and fixed-base laboratory samples, data evaluation and usability.

6.1 Deviations from the Sampling and Analysis Plan

The deviations to the original SAP documented in SAP Addendum 01 (AMJV 2011b) include installation of one additional monitoring well for groundwater sampling and a modified well installation pattern.

Other SAP deviations included the addition of two borings to replace the two borings where well installation failed, the addition of five groundwater samples for screening analysis, and a decontamination issue at the first well location where well tools were cleaned with high pressure water instead of high pressure steam. These SAP deviations are detailed below.

6.1.1 SAP Addendum Changes

As per the original SAP, two pairs of monitoring wells were to be installed at two groundwater monitoring well locations with additional individual wells planned for up to seven other locations (AMJV 2011a).

Due to the discovery of two distinct relatively shallow contaminated water-bearing units at boring SB75MW01 during the implementation of the original SAP, the groundwater monitoring well array was changed to ten wells installed as well pairs at five locations. These changes are documented in Addendum 01 to the SAP (AMJV 2011b). The amended well installation pattern specified one pair near well KAYO-SB, two pairs of wells installed east of KAYO-SB and two pairs of wells installed west of KAYO-SB. The paired wells at five locations allowed both water-bearing units to be investigated in accordance with the project data quality objectives in the original SAP.

6.1.2 Field Changes

6.1.2.1 Drilling Decontamination

The first two steam cleaning units available to the drillers failed such that they would not heat up and produced high pressure water only. Decontamination by pressure washing using ambient temperature water was restricted to the location nearest well KAYO-SB that included boring SB75MW01 and adjacent deep interval well SB75MW01B. A third steam cleaning unit was delivered to the site on July 12, 2011, replacing the two faulty steam cleaning units. All subsequent borings and well installation activities were supported with an operational steam cleaning unit. Potential cross contamination did not appear to occur due to the effectiveness of

the high pressure water, the low VOC concentrations, and screening analysis reporting non-detectable VOCs below 100 feet.

6.1.2.2 Pore water screening

Following extrusion of the continuous core at boring SB75MW01, groundwater was observed in the bottom of the plastic core bags that had drained from the pores soil core sections. The rate of the drainage varied and was more evident in some of the sandy intervals and not observed in the finer-grained less permeable intervals. Samples were collected to screen the water for VOCs and to compare the results to the bulk matrix screening samples. These pore water samples were not chemically preserved but were placed on ice and immediately submitted to the on-site chemist for VOC analysis by the EPA 8265 Method.

6.1.2.3 Unsuccessful Well Installations

Well casing installation targeting the 90 foot sand interval at boring SB75MW01 was not successful, so the boring was grouted and boring SB75MW01B was drilled and completed as a deep interval well. Well SB75MW02B was installed but an apparent breach of the well screen allowed sediment and annular well materials to enter the well such that it could not be developed. Well SB75MW02C was drilled and installed as a replacement.

6.2 Screening Sample Collection

Screening samples were collected from the sonic drilled continuous cores. Quality concerns using sonic drilling technology for screening the bulk matrix using EPA Method 8265 include heat generated by the sonic core barrel and loss of pore water because of drainage out of the more permeable strata. The added heat and the loss of pore water have the potential to bias the screening results low due to volatilization and loss of matrix.

To minimize uncertainty resulting from possible heat generated from drilling, the soil core temperature was measured as soon as possible after retrieval. Temperature measurements were tabulated and evaluated for their potential to bias VOC screening results. The soil core temperatures are tabulated in Appendix J. The mean value for all the soil core temperature measurements was 71° F. For comparison, the mean temperature of the groundwater stabilization readings from the September 2011 sampling event was 69° F. Because the groundwater temperatures measured during groundwater sampling are similar to the soil core temperatures measured during drilling, screening analytical bias due to introduction of heat by the sonic drilling process is likely not significant.

Table 6-1. Statistics of Soil Temperature Measurements during Well Installations

	SOIL TEMPERATURE STATISTICS						
	SB75MW01	SB75MW01B	SB75MW02B	SB75MW03B	SB75MW04B	SB75MW05B	All Wells
Mean Temp	72.66	72.46	68.36	68.13	71.01	71.47	71.19
Median Temp	72.00	71.75	68.00	68.00	71.00	70.00	70.50
Standard Deviation	5.10	1.97	2.77	1.81	1.63	3.44	4.36
Average Temp in °F	72.98	72.50	68.47	68.18	71.04	71.61	71.43

6.3 EPA Method 8265 Screening Analysis

This section presents a brief description of the QA/QC procedures for EPA Method 8265. The QA/QC procedures to ensure that system response is stable and reproducible are described below. The QA/QC procedures for the EPA Method 8265 screening analysis involve initial calibration typically conducted at the start of an investigation, in addition to performance checks described below.

6.3.1 Initial Calibration Procedure

The data acquisition system is calibrated for the targeted contaminants at the beginning of each mobilization using the calibration interface that matches the sampling method. When the detector is to be used for groundwater, soil, or bulk matrix sampling the calibration standards are introduced using a 40 mL vial connected to a vial sparge manifold.

To develop a calibration curve, a set of aqueous standards are prepared containing all target analytes at several different concentrations (typically 1, 5 and 10 mg/L). After the data acquisition system has reached operating temperature and is in data capture mode, standard solution is introduced and system the response recorded. A calibration curve is generated using linear regression after the system response from all of the three dilutions has been recorded. System calibration is confirmed if the linear regression r^2 is 0.98 or higher. Once the system has been calibrated, data collection may begin. Recalibration may be performed as needed during the investigation.

6.3.2 Routine Performance Testing:

Instrument stability and reproducibility checks are routinely done by conducting performance tests (PT) and by documenting any change over time. In addition PTs are conducted after system component repair or when the system has been idle for three hours or more.

The PT is similar to the initial calibration as the aqueous standards at several concentrations are measured and recorded. To determine if the system is operating within standards the results are compared to previous measurements. Acceptance Criteria for these tests are +/-50%. If response changes greater than +/- 50% from the expected response, corrective action is required.

Corrective action includes data review, system evaluation for leaks, blockages, detector malfunctioning, and data system and wiring problems. After these are checked, another PT is conducted. If the acceptance criteria are still not met, the system is recalibrated.

6.4 Off-Site Laboratory Sample Collection

AEI performed field activities and collected samples during two groundwater monitoring events at the site. The groundwater sampling was conducted on September 27 - 29, 2011 and again on December 27 - 28, 2011. Each sampling event involved the collection of 10 groundwater samples from the installed wells and the associated QC samples for off-site laboratory analysis of VOCs. Field audits were performed by Brady personnel during each sampling event. The field audit forms are included in Appendix K.

6.4.1 Field Quality Control

Analyte detections in field quality control samples, such as blanks, were evaluated with respect to their associated environmental samples to make an overall judgment regarding whether any constituents detected in the environmental samples were contributed by conditions independent of the sampled groundwater or are representative of site conditions. Field contamination was assessed by the simultaneous evaluation of the equipment blanks and field blanks. In accordance with validation guidelines, sample concentrations were compared to concentrations detected in the blanks to determine whether sample qualification was deemed necessary.

6.4.2 Laboratory Quality Control

Laboratory quality control is designed to detect, reduce, and correct deficiencies in a laboratory's internal analytical process prior to the release of results, and to improve the quality of the results reported by the laboratory. A discussion regarding the precision and accuracy of the laboratory's analytical systems is included in Section 6.4. Analytical services for groundwater samples were provided by EMAX of Torrance, Ca. A total of 20 environmental samples and associated QC samples were submitted to this California-certified and DoD ELAP-accredited laboratory for analyses.

In general, QC sample results that were outside the laboratory acceptance criteria for data accuracy and precision were flagged by the laboratory and further qualified during data validation. Results for laboratory QC samples and reporting limits (RLs) will be discussed in Section 6.4.

6.5 Data Validation Results

Data validation was performed by Laboratory Data Consultants of Carlsbad, Ca. Validation was performed under the EPA Level III and IV guidelines. For this assessment, data validation was performed to Level III criteria on 90% of the data and to Level IV on 10% of the data. Both levels of validation included review of laboratory quality control summaries (blank, calibrations, spike recoveries, duplicates, etc.). The Level IV process incorporates a review of raw data including chromatograms and quantitation reports. This additional information is utilized in the Level IV data validation process for checking calculations of quantified analytical data.

The analytical data were validated using the following documents, as applicable to each method:

- USEPA, Contract Laboratory Program (CLP) National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update I, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; update IV, February 2007.

Data that did not meet the applicable validation criteria were flagged with the qualifiers listed below.

U – Indicates the compound or analyte was analyzed for but not detected at or above the associated reporting limit.

J – The associated value is an estimated quantity.

UJ – Indicates the compound or analyte was analyzed for but was not detected. The associated reporting limit is an estimated value.

R – The data are unusable.

Once the data are reviewed and qualified according to the above mentioned documents, the data set is then evaluated using the precision, accuracy, representativeness, completeness, and comparability (PARCC) criteria. PARCC criteria provide an evaluation of overall data usability. The following is a discussion about PARCC criteria as it relates to the project DQOs.

6.5.1 Volatile Organic Compounds (VOCs by EPA Method 8260B)

All groundwater samples analyzed for VOCs were received by the laboratory in good condition. A total of 20 groundwater samples from the five pairs of PA/SI monitoring wells, as well as the associated dilutions and field quality control samples were analyzed for VOCs by EPA SW 846 Method 8260B during the two sampling events of the assessment. All VOC results were assessed to be valid since none of the results were rejected based on QC exceedances.

6.5.1.1 Precision and Accuracy

Initial and continuing calibration results provide a means of evaluating accuracy within a particular sample delivery group (SDG). Relative response factor (RRF), percent relative standard deviation (%RSD) and percent difference (%D) are the three major parameters used to measure the effectiveness of instrument calibration. RRF is a measure of the relative spectral response of an analyte compared to its internal standard. %RSD is an expression of the linearity of instrument response. %D is a comparison of a continuing calibration instrumental response with its initial response. %RSD and %D exceedances suggest routine instrumental anomalies, which typically impact all sample results for the affected compounds. All data were within method and validation criteria during the initial and continuing calibrations.

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits. Matrix spike (MS), matrix spike duplicate (MSD), and laboratory control samples (LCS) were reviewed for each SDG as applicable. One MS/MSD was submitted during each sampling event. The %R for both MS/MSDs were not within QC limits. Since the environmental sample concentrations were greater than the spiked concentrations, no data were qualified.

As outlined in the SAP for this PA/SI, *precision* is evaluated by collecting and analyzing field and laboratory duplicates and then calculating the variance between the samples, typically as a relative percent difference (RPD). For groundwater samples, a RPD threshold of 30% is listed in Table 1 of the Final SAP (AMJV 2011a). One duplicate sample was submitted during each sampling event. The first pair of samples, SB75MW05A-Q311-01 (primary) and SB75MW05A-Q311-02 (duplicate), had all the same eight compounds detected. The RPDs of all eight compounds were below the 30% threshold. Due to four of the compounds exceeding the calibration range, a dilution was also performed. Samples SB75MW05A-Q311-01DL (primary) and SB75MW05A-Q311-02DL (duplicate) had six compounds detected. All six compounds were below the 30% RPD threshold.

The duplicate pair of samples collected during the second sampling event was SB75MW05A-Q411-01 (primary) and SB75MW05A-Q411-02 (duplicate). All eight compounds were once again detected in the pair of samples. There were two compounds that were outside of the 30% threshold, but the results for these compounds exceeded the calibration range. In the subsequent dilution, samples SB75MW05A-Q411-01DL (primary) and SB75MW05A-Q411-02DL (duplicate) had six compounds detected. All compounds were within the calibration range, and only one compound from this pair exceeded the 30% threshold. Cis-1,2-dichloroethene was reported in the primary sample as below the reporting limit and therefore "estimated", and the result reported in the duplicate sample was non-detect. RPD exceedances from these duplicate pairs do not suggest a significant impact on the data quality. Overall, the results from both sampling events indicate very good *precision* in the analytical method.

6.5.1.2 Representativeness

An evaluation of holding times to verify compliance with the method was conducted. All volatile samples met the holding time criteria and all cooler temperature requirements were also met.

Method blank analyses were performed at the required frequencies. Four trip blanks, two field blanks and one equipment blank were also submitted with the environmental samples for VOC analysis. No detections of VOC contaminants were found in any of these blank samples.

6.5.1.3 Comparability

The laboratory used a standard analytical method for all of the VOC analyses (EPA Method 8260B). Sample collection and handling techniques were carried out according to AMJV's standard operating procedures to ensure consistency and comparability, and analytical results were reported in the appropriate units. In addition, based on the evaluation of the data with respect to *precision*, *accuracy*, and *representativeness*, the *comparability* of the data is regarded as acceptable.

6.5.1.4 Completeness

The *completeness* level attained for VOC field samples was 100 percent. This percentage was calculated as the number of accepted results divided by the total number of sample results, then multiplied by 100.

6.5.1.5 Sensitivity

For this project, the State of California Maximum Contaminant Levels (MCLs) for drinking water (California Department of Public Health, 2008) were selected as project screening levels (PSLs). Adequate *sensitivity* was assured by selecting the analytical method that provided appropriate laboratory quantitation limits (QLs) necessary to meet project DQOs. For two VOCs (1,2-DCA and VC), the PSLs were lower than the QLs. For these compounds, the data were reported down to the method detection limits (MDLs). QLs and MDLs were reviewed in the laboratory data to determine whether project-specific limits were met. For all samples analyzed, the QLs and MDLs met the limits outlined in the Final SAP (AMJV 2011a) and SAP addendum 01 (AMJV 2011b). In three of the four SDGs, however, there were instances were compounds exceeded the calibration range, and dilutions had to be performed. In these cases, where more than one result was reported for an individual sample, the least technically acceptable results were rejected. All of the affected samples for the qualifications mentioned above are identified in the data qualification summaries of the data validation reports for SDGs 11I265, 11I284 and 11L209 (Appendix L).

6.6 Data Evaluation and Usability

Field and laboratory QC elements were assessed for conformance with project DQOs. *Precision* and *accuracy* were evaluated using data quality indicators such as calibration, MS/MSD, LCS, field duplicates, and surrogates. The *precision* and *accuracy* of the data set were considered acceptable after the integration of data qualifiers for estimated results.

In order to evaluate the *representativeness* of the project data, all groundwater samples were evaluated for holding time compliance. No samples exceeded the required holding time from sample collection until extraction for VOCs. All samples in each SDG were also associated with the appropriate blank samples (method blanks, trip blanks, equipment blanks and field blanks) in accordance with the Final SAP and SAP Addendum 01. Based on the overall assessment of the holding times and the blank samples, the *representativeness* of the project data is considered acceptable.

The laboratory used standard analytical methods for their analyses, and the analytical results were reported in correct standard units. Sample preservation and sample integrity were all within QC criteria. Based on the collective performance of the project data quality indicators against the *precision*, *accuracy*, and *representativeness* criteria, the overall *comparability* is considered acceptable.

The *completeness* percentage for the project was 100 percent. All of the sample results for this project were found to be acceptable. The *sensitivity* (i.e., reporting limits) of the analytical methods is driven by the project-specific DQOs. All reporting limits met the project-specific requirements. The overall assessment based on these data quality indicators is that the data are acceptable. Although a few QC elements associated with the analytical procedures have been

identified during the data quality assessment, a thorough review of the data indicates that these discrepancies do not adversely affect the quality, validity, usability, and overall data interpretation presented in this report. Therefore, the data presented herein are considered valid and usable as indicated by their specific qualifiers.

7.0 INVESTIGATION RESULTS

This section describes the results of the investigation to evaluate whether or not the VOCs previously discovered in groundwater from former agricultural well KAYO-SB, located on Navy property, originate from a source within the Navy property line. The results discussed in this section include geology, hydrogeology, screening for VOCs, and analytical results of groundwater samples collected from 10 monitoring wells over 2 sampling events.

7.1 Geology

As presented in the Work Plan and SAP, prior to this PA/SI the only available geological data for Site 75 was the 1926 KAYO-SB driller's well log and extrapolation of geologic data from the nearby Boeing Site investigations. These investigations reported as many as four shallow, water-bearing intervals (Haley & Aldrich, 2009). These four water bearing intervals are separated by finer grained aquitard zones and all lie within the Recent Alluvium extending variably from the surface to approximately 130 feet bgs. The four water bearing zones are referred to as the UFGU (composed of a silt/clay mix and observed from surface to 45 feet bgs), the 45-foot sand (45 – 55 feet bgs), the 60-foot sand (60 – 80 feet bgs), and the intermittent 90-foot sand (90 – 95 feet bgs). The upper Pleistocene Lakewood Formation lies beneath the Recent Alluvium. Within the Lakewood Formation, the Alpha Aquifer, composed primarily of poorly graded, fine to medium sand and gravels is reported to extend from approximately 130 to 200 feet bgs. Aquitard 4, composed of interbedded silts and clays, separates the Alpha Aquifer from the underlying Beta Aquifer. The Beta Aquifer, composed of poorly graded medium to coarse sand and gravel and minor lenses of silt and clay, is reported to extend from approximately 230 feet to approximately 300 feet where the interbedded clay and silt of Aquitard 5 begins.

Geologic data from this investigation were collected from the borings continuously cored at each of the monitoring well pair locations. Geologic logs were completed for each boring and are presented in Appendix E.

Two of the expected transmissive sandy intervals within the upper 100 feet were encountered during the investigation. This PA/SI refers to these transmissive sandy intervals as the shallow and deep intervals. Although variable in thickness and depth, these sandy intervals were on the order of ten feet thick at approximately 40 feet bgs (shallow interval) and at 90 feet bgs (deep interval), respectively. The shallow interval is generally a well graded to poorly graded sand. The 90 foot interval is a well graded to poorly graded sand with some interbedded silt and is more variable in thickness than the shallower interval. These transmissive sandy intervals have a higher hydraulic conductivity than the fine grained poorly transmissive intervals that separate them. The conductive characteristic allows these sandy intervals to act as a hydraulic conduit for dissolved VOCs to migrate down gradient.

Findings from this investigation are consistent with the Water-Supply Paper 1109 (Geological Survey, 1956) description of Recent-Age, fine grained sediments characterized by abundant silt with clay and lesser variably interbedded sand layers of fine to medium grained sand. PA/SI data showed the Recent Age sediments extended to approximately 108 feet bgs where the

underlying Pleistocene age Alpha Aquifer sand began. PA/SI data showed the Alpha Aquifer was composed of sands typically ranging from fine grained up to gravel size material. Fossil shell fragments in the Alpha Aquifer sand combined with the characteristically coarser grained sediments are consistent with the littoral deposition described for this upper Pleistocene sedimentation. The initial soil boring SB75MW01 was drilled to 299 feet bgs and was the only PA/SI boring to go significantly deeper than 100 feet. The boring log from SB75MW01 illustrates (in addition to the shallow and deep intervals described above) two deeper sandy intervals, consistent with the reported Alpha and Beta Aquifers of the Pleistocene Lakewood Formation. These deeper hydrogeologic units were observed in SB75MW01 from 108 to 200 feet bgs (Alpha Aquifer) and from 222 feet bgs to the total boring depth of 299 feet bgs (Beta Aquifer). The two Aquifers are separated by a silt interval.

The similarities between the 1926 driller's log and the PA/SI soil logs include the fine grained interval from the surface down to approximately 40 feet and the sandy intervals separated by fine grained sediments at approximately 40 to 50 feet bgs and at 130 to 205 feet bgs. Discrepancies noted between the 1926 driller's log and geologic data compiled during this investigation include the sand intervals encountered at approximately 90 feet and the deeper sandy interval logged between 222 and the total depth of 299 feet bgs.

The geologic data from the nearby Boeing Site investigations were generally similar to the findings from this investigation. The 60-foot sand reported in the Boeing investigations (Haley & Aldrich, 2005) was not encountered during this investigation, or noted in the 1926 driller's log.

7.2 Hydrology

Water level measurements were collected from each well prior to sampling in order to determine hydraulic gradient and flow direction in the shallow and deep intervals. The groundwater measurements are presented in Table 7-1. In general, the groundwater flow direction was approximately southwest in the shallow interval, and (Figure 7-1), and approximately northwest to west in the deep interval (Figure 7-2). The gradient east of KAYO-SB was approximately 0.0017 to 0.0018 ft./ft. in the shallow interval and 0.002 to 0.0032 ft./ft. in the deep interval. In both intervals, the gradient flattens west of KAYO–SB. During the sampling events, measurements show that groundwater in the study area flows from the east onto NAVWPNSTA Seal Beach. During both sampling events the groundwater elevation in the wells screened within the shallow interval were higher than in the adjacent deep interval wells indicating a downward groundwater pressure head gradient.

7.3 EPA Method 8265 Results

A total of 335 soil screening samples were collected for onsite VOC screening from six borings. Soil screening samples in the first boring (SB75MW01) were collected down to 296 feet bgs. Since no VOC detections were reported deeper than 100 feet bgs in the screening data from SB75MW01, the investigation was refocused on the two (shallow and deep) transmissive sandy intervals within the upper 100 feet bgs. The subsequent borings that were screened for VOCs were SB75MW01B, SB75MW02B, SB75MW03B, SB75MW04B, and SB75MW05B.

Five groundwater screening samples from water that was draining from the most permeable soil intervals of the soil core were collected from boring SB75MW01. These samples were collected in three zones, the shallow sandy transmissive interval, the Alpha Aquifer and the Beta Aquifer.

Results of the VOC screening were summarized along with preliminary general geologic information and evaluated daily in the field. These field summaries are presented in Appendix J.

7.3.1 Soil Screening Results

EPA Method 8265 screening data for bulk matrix (soil plus un-drained pore water) identified the two most impacted transmissive sandy intervals centered at approximately 40 feet and 90 feet bgs. The highest VOC screening concentration reported was 154 µg/kg of 1,1-DCA. This concentration was well below the DQO criteria for inferring the potential presence of DNAPL (100,000 µg/L).

No screening VOC detections were reported in samples from down gradient borings SB75MW02B or SB75MW03B. Non detectable screening levels were also reported in samples from up gradient boring SB75MW04B, with the exception of the 84 foot bgs sample where the possible detection of 1,1-DCA was below the reporting limit.

Screening detections from the EPA Method 8265 analyses were reported in two of the well pair locations, SB75MW01 and SB75MW05. Well SB75MW01 is located approximately 75 feet east-southeast of former well KAYO-SB and the location of well SB75MW05B approximately 900 feet east of former well KAYO-SB. The analytes reported by 8265 screening in SB75MW01 were PCE, TCE, DCE, 1,1-DCA, and VC+1,2-DCA (summed). 1,1,1-TCA was not reported as detected in any of the screening samples. The detected VOCs were variously reported in boring SB75MW01 from 28 to 54 feet bgs then deeper at 78 to 100 feet bgs. In location SB75MW05B, the same analytes (except for PCE) were reported from 38 to 56 feet bgs.

Overall, the bulk matrix soil screening data for this investigation:

- Does not identify a source area where chemical product was released near the ground surface
- Identifies two sandy transmissive intervals that contain dissolved VOCs at two of the five well pair locations
- Reported the shallowest VOC detection at 28 feet bgs
- Does not report any VOC detections below 100 feet in the deep boring near former well KAYO-SB.

7.3.2 Pore Water Screening Results

The water samples collected for screening analysis from pore water draining from permeable core sections were screened onsite for VOCs. All five of the pore water screening samples were collected from five selected depths in boring SB75MW01. Screening sample SB75MW01-SCR047 GW was taken from 47 feet bgs in the shallow transmissive interval. Samples SB75MW01-SCR178 GW and SB75MW01-SCR187 GW were taken at 178 and 187 feet bgs,

respectively, within the Alpha Aquifer. Samples SB75MW01-SCR259 GW and SB75MW01-SCR269 GW were taken at 259 and 269 feet bgs respectively, from the Beta Aquifer.

Of the five pore water screening samples collected from boring SB75MW01, only the sample collected at 47 feet bgs had reported VOCs (SB75MW01-SCR047 GW). Pore water VOC screening data are included in the field summaries in Appendix J and are summarized below.

Table 7-2 Pore Water Analytical Results

Depth (ft. bgs)	PCE (µg/L)	TCE (µg/L)	DCE (µg/L)	1,1,1-TCA (µg/L)	1,1-DCA (µg/L)	VC-1,2-DCA (µg/L)
47	26.7	125	96.6	0	341.8	207.7
178	0	0	0	0	0	0
187	0	0	0	0	0	0
259	0	0	0	0	0	0
269	0	0	0	0	0	0

The pore water screening results corroborate the bulk matrix soil screening results of no screening VOC detections below 100 feet.

7.4 Groundwater Analytical Results by EPA Method 8260B

Two rounds of groundwater samples were collected for this PA/SI. The first of the two groundwater sampling events was conducted in September 2011 and the second in December 2011. Laboratory results are presented in Appendix L. Third-party laboratory validation reports are presented in Appendix M and discussed in Section 6.4. Analytical data for both sampling events are summarized in Table 7-3 and on Figure 7-3.

Based on the validated groundwater data, well pair SB75MW03A and SB75MW03B had no VOCs reported in both the shallow and the deeply screened wells. This well pair is located southwest and down gradient of KAYO-SB.

All of the other shallow ("A" suffix) wells had VOCs reported above the detection limit. The highest concentrations of VOCs in the shallow interval were reported in wells SB75MW01A and SB75MW05A. The concentrations in these two wells, with the highest concentration per sampling event, are as follows:

Table 7-4. Analytical Results for Wells SB75MW01A and SB75MW05A

Results in µg/L	Well SB75MW01A		Well SB75MW05A	
	Sep-11	Dec-11	Sep-11	Dec-11
PCE	79	120	160J	170
TCE	410	730	690J	750
1,1-DCE	770	1400	1400J	1500
cis-1,2-DCE	3.4	4.2	5.3	5.3
1,1,1-TCA	4.3	6.4	17	19
1,1-DCA	290	380	320J	300
1,2-DCA	1.3	1.8	2.2	2.3
VC	1.7	2.4	1.3	1.5

As described in Section 2.4, four VOCs, (PCE, TCE, 1,1,1-TCA and 1,2-DCA), are industrial solvents and the other four VOCs, (1,1-DCE, cis-1,2-DCE, 1,1-DCA, and VC), are the expected impurities and degradation products of the industrial solvents. With the exception of some occurrences of two degradation products (1,1-DCA and VC), all VOC concentrations are reported as being greater in well SB75MW05A than in well SB75MW01A.

Three of the deep interval wells (SB75MW01B, SB75MW04B, and SB75MW05B) had VOCs reported above the detection limit. There were no deep interval VOCs reported in either of the down gradient wells SB75MW02C and SB75MW03B. The highest concentrations of VOCs in the deep interval were reported in well SB75MW01B.

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8.0 CONCEPTUAL SITE MODEL

Prior to the 2006 abandonment of agricultural well KAYO-SB at Site 75, VOCs (PCE, TCE, 1,l-DCE, 1,1,1-TCA, and 1,1-DCA) were reported in groundwater samples collected from the well. The preliminary CSM presented during the planning of this investigation (AMJV 2011a) was based on the available historic data from nearby known releases in the industrial neighborhood to the east and depicted a dissolved VOC contaminant plume in the groundwater beneath Site 75 from an unknown source that was potentially up gradient to the east of KAYO-SB.

Historic photographs and topographic maps show that the Navy property surrounding well KAYO-SB has been vacant or used for agriculture, with no records or activities suggesting the use or storage of chlorinated solvents on Navy property in the immediate vicinity of well KAYO-SB.

8.1 VOC Extent and Migration in Groundwater

Based on the data collected during this PA/SI, the vertical extent of VOCs in groundwater near well KAYO-SB is limited to shallow (approximately 40 feet bgs) and deep (approximately 90 feet bgs) transmissive sandy intervals and the fine grained soils adjacent to these transmissive sands. Figures 8-1 and 8-2 present geologic cross sections; the locations of the cross sections are shown in each figure.

Current groundwater gradient and flow direction in the shallow and deep intervals is generally from the east onto NAVWPNSTA Seal Beach. In general, the groundwater flow direction is approximately southwest in the shallow interval, and approximately northwest to west in the deep interval. VOCs are being transported through the shallow (generally 40 feet bgs) and deep (generally 90 feet bgs) sandy transmissive intervals. VOCs were reported in groundwater from the shallow and deep wells at locations SB75MW04 and SB75MWO5 in the eastern portion of the study area. VOCs were also reported from the monitoring wells at well SB75MW01, located approximately 75 feet up gradient from the location of former agricultural well KAYO-SB. Therefore, VOCs are migrating from the east side of the study area onto NAVWPNSTA Seal Beach through the transmissive intervals.

Former well KAYO-SB is inferred to have been constructed with a filter pack from the near-surface well head to the total depth of the well at approximately 300 feet bgs. When agricultural well KAYO-SB was operational, it likely drew water into the well from the annular space at the depth of the well screen (approximately 200 to 300 feet bgs), creating localized steeper gradients towards the well and downward towards the screened interval. Although the well's influence would be the greatest at the depth of the well screen, the well would have created vertically downward gradient within the vicinity of the well (a diameter of a few hundred feet) when the well was in operation, resulting in groundwater migration towards the well in the transmissive intervals above 100 feet bgs. An expected historic flow path when the well was operational is shown on Figure 8-3.

VOCs were not reported above detection limits during the onsite screening of the saturated, fine grained samples between the depths of 56 and 76 feet at boring SB75MW01, suggesting that well KAYO-SB may have not produced sufficient downward gradient at that location to induce

VOC migration from the shallow to the deep transmissive unit through the fine grained soils. Although downward migration of VOCs within the annular space of well KAYO-SB from the shallow to the deep transmissive interval is possible, VOCs in the deep interval at well SB75MW01 do not appear to be from this migration pathway because well SB75MW01 is located approximately 75 feet up gradient of well KAYO-SB. However, migration through the annular space is the most likely VOC migration pathway from the intervals above 100 feet bgs into the former well KAYO-SB.

All well pairs with detectable VOCs reported greater VOC concentrations in the shallow interval than in the deep interval, with the exception of the degradation product VC reported in well pair SB75MW01A and SB75MW01B during the September sampling event.

The horizontal extent of the VOC groundwater plume is not defined. The only well pair that was non-detect for all reported VOCs (SB75MW03A and SB75MW03B) is located in the southwest and down gradient portion of the study area. The horizontal extent in both the shallow and deep intervals is therefore defined only to the southwest.

In summary, VOCs are migrating from the east onto NAVWPNSTA Seal Beach in the shallow and deep transmissive intervals. Although VOCs reported from the deep interval wells have their highest concentrations at well SB75MW01 located approximately 75 feet up gradient from (and within the expected zone of influence of) well KAYO-SB, the complete migration pathway from the source area into the deep interval is not completely understood. It is highly probable that VOCs migrated from the shallow and deep intervals into well KAYO-SB through the well's annular space.

8.2 Source of the VOCs.

The VOCs that are the subject of this PA/SI have a variety of potential origins. Several of the VOCs are commonly used as industrial solvents or additives. VOCs that fall in this category are PCE, TCE, 1,1,1-TCA, and 1,2-DCA. These VOCs are likely to be the chemicals that were released into the subsurface at a source area. In the conceptual site model, these chemicals would be released at or near the ground surface where they were used or stored. The chemicals would then infiltrate downward as dissolved phase in pore water and potentially as DNAPL. Because these chemicals are denser than water, chemicals in a mobile DNAPL phase could continue to migrate downward in groundwater if they were present in sufficient quantities. Once in groundwater, the dissolved phase VOCs would migrate with groundwater in a down gradient direction, both horizontally and vertically. The migration path would be controlled by stratigraphy, with migration preferentially occurring through transmissive sandy soils.

During this investigation, the upper 26 feet of soil had no reported VOCs from the screening samples. The soil generally consisted of silt, clay, and silty fine sand. The first occurrence of VOCs was reported in soils immediately overlying (and within) the shallow interval, coarser-grained sand. This distribution of VOCs in the subsurface suggests that the near-surface location where the VOCs were released is located outside the study area, in a direction that is up gradient.

The other VOCs reported in groundwater of the study area are likely impurities and/or degradation byproducts of the primary industrial solvents mentioned above. These degradation byproduct chemicals could be produced in the subsurface as the dissolved-phase parent

compounds degraded. Chemicals that fall into the category of being likely impurities or degradation byproducts are 1,1-DCE, cis-1,2-DCE, 1,1-DCA, and VC. TCE, although widely used in industry, is also a degradation product of PCE.

8.3 Risk Screening

Since groundwater contaminant concentrations were reported above MCLs, a preliminary risk screening was carried out. The exposure pathways that might be completed were:

- Direct soil exposure
- Direct groundwater exposure
- Indoor vapor intrusion

8.3.1 Soil Exposure Pathway

During the construction of the monitoring wells, bulk matrix soil/water samples were collected at two-foot depth intervals for analysis at the screening laboratory. While these samples were not specifically collected or analyzed for risk assessment purposes, they did not have any reported contaminants above the water table or within 26 feet of ground surface. Therefore, this exposure pathway is considered incomplete within the investigation area.

8.3.2 Groundwater Exposure Pathway

Groundwater within the investigation area is not used for domestic or industrial purposes, therefore, this exposure pathway is considered incomplete within the investigation area.

8.3.3 Vapor Intrusion Pathway

When occupied structures might be directly above groundwater containing volatile contaminants, the potential for migration of the vapors to the surface should be examined. This investigation was not originally scoped to evaluate vapor intrusion and the monitoring wells were not constructed to assess this possibility. The appropriate well design for vapor intrusion investigation would be screening across the water table to collect samples from the saturated/unsaturated soil interface.

At each of the well sites, groundwater occurred at 12 to 16 feet below ground surface. The reported screening data at all of the wells did not indicate contamination within 26 feet of the surface. In addition, the soils in this shallow zone were fine-grained and unlikely to be transmissive. If the groundwater at, and just below, the water table is not contaminated with volatile compounds, then it is physically unlikely that vapors can be transferred into the unsaturated zone above. Therefore the vapor intrusion pathway is considered incomplete within the investigation area.

8.3.4 Uncertainty and Limitations

- The conclusions drawn about exposure pathways should only be applied to the investigation area and may not apply outside that area.
- The bulk matrix samples screened for well design purposes are not considered definitive for risk assessment purposes and should only be used as screening indicators.

- As pointed out above, the monitoring wells at this site were not designed to specifically acquire samples directly relevant to vapor intrusion assessment. Therefore the conclusions may be strongly suggestive, but may not be definitive.

9.0 CONCLUSIONS

This investigation consisted of collection and evaluation of a screening analytical dataset used to install and screen ten monitoring wells within the two most contaminated transmissive sandy intervals beneath the site that occur between 40 and 100 feet bgs. This screening data included 335 soil samples and five pore water samples collected from the continuous soil cores and analytically screened onsite using EPA Method 8265. The screening data combined with the lithologic logs were used to establish the depth and lengths of the well intake intervals. Following well installation and development, two groundwater sampling and analysis events were carried out for the ten PA/SI monitoring wells. The groundwater samples were analyzed for VOCs using EPA Method 8260B.

This investigation answered the DQO decision rules established in the approved SAP as follows:

1. *Are PCE, TCE, DCE, TCA, DC, and/or VC concentrations increasing in an off-property direction?*

Yes, the concentrations of dissolved VOCs in groundwater increase in an off-property direction. The highest concentrations of the chlorinated VOCs occur off-property in upgradient well SB75MW05A. Two compounds, 1,1-DCA and VC, occur in the same concentration range in both SB75MW05A and SB75MW01A; however, since those two were the degradation products, their presence and concentrations may be influenced by the degradation environment.
The groundwater flow gradients and the distribution pattern of the chlorinated VOCs in the groundwater of the shallow sandy unit of the recent sediments indicate the source of the VOCs is to the east, upgradient of the Navy property. The owners of several properties to the east have been addressing releases of chlorinated solvents to groundwater for over 15 years.

2. *Are PCE, TCE, DCE, TCA, DCA, and/or VC present at concentrations greater than 100 mg/kg (Westinghouse, 2001), thereby indicating potential residual soil contamination (DNAPL)*

No, the concentrations of dissolved VOCs in soil at all well locations are below 100 mg/kg. All chlorinated VOC concentrations reported in this investigation were well below the DQO criteria for inferring the potential presence of DNAPL. Therefore, the soil screening and groundwater data indicate that residual DNAPL is unlikely to exist within the area of the investigation, and that the release area is to the east, off Navy property.

Based on decision rules #1 and 2 above, the VOCs did not originate from a Navy source.

The levels of volatile contaminants reported in the shallow unit groundwater, near a residential neighborhood, indicate the need for further investigation by the property owner of the release to evaluate for potential risk to short-term and long-term occupants along the path of the contaminant plume.

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10.0 REFERENCES

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Figures

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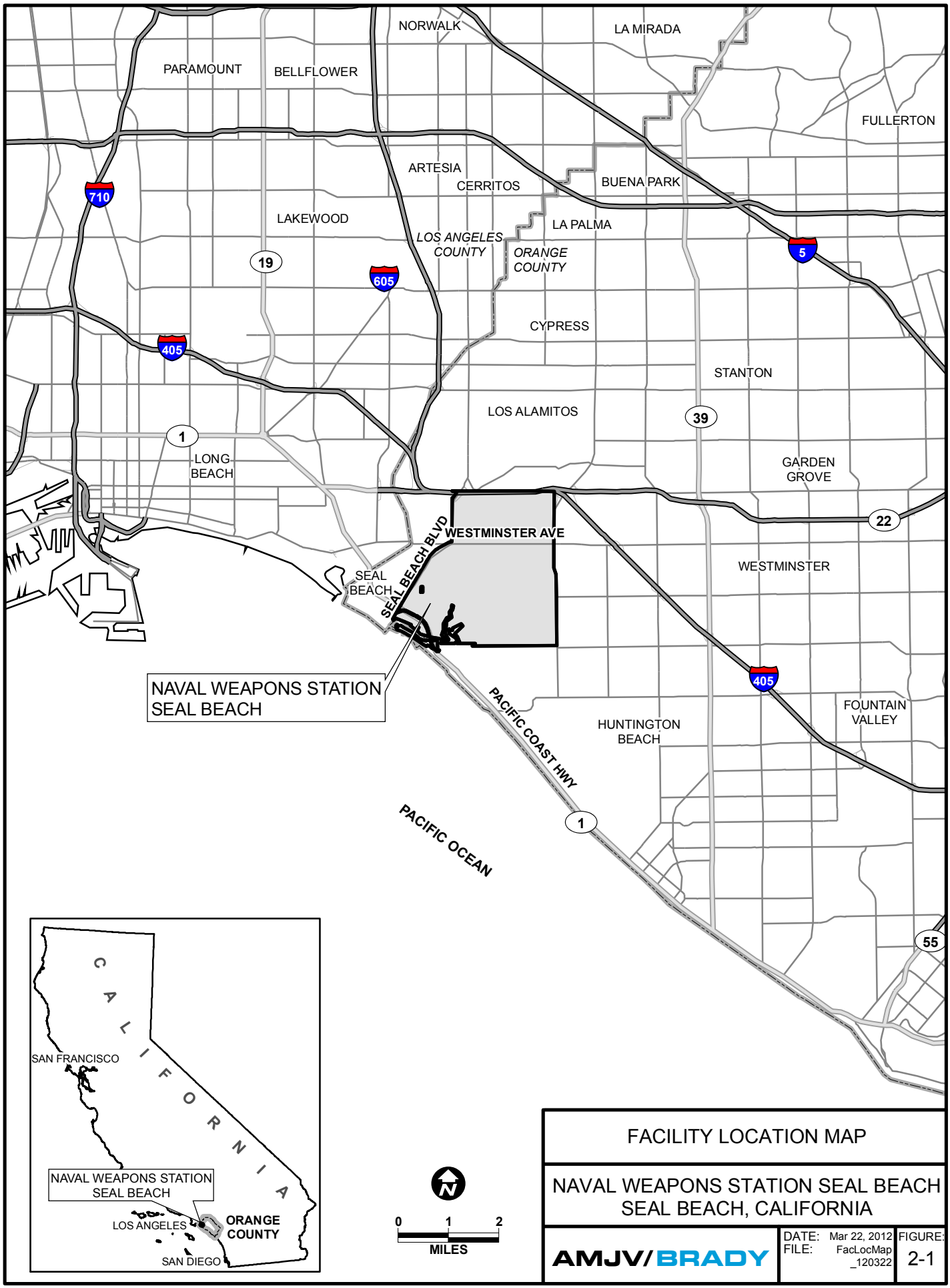

FACILITY LOCATION MAP

NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

AMJV/BRADY

DATE: Mar 22, 2012
FILE: FacLocMap _120322

FIGURE: 2-1

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SITE 75
SITE LOCATION MAP

NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

AMJV/BRADY

DATE: Mar 22, 2012
FILE: SiteLocMap _120322

FIGURE: 2-2

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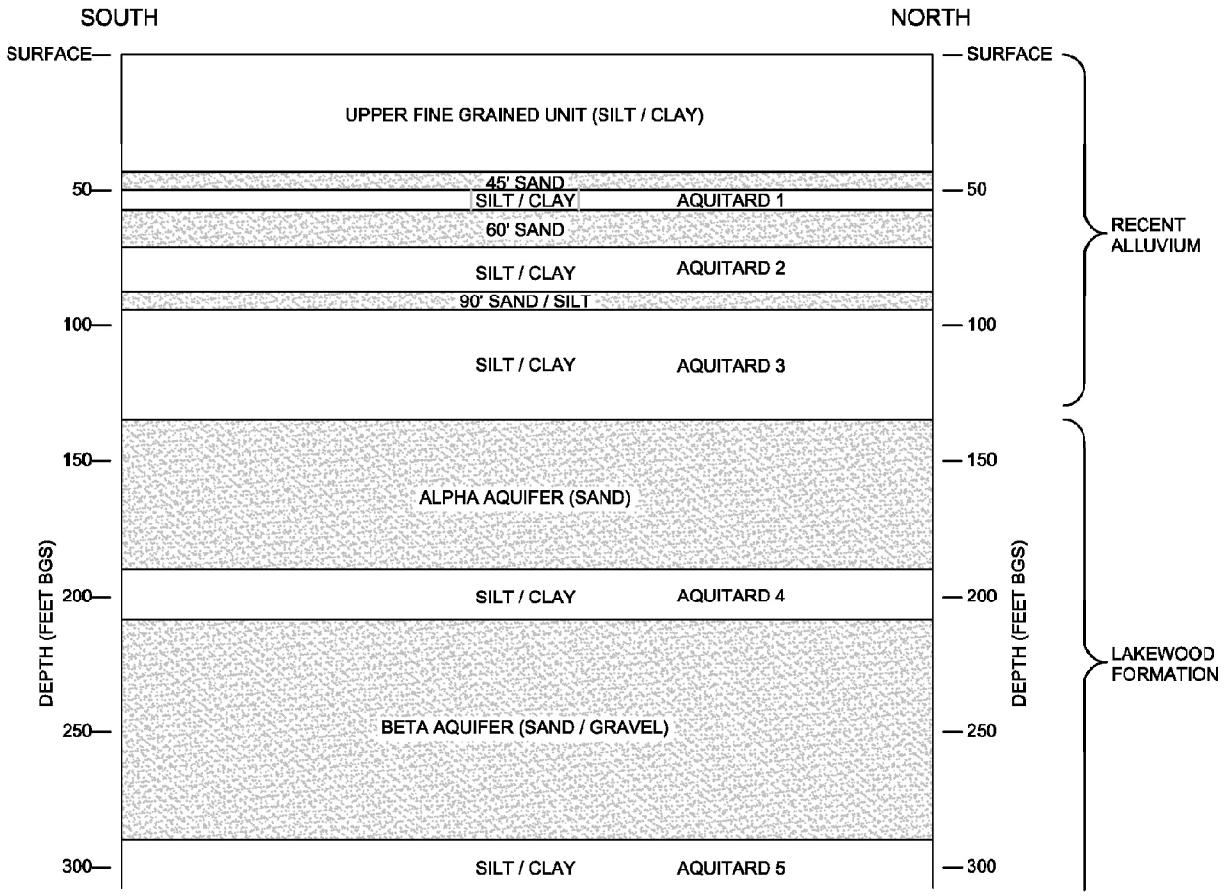
GENERALIZED STRATIGRAPHIC CROSS SECTION
AT THE BOEING SITE



REF: HALEY & ALDRICH, INC. 2009, REPORT ON GROUNDWATER ASSESSMENT INVESTIGATION ALPHA AND BETA AQUIFERS, BOEING HUNTINGTON BEACH FACILITY, FIGURE 4.

GENERALIZED STRATIGRAPHIC CROSS SECTION AT THE BOEING SITE		
NAVAL WEAPONS STATION SEAL BEACH SEAL BEACH, CALIFORNIA		
AMJV/BRADY	DATE: April 12, 2012 FILE: Lith1.mxd	FIGURE: 2-3

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0 1 2
MILES

FAULT MAP

NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

AMJV/BRADY

DATE: Apr 6, 2012
FILE: Faults.mxd

FIGURE: 3-1

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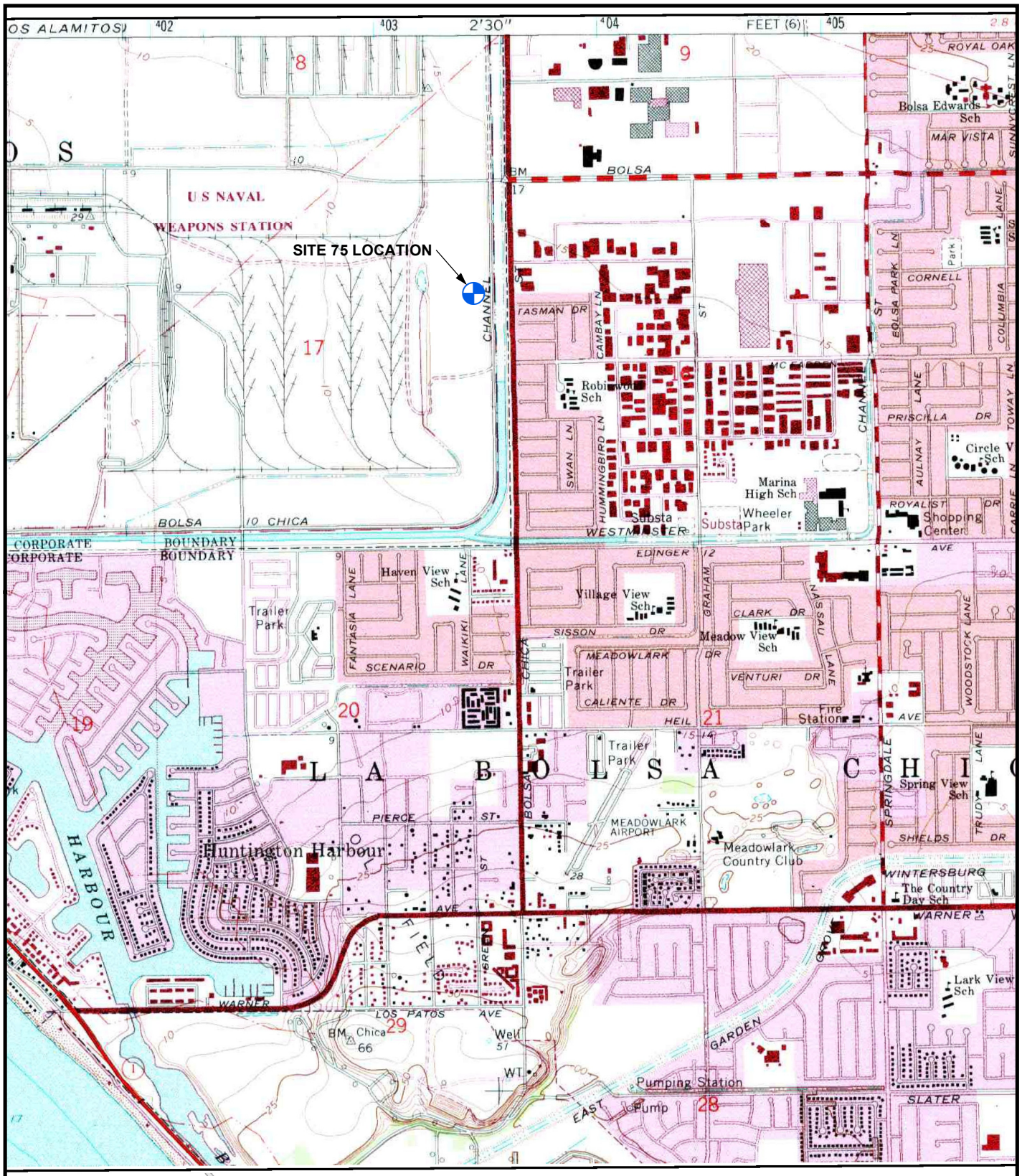

REF: HISTORIC USGS QUADRANGLE
NAME: SEAL BEACH
MAP YEAR: 1981
PHOTOREVISED:1965
SERIES: 7.5
SCALE: 1:24000

0 1,000 2,000
FEET

U.S. GEOLOGICAL SURVEY MAP

NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

AMJV/BRADY

DATE: April 12, 2012
FILE: USGS.mxd

FIGURE: 3-2

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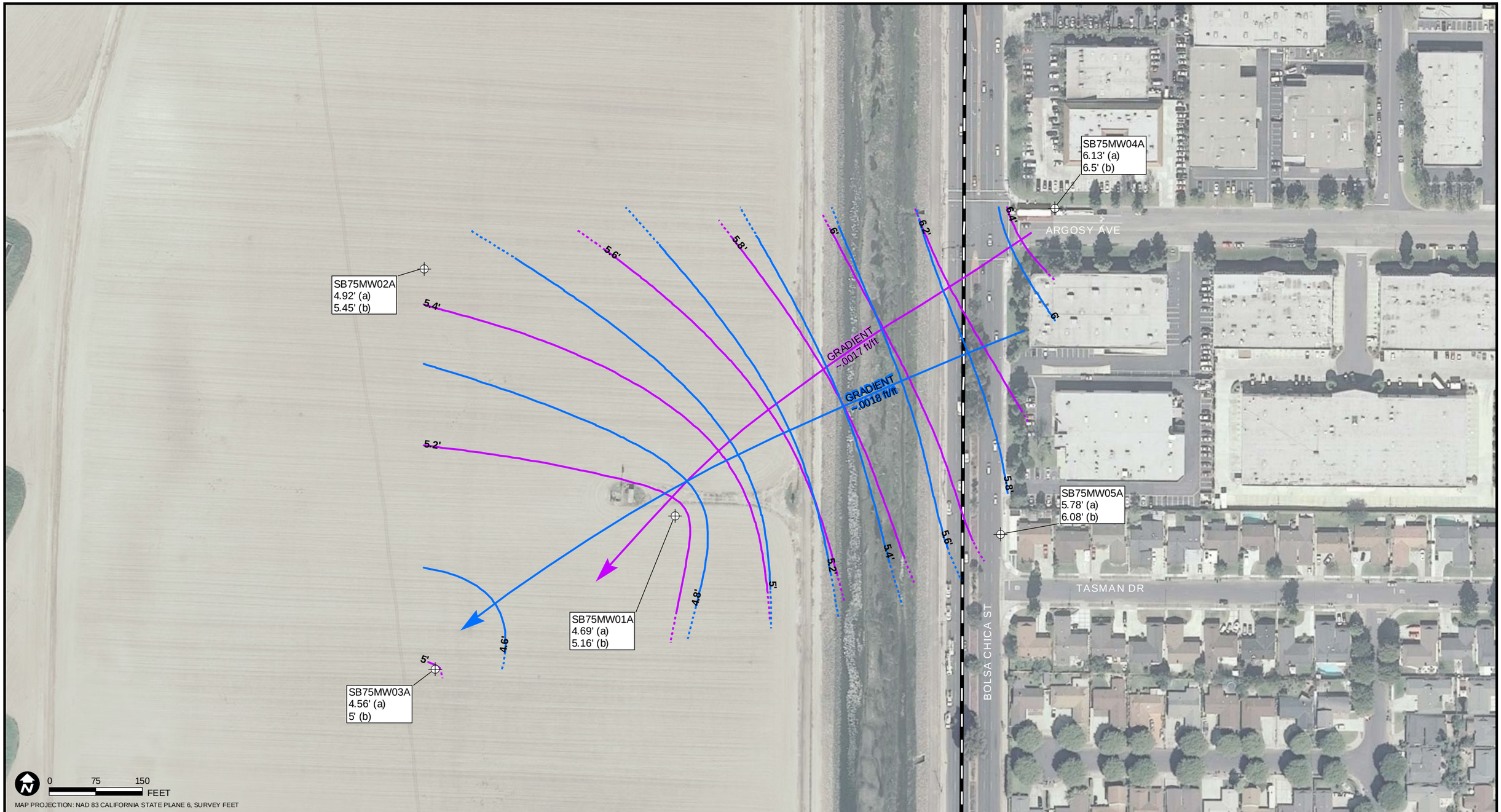
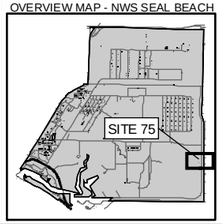


OVERVIEW MAP - NWS SEAL BEACH



LEGEND

- SHALLOW GROUNDWATER WELL
- BASE BOUNDARY
- (a) (b) GROUNDWATER ELEVATION CONTOUR 0.2 FOOT INTERVAL, DASHED WHERE INFERRED (NAVD 1988)
- INTERPRETED GROUNDWATER GRADIENT DIRECTION

NOTES:
GROUNDWATER ELEVATIONS WERE MEASURED ON
(a) SEPTEMBER 27, 2011 AND
(b) DECEMBER 27, 2011
UNITS ARE PRESENTED IN FEET (') RELATIVE TO NAVD 1988

GROUNDWATER ELEVATIONS
IN THE SHALLOW INTERVAL

NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

AMJV/BRADY

DATE: April 12, 2012
FILE: Figure 7-1

FIGURE: 7-1

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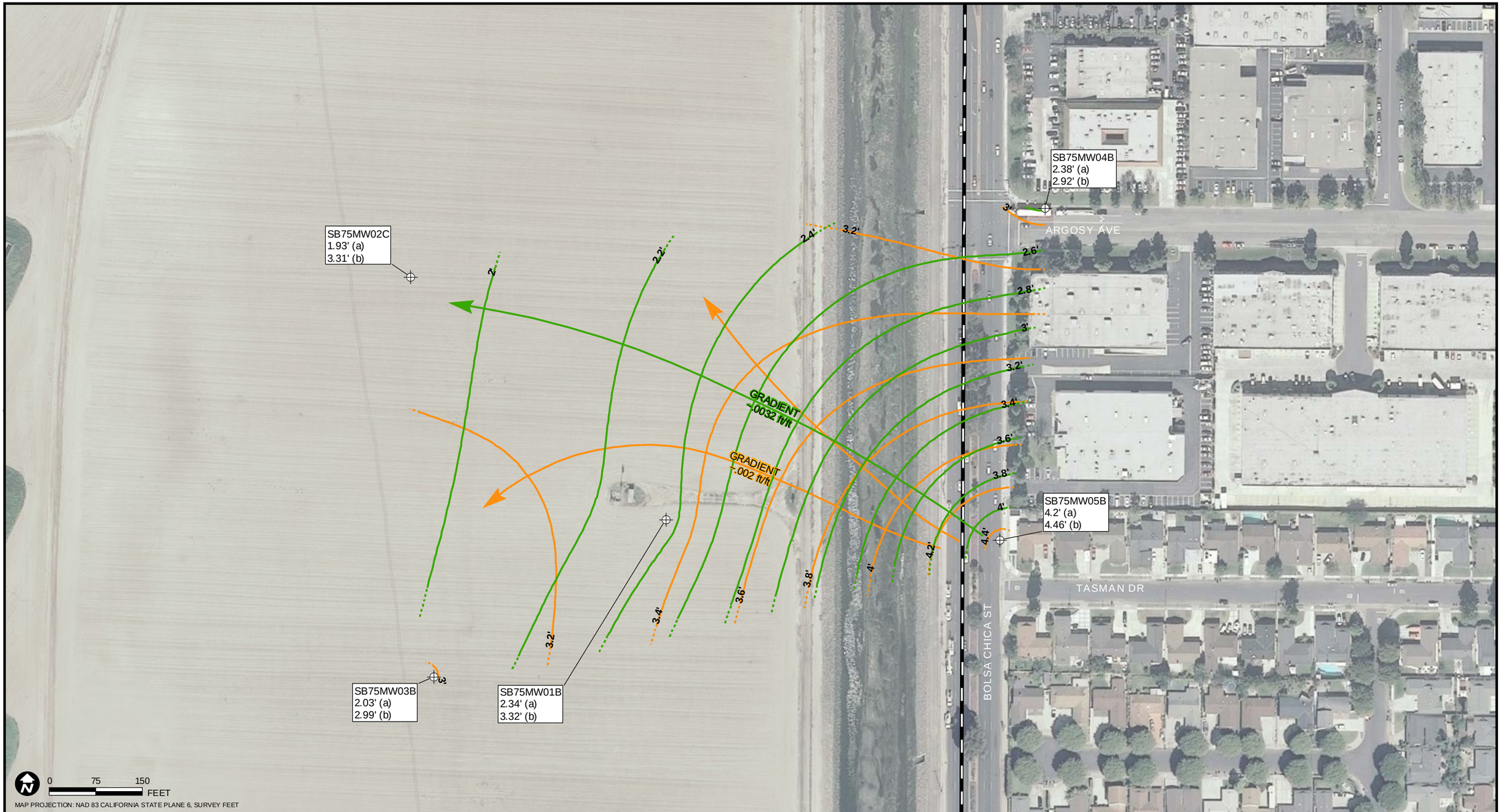
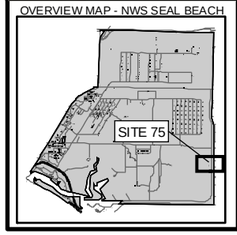


OVERVIEW MAP - NWS SEAL BEACH



LEGEND

- DEEP GROUNDWATER WELL
- BASE BOUNDARY
- (a) (b) GROUNDWATER ELEVATION CONTOUR 0.2 FOOT INTERVAL, DASHED WHERE INFERRED (NAVD 1988)
- INTERPRETED GROUNDWATER GRADIENT DIRECTION

NOTES:
GROUNDWATER ELEVATIONS WERE MEASURED ON
(a) SEPTEMBER 27, 2011 AND
(b) DECEMBER 27, 2011
UNITS ARE PRESENTED IN FEET (') RELATIVE TO NAVD 1988

GROUNDWATER ELEVATIONS
IN THE DEEP INTERVAL

NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

AMJV/BRADY

DATE: April 12, 2012
FILE: Figure 7-1

FIGURE: 7-2

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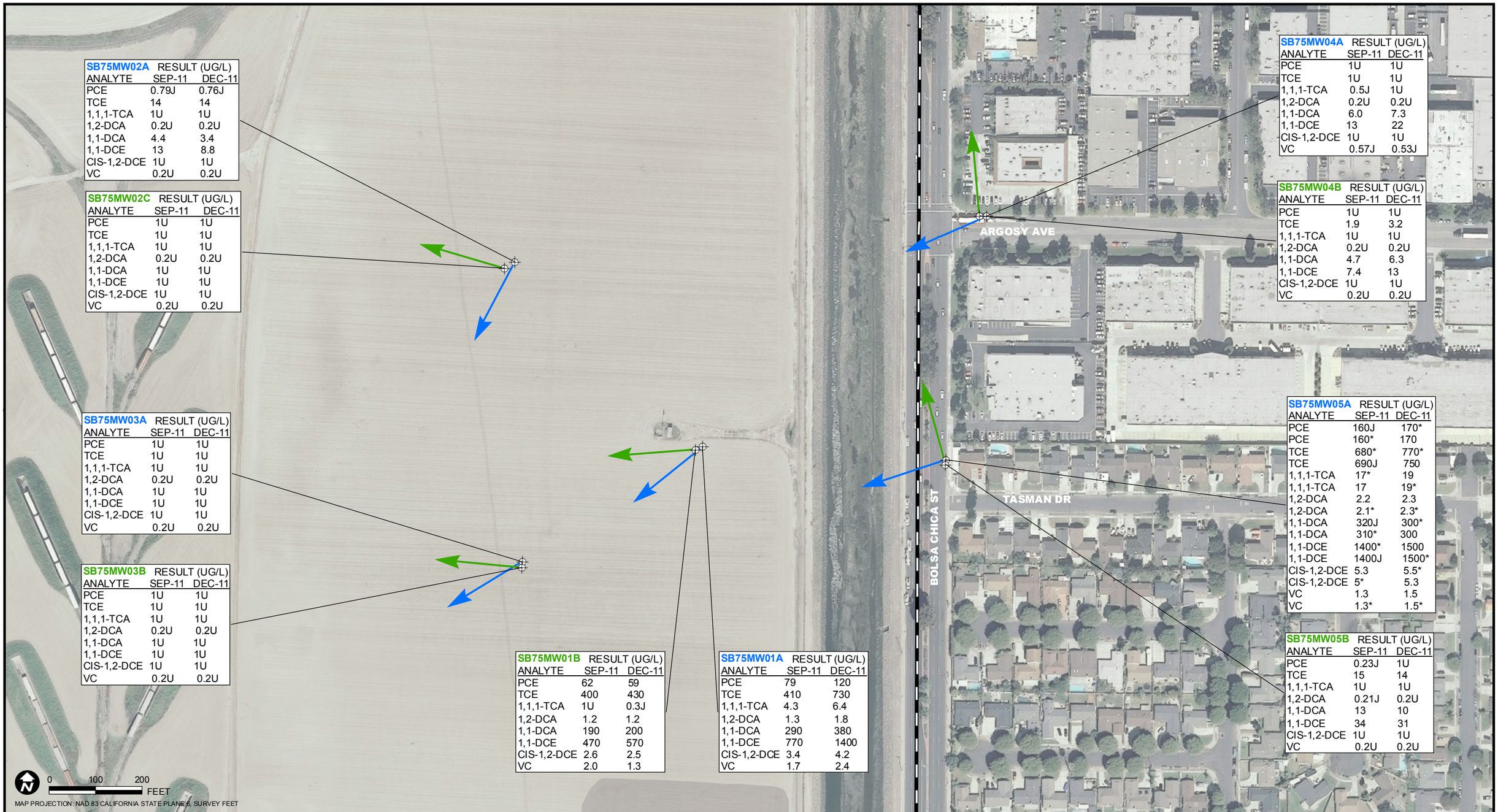


SB75MW02A RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	0.79J	0.76J
TCE	14	14
1,1,1-TCA	1U	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	4.4	3.4
1,1-DCE	13	8.8
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

SB75MW02C RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	1U	1U
TCE	1U	1U
1,1,1-TCA	1U	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	1U	1U
1,1-DCE	1U	1U
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

SB75MW03A RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	1U	1U
TCE	1U	1U
1,1,1-TCA	1U	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	1U	1U
1,1-DCE	1U	1U
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

SB75MW03B RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	1U	1U
TCE	1U	1U
1,1,1-TCA	1U	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	1U	1U
1,1-DCE	1U	1U
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

SB75MW01B RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	62	59
TCE	400	430
1,1,1-TCA	1U	0.3J
1,2-DCA	1.2	1.2
1,1-DCA	190	200
1,1-DCE	470	570
CIS-1,2-DCE	2.6	2.5
VC	2.0	1.3

SB75MW01A RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	79	120
TCE	410	730
1,1,1-TCA	4.3	6.4
1,2-DCA	1.3	1.8
1,1-DCA	290	380
1,1-DCE	770	1400
CIS-1,2-DCE	3.4	4.2
VC	1.7	2.4

SB75MW04A RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	1U	1U
TCE	1U	1U
1,1,1-TCA	0.5J	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	6.0	7.3
1,1-DCE	13	22
CIS-1,2-DCE	1U	1U
VC	0.57J	0.53J

SB75MW04B RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	1U	1U
TCE	1.9	3.2
1,1,1-TCA	1U	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	4.7	6.3
1,1-DCE	7.4	13
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

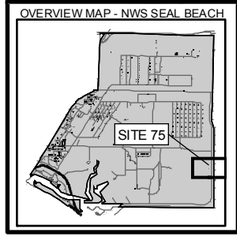
SB75MW05A RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	160J	170*
PCE	160*	170
TCE	680*	770*
TCE	690J	750
1,1,1-TCA	17*	19
1,1,1-TCA	17	19*
1,2-DCA	2.2	2.3
1,2-DCA	2.1*	2.3*
1,1-DCA	320J	300*
1,1-DCA	310*	300
1,1-DCE	1400*	1500
1,1-DCE	1400J	1500*
CIS-1,2-DCE	5.3	5.5*
CIS-1,2-DCE	5*	5.3
VC	1.3	1.5
VC	1.3*	1.5*

SB75MW05B RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	0.23J	1U
TCE	15	14
1,1,1-TCA	1U	1U
1,2-DCA	0.21J	0.2U
1,1-DCA	13	10
1,1-DCE	34	31
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

OVERVIEW MAP - NWS SEAL BEACH



LEGEND

- MONITORING WELL
- SHALLOW INTERVAL GRADIENT DIRECTION
- DEEP INTERVAL GRADIENT DIRECTION
- BASE BOUNDARY

NOTES:
- BLUE AND GREEN ARROWS REPRESENT THE GENERAL GRADIENT DIRECTION OF THE SHALLOW (45' BGS) AND DEEP (90' BGS) AQUIFERS RESPECTIVELY, BASED ON THE SEPTEMBER/DECEMBER 2011 SAMPLING EVENTS.
- ANALYSIS BY EPA METHOD 8260B

J = ESTIMATED CONCENTRATION
U = NOT DETECTED ABOVE REPORTING LIMIT
UG/L = MICROGRAMS PER LITER
VOC = VOLATILE ORGANIC COMPOUND
* = FIELD DUPLICATE SAMPLE

1,1-DCA = 1,1-DICHLOROETHANE
1,2-DCA = 1,2-DICHLOROETHANE
1,1-DCE = 1,1-DICHLOROETHENE
CIS-1,2-DCE = CIS-1,2-DICHLOROETHENE
PCE = TETRACHLOROETHENE
1,1,1-TCA = 1,1,1-TRICHLOROETHANE
TCE = TRICHLOROETHENE
VC = VINYL CHLORIDE

VOC CONCENTRATIONS IN GROUNDWATER

NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

AMJV/BRADY

DATE: May 22, 2012
FILE: 8260_Q3Q4

FIGURE: 7-3

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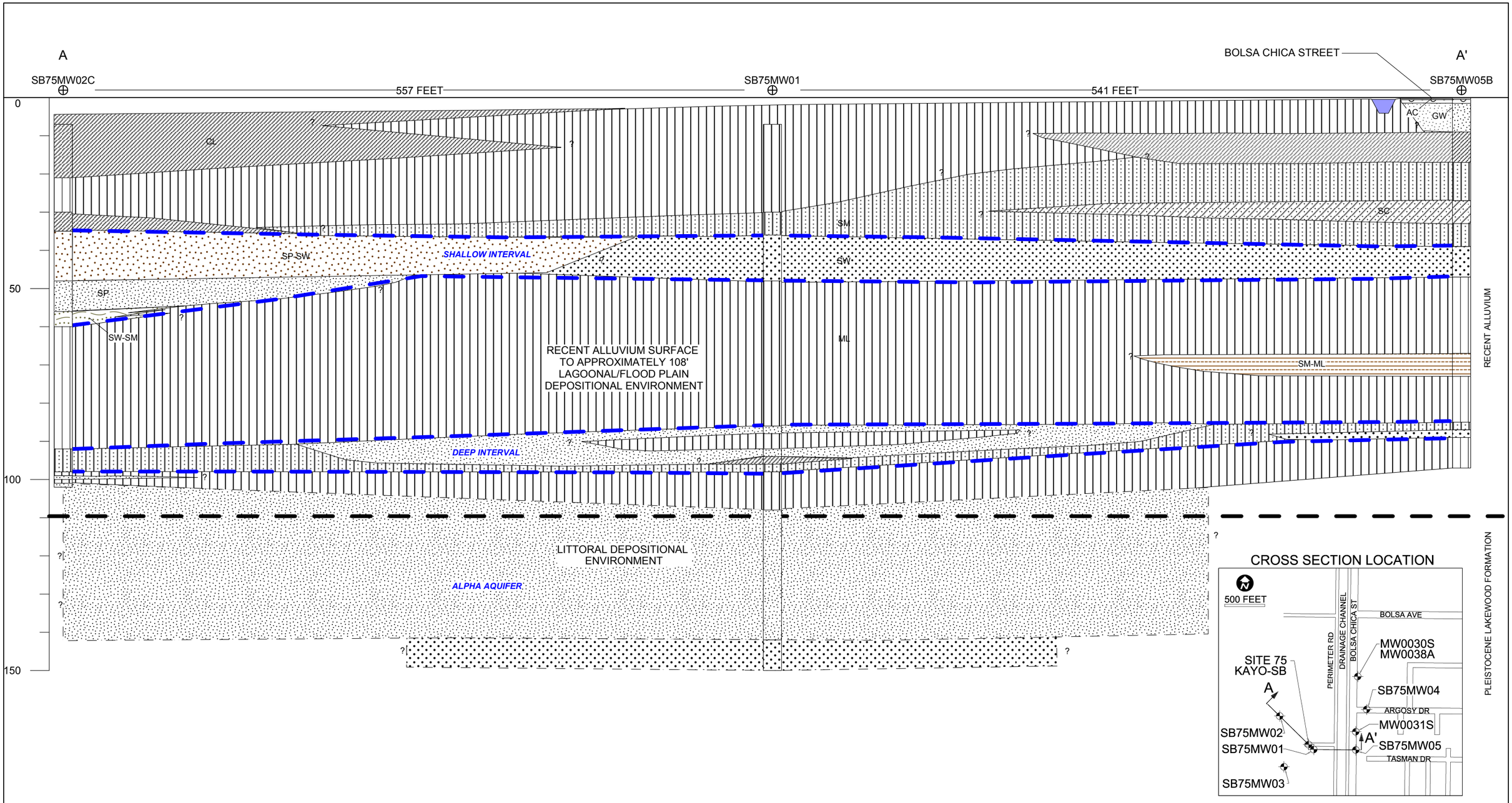

AC	ASPHALTIC CONCRETE	SC	SANDY CLAY	SM-ML	SILT TO SANDY SILT
GW	ROAD BASE	SP-SW	GRAVELLY SAND	SW-SM	GRAVELLY SAND SILT MIXTURE
CL	SILTY CLAY	SW	WELL GRADED SAND		APPROXIMATE FORMATION BOUNDARY
ML	CLAYEY SILT	SP	SAND		WATER BEARING ZONE BOUNDARY

HORIZONTAL SCALE IN FEET

0 75 150

3X VERTICAL EXAGGERATION

GEOLOGIC CROSS SECTION
A - A'

NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

AMJV/BRADY

DATE: May 21, 2012
FILE: SealBeachLogs_withXsect.sdg

FIGURE: 8-1

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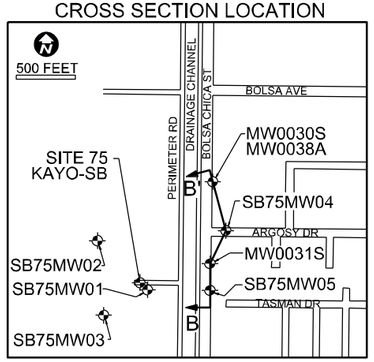
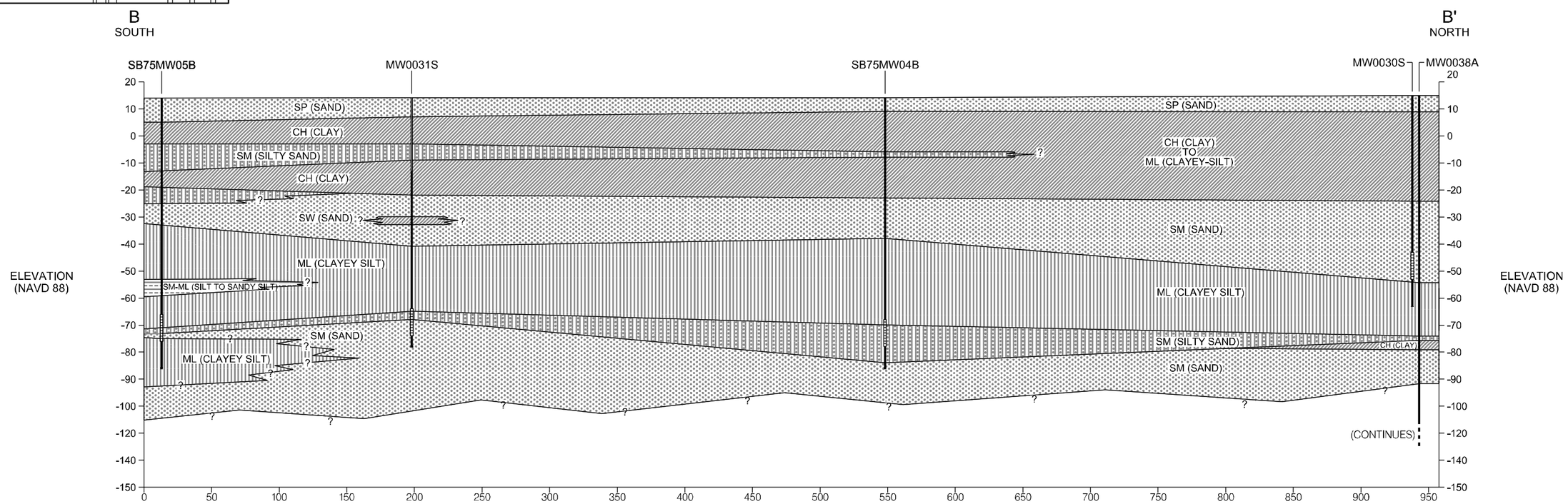
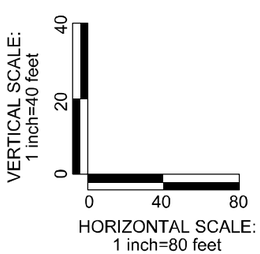
CROSS SECTION LOCATION



SECTION B-B'

(VIEW LOOKING WEST)





GEOLOGIC CROSS SECTION
B-B'

NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

AMJV/BRADY

DATE: April 16, 2012
FILE: XSect_120406

FIGURE: 8-2

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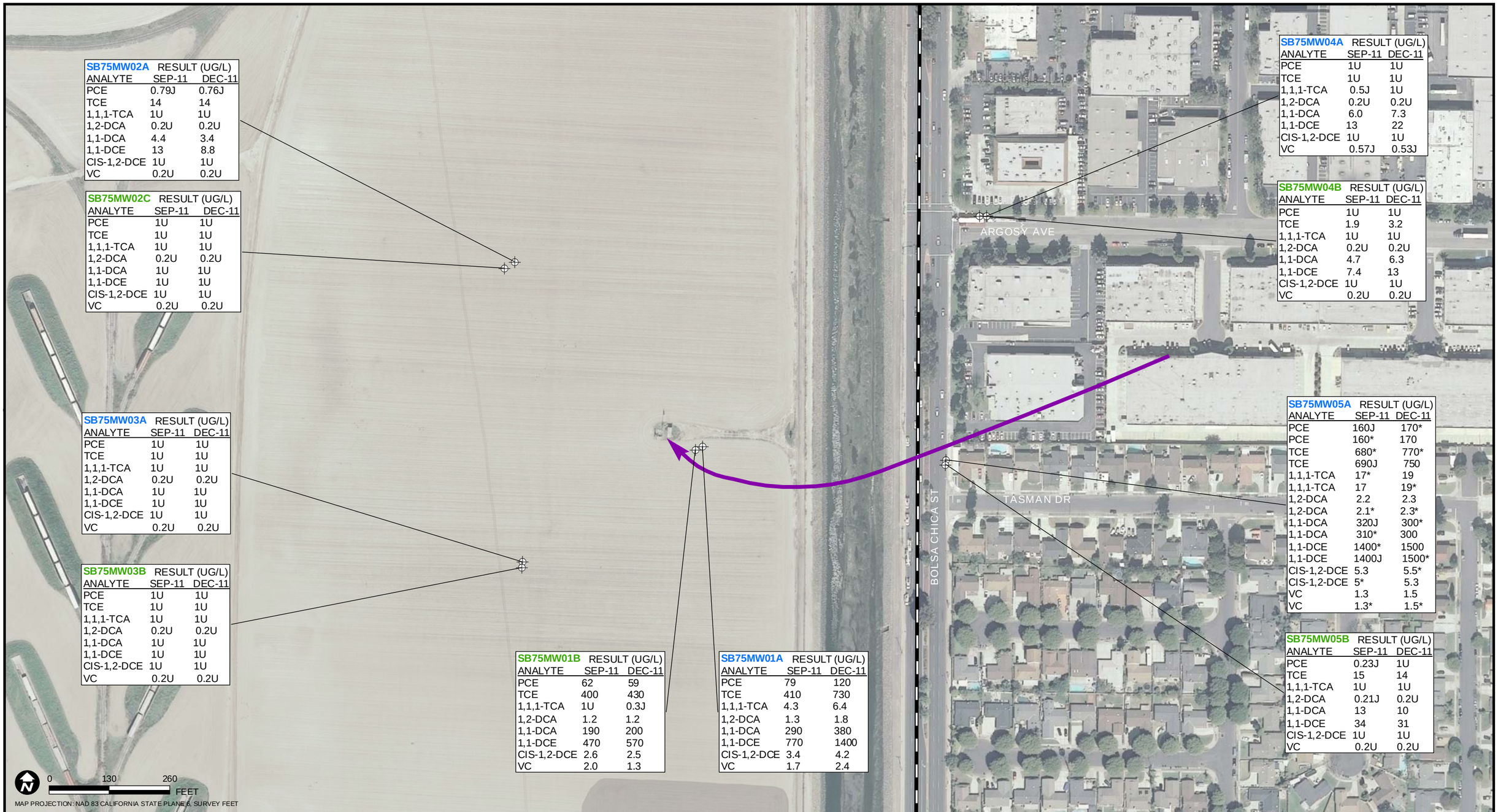


SB75MW02A RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	0.79J	0.76J
TCE	14	14
1,1,1-TCA	1U	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	4.4	3.4
1,1-DCE	13	8.8
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

SB75MW02C RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	1U	1U
TCE	1U	1U
1,1,1-TCA	1U	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	1U	1U
1,1-DCE	1U	1U
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

SB75MW03A RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	1U	1U
TCE	1U	1U
1,1,1-TCA	1U	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	1U	1U
1,1-DCE	1U	1U
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

SB75MW03B RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	1U	1U
TCE	1U	1U
1,1,1-TCA	1U	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	1U	1U
1,1-DCE	1U	1U
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

SB75MW01B RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	62	59
TCE	400	430
1,1,1-TCA	1U	0.3J
1,2-DCA	1.2	1.2
1,1-DCA	190	200
1,1-DCE	470	570
CIS-1,2-DCE	2.6	2.5
VC	2.0	1.3

SB75MW01A RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	79	120
TCE	410	730
1,1,1-TCA	4.3	6.4
1,2-DCA	1.3	1.8
1,1-DCA	290	380
1,1-DCE	770	1400
CIS-1,2-DCE	3.4	4.2
VC	1.7	2.4

SB75MW04A RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	1U	1U
TCE	1U	1U
1,1,1-TCA	0.5J	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	6.0	7.3
1,1-DCE	13	22
CIS-1,2-DCE	1U	1U
VC	0.57J	0.53J

SB75MW04B RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	1U	1U
TCE	1.9	3.2
1,1,1-TCA	1U	1U
1,2-DCA	0.2U	0.2U
1,1-DCA	4.7	6.3
1,1-DCE	7.4	13
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

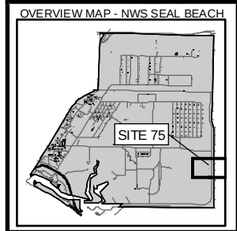
SB75MW05A RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	160J	170*
PCE	160*	170
TCE	680*	770*
TCE	690J	750
1,1,1-TCA	17*	19
1,1,1-TCA	17	19*
1,2-DCA	2.2	2.3
1,2-DCA	2.1*	2.3*
1,1-DCA	320J	300*
1,1-DCA	310*	300
1,1-DCE	1400*	1500
1,1-DCE	1400J	1500*
CIS-1,2-DCE	5.3	5.5*
CIS-1,2-DCE	5*	5.3
VC	1.3	1.5
VC	1.3*	1.5*

SB75MW05B RESULT (UG/L)

ANALYTE	SEP-11	DEC-11
PCE	0.23J	1U
TCE	15	14
1,1,1-TCA	1U	1U
1,2-DCA	0.21J	0.2U
1,1-DCA	13	10
1,1-DCE	34	31
CIS-1,2-DCE	1U	1U
VC	0.2U	0.2U

OVERVIEW MAP - NWS SEAL BEACH



LEGEND

- MONITORING WELL
- CONCEPTUAL HISTORIC FLOWPATH
- BASE BOUNDARY

NOTES:
1,1-DCA = 1,1-DICHLOROETHANE
1,2-DCA = 1,2-DICHLOROETHANE
1,1-DCE = 1,1-DICHLOROETHENE
CIS-1,2-DCE = CIS-1,2-DICHLOROETHENE
PCE = TETRACHLOROETHENE
1,1,1-TCA = 1,1,1-TRICHLOROETHANE
TCE = TRICHLOROETHENE
VC = VINYL CHLORIDE

J = ESTIMATED CONCENTRATION
U = NOT DETECTED ABOVE REPORTING LIMIT
UG/L = MICROGRAMS PER LITER
* = FIELD DUPLICATE SAMPLE
BGS = BELOW GROUND SURFACE
- ANALYSIS BY EPA METHOD 8260B.
- BLUE TEXT CORRESPONDS TO WELLS SCREENED IN THE SHALLOW AQUIFER ENCOUNTERED AT 45 FEET BGS.
- GREEN TEXT CORRESPONDS TO WELLS SCREENED IN THE DEEP AQUIFER ENCOUNTERED AT 90 FEET BGS.

CONCEPTUAL HISTORIC FLOW PATH

NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

AMJV/BRADY

DATE: April 12, 2012
FILE: 8260_Q3Q4

FIGURE: 8-3

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Tables

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TABLE 5-1
Summary of Well Construction Data
IRP Site 75, Naval Weapons Station Seal Beach, Seal Beach, California

Well ID	Date of Completion	Casing Size (Inches)	Casing Type	Total Boring Depth (Feet)	Screen Interval (Feet)	Filter Pack Sand (Feet)	Transition Sand (Feet)	Bentonite Chips Transition Seal (Feet)	Grout Seal (Feet)	Depth to Pump Inlet (Feet)	Total Length of Pump Assembly (Feet)	Northing	Easting	Feet Above Mean Sea Level (MSL)	Surface Completion	Grade (Above or Below Ground)
SB75MW01	07/11/11	N/A	N/A	299	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2217497.489	6016495.917	14.342	N/A	N/A
SB75MW01A	07/13/11	4"	SCH 80 PVC	50	37' to 47'	50' to 37' (#2/16)	37' to 35' (#0/30)	35' to 32'	32' to 0'	42'	44'	2217488.964	6016511.242	17.048	Riser	2' above ground
SB75MW01B	07/12/11	4"	SCH 80 PVC	98	80' to 90'	92' to 80' (#2/16)	80' to 78' (#0/30)	78' to 75'	75' to 0'	85'	87'	2217483.061	6016495.981	16.998	Riser	2' above ground
SB75MW02A	07/15/11	4"	SCH 80 PVC	50	40' to 50'	50' to 36' (#2/16)	36' to 34' (#0/30)	34' to 31'	31' to 0'	45'	47'	2217886.857	6016106.209	17.444	Riser	2' above ground
SB75MW02B	07/14/11	N/A	N/A	105	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2217869.089	6016095.581	14.032	N/A	N/A
SB75MW02C	08/16/11	4"	SCH 80 PVC	101	91' to 101'	101' to 87' (#0/30)	N/A	87' to 75'	75' to 0'	95'	97'	2217873.044	6016084.499	17.323	Riser	2' above ground
SB75MW03A	07/19/11	4"	SCH 80 PVC	57	43' to 53'	55' to 40' (#0/30)	N/A	40' to 35'	35' to 0'	48'	50'	2217242.112	6016124.13	17.047	Riser	2' above ground
SB75MW03B	07/18/11	4"	SCH 80 PVC	97	80' to 90'	92' to 78' (#0/30)	N/A	78' to 75'	75' to 0'	85'	87'	2217229.571	6016122.316	15.9	Riser	2' above ground
SB75MW04A	07/26/11	4"	SCH 80 PVC	50	38' to 48'	48' to 38' (#2/16)	38' to 36' (#0/30)	36' to 33'	33' to 2'	43'	42'	2217985.26	6017123.755	13.953	Flush Mounts	1' below ground
SB75MW04B	07/22/11	4"	SCH 80 PVC	100	82' to 92'	94' to 80' (#0/30)	N/A	80' to 77'	77' to 2'	87'	86'	2217984.941	6017107.952	14.122	Flush Mounts	1' below ground
SB75MW05A	07/26/11	4"	SCH 80 PVC	50	36' to 46'	46' to 36' (#2/16)	36' to 34' (#0/30)	34' to 31'	34' to 2'	41'	40'	2217459.772	6017035.819	13.959	Flush Mounts	1' below ground
SB75MW05B	07/25/11	4"	SCH 80 PVC	97	80' to 90'	92' to 78' (#0/30)	N/A	78' to 75'	75' to 2'	85'	84'	2217450.093	6017035.116	14.015	Flush Mounts	1' below ground

Note:
SB75MW01 was drilled to depth and then sealed to the surface with grout.
SB75MW02B was abandoned because excessive sediment, filter pack, and formational material flowed into the casing.
Northing and Easting utilized the datum: NAVD 1988 / WGS 1984
Acronyms and Abbreviations:
N/A - not applicable
PVC - polyvinyl chloride
SCH - schedule

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TABLE 5-2
Purge Parameters
IRP Site 75, Naval Weapons Station Seal Beach, Seal Beach, California

Well ID	Date Sampled	Water Temp (°C)	Electrical Conductivity (mS/cm)	pH	ORP (mV)	DO (mg/L)	Turbidity (NTU)
SB75MW01A	9/28/2011	20.21	3.063	7.15	-59.80	0.42	0.43
	12/27/2011	19.57	2.276	7.41	-8.70	0.39	1.03
SB75MW01B	9/28/2011	20.05	3.003	7.21	-152.90	0.34	0.29
	12/27/2012	19.41	2.775	7.41	-66.90	0.37	1.28
SB75MW02A	9/27/2011	19.91	1.523	7.05	-99.70	0.37	0.15
	12/27/2011	19.81	1.592	7.44	-1.80	0.50	0.41
SB75MW02C	9/27/2011	21.3	0.523	7.17	-239.80	0.20	0.77
	12/27/2011	19.15	0.402	7.32	-86.00	0.32	1.05
SB75MW03A	9/27/2011	20.47	2.085	7.22	-78.60	0.36	0.71
	12/27/2011	19.14	2.088	7.51	-19.30	0.52	0.55
SB75MW03B	9/28/2011	19.37	2.552	7.07	-144.40	0.27	0.00
	12/27/2011	18.72	2.346	7.34	-20.90	0.61	0.53
SB75MW04A	9/27/2011	21.72	1.428	7.26	-104.70	0.43	1.01
	12/28/2011	20.73	1.168	7.42	-19.30	0.38	0.64
SB75MW04B	9/29/2011	21.41	2.755	7.19	-184.30	0.31	0.64
	12/28/2011	20.92	2.419	7.35	-95.80	0.39	0.44
SB75MW05A	9/29/2011	21.85	1.878	7.14	-83.50	0.52	3.76
	12/28/2011	21.25	1.582	7.33	-21.20	0.51	1.80
SB75MW05B	9/29/2011	21.74	12.020	6.83	-119.40	0.39	1.18
	12/28/2011	21.36	9.822	6.99	-30.20	0.44	0.26

Acronyms:

ORP	Oxidation Reduction Potential
DO	Dissolved Oxygen
mg/L	Milligrams per Liter
mV	Millivolts
mS/cm	Microsiemens per Centimeter
^{o}C	Degrees Centigrade
NTU	Nephelometric Turbidity Unit

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TABLE 7-1
Groundwater Elevation Data
IRP Site 75, Naval Weapons Station Seal Beach, Seal Beach, California

Monitoring Well No.	Well Elevation[a] (feet above MLLW)	9/27/2011			12/27/2011		
		Depth to Groundwater (feet below top of well casing)	Time Water Level Taken	Groundwater Elevation (feet above MLLW)	Depth to Groundwater (feet below top of well casing)	Time Water Level Taken	Groundwater Elevation (feet above MLLW)
SB75MW01A	17.05	12.36	10:05	4.69	11.89	7:46	5.16
SB75MW01B	17.00	14.66	10:08	2.34	13.68	7:48	3.32
SB75MW02A	17.44	12.52	10:27	4.92	11.99	7:41	5.45
SB75MW02C	17.32	15.39	10:30	1.93	14.01	7:44	3.31
SB75MW03A	17.05	12.49	10:18	4.56	12.05	7:35	5.00
SB75MW03B	15.90	13.87	10:21	2.03	12.91	7:33	2.99
SB75MW04A	13.95	7.82	9:46	6.13	7.45	8:13	6.50
SB75MW04B	14.12	11.74	9:49	2.38	11.20	8:16	2.92
SB75MW05A	13.96	8.18	9:33	5.78	7.88	8:09	6.08
SB75MW05B	14.02	9.82	9:37	4.20	9.56	8:07	4.46

Notes:

[a] survey point located at top of well casing

Acronyms/Abbreviations:

IRP - Installation Restoration Program

MLLW - mean lower low water

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TABLE 7-3
Validated Groundwater Analytical Data
IRP Site 75, Naval Weapons Station Seal Beach, Seal Beach, California

			Analyte	Tetrachloroethene	Trichloroethene	1,1-Dichloroethene	cis-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1-Dichloroethane	1,2-Dichloroethane	Vinyl Chloride
			Project Screening Level (MCL)	5	5	6	6	200	5	0.5	0.5
Well ID	Sample ID	Sample Date	Units								
SB75MW01A	SB75MW01A-Q311-01	9/29/2011	(ug/L)	**79**	**410**	**770**	3.4	4.3	**290**	**1.3**	**1.7**
	SB75MW01A-Q411-01	12/27/2011	(ug/L)	**120**	**730**	**1400**	4.2	6.4	**380**	**1.8**	**2.4**
SB75MW01B	SB75MW01B-Q311-01	9/29/2011	(ug/L)	**62**	**400**	**470**	2.6	1U	**190**	**1.2**	**2**
	SB75MW01B-Q411-01	12/27/2011	(ug/L)	**59**	**430**	**570**	2.5	0.3J	**200**	**1.2**	**1.3**
SB75MW02A	SB75MW02A-Q311-01	9/27/2011	(ug/L)	0.79J	14	**13**	1U	1U	4.4	0.2U	0.2U
	SB75MW02A-Q411-01	12/27/2011	(ug/L)	0.76J	14	**8.8**	1U	1U	3.4	0.2U	0.2U
SB75MW02C	SB75MW02C-Q311-01	9/27/2011	(ug/L)	1U	1U	1U	1U	1U	1U	0.2U	0.2U
	SB75MW02C-Q411-01	12/27/2011	(ug/L)	1U	1U	1U	1U	1U	1U	0.2U	0.2U
SB75MW03A	SB75MW03A-Q311-01	9/27/2011	(ug/L)	1U	1U	1U	1U	1U	1U	0.2U	0.2U
	SB75MW03A-Q411-01	12/27/2011	(ug/L)	1U	1U	1U	1U	1U	1U	0.2U	0.2U
SB75MW03B	SB75MW03B-Q311-01	9/28/2011	(ug/L)	1U	1U	1U	1U	1U	1U	0.2U	0.2U
	SB75MW03B-Q411-01	12/27/2011	(ug/L)	1U	1U	1U	1U	1U	1U	0.2U	0.2U
SB75MW04A	SB75MW04A-Q311-01	9/29/2011	(ug/L)	1U	1U	**13**	1U	0.5J	**6**	0.2U	**0.57J**
	SB75MW04A-Q411-01	12/28/2011	(ug/L)	1U	1U	**22**	1U	1U	**7.3**	0.2U	**0.53J**
SB75MW04B	SB75MW04B-Q311-01	9/29/2011	(ug/L)	1U	1.9	**7.4**	1U	1U	4.7	0.2U	0.2U
	SB75MW04B-Q411-01	12/28/2011	(ug/L)	1U	3.2	**13**	1U	1U	**6.3**	0.2U	0.2U
SB75MW05A	SB75MW05A-Q311-01	9/29/2011	(ug/L)	**160J**	**690J**	**1400J**	5.3	17	**320J**	**2.2**	**1.3**
	SB75MW05A-Q411-01	12/28/2011	(ug/L)	**170**	**750**	**1500**	5.3	19	**300**	**2.3**	**1.5**
SB75MW05A (Duplicate)	SB75MW05A-Q311-02	9/29/2011	(ug/L)	**160**	**680**	**1400**	5	17	**310**	**2.1**	**1.3**
	SB75MW05A-Q411-02	12/28/2011	(ug/L)	**170**	**770**	**1500**	5.5	19	**300**	**2.3**	**1.5**
SB75MW05B	SB75MW05B-Q311-01	9/29/2011	(ug/L)	0.23J	**15**	**34**	1U	1U	**13**	0.21J	0.2U
	SB75MW05B-Q411-01	12/28/2011	(ug/L)	1U	**14**	**31**	1U	1U	**10**	0.2U	0.2U

All samples analysed using EPA analytical method 8260 B

Values that exceed State of California Maximum Contaminant Levels (MCLs) for drinking water (November, 2008) are **BOLD**

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Appendix A

Orange County Water District Sampling

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ORANGE COUNTY WATER DISTRICT
SAMPLE INFORMATION AND RESULTS

Station Name: KAYO-SB/1
Station Type: WELL CASING
Perf Interval (ft bgs): 203-299
Aquifer: UNDEFINED

Well Owner: PURSCHE, ROY
Well Name:
City: SEAL BEACH

Sample Group ID: 4011920
Sample ID: 4023943
Sample Date/Time: 09/23/2004 12:15
End Sample Date/Time:
Sample Depth (ft):
Sample Matrix: WATER
Sampling Method: DEDICATED PUMP
Sampling Agency: ORANGE COUNTY WATER DISTRICT
Sampled By: LAURA MOORE / ERIK VAALER
Monitoring Program: Basinwide Monitoring

Lab Sample Number: 04090629-06
Laboratory: OCWD
Analysis Requested: CLO4

FIELD PARAMETERS
EC (umhos/cm): 7210
pH (UNITS): 7.3
Temperature (°C): 23.2
Dissolved Oxygen (mg/L): NA
Dissolved Oxygen Temperature (°C): NA
Total Chlorine (mg/L): NA
Free Chlorine (mg/L): NA

Comments:

Reported Values

Parameter Abbreviation	Parameter Name	Analysis Method	Dates Extract	Dates Analysis	Results Value	Results Units	Detection Limit Value	Detection Limit Units
Data Access: Approved for External Use		***Qualifier: Validated Sample***						
CLO4	Perchlorate	X1-314.0		09/29/2004	<2.5	ug/L	2.5	ug/L

ORANGE COUNTY WATER DISTRICT
SAMPLE INFORMATION AND RESULTS

Station Name: KAYO-SB/1
Station Type: WELL CASING
Perf Interval (ft bgs): 203-299
Aquifer: UNDEFINED

Well Owner: PURSCHE, ROY
Well Name:
City: SEAL BEACH

Sample Group ID: 4011920
Sample ID: 4024112
Sample Date/Time: 09/23/2004 12:15
End Sample Date/Time:
Sample Depth (ft):
Sample Matrix: WATER
Sampling Method: DEDICATED PUMP
Sampling Agency: ORANGE COUNTY WATER DISTRICT
Sampled By: LAURA MOORE / ERIK VAALER
Monitoring Program: Basinwide Monitoring

Lab Sample Number: 04090629-03
Laboratory: OCWD
Analysis Requested: 14DIOX

FIELD PARAMETERS
EC (umhos/cm): 7210
pH (UNITS): 7.3
Temperature (°C): 23.2
Dissolved Oxygen (mg/L): NA
Dissolved Oxygen Temperature (°C): NA
Total Chlorine (mg/L): NA
Free Chlorine (mg/L): NA

Comments:

Parameter		Analysis	Dates		Results		Detection Limit	
Abbreviation	Name	Method	Extract	Analysis	Value	Units	Value	Units
Reported Values								
Data Access: Approved for External Use		***Qualifier: Validated Sample***						
14DIOX	1,4-Dioxane	14DIOX		09/24/2004	ND	ug/L	1	ug/L

ORANGE COUNTY WATER DISTRICT
SAMPLE INFORMATION AND RESULTS

Station Name: KAYO-SB/1
Station Type: WELL CASING
Perf Interval (ft bgs): 203-299
Aquifer: UNDEFINED

Well Owner: PURSCHE, ROY
Well Name:
City: SEAL BEACH

Sample Group ID: 4011920
Sample ID: 4024113
Sample Date/Time: 09/23/2004 12:15
End Sample Date/Time:
Sample Depth (ft):
Sample Matrix: WATER
Sampling Method: DEDICATED PUMP
Sampling Agency: ORANGE COUNTY WATER DISTRICT
Sampled By: LAURA MOORE / ERIK VAALER
Monitoring Program: Basinwide Monitoring

Lab Sample Number: 04090629-04
Laboratory: OCWD
Analysis Requested: TCP-LOW

FIELD PARAMETERS
EC (umhos/cm): 7210
pH (UNITS): 7.3
Temperature (°C): 23.2
Dissolved Oxygen (mg/L): NA
Dissolved Oxygen Temperature (°C): NA
Total Chlorine (mg/L): NA
Free Chlorine (mg/L): NA

Comments:

Parameter		Analysis	Dates		Results		Detection Limit	
Abbreviation	Name	Method	Extract	Analysis	Value	Units	Value	Units
Reported Values								
Data Access: Approved for External Use		***Qualifier: Validated Sample***						
123TCP	1,2,3-Trichloropropane	TCP-LOW		09/24/2004	ND	ug/L	.005	ug/L

ORANGE COUNTY WATER DISTRICT
SAMPLE INFORMATION AND RESULTS

Station Name: KAYO-SB/1
Station Type: WELL CASING
Perf Interval (ft bgs): 203-299
Aquifer: UNDEFINED

Well Owner: PURSCHE, ROY
Well Name:
City: SEAL BEACH

Sample Group ID: 4011920
Sample ID: 4024581
Sample Date/Time: 09/23/2004 12:15
End Sample Date/Time:
Sample Depth (ft):
Sample Matrix: WATER
Sampling Method: DEDICATED PUMP
Sampling Agency: ORANGE COUNTY WATER DISTRICT
Sampled By: LAURA MOORE / ERIK VAALER
Monitoring Program: Basinwide Monitoring

Lab Sample Number: 04090629-02
Laboratory: OCWD
Analysis Requested: 524

FIELD PARAMETERS

EC (umhos/cm): 7210
pH (UNITS): 7.3
Temperature (°C): 23.2
Dissolved Oxygen (mg/L): NA
Dissolved Oxygen Temperature (°C): NA
Total Chlorine (mg/L): NA
Free Chlorine (mg/L): NA

Comments:

Reported Values

Data Access: Approved for External Use ***Qualifier: Validated Sample***

Parameter Abbreviation	Parameter Name	Analysis Method	Dates Extract	Dates Analysis	Results Value	Results Units	Detection Limit Value	Detection Limit Units
TBA	tert-butyl alcohol	524.2		10/01/2004	ND	ug/L	2	ug/L
DIPE	Diisopropyl ether	524.2		10/01/2004	ND	ug/L	1	ug/L
TAME	Tert-amyl methyl ether	524.2		10/01/2004	ND	ug/L	1	ug/L
ETBE	Ethyl tert-butyl ether	524.2		10/01/2004	ND	ug/L	1	ug/L
MTBE	Methyl tert-butyl ether	524.2		10/01/2004	ND	ug/L	1	ug/L
NBENZ	Nitrobenzene	524.2		10/01/2004	ND	ug/L	10	ug/L
x13DCP	Total 1,3-Dichloropropene	524.2		10/01/2004	ND	ug/L	.5	ug/L
mp-XYL	m,p-Xylene	524.2		10/01/2004	ND	ug/L	.5	ug/L
B2CLEE	bis (2-chloroethyl) ether	524.2		10/01/2004	ND	ug/L	5	ug/L
MIBK	Methyl Isobutyl Ketone (MIBK)	524.2		10/01/2004	ND	ug/L	5	ug/L
MEK	Methyl Ethyl Ketone (MEK)	524.2		10/01/2004	ND	ug/L	5	ug/L
VNYLCL	Vinyl chloride	524.2		10/01/2004	ND	ug/L	.5	ug/L
TTHMs	Total Trihalomethanes	524.2		10/01/2004	ND	ug/L	.5	ug/L
TOTALX	Total Xylenes (m,p,&o)	524.2		10/01/2004	ND	ug/L	.5	ug/L
TOLU	Toluene	524.2		10/01/2004	ND	ug/L	.5	ug/L
TCE	Trichloroethene	524.2		10/01/2004	25.3	ug/L	.5	ug/L
tBBENZ	tert-Butylbenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
t13DCP	trans-1,3-Dichloropropene	524.2		10/01/2004	ND	ug/L	.5	ug/L
t12DCE	trans-1,2 Dichloroethene	524.2		10/01/2004	ND	ug/L	.5	ug/L
STYR	Styrene	524.2		10/01/2004	ND	ug/L	.5	ug/L
sBBENZ	sec-Butylbenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
PRPBNZ	Propylbenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
PCE	Tetrachloroethene	524.2		10/01/2004	1.8	ug/L	.5	ug/L
o-XYL	o-Xylene	524.2		10/01/2004	ND	ug/L	.5	ug/L
nBBENZ	n-Butylbenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
NAP	Naphthalene	524.2		10/01/2004	ND	ug/L	.5	ug/L
ISPBNZ	Isopropylbenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
HClBut	Hexachlorobutadiene	524.2		10/01/2004	ND	ug/L	.5	ug/L
EtBENZ	Ethylbenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
EDB	1,2-Dibromoethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
DBCP	1,2-Dibromo-3-chloropropane	524.2		10/01/2004	ND	ug/L	.5	ug/L
ClETHA	Chloroethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
CLBENZ	Chlorobenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
CHCl3	Chloroform	524.2		10/01/2004	ND	ug/L	.5	ug/L

NA: Not Analyzed
ND: Not Detected
TR: Trace

ORANGE COUNTY WATER DISTRICT
SAMPLE INFORMATION AND RESULTS

Station Name: KAYO-SB/1
Station Type: WELL CASING
Perf Interval (ft bgs): 203-299
Aquifer: UNDEFINED

Well Owner: PURSCHE, ROY
Well Name:
City: SEAL BEACH

Sample Group ID: 4011920
Sample ID: 4024581
Sample Date/Time: 09/23/2004 12:15
End Sample Date/Time:
Sample Depth (ft):
Sample Matrix: WATER
Sampling Method: DEDICATED PUMP
Sampling Agency: ORANGE COUNTY WATER DISTRICT
Sampled By: LAURA MOORE / ERIK VAALER
Monitoring Program: Basinwide Monitoring

Lab Sample Number: 04090629-02
Laboratory: OCWD
Analysis Requested: 524

FIELD PARAMETERS
EC (umhos/cm): 7210
pH (UNITS): 7.3
Temperature (°C): 23.2
Dissolved Oxygen (mg/L): NA
Dissolved Oxygen Temperature (°C): NA
Total Chlorine (mg/L): NA
Free Chlorine (mg/L): NA

Comments:

Reported Values

Data Access: Approved for External Use ***Qualifier: Validated Sample***

Parameter Abbreviation	Parameter Name	Analysis Method	Dates Extract	Dates Analysis	Results Value	Results Units	Detection Limit Value	Detection Limit Units
CHBrCl	Bromodichloromethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
CHBr3	Bromoform	524.2		10/01/2004	ND	ug/L	.5	ug/L
CHBr2C	Dibromochloromethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
CH3Cl	Chloromethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
CH3Br	Bromomethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
CH2Cl2	Methylene Chloride	524.2		10/01/2004	ND	ug/L	.5	ug/L
CH2BrC	Bromochloromethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
CH2Br2	Dibromomethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
CCl4	Carbon tetrachloride	524.2		10/01/2004	ND	ug/L	.5	ug/L
CCl2F2	Dichlorodifluoromethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
CCl3F	Trichlorofluoromethane (Freon 11)	524.2		10/01/2004	ND	ug/L	.5	ug/L
Cl3F3E	Trichlorotrifluoroethane (Freon 113)	524.2		10/01/2004	ND	ug/L	.5	ug/L
c13DCP	cis-1,3-Dichloropropene	524.2		10/01/2004	ND	ug/L	.5	ug/L
c12DCE	cis-1,2-Dichloroethene	524.2		10/01/2004	ND	ug/L	.5	ug/L
BRBENZ	Bromobenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
BENZ	Benzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
4IPTOL	4-Isopropyltoluene	524.2		10/01/2004	ND	ug/L	.5	ug/L
4CLTOL	4-Chlorotoluene	524.2		10/01/2004	ND	ug/L	.5	ug/L
2CLTOL	2-Chlorotoluene	524.2		10/01/2004	ND	ug/L	.5	ug/L
22DCP	2,2-Dichloropropane	524.2		10/01/2004	ND	ug/L	.5	ug/L
14DCB	1,4-Dichlorobenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
13DCP	1,3-Dichloropropane	524.2		10/01/2004	ND	ug/L	.5	ug/L
13DCB	1,3-Dichlorobenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
135TMB	1,3,5-Trimethylbenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
12DCP	1,2-Dichloropropane	524.2		10/01/2004	ND	ug/L	.5	ug/L
12DCB	1,2-Dichlorobenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
12DCA	1,2-Dichloroethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
124TMB	1,2,4-Trimethylbenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
124TCB	1,2,4-Trichlorobenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
123TCP	1,2,3-Trichloropropane	524.2		10/01/2004	ND	ug/L	.5	ug/L
123TCB	1,2,3-Trichlorobenzene	524.2		10/01/2004	ND	ug/L	.5	ug/L
11DCP	1,1-Dichloropropene	524.2		10/01/2004	ND	ug/L	.5	ug/L
11DCE	1,1-Dichloroethene	524.2		10/01/2004	30.3	ug/L	.5	ug/L
11DCA	1,1-Dichloroethane	524.2		10/01/2004	13.8	ug/L	.5	ug/L

NA: Not Analyzed
ND: Not Detected
TR: Trace

ORANGE COUNTY WATER DISTRICT
SAMPLE INFORMATION AND RESULTS

Station Name: KAYO-SB/1
Station Type: WELL CASING
Perf Interval (ft bgs): 203-299
Aquifer: UNDEFINED

Well Owner: PURSCHE, ROY
Well Name:
City: SEAL BEACH

Sample Group ID: 4011920
Sample ID: 4024581
Sample Date/Time: 09/23/2004 12:15
End Sample Date/Time:
Sample Depth (ft):
Sample Matrix: WATER
Sampling Method: DEDICATED PUMP
Sampling Agency: ORANGE COUNTY WATER DISTRICT
Sampled By: LAURA MOORE / ERIK VAALER
Monitoring Program: Basinwide Monitoring

Lab Sample Number: 04090629-02
Laboratory: OCWD
Analysis Requested: 524

FIELD PARAMETERS
EC (umhos/cm): 7210
pH (UNITS): 7.3
Temperature (°C): 23.2
Dissolved Oxygen (mg/L): NA
Dissolved Oxygen Temperature (°C): NA
Total Chlorine (mg/L): NA
Free Chlorine (mg/L): NA

Comments:

Parameter		Analysis	Dates		Results		Detection Limit	
Abbreviation	Name	Method	Extract	Analysis	Value	Units	Value	Units
Reported Values								
Data Access: Approved for External Use		***Qualifier: Validated Sample***						
112TCA	1,1,2-Trichloroethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
1122PC	1,1,2,2-Tetrachloroethane	524.2		10/01/2004	ND	ug/L	.5	ug/L
111TCA	1,1,1-Trichloroethane	524.2		10/01/2004	TR	ug/L	.5	ug/L
1112PC	1,1,1,2-Tetrachloroethane	524.2		10/01/2004	ND	ug/L	.5	ug/L

NA: Not Analyzed
ND: Not Detected
TR: Trace

ORANGE COUNTY WATER DISTRICT
SAMPLE INFORMATION AND RESULTS

Station Name: KAYO-SB/1
Station Type: WELL CASING
Perf Interval (ft bgs): 203-299
Aquifer: UNDEFINED

Well Owner: PURSCHE, ROY
Well Name:
City: SEAL BEACH

Sample Group ID: 4011922
Sample ID: 4024583
Sample Date/Time: 09/23/2004 12:30
End Sample Date/Time:
Sample Depth (ft):
Sample Matrix: WATER
Sampling Method: DEDICATED PUMP
Sampling Agency: ORANGE COUNTY WATER DISTRICT
Sampled By: LAURA MOORE / ERIK VAALER
Monitoring Program: Basinwide Monitoring

Lab Sample Number: 04090631-02
Laboratory: OCWD
Analysis Requested: 524

FIELD PARAMETERS

EC (umhos/cm): 7120
pH (UNITS): 7.2
Temperature (°C): 22.1
Dissolved Oxygen (mg/L): NA
Dissolved Oxygen Temperature (°C): NA
Total Chlorine (mg/L): NA
Free Chlorine (mg/L): NA

Comments:

Reported Values

Data Access: Approved for External Use ***Qualifier: Validated Sample***

Parameter Abbreviation	Parameter Name	Analysis Method	Dates Extract	Dates Analysis	Results Value	Results Units	Detection Limit Value	Detection Limit Units
TBA	tert-butyl alcohol	524.2		10/02/2004	ND	ug/L	2	ug/L
DIPE	Diisopropyl ether	524.2		10/02/2004	ND	ug/L	1	ug/L
TAME	Tert-amyl methyl ether	524.2		10/02/2004	ND	ug/L	1	ug/L
ETBE	Ethyl tert-butyl ether	524.2		10/02/2004	ND	ug/L	1	ug/L
MTBE	Methyl tert-butyl ether	524.2		10/02/2004	ND	ug/L	1	ug/L
NBENZ	Nitrobenzene	524.2		10/02/2004	ND	ug/L	10	ug/L
x13DCP	Total 1,3-Dichloropropene	524.2		10/02/2004	ND	ug/L	.5	ug/L
mp-XYL	m,p-Xylene	524.2		10/02/2004	ND	ug/L	.5	ug/L
B2CLEE	bis (2-chloroethyl) ether	524.2		10/02/2004	ND	ug/L	5	ug/L
MIBK	Methyl Isobutyl Ketone (MIBK)	524.2		10/02/2004	ND	ug/L	5	ug/L
MEK	Methyl Ethyl Ketone (MEK)	524.2		10/02/2004	ND	ug/L	5	ug/L
VNYLCL	Vinyl chloride	524.2		10/02/2004	ND	ug/L	.5	ug/L
TTHMs	Total Trihalomethanes	524.2		10/02/2004	ND	ug/L	.5	ug/L
TOTALX	Total Xylenes (m,p,&o)	524.2		10/02/2004	ND	ug/L	.5	ug/L
TOLU	Toluene	524.2		10/02/2004	ND	ug/L	.5	ug/L
TCE	Trichloroethene	524.2		10/02/2004	22.8	ug/L	.5	ug/L
tBBENZ	tert-Butylbenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
t13DCP	trans-1,3-Dichloropropene	524.2		10/02/2004	ND	ug/L	.5	ug/L
t12DCE	trans-1,2 Dichloroethene	524.2		10/02/2004	ND	ug/L	.5	ug/L
STYR	Styrene	524.2		10/02/2004	ND	ug/L	.5	ug/L
sBBENZ	sec-Butylbenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
PRPBNZ	Propylbenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
PCE	Tetrachloroethene	524.2		10/02/2004	1.6	ug/L	.5	ug/L
o-XYL	o-Xylene	524.2		10/02/2004	ND	ug/L	.5	ug/L
nBBENZ	n-Butylbenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
NAP	Naphthalene	524.2		10/02/2004	ND	ug/L	.5	ug/L
ISPBNZ	Isopropylbenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
HClBut	Hexachlorobutadiene	524.2		10/02/2004	ND	ug/L	.5	ug/L
EtBENZ	Ethylbenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
EDB	1,2-Dibromoethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
DBCP	1,2-Dibromo-3-chloropropane	524.2		10/02/2004	ND	ug/L	.5	ug/L
ClETHA	Chloroethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
CLBENZ	Chlorobenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
CHCl3	Chloroform	524.2		10/02/2004	ND	ug/L	.5	ug/L

NA: Not Analyzed
ND: Not Detected
TR: Trace

ORANGE COUNTY WATER DISTRICT
SAMPLE INFORMATION AND RESULTS

Station Name: KAYO-SB/1
Station Type: WELL CASING
Perf Interval (ft bgs): 203-299
Aquifer: UNDEFINED

Well Owner: PURSCHE, ROY
Well Name:
City: SEAL BEACH

Sample Group ID: 4011922
Sample ID: 4024583
Sample Date/Time: 09/23/2004 12:30
End Sample Date/Time:
Sample Depth (ft):
Sample Matrix: WATER
Sampling Method: DEDICATED PUMP
Sampling Agency: ORANGE COUNTY WATER DISTRICT
Sampled By: LAURA MOORE / ERIK VAALER
Monitoring Program: Basinwide Monitoring

Lab Sample Number: 04090631-02
Laboratory: OCWD
Analysis Requested: 524

FIELD PARAMETERS
EC (umhos/cm): 7120
pH (UNITS): 7.2
Temperature (°C): 22.1
Dissolved Oxygen (mg/L): NA
Dissolved Oxygen Temperature (°C): NA
Total Chlorine (mg/L): NA
Free Chlorine (mg/L): NA

Comments:

Reported Values

Data Access: Approved for External Use ***Qualifier: Validated Sample***

Parameter Abbreviation	Parameter Name	Analysis Method	Dates Extract	Dates Analysis	Results Value	Results Units	Detection Limit Value	Detection Limit Units
CHBrCl	Bromodichloromethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
CHBr3	Bromoform	524.2		10/02/2004	ND	ug/L	.5	ug/L
CHBr2C	Dibromochloromethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
CH3Cl	Chloromethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
CH3Br	Bromomethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
CH2Cl2	Methylene Chloride	524.2		10/02/2004	ND	ug/L	.5	ug/L
CH2BrC	Bromochloromethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
CH2Br2	Dibromomethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
CCl4	Carbon tetrachloride	524.2		10/02/2004	ND	ug/L	.5	ug/L
CCl2F2	Dichlorodifluoromethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
CCl3F	Trichlorofluoromethane (Freon 11)	524.2		10/02/2004	ND	ug/L	.5	ug/L
Cl3F3E	Trichlorotrifluoroethane (Freon 113)	524.2		10/02/2004	ND	ug/L	.5	ug/L
c13DCP	cis-1,3-Dichloropropene	524.2		10/02/2004	ND	ug/L	.5	ug/L
c12DCE	cis-1,2-Dichloroethene	524.2		10/02/2004	ND	ug/L	.5	ug/L
BRBENZ	Bromobenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
BENZ	Benzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
4IPTOL	4-Isopropyltoluene	524.2		10/02/2004	ND	ug/L	.5	ug/L
4CLTOL	4-Chlorotoluene	524.2		10/02/2004	ND	ug/L	.5	ug/L
2CLTOL	2-Chlorotoluene	524.2		10/02/2004	ND	ug/L	.5	ug/L
22DCP	2,2-Dichloropropane	524.2		10/02/2004	ND	ug/L	.5	ug/L
14DCB	1,4-Dichlorobenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
13DCP	1,3-Dichloropropane	524.2		10/02/2004	ND	ug/L	.5	ug/L
13DCB	1,3-Dichlorobenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
135TMB	1,3,5-Trimethylbenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
12DCP	1,2-Dichloropropane	524.2		10/02/2004	ND	ug/L	.5	ug/L
12DCB	1,2-Dichlorobenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
12DCA	1,2-Dichloroethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
124TMB	1,2,4-Trimethylbenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
124TCB	1,2,4-Trichlorobenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
123TCP	1,2,3-Trichloropropane	524.2		10/02/2004	ND	ug/L	.5	ug/L
123TCB	1,2,3-Trichlorobenzene	524.2		10/02/2004	ND	ug/L	.5	ug/L
11DCP	1,1-Dichloropropene	524.2		10/02/2004	ND	ug/L	.5	ug/L
11DCE	1,1-Dichloroethene	524.2		10/02/2004	29.4	ug/L	.5	ug/L
11DCA	1,1-Dichloroethane	524.2		10/02/2004	12.3	ug/L	.5	ug/L

NA: Not Analyzed
ND: Not Detected
TR: Trace

ORANGE COUNTY WATER DISTRICT
SAMPLE INFORMATION AND RESULTS

Station Name: KAYO-SB/1
Station Type: WELL CASING
Perf Interval (ft bgs): 203-299
Aquifer: UNDEFINED

Well Owner: PURSCHE, ROY
Well Name:
City: SEAL BEACH

Sample Group ID: 4011922
Sample ID: 4024583
Sample Date/Time: 09/23/2004 12:30
End Sample Date/Time:
Sample Depth (ft):
Sample Matrix: WATER
Sampling Method: DEDICATED PUMP
Sampling Agency: ORANGE COUNTY WATER DISTRICT
Sampled By: LAURA MOORE / ERIK VAALER
Monitoring Program: Basinwide Monitoring

Lab Sample Number: 04090631-02
Laboratory: OCWD
Analysis Requested: 524

FIELD PARAMETERS
EC (umhos/cm): 7120
pH (UNITS): 7.2
Temperature (°C): 22.1
Dissolved Oxygen (mg/L): NA
Dissolved Oxygen Temperature (°C): NA
Total Chlorine (mg/L): NA
Free Chlorine (mg/L): NA

Comments:

Reported Values

Data Access: Approved for External Use ***Qualifier: Validated Sample***

Parameter Abbreviation	Parameter Name	Analysis Method	Dates Extract	Dates Analysis	Results Value	Results Units	Detection Limit Value	Detection Limit Units
112TCA	1,1,2-Trichloroethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
1122PC	1,1,2,2-Tetrachloroethane	524.2		10/02/2004	ND	ug/L	.5	ug/L
111TCA	1,1,1-Trichloroethane	524.2		10/02/2004	TR	ug/L	.5	ug/L
1112PC	1,1,1,2-Tetrachloroethane	524.2		10/02/2004	ND	ug/L	.5	ug/L

NA: Not Analyzed
ND: Not Detected
TR: Trace

ORANGE COUNTY WATER DISTRICT
SAMPLE INFORMATION AND RESULTS

Station Name: KAYO-SB/1
Station Type: WELL CASING
Perf Interval (ft bgs): 203-299
Aquifer: UNDEFINED

Well Owner: PURSCHE, ROY
Well Name:
City: SEAL BEACH

Sample Group ID: 4011920
Sample ID: 4024962
Sample Date/Time: 09/23/2004 12:15
End Sample Date/Time:
Sample Depth (ft):
Sample Matrix: WATER
Sampling Method: DEDICATED PUMP
Sampling Agency: ORANGE COUNTY WATER DISTRICT
Sampled By: LAURA MOORE / ERIK VAALER
Monitoring Program: Basinwide Monitoring

Lab Sample Number: 04090629-05
Laboratory: OCWD
Analysis Requested: GENLVLI

FIELD PARAMETERS

EC (umhos/cm): 7210
pH (UNITS): 7.3
Temperature (°C): 23.2
Dissolved Oxygen (mg/L): NA
Dissolved Oxygen Temperature (°C): NA
Total Chlorine (mg/L): NA
Free Chlorine (mg/L): NA

Comments:

Reported Values

Data Access: Approved for External Use ***Qualifier: Validated Sample***

Parameter Abbreviation	Parameter Name	Analysis Method	Dates Extract	Dates Analysis	Results Value	Results Units	Detection Limit Value	Detection Limit Units
TOTHRD	Total Hardness (as CaCO3)	X200.7	09/27/2004	09/30/2004	2010	mg/L	1	mg/L
Na	Sodium	X200.7	09/27/2004	09/30/2004	745	mg/L	.1	mg/L
Mg	Magnesium	X200.7	09/27/2004	09/30/2004	120	mg/L	.1	mg/L
K	Potassium	X200.7	09/27/2004	09/30/2004	14.5	mg/L	.1	mg/L
Ca	Calcium	X200.7	09/27/2004	09/30/2004	608	mg/L	.1	mg/L
B	Boron	X200.7	09/27/2004	09/30/2004	0.13	mg/L	.1	mg/L
TOC	Total Organic Carbon (Unfiltered)	5310C		09/27/2004	0.54	mg/L	.05	mg/L
TDS	Total Dissolved Solids	2540C		09/27/2004	4490	mg/L	1	mg/L
NO2-N	Nitrite Nitrogen	4500NO3F		09/24/2004	0.010	mg/L	.002	mg/L
ALKPHE	Alkalinity-Phenolphthalein	2320B		09/24/2004	<1	mg/L	1	mg/L
OHCa	Hydroxide (as CaCO3)	2320B		09/24/2004	<1	mg/L	1	mg/L
HCO3Ca	Bicarbonate (as CaCO3)	2320B		09/24/2004	158	mg/L	1	mg/L
CO3Ca	Carbonate (as CaCO3)	2320B		09/24/2004	<1	mg/L	1	mg/L
TOTALK	Total Alkalinity (as CaCO3)	2320B		09/24/2004	158	mg/L	1	mg/L
EC	Electrical Conductivity	2510B		09/24/2004	7510	um/cm	1	um/cm
pH	pH	4500H+B		09/23/2004	7.7	UNITS	1	UNITS
SO4	Sulfate	X1-300.0		09/23/2004	305	mg/L	.5	mg/L
PO4-P	Phosphate Phosphorus (orthophosphate)	X1-300.0		09/23/2004	<0.1	mg/L	.1	mg/L
NO3-N	Nitrate Nitrogen	X1-300.0		09/23/2004	<0.1	mg/L	.1	mg/L
Cl	Chloride	X1-300.0		09/23/2004	2330	mg/L	.5	mg/L
Br	Bromide	X1-300.0		09/23/2004	8.9	mg/L	.1	mg/L

NA: Not Analyzed
ND: Not Detected
TR: Trace

ORANGE COUNTY WATER DISTRICT
SAMPLE INFORMATION AND RESULTS

Station Name: KAYO-SB/1
Station Type: WELL CASING
Perf Interval (ft bgs): 203-299
Aquifer: UNDEFINED

Well Owner: PURSCHE, ROY
Well Name:
City: SEAL BEACH

Sample Group ID: 4011920
Sample ID: 4024962
Sample Date/Time: 09/23/2004 12:15
End Sample Date/Time:
Sample Depth (ft):
Sample Matrix: WATER
Sampling Method: DEDICATED PUMP
Sampling Agency: ORANGE COUNTY WATER DISTRICT
Sampled By: LAURA MOORE / ERIK VAALER
Monitoring Program: Basinwide Monitoring

Lab Sample Number: 04090629-05
Laboratory: OCWD
Analysis Requested: UNKNOWN

FIELD PARAMETERS
EC (umhos/cm): 7210
pH (UNITS): 7.3
Temperature (°C): 23.2
Dissolved Oxygen (mg/L): NA
Dissolved Oxygen Temperature (°C): NA
Total Chlorine (mg/L): NA
Free Chlorine (mg/L): NA

Comments:

Computed Values

Data Access: Approved for External Use ***Qualifier: Validated Sample***

Parameter Abbreviation	Parameter Name	Analysis Method	Dates Extract	Dates Analysis	Results Value	Results Units	Detection Limit Value	Detection Limit Units
AI	Aggressive Index	UNKWQAN			13.080	A.I.		
NO2	Nitrite	UNKWQAN			0.0	mg/L	0	mg/L
NO3NO2-N	Nitrate + Nitrite Nitrogen	UNKWQAN			0.01	mg/L	0	mg/L
T22CAT	Title 22 Total Cations	UNKWQAN			72.994	meq/L		
NO3	Nitrate	UNKWQAN			ND	mg/L	.4	mg/L
HCO3	Bicarbonate (as HCO3)	UNKWQAN			192.6	mg/L	1.2	mg/L

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Appendix B (Included in CD-ROM)

Final Well Decommissioning Report

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Naval Facilities Engineering Command, Southwest
Contracts Department
1220 Pacific Highway, Building 127, Room 112
San Diego, CA 92132-5190

CONTRACT NO. N62473-06-D-2201
CTO NO. 0010

FINAL
WELL DECOMMISSIONING REPORT
February 12, 2007

NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

DCN: ECSD-RACIV-07-0681

TETRA TECH EC, INC.
1230 Columbia Street, Suite 750
San Diego, CA 92101-8536

Hamlet Hamparsumian
Project Manager

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Appendix B Video Log

Appendix C Laboratory Analysis Report

ABBREVIATIONS AND ACRONYMS

µg/L	microgram per liter
bgs	below ground surface
CTO	Contract Task Order
DCA	dichloroethane
DCE	dichloroethene
DON	Department of the Navy
J	estimated value
NAVWPNSTA	Naval Weapons Station
ND	not detected
OCHCA	Orange County Health Care Agency
OCWD	Orange County Water District
PCE	tetrachloroethene
TCA	trichloroethane
TCE	trichloroethene
TtEC	Tetra Tech EC, Inc.
VOC	volatile organic compound

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1.0 INTRODUCTION

This well decommissioning report describes the activities performed during the abandonment of agricultural well KAYO-SB (State Well No. 05S/11W-17H02) located at the Naval Weapons Station (NAVWPNSTA) Seal Beach, Seal Beach, California. Figures 1-1 and 1-2 show the location of NAVWPNSTA Seal Beach, and the general location of agricultural well KAYO-SB. On behalf of the Department of the Navy (DON), this well decommissioning report has been prepared by Tetra Tech EC, Inc. (TtEC) under Naval Facilities Engineering Command, Southwest Contract No. N62473-06-D-2201, Contract Task Order (CTO) No. 0010.

1.1 PROJECT OBJECTIVE

Agricultural well KAYO-SB was located on NAVWPNSTA Seal Beach, approximately 1,300 feet south of Bolsa Avenue and approximately 800 feet west of Bolsa Chica Road (see Figure 1-2). The well coordinates (based on the state plane coordinate system) are 1,454,992 (easting) and 577,131 (northing), and the geographic coordinate for the longitute is 33° 44’ 24” and the latitute is 118° 2’ 34”.

Agricultural well KAYO-SB was used as an irrigation source for a portion of NAVWPNSTA Seal Beach that is currently leased out for crop production.

On September 23, 2004, Orange County Water District (OCWD) collected a groundwater sample from irrigation well KAYO-SB by collecting water discharge approximately 1,500 feet from the well location. This well was used to irrigate agricultural crops grown on the NAVWPNSTA Seal Beach. The water sample from the irrigation well was analyzed by the OCWD laboratory for volatile organic compounds (VOCs) (including fuel oxygenates) using EPA Method 524.2; 1,4-dioxane using a method identified as 14DIOX on the OCWD laboratory reports; and perchlorate using Method X1-312.0. The OCWD laboratory analyzed both a primary and duplicate sample from the well. The groundwater sample was collected from a distribution pipe a few hundred feet from the well. Groundwater sample results from well KAYO-SB indicated the presence of trichloroethene (TCE), 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,l-DCE), and tetrachloroethene (PCE). 1,1,l-trichloroethane (1,1,1-TCA) was detected at trace levels. Based on the results, the DON directed TtEC to destroy the well in order to eliminate the exposure pathway and to prevent future use of the well for crop-irrigation purposes (Haley and Aldrich, 2005). The tabulated data below show the analysis results in micrograms per liter (µg/L) for the above chemical compounds.

Analysis Results for Samples Collected on September 23, 2004

	TCE µg/L	1,1-DCA µg/L	1,1-DCE µg/L	1,1,1-TCA µg/L	PCE µg/L
Well KAYO-SB	25.3	13.8	30.3	--	1.8

1.2 MONITORING WELL CONSTRUCTION

Prior to performing the well abandonment, TtEC reviewed available public records pertaining to the well and a previously performed video log to verify the construction details and the well's condition.

According to the original well drilling log, the well was originally drilled to 320 feet below ground surface (bgs) in 1926 and was cased to 299 feet bgs. Perforations were present in three intervals: 203 to 208 feet bgs, 233 to 240 feet bgs, and 297 to 299 feet bgs.

Based on a video log report provided by Water Well Redevelopers, Inc., dated February 16, 1994, agricultural well KAYO-SB was originally constructed with 16-inch-diameter steel casing from the ground surface to 200 feet bgs, and 14-inch-diameter steel casing below 200 feet bgs. The video log showed that the casing collapsed at 294 feet bgs, indicating that the bottom 5 feet of the well had collapsed. The video log also indicated that a majority of the perforations in the casing were encrusted with mineral deposits and rust, and for the most part, were impossible to see. The exact location of individual perforated zones could not be determined. Perforations were, however, noted on the video log report between approximately 233 and 243 feet bgs. After the video log was complete, a 12-inch-diameter steel liner was installed in the well and the annular space between the liner and the outer casing was backfilled with pea gravel. The liner was perforated (beginning at approximately 200 feet bgs) and an 8-inch-diameter impeller pump was placed back in the well at approximately 162 feet bgs. As per the Orange County Pump Company information and logs that were provided in the Final Well Abandonment Work Plan (TtEC, 2006a), the pump discharge was made of 20-foot-long pipe segments that were threaded together. The pump was connected to the motor that was sitting on top of the well and secured to a 4-foot by 4-foot and 36-inch-thick concrete foundation.

1.3 SCOPE OF WORK

The main tasks involved in destroying well KAYO-SB included the following:

- Securing the appropriate well destruction permit
- Procuring the required subcontractors, equipment, and materials
- Removing the pump motor, pump, and discharge pipe from the well
- Creating a video log of existing conditions of the well
- Collecting and analyzing groundwater samples from three discrete depths within the well
- Destruction of the well via grouting with concurrent collection, containerization, and subsequent disposal of the displaced wastewater generated from grouting activities
- Construction of a concrete cap for the well casing
- Disposal of well destruction debris and wastewater

Details regarding these tasks are described in Section 2.0.

2.0 WELL DESTRUCTION ACTIVITIES

This section describes each element of the scope of work that was performed during well destruction. Well destruction activities were performed from September 11 through September 14, 2006 and from November 7 through November 8, 2006. The well destruction activities were performed under the direct observation or at the approval of an OCHCA inspector.

2.1 PERMITTING

A well destruction permit (Well Destruction Permit # 06-08-23) was obtained from the OCHCA, Environmental Health Division on August 22, 2006 prior performing the well destruction. A copy of the well destruction permit is included in Appendix A.

2.2 SUBCONTRACTING / PROCUREMENT

Destruction of agricultural well KAYO-SB was performed by several specialty subcontractors under the direct supervision of TtEC. Test America of Anaheim, California was contracted to perform the well destruction. Video logging of the well prior to destruction was performed by Pacific Surveys of Claremont, California.

2.3 MODIFICATION TO THE WORK APPROACH

At the outset of field activities, it became apparent that existing conditions present at the site necessitated modifications to the work approach in order to accomplish the work in a safe manner. Several surface and subsurface encumbrances exist in very close proximity to the former well location. Electrical power currently exists to a wooden pole located approximately 8 feet away from the former well head location. This is the power supply that was formerly used to provide electricity to run the well pump motor. While the power supply had been previously de-energized from the pole to the pump motor, a live electrical feed remains between the wooden pole and a nearby power line. The wooden pole is approximately 15 feet high and in generally poor condition, showing evidence of dry rot, and is leaning away from the well at about 25 degrees from vertical. Additionally, a water overflow standpipe associated with the irrigation system currently resides approximately 5 feet from the well head. This structure stands vertically approximately 12 feet, consists of a steel conduit encased in concrete, and has an approximate diameter of 18 inches. This structure was to remain intact in order to support continued future agricultural use in this area. Per a discussion between TtEC and Mr. Roy Pursche (farm operator at NAVWPNSTA Seal Beach), the 3rd encumbrance was purportedly a concrete pipe located approximately 3 to 4 feet bgs running from the water overflow standpipe adjacent to the well to a second standpipe located approximately 150 feet to the east. That alignment meant that the pipe runs within approximately 3 feet of the former well head location. Per Mr. Pursche, the pipe is approximately 20 inches in diameter and is part of the original well installation in 1926. The planned excavation extent and proximity of the pipe to the well would have likely required

supporting the pipe; however the age and/or condition of the pipe raised the likelihood that its integrity could have been compromised by the work.

Per the Final Well Abandonment Work Plan (TtEC, 2006a), TtEC was to excavate to a total depth of 6 feet bgs in order to construct a concrete cap on the top of the well casing. Excavating to 6 feet bgs would have required sloping the excavation sidewalls so that the work could have been completed in a safe manner, and would have placed all 3 encumbrances within the excavation footprint. Excavating to the extent planned may have compromised the stability of the surface and subsurface encumbrances, and the decision was made by the DON (with OCHCA concurrence) to modify the work approach in constructing the concrete cap on the well. The total excavation depth was reduced to 3 feet bgs rather than 6 feet as specified in the Final Well Abandonment Work Plan (TtEC, 2006a). The approach was then to cut off the well casing at 1.5 feet bgs (i.e. extending 1.5 feet above the excavation floor), mushroom the top of the casing (i.e. flare the exposed 1.5-foot segment of the well casing to create 1 foot of total vertical stick up), and backfill the excavation with concrete from 3 feet bgs to 1 foot bgs. This would create a 2-foot-thick concrete cap with 1 foot of concrete over the top of the casing. The remaining 1 foot of the excavation would then be backfilled with soil to match the surrounding grade. By reducing the total excavation depth, this in turn would eliminate the sloping requirements for the excavation sidewalls. This minimizes the lateral extent of the excavation and markedly improves safety by eliminating potential stability hazards associated with the adjacent surface and subsurface encumbrances. The modified work approach was approved by the OCHCA on September 14, 2006.

2.4 WELL PUMP MOTOR AND PUMP REMOVAL

The well pump motor and pump removal commenced on September 11, 2006 and was completed on September 13, 2006. The power supply to the pump motor had been previously de-energized and disconnected.

The pump motor and pump with 6-inch diameter, steel discharge pipe (approximately 240 feet in length) were removed from the well with a crane. The pump motor was first removed from the well head and subsequently turned over to Mr. Roy Pursche. The pump and discharge pipe were removed by lifting and systematically unscrewing each 20-foot-long segment. The pipe segments contained an oily residue that was likely present due to past application of lubricating oil. An attempt was made to decontaminate the pipe with a pressure washer and warm water, however this process was ineffective in removing the oil and was discontinued to avoid generating additional wastewater. Following the removal of the pump and discharge pipe from the well, the segments were stacked on a 10-mil-thick polyethylene liner and covered with an additional piece of liner. A temporary equipment decontamination pad, consisting of a bermed polyethylene liner, had been constructed to facilitate collection of the decontamination rinse water. The decontamination rinse water was collected and containerized in a Department of Transportation-

approved 55-gallon drum. The liner used for the decontamination pad was also placed into a 55-gallon drum for storage pending off-site disposal.

After the pump and discharge pipe were removed, the following day the well was tested for the presence of lubrication oil on the groundwater surface. No lubrication oil was detected floating on the groundwater surface. Therefore, no oil product was removed from inside the well.

2.5 VIDEO LOGGING

After the pump and discharge pipe were removed from the well, a video log of the well was performed on September 14, 2006. The purpose of the video log was to evaluate the condition of the well before destruction activities began, including the condition of the casing, depths and condition of existing perforations, depth of the well, and the presence of any obstructions or encrustations that may have interfered with the destruction. A copy of the video log is provided in Appendix B.

Video logging of the well revealed that the well was screened from 208.6 feet bgs to 286.7 feet bgs. The video logging was stopped at silt/sediments at 286.7 feet bgs. The well casing was twelve inches in diameter from ground surface to the bottom of the casing, and consisted of 3/8-inch-thick steel. While there was evidence of rust along the entire length of the casing, the locations of the screened intervals were readily apparent from the video log and encrustation was minor.

At the conclusion of video logging, site work was suspended in order to evaluate the video and to determine the most viable well destruction method. Based on discussion between TtEC and the well abandonment contractor, it was determined that the thickness of the steel well casing precluded the use of a tearing device (mill-knife) to destroy the well casing in advance of grouting. The decision was made by the DON (with OCHCA concurrence) to delete the perforation of the well casing from the abandonment process, and to proceed with grouting the well.

2.6 GROUNDWATER SAMPLING AND ANALYSIS

After the video log was completed, three samples of groundwater were collected from three discrete depths within the well. The groundwater sample locations were based on the location of screened intervals within the outer casing of the well, and were collected at depths of approximately 208 feet bgs, 240 feet bgs, and 280 feet bgs corresponding with the general location of the well screen/perforation for the outer well casing (original 16 inch diameter well casing) as presented on Figure 2-1. Groundwater samples were collected on September 15 and 18, 2006 and submitted to EMAX Laboratories, Inc. (Torrance, California) for analysis of VOCS, total petroleum hydrocarbons quantified as diesel, and total petroleum hydrocarbons quantified as gasoline. The samples were collected via low-flow methodology and in accordance with the Final Sampling and Analysis Plan (TtEC, 2006b).

Table 2-1 presents a summary of the laboratory analytical results. The chain of custody and the laboratory reports are included in Appendix C.

TABLE 2-1

SUMMARY OF GROUNDWATER ANALYSIS RESULTS – KAYO-SB AGRICULTURAL WELL

Analytes with Detections	Unit	Sample Number Sample Depth		
		10-003 208 feet	10-002 240 feet	10-005 280 feet
1,1,1-TCA	µg/L	1.7	0.50J	0.24J
1,1- DCA	µg/L	75	21	11
1,1-DCE	µg/L	170	46	23
1,2-DCA	µg/L	0.37J	ND	ND
CIS - 1,2 -DCE	µg/L	0.57J	ND	ND
PCE	µg/L	15	4.7	2.3
TCE	µg/L	140	43	22
Vinyl Chloride	µg/L	0.43J	ND	ND

Notes:

µg/L – micrograms per liter; J – estimated value; ND – not detected

2.7 WELL DESTRUCTION

Well destruction via grouting commenced on November 7, 2006 and was completed on November 8, 2006. Prior to grouting the well, the depth of the well was measured using a water-level sounder to confirm the depth of the well based on the video log results and to verify the amount of sealing material required. The amount of sealing material was determined from the following calculation:

$$\frac{\pi * (\text{well casing radius [feet]})^2 * (\text{total depth [feet]})}{27} = \text{amount of sealing material (cubic yards)}$$

Based on the 286 foot depth of the well, the casing volume was calculated to be approximately 225 cubic feet, or 8.3 cubic yards.

The well was grouted with a 10-sack cement slurry. A series of fourteen 20-foot-long, 3-inch-diameter tremie pipes were threaded together to create one continuous pipe and placed into the well with the bottom of the tremie pipe at a depth of 286 feet bgs. The truck containing the cement slurry then discharged the slurry into a diesel-powered pump, which forced the slurry

into the tremie pipe and down into the well. The groundwater that was displaced as the slurry was pumped into the well was placed into a series of 55-gallon drums as the grouting operation progressed. This process generated a total of twenty-three 55-gallon drums of groundwater. The grouting process continued until the entire well was backfilled with slurry to the top of the well casing. An estimated total of 9.5 cubic yards (or 256.5 cubic feet) of slurry were placed into the well. This estimate was based on the fact that 10 cubic yards of slurry were delivered to the site and an estimated 0.5 cubic yards of slurry remained in the truck at the completion of grouting operations. This implies that approximately 1.2 cubic yards (31.5 cubic feet, or 236 gallons) of slurry traveled out into the formation during the grouting process.

2.8 CONCRETE WELL CAP CONSTRUCTION

At the completion of the grouting process, a concrete cap was constructed on the top of the well casing. Initially the 36-inch-thick concrete apron that surrounded the top of the well casing was demolished. Per the approved modification to the work approach, the area surrounding the top of the well casing was excavated to a depth of 3 feet bgs and a diameter of 5 feet, with the well casing located in the center of the excavation. The top of the steel well casing was then cut off with an acetylene torch such that 1.5 feet of casing remained exposed at the bottom of the excavated area. A hot work permit was obtained from the NAVWPNSTA Seal Beach Fire Department prior to cutting the casing.

After the casing was cut, the top of the casing was flared. This was achieved by first making 6 vertical cuts spaced evenly around the perimeter of the casing. Each vertical cut was 6 inches in length starting from the top of the casing. The steel between each cut was then bent into a horizontal configuration, which reduced the overall vertical length of exposed casing from 1.5 feet to 1 foot. Once flaring was completed, the excavation was backfilled with concrete that had a compressive strength of 2,500 pounds per square inch. Concrete was backfilled from the excavation floor (i.e. 3 feet bgs) to 1 foot bgs over the entire 5-foot diameter of the excavation. This created a 2-foot-thick concrete cap on the top of the remaining well casing. In total, approximately 2 cubic yards of concrete were used to construct the well cap. The remaining 1 foot of the excavation was then backfilled with soil from around the well and blended to match the surrounding grade.

2.9 WASTE MANAGEMENT AND DISPOSAL

Construction debris (demolished concrete and an approximate 5 foot length of well casing) were containerized in one 5-cubic-yard roll-off bin. The roll-off bin containing the non-hazardous construction debris was transported off site to a Class III landfill on November 24, 2006.

The polyethylene liner from the pump and discharge pipe decontamination was placed into a 55-gallon drum. The decontamination water was also placed into one 55-gallon drum. The twenty-three 55-gallon drums containing the displaced groundwater and the two additional

drums were transported to the investigation derived waste storage yard located at Bolsa Avenue and 9th Street on NAVWPNSTA Seal Beach. All drums were classified as non-hazardous waste based on the groundwater sample results and were appropriately labeled. Off-site disposal of the drums is pending.

3.0 REFERENCES

Haley and Aldrich. 2005. *Technical Memorandum, Review of Environmental Status of Off-Site Commercial Sites South of the Boeing Huntington Beach Facility, Huntington Beach, California.* April 11.

Tetra Tech EC, Inc. 2006a. *Final Well Abandonment Work Plan for Agricultural Well KAYO-SB, Naval Weapons Station Seal Beach, Seal Beach, California*. July 7.

_____. 2006b. *Final Sampling and Analysis Plan (Field Sampling Plan and Quality Assurance Project Plan), Well Abandonment Work Plan For Agricultural Well KAYO-SB, Naval Weapons Station Seal Beach, Seal Beach, California.* July 7.

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FIGURES

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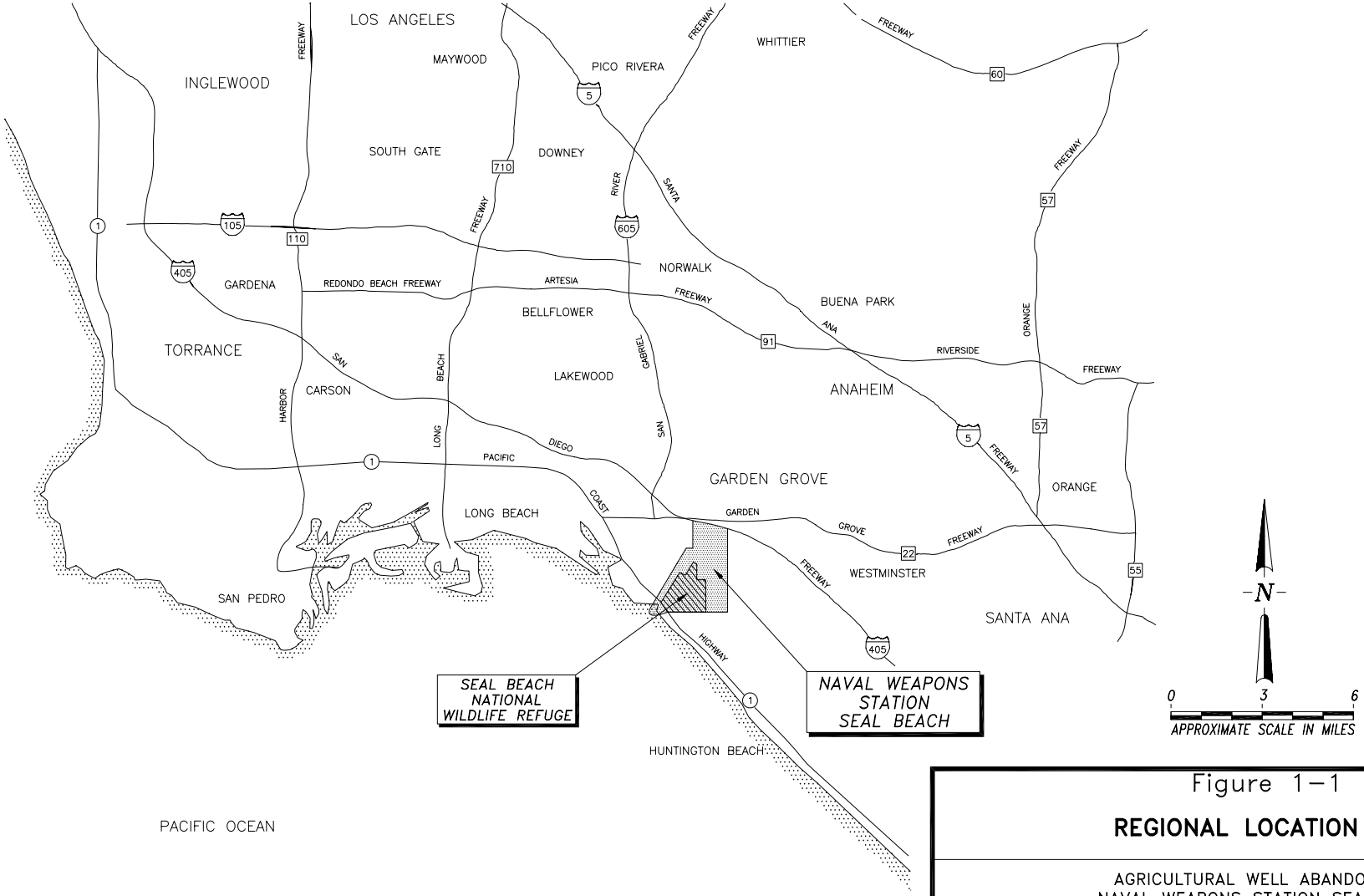

SOURCE: CH2M HILL, 2002.

Figure 1-1

REGIONAL LOCATION MAP

AGRICULTURAL WELL ABANDONMENT
NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

TETRA TECH EC, INC.

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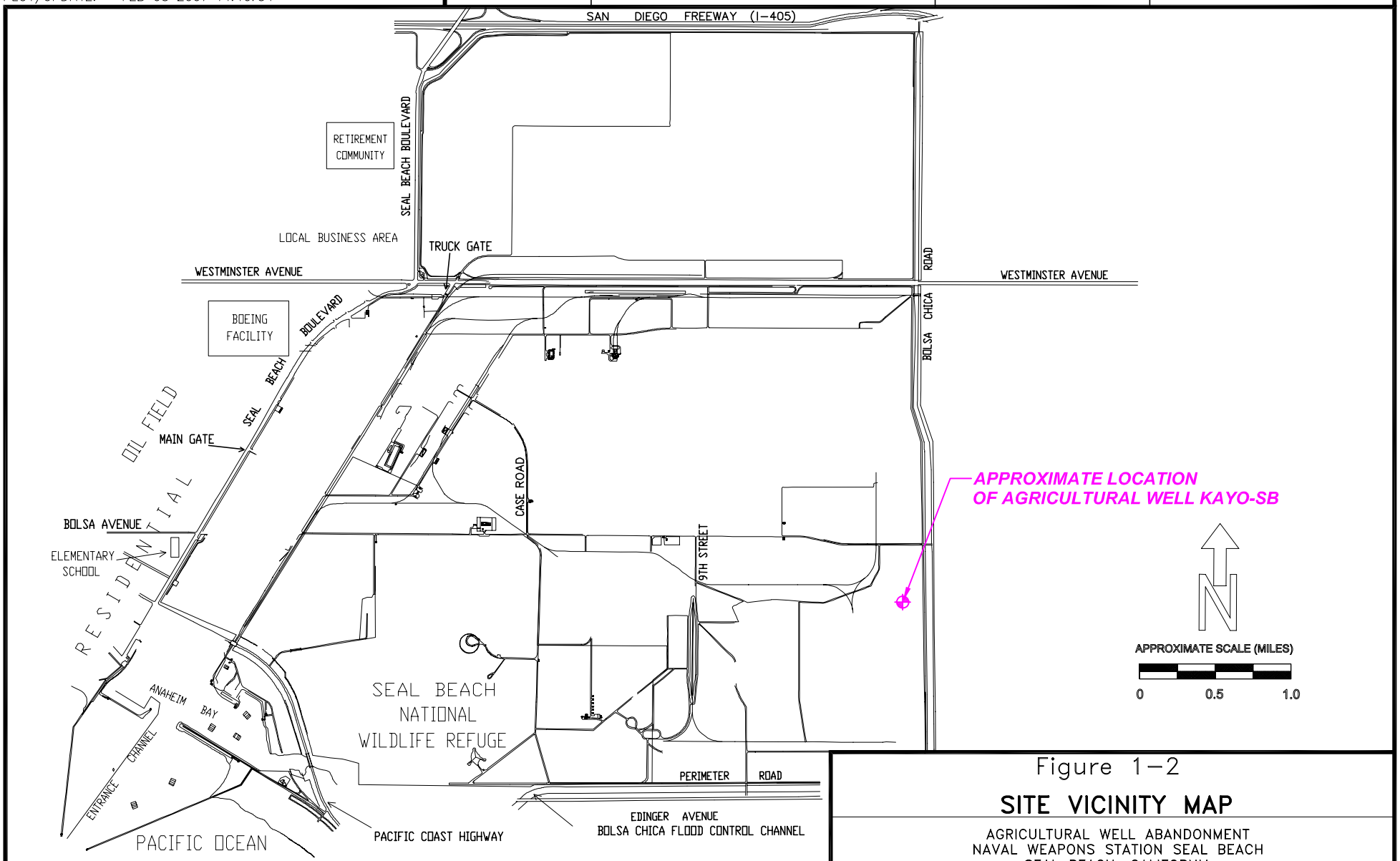

Figure 1-2

SITE VICINITY MAP

AGRICULTURAL WELL ABANDONMENT
NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

TETRA TECH EC, INC.

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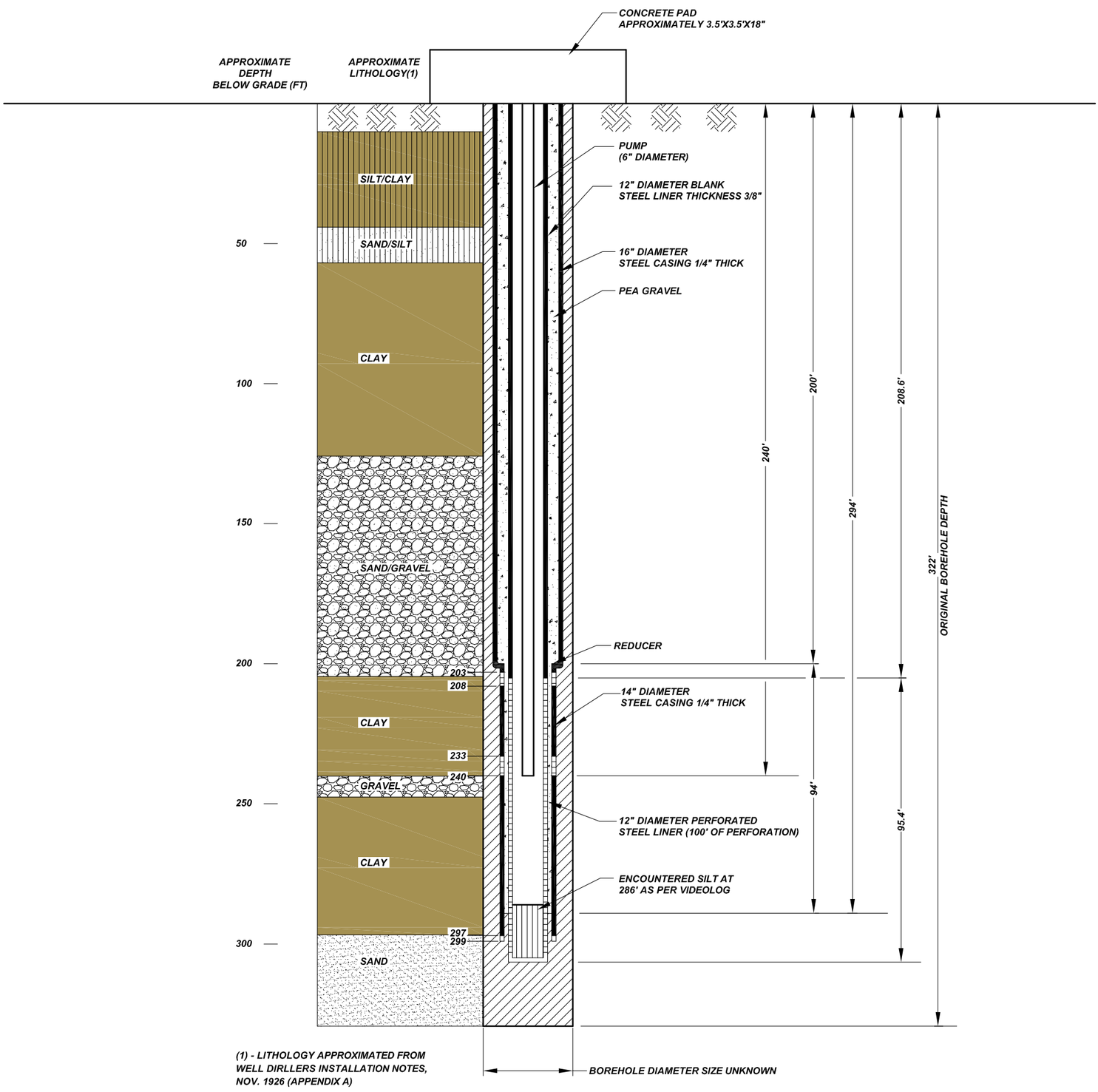

(1) - LITHOLOGY APPROXIMATED FROM WELL DIRLLERS INSTALLATION NOTES, NOV. 1926 (APPENDIX A)

Figure 2-1

KAYO-SB WELL DETAIL

AGRICULTURAL WELL ABANDONMENT
NAVAL WEAPONS STATION SEAL BEACH
SEAL BEACH, CALIFORNIA

TETRA TECH EC, INC.

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APPENDIX A

APPLICATION FOR WELL DESTRUCTION PERMIT

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APPLICATION FOR WELL DESTRUCTION PERMIT

ORANGE COUNTY HEALTH CARE AGENCY
ENVIRONMENTAL HEALTH DIVISION
1241 E. DYER ROAD, SUITE 120
SANTA ANA, CA 92705-4720
(714) 433-6000
FAX (714) 433-6481

WELL PERMIT NUMBER 06-08-23

CITY: SEAL BEACH, CALIFORNIA
DATE: August 21, 2006

WELL LOCATION (ADDRESS IF AVAILABLE): Naval Weapons Station Seal Beach, Seal Beach, California
800 Seal Beach Blvd. (corner of Bolsa Ave. and East Perimeter Road)

NAME OF WELL OWNER: U.S. Navy	NAME OF CONSULTING FIRM: TETRA TECH EC, INC.
ADDRESS: 800 Seal Beach Blvd.	BUSINESS ADDRESS: 1940 East Deere Ave., Suite 200
CITY: Seal Beach ZIP: 90740 TELEPHONE: (562) 626-7897	CITY: Santa Ana ZIP: 92705 TELEPHONE: (949) 756-7500
NAME OF DRILLING CO.: Test America WEST HAZMAT LICENSE NUMBER: 819548	WELL DEPTH: 300 Feet; TYPE OF WELL/TOTAL NUMBER: 1 [X] WATER, [ ] CATHODIC, [ ] MONITORING, [ ] OTHER: Agricultural Production Well
CITY: Anaheim ZIP: 92805 TELEPHONE: (714) 939-6850	DIAMETER: 16 Inches
SEALING MATERIAL / ESTIMATE AMOUNT OF SEALING MATERIAL NEEDED: Cement/Bentonite Slurry; 3,200 gallons, or approximately 420 cubic feet	PROPOSED START DATE: September 12, 2006

METHOD OF DESTRUCTION

** See Attached WELL DESTRUCTION description.

DIAGRAM OF WELL SITE (Use additional sheets and/or attachments)

SEE ATTACHED FIGURES:

Figure 1-1 Regional Location Map
Figure 1-2 Site Vicinity Map
Figure 2-1 KAYO-SB Well Detail

[X] SITE PLAN ATTACHED

I HEREBY AGREE TO COMPLY IN EVERY RESPECT WITH ALL REQUIREMENTS OF THE HEALTH CARE AGENCY AND WITH ALL ORDINANCES AND LAWS OF THE COUNTY OF ORANGE AND OF THE STATE OF CALIFORNIA PERTAINING TO WELL CONSTRUCTION, RECONSTRUCTION AND DESTRUCTION.

APPLICANT'S SIGNATURE: [signature] DATE: 8/21/06
TETRA TECH EC, INC.
PRINT NAME: Mark Cutler, RG, C.HG
PHONE NUMBER: (949) 756-7526 FAX NUMBER: (949) 756-7560

FOR ACCOUNTING USE ONLY:
HBO NO. 307429 CHECK NO. 13631
DATE 8-22-06 AMOUNT 116 —
INIT. Al

APPROVAL BY OTHER AGENCIES:
JURISDICTION
REMARKS

AUTHORIZED SIGNATURE DATE

DISPOSITION OF PERMIT (DO NOT FILL IN):

[X] APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:
A. [X] NOTIFY THIS AGENCY AT LEAST 48 HOURS PRIOR TO START.
B. [X] SUBMIT TO THE AGENCY A WELL DESTRUCTION REPORT. PLEASE REFERENCE PERMIT NUMBER.
C. [X] OTHER CALL IN WITH TIME OF CONCRETE DELIVERY.

[ ] DENIED

PERMIT ISSUED BY: Dan Yokoyama DATE: 8/22/2006
PRINT NAME: DAN YOKOYAMA PHONE NUMBER: (714) 433-6288

WHEN SIGNED BY ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A PERMIT.

P272-09.1543 (R2/98)

PAID

WELL DESTRUCTION

Before destruction activities begin, information from the video log will be used to determine if the existing perforations require cleaning (removing scale or other encrustations) before the well is grouted. If the perforations are plugged, the liner will either need to be cleaned (wire brushed, jetting, etc.) or re-perforated to allow the grouting material to adequately penetrate and seal the annular space around the liner. If cleaning is required, a bailer will be used to remove any debris dislodged by the cleaning and a second video log may be completed to document the effectiveness of the cleaning. In addition, the section of blank liner (estimated between ground surface and 200 feet bgs [depth will be verified with the video log]) below 5 feet bgs will be perforated to allow the grout to properly seal the upper portion of the liner. It is estimated that five holes will be placed per foot of liner at a 72 degree rotation with a mechanical perforator.

The depth of the well will be measured using a water-level sounder in order to estimate the amount of sealing material required. The amount of sealing material will be determined from the following calculation:

$$\frac{\pi * (\text{well casing radius [feet]})^2 * (\text{total depth [feet]})}{27} = \text{amount of sealing material (cubic yards)}$$

At the ground surface, the area surrounding the well casing will be exposed to a minimum of 6 feet bgs and the casing will be cut approximately 1 foot above the excavation (at 5 feet bgs). The exposed 1-foot segment of the top of the well casing will be flared or drilled and two 36-inches long ½-inch-diameter steel rebars will be placed through the drilled holes in a cross shape.

After the well is perforated and ready for grouting, a tremie pipe (2 to 3 inches in diameter) will be fitted with a packer and lowered into the well. Pressure grouting, and/or the weight of the cement will be used to force neat cement grout into the pea gravel in the annular space of the well. The borehole will be backfilled with a mixture of bentonite and cement slurry. The packer will be moved upwards as grouting continues until grouting reaches 5 feet bgs. The sealing material will be placed in one continuous operation (or "pour") and allowed sufficient time to settle. Any water that may be displaced as a result of grouting will be contained using a steel tub installed over the well. A pump will be used to pump the water from inside the tub into DOT-approved 55-gallon drums or a Baker tank.

After grouting the interior of the well, the sealant will be allowed to spill over into the excavation to form a cap at least 12 inches thick. A mushroom-shaped concrete cap will then be placed over the top of the exposed casing to provide a final seal. The mushroom cap will be at least 12 inches thick and 5 feet in diameter. Following the placement of the concrete mushroom cap the excavation will then be backfilled with the soil originally

removed from around the well. The backfill soil will be placed and compacted in 12-inch thick layers.

Records will be kept of the volume of sealing material placed during destruction operations to ensure it equals the calculated borehole volume. This will ensure that the well has been properly destroyed.

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APPENDIX B

VIDEO LOG

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APPENDIX C

LABORATORY ANALYSIS REPORT

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TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 20415

CHAIN-OF-CUSTODY RECORD

PROJECT NAME: Hall KAYO-SP
PROJECT LOCATION: Seal Beach NWS
SAMPLER NAME: Nick Wentworth
PROJECT CONTACT: Nick Wentworth
PURCHASE ORDER NO:
PROJECT NO: 3210 0810E
AIRBILL NUMBER:
PROJECT CONTACT PHONE NUMBER: (949) 756-7558

LABORATORY NAME: EMAX
LABORATORY ID (FOR LABORATORY): 061125

ANALYSES REQUIRED: VOC by EPA 8260, [illegible], [illegible]

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	VOC by EPA 8260	[illegible]	[illegible]	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
10-001	9/15/06	0915	3	X		W	[illegible]	X		X		Trip Blank	/	/	
10-002	9/15/06	1114	8	X		W	[illegible]	X	X	X		KAYO-SP 2400	/	/	
10-003	9/15/06	1201	8	X		W	[illegible]	X	X	X		KAYO-SP 205	/	/	
~~10-004~~	~~9/15/06~~		~~8~~	~~X~~		~~W~~									
~~10-005~~	~~9/15/06~~		~~8~~	~~X~~		~~W~~									

9/15/06

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

Project Information Section
Do not submit to Laboratory

SAMPLING COMMENT:

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

NUMBER 20417

CHAIN-OF-CUSTODY RECORD

PROJECT NAME:

PURCHASE ORDER NO.:

PROJECT LOCATION: Seal Beach NWS

PROJECT NO.: 3210.010E

SAMPLER NAME: Nick Weinberger

AIRBILL NUMBER: NA

PROJECT CONTACT: Nick Weinberger

PROJECT CONTACT PHONE NUMBER: 949-756-7558

LABORATORY NAME: EMAX

LABORATORY ID (FOR LABORATORY): 01I154

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	VOCs by EPA 524.2	TTLP by EPA SW 1311	TTLP by EPA SW 1311	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
10-004	9/15/06	0450	3	X		W	10 day	X	X			Trip Blank			T
10-005	9/15/06	1036	8	X		W	10 day	X	X	X		KA40-SB280			R
10-006	9/15/06	1110	8	X		W	10 day	X	X	X		Equipment Rins			E

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[illegible]	[illegible]	[illegible]
COMPANY: TECT	TIME: [illegible]	COMPANY: EMAX
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS

COMPOSITE DESCRIPTION

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: _____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

Project Information Section
Do not submit to Laboratory

SAMPLING COMMENT:

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: TETRA TECH EC, INC.	Date Collected:	09/15/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/15/06
Batch No.	: 06I125	Date Extracted:	09/20/06 10:12
Sample ID:	10-001	Date Analyzed:	09/20/06 10:12
Lab Samp ID:	I125-01	Dilution Factor:	1
Lab File ID:	RIQ523	Matrix :	WATER
Ext Btch ID:	VO05I44	% Moisture :	NA
Calib. Ref.:	RIQ355	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.20
1,1,2-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
1,2-DICHLOROPROPANE	ND	1.0	0.20
2-BUTANONE	ND	50	5.0
2-HEXANONE	ND	50	5.0
4-METHYL-2-PENTANONE	ND	50	5.0
ACETONE	ND	50	5.0
BENZENE	ND	0.50	0.20
BROMODICHLOROMETHANE	ND	1.0	0.20
BROMOFORM	ND	1.0	0.30
BROMOMETHANE	ND	1.0	0.20
CARBON TETRACHLORIDE	ND	1.0	0.20
CHLOROBENZENE	ND	1.0	0.20
CHLOROETHANE	ND	1.0	0.20
CHLOROFORM	ND	1.0	0.20
CHLOROMETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
DIBROMOCHLOROMETHANE	ND	1.0	0.20
ETHYLBENZENE	ND	0.50	0.20
XYLENES	ND	1.0	0.20
MTBE	ND	1.0	0.20
METHYLENE CHLORIDE	ND	1.0	0.50
STYRENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TOLUENE	ND	0.50	0.20
TRANS-1,2-DICHLOROETHENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL ACETATE	ND	50	0.20
VINYL CHLORIDE	ND	0.50	0.20

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	85	65-135
4-BROMOFLUOROBENZENE	103	75-125
TOLUENE-D8	110	75-125

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: TETRA TECH EC, INC.	Date Collected:	09/15/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/15/06
Batch No.	: 06I125	Date Extracted:	09/20/06 10:49
Sample ID:	10-002	Date Analyzed:	09/20/06 10:49
Lab Samp ID:	I125-02	Dilution Factor:	1
Lab File ID:	RIQ524	Matrix :	WATER
Ext Btch ID:	VO05I44	% Moisture :	NA
Calib. Ref.:	RIQ355	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	0.50J	1.0	0.20
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.20
1,1,2-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	21	1.0	0.20
1,1-DICHLOROETHENE	46	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
1,2-DICHLOROPROPANE	ND	1.0	0.20
2-BUTANONE	ND	50	5.0
2-HEXANONE	ND	50	5.0
4-METHYL-2-PENTANONE	ND	50	5.0
ACETONE	ND	50	5.0
BENZENE	ND	0.50	0.20
BROMODICHLOROMETHANE	ND	1.0	0.20
BROMOFORM	ND	1.0	0.30
BROMOMETHANE	ND	1.0	0.20
CARBON TETRACHLORIDE	ND	1.0	0.20
CHLOROBENZENE	ND	1.0	0.20
CHLOROETHANE	ND	1.0	0.20
CHLOROFORM	ND	1.0	0.20
CHLOROMETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
DIBROMOCHLOROMETHANE	ND	1.0	0.20
ETHYLBENZENE	ND	0.50	0.20
XYLENES	ND	1.0	0.20
MTBE	ND	1.0	0.20
METHYLENE CHLORIDE	ND	1.0	0.50
STYRENE	ND	1.0	0.20
TETRACHLOROETHENE	4.7	1.0	0.20
TOLUENE	ND	0.50	0.20
TRANS-1,2-DICHLOROETHENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRICHLOROETHENE	43	1.0	0.20
VINYL ACETATE	ND	50	0.20
VINYL CHLORIDE	ND	0.50	0.20

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	97	65-135
4-BROMOFLUOROBENZENE	104	75-125
TOLUENE-D8	103	75-125

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: TETRA TECH EC, INC.	Date Collected:	09/15/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/15/06
Batch No.	: 06I125	Date Extracted:	09/20/06 11:26
Sample ID:	10-003	Date Analyzed:	09/20/06 11:26
Lab Samp ID:	I125-03	Dilution Factor:	1
Lab File ID:	RIQ525	Matrix :	WATER
Ext Btch ID:	VO05I44	% Moisture :	NA
Calib. Ref.:	RIQ355	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	1.7	1.0	0.20
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.20
1,1,2-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	74E	1.0	0.20
1,1-DICHLOROETHENE	180E	1.0	0.20
1,2-DICHLOROETHANE	0.37J	1.0	0.20
1,2-DICHLOROPROPANE	ND	1.0	0.20
2-BUTANONE	ND	50	5.0
2-HEXANONE	ND	50	5.0
4-METHYL-2-PENTANONE	ND	50	5.0
ACETONE	ND	50	5.0
BENZENE	ND	0.50	0.20
BROMODICHLOROMETHANE	ND	1.0	0.20
BROMOFORM	ND	1.0	0.30
BROMOMETHANE	ND	1.0	0.20
CARBON TETRACHLORIDE	ND	1.0	0.20
CHLOROBENZENE	ND	1.0	0.20
CHLOROETHANE	ND	1.0	0.20
CHLOROFORM	ND	1.0	0.20
CHLOROMETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	0.57J	1.0	0.20
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
DIBROMOCHLOROMETHANE	ND	1.0	0.20
ETHYLBENZENE	ND	0.50	0.20
XYLENES	ND	1.0	0.20
MTBE	ND	1.0	0.20
METHYLENE CHLORIDE	ND	1.0	0.50
STYRENE	ND	1.0	0.20
TETRACHLOROETHENE	15	1.0	0.20
TOLUENE	ND	0.50	0.20
TRANS-1,2-DICHLOROETHENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRICHLOROETHENE	150E	1.0	0.20
VINYL ACETATE	ND	50	0.20
VINYL CHLORIDE	0.43J	0.50	0.20

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	101	65-135
4-BROMOFLUOROBENZENE	105	75-125
TOLUENE-D8	105	75-125

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: TETRA TECH EC, INC.	Date Collected:	09/15/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/15/06
Batch No.	: 06I125	Date Extracted:	09/20/06 12:48
Sample ID:	10-003DL	Date Analyzed:	09/20/06 12:48
Lab Samp ID:	I125-03T	Dilution Factor:	10
Lab File ID:	RIQ527	Matrix :	WATER
Ext Btch ID:	VO05I44	% Moisture :	NA
Calib. Ref.:	RIQ355	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	10	2.0
1,1,2,2-TETRACHLOROETHANE	ND	10	2.0
1,1,2-TRICHLOROETHANE	ND	10	2.0
1,1-DICHLOROETHANE	75	10	2.0
1,1-DICHLOROETHENE	170	10	2.0
1,2-DICHLOROETHANE	ND	10	2.0
1,2-DICHLOROPROPANE	ND	10	2.0
2-BUTANONE	ND	500	50
2-HEXANONE	ND	500	50
4-METHYL-2-PENTANONE	ND	500	50
ACETONE	ND	500	50
BENZENE	ND	5.0	2.0
BROMODICHLOROMETHANE	ND	10	2.0
BROMOFORM	ND	10	3.0
BROMOMETHANE	ND	10	2.0
CARBON TETRACHLORIDE	ND	10	2.0
CHLOROBENZENE	ND	10	2.0
CHLOROETHANE	ND	10	2.0
CHLOROFORM	ND	10	2.0
CHLOROMETHANE	ND	10	2.0
CIS-1,2-DICHLOROETHENE	ND	10	2.0
CIS-1,3-DICHLOROPROPENE	ND	10	2.0
DIBROMOCHLOROMETHANE	ND	10	2.0
ETHYLBENZENE	ND	5.0	2.0
XYLENES	ND	10	2.0
MTBE	ND	10	2.0
METHYLENE CHLORIDE	ND	10	5.0
STYRENE	ND	10	2.0
TETRACHLOROETHENE	15	10	2.0
TOLUENE	ND	5.0	2.0
TRANS-1,2-DICHLOROETHENE	ND	10	2.0
TRANS-1,3-DICHLOROPROPENE	ND	10	2.0
TRICHLOROETHENE	140	10	2.0
VINYL ACETATE	ND	500	2.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	65-135
4-BROMOFLUOROBENZENE	104	75-125
TOLUENE-D8	104	75-125

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: TETRA TECH EC, INC.	Date Collected:	09/18/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/19/06
Batch No.	: 06I154	Date Extracted:	09/21/06 10:19
Sample ID:	10-004	Date Analyzed:	09/21/06 10:19
Lab Samp ID:	I154-01	Dilution Factor:	1
Lab File ID:	RIQ560	Matrix :	WATER
Ext Btch ID:	VO05I47	% Moisture :	NA
Calib. Ref.:	RIQ355	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.20
1,1,2-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
1,2-DICHLOROPROPANE	ND	1.0	0.20
2-BUTANONE	ND	50	5.0
2-HEXANONE	ND	50	5.0
4-METHYL-2-PENTANONE	ND	50	5.0
ACETONE	ND	50	5.0
BENZENE	ND	0.50	0.20
BROMODICHLOROMETHANE	ND	1.0	0.20
BROMOFORM	ND	1.0	0.30
BROMOMETHANE	ND	1.0	0.20
CARBON TETRACHLORIDE	ND	1.0	0.20
CHLOROBENZENE	ND	1.0	0.20
CHLOROETHANE	ND	1.0	0.20
CHLOROFORM	ND	1.0	0.20
CHLOROMETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
DIBROMOCHLOROMETHANE	ND	1.0	0.20
ETHYLBENZENE	ND	0.50	0.20
XYLENES	ND	1.0	0.20
MTBE	ND	1.0	0.20
METHYLENE CHLORIDE	ND	1.0	0.50
STYRENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TOLUENE	0.51	0.50	0.20
TRANS-1,2-DICHLOROETHENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL ACETATE	ND	50	0.20
VINYL CHLORIDE	ND	0.50	0.20

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	105	65-135
4-BROMOFLUOROBENZENE	105	75-125
TOLUENE-D8	104	75-125

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: TETRA TECH EC, INC.	Date Collected:	09/18/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/19/06
Batch No.	: 06I154	Date Extracted:	09/21/06 10:56
Sample ID:	10-005	Date Analyzed:	09/21/06 10:56
Lab Samp ID:	I154-02	Dilution Factor:	1
Lab File ID:	RIQ561	Matrix :	WATER
Ext Btch ID:	V005I47	% Moisture :	NA
Calib. Ref.:	RIQ355	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	0.24J	1.0	0.20
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.20
1,1,2-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	11	1.0	0.20
1,1-DICHLOROETHENE	23	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
1,2-DICHLOROPROPANE	ND	1.0	0.20
2-BUTANONE	ND	50	5.0
2-HEXANONE	ND	50	5.0
4-METHYL-2-PENTANONE	ND	50	5.0
ACETONE	ND	50	5.0
BENZENE	ND	0.50	0.20
BROMODICHLOROMETHANE	ND	1.0	0.20
BROMOFORM	ND	1.0	0.30
BROMOMETHANE	ND	1.0	0.20
CARBON TETRACHLORIDE	ND	1.0	0.20
CHLOROBENZENE	ND	1.0	0.20
CHLOROETHANE	ND	1.0	0.20
CHLOROFORM	ND	1.0	0.20
CHLOROMETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
DIBROMOCHLOROMETHANE	ND	1.0	0.20
ETHYLBENZENE	ND	0.50	0.20
XYLENES	ND	1.0	0.20
MTBE	ND	1.0	0.20
METHYLENE CHLORIDE	ND	1.0	0.50
STYRENE	ND	1.0	0.20
TETRACHLOROETHENE	2.3	1.0	0.20
TOLUENE	ND	0.50	0.20
TRANS-1,2-DICHLOROETHENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRICHLOROETHENE	22	1.0	0.20
VINYL ACETATE	ND	50	0.20
VINYL CHLORIDE	ND	0.50	0.20

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	104	65-135
4-BROMOFLUOROBENZENE	107	75-125
TOLUENE-D8	104	75-125

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: TETRA TECH EC, INC.	Date Collected:	09/18/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/19/06
Batch No.	: 06I154	Date Extracted:	09/21/06 11:32
Sample ID:	10-006	Date Analyzed:	09/21/06 11:32
Lab Samp ID:	I154-03	Dilution Factor:	1
Lab File ID:	RIQ562	Matrix :	WATER
Ext Btch ID:	VO05I47	% Moisture :	NA
Calib. Ref.:	RIQ355	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.20
1,1,2-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
1,2-DICHLOROPROPANE	ND	1.0	0.20
2-BUTANONE	ND	50	5.0
2-HEXANONE	ND	50	5.0
4-METHYL-2-PENTANONE	ND	50	5.0
ACETONE	5.7J	50	5.0
BENZENE	ND	0.50	0.20
BROMODICHLOROMETHANE	ND	1.0	0.20
BROMOFORM	ND	1.0	0.30
BROMOMETHANE	ND	1.0	0.20
CARBON TETRACHLORIDE	ND	1.0	0.20
CHLOROBENZENE	ND	1.0	0.20
CHLOROETHANE	ND	1.0	0.20
CHLOROFORM	0.28J	1.0	0.20
CHLOROMETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
DIBROMOCHLOROMETHANE	ND	1.0	0.20
ETHYLBENZENE	ND	0.50	0.20
XYLENES	ND	1.0	0.20
MTBE	ND	1.0	0.20
METHYLENE CHLORIDE	ND	1.0	0.50
STYRENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TOLUENE	ND	0.50	0.20
TRANS-1,2-DICHLOROETHENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL ACETATE	ND	50	0.20
VINYL CHLORIDE	ND	0.50	0.20

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	106	65-135
4-BROMOFLUOROBENZENE	106	75-125
TOLUENE-D8	107	75-125

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: TETRA TECH EC, INC.	Date Collected:	NA
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/20/06
Batch No.	: 061125	Date Extracted:	09/20/06 04:32
Sample ID:	MBLK1W	Date Analyzed:	09/20/06 04:32
Lab Samp ID:	V005I44Q	Dilution Factor:	1
Lab File ID:	RIQ514	Matrix :	WATER
Ext Btch ID:	V005I44	% Moisture :	NA
Calib. Ref.:	RIQ355	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.20
1,1,2-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
1,2-DICHLOROPROPANE	ND	1.0	0.20
2-BUTANONE	ND	50	5.0
2-HEXANONE	ND	50	5.0
4-METHYL-2-PENTANONE	ND	50	5.0
ACETONE	ND	50	5.0
BENZENE	ND	0.50	0.20
BROMODICHLOROMETHANE	ND	1.0	0.20
BROMOFORM	ND	1.0	0.30
BROMOMETHANE	ND	1.0	0.20
CARBON TETRACHLORIDE	ND	1.0	0.20
CHLOROBENZENE	ND	1.0	0.20
CHLOROETHANE	ND	1.0	0.20
CHLOROFORM	ND	1.0	0.20
CHLOROMETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
DIBROMOCHLOROMETHANE	ND	1.0	0.20
ETHYLBENZENE	ND	0.50	0.20
XYLENES	ND	1.0	0.20
MTBE	ND	1.0	0.20
METHYLENE CHLORIDE	ND	1.0	0.50
STYRENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TOLUENE	ND	0.50	0.20
TRANS-1,2-DICHLOROETHENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL ACETATE	ND	50	0.20
VINYL CHLORIDE	ND	0.50	0.20

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	105	65-135
4-BROMOFLUOROBENZENE	101	75-125
TOLUENE-D8	101	75-125

SW 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: TETRA TECH EC, INC.	Date Collected:	NA
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/21/06
Batch No.	: 06I154	Date Extracted:	09/21/06 06:01
Sample ID:	MBLK1W	Date Analyzed:	09/21/06 06:01
Lab Samp ID:	VO05I47Q	Dilution Factor:	1
Lab File ID:	RIQ553	Matrix :	WATER
Ext Btch ID:	VO05I47	% Moisture :	NA
Calib. Ref.:	RIQ355	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1,2,2-TETRACHLOROETHANE	ND	1.0	0.20
1,1,2-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
1,2-DICHLOROPROPANE	ND	1.0	0.20
2-BUTANONE	ND	50	5.0
2-HEXANONE	ND	50	5.0
4-METHYL-2-PENTANONE	ND	50	5.0
ACETONE	ND	50	5.0
BENZENE	ND	0.50	0.20
BROMODICHLOROMETHANE	ND	1.0	0.20
BROMOFORM	ND	1.0	0.30
BROMOMETHANE	ND	1.0	0.20
CARBON TETRACHLORIDE	ND	1.0	0.20
CHLOROBENZENE	ND	1.0	0.20
CHLOROETHANE	ND	1.0	0.20
CHLOROFORM	ND	1.0	0.20
CHLOROMETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
CIS-1,3-DICHLOROPROPENE	ND	1.0	0.20
DIBROMOCHLOROMETHANE	ND	1.0	0.20
ETHYLBENZENE	ND	0.50	0.20
XYLENES	ND	1.0	0.20
MTBE	ND	1.0	0.20
METHYLENE CHLORIDE	ND	1.0	0.50
STYRENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TOLUENE	ND	0.50	0.20
TRANS-1,2-DICHLOROETHENE	ND	1.0	0.20
TRANS-1,3-DICHLOROPROPENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL ACETATE	ND	50	0.20
VINYL CHLORIDE	ND	0.50	0.20

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	111	65-135
4-BROMOFLUOROBENZENE	105	75-125
TOLUENE-D8	103	75-125

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: TETRA TECH EC, INC.	Date Collected:	09/15/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/15/06
Batch No.	: 06I125	Date Extracted:	09/18/06 19:21
Sample ID:	10-001	Date Analyzed:	09/18/06 19:21
Lab Samp ID:	I125-01	Dilution Factor:	1
Lab File ID:	EI18014A	Matrix :	WATER
Ext Btch ID:	VA39I10	% Moisture :	NA
Calib. Ref.:	EI18013A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.10	0.020

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	95	65-135

Parameter	H-C Range
Gasoline	C6-C10

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: TETRA TECH EC, INC.	Date Collected:	09/15/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/15/06
Batch No.	: 06I125	Date Extracted:	09/18/06 20:00
Sample ID:	10-002	Date Analyzed:	09/18/06 20:00
Lab Samp ID:	I125-02	Dilution Factor:	1
Lab File ID:	EI18015A	Matrix :	WATER
Ext Btch ID:	VA39I10	% Moisture :	NA
Calib. Ref.:	EI18013A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.10	0.020

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	94	65-135

Parameter	H-C Range
Gasoline	C6-C10

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: TETRA TECH EC, INC.	Date Collected:	09/15/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/15/06
Batch No.	: 06I125	Date Extracted:	09/18/06 20:38
Sample ID:	10-003	Date Analyzed:	09/18/06 20:38
Lab Samp ID:	I125-03	Dilution Factor:	1
Lab File ID:	EI18016A	Matrix :	WATER
Ext Btch ID:	VA39I10	% Moisture :	NA
Calib. Ref.:	EI18013A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.10	0.020

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	97	65-135

Parameter	H-C Range
Gasoline	C6-C10

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: TETRA TECH EC, INC.	Date Collected:	09/18/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/19/06
Batch No.	: 06I154	Date Extracted:	09/23/06 00:55
Sample ID:	10-004	Date Analyzed:	09/23/06 00:55
Lab Samp ID:	I154-01	Dilution Factor:	1
Lab File ID:	EI22019A	Matrix :	WATER
Ext Btch ID:	VA39I11	% Moisture :	NA
Calib. Ref.:	EI22013A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.10	0.020

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	90	65-135

Parameter	H-C Range
Gasoline	C6-C10

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: TETRA TECH EC, INC.	Date Collected:	09/18/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/19/06
Batch No.	: 06I154	Date Extracted:	09/23/06 01:34
Sample ID:	10-005	Date Analyzed:	09/23/06 01:34
Lab Samp ID:	I154-02	Dilution Factor:	1
Lab File ID:	EI22020A	Matrix :	WATER
Ext Btch ID:	VA39I11	% Moisture :	NA
Calib. Ref.:	EI22013A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.10	0.020

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	91	65-135

Parameter	H-C Range
Gasoline	C6-C10

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: TETRA TECH EC, INC.	Date Collected:	09/18/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/19/06
Batch No.	: 06I154	Date Extracted:	09/23/06 02:12
Sample ID:	10-006	Date Analyzed:	09/23/06 02:12
Lab Samp ID:	I154-03	Dilution Factor:	1
Lab File ID:	EI22021A	Matrix :	WATER
Ext Btch ID:	VA39I11	% Moisture :	NA
Calib. Ref.:	EI22013A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.10	0.020

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	88	65-135

Parameter	H-C Range
Gasoline	C6-C10

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: TETRA TECH EC, INC.	Date Collected:	NA
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/18/06
Batch No.	: 06I125	Date Extracted:	09/18/06 13:34
Sample ID:	MBLK1W	Date Analyzed:	09/18/06 13:34
Lab Samp ID:	VA39I10B	Dilution Factor:	1
Lab File ID:	EI18005A	Matrix :	WATER
Ext Btch ID:	VA39I10	% Moisture :	NA
Calib. Ref.:	EI18002A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.10	0.020

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	95	65-135

Parameter	H-C Range
Gasoline	C6-C10

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: TETRA TECH EC, INC.	Date Collected:	NA
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/22/06
Batch No.	: 06I154	Date Extracted:	09/22/06 13:58
Sample ID:	MBLK1W	Date Analyzed:	09/22/06 13:58
Lab Samp ID:	VA39I11B	Dilution Factor:	1
Lab File ID:	EI22003A	Matrix :	WATER
Ext Btch ID:	VA39I11	% Moisture :	NA
Calib. Ref.:	EI22002A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	0.10	0.020

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	96	65-135

Parameter	H-C Range
Gasoline	C6-C10

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TETRA TECH EC, INC.	Date Collected:	09/15/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/15/06
Batch No.	: 06I125	Date Extracted:	09/20/06 16:30
Sample ID:	10-002	Date Analyzed:	09/21/06 20:01
Lab Samp ID:	I125-02	Dilution Factor:	0.94
Lab File ID:	LI21034A	Matrix :	WATER
Ext Btch ID:	DSI022W	% Moisture :	NA
Calib. Ref.:	LI21029A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	ND	0.47	0.094
MOTOR OIL	ND	0.94	0.094

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	88	65-135
HEXACOSANE	95	65-135

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TETRA TECH EC, INC.	Date Collected:	09/15/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/15/06
Batch No.	: 06I125	Date Extracted:	09/20/06 16:30
Sample ID:	10-003	Date Analyzed:	09/21/06 20:18
Lab Samp ID:	I125-03	Dilution Factor:	0.94
Lab File ID:	LI21035A	Matrix :	WATER
Ext Btch ID:	DSI022W	% Moisture :	NA
Calib. Ref.:	LI21029A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	ND	0.47	0.094
MOTOR OIL	ND	0.94	0.094

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	93	65-135
HEXACOSANE	94	65-135

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TETRA TECH EC, INC.	Date Collected:	09/18/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/19/06
Batch No.	: 06I154	Date Extracted:	09/20/06 16:30
Sample ID:	10-005	Date Analyzed:	09/21/06 20:51
Lab Samp ID:	I154-02	Dilution Factor:	0.96
Lab File ID:	LI21037A	Matrix :	WATER
Ext Btch ID:	DSI022W	% Moisture :	NA
Calib. Ref.:	LI21029A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	ND	0.48	0.096
MOTOR OIL	ND	0.96	0.096

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	88	65-135
HEXACOSANE	90	65-135

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TETRA TECH EC, INC.	Date Collected:	09/18/06
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/19/06
Batch No.	: 06I154	Date Extracted:	09/20/06 16:30
Sample ID:	10-006	Date Analyzed:	09/21/06 21:07
Lab Samp ID:	I154-03	Dilution Factor:	1.02
Lab File ID:	LI21038A	Matrix :	WATER
Ext Btch ID:	DSI022W	% Moisture :	NA
Calib. Ref.:	LI21029A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	ND	0.51	0.10
MOTOR OIL	ND	1.0	0.10

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	90	65-135
HEXACOSANE	89	65-135

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TETRA TECH EC, INC.	Date Collected:	NA
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/20/06
Batch No.	: 06I125	Date Extracted:	09/20/06 16:30
Sample ID:	MBLK1W	Date Analyzed:	09/21/06 19:12
Lab Samp ID:	DSI022WB	Dilution Factor:	1
Lab File ID:	LI21031A	Matrix :	WATER
Ext Btch ID:	DSI022W	% Moisture :	NA
Calib. Ref.:	LI21029A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	ND	0.50	0.10
MOTOR OIL	ND	1.0	0.10

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	90	65-135
HEXACOSANE	91	65-135

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: TETRA TECH EC, INC.	Date Collected:	NA
Project	: NWS SEAL BEACH, CTO 010	Date Received:	09/20/06
Batch No.	: 06I154	Date Extracted:	09/20/06 16:30
Sample ID:	MBLK1W	Date Analyzed:	09/21/06 19:12
Lab Samp ID:	DSI022WB	Dilution Factor:	1
Lab File ID:	LI21031A	Matrix :	WATER
Ext Btch ID:	DSI022W	% Moisture :	NA
Calib. Ref.:	LI21029A	Instrument ID :	GCT105

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	ND	0.50	0.10
MOTOR OIL	ND	1.0	0.10

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOBENZENE	90	65-135
HEXACOSANE	91	65-135

Parameter	H-C Range
Diesel	C10-C24
Motor Oil	C24-C36

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Appendix C

Historical Maps and Photographs

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Environmental FirstSearch

Historical Aerial Photo

2002

Naval Weapons Station, Seal Beach, CA 90740

Job Number: 101003-02
Target Site: 33.739901, -118.043525

Approximate Scale: 1 in equals 375 ft

Environmental FirstSearch

Historical Aerial Photo

1994

Naval Weapons Station, Seal Beach, CA 90740

Job Number: 101003-02
Target Site: 33.739901, -118.043525

Approximate Scale: 1 in equals 375 ft

Environmental FirstSearch

Historical Aerial Photo

1983

Naval Weapons Station, Seal Beach, CA 90740

Job Number: 101003-02
Target Site: 33.739901, -118.043525

Approximate Scale: 1 in equals 375 ft

Environmental FirstSearch

Historical Aerial Photo

1977

Naval Weapons Station, Seal Beach, CA 90740

Job Number: 101003-02
Target Site: 33.739901, -118.043525

Approximate Scale: 1 in equals 375 ft

Environmental FirstSearch

Historical Aerial Photo

1968

Naval Weapons Station, Seal Beach, CA 90740

Job Number: 101003-02
Target Site: 33.739901, -118.043525

Approximate Scale: 1 in equals 375 ft

Environmental FirstSearch

Historical Aerial Photo

1960

Naval Weapons Station, Seal Beach, CA 90740

Job Number: 101003-02
Target Site: 33.739901, -118.043525

Approximate Scale: 1 in equals 375 ft

Environmental FirstSearch

Historical Aerial Photo

1956

Naval Weapons Station, Seal Beach, CA 90740

Job Number: 101003-02
Target Site: 33.739901, -118.043525

Approximate Scale: 1 in equals 375 ft

Environmental FirstSearch

Historical Aerial Photo

1947

Naval Weapons Station, Seal Beach, CA 90740

Job Number: 101003-02
Target Site: 33.739901, -118.043525

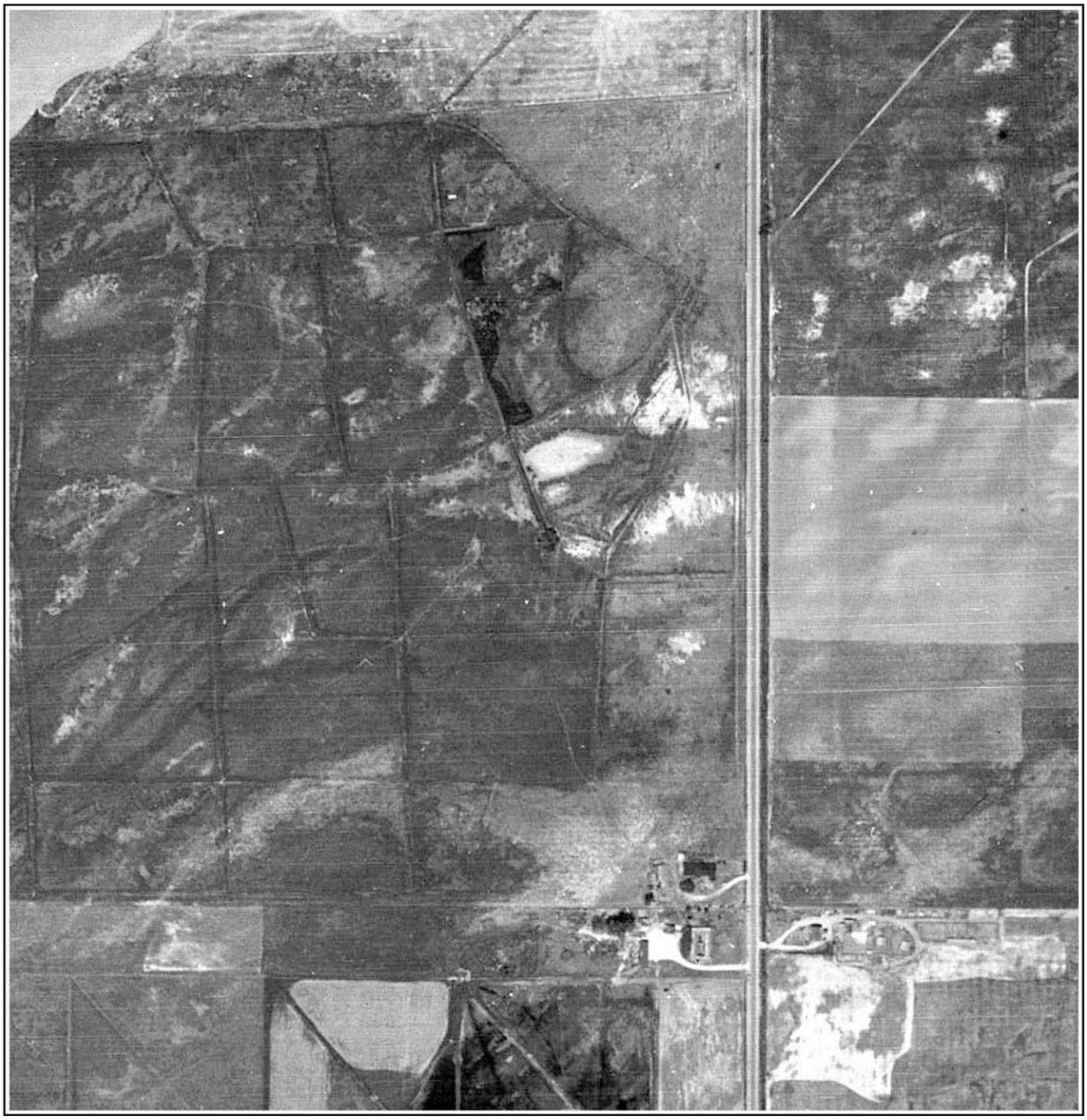
Approximate Scale: 1 in equals 375 ft

Environmental FirstSearch

Historical Aerial Photo

1938

Naval Weapons Station, Seal Beach, CA 90740



Job Number: 101003-02
Target Site: 33.739901, -118.043525

Approximate Scale: 1 in equals 375 ft

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IRP Site 75 - Agricultural Well KAYO-SB

Naval Weapons Station Seal Beach

Seal Beach, CA 90740

Inquiry Number: 3194837.5

October 28, 2011

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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Date EDR Searched Historical Sources:

Aerial Photography October 28, 2011

Target Property:

Naval Weapons Station Seal Beach
Seal Beach, CA 90740

Year	***Scale***	***Details***	***Source***
1927	Aerial Photograph. Scale: 1"=500'	Flight Year: 1927	Fairchild
1938	Aerial Photograph. Scale: 1"=555'	Flight Year: 1938	Laval
1947	Aerial Photograph. Scale: 1"=666'	Flight Year: 1947	Fairchild
1952	Aerial Photograph. Scale: 1"=666'	Flight Year: 1952	Pacific Air
1968	Aerial Photograph. Scale: 1"=480'	Flight Year: 1968	Teledyne
1977	Aerial Photograph. Scale: 1"=666'	Flight Year: 1977	Teledyne
1990	Aerial Photograph. Scale: 1"=666'	Flight Year: 1990	USGS
1994	Aerial Photograph. Scale: 1"=500'	/Composite DOQQ - acquisition dates: 1994	EDR
2005	Aerial Photograph. Scale: 1"=500'	Flight Year: 2005	EDR

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INQUIRY #: 3194837.5
YEAR: 1927
= 500'
N

INQUIRY #: 3194837.5
YEAR: 1938
= 555'
N
EDR Environmental Data Resources Inc

INQUIRY #: 3194837.5
YEAR: 1947
= 666'
N
EDR Environmental Data Resources Inc

INQUIRY #: 3194837.5
YEAR: 1952
= 666'
N
EDR Environmental Data Resources Inc

INQUIRY #: 3194837.5
YEAR: 1968
= 480'
N

INQUIRY #: 3194837.5
YEAR: 1977
= 666'
N

INQUIRY #: 3194837.5

YEAR: 1990

= 666'

N

EDR Environmental Data Resources Inc

INQUIRY #: 3194837.5
YEAR: 1994
= 500'
N

INQUIRY #: 3194837.5
YEAR: 2005
= 500'
N

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IRP Site 75 - Agricultural Well KAYO-SB

Naval Weapons Station Seal Beach

Seal Beach, CA 90740

Inquiry Number: 3194837.4

October 27, 2011

EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report AS IS. Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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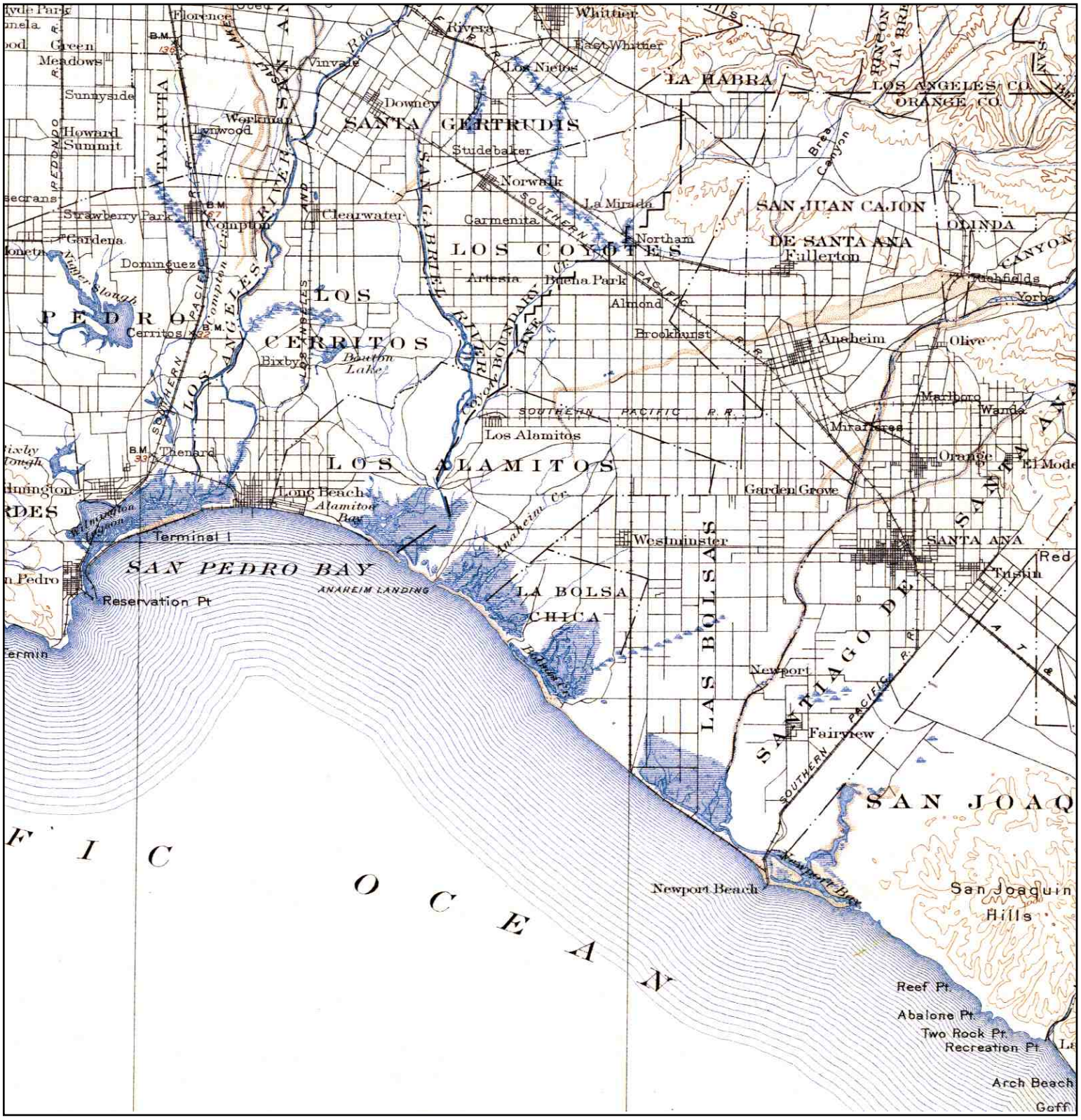
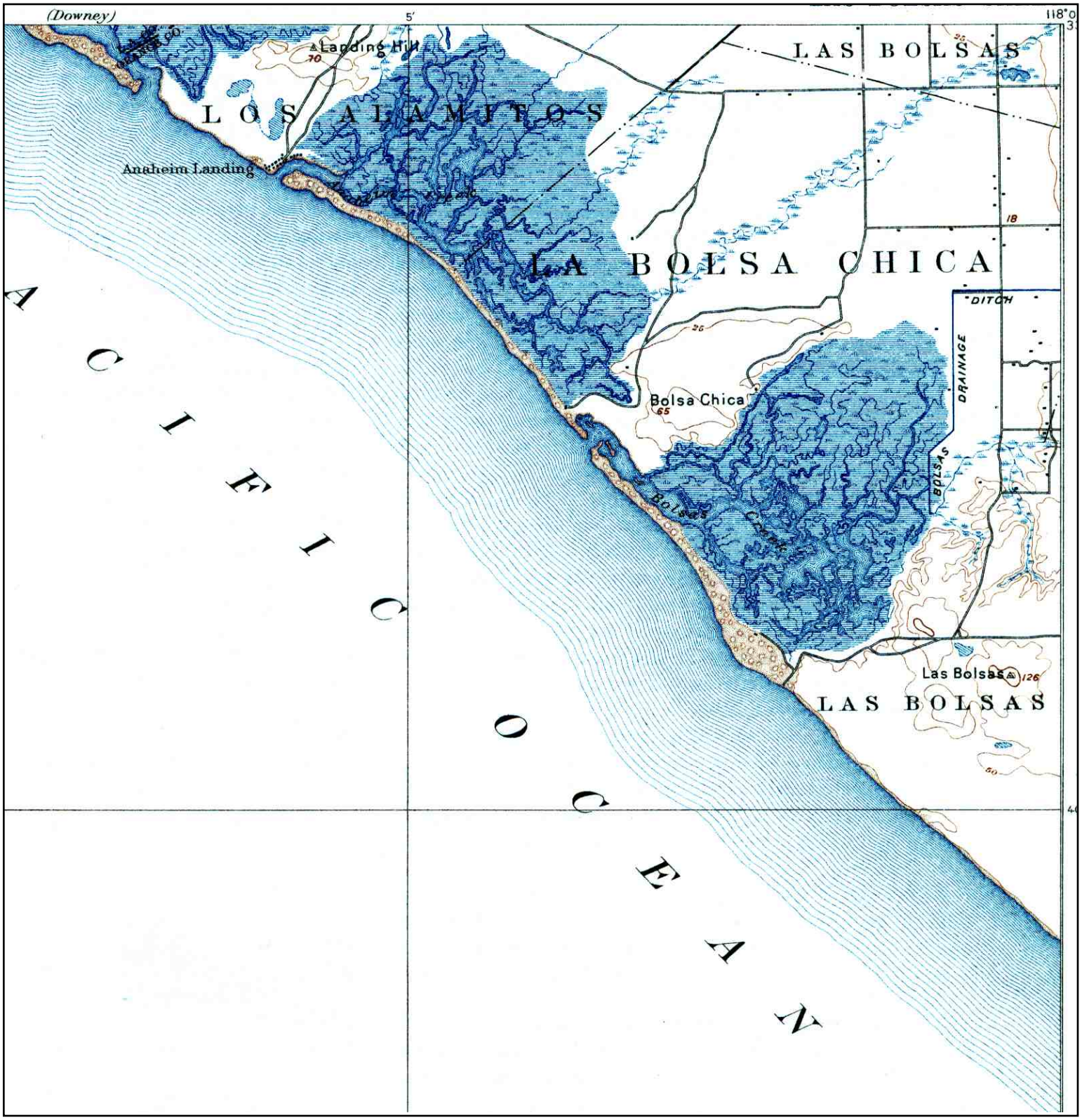
Historical Topographic Map



N	TARGET QUAD NAME: SOUTHERN CA SHEET 1 MAP YEAR: 1901 SERIES: 60 SCALE: 1:250000	SITE NAME: IRP Site 75 - Agricultural Well KAYO-SB ADDRESS: Naval Weapons Station Seal Beach Seal Beach, CA 90740 LAT/LONG: 33.7399 / -118.0435	CLIENT: Accord Environmental CONTACT: Michael Sayre INQUIRY#: 3194837.4 RESEARCH DATE: 10/27/2011

Historical Topographic Map

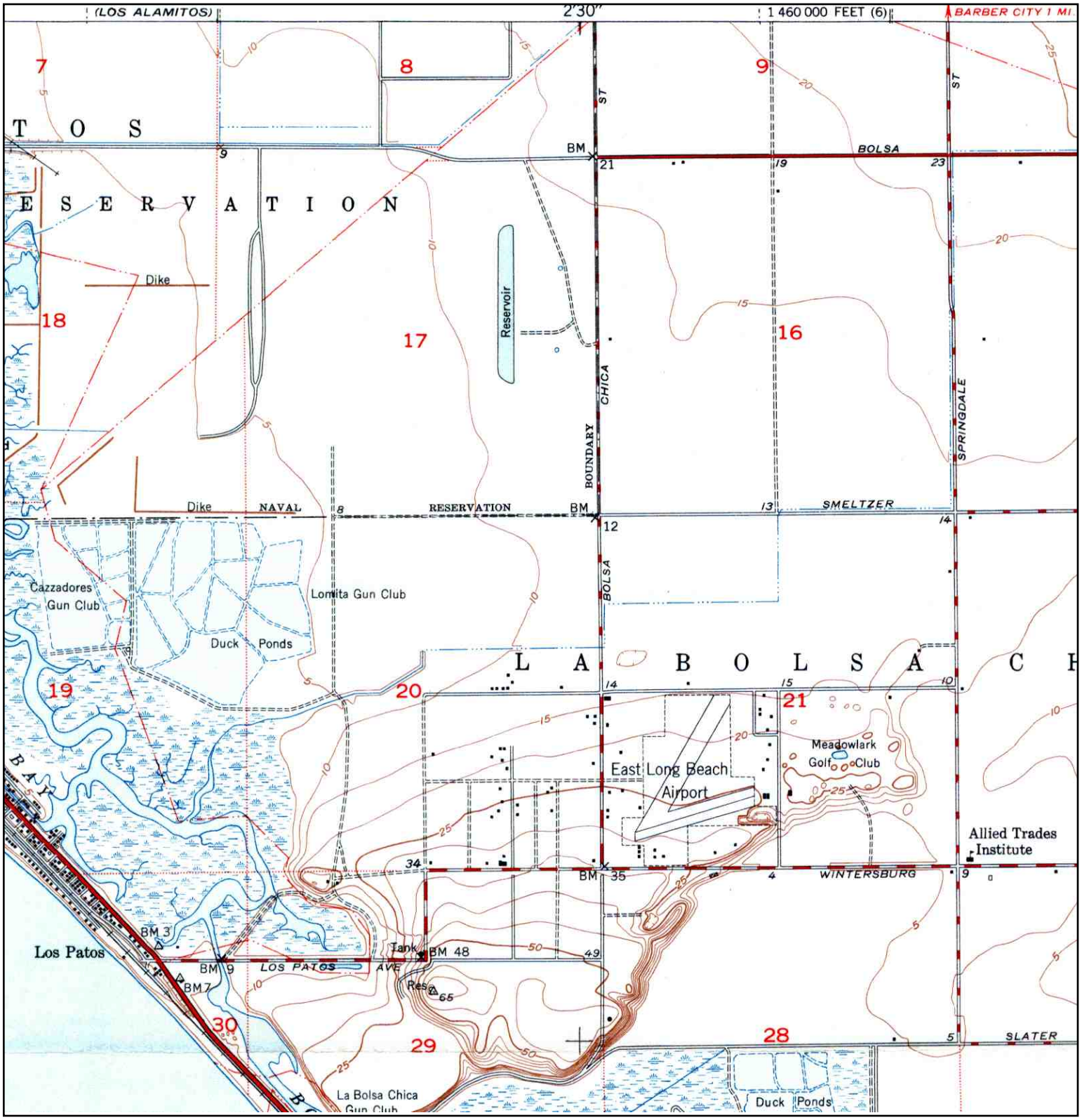


N	TARGET QUAD NAME: LAS BOLSAS MAP YEAR: 1934 SERIES: 15 SCALE: 1:62500	SITE NAME: IRP Site 75 - Agricultural Well KAYO-SB ADDRESS: Naval Weapons Station Seal Beach Seal Beach, CA 90740 LAT/LONG: 33.7399 / -118.0435	CLIENT: Accord Environmental CONTACT: Michael Sayre INQUIRY#: 3194837.4 RESEARCH DATE: 10/27/2011

Historical Topographic Map

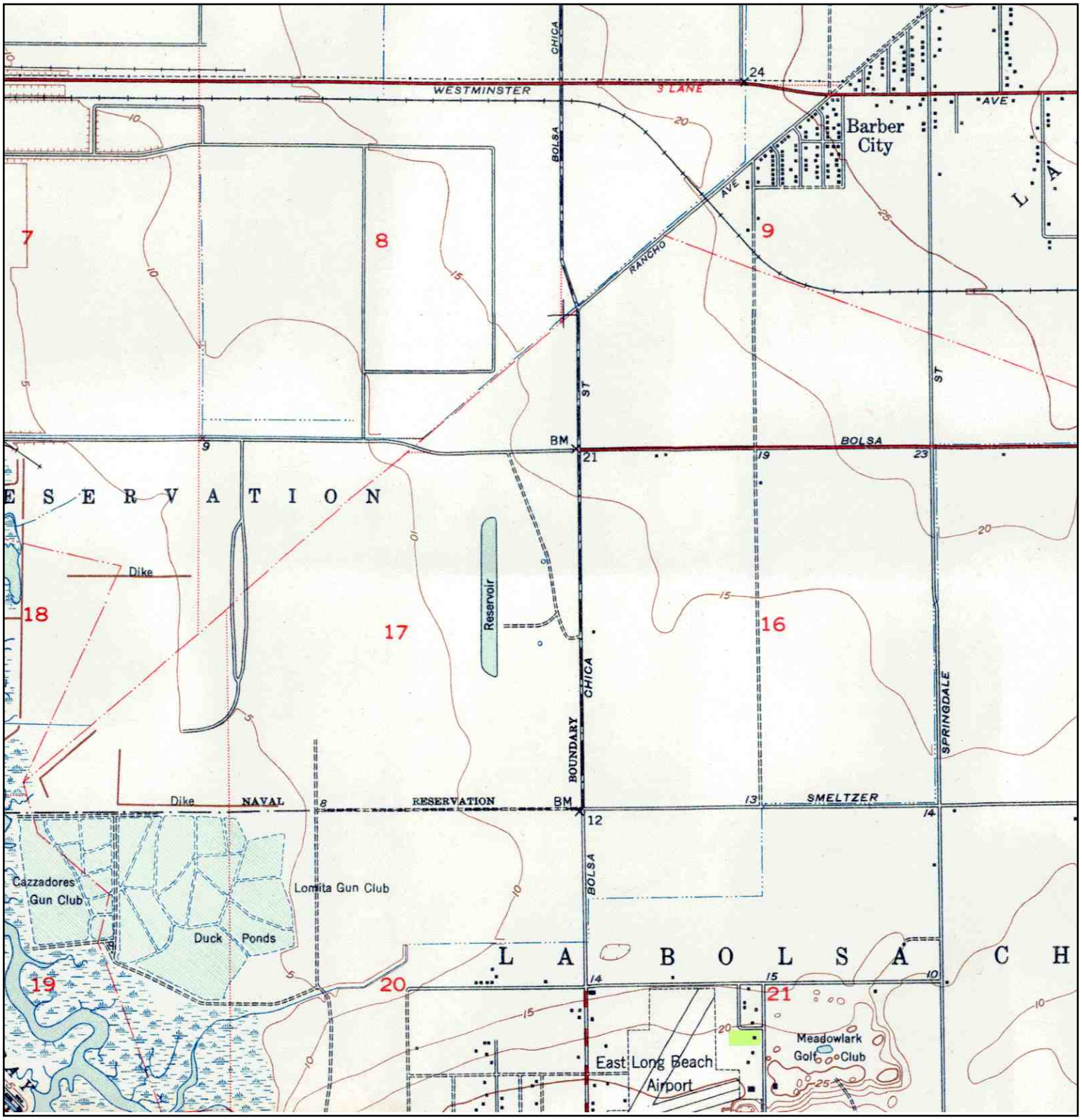
N	TARGET QUAD NAME: SEAL BEACH MAP YEAR: 1935 SERIES: 7.5 SCALE: 1:31680	SITE NAME: IRP Site 75 - Agricultural Well KAYO-SB ADDRESS: Naval Weapons Station Seal Beach Seal Beach, CA 90740 LAT/LONG: 33.7399 / -118.0435	CLIENT: Accord Environmental CONTACT: Michael Sayre INQUIRY#: 3194837.4 RESEARCH DATE: 10/27/2011

Historical Topographic Map



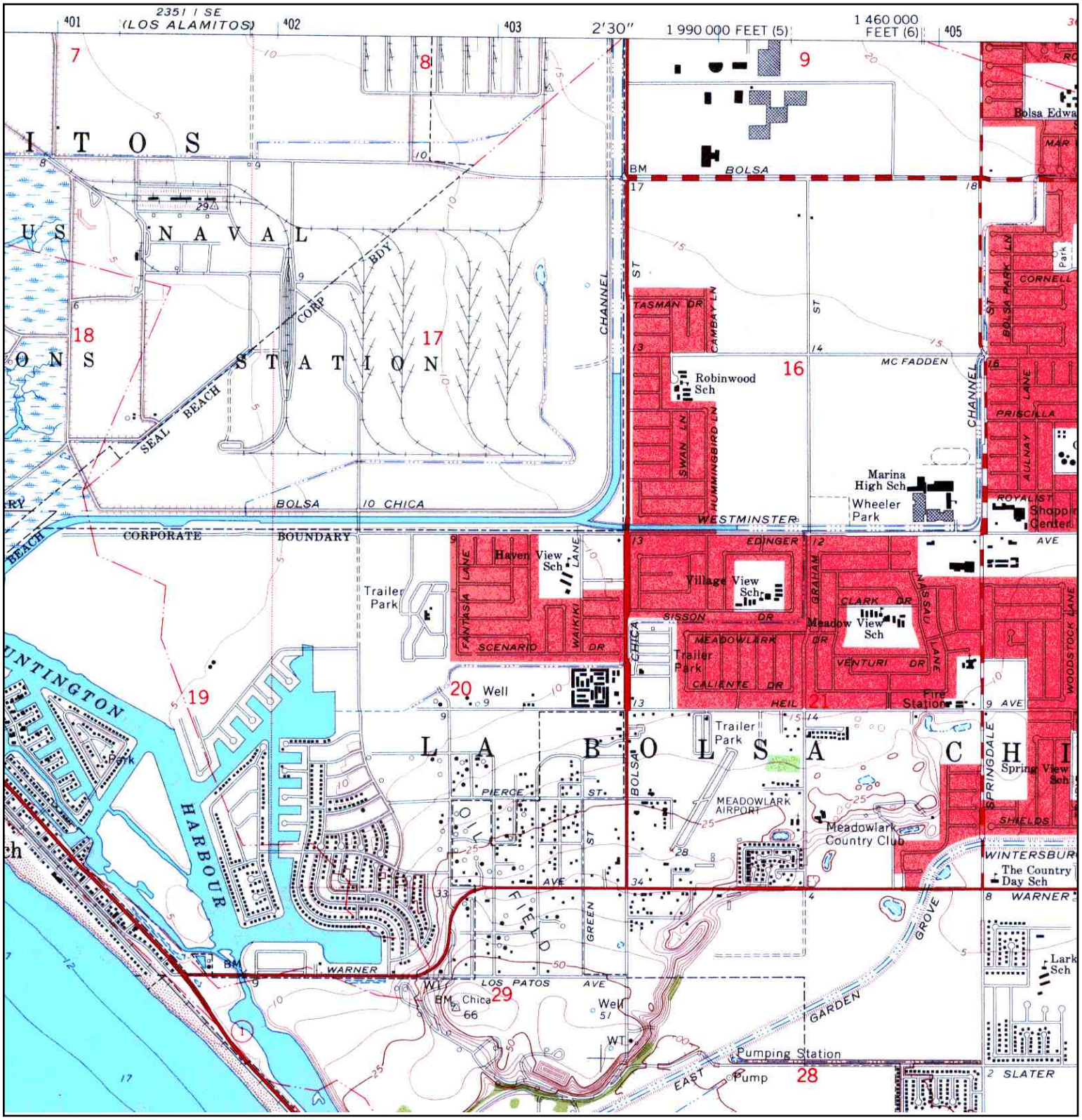
N	TARGET QUAD NAME: SEAL BEACH MAP YEAR: 1950 SERIES: 7.5 SCALE: 1:24000	SITE NAME: IRP Site 75 - Agricultural Well KAYO-SB ADDRESS: Naval Weapons Station Seal Beach Seal Beach, CA 90740 LAT/LONG: 33.7399 / -118.0435	CLIENT: Accord Environmental CONTACT: Michael Sayre INQUIRY#: 3194837.4 RESEARCH DATE: 10/27/2011

Historical Topographic Map



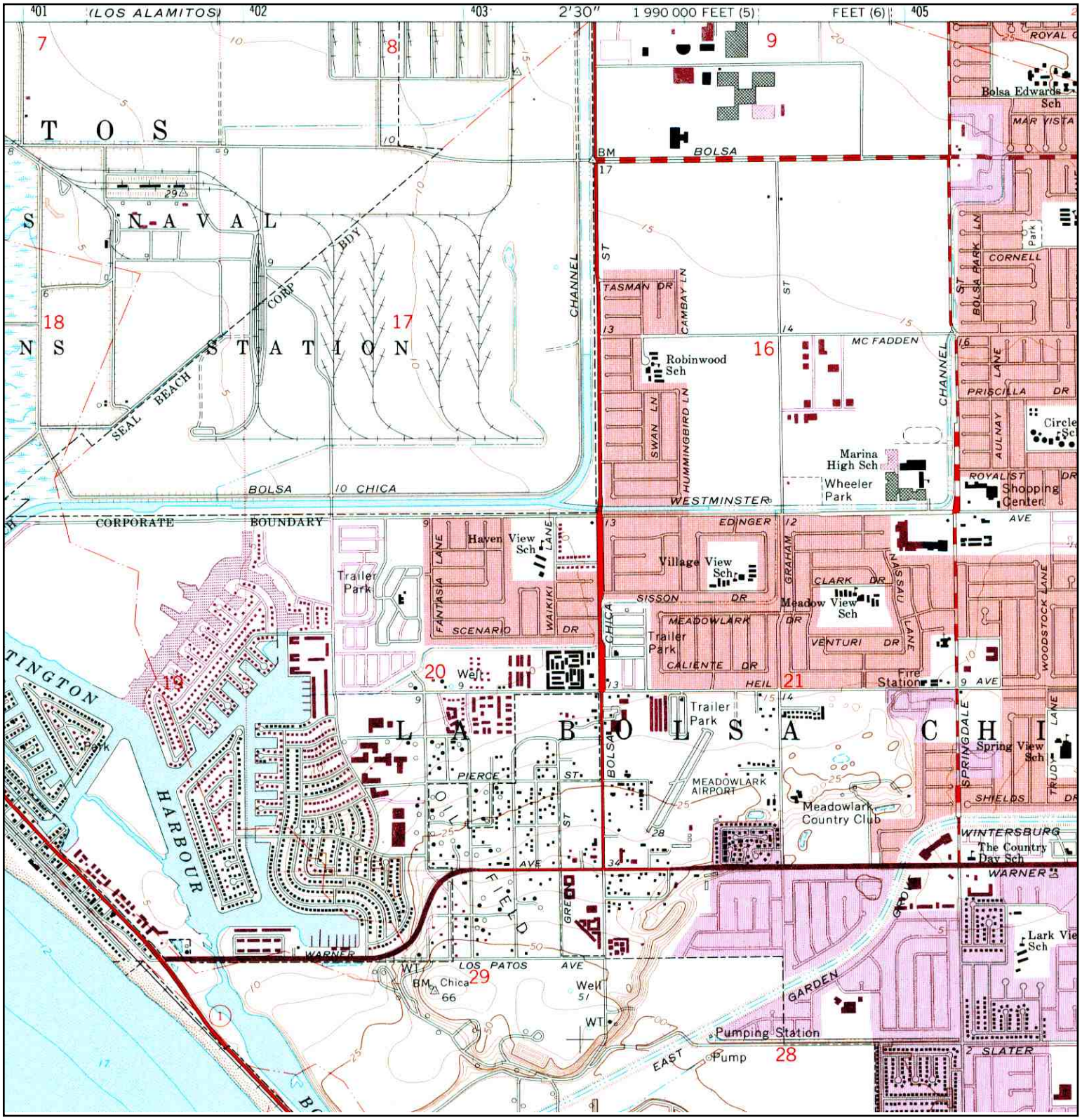
N	TARGET QUAD NAME: LONGBEACH VICINITY 1OF3 MAP YEAR: 1951 SERIES: 7.5 SCALE: 1:24000	SITE NAME: IRP Site 75 - Agricultural Well KAYO-SB ADDRESS: Naval Weapons Station Seal Beach Seal Beach, CA 90740 LAT/LONG: 33.7399 / -118.0435	CLIENT: Accord Environmental CONTACT: Michael Sayre INQUIRY#: 3194837.4 RESEARCH DATE: 10/27/2011

Historical Topographic Map



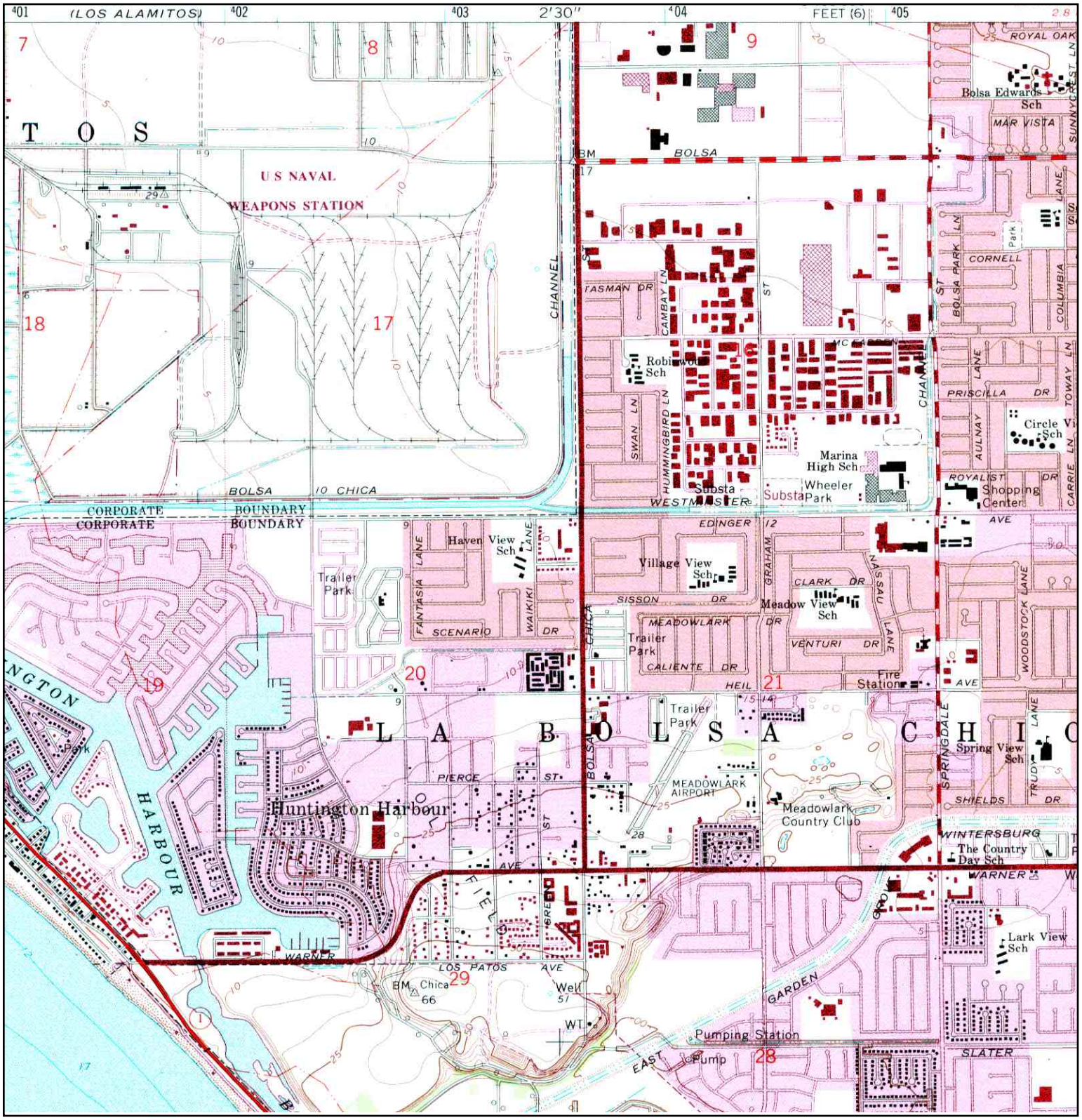
N	TARGET QUAD NAME: SEAL BEACH MAP YEAR: 1965 SERIES: 7.5 SCALE: 1:24000	SITE NAME: IRP Site 75 - Agricultural Well KAYO-SB ADDRESS: Naval Weapons Station Seal Beach Seal Beach, CA 90740 LAT/LONG: 33.7399 / -118.0435	CLIENT: Accord Environmental CONTACT: Michael Sayre INQUIRY#: 3194837.4 RESEARCH DATE: 10/27/2011

Historical Topographic Map



N	**TARGET QUAD** NAME: SEAL BEACH MAP YEAR: 1972 PHOTOREVISED:1965 SERIES: 7.5 SCALE: 1:24000	SITE NAME: IRP Site 75 - Agricultural Well KAYO-SB ADDRESS: Naval Weapons Station Seal Beach Seal Beach, CA 90740 LAT/LONG: 33.7399 / -118.0435	CLIENT: Accord Environmental CONTACT: Michael Sayre INQUIRY#: 3194837.4 RESEARCH DATE: 10/27/2011

Historical Topographic Map



N	**TARGET QUAD** NAME: SEAL BEACH MAP YEAR: 1981 PHOTOREVISED:1965 SERIES: 7.5 SCALE: 1:24000	SITE NAME: IRP Site 75 - Agricultural Well KAYO-SB ADDRESS: Naval Weapons Station Seal Beach Seal Beach, CA 90740 LAT/LONG: 33.7399 / -118.0435	CLIENT: Accord Environmental CONTACT: Michael Sayre INQUIRY#: 3194837.4 RESEARCH DATE: 10/27/2011

Appendix D (Included in CD-ROM)

Permits and Notifications

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Orange County Well Permit

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RECEIVED HCA/RH
JUN 20 2011
ENVIRONMENTAL HLTH

APPLICATION FOR WELL CONSTRUCTION PERMIT

ORANGE COUNTY HEALTH CARE AGENCY
ENVIRONMENTAL HEALTH DIVISION
1241 E. DYER ROAD, SUITE 120
SANTA ANA, CA 92705-4720
(714) 433-6000
FAX: (714) 433-6481

WELL PERMIT NUMBER 11-07-23

CITY: HUNTINGTON BEACH
DATE: JUNE 17, 2011

WELL LOCATION (ADDRESS IF AVAILABLE) WELL #8; 50 FEET SOUTH OF INTERSECTION OF BOLSA CHICA STREET AND ARGOSY AVENUE

NAME OF WELL OWNER: NAVAL WEAPONS STATION SEAL BEACH
ADDRESS: 800 W. SEAL BEACH BLVD BUILDING 230
CITY: SEAL BEACH ZIP: 90740 TELEPHONE: (562)626-7897

NAME OF CONSULTING FIRM: ACCORD ENGINEERING, INC.
BUSINESS ADDRESS: 2923 PULLMAN STREET
CITY: SANTA ANA ZIP: 92705 TELEPHONE: (714)241-7200

NAME OF DRILLING CO.: BOART LONGYEAR
C-57 LICENSE NO.: 694686
CITY: UPLAND ZIP: 91786 TELEPHONE: (909)946-1605

TYPE OF WELL *(CHECK)*

- PRIVATE DOMESTIC ☐
- PUBLIC DOMESTIC ☐
- IRRIGATION ☐
- CATHODIC ☐
- PROBE SURVEY ☐
- MONITORING ☒
- SOIL BORING ☐
- OTHER ____ ☐
- TOTAL NUMBER 1

A. WELLS – SUBMIT A WELL CONSTRUCTION DIAGRAM (INCLUDE DIMENSIONS)

B. SOIL BORINGS AND PROBES –
TOTAL DEPTH 300 feet
SEALING MATERIAL bentonite slurry

C. PROPOSED START DATE July 13, 2011

DIAGRAM OF WELL SITE *(Use additional sheets and/or attachments)*

☐ SITE PLAN ATTACHED

I hereby agree to comply in every respect with all requirements of the Health Care Agency and with all ordinances and laws of the County of Orange and of the State of California pertaining to well construction, reconstruction and destruction, including the requirements to maintain the integrity of all significant confining zones.

APPLICANT'S SIGNATURE: [signature] DATE: 6-20-11
PRINT NAME: Pei-Fen Tamashiro - NWS SEAL BEACH
PHONE NUMBER: 562-626-7897 FAX NUMBER: 562-626-7131

FOR ACCOUNTING USE ONLY:

HSO NO. ____ CHECK NO. ____
DATE 6/20/2011 AMOUNT EXEMPT
INTL. DMY

APPROVAL BY OTHER AGENCIES:

JURISDICTION ____
REMARKS ____

AUTHORIZED SIGNATURE ____ DATE ____

DISPOSITION OF PERMIT (DO NOT FILL IN):

☒ APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

A. NOTIFY THIS AGENCY AT LEAST 48 HOURS
☒ PRIOR TO START. Please call to notify of start date.
☐ PRIOR TO SEALING THE ANNULAR SPACE OR FILLING OF THE CONDUCTOR CASING.

B. ☒ SUBMIT TO THE AGENCY WITHIN 30 DAYS AFTER COMPLETION OF WORK, A WELL COMPLETION REPORT AND/OR DRILLING LOGS. PLEASE REFERENCE PERMIT NO.

C. ☒ SECURE ALL MONITORING WELLS TO PREVENT TAMPERING.

D. ☐ OTHER ____

☐ DENIED

PERMIT ISSUED BY: Juan Arzora DATE: 07.17.2011
PRINT NAME: Juan Arzora PHONE NUMBER: 7144336287

WHEN SIGNED BY ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A PERMIT.

F272-09.0803 (R11/01)

RECEIVED HCA/RH
JUN 20 2011
ENVIRONMENTAL HLTH

APPLICATION FOR WELL CONSTRUCTION PERMIT

ORANGE COUNTY HEALTH CARE AGENCY
ENVIRONMENTAL HEALTH DIVISION
1241 E. DYER ROAD, SUITE 120
SANTA ANA, CA 92705-4720
(714) 433-6000
FAX: (714) 433-6481

CITY: HUNTINGTON BEACH
DATE: JUNE 17, 2011

WELL LOCATION (ADDRESS IF AVAILABLE): WELL #9; 35 FEET NORTH OF INTERSECTION OF BOLSA CHICA STREET AND MCFADDEN AVENUE

WELL PERMIT NUMBER: 11-07-24

NAME OF WELL OWNER: NAVAL WEAPONS STATION SEAL BEACH
ADDRESS: 800 W. SEAL BEACH BLVD BUILDING 230
CITY: SEAL BEACH ZIP: 90740 TELEPHONE: (562)626-7897

NAME OF CONSULTING FIRM: ACCORD ENGINEERING, INC.
BUSINESS ADDRESS: 2923 PULLMAN STREET
CITY: SANTA ANA ZIP: 92705 TELEPHONE: (714)241-7200

NAME OF DRILLING CO.: BOART LONGYEAR
C-57 LICENSE NO.: 694686
CITY: UPLAND ZIP: 91786 TELEPHONE: (909)946-1605

TYPE OF WELL *(CHECK)*

- PRIVATE DOMESTIC ☐
- PUBLIC DOMESTIC ☐
- IRRIGATION ☐
- CATHODIC ☐
- PROBE SURVEY ☐
- MONITORING ☒
- SOIL BORING ☐
- OTHER _____ ☐
- TOTAL NUMBER 1

A. WELLS – SUBMIT A WELL CONSTRUCTION DIAGRAM (INCLUDE DIMENSIONS)

B. SOIL BORINGS AND PROBES –
TOTAL DEPTH 300 feet
SEALING MATERIAL bentonite slurry

C. PROPOSED START DATE July 13, 2011

DIAGRAM OF WELL SITE *(Use additional sheets and/or attachments)*

☐ SITE PLAN ATTACHED

I hereby agree to comply in every respect with all requirements of the Health Care Agency and with all ordinances and laws of the County of Orange and of the State of California pertaining to well construction, reconstruction and destruction, including the requirements to maintain the integrity of all significant confining zones.

APPLICANT'S SIGNATURE: [signature] DATE: 6-20-11
PRINT NAME: Pei-Fen Tamashiro - NWS SEAL BEACH
PHONE NUMBER: 562-626-7897 FAX NUMBER: 562-626-7131

FOR ACCOUNTING USE ONLY:

HSO NO. _____ CHECK NO. _____
DATE 6/20/2011 AMOUNT EXEMPT
INTL. DMM

APPROVAL BY OTHER AGENCIES:

JURISDICTION _____
REMARKS _____

AUTHORIZED SIGNATURE _____ DATE _____

DISPOSITION OF PERMIT (DO NOT FILL IN):

☒ APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

A. NOTIFY THIS AGENCY AT LEAST 48 HOURS
- ☒ PRIOR TO START. Please call to notify of start date
- ☐ PRIOR TO SEALING THE ANNULAR SPACE OR FILLING OF THE CONDUCTOR CASING.

B. ☒ SUBMIT TO THE AGENCY WITHIN 30 DAYS AFTER COMPLETION OF WORK, A WELL COMPLETION REPORT AND/OR DRILLING LOGS. PLEASE REFERENCE PERMIT NO.

C. ☒ SECURE ALL MONITORING WELLS TO PREVENT TAMPERING.

D. ☐ OTHER _____

☐ DENIED

PERMIT ISSUED BY: Juan Arzora DATE: 07.18.2011
PRINT NAME: Juan Arzora PHONE NUMBER: 7144336287

WHEN SIGNED BY ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A PERMIT.

F272-09.0803 (R11/01)

RECEIVED HCA/RH
JUN 20 2011
ENVIRONMENTAL HLTH

APPLICATION FOR WELL CONSTRUCTION PERMIT

ORANGE COUNTY HEALTH CARE AGENCY
ENVIRONMENTAL HEALTH DIVISION
1241 E. DYER ROAD, SUITE 120
SANTA ANA, CA 92705-4720
(714) 433-6000
FAX: (714) 433-6481

CITY: Huntington Beach
DATE: June 17, 2011

WELL LOCATION (ADDRESS IF AVAILABLE): MW# 6- CORNER OF BOLSA CHICA STREET AT ARGOSY

NAME OF WELL OWNER: NAVAL WEAPONS STATION SEAL BEACH
ADDRESS: 800 WEST SEAL BEACH BLVD., BUILDING 230
CITY: SEAL BEACH CA ZIP: 90740 TELEPHONE: (562)626-7897

NAME OF CONSULTING FIRM: ACCORD ENGINEERING, INC
BUSINESS ADDRESS: 2923 PULLMAN STREET
CITY: SANTA ANA ZIP: 92705 TELEPHONE: (714) 241-7200

NAME OF DRILLING CO.: BOART LONGYEAR
C-57 LICENSE NO.: 694686
CITY: UPLAND CA ZIP: 91786 TELEPHONE: 909-946- 1605

TYPE OF WELL *(CHECK)*

- PRIVATE DOMESTIC ☐
- PUBLIC DOMESTIC ☐
- IRRIGATION ☐
- CATHODIC ☐
- PROBE SURVEY ☐
- MONITORING ☒
- SOIL BORING ☐
- OTHER _____ ☐
- TOTAL NUMBER 1

A. WELLS – SUBMIT A WELL CONSTRUCTION DIAGRAM (INCLUDE DIMENSIONS)

B. SOIL BORINGS AND PROBES –
TOTAL DEPTH 300 feet
SEALING MATERIAL Bentonite-Cement Slurry

C. PROPOSED START DATE July 13 , 2011

WELL PERMIT NUMBER: 11-07-25

DIAGRAM OF WELL SITE *(Use additional sheets and/or attachments)*

☐ SITE PLAN ATTACHED

I hereby agree to comply in every respect with all requirements of the Health Care Agency and with all ordinances and laws of the County of Orange and of the State of California pertaining to well construction, reconstruction and destruction, including the requirements to maintain the integrity of all significant confining zones.

APPLICANT'S SIGNATURE: [signature] DATE: 6-20-11
PRINT NAME: Pei-Fen Tamashiro - NWS SEAL BEACH
PHONE NUMBER: 562-626-7897 FAX NUMBER: 562-626-7131

FOR ACCOUNTING USE ONLY:

HSO NO. _____ CHECK NO. _____
DATE 6/20/2011 AMOUNT EXEMPT
INTL. DMY

APPROVAL BY OTHER AGENCIES:

JURISDICTION _____
REMARKS _____

AUTHORIZED SIGNATURE _____ DATE _____

DISPOSITION OF PERMIT (DO NOT FILL IN):

☒ APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

A. NOTIFY THIS AGENCY AT LEAST 48 HOURS
☒ PRIOR TO START. CALL WITH ACTUAL DRILLING DATE.
☐ PRIOR TO SEALING THE ANNULAR SPACE OR FILLING OF THE CONDUCTOR CASING.

B. ☒ SUBMIT TO THE AGENCY WITHIN 30 DAYS AFTER COMPLETION OF WORK, A WELL COMPLETION REPORT AND/OR DRILLING LOGS. PLEASE REFERENCE PERMIT NO.

C. ☒ SECURE ALL MONITORING WELLS TO PREVENT TAMPERING.

D. ☐ OTHER _____

☐ DENIED _____

PERMIT ISSUED BY: Dan Yokoyama DATE: 7/18/2011
PRINT NAME: DAN YOKOYAMA PHONE NUMBER: (714) 433-6288

WHEN SIGNED BY ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A PERMIT.

F272-09.0803 (R11/01)

RECEIVED HCA/RH
JUN 20 2011
ENVIRONMENTAL HLTH

APPLICATION FOR WELL CONSTRUCTION PERMIT

ORANGE COUNTY HEALTH CARE AGENCY
ENVIRONMENTAL HEALTH DIVISION
1241 E. DYER ROAD, SUITE 120
SANTA ANA, CA 92705-4720
(714) 433-6000
FAX: (714) 433-6461

WELL PERMIT NUMBER 11-07-26

CITY: HUNTINGTON BEACH
DATE: JUNE 17, 2011

WELL LOCATION (ADDRESS IF AVAILABLE): WELL #7; 35 FEET NORTH OF INTERSECTION OF BOLSA CHICA STREET AND TASMAN DRIVE

NAME OF WELL OWNER: NAVAL WEAPONS STATION SEAL BEACH
ADDRESS: 800 W. SEAL BEACH BLVD BUILDING 230
CITY: SEAL BEACH ZIP: 90740 TELEPHONE: (562)626-7897

NAME OF CONSULTING FIRM: ACCORD ENGINEERING, INC.
BUSINESS ADDRESS: 2923 PULLMAN STREET
CITY: SANTA ANA ZIP: 92705 TELEPHONE: (714)241-7200

NAME OF DRILLING CO.: BOART LONGYEAR
C-57 LICENSE NO.: 694686
CITY: UPLAND ZIP: 91786 TELEPHONE: (909)946-1605

TYPE OF WELL *(CHECK)*

- PRIVATE DOMESTIC ☐
- PUBLIC DOMESTIC ☐
- IRRIGATION ☐
- CATHODIC ☐
- PROBE SURVEY ☐
- MONITORING ☒
- SOIL BORING ☐
- OTHER ____ ☐
- TOTAL NUMBER 1

A. WELLS – SUBMIT A WELL CONSTRUCTION DIAGRAM (INCLUDE DIMENSIONS)

B. SOIL BORINGS AND PROBES –
TOTAL DEPTH 300 feet
SEALING MATERIAL Bentonite Slurry

C. PROPOSED START DATE July 13, 2011

DIAGRAM OF WELL SITE *(Use additional sheets and/or attachments)*

☐ SITE PLAN ATTACHED

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APPLICANT'S SIGNATURE: [signature] DATE: 6-20-11
PRINT NAME: Pei-Fen Tamashiro - NWS SEAL BEACH
PHONE NUMBER: 562-626-7897 FAX NUMBER: 562-626-7131

FOR ACCOUNTING USE ONLY:

HSO NO. ____ CHECK NO. ____
DATE 6/20/2011 AMOUNT EXEMPT
INTL. DMY

APPROVAL BY OTHER AGENCIES:

JURISDICTION ____
REMARKS ____

AUTHORIZED SIGNATURE ____ DATE ____

DISPOSITION OF PERMIT (DO NOT FILL IN):

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A. NOTIFY THIS AGENCY AT LEAST 48 HOURS
☒ PRIOR TO START. CALL WITH ACTUAL DRILLING DATE.
☐ PRIOR TO SEALING THE ANNULAR SPACE OR FILLING OF THE CONDUCTOR CASING.

B. ☒ SUBMIT TO THE AGENCY WITHIN 30 DAYS AFTER COMPLETION OF WORK, A WELL COMPLETION REPORT AND/OR DRILLING LOGS. PLEASE REFERENCE PERMIT NO.

C. ☒ SECURE ALL MONITORING WELLS TO PREVENT TAMPERING.

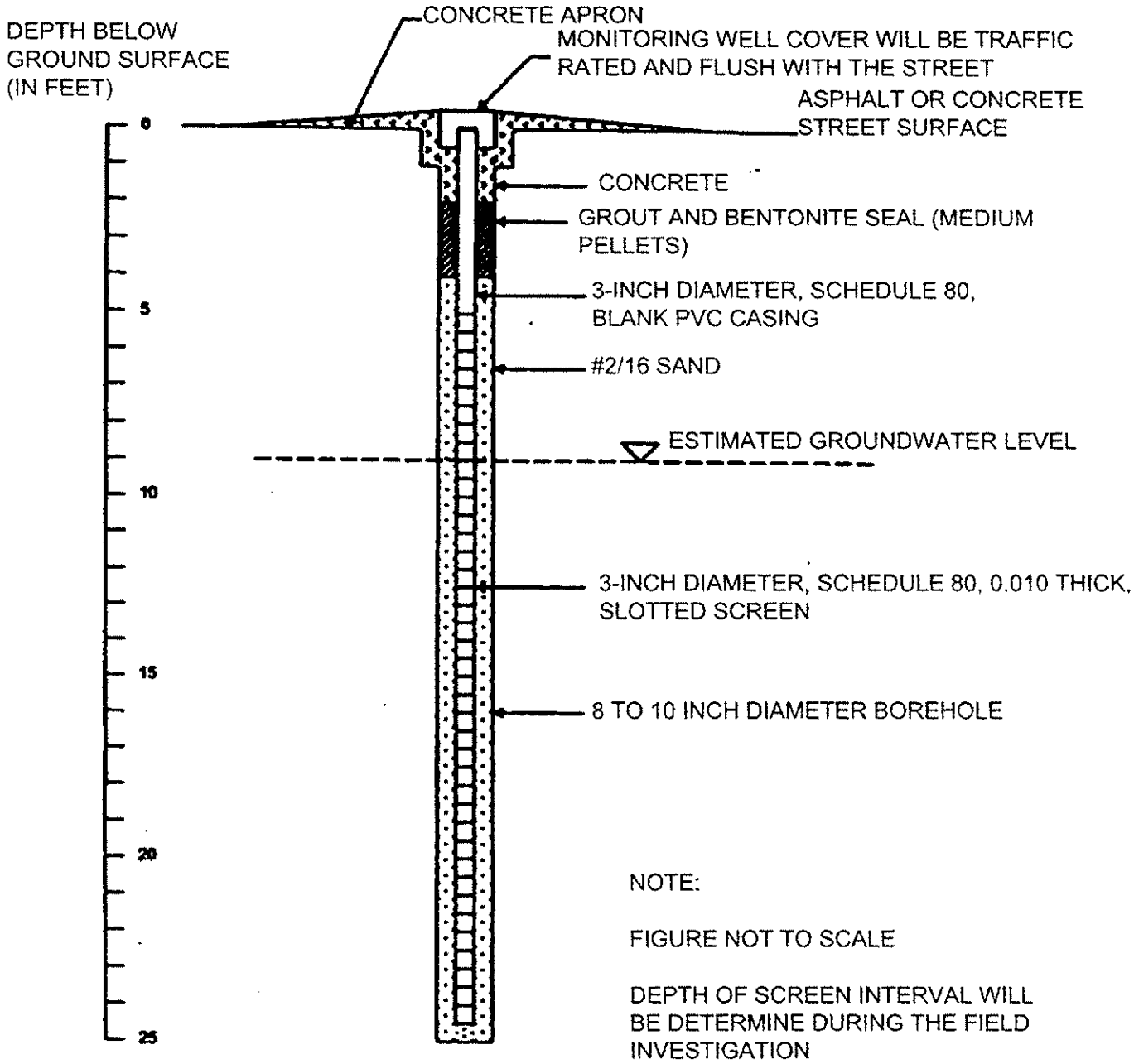
D. ☐ OTHER ____

☐ DENIED ____

PERMIT ISSUED BY: [signature] DATE: 7/18/2011
PRINT NAME: DAN YOKOYAMA PHONE NUMBER: (714)433-6298

WHEN SIGNED BY ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A PERMIT.

F272-09.0803 (R11/01)


DEPTH BELOW
GROUND SURFACE
(IN FEET)
CONCRETE APRON
MONITORING WELL COVER WILL BE TRAFFIC
RATED AND FLUSH WITH THE STREET
ASPHALT OR CONCRETE
STREET SURFACE
0
5
10
15
20
25
CONCRETE
GROUT AND BENTONITE SEAL (MEDIUM
PELLETS)
3-INCH DIAMETER, SCHEDULE 80,
BLANK PVC CASING
#2/16 SAND
ESTIMATED GROUNDWATER LEVEL
3-INCH DIAMETER, SCHEDULE 80, 0.010 THICK,
SLOTTED SCREEN
8 TO 10 INCH DIAMETER BOREHOLE
NOTE:
FIGURE NOT TO SCALE
DEPTH OF SCREEN INTERVAL WILL
BE DETERMINE DURING THE FIELD
INVESTIGATION

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Huntington Beach Encroachment Permits

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City of Huntington Beach
Public Works Department

Permit #: 11-237 Reporting District #: 146
PW File #: Receipt #: 1239252

PERMIT FOR RIGHT-OF-WAY ENCROACHMENT

◉ **Construction** ○ **Obstruction** ○ **Bin Obstruction** ○ **Excavation**

Project Location: Bolsa Chica , Dovewood Drive

Description of Work: Set up traffic control for water monitoring well installation.

Item ID	Item Description	Unit Price	Quantity	Extended Price
514	Traffic Control Setup	$625.00 each	2.00	$1,250.00
610	Abandon / Construct Monitor (Test) Well	$625.00 each	3.00	$1,875.00

0 - GIS / Survey points

Construction Total	$3,125.00
Construction Total x 8%	$250.00
Additional Admin. Fees	$0.00
Administration Fee	$115.00
Total Cost	**$365.00**

R E Q U I R E M E N T S

Permission is hereby granted to applicant to perform the above described work in accordance with approved plans and specifications furnished or herein made reference to. **48 hours advance notice** must be given prior to commencement of any phase of this work [telephone (714) 536-5431 for Engineering or (714) 536-5921 for water]. A copy of a valid permit and signed plans must be kept at the project site at all times while work is in progress. Chapter 10.16 and 12.24 of H.B.M.C. "Traffic Control" shall be enforced.

THE UNDERSIGNED APPLICANT CERTIFIES:

1. I am properly licensed as required by the City of Huntington Beach and State of California, and certify that in the performance of work for which this permit is issued I shall not employ any person in violation of the workers compensation laws of the State of California, and

2. I have read this application and all statements hereon are correct and complete. I agree to perform all work in accordance with the standard plans and specifications on file with the Director of Public Works. All USA markings will be removed by the applicant upon completion of work.

3. I will guarantee all work performed under this permit for a period of one year from the date of final acceptance. Failures will be corrected to the satisfaction of the Director of Public Works within two weeks after notification.

Business Name: Accord Engineerting
Business Address: 2923 Pullman
Santa Ana , CA 92705
Business Phone #: (858) 771 - 3559
Emergency Phone #: (626) 617 - 2171
State License #:
City License #:

Signature 7/19/11 Date

Qihai Chen
Printed

Any trench work 5 feet and deeper, requires a shoring plan signed and stamped by a registered Civil Engineer.

Cash Deposit Required ○ Yes ◉ No

Amount: Receipt #:

Other Fees

- Water Inspection Fee - $150

For Official Use Only

Traffic Control Plan Required ○ Yes ◉ No

Traffic Control Per: APWA WATCH Manual Pg(s):

Date Issued 19-Jul-11

Expiration Date: 17-Sep-11

Issued By: E Powell
Signature

Powell, E.
Printed

Inspection	Date	Inspector
Preliminary		
Final		

Form 44 REV. 10/99 **White -- OFFICE COPY / Yellow -- APPLICANT / Pink - PUBLIC WORKS INSPECTOR** Yellow

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City of Huntington Beach
Public Works Department

Permit #: 11-308 Reporting District #: 146
PW File #: Receipt #: 1241062

PERMIT FOR RIGHT-OF-WAY ENCROACHMENT

◉ Construction ○ Obstruction ○ Bin Obstruction ○ Excavation

Project Location: Bolsa Chica , at Dovewood

Description of Work: Set up traffic control for ground water well monitoring.

Item ID	Item Description	Unit Price	Quantity	Extended Price
514	Traffic Control Setup	$625.00 each	1.00	$625.00

0 - GIS / Survey points

Construction Total	$625.00
Construction Total x 8%	$50.00
Additional Admin. Fees	$0.00
Administration Fee	$115.00
Total Cost	**$165.00**

REQUIREMENTS

mission is hereby granted to applicant to perform the above described work in accordance with ved plans and specifications furnished or herein made reference to. **48 hours advance notice** st be given prior to commencement of any phase of this work [telephone (714) 536-5431 for Engineering or (714) 536-5921 for water]. A copy of a valid permit and signed plans must be kept at the project site at all times while work is in progress. Chapter 10.16 and 12.24 of H.B.M.C. "Traffic Control" shall be enforced.

THE UNDERSIGNED APPLICANT CERTIFIES:

1. I am properly licensed as required by the City of Huntington Beach and State of California, and certify that in the performance of work for which this permit is issued I shall not employ any person in violation of the workers compensation laws of the State of California, and

2. I have read this application and all statements hereon are correct and complete. I agree to perform all work in accordance with the standard plans and specifications on file with the Director of Public Works. All USA markings will be removed by the applicant upon completion of work.

3. I will guarantee all work performed under this permit for a period of one year from the date of final acceptance. Failures will be corrected to the satisfaction of the Director of Public Works within two weeks after notification.

Business Name: Accord Engineerting
Business Address: 2923 Pullman
Santa Ana , CA 92705
Business Phone #: (858) 771 - 3559
Emergency Phone #: (626) 617 - 2171
State License #:
City License #:
By: Qihai Chen 9/26/11
Signature Date
Qihai Chen
Printed

Any trench work 5 feet and deeper, requires a shoring plan signed and stamped by a registered Civil Engineer.

Cash Deposit Required ○ Yes ◉ No

Amount: Receipt #:

Other Fees

- Water Inspection Fee - $150

For Official Use Only

Traffic Control Plan Required ○ Yes ◉ No

Traffic Control Per: APWA
WATCH Manual Pg(s):

Date Issued 16-Sep-11

Expiration Date: 15-Nov-11

Issued By:
Signature

Powell, E.
Printed

Inspection	Date	Inspector
Preliminary		
Final		

Form 44 REV. 10/99 White -- OFFICE COPY / Yellow -- APPLICANT / Pink - PUBLIC WORKS INSPECTOR Yellow

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Appendix E

Well and Boring Logs

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MONITORING WELL LOG
SB75MW01

NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/11/2011
BORING/WELL LOCATION:	SB75MW01	CASING ELEVATION (ft):	14.342	DEPTH TO WATER DATE:	
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217497.489	EASTING:	6016495.917
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	299	SCREEN INTERVAL (ft bgs):	
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	F. ESSIG		

▼ STATIC WATER LEVEL
◇ PUMP INLET

DEPTH IN FEET (BGS)	WELL CONSTRUCTION	LITHOLOGY USCS	LITHOLOGIC DESCRIPTION
0	WELL NOT INSTALLED, BORING SEALED WITH GROUT		No data
20		ML	clayey SILT, olive brown (2.5Y4/3), soft, plastic, wet to saturated, no odor
		SM	silty SAND, dark olive gray (5Y3/2), slightly plastic, fine grained, saturated, no odor
40		SW	SAND, olive (5Y4/3), loose, coarse to fine grained, non plastic, well graded, saturated, no odor
		ML	SILT, olive gray (5Y3/2), medium stiff, non plastic, micaceous, saturated, no odor
60		ML	clayey SILT, olive gray (5Y4/2), stiff, slightly plastic to plastic, saturated, no odor
			SILT, olive (5YR4/3), saturated, no odor
			clayey SILT, olive (5Y4/3), medium stiff, slightly plastic, saturated, no odor
80			SILT, light olive brown (2.5Y5/4) to dark olive gray (5Y3/2), medium stiff, non plastic, saturated, no odor
		SP	SAND, olive (5Y4/2), fine grained, non plastic, poorly graded, saturated, no odor
		ML	SILT, dark olive gray (5Y3/2), medium stiff, non plastic, saturated, no odor
		SP	SAND, dark olive gray (5Y3/2), fine grained, non plastic, saturated, no odor
		CH	silty CLAY, dark olive gray (5Y5/2), very stiff, plastic to very plastic, saturated, no odor
		SM	silty SAND, dark olive gray (5Y5/2), medium dense, non plastic to slightly plastic, saturated, no odor
100		ML	clayey SILT, dark olive gray (5Y5/2), slightly plastic, medium stiff, saturated, no odor

MONITORING WELL LOG
SB75MW01

NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/11/2011
BORING/WELL LOCATION:	SB75MW01	CASING ELEVATION (ft):	14.342	DEPTH TO WATER DATE:	
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217497.489	EASTING:	6016495.917
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	299	SCREEN INTERVAL (ft bgs):	
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	F. ESSIG		

▼ STATIC WATER LEVEL

◇ PUMP INLET

DEPTH IN FEET (BGS)	WELL CONSTRUCTION	LITHOLOGY USCS	LITHOLOGIC DESCRIPTION
	GROUT	SP	SAND, dark olive gray (5Y3/2), medium stiff, fine grained, trace silt, non plastic to slightly plastic, saturated, shell fragments present throughout, no odor
120			SAND, olive gray (5Y4/2), medium dense, fine grained, poorly graded, non plastic, saturated, shell fragments, no odor
			SAND, light yellow brown (2.5Y6/4), medium dense, medium to fine grained, trace silt, moderately to poorly graded, non plastic, saturated, no odor
140			SAND, olive (5Y5/4), medium dense, medium to fine grained, moderately to poorly graded, non plastic, saturated, no odor
		SW	SAND, light yellow brown (10YR6/4), medium dense, coarse to fine grained, well graded, non plastic, saturated, no odor
160			SAND, light yellow brown (10YR6/4), medium dense, medium to fine grained, moderately to poorly graded, non plastic, saturated, no odor
		SP	SAND, olive (5Y5/4), meduim dense, medium to fine grained, moderately to poorly graded, non plastic, saturated, no odor
180			SAND, olive (5Y5/4), loose, medium to fine grained, trace coarse grained, well graded, non plastic, saturated, no odor
		SW	gravelly SAND, olive (5Y5/4) loose, medium to fine grained with gravel, well graded, non plastic, saturated, no odor
200			gravelly SAND with cobbles, pale olive (5Y6/4), loose, coarse to fine grained with gravel and cobbles, non plastic, saturated, no odor
		ML	SILT, dark olive gray (5Y3/2), mediium stiff, non plastic to slightly plastic, saturated, no odor

MONITORING WELL LOG
SB75MW01

NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/11/2011
BORING/WELL LOCATION:	SB75MW01	CASING ELEVATION (ft):	14.342	DEPTH TO WATER DATE:	
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217497.489	EASTING:	6016495.917
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	299	SCREEN INTERVAL (ft bgs):	
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	F. ESSIG		

▼ STATIC WATER LEVEL

◇ PUMP INLET

DEPTH IN FEET (BGS)	WELL CONSTRUCTION	LITHOLOGY USCS	LITHOLOGIC DESCRIPTION
220			
		SP	SAND, light yellow brown (2.5Y6/3), medium dense, fine grained, non plastic, yellow interbeds, saturated, no odor
		SW	gravelly SAND, light olive brown (2.5Y5/3), medium dense, fine to coarse grained, well graded, non plastic, saturated, no odor
240		SP	SAND, olive (5Y4/3), medium dense, fine grained, non plastic, saturated, no odor
		CL-ML	clayey SILT to SILT, olive (5Y5/4), medium stiff to hard, non plastic to slightly plastic, saturated, no odor
		SW	SAND, trace gravel, olive (5Y5/3), loose, coarse to fine grained, slightly plastic, saturated, no odor
		ML	SILT, olive (5Y4/3), non plastic, stiff, saturated, no odor
		SP	SAND, olive (5Y4/3), loose, fine grained, poorly graded, non plastic, saturated, no odor
260		SM	silty SAND, dark grayish brown (2.5Y4/2), loose, fine grained, trace medium grained, saturated, no odor
		ML	SILT, olive gray (5Y4/2), stiff, non plastic to slightly plastic, saturated, no odor
		SP	SAND, olive (5Y4/3), medium to fine grained, moderately graded, possible slough, saturated, no odor
280		SW	gravelly SAND, olive (5Y4/3), loose, medium to fine grained with gravel. trace coarse grained, well graded, saturated, no odor
			SAND, olive (5Y4/3), medium to fine grained, trace coarse grained, well graded, saturated
		ML	clayey SILT, dark olive gray (5Y3/2), very stiff, slightly plastic, saturated, gravel size hard dry silty clasts, no odor
		SW	gravelly SAND, olive (5Y4/3), loose, coarse to fine grained with gravel, well graded, possible clay/silt contact at 299 feet, no odor
300			

MONITORING WELL LOG
SB75MW01A

NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/13/2011
BORING/WELL LOCATION:	SB75MW01A	CASING ELEVATION (ft):	17.048	DEPTH TO WATER DATE:	8/9/2011
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217488.964	EASTING:	6016511.242
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	50	SCREEN INTERVAL (ft bgs):	37 - 47
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	F. ESSIG		

▼ STATIC WATER LEVEL

◇ PUMP INLET

DEPTH IN FEET (BGS)	WELL CONSTRUCTION	LITHOLOGY USCS	LITHOLOGIC DESCRIPTION
0	STICKUP		No data
10	▼12.32 GROUT	ML	clayey SILT, olive brown (2.5Y4/3), soft, wet, plastic, saturated
30	BENTONITE; #0/30 SAND		
40	#2/16 SAND	SW	SAND, olive (5Y4/3), loose, coarse to fine grained, well graded, non plastic, saturated
50		ML	clayey SILT, olive gray (5Y3/2), medium stiff, plastic. saturated

MONITORING WELL LOG
SB75MW01B

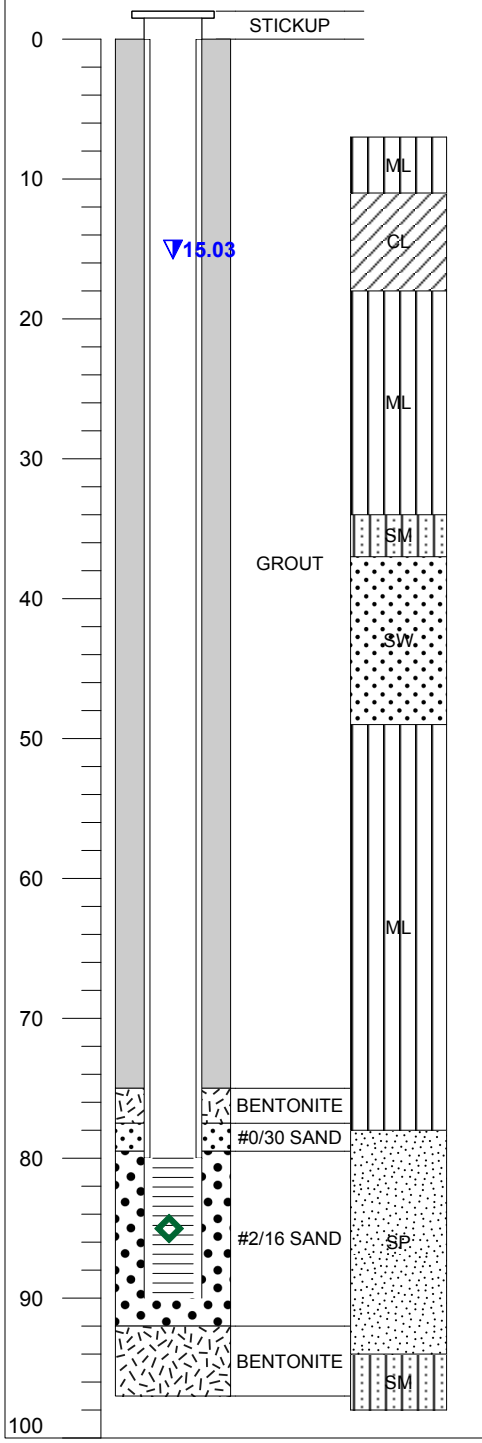
NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/12/2011
BORING/WELL LOCATION:	SB75MW01B	CASING ELEVATION (ft):	16.998	DEPTH TO WATER DATE:	8/9/2011
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217483.061	EASTING:	6016495.981
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	98	SCREEN INTERVAL (ft bgs):	80 - 90
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	F. ESSIG		

▼ STATIC WATER LEVEL

◇ PUMP INLET



LITHOLOGIC DESCRIPTION
No data
clayey SILT, olive brown (2.5Y4/3), soft, plastic, saturated, no odor
silty CLAY, olive brown (2.5Y4/3), stiff, plastic, saturated, no odor
clayey SILT, olive brown (2.5Y4/3) soft, wet to saturated, slightly plastic to plastic, no odor
silty SAND, dark olive gray (5Y3/2), fine grained, slightly plastic, saturated, no odor
gravelly SAND, olive (5Y4/3), loose, coarse to fine grained with gravel, loose, well graded, non plastic, saturated, no odor
SAND, olive (5Y5/4), coarse to fine, well graded, non plastic, saturated
SILT, olive gray (5Y3/2), medium stiff, non plastic to plastic, saturated, no odor, variably micaceous
clayey SILT, olive gray (5Y4/2), medium stiff, slightly plastic to plastic, saturated, no odor, micaceous
clayey SILT, olive (5Y5/3), medium stiff, saturated, non plastic to plastic, saturated, no odor, yellowish brown (10YR5/4) interbeds
SAND, dark olive gray (5Y3/2), medium to fine grained, moderately to poorly graded, saturated, no odor
silty SAND, dark olive gray (5Y3/2), non plastic to slightly plastic, well graded, saturated, no odor

MONITORING WELL LOG
SB75MW02A

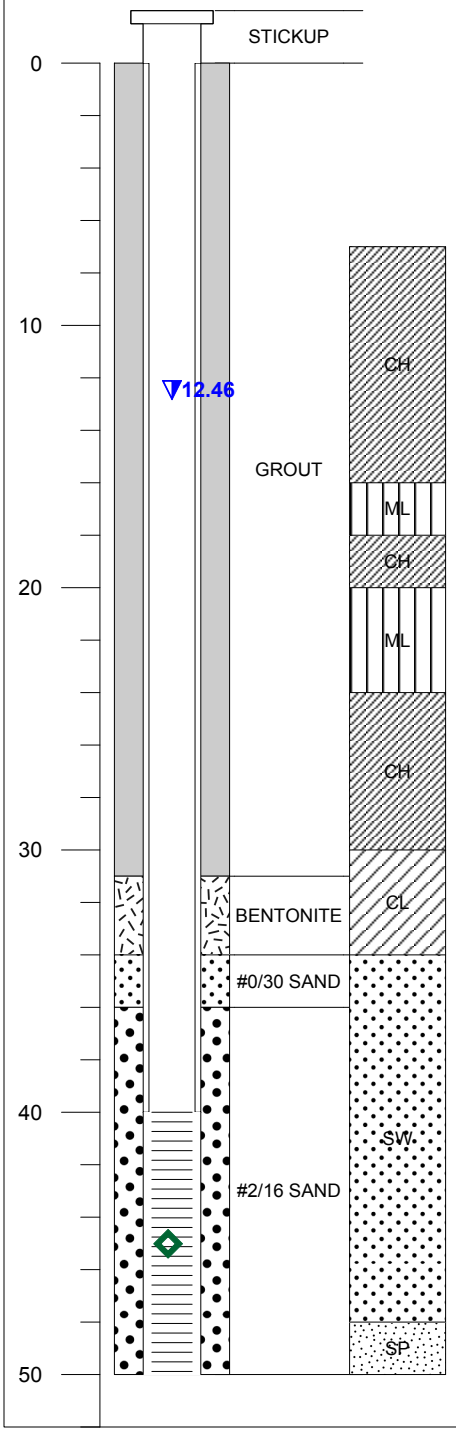
NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/15/2011
BORING/WELL LOCATION:	SB75MW02A	CASING ELEVATION (ft):	17.444	DEPTH TO WATER DATE:	8/8/2011
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217886.857	EASTING:	6016106.209
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	50	SCREEN INTERVAL (ft bgs):	40 - 50
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	F. ESSIG		

▼ STATIC WATER LEVEL

◇ PUMP INLET



LITHOLOGIC DESCRIPTION
No data
silty CLAY, olive (5Y5/4), stiff to very stiff, plastic, saturated
clayey SILT, olive (5Y4/3), plastic, stiff, saturated, gravel size gravel size hard dry silty clasts
silty CLAY, olive (5Y5/4), very plastic, very stiff, saturated
clayey SILT, olive (5Y4/3), plastic, stiff to very stiff, saturated
silty CLAY, olive (5Y5/4), plastic to very plastic, very stiff, saturated
sandy SILT with CLAY, olive (5Y4/3), plastic, saturated
SAND, olive (5Y5/4), non plastic, loose, saturated
gravelly SAND, yellowish brown (10YR5/6), non plastic, loose, saturated
gravelly SAND, olive (5Y5/4), non plastic, loose, saturated
SAND, olive yellow (5Y6/6), non plastic, loose, medium graded, saturated

MONITORING WELL LOG
SB75MW02B

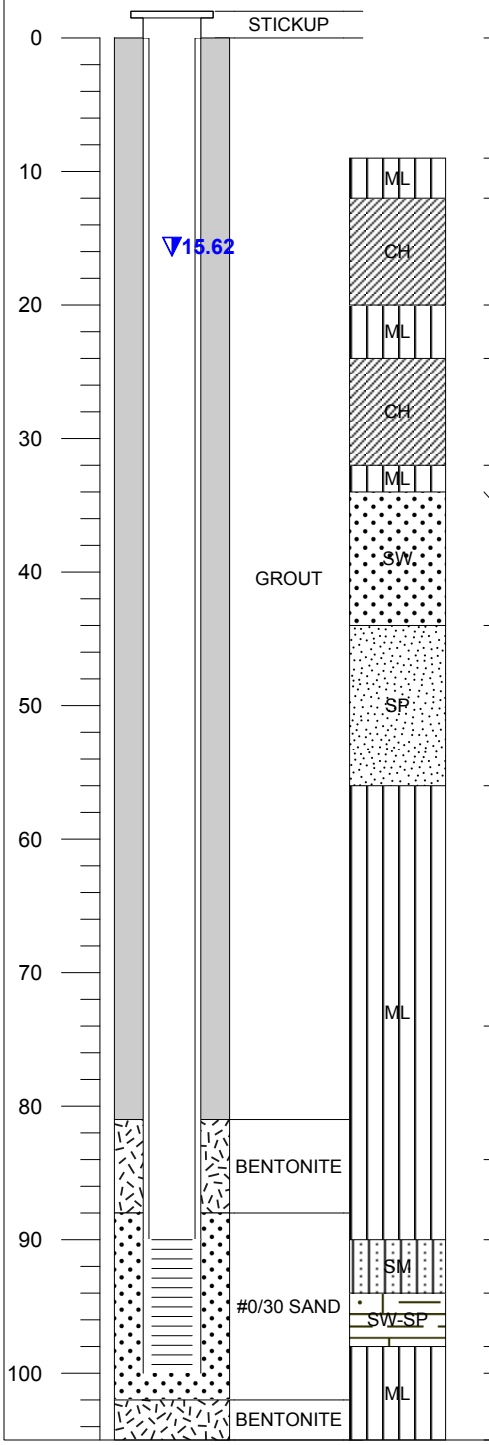
NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/14/2011
BORING/WELL LOCATION:	SB75MW02B	CASING ELEVATION (ft):	14.032	DEPTH TO WATER DATE:	8/8/2011
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217869.089	EASTING:	6016095.581
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	105	SCREEN INTERVAL (ft bgs):	90 - 100
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	F. ESSIG		

▼ STATIC WATER LEVEL

◇ PUMP INLET



DEPTH IN FEET (BGS)	LITHOLOGIC DESCRIPTION
0	No data
10	clayey SILT, olive (5Y4/3), stiff, plastic, gravel size hard dry silty clasts, wet, no odor
15.62	silty CLAY, olive (5Y5/4), medium stiff to stiff, plastic to very plastic, wet, saturated, no odor
20	SILT, olive gray (5Y4/2), stiff, slightly plastic, gravel size hard dry silty clasts, saturated, no odor
30	silty CLAY, dark olive gray (5Y3/2), stiff, plastic to very plastic, gravel size hard dry silty clasts, saturated, no odor
32	sandy SILT with CLAY, olive (5Y4/3), very stiff, medium grained with gravel, plastic, saturated, no odor
40	gravelly SAND, olive (5Y5/4), loose, coarse to fine grained with gravel, well graded, saturated, no odor
50	SAND, olive yellow (5Y6/6), loose, medium to fine grained, trace gravel, medium to poorly graded, saturated, no odor
60	SILT, olive gray (5Y4/2), non plastic to slightly plastic, saturated, no odor, gravel size hard dry silty clasts
70	
80	SILT as above
83	SILT, dark olive gray (5Y3/2), stiff, non plastic, saturated, no odor, micaceous
90	silty SAND, dark olive gray (5Y3/2), medium dense, slightly plastic, saturated, no odor
94	SAND, olive gray (5Y4/2), medium dense, fine grained, medium to poorly graded, non plastic, saturated, no odor
95	SILT, dark olive gray (5Y3/2), soft, slightly plastic, saturated, no odor
100	sandy SILT, dark olive gray (5Y3/2), medium stiff, fine grained, slightly plastic to plastic, saturated, no odor

MONITORING WELL LOG
SB75MW02C

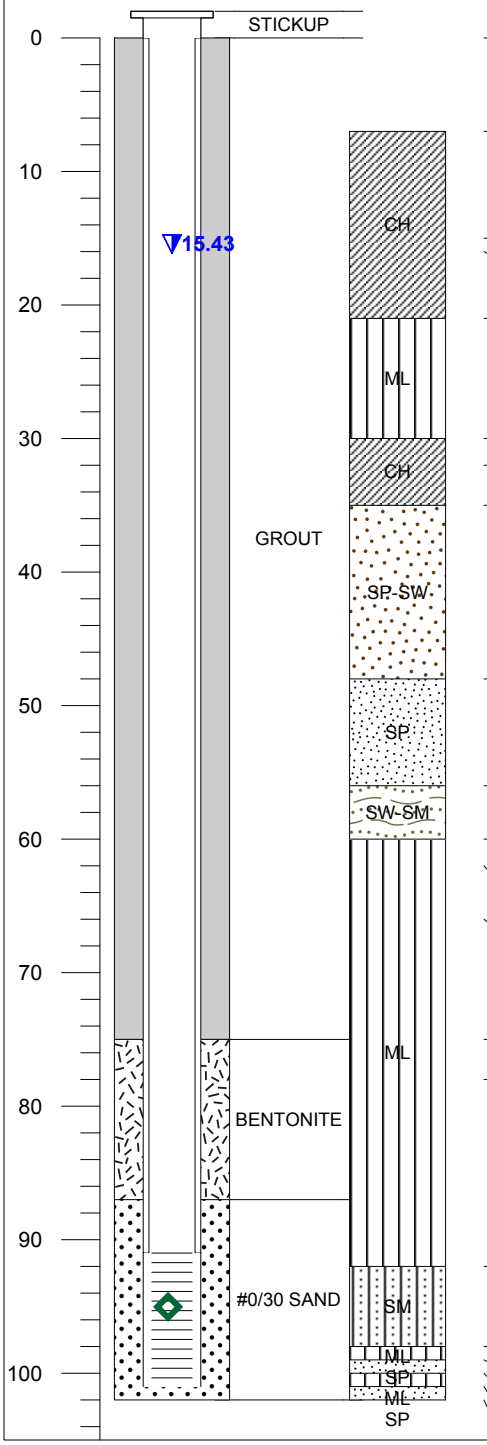
NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	8/16/2011
BORING/WELL LOCATION:	SB75MW02C	CASING ELEVATION (ft):	17.323	DEPTH TO WATER DATE:	8/23/2011
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217873.044	EASTING:	6016084.499
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	101	SCREEN INTERVAL (ft bgs):	91 - 101
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	F. ESSIG		

▼ STATIC WATER LEVEL

◇ PUMP INLET



DEPTH IN FEET (BGS)	LITHOLOGIC DESCRIPTION
	no data
	silty CLAY, olive (5Y4/3), very stiff, plastic, abundant gravel size hard dry silty clasts, wet
	silty CLAY, dark olive gray (5Y3/2), plastic to very plastic, saturated, gravel size hard dry silty clasts
	silty CLAY, olive (5Y4/3), stiff, plastic, saturated, minor gravel size hard dry silty clasts
	SILT, olive gray (5Y4/2), slightly plastic to plastic, saturated
	silty CLAY, olive (5Y4/3), stiff, plastic, saturated
	silty CLAY, dark olive gray (5Y3/2), very stiff, slightly plastic
	gravelly SAND, pale olive (5Y6/4), loose, non plastic, saturated
	SAND, pale olive (5Y6/4), loose, moderately to poorly graded, non plastic, saturated
	gravelly SAND with SILT, olive gray (5Y4/2), saturated
	clayey SILT, dark olive gray (5Y3/2), very stiff, slightly plastic, saturated, gravel size hard dry silty clasts
	SILT, dark olive gray (5Y3/2), stiff, slightly plastic to plastic, gravel size hard dry silty clasts, saturated
	SILT, mottled light olive brown (5Y5/4) and bluish gray (5B6/1), stiff to very stiff, slightly plastic, saturated
	SILT with CLAY, pale olive (5Y6/4), stiff to very stiff, slightly plastic to plastic, saturated
	SILT, pale olive (5Y6/4), stiff, slightly plastic, included reddish brown organic material, saturated
	silty SAND to SAND with trace silt, dark olive gray (5Y3/2), medium dense, fine grained, moderately to poorly graded, saturated
	sandy SILT, dark olive gray (5Y3/2), loose, fine grained, non plastic, saturated
	SAND, fine grained, trace silt, poorly graded, saturated
	SILT, dark olive gray (5Y3/2), slightly plastic, stiff, saturated
	SAND, fine grained, trace silt, poorly graded, saturated

MONITORING WELL LOG
SB75MW03A

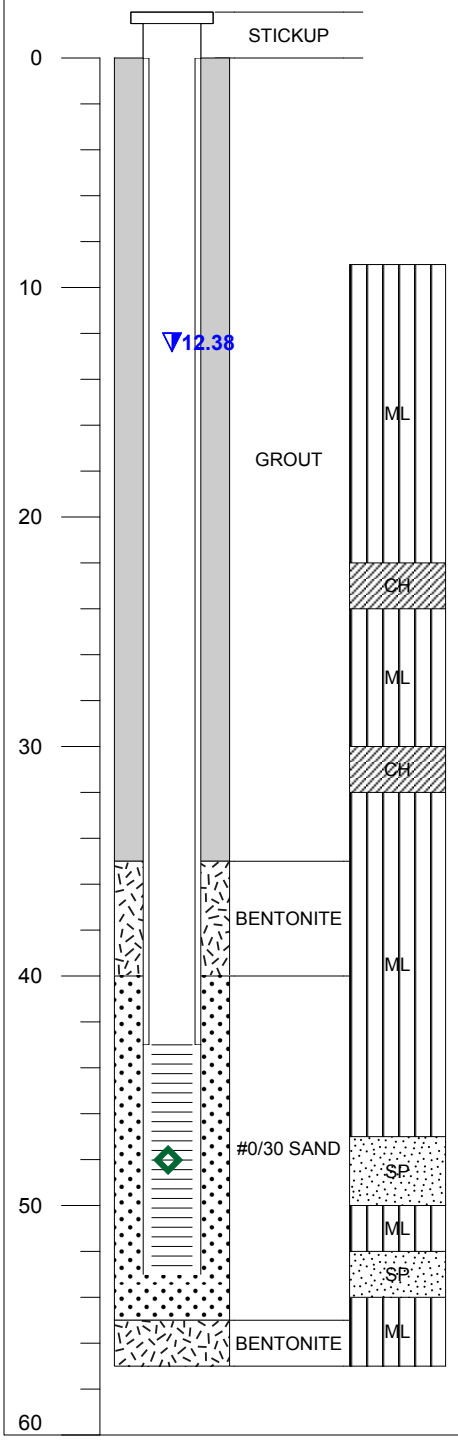
NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/19/2011
BORING/WELL LOCATION:	SB75MW03A	CASING ELEVATION (ft):	17.047	DEPTH TO WATER DATE:	8/8/2011
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217242.112	EASTING:	6016124.13
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	57	SCREEN INTERVAL (ft bgs):	43 - 53
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	F. ESSIG		

▼ STATIC WATER LEVEL

◇ PUMP INLET



DEPTH IN FEET (BGS)	LITHOLOGIC DESCRIPTION
0	No data
10	clayey SILT, olive gray (5Y4/2), stiff, plastic, wet to saturated, gravel size hard dry silty clasts
	SILT, olive gray (5Y4/2), slightly plastic, stiff, saturated, gravel size hard dry silty clasts
20	clayey SILT, dark olive gray (5Y3/2), stiff, plastic, saturated, gravel size hard dry silty clasts
	silty CLAY, pale olive (5Y6/3), medium stiff, very plastic, saturated
	silty SAND with CLAY, pale olive (5Y6/3), stiff to very stiff, plastic, saturated, gravel size hard dry silty clasts
30	silty CLAY, pale olive (5Y6/3), stiff, very plastic, stiff, saturated, abundant gravel size hard dry silty clasts
	clayey SILT, light olive brown (2.5Y5/4), medium stiff, slightly plastic to plastic, saturated, trace gravel size hard dry silty clasts
40	clayey SILT/silty CLAY, light yellow brown (2.5Y6/4) and olive (5Y4/4), medium stiff, slightly plastic to plastic, saturated
	SILT, olive (5Y5/4), medium dense to medium stiff, plastic
	SAND, olive gray (5Y4/2), medium dense, well graded, non plastic, saturated
50	SILT, very dark gray (5Y3/1), medium stiff, non plastic, saturated
	SAND, olive (5Y4/3), loose, medium to poorly graded, non plastic, saturated, black organic silt at 53.5'
	SILT, olive gray (5Y4/2), medium stiff, non plastic, saturated

MONITORING WELL LOG
SB75MW03B

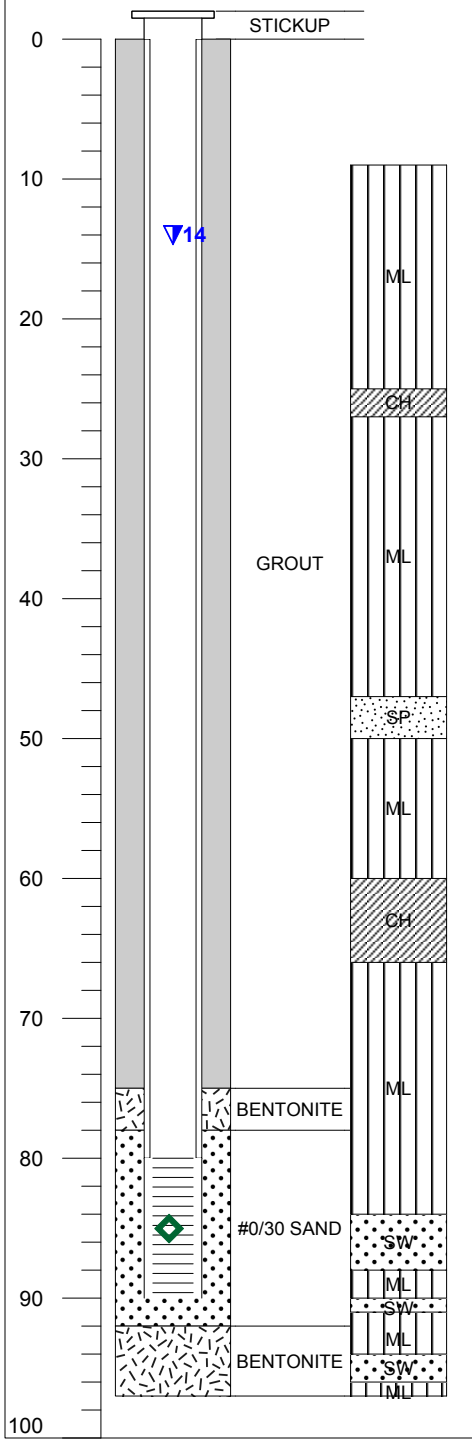
NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/18/2011
BORING/WELL LOCATION:	SB75MW03B	CASING ELEVATION (ft):	15.9	DEPTH TO WATER DATE:	8/5/2011
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217229.571	EASTING:	6016122.316
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	97	SCREEN INTERVAL (ft bgs):	80 - 90
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	F. ESSIG		

▼ STATIC WATER LEVEL

◇ PUMP INLET



DEPTH IN FEET (BGS)	LITHOLOGIC DESCRIPTION
	No data
10	clayey SILT, olive gray (5Y4/2), stiff, wet, plastic
20	clayey SILT, dark olive gray (5Y3/2), stiff to very stiff, slightly plastic to plastic, no odor, wet with abundant gravel size hard dry silty clasts
	silty CLAY, pale olive (5Y6/3), medium stiff, very plastic, wet to saturated, no odor, dry hard silty clasts,
30	clayey SILT, light olive brown (2.5Y5/4), medium stiff, slightly plastic to plastic, saturated, no odor, abundant gravel size hard dry silty clasts
40	SILT, olive (5Y5/4) and light yellowish brown (2.5Y6/4), medium dense to medium stiff, non plastic, saturated, no odor
	SAND, olive (5Y5/3), medium to fine grained, non plastic, saturated, no odor
50	sandy SILT, dark gray (5Y4/1), medium stiff, non plastic, saturated, no odor
	SILT, dark olive gray (5Y3/2), very stiff, non plastic to slightly plastic, saturated, no odor, trace dry hard silty clasts
60	silty CLAY, very dark gray (5Y3/1), very stiff, plastic to very plastic, saturated, no odor, dry hard silty clasts, apparent roots/black organic fiber
70	SILT, light yellowish brown (2.5Y6/4) and olive (5Y5/4), stiff to very stiff, saturated, no odor, non plastic
	SILT, olive (5Y5/3) and strong brown (7.5YR5/6), stiff, non plastic to slightly plastic, saturated, no odor
80	sandy SILT, olive (5Y4/3), non plastic, saturated, no odor
	SILT, olive (5Y5/4), medium stiff, non plastic to slightly plastic, saturated, no odor
	clayey SILT, olive gray (5Y5/2), slightly plastic, saturated, no odor
	SAND, olive (5Y4/3), medium to fine grained, non plastic, saturated, no odor
90	very dark grayish brown silt, saturated, no odor
	sand interbed between 90 and 91 feet
	SILT, dark gray (5Y4/1), medium stiff, non plastic to slightly plastic, saturated, no odor
	SAND, dark olive gray (5Y3/2), loose, medium to fine grained, non plastic, saturated, no odor
	SILT, dark olive gray (5Y3/2), non plastic, gravel size hard dry silty clasts, saturated, no odor

MONITORING WELL LOG
SB75MW04A

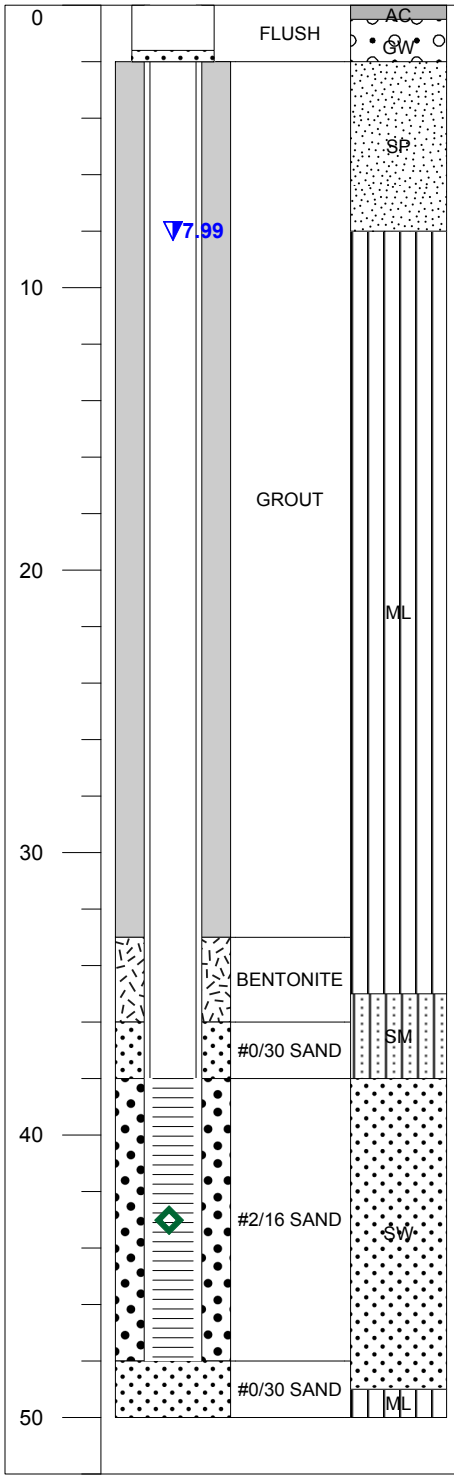
NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/26/2011
BORING/WELL LOCATION:	SB75MW04A	CASING ELEVATION (ft):	13.953	DEPTH TO WATER DATE:	8/4/2011
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217985.26	EASTING:	6017123.755
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	50	SCREEN INTERVAL (ft bgs):	38 - 48
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	T. SHIELDS		

▼ STATIC WATER LEVEL

◇ PUMP INLET



LITHOLOGIC DESCRIPTION

Asphaltic concrete

Base

SAND, light olive gray (2.5Y6/2)

clayey SILT, dark olive gray (5Y3/2), stiff, plastic, saturated, gravel size hard dry silty clasts

SILT, olive gray (5Y4/2), medium stiff, slightly plastic, saturated

clayey SILT, dark gray (5Y4/1), very stiff, no odor, slightly plastic to plastic, saturated

silty SAND, dark gray with white caliche and orange mottling, medium dense, slightly plastic, saturated

SAND, olive (5Y4/3), loose, non plastic, saturated

clayey SILT/silty CLAY, dark gray (5Y4/1), very stiff, slightly plastic to plastic, saturated

MONITORING WELL LOG
SB75MW04B

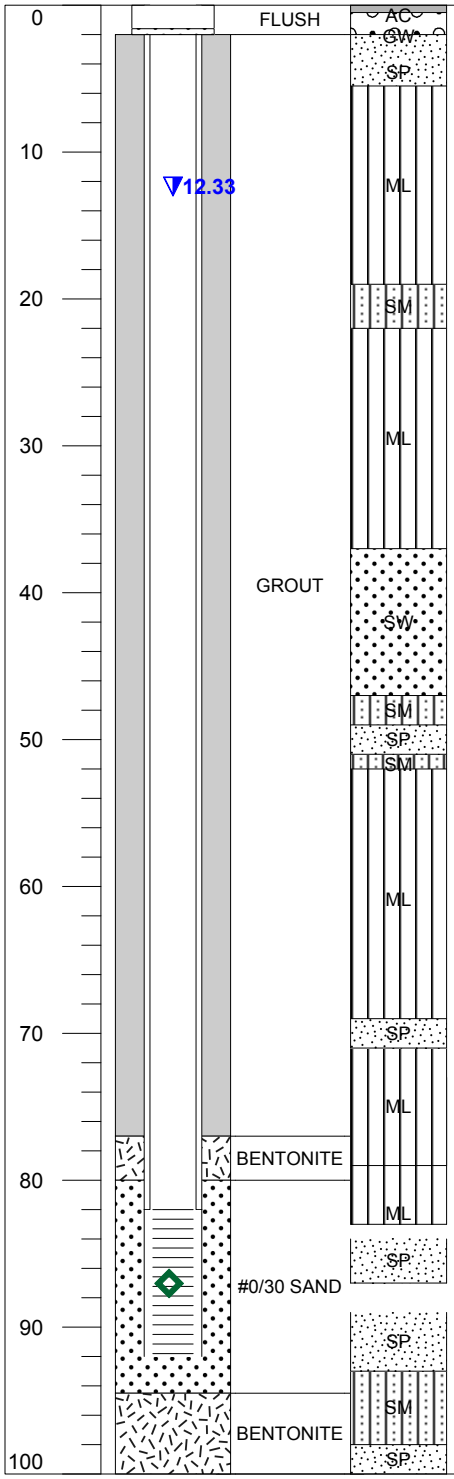
NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/22/2011
BORING/WELL LOCATION:	SB75MW04B	CASING ELEVATION (ft):	14.122	DEPTH TO WATER DATE:	8/4/2011
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217984.941	EASTING:	6017107.952
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	100	SCREEN INTERVAL (ft bgs):	82 - 92
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	T. SHIELDS		

▼ STATIC WATER LEVEL

◇ PUMP INLET



LITHOLOGIC DESCRIPTION

- Asphaltic concrete
- Base
- SAND, light olive gray (2.5Y6/2), no odor
- clayey SILT to silty CLAY, dark olive gray (5Y3/2), stiff to very stiff, plastic, wet, micaceous, gravel size hard dry silty clasts
- clayey SILT, dark olive gray (5Y4/2), stiff to very stiff, slightly plastic, micaceous, saturated, no odor, gravel size hard dry silty clasts
- silty SAND, olive gray (5Y4/2), dense, fine grained, sliightly plastic, saturated, no odor
- SILT, dark olive gray (5Y3/2), stiff to very stiff, plastic, saturated, no odor
- SILT, dark olive gray (5Y3/2), stiff, slightly plastic to plastic, saturated, no odor, some gravel size hard dry, silty clasts
- clayey SILT, olive (5Y4/4), very stiff, slightly plastic, saturated, no odor, some gravel size hard dry silty clasts
- SILT, olive gray (5Y4/2), very stiff, slightly plastic, saturated, no odor, some gravel size hard dry silty clasts
- clayey SILT, gray (5Y5/1), stiff plastic, saturated, no odor, gravel size hard dry silty clasts
- SILT, olive (5Y5/3) with mottled orange, stiff, saturated, no odor, slightly plastic, micaceous
- SAND, olive (5Y4/3), loose to medium dense, coarse to fine grained, intermittent gravel, non plastic, saturated, no odor
- silty SAND, olive (5Y4/3), moderately dense, coarse to fine grained, moderately dense, saturated, no odor, micaceous
- SAND, olive (5Y4/2), medium dense, non plastic, silt sized to fine grained sand, saturated, no odor, micaceous
- silty SAND, olive (5Y4/2), dense, fine grained, non plastic, saturated, no odor, micaceous
- clayey SILT, olive gray, (5Y5/4), stiff to very stiff, plastic, saturated, no odor
- clayey SILT, olive gray, (5Y5/4), stiff to very stiff, plastic, saturated, no odor
- SAND, olive (5Y4/4), dense, fine grained, non plastic, saturated, no odor, micaceous
- sandy SILT, olive (5Y4/3), very dense, slightly plastic, saturated, no odor
- SILT, olive (5Y5/3), very stiff, non plastic, saturated, no odor
- SILT, olive gray (5Y5/4), and mottled orange brown, very dense, non plastic, saturated, no odor
- SAND, olive (5Y5/3), dense, fine grained, non plastic, saturated, no odor
- poor recovery
- SAND, olive gray (5Y4/2), dense, fine grained, non plastic, saturated, no odor
- silty SAND, dark olive gray (5Y3/2), dense, fine grained, slightly plastic, saturated, no odor
- SAND, olive gray (5Y4/2), dense, fine grained, non plastic, saturated, no odor

MONITORING WELL LOG
SB75MW05A

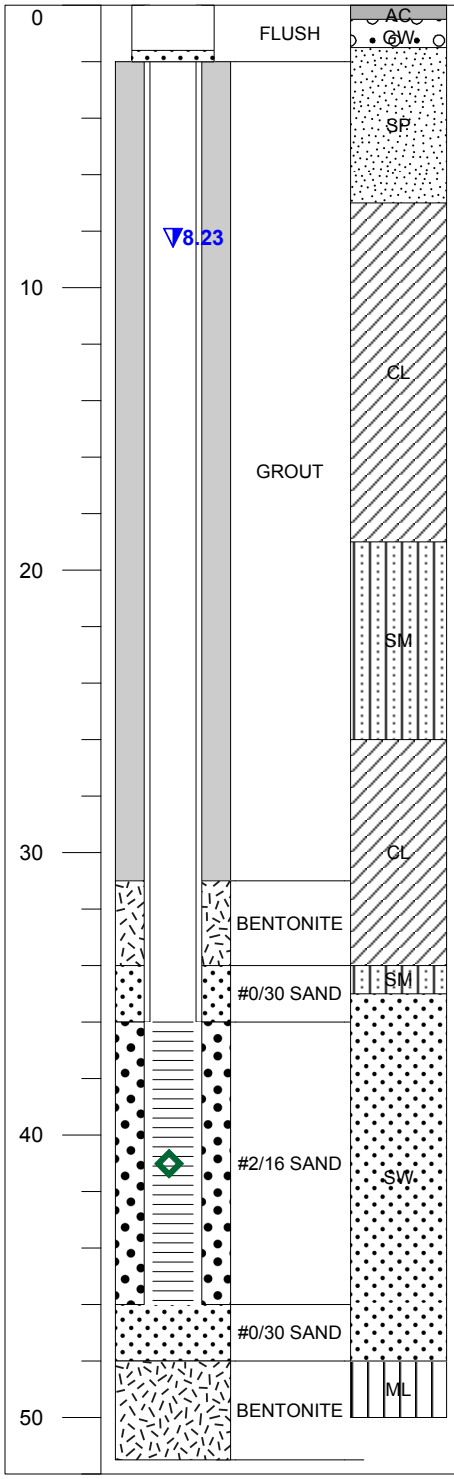
NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/26/2011
BORING/WELL LOCATION:	SB75MW05A	CASING ELEVATION (ft):	13.959	DEPTH TO WATER DATE:	8/4/2011
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217459.772	EASTING:	6017035.819
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	50	SCREEN INTERVAL (ft bgs):	36 - 46
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	T. SHIELDS		

▼ STATIC WATER LEVEL

◇ PUMP INLET



LITHOLOGIC DESCRIPTION
Asphaltic concrete
Base
SAND, light olive gray (2.5Y6/2), no odor
silty CLAY, dark olive gray (5Y3/2), stiff to very stiff, plastic, wet to saturated, gravel size hard dry silty clasts
silty SAND/sandy SILT, olive gray (5Y4/2), dense, non plastic, saturated
silty CLAY, gray (5Y5/1), stiff, plastic, saturated
silty SAND, olive (5Y5/3), stiff, coarse to fine grained, slightly plastic, saturated
SAND, olive (5Y4/3), loose to medium dense, coarse to fine grained, intermittent gravel, moderately to poorly graded, non plastic, saturated
SILT, olive (5Y4/2), soft, slightly plastic, saturated

MONITORING WELL LOG
SB75MW05B

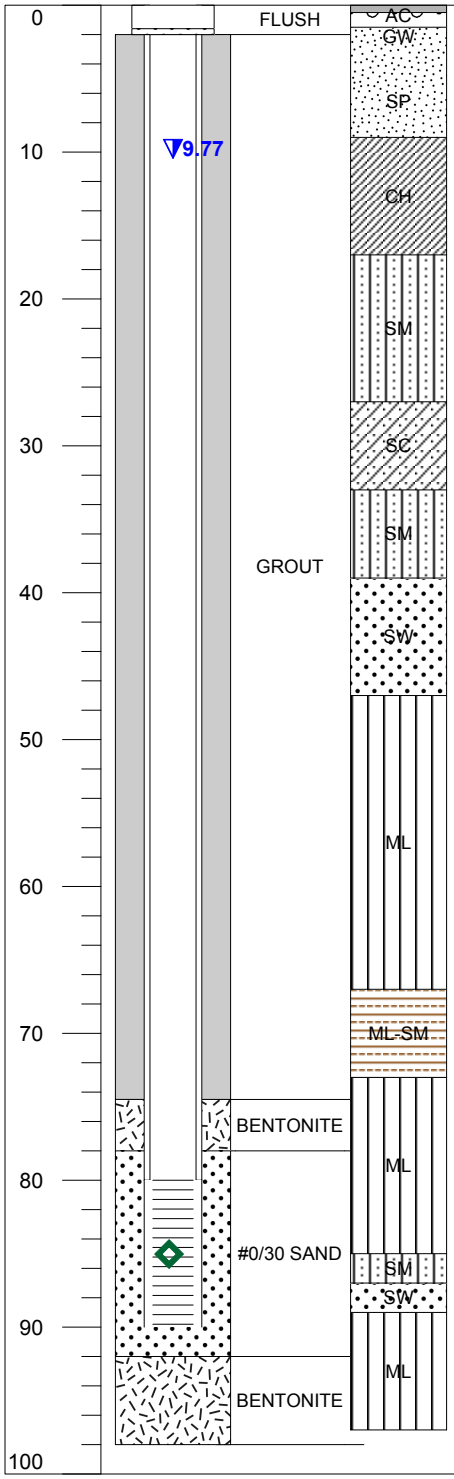
NAVAL WEAPONS STATION SEAL BEACH

BRADY

		DATUM:	NAVD 1988 / WGS 1984	DATE FINISHED:	7/25/2011
BORING/WELL LOCATION:	SB75MW05B	CASING ELEVATION (ft):	14.015	DEPTH TO WATER DATE:	8/5/2011
DRILLING CONTRACTOR:	BOART LONGYEAR	NORTHING:	2217450.093	EASTING:	6017035.116
DRILLING METHOD:	SONIC	WELL DEPTH (ft bgs):	97	SCREEN INTERVAL (ft bgs):	80 - 90
SAMPLING METHOD:	CONTINUOUS CORE	LOGGED BY:	T. SHIELDS		

▼ STATIC WATER LEVEL

◇ PUMP INLET



LITHOLOGIC DESCRIPTION
Asphaltic concrete
Base
SAND, light olive gray (2.5Y6/2), no odor
SAND trace SILT, olive (5Y4/4), dense, fine grained, non plastic, saturated, no odor
CLAY, black (5Y2.5/2), very stiff, very plastic, saturated, no odor
silty SAND, olive gray (5Y4/2), dense, fine grained, poorly graded, saturated, no odor
sandy CLAY, olive gray (5Y4/2), very dense, coarse to fine grained, plastic, saturated, no odor
silty SAND, olive (5Y5/3), medium dense, coarse to fine grained, non plastic to slightly plastic, saturated, no odor
SAND, olive (5Y4/3), loose to medium dense, coarse to fine intermittent gravel, non plastic, saturated, no odor
SILT, olive (5Y4/3), soft, non plastic, saturated, no odor
SILT, very dark gray (5Y3/1), dense, non plastic, saturated, no odor
clayey SILT, dark gray (5Y4/1), very stiff, slightly plastic to plastic, saturated, no odor
SILT/sandy SILT, dark gray (5Y4/1), medium dense to very dense, non plastic, saturated, no odor
clayey SILT, olive (5Y5/3), stiff, plastic, saturated, no odor
SILT, olive (5Y4/4), medium stiff to very stiff, slightly plastic, saturated, no odor
silty SAND, olive (5Y4/4), dense, non plastic, saturated, no odor
SAND, olive (5Y5/3), medium dense, medium to fine grained, trace coarse grained, non plastic, saturated, no odor
clayey SILT, dark gray (5Y4/1), very stiff, slightly plastic, saturated, no odor
SILT, gray (5Y5/1), very stiff, non plastic, saturated, no odor
SILT, olive (5Y4/2), stiff, fine grained, non plastic, saturated, no odor

Appendix F (Included in CD-ROM)

Well Development Records

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Site 75 Dedicated Pump Information
Naval Weapons Station Seal Beach, California
Accord MACTEC Joint Venture
August 2011

Well ID	Casing Size	Casing Type	Screen Interval	Targeted Pump Inlet Depth	Surface Completion	Grade (Above or Below Ground)	Total Length of Pump Assembly	Comments
SB75MW01A	4"	SCH 80 PVC	37' to 47'	42'	Riser	2' above ground	44'	
SB75MW01B	4"	SCH 80 PVC	80' to 90'	85'	Riser	2' above ground	87'	
SB75MW02A	4"	SCH 80 PVC	40' to 50'	45'	Riser	2' above ground	47'	
SB 75MW02B	4"	SCH 80 PVC	90' to 100'	95'	Riser	2' above ground	97'	Abandoned
SB75MW02C	4"	SCH 80 PVC	91' to 101'	95'	Riser	2' above ground	97'	Replacement Wells
SB75MW03A	4"	SCH 80 PVC	43' to 53'	48'	Riser	2' above ground	50'	
SB75MW03B	4"	SCH 80 PVC	80' to 90'	85'	Riser	2' above ground	87'	
SB75MW04A	4"	SCH 80 PVC	38' to 48'	43'	Flush Mounts	1' below ground	42'	
SB75MW04B	4"	SCH 80 PVC	82' to 92'	87'	Flush Mounts	1' below ground	86'	
SB75MW05A	4"	SCH 80 PVC	36' to 46'	41'	Flush Mounts	1' below ground	40'	
SB75MW05B	4"	SCH 80 PVC	80' to 90'	85'	Flush Mounts	1' below ground	84'	

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Go To Geotech

Bladder Pumps, Groundwater Sampling

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Geotech Bladder Pumps

Together with the USGS, Geotech designed the original bladder pump for groundwater quality and pollution monitoring. They can pump to the surface from as deep as 1000 feet with minimal agitation for the best representative samples.

FEATURES

- **True low flow capability for less agitation**
- **Proprietary resin grade virgin PTFE bladder for long life**
- **Constructed of #316 SS for durability**
- **Economical PVC models are available**
- **Dedicated or portable turnkey systems**
- **Designed for wells as small as .75"**
- **Optional screened intake extends bladder life**
- **Optional Drop-Tube assembly available for sampling from greater depths**
- **Limited lifetime warranty on dedicated stainless steel systems**

BLADDER PUMP MODELS

A. GEO1.66PVC36
Durable PVC construction for a great value in a high volume pump. For 2" wells or larger.

B. GEO1.66PVC18
The same as above but for less pump volume requirements.

C. GEO1.66SS36
Made from SS for maximum durability. Highest volume rate for a low flow pump. For 2" wells or larger.

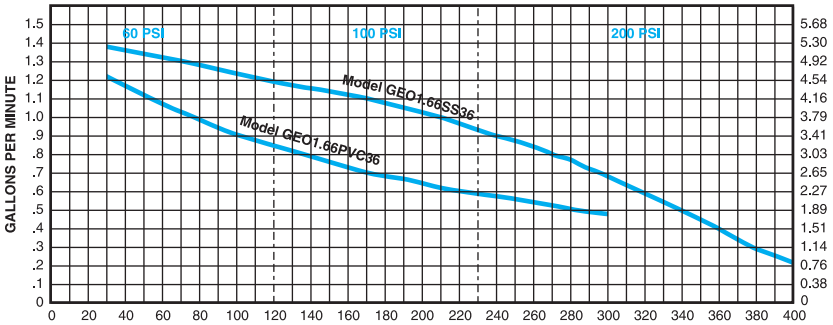
D. GEO1.66SS18
The same as above but for less pump volume requirements.

E. GEO.85SS24
Made from high-grade SS for maximum durability. Extra slim design provides excellent performance for its size.

F. GEO.675SS
Our smallest bladder pump, fits in any well .75" or larger. Made with the same polished stainless steel as our other top-of-the-line pumps

A. B. C. D. E. F.

PERFORMANCE



Geotech Bladder Pump Performance Curves

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Bladder Pumps, Groundwater Sampling

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Geotech Bladder Pumps

SPECIFICATIONS

	GEO1.66SS36	GEO1.66SS18	GEO1.66PVC36	GEO1.66PVC18	GEO.85SS24	GEO.675SS18
Pump Housing	316 stainless steel	316 stainless steel	PVC	PVC	16 stainless steel	316 stainless steel
Pump Ends	Virgin PTFE	Virgin PTFE	PVC	PVC	Virgin PTFE	316 stainless steel
O.D.	1.66"/4.2 cm	1.66"/4.2 cm	1.66"/4.2 cm	1.66"/4.2 cm	.850"/2.2 cm	.675"/1.71 cm
Length w/Screen	38"/96.5 cm	20"/51 cm	36"/91.4 cm	22"/55.9 cm	25"/63.5 cm	18"/45.72 cm
Weight	5 lbs./1.9 Kg	2.5 lbs./0.93 Kg	3.6 lbs./1.3 Kg	1.8 lbs./.67 Kg	1.6 lbs./.60 Kg	.83 lbs./.38 kg
Volume/Cycle	21.1 oz./625 ml	10.5 oz./313 ml	13.8 oz./408 ml	6.9 oz./204 ml	2.1 oz./59.6 ml	1.35 oz/38.4 ml
Max. Flowrate	1.25 gpm/4.7 lpm	.65 gpm/2.4 lpm	.97 gpm/3.7 lpm	.53 gpm/2.0 lpm	.10 gpm/.36 lpm	.05 gpm/.19 lpm
Minimum Well I.D.	2"/50 mm	2"/50 mm	2"/50 mm	2"/50 mm	1.00"/2.5 mm	.75"/1.9 mm
Maximum Depth	1000'/305 m	1000'/305 m	250'/76.25 m	250'/76.25 m	250'/76.25 m	250'/76.25 m

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email: sales@geotechenv.com website: www.geotechenv.com

Well Development Record

BRADY

Project Name	NWS Seal Beach Site 75
Well Number	SB75 MW01A
PROJECT NUMBER	ACCORD.001.000.00
PREPARED BY	SC

PURGE METHOD	TOTAL VOL REMOVED	TOTAL HOURS
SURGING	Ø	.33
BAILER	4	.10
PUMP	237	1.2
OTHER		

PURGING CRITERIA: 3 boreholes or NTU ≤ 5

DATE STARTED: 8/9/11 DATE COMPLETED: 8/9/11

WEATHER: Overcast

TEMPERATURE: 64°

SUBCONTRACTOR: Boart

BOREHOLE DIAM d_h = .667 ft

WELL CASING:

INSIDE DIAM d_wID= .313 ft

OUTSIDE DIAM d_wOD= .375 ft

REF POINT: ground surface/TOC

DEPTH TO:

WATER LEVEL H= 12.32 ft

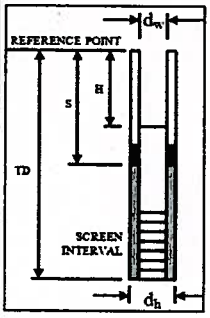
BASE OF SEAL S= 37 ft

TOP OF SCREEN 39 ft

BASE OF SCREEN 49 ft

BASE OF WELL TD= 49 ft

ESTIMATED FILTER PACK PORSITY P= 30%



WELL VOLUME CALCULATION

CASING VOLUME (VC)

$VC = \pi\left(\frac{d_wID}{2}\right)^2(TD - H) =$ 2.82 ft^3

FILTER PACK PORE VOLUME (VF)

$VF = \pi\left[\left(\frac{d_h}{2}\right)^2 - \left(\frac{d_wOD}{2}\right)^2\right](TD - SorH)(P) =$ 0.86 ft^3

(IF S < H, USE H. IF S > H, USE S)

TOTAL WELL VOLUME (VT)

VT = VC + VF = 3.68 ft^3

$3.68\ ft^3 \times \frac{7.48\ gallons}{ft^3} =$ 27.53 gallons

3 boreholes ~ 84 gal

PURGING DATA				TOTAL WATER REMOVED		FIELD PARAMETERS				COMMENTS
Time Begin (hrs)	Time Finish (hrs)	Method	Water Removed (Gal)	Gal	Well Vols	pH	Conduct (µmhos)	Temp (°C)	Turbidity (visual/NTU)	
1005	1015	Surge	Ø							
1017	1020	bail	2							
1022	1032	Surge	Ø							
1035	1039	bail	2							
1048	1053	pump	15							@.3 gpm
1057	1103		90							@7.5 gpm
1103			—							@3 gpm
1113			120			7.32	2.42	21.30	199	
1123			150			7.24	2.41	21.02	105.2	
1133			180			7.23	2.41	21.04	153	
1143			210			7.25	2.48	21.43	43.2	
1148			217.5			7.25	2.47	21.56	76.8	@1.5 gpm
1153			225			7.27	2.48	21.82	83.6	
1158			232.5			7.29	2.47	21.64	88.2	
	1201		237							
		Total removed ~ 241 gallons								

Well Development Record

BRADY

Project Name	NWS Seal Beach Site 75
Well Number	SB75MW01B
PROJECT NUMBER	ACCORD.001.000.00
PREPARED BY	SL

PURGE METHOD	TOTAL VOL REMOVED	TOTAL HOURS
SURGING	Ø	.38
BAILER	6	.33
PUMP	218.5	.83
OTHER		

PURGING CRITERIA: 3 boreholes or NTU ≤ 5

DATE STARTED 8/9/11 DATE COMPLETED 8/9/11

WEATHER overcast

TEMPERATURE 63°

SUBCONTRACTOR Boart

BOREHOLE DIAM d_h = .667 ft

WELL CASING:

INSIDE DIAM d_wID= .313 ft

OUTSIDE DIAM d_wOD= .375 ft

REF POINT: ground surface/TOC

DEPTH TO:

WATER LEVEL H= 15.03 ft

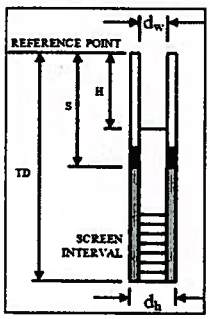
BASE OF SEAL S= 80 ft

TOP OF SCREEN 82 ft

BASE OF SCREEN 92 ft

BASE OF WELL TD= 92 ft

ESTIMATED FILTER PACK PORSITY P= 30%



WELL VOLUME CALCULATION

CASING VOLUME (VC)

$$VC = \pi\left(\frac{d_wID}{2}\right)^2(TD - H) = 5.92 \text{ ft}^3$$

FILTER PACK PORE VOLUME (VF)

$$VF = \pi\left[\left(\frac{d_h}{2}\right)^2 - \left(\frac{d_wOD}{2}\right)^2\right](TD - SorH)(P) = 0.86 \text{ ft}^3$$

(IF S < H, USE H. IF S > H, USE S)

TOTAL WELL VOLUME (VT)

$$VT = VC + VF = 6.78 \text{ ft}^3$$

$$\text{ft}^3 \times \frac{7.48 \text{ gallons}}{\text{ft}^3} = 50.71 \text{ gallons}$$

3 boreholes ~ 150 gal

PURGING DATA				TOTAL WATER REMOVED		FIELD PARAMETERS				COMMENTS
Time Begin (hrs)	Time Finish (hrs)	Method	Water Removed (Gal)	Gal	Well Vols	pH	Conduct (µmhos)	Temp (°C)	Turbidity (visual/NTU)	
0750	0800	Surge	Ø							
0804	0816	bail	4							
0818	0828	Surge	Ø							
0839	0848	bail	2							
0902		Purge	—							@4 gpm
0909			28			6.29	2.09	20.26	53	
0919 ~~0914~~		68	~~48~~			6.83	2.25	20.28	32.9	
0924			88			6.95	2.27	20.36	39.0	
	0926		96							
0926			—							@1.5 gpm
0931			103.5			7.06	2.34	20.71	36.0	
	0934		108							
0934			—			~~7.17~~	~~2.40~~	~~20.03~~	~~12.2~~	@10 gpm
0939			158			7.13	2.40	20.08	12.2	
0944	0944		208			7.13	2.47	20.12	6.41	
0949			215.5			7.15	2.51	20.64	1.39	@1.5 gpm
	0951		218.5							

Total removed ~ 224.5 gal

Well Development Record

BRADY

Project Name	NWS Seal Beach Site 75
Well Number	SB75MW02B A SL
PROJECT NUMBER	ACCORD.001.000.00
PREPARED BY	SL

PURGING CRITERIA: 3 boreholes or NTU ≤ 5

PURGE METHOD	TOTAL VOL REMOVED	TOTAL HOURS
SURGING	Ø	.25
BAILER	6	.20
PUMP	284	1.0
OTHER		

DATE STARTED 8/8/11 DATE COMPLETED 8/8/11

WEATHER Overcast

TEMPERATURE 66°

SUBCONTRACTOR Boart

BOREHOLE DIAM d_h = .667 ft

WELL CASING:

INSIDE DIAM d_wID = .313 ft

OUTSIDE DIAM d_wOD = .375 ft

REF POINT: ground surface TOC

DEPTH TO:

WATER LEVEL H= ~~15.62~~ 12.46 SL ft

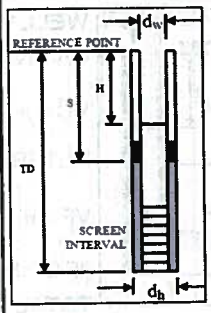
BASE OF SEAL S= 36.42 ft

TOP OF SCREEN ft

BASE OF SCREEN 52 ft

BASE OF WELL TD= 52 ft

ESTIMATED FILTER PACK PORSITY P= 30%



WELL VOLUME CALCULATION

CASING VOLUME (VC)

$VC = \pi\left(\frac{d_wID}{2}\right)^2 (TD - H) =$ 3.04 ft^3

FILTER PACK PORE VOLUME (VF)

$VF = \pi\left[\left(\frac{d_h}{2}\right)^2 - \left(\frac{d_wOD}{2}\right)^2\right](TD - SorH)(P) =$ 1.15 ft^3

(IF S < H, USE H. IF S > H, USE S)

TOTAL WELL VOLUME (VT)

$VT = VC + VF =$ 4.19 ft^3

$ft^3 \times \frac{7.48 \text{ gallons}}{ft^3} =$ 31.3 gallons

3 boreholes ~ 93 gallons

	PURGING DATA				TOTAL WATER REMOVED		FIELD PARAMETERS				COMMENTS
	Time Begin (hrs)	Time Finish (hrs)	Method	Water Removed (Gal)	Gal	Well Vols	pH	Conduct (µmhos)	Temp (°C)	Turbidity (visual/NTU)	
	1241	1244	bail	2							
	1248	1258	surge	Ø							
	1300	1304	bail	2							
	1306	1311	surge	Ø							
	1314	1319	bail	2							
4.5 gpm	1329	1347	pump	81							
9 gpm	1347	~~17~~		–							
	1358			180			6.86	1.42	20.55	47.9	
		1402		216							
1.5 gpm	1402			–							
	1407			223.5			6.99	1.46	21.47	18.3	
	1412			231			7.06	1.47	21.44	70.0	
	1417			238.5			7.10	1.47	21.49	52.7	
SL	~~1422~~	1422		246							
10 gpm	1422	1424		266							
1.5 gpm	1429			273.5			7.19	1.46	20.90	74.8	
	1434			281			7.16	1.47	21.51	25.4	
		1436		284							

Total ~ 290 gal removed

Well Development Record

BRADY

Project Name	NWS Seal Beach Site 75	Well Number	SB75 MW02C
PROJECT NUMBER ACCORD.001.000.00	PREPARED BY F Essig		

PURGE METHOD	TOTAL VOL REMOVED	TOTAL HOURS
SURGING		
BAILER		
PUMP		
OTHER		

PURGING CRITERIA

DATE STARTED 8/23/11 DATE COMPLETED

WEATHER Clear

TEMPERATURE 80

SUBCONTRACTOR Boart Longyear

BOREHOLE DIAM d_h = .667 ft

WELL CASING:

INSIDE DIAM d_wID= .313 ft

OUTSIDE DIAM d_wOD= .375 ft

REF POINT: ground surface/TOC

DEPTH TO:

WATER LEVEL H= 15.43 ft

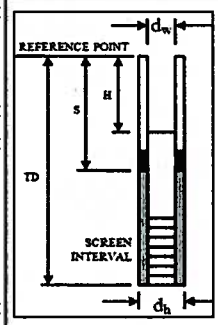
BASE OF SEAL S= 89 ft

TOP OF SCREEN 93 ft

BASE OF SCREEN 103 ft

BASE OF WELL TD= 103 ft

ESTIMATED FILTER PACK PORSITY P= 30%



WELL VOLUME CALCULATION

CASING VOLUME (VC)

$VC = \pi\left(\frac{d_wID}{2}\right)^2(TD - H) =$ 6.60 ft^3

FILTER PACK PORE VOLUME (VF)

$VF = \pi\left[\left(\frac{d_h}{2}\right)^2 - \left(\frac{d_wOD}{2}\right)^2\right](TD - SorH)(P) =$ 1.00 ft^3

(IF S < H, USE H. IF S > H, USE S)

TOTAL WELL VOLUME (VT)

VT = VC + VF = 7.6 ft^3

$ft^3 \times \frac{7.48 \text{ gallons}}{ft^3} =$ 56.85 gallons

PURGING DATA				TOTAL WATER REMOVED		FIELD PARAMETERS				COMMENTS
Time Begin (hrs)	Time Finish (hrs)	Method	Water Removed (Gal)	Gal	Well Vols	pH	Conduct (µmhos)	Temp (°C)	Turbidity (visual/NTU)	
8:00	9:15	bail	16							
9:20	9:25	Surge	Ø							
9:35	9:40	bail	5							
9:42	9:47	Surge	Ø							
9:50	9:58	bail	2						@~9:58	DTW 42.08
10:10	10:12	bail	1						10:08	41.12
10:20	10:30	Surge	Ø							
10:35	10:56	bail	2		11:24		Purge	1 gal	10:40	DTW 42.96
11:18		Pump		1 gpm	@	.25 gpm	11:14	prepump	DTW	35.90
12:30						7.62	.607	24.65	5260	
12:35						8.01	.621	24.49	5363	
12:40						8.61	.622	24.76	2601	12:41 Purge
12:50	12:55		Since Purged 12:41 20 gal	Over 1255		9.46	.598	22.39	407	t/2 70' DTW (20 gal)
14:08		Pump								
14:15						9.17	.688	22.64	104	
14:20						8.78	.679	22.09	117	
14:25						8.65	.676	22.93	113	
14:30						8.68	.670	23.39	107.4	
14:35		stop				8.66	.667	23.49	97.1	
14:40		14:45				8.64	.667	23.92	95.7	

1 gal out
25 gpm
7.5 gal
500 ml/min
10 L
2.65 gal

Well Development Record

BRADY

Project Name	NWS Seal Beach Site 75	Well Number	SBTSMW03A
PROJECT NUMBER ACCORD.001.000.00	PREPARED BY SL		

PURGING CRITERIA: 3 borehole volumes or NTU ≤5

PURGE METHOD	TOTAL VOL REMOVED	TOTAL HOURS
SURGING	Ø	.25
BAILER	6	.18
PUMP	97.5	1.3
OTHER		

DATE STARTED 8/8/11 DATE COMPLETED 8/8/11

WEATHER overcast

TEMPERATURE 63°

SUBCONTRACTOR Boart

BOREHOLE DIAM d_h = .667 ft

WELL CASING:

INSIDE DIAM d_wID = .313 ft

OUTSIDE DIAM d_wOD = .375 ft

REF POINT: ground surface/TOC

DEPTH TO:

WATER LEVEL H= 12.38 ft

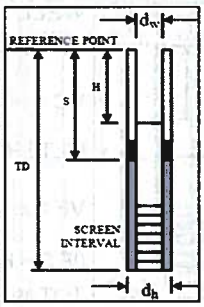
BASE OF SEAL S= 44 ft

TOP OF SCREEN 46 ft

BASE OF SCREEN 56 ft

BASE OF WELL TD= 56 ft

ESTIMATED FILTER PACK PORSITY P= 30%



WELL VOLUME CALCULATION

CASING VOLUME (VC)

$$VC = \pi\left(\frac{d_wID}{2}\right)^2 (TD - H) = 3.36 \text{ ft}^3$$

FILTER PACK PORE VOLUME (VF)

$$VF = \pi\left[\left(\frac{d_h}{2}\right)^2 - \left(\frac{d_wOD}{2}\right)^2\right](TD - SorH)(P) = 0.86 \text{ ft}^3$$

(IF S < H, USE H. IF S > H, USE S)

TOTAL WELL VOLUME (VT)

$$VT = VC + VF = 4.22 \text{ ft}^3$$

$$4.22 \text{ ft}^3 \times \frac{7.48 \text{ gallons}}{\text{ft}^3} = 31.57 \text{ gallons}$$

3 boreholes ~ 96 gal

PURGING DATA				TOTAL WATER REMOVED		FIELD PARAMETERS				COMMENTS
Time Begin (hrs)	Time Finish (hrs)	Method	Water Removed (Gal)	Gal	Well Vols	pH	Conduct (µmhos)	Temp (°C)	Turbidity (visual/NTU)	
0755	0759	bail	2							
0801	0811	surge	Ø							
0813	0816	bail	2							
0819	0824	surge	Ø							
0826	0830	bail	2							
0842	0846	pump	50	well pumped dry						
0859		pump	—							
0906			3.5			6.43	1.81	20.27	201	
0916			8.5			7.04	1.68	20.75	316	
0926			16			7.16	2.10	21.90	138	
0936			23.5			7.27	2.13	22.29	48.1	
0946			31			7.35	2.13	22.35	32.2	
0951			34.75			7.38	2.14	22.42	28.2	
0956			38.25			7.40	2.16	22.55	33.8	
1001			42.25			7.41	2.16	22.50	27.3	
1006			46			7.42	2.20	22.68	25.9	
	1008		47.5							
		Total 103.5 gal removed								

Well Development Record

BRADY

Project Name	NWS Seal Beach Site 75	Well Number	SB75MW03B
PROJECT NUMBER ACCORD.001.000.00	PREPARED BY SL		

PURGING CRITERIA: 3 borehole volumes or NTU ≤ 5

PURGE METHOD	TOTAL VOL REMOVED	TOTAL HOURS
SURGING	Ø	.33
BAILER	11	.43
PUMP	311	2.0
OTHER		

DATE STARTED 8/5/11 DATE COMPLETED 8/5/11

WEATHER partly sunny

TEMPERATURE 67°

SUBCONTRACTOR Boart

BOREHOLE DIAM d_h = .667 ft

WELL CASING:

INSIDE DIAM d_wID= .313 ft

OUTSIDE DIAM d_wOD= .375 ft

REF POINT: ground surface TOC

DEPTH TO:

WATER LEVEL H= 14.00 ft

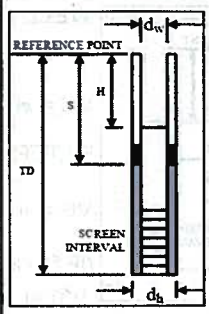
BASE OF SEAL S= ~~80~~ 80 ft

TOP OF SCREEN ~~80~~ 82 ft

BASE OF SCREEN ~~90~~ 92 ft

BASE OF WELL TD= ~~90~~ 92 ft

ESTIMATED FILTER PACK PORSITY P= 30%



WELL VOLUME CALCULATION

CASING VOLUME (VC)

$VC = \pi\left(\frac{d_wID}{2}\right)^2(TD - H) =$ 6.00 ft^3

FILTER PACK PORE VOLUME (VF)

$VF = \pi\left[\left(\frac{d_h}{2}\right)^2 - \left(\frac{d_wOD}{2}\right)^2\right](TD - SorH)(P) =$ 0.86 ft^3

(IF S < H, USE H. IF S > H, USE S)

TOTAL WELL VOLUME (VT)

VT = VC + VF = 6.86 ft^3

6.86 $ft^3 \times \frac{7.48 \text{ gallons}}{ft^3} =$ 51.3 gallons

3 boreholes ~ 154 gallons

PURGING DATA				TOTAL WATER REMOVED		FIELD PARAMETERS				COMMENTS
Time Begin (hrs)	Time Finish (hrs)	Method	Water Removed (Gal)	Gal	Well Vols	pH	Conduct (µmhos)	Temp (°C)	Turbidity (visual/NTU)	
1114	1127	bail	5							
1129	1139	Surge	Ø							
1144	1148	bail	2							
1153	1203	Surge	Ø							
1240		pump	—							
1255			45			6.10	1.57	20.84	560	
1305			75			6.90	1.63	20.70	408	
1315			105			7.09	1.68	20.74	489	
1325			135			7.19	1.57	20.67	298	
~~1335~~			~~165~~							
1330		150	~~180~~	Flow rate set @ 1.5 gpm						
1335			157.5			7.25	1.62	21.03	152	
1345			172.5			7.26	1.63	21.24	166	
1355			187.5			7.30	1.66	21.31	126	
1405			199			7.35	1.67	21.75	134	
1415			209			7.35	1.69	21.81	163	
1425			219			7.36	1.71	22.01	209	
1435			243			7.42	1.63	19.84	22.7	

additional bailing @ 1223 (see field notes)

next page →

Well Development Record

BRADY

Project Name	Well Number
NWS Seal Beach Site 75	SB75MW03B

PROJECT NUMBER	PREPARED BY
ACCORD.001.000.00	SC

PURGE METHOD	TOTAL VOL REMOVED	TOTAL HOURS
SURGING	Ø	
BAILER		
PUMP		
OTHER		

PURGING CRITERIA

DATE STARTED 8	DATE COMPLETED
WEATHER	
TEMPERATURE	
SUBCONTRACTOR	

BOREHOLE DIAM d_h = ft

WELL CASING:

INSIDE DIAM d_wID= ft

OUTSIDE DIAM d_wOD= ft

REF POINT: ground surface/TOC

DEPTH TO:

WATER LEVEL H= ft

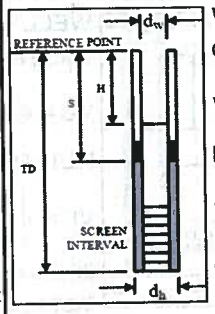
BASE OF SEAL S= ft

TOP OF SCREEN ft

BASE OF SCREEN ft

BASE OF WELL TD= ft

ESTIMATED FILTER PACK PORSITY P= 30%



WELL VOLUME CALCULATION

CASING VOLUME (VC)

$$VC = \pi\left(\frac{d_wID}{2}\right)^2 (TD - H) = \_\_\_\_\_ \text{ ft}^3$$

FILTER PACK PORE VOLUME (VF)

$$VF = \pi\left[\left(\frac{d_h}{2}\right)^2 - \left(\frac{d_wOD}{2}\right)^2\right](TD - SorH)(P) = \_\_\_\_\_ \text{ ft}^3$$

(IF S < H, USE H. IF S > H, USE S)

TOTAL WELL VOLUME (VT)

$$VT = VC + VF = \_\_\_\_\_ \text{ ft}^3$$

$$\text{ft}^3 \times \frac{7.48 \text{ gallons}}{\text{ft}^3} = \_\_\_\_\_ \text{ gallons}$$

Info on prev. page

PURGING DATA				TOTAL WATER REMOVED		FIELD PARAMETERS				COMMENTS
Time Begin (hrs)	Time Finish (hrs)	Method	Water Removed (Gal)	Gal	Well Vols	pH	Conduct (umhos)	Temp (°C)	Turbidity (visual/NTU)	
con't 1440		pump	283			7.34	~~19.63~~ 1.62	19.63	33.8	
1445			308			7.32	1.63	19.96	1.5	
	1446		311							
		Total vol removed ~322 gal								

Well Development Record

BRADY

Project Name	Well Number
NWS Seal Beach Site 75	SBTSMW04A

PROJECT NUMBER	PREPARED BY
ACCORD.001.000.00	SL

PURGING CRITERIA: 3 borehole volumes or NTU ≤5

PURGE METHOD	TOTAL VOL REMOVED	TOTAL HOURS
SURGING	Ø	~~.10~~
BAILER	6	~~.10~~
PUMP	214	.75
OTHER		

DATE STARTED 8/4/11 DATE COMPLETED 8/4/11

WEATHER Sunny

TEMPERATURE ~70°

SUBCONTRACTOR Boart

BOREHOLE DIAM d_h = .667 ft

WELL CASING:

INSIDE DIAM d_wID= .292 ft

OUTSIDE DIAM d_wOD= .33 ft

REF POINT: ground surface/TOC

DEPTH TO:

WATER LEVEL H= 7.99 ft

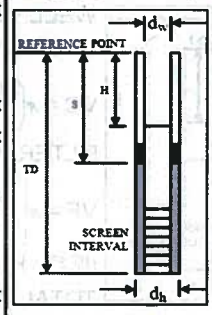
BASE OF SEAL S= ~~37~~ 33 ft

TOP OF SCREEN 37 ft

BASE OF SCREEN 47 ft

BASE OF WELL TD= 47 ft

ESTIMATED FILTER PACK PORSITY P= 30%



WELL VOLUME CALCULATION

CASING VOLUME (VC)

$$VC = \pi\left(\frac{d_wID}{2}\right)^2 (TD - H) = 2.61 \text{ ft}^3$$

FILTER PACK PORE VOLUME (VF)

$$VF = \pi\left[\left(\frac{d_h}{2}\right)^2 - \left(\frac{d_wOD}{2}\right)^2\right](TD - SorH)(P) = 1.11 \text{ ft}^3$$

(IF S < H, USE H. IF S > H, USE S)

TOTAL WELL VOLUME (VT)

$$VT = VC + VF = 3.72 \text{ ft}^3$$

$$3.72 \text{ ft}^3 \times \frac{7.48 \text{ gallons}}{\text{ft}^3} = 27.8 \text{ gallons}$$

3 borehole volumes ≈ 83 gallons

PURGING DATA				TOTAL WATER REMOVED		FIELD PARAMETERS				COMMENTS
Time Begin (hrs)	Time Finish (hrs)	Method	Water Removed (Gal)	Gal	Well Vols	pH	Conduct (µmhos)	Temp (°C)	Turbidity (visual/NTU)	
0857	0907	Surge	Ø							7 gal/min
0912	0927	bail	6							
0942		pump	–						121.0	
0952			~~100~~ 75						42.5	
0953			90						33.8	
0955			105						28.7	
~~0950~~	0959		135						138.0	
1008			160						35.3	3 gal/min
1010			166						32.1	
1014			178						23.5	
1016			184						28.6	
1018			190						42.2	
1020			196						34.4	
1024			208						25.0	
	1026		214							
			220 total gal							

Well Development Record

BRADY

Project Name	Well Number
NWS Seal Beach Site 75	SB75MW04B

PROJECT NUMBER	PREPARED BY
ACCORD.001.000.00	SL

PURGING CRITERIA: 3 borehole volumes or NTU ≤ 5

PURGE METHOD	TOTAL VOL REMOVED	TOTAL HOURS
SURGING	Ø	~~.406~~
BAILER	9	.25
PUMP	150	.83
OTHER		

DATE STARTED 8/4/11 DATE COMPLETED 8/4/11

WEATHER Sunny

TEMPERATURE 70

SUBCONTRACTOR Beart

BOREHOLE DIAM d_h = .667 ft

WELL CASING:

INSIDE DIAM d_wID = ~~.292~~ .313 ft

OUTSIDE DIAM d_wOD = ~~.33~~ .375 ft

REF POINT: ground surface/TOC

DEPTH TO:

WATER LEVEL H= 12.33 ft

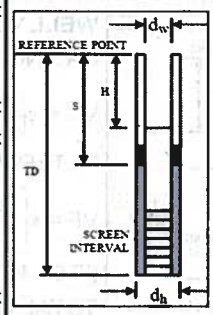
BASE OF SEAL S= 80 ft

TOP OF SCREEN 82 ft

BASE OF SCREEN 92 ft

BASE OF WELL TD= 92 ft

ESTIMATED FILTER PACK PORSITY P= 30%



WELL VOLUME CALCULATION

CASING VOLUME (VC)

$VC = \pi\left(\frac{d_wID}{2}\right)^2 (TD - H) =$ 6.13 ft^3

FILTER PACK PORE VOLUME (VF)

$VF = \pi\left[\left(\frac{d_h}{2}\right)^2 - \left(\frac{d_wOD}{2}\right)^2\right](TD - SorH)(P) =$ .86 ft^3

(IF S < H, USE H. IF S > H, USE S)

TOTAL WELL VOLUME (VT)

$VT = VC + VF =$ 6.99 ft^3

6.99 $ft^3 \times \frac{7.48 \text{ gallons}}{ft^3} =$ 52 gallons

3 borehole volumes ≈ 156 gallons

PURGING DATA				TOTAL WATER REMOVED		FIELD PARAMETERS				COMMENTS
Time Begin (bgs)	Time Finish (bgs)	Method	Water Removed (Gal)	Gal	Well Vols	pH	~~Conduct~~ ORP (µmhos)	Temp (°C)	Turbidity (visual/NTU)	
~~1040~~ 1112	~~1058~~ 1122	Surge	Ø							
1127	1135	bail	4							
1137	1147	Surge	Ø							
1152	1201	bail	5							
1233		Pump	–							
1255			66						26.4	
1259			72						21.2	
1301			78			6.43	-17.4	23.13		
1304			87						13.8	
1306			93			7.01	-27.2	22.7	11.8	
1312			111			7.05	-27.4	22.16	7.52	
1317			126			7.13	-30.2	22.06	6.19	
1322			141			7.17	-30.3	22.10	4.30	
	1325		150							
			159 total gal							

Well Development Record

BRADY

Project Name	Well Number
NWS Seal Beach Site 75	SB75MW05A

PROJECT NUMBER	PREPARED BY
ACCORD.001.000.00	SL

PURGING CRITERIA: 3 borehole vol or NTU ≤ 5

PURGE METHOD	TOTAL VOL REMOVED	TOTAL HOURS
SURGING	Ø	.25
BAILER	7	.25
PUMP	144	.83
OTHER		

DATE STARTED 8/4/11 DATE COMPLETED 8/4/11

WEATHER Sunny

TEMPERATURE 76

SUBCONTRACTOR Boart

BOREHOLE DIAM d_h = .667 ft

WELL CASING:

INSIDE DIAM d_wID = .313 ft

OUTSIDE DIAM d_wOD = .375 ft

REF POINT: ground surface/TOC

DEPTH TO:

WATER LEVEL H= 8.23 ft

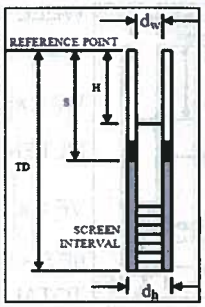
BASE OF SEAL S= 34 ft

TOP OF SCREEN 36 ft

BASE OF SCREEN 46 ft

BASE OF WELL TD= 46 ft

ESTIMATED FILTER PACK PORSITY P= 30%



WELL VOLUME CALCULATION

CASING VOLUME (VC)

$$VC = \pi\left(\frac{d_wID}{2}\right)^2 (TD - H) = 2.9 \text{ ft}^3$$

FILTER PACK PORE VOLUME (VF)

$$VF = \pi\left[\left(\frac{d_h}{2}\right)^2 - \left(\frac{d_wOD}{2}\right)^2\right](TD - SorH)(P) = 0.86 \text{ ft}^3$$

(IF S < H, USE H. IF S > H, USE S)

TOTAL WELL VOLUME (VT)

$$VT = VC + VF = 3.76 \text{ ft}^3$$

$$3.76 \text{ ft}^3 \times \frac{7.48 \text{ gallons}}{\text{ft}^3} = 28.1 \text{ gallons}$$

3 bh volumes ≈ 84

PURGING DATA				TOTAL WATER REMOVED		FIELD PARAMETERS				COMMENTS
Time Begin (hrs)	Time Finish (hrs)	Method	Water Removed (Gal)	Gal	Well Vols	pH	~~Conduct~~ ORP (µmhos)	Temp (°C)	Turbidity (visual/NTU)	
1418	1423	bail	3							
1427	1437	surge	Ø							
1443	1447	bail	2							
1448	1453	surge	Ø							
1457	1501	bail	2							
1515		pump	—							
1527			36			6.35	-37.6	23.03	190.0	
1532			51			6.83	-35.1	22.26	121.0	
1537			66			6.97	-34.8	22.09	68.6	
1542			81			7.04	-33.6	22.07	85.2	
1547			96			7.10	-34.7	22.10	66.2	
1552			111			7.13	-35.5	22.04	40.7	
1557			126			7.15	-35.3	22.04	46.0	
1602			141			7.17	-35.6	22.08	33.5	
	1603		144							
		Total purged-		151 gal						

Well Development Record

BRADY

Project Name	NWS Seal Beach Site 75	Well Number	SB75MW05B
PROJECT NUMBER ACCORD.001.000.00	PREPARED BY SL		

PURGE METHOD	TOTAL VOL REMOVED	TOTAL HOURS
SURGING	Ø	.25
BAILER	7	.3
PUMP	147	1
OTHER		

PURGING CRITERIA: 3 boreholes or NTU ≤5

DATE STARTED 8/5/11 DATE COMPLETED 8/5/11

WEATHER Overcast

TEMPERATURE 62°

SUBCONTRACTOR Geart

BOREHOLE DIAM d_h = .667 ft

WELL CASING:

INSIDE DIAM d_wID = .313 ft

OUTSIDE DIAM d_wOD = .375 ft

REF POINT: ground surface/TOC

DEPTH TO:

WATER LEVEL H= 9.77 ft

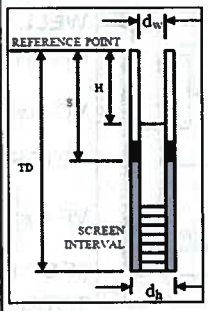
BASE OF SEAL S= 78 ft

TOP OF SCREEN 80 ft

BASE OF SCREEN 90 ft

BASE OF WELL TD= 90 ft

ESTIMATED FILTER PACK PORSITY P= 30%



WELL VOLUME CALCULATION

CASING VOLUME (VC)

$VC = \pi\left(\frac{d_wID}{2}\right)^2(TD - H) =$ 6.17 ft^3

FILTER PACK PORE VOLUME (VF)

$VF = \pi\left[\left(\frac{d_h}{2}\right)^2 - \left(\frac{d_wOD}{2}\right)^2\right](TD - SorH)(P) =$ 0.86 ft^3

(IF S < H, USE H. IF S > H, USE S)

TOTAL WELL VOLUME (VT)

$VT = VC + VF =$ 7.03 ft^3

$7.03\ ft^3 \times \frac{7.48\ gallons}{ft^3} =$ 53 gallons

3 boreholes ≈ 159 gallons

PURGING DATA				TOTAL WATER REMOVED		FIELD PARAMETERS				COMMENTS
Time Begin (hrs)	Time Finish (hrs)	Method	Water Removed (Gal)	Gal	Well Vols	pH	Conduct (µmhos)	Temp (°C)	Turbidity (visual/NTU)	
0805	0811	Bail	2							
0817	0827	Surge	Ø							
0830	0834	Bail	2							
0838	0843	Surge	Ø							
0846	0854	Bail	3							
0917		pump	—							
←	0932		45			6.40	6.52	21.82	138	
←	0942		75			6.78	8.39	21.63	66.9	
←	0952		105			6.95	8.95	21.59	96.5	
←	0954		111	Flow rate adjusted to 1.5 gpm						
←	1002		123			6.95	9.58	21.88	17.2	
←	1007		130.5			6.97	9.71	22.17	11.6	
←	1012		138			6.98	9.74	21.98	10.82	
←	1017		145.5			6.98	9.76	22.04	4.17	
	1018		147							
		Total removed ≈ 154 gal								

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Appendix G (Included in CD-ROM)

Well Location Survey Data

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NORTHSTAR SURVEYS INC.
32158 CAMINO CAPISTRANO, SUITE A, PMB 410, SAN JUAN CAPISTRANO, CA. 92675 951-314-4028

February 1, 2012

Qihai Chen
Project Engineer
Accord Engineering, Inc.
6050 Santo Road, Suite 175
San Diego, CA 92124

RE: Well location survey data.

Project Name and Location: Preliminary Assessment/Site Inspection at Installation Restoration Site 75, Former Agricultural Well KAYO-SB, Naval Weapons Station Seal Beach, Seal Beach, California.

Mr. Chen,

The following table represents the well location data, as surveyed, by Northstar Suveys Inc. on September 9, 2011 at the project location referenced above.

The horizontal and vertical data shown was based on the primary survey control data provided by RBF Consulting as part of their Naval Weapons Station Seal Beach Survey Control document dated December 17, 2010.

The datum's used for this survey and referenced in the RBF Consulting survey documents are as follows: Horizontal control; NAD, California State Plane Coordinate System of 1983, Zone 6. Vertical control; NAVD88.

Pt. No.	Northing	Easting	Elevation from Top of Casing	Description
2000	2217229.600	6016122.300	15.9	SB75MW03B
2001	2217242.100	6016124.100	17.0	SB75MW03A
2002	2217886.900	6016106.200	17.4	SB75MW02A
2003	2217873.000	6016084.500	17.3	SB75MW02C
2004	2217869.100	6016095.600	14.0	SB75MW02B
2005	2217483.100	6016496.000	17.0	SB75MW01B
2006	2217489.000	6016511.200	17.0	SB75MW01A
2007	2217497.500	6016495.900	14.3	SB75MW01
2008	2217985.300	6017123.800	14.0	SB75MW04A
2009	2217984.900	6017108.000	14.1	SB75MW04B
2010	2217450.100	6017035.100	14.0	SB75MW05B
2011	2217459.800	6017035.800	14.0	SB75MW05A

This survey was performed under my direct supervision using industry standard survey practices and procedures.

Richard E. Freese
President, PLS
Northstar Surveys Inc.

LICENSED LAND SURVEYOR
RICHARD E. FREESE
EXP. 12/31/12
NO. L7344
STATE OF CALIFORNIA

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Rich Freese
32158 Camino Capistrano
Suite#A
San Juan Capistrano, CA 92675
USA

Phone: 951-314-4028
www.nssurveys.com
northstarsurveys@msn.com

Project Information	
Name:	Z:_Northstar\CURRENT PROJECTS \Accord Eng\AE02 Seal Bch\Trimble Projects\PC_SEAL BEACH.vce
Size:	179 KB
Modified:	9/12/2011 11:55:53 AM (UTC:-7)
Time zone:	Pacific Standard Time
Reference number:	AE02
Description:	NWS Seal Beach - Monitoring Wells Asbuilt

Coordinate System	
Name:	Default
Datum:	WGS 1984
Zone:	Default
Geoid:	G03AZCA
Vertical datum:	

Additional Coordinate System Details

Local Site Settings			
Project latitude:	N33°44'39.72448"	Ground scale factor:	1.0000004773896
Project longitude:	W118°02'33.75374"	False northing offset:	0.000 ft
Project height:	10.000 ft	False easting offset:	0.000 ft

Point List

ID	Northing (US survey foot)	Easting (US survey foot)	Elevation (US survey foot)	Feature Code
2000	2217229.571	6016122.316	15.900	SB75MW03B
2001	2217242.112	6016124.130	17.047	SB75MW03A
2002	2217886.857	6016106.209	17.444	SB75MW02A
2003	2217873.044	6016084.499	17.323	SB75MW02C

2004	2217869.089	6016095.581	14.032	SB75MW02B
2005	2217483.061	6016495.981	16.998	SB75MW01B
2006	2217488.964	6016511.242	17.048	SB75MW01A
2007	2217497.489	6016495.917	14.342	SB75MW01C
2008	2217985.260	6017123.755	13.953	SB75MW04A
2009	2217984.941	6017107.952	14.122	SB75MW04B
2010	2217450.093	6017035.116	14.015	SB75MW07B
2011	2217459.772	6017035.819	13.959	SB75MW07A

Date: 9/12/2011 11:57:09 AM	Project: Z:_Northstar\CURRENT PROJECTS\Accord Eng\AE02 Seal Bch\Trimble Projects \PC_SEAL BEACH.vce	Trimble Business Center

Appendix H (Included in CD-ROM)

Groundwater Sampling Logs

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WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Well ID: SB75MW01A

Sample ID: SB75MW01A-Q311-01

Date: 9/28/11

Prepared by:

Name: RAVI SINGH

Signature:

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature:

Remarks: MS/MSD taken: SB75MW01A-Q311-01
Trip Blank 02 taken: SB75MW01A-Q311-02
at 1330, lot # 003-03-15

Groundwater Well Information:

Depth to Water 12.53 feet BTOC

Purge Start Time: 1247

Sample Time: 1320

Casing Diameter 4 inches

Screen Interval 37 to 47 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 42 feet bgs

Base of Well 47 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1250	275	12.54							
1252	300	12.53							
1300	300	12.56	20.12	3.062	0.72	7.16	-49.2	0.23	clear, no odor
1306	300	12.55	20.16	3.075	0.54	7.15	-53.9	0.14	"
1312	300	12.55	20.21	3.072	0.46	7.15	-55.8	0.12	"
1318	300	12.55	20.21	3.063	0.42	7.15	-59.8	0.43	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW01B-Q311-01

Well ID: SB75MW01B

Date: 9/28/11

Prepared by:

Name: RAVI SINGH

Signature: [signature]

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: [signature]

Remarks:

Groundwater Well Information:

Depth to Water 14.65 feet BTOC

Purge Start Time: 1136

Sample Time: 1225

Casing Diameter 4 inches

Screen Interval 80 to 90 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 85 feet bgs

Base of Well 90 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1141	225	14.67							
1143	250	14.69							
1150	250	14.71	20.03	2.907	0.73	7.20	-134.0	0.32	clear, no odor
1200	250	14.73	20.01	2.999	0.47	7.22	-145.9	0.59	"
1210	250	14.75	20.01	3.002	0.38	7.22	-149.7	0.65	"
1220	250	14.77	20.05	3.003	0.34	7.21	-152.9	0.29	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75 MW02A -0311-01

Well ID: SB75MW02A

Date: 9/27/11

Prepared by:

Name: RAVI SINGH

Signature:

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature:

Remarks:

Groundwater Well Information:

Depth to Water 12.63 feet BTOC

Purge Start Time: 1412

Sample Time: 1450

Casing Diameter 4 inches

Screen Interval 40 to 50 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 45 feet bgs

Base of Well 50 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1416	300	12.64							
1424	300	12.64	19.86	1.529	0.78	6.94	-72.7	0.05	clear, no odor
1430	300	12.64	19.80	1.527	0.53	7.00	-87.3	0.10	"
1436	300	12.64	19.82	1.525	0.45	7.03	-92.8	0.08	"
1442	300	12.64	19.83	1.522	0.40	7.04	-95.5	0.18	"
1448	300	12.64	19.91	1.523	0.37	7.05	-99.7	0.15	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW02C-Q311-01

Well ID: SB75MW02C

Date: 9/27/11

Prepared by:

Name: RAVI SINGH

Signature: [signature]

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: [signature]

Remarks: SLOW RECHARGE. MINOR DRAWDOWN

SB75MW02C-Q311-02 is the field blank.

Groundwater Well Information:

Depth to Water 15.38 feet BTOC

Purge Start Time: 1110

Sample Time: 1402

Casing Diameter 4 inches

Screen Interval 91 to 101 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 95 feet bgs

Base of Well 101 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1120	225	15.85							
1121		15.95							
1124		16.00							
1126	90	16.12							
1126	125	16.21	21.13	0.551	0.96	6.88	7.6	9.15	clear, no odor
1148	125	17.11	21.15	0.530	0.39	7.36	-212.3	0.96	"
1210	125	18.04	21.40	0.529	0.60	7.48	-215.3	0.68	"
1232	125	18.78	21.46	0.529	0.24	7.36	-201.0	0.57	"
1254	125	19.60	21.65	0.530	0.21	7.26	-203.1	0.35	"
1316	125	20.39	21.83	0.531	0.22	7.21	-227.6	0.59	"
1338	125	21.17	21.61	0.529	0.22	7.16	-234.3	0.65	"
1400	125	22.22	21.30	0.523	0.20	7.17	-239.8	0.77	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Well ID: SB75MW03A

Sample ID: SB75MW03A-Q311-01

Date: 9/27/11

Prepared by:

Name: RAVI SINGH

Signature: [signature]

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: [signature]

Remarks:

SB75MW03A-Q311-02 is trip blank 01 ↑ Lot # TB-003-03-15

Minor drawdown. Slower recharge.

Groundwater Well Information:

Depth to Water 12.52 feet BTOC

Purge Start Time: 1516

Sample Time: 1640

Casing Diameter 4 inches

Screen Interval 43 to 53 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 48 feet bgs

Base of Well 53 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1523	200	13.12							
1530	200	13.45	20.36	2.095	0.80	7.21	-43.2	0.07	
1547 ~~1539~~	100	13.47	20.94	2.115	0.51	7.27	-56.1	0.12	
1604 ~~1548~~	100	13.49	20.72	2.097	0.41	7.26	-65.8	0.09	
1621 ~~1557~~	100	13.50	20.52	2.081	0.37	7.24	-71.7	1.19	
1638 ~~1635~~	100	13.49	20.47	2.085	0.36	7.22	-78.6	0.71	

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: Q.C.
~~SB75MW03B-Q311-01~~
SB75MW03B-Q311-01

Well ID: SB75MW03B

Date: 9/28/11

Prepared by:
Name: RAVI SINGH
Signature: [signature]

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:
Name: Qihai Chen
Signature: [signature]

Remarks:

Groundwater Well Information:

Depth to Water 13.84 feet BTOC

Purge Start Time: 0915

Sample Time: 1120

Casing Diameter 4 inches

Screen Interval 80 to 90 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 85 feet bgs

Base of Well 90 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
0924	200	13.90							
0930	100	13.90							
0932	100	13.90	19.57	2.447	1.32	6.96	139.0	1.50	clear, no odor
0957	200	13.95	19.51	2.590	0.49	7.14	35.4	0.78	"
1010 ~~1010~~	200	13.96	19.36	2.582	0.40	7.14	4.5	0.52	"
1023 ~~1047~~	200	14.00	19.26	2.580	0.36	7.13	-33.6	1.77	"
1036	200	13.98	19.25	2.487	0.49	7.03	-42.6	0.36	"
1044	300								Adjusted flow rate
1046	300	14.03	19.35	2.557	0.38	7.08	-41.1	0.25	"
1054	300	14.05	19.34	2.575	0.30	7.12	-122.8	0.36	"
1102	300	14.04	19.37	2.568	0.29	7.10	-134.4	0.11	"
1110	300	14.02	19.37	2.560	0.27	7.08	-142.7	0.04	"
1118	300	14.03	19.37	2.552	0.27	7.07	-144.4	0.00	

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Well ID: SB75MW04A

Sample ID: SB75MW04A-Q311-01

Date: 9/29/11

Prepared by:

Name: RAVI SINGH

Signature: [signature]

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: [signature]

Remarks:

Groundwater Well Information:

Depth to Water 7.76 feet BTOC

Purge Start Time: 1035

Sample Time: 1108

Casing Diameter 4 inches

Screen Interval 38 to 48 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 43 feet bgs

Base of Well 48 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1040	300	7.76							
1041	350	7.76							
1050	350	7.76	21.75	1.429	0.64	7.30	-90	0.78	clear, no odor
1055	350	7.77	21.74	1.428	0.51	7.28	-98.9	0.58	"
1100	350	7.77	21.71	1.427	0.44	7.27	-102.6	0.68	"
1105	350	7.77	21.72	1.428	0.43	7.26	-104.7	1.01	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW04B-G311-01

Well ID: SB75MW04B

Date: 9/29/11

Prepared by:

Name: RAVI SINGH

Signature:

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Chai Chen

Signature:

Remarks:

Drawdown, recharge slow.

Groundwater Well Information:

Depth to Water 11.62 feet BTOC

Purge Start Time: 0815

Sample Time: 1025

Casing Diameter 4 inches

Screen Interval 82 to 92 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 87 feet bgs

Base of Well 92 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
0821	100	11.94							
0830	100	12.09	21.65	2.071	1.53	7.34	98.3	3.09	clear, no odor
0856	100	12.18	21.66	2.057	0.59	7.43	-77.3	2.87	"
0912	200	12.19							increase flow rate
0917	200	12.29	21.60	2.087	0.45	7.39	-191.0	2.86	clear, no odor
0930	200	12.36	21.56	2.178	0.37	7.33	-188.0	2.75	"
0943	200	12.37	21.56	2.545	0.36	7.25	-192.9	0.65	"
0956	200	12.35	21.58	2.718	0.43	7.22	-192.4	0.84	"
1009	200	12.38	21.49	2.754	0.34	7.21	-186.6	0.31	"
1022	200	12.38	21.41	2.755	0.31	7.19	-184.3	0.64	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Well ID: SB75MW05A

Sample ID: SB75MW05A-Q311-01

Date: 9/29/11

Prepared by:

Name: RAVI SINGH

Signature:

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature:

Remarks: Field duplicate taken, sample ID: SB75MW05A-Q311-02, time at 1400.

Groundwater Well Information:

Depth to Water 8.36 feet BTOC

Purge Start Time: 1309

Sample Time: 1340

Casing Diameter 4 inches

Screen Interval 36 to 46 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 41 feet bgs

Base of Well 46 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1315	300	8.38							
1320	300	8.38	21.98	1.901	1.21	7.20	-59.7	7.92	clear, no odor
1326	300	8.38	21.90	1.883	0.69	7.16	-75.1	4.10	"
1332	300	8.38	21.89	1.882	0.57	7.16	-80.8	4.47	"
1338	300	8.38	21.85	1.878	0.52	7.14	-83.5	3.76	"

WELL SAMPLING LOG

Accord MACTEC MENTOR PROTÉGÉ JOINT VENTURE

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW05B-Q311-01

Well ID: SB75MW05B

Date: 9/29/11

Prepared by:

Name: RAVI SINGH

Signature:

Reviewed by:

Name: Qihai Chen

Signature:

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Remarks:

Groundwater Well Information:

Depth to Water 9.70 feet BTOC

Purge Start Time: 1145

Sample Time: 1255

Casing Diameter 4 inches

Screen Interval 80 to 90 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 85 feet bgs

Base of Well 90 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1149	100	9.84							
1152	200	9.97							
1200	200	10.27	21.92	12.05	0.91	6.81	-81.8	3.25	clear, no odor
1213	200	10.60	21.79	12.05	0.57	6.82	-104.9	2.68	"
1227 ~~1226~~		~~10.27~~							change CO_2 gas tank.
1226	200	10.27	22.17	12.10	0.58	6.83	-108.5	3.00	clear, no odor
1239	200	10.60	21.75	12.00	0.43	6.83	-117.9	1.58	"
1252	200	10.77	21.74	12.02	0.39	6.83	-119.4	1.18	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW01A-Q411-01

Well ID: SB75MW01A

Date: 12/27/11

Prepared by:

Name: Justin Soo Hoo

Signature: [signature]

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: [signature]

Remarks:

Reading every 6 mins. MS/MSD taken

Trip Blank #2: SB75MW01A-Q411-02 @ 1500

Lot #: TB-003-04-10

Groundwater Well Information:

Depth to Water 11.95 feet BTOC

Purge Start Time: 1351

Sample Time: 1435

Casing Diameter 4 inches

Screen Interval 37 to 47 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 42 feet bgs

Base of Well 47 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1355	300	11.95	19.34	2.379	3.68	6.64	93.6	1.57	Clear, No Odor
1401	300	11.97	19.55	2.269	1.01	7.41	48.5	1.28	"
1407	300	11.97	19.57	2.266	0.69	7.43	25.3	1.28	"
1413	300	11.98	19.57	2.033	0.54	7.44	10.7	1.05	"
1419	300	11.98	19.59	2.269	0.47	7.43	0.6	1.06	"
1425	300	11.98	19.57	2.272	0.43	7.42	-6.2	0.97	"
1431	300	11.98	19.57	2.276	0.39	7.41	-8.7	1.03	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW01B-Q411-01

Well ID: SB75MW01B

Date: 12/27/11

Prepared by:

Name: Justin Soo Hoo

Signature: [signature]

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: [signature]

Remarks: Reading every 8 mins.

Groundwater Well Information:

Depth to Water 13.82 feet BTOC

Purge Start Time: 1443

Sample Time: 1525

Casing Diameter 4 inches

Screen Interval 80 to 90 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 85 feet bgs

Base of Well 90 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1449	350	13.87	19.41	2.273	4.09	7.19	45.2	1.59	Clear, no odor
1457	350	13.87	19.46	2.764	0.76	7.36	-19.8	1.54	"
1505	350	13.87	19.46	2.774	0.51	7.41	-52.3	1.47	"
1513	350	13.87	19.42	2.776	0.40	7.42	-61.3	1.60	"
1521	350	13.87	19.41	2.775	0.37	7.41	-66.9	1.28	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW02A-Q411-01

Well ID: SB75MW02A

Date: 12/27/11

Prepared by:

Name: Justin Soo Hoo

Signature:

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: Qihai Ch

Remarks:

Reading every 6 mins.

Groundwater Well Information:

Depth to Water 11.93 feet BTOC

Purge Start Time: 1108

Sample Time: 1145

Casing Diameter 4 inches

Screen Interval 40 to 50 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 45 feet bgs

Base of Well 50 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1110	300	11.96	19.52	1.572	3.78	6.87	52.7	0.54	Clear, No Odor
1116	300	11.97	19.70	1.590	1.53	7.26	40.0	0.63	"
1122	300	11.97	19.85	1.592	0.84	7.44	18.7	0.52	"
1128	300	11.97	19.86	1.593	0.64	7.44	7.0	0.79	"
1134	300	11.98	20.03	1.590	0.55	7.45	1.4	0.42	"
1140	300	11.98	19.81	1.592	0.50	7.44	-1.8	0.41	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW02C-Q411-01

Well ID: SB75MW02C

Date: 12/27/11

Prepared by:

Name: Justin Soo Hoo

Signature:

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: Qihai Ch

Remarks:

Reading every 19 mins.

Groundwater Well Information:

Depth to Water 13.99 feet BTOC

Purge Start Time: 1148

Sample Time: 1335

Casing Diameter 4 inches

Screen Interval 91 to 101 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 95 feet bgs

Base of Well 101 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1157	150	14.40	19.23	0.546	3.58	7.52	-27.6	1.07	Clear, no odor
1216	150	15.43	19.35	0.478	3.50	7.17	-14.1	5.41	"
1235	150	16.61	19.36	0.460	0.64	7.35	-69.5	5.94	"
1254	150	17.65	19.38	0.455	0.44	7.35	-83.7	2.23	"
1313	150	18.55	19.37	0.454	0.38	7.34	-80.6	1.55	"
1332	150	19.57	19.15	0.402	0.32	7.32	-86.0	1.05	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW03A-Q411-01

Well ID: SB75MW03A

Date: 12/27/11

Prepared by:

Name: Justin Soo Hoo

Signature:

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Chihai Chen

Signature:

Remarks: Trip Blank #1 @ 1105 (SB75MW03A-Q411-02)
Lot #: TB-003-02-17
Reading every 11 mins.

Groundwater Well Information:

Depth to Water 12.01 feet BTOC

Purge Start Time: 1005

Sample Time: 1100

Casing Diameter 4 inches

Screen Interval 43 to 53 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 48 feet bgs

Base of Well 53 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1012	150	12.53	18.17	2.110	6.00	7.11	50.2	0.56	Clear, No odor
1023	150	12.91	18.46	2.087	1.13	7.43	15.7	0.48	"
1034	150	13.19	18.69	2.091	0.67	7.52	-9.4	1.41	"
1045	150	13.37	18.85	2.091	0.58	7.53	-15.0	0.95	"
1056	150	13.45	19.14	2.088	0.52	7.51	-19.3	0.55	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW03B-Q411-01

Well ID: SB75MW03B

Date: 12/27/11

Prepared by:

Name: Justin Soo Hoo

Signature: [signature]

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: [signature]

Remarks: Reading every 9 mins.

Groundwater Well Information:

Depth to Water 12.89 feet BTOC

Purge Start Time: 0908

Sample Time: 1000

Casing Diameter 4 inches

Screen Interval 80 to 90 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 85 feet bgs

Base of Well 90 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
0914	300	12.99	17.90	2.330	3.23	6.85	183.0	1.17	Clear, No Odor
0923	300	13.02	18.46	2.322	1.23	7.19	76.4	0.87	"
0932	300	13.05	18.53	2.339	0.91	7.31	23.0	0.72	"
0941	300	13.05	18.65	2.344	0.75	7.35	-3.3	0.54	"
0950	300	13.05	18.68	2.348	0.66	7.34	-12.8	0.46	"
0959	300	13.08	18.72	2.346	0.61	7.34	-20.9	0.53	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW04A-Q411-01

Well ID: SB75MW04A

Date: 12/28/11

Prepared by:

Name: Justin Soo Hoo

Signature: [signature]

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: [signature]

Remarks:

Reading every 6 mins.

Groundwater Well Information:

Depth to Water 7.46 feet BTOC

Purge Start Time: 0813

Sample Time: 0935

Casing Diameter 4 inches

Screen Interval 38 to 48 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 43 feet bgs

Base of Well 48 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
0822	300	7.47	18.59	1.180	2.67	6.92	185.7	0.93	Clear, No Odor
0828	300	7.48	20.18	1.176	0.93	7.35	158.1	0.93	"
0834	300	7.46	20.43	1.171	0.67	7.46	134.4	1.17	"
0840	300	7.47	20.45	1.170	0.61	7.47	114.1	1.10	"
0846	300	7.47	20.48	1.171	0.54	7.46	90.2	0.80	"
0852	300	7.47	20.46	1.171	0.51	7.45	70.3	0.42	"
0858	300	7.48	20.49	~~1.170~~ 0.54 1.171	0.46	7.44	49.6	0.40	"
0904	300	7.45	20.50	1.170	0.44	7.43	32.4	0.58	"
0910	300	7.48	20.56	1.170	0.41	7.43	18.2	0.57	"
0916	300	7.47	20.52	1.170	0.44	7.42	8.4	0.47	"
0922	300	7.48	20.69	1.168	0.41	7.44	-4.4	0.48	"
0928	300	7.49	20.70	1.168	0.37	7.43	-12.4	0.33	"
0934	300	7.47	20.73	1.168	0.38	7.42	-19.3	0.64	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW04B-Q411-01

Well ID: SB75MW04B

Date: 12/28/11

Prepared by:

Name: Justin Soohoo

Signature: [signature]

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: [signature]

Remarks:

Reading every 14 mins.

Groundwater Well Information:

Depth to Water 10.2 feet BTOC

Purge Start Time: 0946

Sample Time: 1050

Casing Diameter 4 inches

Screen Interval 82 to 92 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 87 feet bgs

Base of Well 92 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
0951	200	10.43	19.91	2.303	4.94	7.40	34.2	1.00	Clear, no odor
1005	200	10.78	20.31	1.778	0.77	7.20	-58.8	1.31	"
1019	200	10.88	20.69	1.752	0.54	7.36	-92.6	1.14	"
1033	200	10.90	20.85	1.915	0.42	7.38	-95.7	0.70	"
1047	200	10.91	20.92	2.419	0.39	7.35	-95.8	0.44	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW05A-Q411-01

Well ID: SB75MW05A

Date: 12/28/11

Prepared by:

Name: Justin Soo Hoo

Signature:

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature:

Remarks:

Reading every 5 mins

Duplicate collected: SB75MW05A-Q411-02
Time @: 1415
Source Blank: SB75MW05A-Q411-03
Time @: 1330
equipment blank: SB75MW05A-Q411-04
Time @: 1345

Groundwater Well Information:

Depth to Water 7.91 feet BTOC

Purge Start Time: 1242

Sample Time: 1315

Casing Diameter 4 inches

Screen Interval 36 to 46 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 41 feet bgs

Base of Well 46 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments
1248	350	7.91	21.47	1.695	5.12	7.24	41.3	1.90	Clear, no odor
1253	350	7.91	21.33	1.603	1.54	7.28	26.6	2.39	"
1258	350	7.92	21.28	1.595	0.82	7.30	7.7	2.40	"
1303	350	7.91	21.30	1.584	0.66	7.33	-5.0	1.99	"
1308	350	7.91	21.23	1.583	0.54	7.32	-14.3	2.17	"
1313	350	7.91	21.25	1.582	0.51	7.33	-21.2	1.80	"

WELL SAMPLING LOG

Project Name: Site 75 PA/SI, NWS Seal Beach

Sample ID: SB75MW05B-Q411-01

Well ID: SB75MW05B

Date: 12/28/11

Prepared by:

Name: Justin Soo Hoo

Signature: [signature]

Purging Guidelines for Low-Flow Purging:

flow rate of 100-500 ml/min; ready to sample after 3 consecutive readings of stable parameters: ± 3% conductivity, ± 0.3 mg/L DO, ± 0.1 pH, ± 10 mV ORP, and ± 10% for turbidity (if >10 NTUs)

Reviewed by:

Name: Qihai Chen

Signature: [signature]

Remarks:

Reading every 18 mins.

Groundwater Well Information:

Depth to Water 9.10 feet BTOC

Purge Start Time: ~~0~~ 1115 (JSH)

Sample Time: 1235

Casing Diameter 4 inches

Screen Interval 80 to 90 feet bgs

Pump Type: **Dedicated**

Pump Intake Depth 85 feet bgs

Base of Well 90 feet bgs

Purge Log			Water Quality Parameters						
Time of Reading	Flow Rate (ml/min)	GW Level	Temp (°C)	Electrical Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Turbidity (NTU)	Comments NO (JSH)
1120	150	9.31	21.00	10.11	5.50	7.16	55.3	0.63	Clear, ~~Slight~~ Odor
1138	150	9.71	21.20	9.878	0.80	6.96	-3.0	0.72	"
1156	150	9.84	21.29	9.830	0.54	6.99	-19.3	0.53	"
1214	150	9.88	21.29	9.800	0.49	7.00	-26.8	0.31	"
1232	150	9.87	21.36	9.822	0.44	6.99	-30.2	0.26	"

Appendix I (Included in CD-ROM)

Investigation-Derived Waste Documentation

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NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CA017002449 1

2. Page 1 of 1

3. Emergency Response Phone: NRCES 562.432.1304

4. Waste Tracking Number: NH 60897-2

5. Generator's Name and Mailing Address: Att: Stanley Landaas
Naval Weapons Station Seal Beach
800 Seal Beach Blvd Code N45
Seal Beach CA 90740
Generator's Phone: 562 6267356

Generator's Site Address (if different than mailing address)
Naval Weapons Station Seal Beach
800 Seal Beach Blvd Code 045
Seal Beach CA 90740

6. Transporter 1 Company Name: NRC Environmental Services, Inc
U.S. EPA ID Number: CAR000030114

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Crosby & Overton, Inc.
1630 W. 17th Street
Long Beach CA 90813
Facility's Phone: 562 432-5445
U.S. EPA ID Number: CAD028409019

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	Non-hazardous waste liquid (ground water)	001	TT	4,000	G	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
Bill to NRCES Long Beach
Job# 60897 PO# 450842 Profile#82700

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pei-Fen Tamashiro
Signature
Month 10 Day 14 Year 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Eduardo Navarro
Signature
Month 10 Day 14 Year 11

Transporter 2 Printed/Typed Name
Signature
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month Day Year

GENERATOR
INT'L
TRANSPORTER
DESIGNATED FACILITY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: C A 0 1 7 0 0 2 4 4 9 1

2. Page 1 of 1

3. Emergency Response Phone: NRCES 562.432.1304

4. Waste Tracking Number: N H 6 0 8 9 7 D

5. Generator's Name and Mailing Address
Naval Weapons Station Seal Beach
800 Seal Beach Blvd Code N45
Seal Beach CA 90740
Att: Stanley Landaas
Generator's Phone: 562 6267356

Generator's Site Address (if different than mailing address)
Naval Weapons Station Seal Beach
800 Seal Beach Blvd Code 045
Seal Beach CA 90740

6. Transporter 1 Company Name: NRC Environmental Services, Inc
U.S. EPA ID Number: C A R 0 0 0 0 3 0 1 1 4

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Crosby & Overton, Inc.
1630 W. 17th Street
Long Beach CA 90813
Facility's Phone: 562 432-5445
U.S. EPA ID Number: C A D 0 2 8 4 0 9 0 1 9

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	Non-hazardous waste liquid (ground water)	3	DM	150	G	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
Bill to NRCES Long Beach
Job# 60897 PO# 450842 Profile#82700

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Pei-Fen Tamashiro
Signature:
Month 10 Day 14 Year 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Roberto Caballero
Signature:
Month 10 Day 14 Year 11

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

Crosby & Overton, Inc.

Internal Use Only
Job Number:

WASTE PRODUCT QUESTIONNAIRE

82700

I. GENERAL INFORMATION FAX (562) 495-2181

Generator Name: Naval Weapons Sta. Seal Beach
Address: 800 Seal Beach Blvd Code 045
City, State, Zip: Seal Beach CA 90740
Contact: Stanley Lanbas / Pei Fen Tamashiro
Phone: 562 626 7356 Fax:
EPA Number: CA0170024991

Billing Name: NRCES Long Beach
Address:
City, State, Zip:
Contact: Akio Usuda
Phone: Fax:

II. WASTE PRODUCT DESCRIPTION & CHARACTERISTICS

A. Waste Product Common Name: Ground Water
1. Process Generating Waste: Environmental Sampling

B. Hazardous Properties:
1. U.S. EPA Hazardous Waste? ☐ Yes ☒ No
2. State Code (s): None
EPA Code (s): None

c. Is Waste Product: ☐ Shock Sensitive ☐ Reactive ☐ Radioactive ☐ Pyrophoric ☐ Etiological ☒ None

C. Physical Properties at 70° F:

1. Physical State: ☐ Solid ☐ Sludge ☒ Liquid ☐ Empty Container ☐ Aerosol
Any free liquids at 70° F: ☒ Yes ☐ No

2. Layers ☐ Multilayered ☐ Bi-Layered ☒ Homogenous

3. Flash Point (Closed Cup Only): ☐ <70° F ☐ 140-200° F ☐ 70-100° F ☒ No Flash ☐ 101-139° F ☐ Exact

4. Viscosity similar to: ☒ Water ☐ Motor Oil ☐ Honey ☐ Other

D. **1. Density** Liquid ☒ 8.8-12 lbs/gallon Solid ☐ lbs/cubic ft.
Any debris in waste: ☐ Yes ☒ No
Explain:

2. % Solids ☐ By Weight ☐ By Volume Total 0

3. Odor ☒ None ☐ Strong ☐ Mild
Describe:

4. Ph. ☐ < 2 ☐ 2 - 5 ☐ 5.1 - 9 ☐ 9.1 - 12.5 ☐ >12.5 ☐ Exact

E. Chemical Composition (Account for 100% of total):

	Range
Ground Water	96-100 %
Sediment	0-9 %
See attached analysis.	

Metals
Total (PPM)
EP Toxicity (mg/l)
Arsenic (As)
Barium (Ba)
Cadmium (Cd)
Chromium (Cr)
Copper (Cu)
Lead (Pb)
Mercury (Hg)
Nickel (Ni)
Selenium (Se)
Silver (Ag)
Zinc (Zn)

Pesticides, Herbicides: PPM
Endrin
Lindane
Methoxychlor
Toxaphene
2,4-D
2,4,5-TP
Other

Reactives & Other Wastes (PPM):
Cyanides Dioxin
Sulfides PCBs
HOC Phenols

F. **Shipping and Handling Information:**
1. D.O.T. Hazardous Material? ___ Yes ___ No
2. Proper D.O.T. Shipping Name: Non-Hazardous Waste liquid
3. D.O.T. Hazard Class: —
4. D.O.T. ID Number: — PG: —
5. Method of Shipment: ___ Drum and/or ___ Bulk ✓ Other
6. D.O.T. Shipping Container: TT / 1A2-55
7. Projected Volume: ___ Tons 1000 Gallons ___ Cubic Yards ___ Other
8. RQ Amount
Per ___ One Time ___ Week ___ Month ___ Quarter ✓ Year
Comments:

III. GENERATOR CERTIFICATION STATEMENT

I hereby certify that as an authorized representative of the generator named above, all information submitted in this and all attached documents is true and/accurate. Analysis of the waste was conducted in accordance with the approved test methods in 40 CFR 261 on a representative sample defined in 40 CFR 261.20. To the best of my knowledge, all known (40 CFR 261) and suspected hazardous components have been included in this documentation. All material and packaging will comply with all current regulations.

Signature: [signature] Title: Program Manager Date: 10-14-11

FORM 402 (Rev. 03/10)

STRAIGHT BILL OF LADING

ORIGINAL - NOT NEGOTIABLE

Shipper's No. CA0170023491

Carrier's No. CAR000010114

CARRIER: NRCES Long Beach

Date 9-28-11

BOL# B 50697-2

2014508 X1

TO: Consignee	WM Carson Transfer	FROM: Shipper	Naval Weapons Station Seal Beach
Street	321 W Francisco St	Street	800 Seal Beach Blvd Code N46
Destination	Carson CA 90746	Destination	Seal Beach CA 90740

Route: Vehicle:

Number of Shipping Units	HM	Kind of Packages, Description of Articles IF HAZARDOUS MATERIALS - PROPER SHIPPING NAME	QUANTITY (Subject to Correction)	RATE
2		Non-regulated industrial waste	TONS	

RECEIVED, subject to the classification and tariffs in effect on this date of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above, which said company (the word company being understood throughout this contract as meaning any person or corporation in possession of the property under contract) agrees to carry to its usual place of delivery at said destination, if on its own road or water line, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed to each carrier of all or any said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the conditions not prohibited by law, whether printed or written, herein contained (as specified in Appendix B to Part 1035), which are hereby agreed to by the shipper and accepted for himself and his assigns.

This is to certify that the above named materials are properly classified, described, packed, marked, and labeled/placarded, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation PER:

SHIPPER:	CARRIER:
Naval Weapons Station Seal Beach	NRC Environmental Services, Inc
PER:	PER: R. PALAFOX
DATE: 9-28-11	DATE: 9-28-11

EMERGENCY RESPONSE TELEPHONE NUMBER

NRCES 562.432.1384

MONITORED AT ALL TIMES THE HAZARDOUS MATERIAL IS IN TRANSPORTATION INCLUDING STORAGE TO TRANSPORTATION. (1/2 604)

Copyright 2008, Tamalpa Systems, Inc.

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
CA0170024491	1	1 800-424-9300	37363

5. Generator's Name and Mailing Address
NAVSE WEAPONS STATION SEAL BEACH
800 SEAL BEACH BLVD BLDG 230
SEAL BEACH, CA 90740-5000
Generator's Phone: 562 626-7897

Generator's Site Address (if different than mailing address)
SITE 75 (FORMER AG. WELL KAYO SR) SOUTH BASE
NAVAL WEAPONS SEAL BEACH

6. Transporter 1 Company Name: EFR ENVIRONMENTAL SERVICES, INC.
U.S. EPA ID Number: CAR000011205

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address: SOUTH YUMA COUNTY LANDFILL
19536 S. AVE. 1E
YUMA, AZ 85366
928-341-9300
Facility's Phone:
U.S. EPA ID Number: AZR000526980

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-HAZARDOUS WASTE SOLID (SOIL)	1	DT	10 CY	Y	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
PER PROJECT MGR. CAR
#115
ALWAYS WEAR APPROPRIATE PPE & USE SAFE HANDLING METHODS.

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Rick Fraughberg | Signature | Month 9 | Day 28 | Year 11

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name | Signature | Month | Day | Year

Transporter 2 Printed/Typed Name: Rick Fraughberg | Signature | Month 9 | Day 28 | Year 11

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☒ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name | Signature | Month | Day | Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

COPY

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: [illegible]
2. Page 1 of 1
3. Emergency Response Phone: [illegible]
4. Waste Tracking Number: [illegible]

5. Generator's Name and Mailing Address
NAVAL WEAPONS STATION SEAL BEACH
800 SEAL BEACH BLVD BLDG 230
SEAL BEACH, CA 90740 5000
Generator's Phone: 562-626-7497

Generator's Site Address (if different than mailing address)
SITE 75 (FORMER AG. WELL KAYO 58) SOUTH [illegible]
NAVAL WEAPONS SEAL BEACH

6. Transporter 1 Company Name: EFE ENVIRONMENTAL SERVICES, INC.
U.S. EPA ID Number: CAR000011205

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
SOUTH YUMA COUNTY LANDFILL
19536 S. AVE 18
YUMA, AZ 85366
Facility's Phone: 928-341-3700
U.S. EPA ID Number: AZR000526980

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-HAZARDOUS WASTE SOLID (SOIL)	1	CM	18	Y	
	2.					
	3.					
	4.					

13. Special Handling Instructions and Additional Information
S I PROFILE NO: C-648

ALWAYS WEAR APPROPRIATE PPE & USE SAFE HANDLING METHODS. BIN 112

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Kai-Fan Lawson
Signature: [signature]
Month 09 Day 28 Year 11

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Robert Quintero
Signature: [signature]
Month 9 Day 28 Year 11

Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month Day Year

COPY

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 07/28/11
Project : SEAL BEACH SITE 75	Date Received: 07/28/11
Batch No. : 11G197	Date Extracted: 08/01/11 17:02
Sample ID: SB75 TRIP BLANK #1	Date Analyzed: 08/01/11 17:02
Lab Samp ID: G197-04	Dilution Factor: 1
Lab File ID: RHQ009	Matrix : WATER
Ext Btch ID: VO05H01	% Moisture : NA
Calib. Ref.: RGQ161	Instrument ID : T-O05

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	8.46	10.00	84.6	70-140
4-BROMOFLUOROBENZENE	9.22	10.00	92.2	70-130
TOLUENE-D8	9.84	10.00	98.4	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: NA
Project : SEAL BEACH SITE 75	Date Received: 08/01/11
Batch No. : 11G197	Date Extracted: 08/01/11 15:37
Sample ID: MBLK1W	Date Analyzed: 08/01/11 15:37
Lab Samp ID: VO05H01B	Dilution Factor: 1
Lab File ID: RHQ007	Matrix : WATER
Ext Btch ID: VO05H01	% Moisture : NA
Calib. Ref.: RGQ161	Instrument ID : T-O05

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	8.55	10.00	85.5	70-140
4-BROMOFLUOROBENZENE	9.19	10.00	91.9	70-130
TOLUENE-D8	9.85	10.00	98.5	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11G197
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	VO05H01B	VO05H01L	VO05H01C		
LAB FILE ID:	RHQ007	RHQ004	RHQ005		
DATE EXTRACTED:	08/01/1115:37	08/01/1114:06	08/01/1114:38	DATE COLLECTED:	NA
DATE ANALYZED:	08/01/1115:37	08/01/1114:06	08/01/1114:38	DATE RECEIVED:	08/01/11
PREP. BATCH:	VO05H01	VO05H01	VO05H01		
CALIB. REF:	RGQ161	RGQ161	RGQ161		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	8.92	89	10.0	8.73	87	2	70-130	30
1,1-Dichloroethane	ND	10.0	9.69	97	10.0	9.68	97	0	70-130	30
1,1-Dichloroethene	ND	10.0	9.66	97	10.0	9.41	94	3	60-130	30
1,2-Dichloroethane	ND	10.0	8.71	87	10.0	8.71	87	0	70-130	30
cis-1,2-Dichloroethene	ND	10.0	9.30	93	10.0	9.05	90	3	70-130	30
Tetrachloroethene	ND	10.0	10.3	103	10.0	10.3	103	0	70-130	30
Trichloroethene	ND	10.0	10.7	107	10.0	10.7	107	1	70-130	30
Vinyl Chloride	ND	10.0	10.7	107	10.0	11.2	112	5	60-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	8.21	82	10.0	8.37	84	70-140
4-Bromofluorobenzene	10.0	8.89	89	10.0	8.96	90	70-130
Toluene-d8	10.0	9.76	98	10.0	9.89	99	70-130

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	07/28/11
Project	: SEAL BEACH SITE 75	Date Received:	07/28/11
Batch No.	: 11G197	Date Extracted:	08/03/11 18:47
Sample ID:	SB75IDWBIN#1	Date Analyzed:	08/03/11 18:47
Lab Samp ID:	G197-01	Dilution Factor:	0.95
Lab File ID:	RHP039	Matrix :	SOIL
Ext Btch ID:	VO02H04	% Moisture :	8.4
Calib. Ref.:	RGP396	Instrument ID :	T-O02

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.2	1.0
1,1-DICHLOROETHANE	ND	5.2	1.0
1,1-DICHLOROETHENE	ND	5.2	1.0
1,2-DICHLOROETHANE	ND	5.2	1.0
CIS-1,2-DICHLOROETHENE	ND	5.2	1.0
TETRACHLOROETHENE	ND	5.2	1.0
TRICHLOROETHENE	ND	5.2	1.0
VINYL CHLORIDE	ND	5.2	2.1

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	48.3	51.86	93.1	60-160
4-BROMOFLUOROBENZENE	54.2	51.86	105	70-150
TOLUENE-D8	51.6	51.86	99.6	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	07/28/11
Project	: SEAL BEACH SITE 75	Date Received:	07/28/11
Batch No.	: 11G197	Date Extracted:	08/03/11 19:23
Sample ID:	SB75IDWBIN#2	Date Analyzed:	08/03/11 19:23
Lab Samp ID:	G197-02	Dilution Factor:	0.9
Lab File ID:	RHP040	Matrix :	SOIL
Ext Btch ID:	VO02H04	% Moisture :	8.7
Calib. Ref.:	RGP396	Instrument ID :	T-O02

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	4.9	0.99
1,1-DICHLOROETHANE	ND	4.9	0.99
1,1-DICHLOROETHENE	ND	4.9	0.99
1,2-DICHLOROETHANE	ND	4.9	0.99
CIS-1,2-DICHLOROETHENE	ND	4.9	0.99
TETRACHLOROETHENE	ND	4.9	0.99
TRICHLOROETHENE	ND	4.9	0.99
VINYL CHLORIDE	ND	4.9	2.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	49.6	49.29	101	60-160
4-BROMOFLUOROBENZENE	49.3	49.29	100	70-150
TOLUENE-D8	48.6	49.29	98.6	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	07/28/11
Project	: SEAL BEACH SITE 75	Date Received:	07/28/11
Batch No.	: 11G197	Date Extracted:	08/03/11 19:58
Sample ID:	SB75IDWBIN#3	Date Analyzed:	08/03/11 19:58
Lab Samp ID:	G197-03	Dilution Factor:	0.95
Lab File ID:	RHP041	Matrix :	SOIL
Ext Btch ID:	VO02H04	% Moisture :	15.6
Calib. Ref.:	RGP396	Instrument ID :	T-O02

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.6	1.1
1,1-DICHLOROETHANE	ND	5.6	1.1
1,1-DICHLOROETHENE	ND	5.6	1.1
1,2-DICHLOROETHANE	ND	5.6	1.1
CIS-1,2-DICHLOROETHENE	ND	5.6	1.1
TETRACHLOROETHENE	ND	5.6	1.1
TRICHLOROETHENE	ND	5.6	1.1
VINYL CHLORIDE	ND	5.6	2.3

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	54.4	56.28	96.7	60-160
4-BROMOFLUOROBENZENE	56.6	56.28	101	70-150
TOLUENE-D8	55.8	56.28	99.1	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: NA
Project : SEAL BEACH SITE 75	Date Received: 08/03/11
Batch No. : 11G197	Date Extracted: 08/03/11 15:52
Sample ID: MBLK1S	Date Analyzed: 08/03/11 15:52
Lab Samp ID: VO02H04B	Dilution Factor: 1
Lab File ID: RHP034	Matrix : SOIL
Ext Btch ID: VO02H04	% Moisture : NA
Calib. Ref.: RGP396	Instrument ID : T-O02

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	1.0
1,1-DICHLOROETHANE	ND	5.0	1.0
1,1-DICHLOROETHENE	ND	5.0	1.0
1,2-DICHLOROETHANE	ND	5.0	1.0
CIS-1,2-DICHLOROETHENE	ND	5.0	1.0
TETRACHLOROETHENE	ND	5.0	1.0
TRICHLOROETHENE	ND	5.0	1.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	46.4	50.00	92.9	70-140
4-BROMOFLUOROBENZENE	50.9	50.00	102	70-130
TOLUENE-D8	49.5	50.00	99.0	70-130

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: NA
Project : SEAL BEACH SITE 75	Date Received: 08/03/11
Batch No. : 11G197	Date Extracted: 08/03/11 17:37
Sample ID: MBLK2S	Date Analyzed: 08/03/11 17:37
Lab Samp ID: VSH003SB	Dilution Factor: 1
Lab File ID: RHP037	Matrix : SOIL
Ext Btch ID: VO02H04	% Moisture : NA
Calib. Ref.: RGP396	Instrument ID : T-O02

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	1.0
1,1-DICHLOROETHANE	ND	5.0	1.0
1,1-DICHLOROETHENE	ND	5.0	1.0
1,2-DICHLOROETHANE	ND	5.0	1.0
CIS-1,2-DICHLOROETHENE	ND	5.0	1.0
TETRACHLOROETHENE	ND	5.0	1.0
TRICHLOROETHENE	ND	5.0	1.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	48.0	50.00	95.9	70-140
4-BROMOFLUOROBENZENE	50.8	50.00	102	70-130
TOLUENE-D8	49.6	50.00	99.3	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11G197
METHOD: SW 5030B/8260B

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	VO02H04B	VO02H04L	VO02H04C		
LAB FILE ID:	RHP034	RHP035	RHP036		
DATE EXTRACTED:	08/03/1115:52	08/03/1116:27	08/03/1117:03	DATE COLLECTED:	NA
DATE ANALYZED:	08/03/1115:52	08/03/1116:27	08/03/1117:03	DATE RECEIVED:	08/03/11
PREP. BATCH:	VO02H04	VO02H04	VO02H04		
CALIB. REF:	RGP396	RGP396	RGP396		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	50.0	56.3	113	50.0	56.3	113	0	60-130	50
1,1-Dichloroethane	ND	50.0	57.0	114	50.0	56.8	114	0	70-130	50
1,1-Dichloroethene	ND	50.0	54.1	108	50.0	53.2	106	2	60-130	50
1,2-Dichloroethane	ND	50.0	56.1	112	50.0	56.9	114	1	60-140	50
cis-1,2-Dichloroethene	ND	50.0	51.2	102	50.0	51.7	103	1	70-130	50
Tetrachloroethene	ND	50.0	53.5	107	50.0	52.7	105	1	70-130	50
Trichloroethene	ND	50.0	55.6	111	50.0	54.8	110	1	70-130	50
Vinyl Chloride	ND	50.0	50.0	100	50.0	48.2	96	4	60-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50.0	47.2	94	50.0	46.7	93	70-140
4-Bromofluorobenzene	50.0	49.9	100	50.0	49.5	99	70-130
Toluene-d8	50.0	48.9	98	50.0	49.0	98	70-130

METHOD 3050B/6010B
METALS BY TRACE ICP

Client	: ACCORD ENGINEERING	Date Collected:	07/28/11 09:55
Project	: SEAL BEACH SITE 75	Date Received:	07/28/11
SDG NO.	: 11G197	Date Extracted:	08/05/11 15:15
Sample ID:	SB75IDWBIN#1	Date Analyzed:	08/09/11 14:47
Lab Samp ID:	G197-01W	Dilution Factor:	0.943
Lab File ID:	ID8H013037	Matrix :	SOIL
Ext Btch ID:	IPH013S	% Moisture :	8.4
Calib. Ref.:	ID8H013031	Instrument ID :	EMAXTID8

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	ND	10.3	3.09
Arsenic	1.77	1.03	0.412
Barium	31.7	1.03	0.206
Beryllium	0.223J	1.03	0.103
Cadmium	ND	1.03	0.206
Chromium	8.96	1.03	0.309
Cobalt	3.14	1.03	0.206
Copper	7.60	1.03	0.309
Lead	3.58	1.03	0.309
Molybdenum	0.316J	5.15	0.309
Nickel	5.68	1.03	0.309
Selenium	ND	1.03	0.515
Silver	ND	1.03	0.309
Thallium	ND	1.03	0.515
Vanadium	20.0	1.03	0.154
Zinc	23.2	2.06	1.03

METHOD 3050B/6010B
METALS BY TRACE ICP

Client	: ACCORD ENGINEERING	Date Collected:	07/28/11 10:20
Project	: SEAL BEACH SITE 75	Date Received:	07/28/11
SDG NO.	: 11G197	Date Extracted:	08/05/11 15:15
Sample ID:	SB75IDWBIN#2	Date Analyzed:	08/09/11 14:53
Lab Samp ID:	G197-02W	Dilution Factor:	0.926
Lab File ID:	ID8H013039	Matrix :	SOIL
Ext Btch ID:	IPH013S	% Moisture :	8.7
Calib. Ref.:	ID8H013031	Instrument ID :	EMAXTID8

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	ND	10.1	3.04
Arsenic	3.79	1.01	0.406
Barium	107	1.01	0.203
Beryllium	0.687J	1.01	0.101
Cadmium	0.348J	1.01	0.203
Chromium	23.8	1.01	0.304
Cobalt	9.50	1.01	0.203
Copper	25.4	1.01	0.304
Lead	23.7	1.01	0.304
Molybdenum	1.16J	5.07	0.304
Nickel	16.8	1.01	0.304
Selenium	ND	1.01	0.507
Silver	ND	1.01	0.304
Thallium	ND	1.01	0.507
Vanadium	51.7	1.01	0.152
Zinc	95.6	2.03	1.01

METHOD 3050B/6010B
METALS BY TRACE ICP

Client	: ACCORD ENGINEERING	Date Collected:	07/28/11 11:00
Project	: SEAL BEACH SITE 75	Date Received:	07/28/11
SDG NO.	: 11G197	Date Extracted:	08/05/11 15:15
Sample ID:	SB75IDWBIN#3	Date Analyzed:	08/09/11 14:56
Lab Samp ID:	G197-03W	Dilution Factor:	0.990
Lab File ID:	ID8H013040	Matrix :	SOIL
Ext Btch ID:	IPH013S	% Moisture :	15.6
Calib. Ref.:	ID8H013031	Instrument ID :	EMAXTID8

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	ND	11.7	3.52
Arsenic	4.95	1.17	0.469
Barium	79.7	1.17	0.235
Beryllium	0.556J	1.17	0.117
Cadmium	ND	1.17	0.235
Chromium	19.3	1.17	0.352
Cobalt	7.24	1.17	0.235
Copper	17.8	1.17	0.352
Lead	7.01	1.17	0.352
Molybdenum	0.434J	5.86	0.352
Nickel	13.4	1.17	0.352
Selenium	ND	1.17	0.586
Silver	ND	1.17	0.352
Thallium	ND	1.17	0.586
Vanadium	38.1	1.17	0.176
Zinc	52.6	2.35	1.17

METHOD 3050B/6010B
METALS BY TRACE ICP

Client : ACCORD ENGINEERING	Date Collected: NA
Project : SEAL BEACH SITE 75	Date Received: 08/05/11
SDG NO. : 11G197	Date Extracted: 08/05/11 15:15
Sample ID: MBLK1S	Date Analyzed: 08/09/11 14:36
Lab Samp ID: IPH013SQ	Dilution Factor: 1
Lab File ID: ID8H013033	Matrix : SOIL
Ext Btch ID: IPH013S	% Moisture : NA
Calib. Ref.: ID8H013031	Instrument ID : EMAXTID8

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	ND	10.0	3.00
Arsenic	ND	1.00	0.400
Barium	ND	1.00	0.200
Beryllium	ND	1.00	0.100
Cadmium	ND	1.00	0.200
Chromium	ND	1.00	0.300
Cobalt	ND	1.00	0.200
Copper	ND	1.00	0.300
Lead	ND	1.00	0.300
Molybdenum	ND	5.00	0.300
Nickel	ND	1.00	0.300
Selenium	ND	1.00	0.500
Silver	ND	1.00	0.300
Thallium	ND	1.00	0.500
Vanadium	ND	1.00	0.150
Zinc	ND	2.00	1.00

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
SDG NO.: 11G197
METHOD: METHOD 3050B/6010B

MATRIX:	SOIL			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1S				
CONTROL NO.:	IPH013SQ	IPH013SX	IPH013SY		
LAB FILE ID:	ID8H013033	ID8H013034	ID8H013035		
DATIME EXTRCTD:	08/05/1115:15	08/05/1115:15	08/05/1115:15	DATE COLLECTED:	NA
DATIME ANALYZD:	08/09/1114:36	08/09/1114:39	08/09/1114:42	DATE RECEIVED:	08/05/11
PREP. BATCH:	IPH013S	IPH013S	IPH013S		
CALIB. REF:	ID8H013031	ID8H013031	ID8H013031		

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Antimony	ND	250	249	100	250	255	102	2	80-120	20
Arsenic	ND	50	50.8	102	50	52.1	104	3	80-120	20
Barium	ND	50	49.4	99	50	50.1	100	1	80-120	20
Beryllium	ND	50	50.6	101	50	51.3	103	1	80-120	20
Cadmium	ND	50	50.4	101	50	51.5	103	2	80-120	20
Chromium	ND	50	49.7	99	50	50.8	102	2	80-120	20
Cobalt	ND	50	50.8	102	50	52	104	2	80-120	20
Copper	ND	50	51	102	50	52.2	104	2	80-120	20
Lead	ND	50	50.8	102	50	51.8	104	2	80-120	20
Molybdenum	ND	50	53.7	107	50	54.9	110	2	80-120	20
Nickel	ND	50	45.1	90	50	46.1	92	2	80-120	20
Selenium	ND	50	49.5	99	50	50.7	101	2	80-120	20
Silver	ND	50	49.6	99	50	50.6	101	2	80-120	20
Thallium	ND	50	47.3	95	50	48.5	97	2	80-120	20
Vanadium	ND	50	50.8	102	50	51.8	104	2	80-120	20
Zinc	ND	50	55	110	50	55.9	112	2	80-120	20

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
SDG NO.: 11G197
METHOD: METHOD 3050B/6010B

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MATRIX: SOIL % MOISTURE: 8.4
DILTN FACTR: 0.943 0.943
SAMPLE ID: SB75IDWBIN#1
CONTROL NO.: G197-01W G197-01A
LAB FILE ID: ID8H013037 ID8H013036
DATIME EXTRCTD: 08/05/1115:15 08/05/1115:15 DATE COLLECTED: 07/28/11 09:55
DATIME ANALYZD: 08/09/1114:47 08/09/1114:45 DATE RECEIVED: 07/28/11
PREP. BATCH: IPH013S IPH013S
CALIB. REF: ID8H013031 ID8H013031

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Antimony	ND	257	253	98	75-125
Arsenic	1.77	51.5	53.9	101	75-125
Barium	31.7	51.5	79.2	92	75-125
Beryllium	.223J	51.5	51.3	99	75-125
Cadmium	ND	51.5	50.6	98	75-125
Chromium	8.96	51.5	58.1	95	75-125
Cobalt	3.14	51.5	54.8	100	75-125
Copper	7.6	51.5	59.7	101	75-125
Lead	3.58	51.5	54.8	100	75-125
Molybdenum	.316J	51.5	54.4	105	75-125
Nickel	5.68	51.5	51.5	89	75-125
Selenium	ND	51.5	51.4	100	75-125
Silver	ND	51.5	49.3	96	75-125
Thallium	ND	51.5	46.6	91	75-125
Vanadium	20	51.5	69.6	96	75-125
Zinc	23.2	51.5	76.8	104	75-125

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11G197
METHOD: METHOD 3050B/6010B

MATRIX:	SOIL		% MOISTURE:	8.4
DILUTION FACTOR:	0.943	4.72		
SAMPLE ID:	SB75IDWBIN#1	SB75IDWBIN#1DL		
EMAX SAMP ID:	G197-01W	G197-01J		
LAB FILE ID:	ID8H013037	ID8H013038		
DATE EXTRACTED:	08/05/1115:15	08/05/1115:15	DATE COLLECTED:	07/28/11 09:55
DATE ANALYZED:	08/09/1114:47	08/09/1114:50	DATE RECEIVED:	07/28/11
PREP. BATCH:	IPH013S	IPH013S		
CALIB. REF:	ID8H013031	ID8H013031		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Antimony	ND	ND	0	10
Arsenic	1.77	ND	NA	10
Barium	31.7	29.6	7	10
Beryllium	0.223J	ND	NA	10
Cadmium	ND	ND	0	10
Chromium	8.96	8.47	5	10
Cobalt	3.14	2.86J	NA	10
Copper	7.60	7.13	6	10
Lead	3.58	3.67J	NA	10
Molybdenum	0.316J	ND	NA	10
Nickel	5.68	5.18	9	10
Selenium	ND	ND	0	10
Silver	ND	ND	0	10
Thallium	ND	ND	0	10
Vanadium	20.0	18.7	7	10
Zinc	23.2	21.9	6	10

METHOD 7471A
MERCURY

Client : ACCORD ENGINEERING
Project : SEAL BEACH SITE 75
Batch No. : 11G197

Matrix : SOIL
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/Kg)	DLF	MOIST	RL (mg/Kg)	MDL (mg/Kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	HGH008SB	ND	1	NA	0.100	0.0200	08/08/1115:17	08/08/1111:00	M47H005010	M47H005008	HGH008S	NA	08/08/11
LCS1S	HGH008SL	0.845	1	NA	0.100	0.0200	08/08/1115:19	08/08/1111:00	M47H005011	M47H005008	HGH008S	NA	08/08/11
LCD1S	HGH008SC	0.855	1	NA	0.100	0.0200	08/08/1115:21	08/08/1111:00	M47H005012	M47H005008	HGH008S	NA	08/08/11
SB75IDWBIN#1	G197-01	ND	0.997	8.4	0.109	0.0218	08/08/1115:43	08/08/1111:00	M47H005022	M47H005020	HGH008S	07/28/11	07/28/11
SB75IDWBIN#2	G197-02	ND	1.01	8.7	0.111	0.0221	08/08/1115:45	08/08/1111:00	M47H005023	M47H005020	HGH008S	07/28/11	07/28/11
SB75IDWBIN#3	G197-03	ND	0.988	15.6	0.117	0.0234	08/08/1115:47	08/08/1111:00	M47H005024	M47H005020	HGH008S	07/28/11	07/28/11

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 08/23/11
Project : SEAL BEACH SITE 75	Date Received: 08/24/11
Batch No. : 11H205	Date Extracted: 08/25/11 17:47
Sample ID: SB75 IDW BIN #4	Date Analyzed: 08/25/11 17:47
Lab Samp ID: H205-01	Dilution Factor: 0.93
Lab File ID: RHP302	Matrix : SOIL
Ext Btch ID: VO02H28	% Moisture : 21.7
Calib. Ref.: RGP396	Instrument ID : T-O02

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.9	1.2
1,1-DICHLOROETHANE	ND	5.9	1.2
1,1-DICHLOROETHENE	ND	5.9	1.2
1,2-DICHLOROETHANE	ND	5.9	1.2
CIS-1,2-DICHLOROETHENE	ND	5.9	1.2
TETRACHLOROETHENE	ND	5.9	1.2
TRICHLOROETHENE	ND	5.9	1.2
VINYL CHLORIDE	ND	5.9	2.4

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	50.5	59.39	85.0	60-160
4-BROMOFLUOROBENZENE	62.0	59.39	104	70-150
TOLUENE-D8	57.9	59.39	97.4	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: NA
Project : SEAL BEACH SITE 75	Date Received: 08/25/11
Batch No. : 11H205	Date Extracted: 08/25/11 11:12
Sample ID: MBLK1S	Date Analyzed: 08/25/11 11:12
Lab Samp ID: VO02H28B	Dilution Factor: 1
Lab File ID: RHP293	Matrix : SOIL
Ext Btch ID: VO02H28	% Moisture : NA
Calib. Ref.: RGP396	Instrument ID : T-O02

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	1.0
1,1-DICHLOROETHANE	ND	5.0	1.0
1,1-DICHLOROETHENE	ND	5.0	1.0
1,2-DICHLOROETHANE	ND	5.0	1.0
CIS-1,2-DICHLOROETHENE	ND	5.0	1.0
TETRACHLOROETHENE	ND	5.0	1.0
TRICHLOROETHENE	ND	5.0	1.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	42.4	50.00	84.8	70-140
4-BROMOFLUOROBENZENE	51.4	50.00	103	70-130
TOLUENE-D8	48.5	50.00	97.0	70-130

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: NA
Project : SEAL BEACH SITE 75	Date Received: 08/25/11
Batch No. : 11H205	Date Extracted: 08/25/11 17:11
Sample ID: MBLK2S	Date Analyzed: 08/25/11 17:11
Lab Samp ID: VSH019SB	Dilution Factor: 1
Lab File ID: RHP301	Matrix : SOIL
Ext Btch ID: VO02H28	% Moisture : NA
Calib. Ref.: RGP396	Instrument ID : T-O02

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
1,1,1-TRICHLOROETHANE	ND	5.0	1.0
1,1-DICHLOROETHANE	ND	5.0	1.0
1,1-DICHLOROETHENE	ND	5.0	1.0
1,2-DICHLOROETHANE	ND	5.0	1.0
CIS-1,2-DICHLOROETHENE	ND	5.0	1.0
TETRACHLOROETHENE	ND	5.0	1.0
TRICHLOROETHENE	ND	5.0	1.0
VINYL CHLORIDE	ND	5.0	2.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	43.3	50.00	86.5	70-140
4-BROMOFLUOROBENZENE	51.5	50.00	103	70-130
TOLUENE-D8	48.8	50.00	97.6	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11H205
METHOD: SW 5030B/8260B

MATRIX: SOIL % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	VO02H28B	VO02H28L	VO02H28C		
LAB FILE ID:	RHP293	RHP291	RHP292		
DATE EXTRACTED:	08/25/1111:12	08/25/1110:01	08/25/1110:36	DATE COLLECTED:	NA
DATE ANALYZED:	08/25/1111:12	08/25/1110:01	08/25/1110:36	DATE RECEIVED:	08/25/11
PREP. BATCH:	VO02H28	VO02H28	VO02H28		
CALIB. REF:	RGP396	RGP396	RGP396		

ACCESSION:

PARAMETER	BLNK RSLT (ug/kg)	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	50.0	52.7	105	50.0	54.5	109	3	60-130	50
1,1-Dichloroethane	ND	50.0	55.4	111	50.0	56.8	114	2	70-130	50
1,1-Dichloroethene	ND	50.0	52.0	104	50.0	53.3	107	3	60-130	50
1,2-Dichloroethane	ND	50.0	50.5	101	50.0	52.2	104	3	60-140	50
cis-1,2-Dichloroethene	ND	50.0	49.1	98	50.0	51.3	103	4	70-130	50
Tetrachloroethene	ND	50.0	47.1	94	50.0	48.8	98	4	70-130	50
Trichloroethene	ND	50.0	49.7	99	50.0	51.3	103	3	70-130	50
Vinyl Chloride	ND	50.0	49.6	99	50.0	49.5	99	0	60-150	50

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50.0	42.6	85	50.0	42.6	85	70-140
4-Bromofluorobenzene	50.0	50.1	100	50.0	50.5	101	70-130
Toluene-d8	50.0	48.2	96	50.0	48.2	96	70-130

METHOD 3050B/6010B
METALS BY TRACE ICP

Client	: ACCORD ENGINEERING	Date Collected:	08/23/11 16:20
Project	: SEAL BEACH SITE 75	Date Received:	08/24/11
SDG NO.	: 11H205	Date Extracted:	08/31/11 15:46
Sample ID:	SB75 IDW BIN #4	Date Analyzed:	09/01/11 15:26
Lab Samp ID:	H205-01	Dilution Factor:	0.926
Lab File ID:	ID8I001057	Matrix :	SOIL
Ext Btch ID:	IPH073S	% Moisture :	21.7
Calib. Ref.:	ID8I001051	Instrument ID :	EMAXTID8

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	ND	11.8	3.55
Arsenic	4.17	1.18	0.473
Barium	63.5	1.18	0.237
Beryllium	0.354J	1.18	0.118
Cadmium	ND	1.18	0.237
Chromium	12.8	1.18	0.355
Cobalt	5.97	1.18	0.237
Copper	8.30	1.18	0.355
Lead	3.37	1.18	0.355
Molybdenum	0.501J	5.91	0.355
Nickel	9.36	1.18	0.355
Selenium	ND	1.18	0.591
Silver	ND	1.18	0.355
Thallium	ND	1.18	0.591
Vanadium	29.5	1.18	0.177
Zinc	43.2	2.37	1.18

METHOD 3050B/6010B
METALS BY TRACE ICP

Client	: ACCORD ENGINEERING	Date Collected:	08/23/11 16:20
Project	: SEAL BEACH SITE 75	Date Received:	08/24/11
SDG NO.	: 11H205	Date Extracted:	08/31/11 15:46
Sample ID:	SB75 IDW BIN #4DL	Date Analyzed:	09/01/11 15:28
Lab Samp ID:	H205-01J	Dilution Factor:	4.63
Lab File ID:	ID8I001058	Matrix :	SOIL
Ext Btch ID:	IPH073S	% Moisture :	21.7
Calib. Ref.:	ID8I001051	Instrument ID :	EMAXTID8

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	ND	59.1	17.7
Arsenic	4.02J	5.91	2.37
Barium	63.4	5.91	1.18
Beryllium	ND	5.91	0.591
Cadmium	ND	5.91	1.18
Chromium	12.8	5.91	1.77
Cobalt	5.94	5.91	1.18
Copper	8.15	5.91	1.77
Lead	3.64J	5.91	1.77
Molybdenum	ND	29.6	1.77
Nickel	9.07	5.91	1.77
Selenium	ND	5.91	2.96
Silver	ND	5.91	1.77
Thallium	ND	5.91	2.96
Vanadium	29.1	5.91	0.887
Zinc	42.6	11.8	5.91

METHOD 3050B/6010B
METALS BY TRACE ICP

Client : ACCORD ENGINEERING	Date Collected: NA
Project : SEAL BEACH SITE 75	Date Received: 08/31/11
SDG NO. : 11H205	Date Extracted: 08/31/11 15:46
Sample ID: MBLK1S	Date Analyzed: 09/01/11 15:14
Lab Samp ID: IPH073SB	Dilution Factor: 1
Lab File ID: ID8I001053	Matrix : SOIL
Ext Btch ID: IPH073S	% Moisture : NA
Calib. Ref.: ID8I001051	Instrument ID : EMAXTID8

PARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Antimony	ND	10.0	3.00
Arsenic	ND	1.00	0.400
Barium	ND	1.00	0.200
Beryllium	ND	1.00	0.100
Cadmium	ND	1.00	0.200
Chromium	ND	1.00	0.300
Cobalt	ND	1.00	0.200
Copper	ND	1.00	0.300
Lead	ND	1.00	0.300
Molybdenum	ND	5.00	0.300
Nickel	ND	1.00	0.300
Selenium	ND	1.00	0.500
Silver	ND	1.00	0.300
Thallium	ND	1.00	0.500
Vanadium	ND	1.00	0.150
Zinc	ND	2.00	1.00

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
SDG NO.: 11H205
METHOD: METHOD 3050B/6010B

MATRIX:	SOIL			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1S				
CONTROL NO.:	IPH073SB	IPH073SL	IPH073SC		
LAB FILE ID:	ID8I001053	ID8I001054	ID8I001055		
DATIME EXTRCTD:	08/31/1115:46	08/31/1115:46	08/31/1115:46	DATE COLLECTED:	NA
DATIME ANALYZD:	09/01/1115:14	09/01/1115:17	09/01/1115:20	DATE RECEIVED:	08/31/11
PREP. BATCH:	IPH073S	IPH073S	IPH073S		
CALIB. REF:	ID8I001051	ID8I001051	ID8I001051		

ACCESSION:

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Antimony	ND	250	251	101	250	247	99	2	80-120	20
Arsenic	ND	50	53.9	108	50	53.1	106	1	80-120	20
Barium	ND	50	54.1	108	50	53.1	106	2	80-120	20
Beryllium	ND	50	55.1	110	50	54.4	109	1	80-120	20
Cadmium	ND	50	54.8	110	50	54.4	109	1	80-120	20
Chromium	ND	50	53.9	108	50	53.3	107	1	80-120	20
Cobalt	ND	50	54.1	108	50	53.7	107	1	80-120	20
Copper	ND	50	54.1	108	50	53.6	107	1	80-120	20
Lead	ND	50	54.4	109	50	54	108	1	80-120	20
Molybdenum	ND	50	53.8	108	50	53	106	2	80-120	20
Nickel	ND	50	48.7	97	50	48.2	96	1	80-120	20
Selenium	ND	50	52.4	105	50	51.9	104	1	80-120	20
Silver	ND	50	50.8	102	50	50.1	100	1	80-120	20
Thallium	ND	50	53	106	50	52.5	105	1	80-120	20
Vanadium	ND	50	55.4	111	50	55	110	1	80-120	20
Zinc	ND	50	56.5	113	50	55.8	112	1	80-120	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
SDG NO.: 11H205
METHOD: METHOD 3050B/6010B

MATRIX:	SOIL			% MOISTURE:	21.7
DILTN FACTR:	0.926	0.893	0.917		
SAMPLE ID:	SB75 IDW BIN #4				
CONTROL NO.:	H205-01	H205-01M	H205-01S		
LAB FILE ID:	ID8I001057	ID8I001059	ID8I001060		
DATIME EXTRCTD:	08/31/1115:46	08/31/1115:46	08/31/1115:46	DATE COLLECTED:	08/23/11 16:20
DATIME ANALYZD:	09/01/1115:26	09/01/1115:31	09/01/1115:34	DATE RECEIVED:	08/24/11
PREP. BATCH:	IPH073S	IPH073S	IPH073S		
CALIB. REF:	ID8I001051	ID8I001051	ID8I001051		

ACCESSION:

PARAMETER	SMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Antimony	ND	319	284	89	319	290	91	2	80-120	20
Arsenic	4.17	63.9	66	97	63.9	70.3	104	6	80-120	20
Barium	63.5	63.9	124	95	63.9	130	105	5	80-120	20
Beryllium	.354J	63.9	60.5	94	63.9	65.4	102	8	80-120	20
Cadmium	ND	63.9	61.3	96	63.9	65.2	102	6	80-120	20
Chromium	12.8	63.9	73.8	95	63.9	78.5	103	6	80-120	20
Cobalt	5.97	63.9	66.2	94	63.9	70.4	101	6	80-120	20
Copper	8.3	63.9	71.3	99	63.9	76.4	107	7	80-120	20
Lead	3.37	63.9	63.3	94	63.9	67.6	101	7	80-120	20
Molybdenum	.501J	63.9	61.1	95	63.9	63.1	98	3	80-120	20
Nickel	9.36	63.9	63.3	84	63.9	66.8	90	5	80-120	20
Selenium	ND	63.9	59.8	94	63.9	63.6	100	6	80-120	20
Silver	ND	63.9	59.7	93	63.9	62.5	98	5	80-120	20
Thallium	ND	63.9	57.8	90	63.9	61.4	96	6	80-120	20
Vanadium	29.5	63.9	93.8	101	63.9	99	109	5	80-120	20
Zinc	43.2	63.9	108	102	63.9	111	106	3	80-120	20

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
SDG NO.: 11H205
METHOD: METHOD 3050B/6010B

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MATRIX: SOIL % MOISTURE: 21.7
DILTN FACTR: 0.926 0.926
SAMPLE ID: SB75 IDW BIN #4
CONTROL NO.: H205-01 H205-01A
LAB FILE ID: ID8I001057 ID8I001056
DATIME EXTRCTD: 08/31/1115:46 08/31/1115:46 DATE COLLECTED: 08/23/11 16:20
DATIME ANALYZD: 09/01/1115:26 09/01/1115:23 DATE RECEIVED: 08/24/11
PREP. BATCH: IPH073S IPH073S
CALIB. REF: ID8I001051 ID8I001051

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Antimony	ND	296	290	98	75-125
Arsenic	4.17	59.1	63.2	100	75-125
Barium	63.5	59.1	119	94	75-125
Beryllium	.354J	59.1	59.5	100	75-125
Cadmium	ND	59.1	59	100	75-125
Chromium	12.8	59.1	70.8	98	75-125
Cobalt	5.97	59.1	64.4	99	75-125
Copper	8.3	59.1	68.6	102	75-125
Lead	3.37	59.1	61.8	99	75-125
Molybdenum	.501J	59.1	61.8	104	75-125
Nickel	9.36	59.1	61.9	89	75-125
Selenium	ND	59.1	57.4	97	75-125
Silver	ND	59.1	57	96	75-125
Thallium	ND	59.1	56.2	95	75-125
Vanadium	29.5	59.1	88.9	101	75-125
Zinc	43.2	59.1	102	100	75-125

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11H205
METHOD: METHOD 3050B/6010B

MATRIX:	SOIL		% MOISTURE:	21.7
DILUTION FACTOR:	0.926	4.63		
SAMPLE ID:	SB75 IDW BIN #4	SB75 IDW BIN #4DL		
EMAX SAMP ID:	H205-01	H205-01J		
LAB FILE ID:	ID8I001057	ID8I001058		
DATE EXTRACTED:	08/31/1115:46	08/31/1115:46	DATE COLLECTED:	08/23/11 16:20
DATE ANALYZED:	09/01/1115:26	09/01/1115:28	DATE RECEIVED:	08/24/11
PREP. BATCH:	IPH073S	IPH073S		
CALIB. REF:	ID8I001051	ID8I001051		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Antimony	ND	ND	0	10
Arsenic	4.17	4.02J	NA	10
Barium	63.5	63.4	0	10
Beryllium	0.354J	ND	NA	10
Cadmium	ND	ND	0	10
Chromium	12.8	12.8	1	10
Cobalt	5.97	5.94	0	10
Copper	8.30	8.15	2	10
Lead	3.37	3.64J	NA	10
Molybdenum	0.501J	ND	NA	10
Nickel	9.36	9.07	3	10
Selenium	ND	ND	0	10
Silver	ND	ND	0	10
Thallium	ND	ND	0	10
Vanadium	29.5	29.1	1	10
Zinc	43.2	42.6	1	10

METHOD 7471A
MERCURY

Client : ACCORD ENGINEERING
Project : SEAL BEACH SITE 75
Batch No. : 11H205

Matrix : SOIL
Instrument ID : TI047

SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/Kg)	DLF	MOIST	RL (mg/Kg)	MDL (mg/Kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
MBLK1S	HGH028SB	ND	1	NA	0.100	0.0200	08/26/1114:33	08/26/1112:00	M47H023010	M47H023008	HGH028S	NA	08/26/11
LCS1S	HGH028SL	0.840	1	NA	0.100	0.0200	08/26/1114:35	08/26/1112:00	M47H023011	M47H023008	HGH028S	NA	08/26/11
LCD1S	HGH028SC	0.837	1	NA	0.100	0.0200	08/26/1114:38	08/26/1112:00	M47H023012	M47H023008	HGH028S	NA	08/26/11
SB75 IDW BIN #4	H205-01	ND	0.993	21.7	0.127	0.0254	08/26/1115:18	08/26/1112:00	M47H023031	M47H023020	HGH028S	08/23/11	08/24/11

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NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
CA0170090491	1	CHEMTREC 1-800-424-9300	37865

5. Generator's Name and Mailing Address
NAVAL WEAPONS STATION SEAL BEACH
800 SEAL BEACH BLVD., BLDG 230
SEAL BEACH, CA 90740-5000
Generator's Phone: 562-626-7897 PEI-FEN TAHASHIRO, PG.

Generator's Site Address (if different than mailing address)
SITE 75(FORMER AG WELL KAYO-SB) SOUTH BASE
NAVAL WEAPONS SEAL BEACH
SEAL BEACH, CA 90740

6. Transporter 1 Company Name: EPR ENVIRONMENTAL SERVICES, INC.
U.S. EPA ID Number: CAR000011205

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address: CROSBY & OVERTON PLANT #1
1630 W. 17TH ST.
LONG BEACH, CA 90813
Facility's Phone: 562-432-5445
U.S. EPA ID Number: CAD028409819

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1	NON-HAZARDOUS WASTE LIQUID (PURGE WATER)	1	DM	55	G	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
SB-1 PROFILE# 93456 (PURGE WATER)

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name | Signature | Month | Day | Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
RICK TRAUGHBER		2	16	12

Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) | Month | Day | Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name | Signature | Month | Day | Year

GENERATOR | INT'L | TRANSPORTER | DESIGNATED FACILITY

Crosby & Overton, Inc.

Waste Product Questionnaire

Internal Use Only
Job Number 83456

General Information

Generator Name	NAVAL WEAPONS STATION SEAL BEACH	Billing Name	EFR ENVIRONMENTAL SERV INC
Address	SITE 75(FORMER AG WELL KAYO-SB) SOUTH BASE	Address	PO BOX 2669
City, State, Zip	SEAL BEACH, CA 90740	City, State, Zip	ALPINE, CA 91903
Contact	PEI-FEN TAMASHIRO, P.G., IRP, MRP, RAB, & EHW	Contact	THAD HARRIS
Phone	562-626-7897 Fax	Phone	619-722-6781 Fax
EPA Number	CA0170024491		

WASTE PRODUCT DESCRIPTION AND CHARACTERISTICS

Waste Product Common Name PURGE WATER

Process Generating Waste WELL MONITORING PLEASE SEE ATTACHED ANALYTICAL TESTS RUN: VOCs using 8260B

A. Hazardous Properties:

U.S. EPA Hazardous Waste? Yes ☐ No ☑

State Code (s) EPA Code (s)

Waste Product: Shock ☐ Sensitive ☐ Reactive ☐ Radioactive ☐ Pyrophoric ☐ Etiological ☐ None ☑

B. Physical Properties at 70 F

Phys. State: Solid ☐ Liquid ☑ Sludge ☐ Empty Container ☐

Any Free Liquids at 70 F? Yes ☐ No ☑

Layers: Multilayered ☐ Bi-Layered ☐ Homogenous ☑

Flash Point (Closed Cup Only) <70 F ☐ 70-100 F ☐ 101-139 F ☐ 140-200 F ☐ No Flash ☑ Exact ☐

Viscosity Water ☑ Motar Oil ☐ Honey ☐ Other ☐

C. Density:

Liquid ☑ lbs./gallon
Solid ☐ lbs./cubic ft.

% Solids By Weight ☐ By Volume ☐

Ph <2 ☐ 5-Feb ☐ 5.1 - 9 ☐ 9.1 - 12.5 ☐ >12.5 ☐ Exact ☑

Any debris in waste: Yes ☐ No ☑

Explain:

Odor: None ☐ Strong ☐ Mild ☑

Describe:

D. Chemical Composition (account for 100% of total)

	Range	
WATER	99%	100%
VOC	0%	1%
		%
		%
		%
		%
		%
		%
		%
		%
		%
		%

Metals:

Total (PPM)	
EP Toxicity (mg/1)	
Arsenic (As)	
Barium(Ba)	
Cadmium (Cd)	
Copper (CU)	
Lead (Pb)	
Mercury (Hg)	
Nickel (Ni)	
Selenium (Se)	
Silver (Ag)	
Zinc (Zn)	

Pesticides,Herbicides: PPM

Endrin	
Lindane	
Methoxychior	
Toxaphene	
2, 4-D	
2, 4, 5-TP	
Other	

Reactives/Other Wastes (PPM):

Cyanides	
Sulfides	
HOC	
Dioxin	
PCBs	
Phenois	

E. Shipping and Handling Information

D.O.T. Hazardous Material: Yes ☐ No ☑

Proper D.O.T. Shipping Name NON-HAZARDOUS WASTE LIQUID D.O.T. Hazard Class:

D.O.T. ID Number & PG Method of Shipment: Drum amd/or

Bulk: Other: D.O.T. Shiping Cntr 55 GALL DRUM Projected Volume 1

Tons: Gallons: Cubic Yards: Other:

RQ Amount Per One Time Week

Month Quarter Year Comments

Generator Certication Statement

I hereby certify that as an authorized representative of the generator named above, all information submitted in this and all the attached documents is true and/accurate. Analysis of the waste was conducted in accordance with the approved test methods in 40 CFR 261 on a representative sample as defined in 40 CFR 261,20. To the best of my knowledge, all known (40 CFR 261) and suspected hazardous components have been included in this documentation. All material and packaging will comply with all current regulations.

Signature Title: Date:

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 02/07/12
Project : SEAL BEACH SITE 75	Date Received: 02/07/12
Batch No. : 12B059	Date Extracted: 02/09/12 18:12
Sample ID: SB75IDWDRUM#1	Date Analyzed: 02/09/12 18:12
Lab Samp ID: B059-01	Dilution Factor: 1
Lab File ID: RBV123	Matrix : WATER
Ext Btch ID: VO01B06	% Moisture : NA
Calib. Ref.: RJV602	Instrument ID : T-O01

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	14	1.0	0.20
1,1-DICHLOROETHENE	3.4	1.0	0.20
1,2-DICHLOROETHANE	0.30J	1.0	0.20
CIS-1,2-DICHLOROETHENE	0.25J	1.0	0.20
TETRACHLOROETHENE	1.2	1.0	0.20
TRICHLOROETHENE	17	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.7	10.00	107	70-140
4-BROMOFLUOROBENZENE	10.7	10.00	107	70-130
TOLUENE-D8	9.92	10.00	99.2	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: NA
Project : SEAL BEACH SITE 75	Date Received: 02/09/12
Batch No. : 12B059	Date Extracted: 02/09/12 13:37
Sample ID: MBLK1W	Date Analyzed: 02/09/12 13:37
Lab Samp ID: VO01B06B	Dilution Factor: 1
Lab File ID: RBV114	Matrix : WATER
Ext Btch ID: VO01B06	% Moisture : NA
Calib. Ref.: RJV602	Instrument ID : T-O01

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.1	10.00	101	70-140
4-BROMOFLUOROBENZENE	10.8	10.00	108	70-130
TOLUENE-D8	9.92	10.00	99.2	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 12B059
METHOD: SW 5030B/8260B

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	VO01B06B	VO01B06L	VO01B06C		
LAB FILE ID:	RBV114	RBV112	RBV113		
DATE EXTRACTED:	02/09/1213:37	02/09/1212:13	02/09/1212:40	DATE COLLECTED:	NA
DATE ANALYZED:	02/09/1213:37	02/09/1212:13	02/09/1212:40	DATE RECEIVED:	02/09/12
PREP. BATCH:	VO01B06	VO01B06	VO01B06		
CALIB. REF:	RJV602	RJV602	RJV602		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	10.0	100	10.0	10.4	104	4	70-130	30
1,1-Dichloroethane	ND	10.0	9.12	91	10.0	9.98	100	9	70-130	30
1,1-Dichloroethene	ND	10.0	7.44	74	10.0	8.56	86	14	60-130	30
1,2-Dichloroethane	ND	10.0	9.61	96	10.0	10.5	105	9	70-130	30
cis-1,2-Dichloroethene	ND	10.0	8.86	89	10.0	10.0	100	12	70-130	30
Tetrachloroethene	ND	10.0	8.89	89	10.0	9.63	96	8	70-130	30
Trichloroethene	ND	10.0	9.07	91	10.0	9.71	97	7	70-130	30
Vinyl Chloride	ND	10.0	10.7	107	10.0	10.7	107	1	60-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	9.88	99	10.0	10.4	104	70-140
4-Bromofluorobenzene	10.0	10.7	107	10.0	10.3	103	70-130
Toluene-d8	10.0	9.35	94	10.0	9.39	94	70-130

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Appendix J

Onsite VOC Screening Data

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SB75MW01

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW01-SCR008	8	7/6/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR010	10	7/6/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR012	12	7/6/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR014	14	7/6/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR016	16	7/6/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR018	18	7/6/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR020	20	7/6/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR022	22	7/6/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR024	24	7/6/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR026	26	7/6/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR028	28	7/6/2011	81.5	0.0	20.8	18.6	0.0	45.5	14.5
SB75MW01-SCR030	30	7/6/2011	69.0	0.0	23.0	16.6	0.0	46.4	0.0
SB75MW01-SCR032	32	7/6/2011	69.0	0.0	28.3	23.6	0.0	61.6	14.5
SB75MW01-SCR034	34	7/6/2011	71.5	0.0	20.0	16.9	0.0	40.0	13.4
SB75MW01-SCR036	36	7/6/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR038	38	7/6/2011	69.0	0.0	21.1	0.0	0.0	40.9	0.0
SB75MW01-SCR040	40	7/6/2011	68.0	0.0	17.6	0.0	0.0	40.4	0.0
SB75MW01-SCR042	42	7/6/2011	68.5	0.0	33.4	22.4	0.0	91.1	0.0
SB75MW01-SCR044	44	7/6/2011	69.0	0.0	22.1	28.1	0.0	58.0	25.1
SB75MW01-SCR046	46	7/6/2011	67.5	0.0	0.0	15.6	0.0	33.4	0.0
SB75MW01-SCR047 GW*	47	7/6/2011	69.0	26.7	125.0	96.6	0.0	341.8	207.7
SB75MW01-SCR048	48	7/6/2011	68.5	0.0	0.0	0.0	0.0	25.2	0.0
SB75MW01-SCR050	50	7/6/2011	68.0	0.0	19.2	23.6	0.0	46.6	17.6
SB75MW01-SCR052	52	7/6/2011	68.5	0.0	0.0	19.6	0.0	50.2	0.0
SB75MW01-SCR054	54	7/6/2011	68.5	0	0.0	0.0	0.0	18.2	0.0
SB75MW01-SCR056	56	7/6/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR058	58	7/6/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0

SB75MW01

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW01-SCR060	60	7/6/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR062	62	7/6/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR064	64	7/6/2011	73.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR066	66	7/6/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR068	68	7/6/2011	70.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR070	70	7/6/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR072	72	7/6/2011	74.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR074	74	7/6/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR076	76	7/6/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR078	78	7/6/2011	67.5	0.0	42.9	26.7	0.0	77.3	21.9
SB75MW01-SCR080	80	7/6/2011	67.5	0.0	39.0	21.0	0.0	64.3	0.0
SB75MW01-SCR082	82	7/6/2011	68.0	0.0	42.9	23.1	0.0	72.4	0.0
SB75MW01-SCR084	84	7/6/2011	67.5	0.0	43.9	23.1	0.0	59.1	27.8
SB75MW01-SCR086	86	7/6/2011	67.5	0.0	17.5	0.0	0.0	21.1	0.0
SB75MW01-SCR088	88	7/6/2011	68.0	0.0	55.9	38.2	0.0	95.0	71.7
SB75MW01-SCR090	90	7/6/2011	68.0	0.0	58.8	24.3	0.0	87.4	0.0
SB75MW01-SCR092	92	7/6/2011	68.0	0.0	43.3	26.0	0.0	74.5	24.4
SB75MW01-SCR094	94	7/6/2011	67.0	21.3	78.3	37.7	0.0	113.2	17.4
SB75MW01-SCR096	96	7/6/2011	67.5	0.0	68.9	61.0	0.0	154.0	100.6
SB75MW01-SCR098	98	7/6/2011	74.5	0.0	20.1	13.5	0.0	43.5	0.0
SB75MW01-SCR100	100	7/6/2011	80.5	0.0	0.0	0.0	0.0	14.4	0.0
SB75MW01-SCR102	102	7/6/2011	83.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR104	104	7/6/2011	80.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR106	106	7/6/2011	81.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR108	108	7/6/2011	80.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR110	110	7/6/2011	104.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR112	112	7/6/2011	90.5	0.0	0.0	0.0	0.0	0.0	0.0

SB75MW01

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW01-SCR114	114	7/6/2011	75.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR116	116	7/6/2011	70.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR118	118	7/7/2011	75.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR120	120	7/7/2011	74.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR122	122	7/7/2011	75.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR124	124	7/7/2011	76.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR126	126	7/7/2011	76.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR128	128	7/7/2011	76.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR130	130	7/7/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR132	132	7/7/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR134	134	7/7/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR136	136	7/7/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR138	138	7/7/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR140	140	7/7/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR142	142	7/7/2011	73.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR144	144	7/7/2011	75.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR146	146	7/7/2011	79.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR148	148	7/7/2011	80.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR150	150	7/7/2011	78.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR152	152	7/7/2011	73.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR154	154	7/7/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR156	156	7/7/2011	73.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR158	158	7/7/2011	76.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR160	160	7/7/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR162	162	7/7/2011	75.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR164	164	7/7/2011	76.0	0.0	0.0	0.0	0.0	0.0	0.0

SB75MW01

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW01-SCR166	166	7/7/2011	76.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR168	168	7/7/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR170	170	7/7/2011	75.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR172	172	7/7/2011	76.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR174	174	7/7/2011	78.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR176	176	7/7/2011	80.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR178	178	7/7/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR178 GW*	178	7/7/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR180	180	7/7/2011	74.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR182	182	7/7/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR184	184	7/7/2011	70.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR186	186	7/7/2011	74.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR187 GW*	187	7/7/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR188	188	7/7/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR190	190	7/7/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR192	192	7/7/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR194	194	7/7/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR196	196	7/7/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR198	198	7/7/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR200	200	7/7/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR202	202	7/7/2011	70.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR204	204	7/7/2011	70.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR206	206	7/7/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR208	208	7/7/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR210	210	7/7/2011	75.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR212	212	7/7/2011	77.0	0.0	0.0	0.0	0.0	0.0	0.0

SB75MW01

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW01-SCR214	214	7/7/2011	77.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR216	216	7/7/2011	77.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR218	218	7/7/2011	77.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR220	220	7/7/2011	77.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR222	222	7/7/2011	80.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR224	224	7/7/2011	79.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR226	226	7/7/2011	81.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR228	228	7/7/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR230	230	7/7/2011	76.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR232	232	7/7/2011	78.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR234	234	7/7/2011	81.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR236	236	7/7/2011	83.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR238	238	7/7/2011	74.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR240	240	7/7/2011	75.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR242	242	7/7/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR244	244	7/7/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR246	246	7/7/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR248	248	7/7/2011	80.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR250	250	7/7/2011	81.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR252	252	7/7/2011	80.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR254	254	7/7/2011	85.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR256	256	7/7/2011	77.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR258	258	7/7/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR259 GW*	259	7/7/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR260	260	7/7/2011	75.5	0.0	0.0	0.0	0.0	0.0	0.0

SB75MW01

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW01-SCR262	262	7/7/2011	76.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR264	264	7/7/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR266	266	7/7/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR269 GW*	269	7/8/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR270	270	7/8/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR272	272	7/8/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR274	274	7/8/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR276	276	7/8/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR278	278	7/8/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR280	280	7/8/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR282	282	7/8/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR284	284	7/8/2011	73.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR286	286	7/8/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR288	288	7/8/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR290	290	7/8/2011	73.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR292	292	7/8/2011	73.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR294	294	7/8/2011	73.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW01-SCR296	296	7/8/2011	75.0	0.0	0.0	0.0	0.0	0.0	0.0

Notes:

* Units for groundwater pore samples ug/L

SB75MW01B

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW01B-SCR080	80	7/11/2011	76.0	0.0	26.2	0.0	0.0	57.6	0.0
SB75MW01B-SCR082	82	7/11/2011	70.5	0.0	39.2	20.5	0.0	66.4	24.7
SB75MW01B-SCR084	84	7/11/2011	71.5	0.0	35.2	19.4	0.0	73.5	22.5
SB75MW01B-SCR086	86	7/11/2011	72.0	0.0	53.0	39.9	0.0	107.1	34.4
SB75MW01B-SCR088	88	7/11/2011	71.5	0.0	32.4	23.4	0.0	62.3	22.4
SB75MW01B-SCR090	90	7/11/2011	73.5	0.0	28.5	0.0	0.0	68.9	0.0

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SB75MW02B

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW02B-SCR008	8	7/14/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR010	10	7/14/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR012	12	7/14/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR014	14	7/14/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR016	16	7/14/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR018	18	7/14/2011	66.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR020	20	7/14/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR022	22	7/14/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR024	24	7/14/2011	66.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR026	26	7/14/2011	66.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR028	28	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR030	30	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR032	32	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR034	34	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR036	36	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR038	38	7/14/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR040	40	7/14/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR042	42	7/14/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR044	44	7/14/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR046	46	7/14/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR048	48	7/14/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR050	50	7/14/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR052	52	7/14/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR054	54	7/14/2011	75.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR056	56	7/14/2011	76.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR058	58	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR060	60	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR062	62	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR064	64	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR066	66	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0

SB75MW02B

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW02B-SCR068	68	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR070	70	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR072	72	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR074	74	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR076	76	7/14/2011	n/a	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR078	78	7/14/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR080	80	7/14/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR082	82	7/14/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR084	84	7/14/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR086	86	7/14/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR088	88	7/14/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR090	90	7/14/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR092	92	7/14/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR094	94	7/14/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR096	96	7/14/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR098	98	7/14/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR100	100	7/14/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR102	102	7/14/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW02B-SCR104	104	7/14/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0

SB75MW03B

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW03B-SCR008	8	7/18/2011	66.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR010	10	7/18/2011	66.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR012	12	7/18/2011	66.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR014	14	7/18/2011	66.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR016	16	7/18/2011	66.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR018	18	7/18/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR020	20	7/18/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR022	22	7/18/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR024	24	7/18/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR026	26	7/18/2011	66.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR028	28	7/18/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR030	30	7/18/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR032	32	7/18/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR034	34	7/18/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR036	36	7/18/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR038	38	7/18/2011	66.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR040	40	7/18/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR042	42	7/18/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR044	44	7/18/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR046	46	7/18/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR048	48	7/18/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR050	50	7/18/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR052	52	7/18/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR054	54	7/18/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR056	56	7/18/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR058	58	7/18/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR060	60	7/18/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR062	62	7/18/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR064	64	7/18/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR066	66	7/18/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0

SB75MW03B

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW03B-SCR068	68	7/18/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR070	70	7/18/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR072	72	7/18/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR074	74	7/18/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR076	76	7/18/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR078	78	7/18/2011	66.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR080	80	7/18/2011	67.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR082	82	7/18/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR084	84	7/18/2011	68.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR086	86	7/18/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR088	88	7/18/2011	66.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR090	90	7/18/2011	66.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR092	92	7/18/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR094	94	7/18/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW03B-SCR096	96	7/18/2011	67.0	0.0	0.0	0.0	0.0	0.0	0.0

SB75MW04B

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW04B-SCR008	8	7/21/2011	75.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR010	10	7/21/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR012	12	7/21/2011	73.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR014	14	7/21/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR016	16	7/21/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR018	18	7/21/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR020	20	7/21/2011	70.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR022	22	7/21/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR024	24	7/21/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR026	26	7/21/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR028	28	7/21/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR030	30	7/21/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR032	32	7/21/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR034	34	7/21/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR036	36	7/21/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR038	38	7/21/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR040	40	7/21/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR042	42	7/21/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR044	44	7/21/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR046	46	7/21/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR048	48	7/21/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR050	50	7/21/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR052	52	7/21/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR054	54	7/21/2011	70.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR056	56	7/21/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR058	58	7/21/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR060	60	7/21/2011	75.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR062	62	7/21/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR064	64	7/21/2011	70.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR066	66	7/21/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0

SB75MW04B

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW04B-SCR068	68	7/21/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR070	70	7/21/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR072	72	7/21/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR074	74	7/21/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR076	76	7/21/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR078	78	7/21/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR080	80	7/21/2011	70.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR082	82	7/21/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR084	84	7/21/2011	73.5	0.0	0.0	0.0	0.0	**0.0**	0.0
SB75MW04B-SCR086	86	7/21/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR088	88	7/21/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR090	90	7/21/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR092	92	7/21/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR094	94	7/21/2011	68.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR096	96	7/21/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR098	98	7/21/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW04B-SCR100	100	7/21/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Red value is possible detection below reporting limit

SB75MW05B

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW05B-SCR008	8	7/22/2011	81.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR010	10	7/22/2011	73.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR012	12	7/22/2011	72.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR014	14	7/22/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR016	16	7/22/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR018	18	7/22/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR020	20	7/22/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR022	22	7/22/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR024	24	7/22/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR026	26	7/22/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR028	28	7/22/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR030	30	7/22/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR032	32	7/22/2011	77.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR034	34	7/22/2011	87.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR036	36	7/22/2011	76.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR038	38	7/22/2011	73.0	0.0	0.0	0.0	0.0	22.3	0.0
SB75MW05B-SCR040	40	7/22/2011	75.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR042	42	7/22/2011	73.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR044	44	7/22/2011	70.5	0.0	21.1	21.5	0.0	31.1	15.7
SB75MW05B-SCR046	46	7/22/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR048	48	7/22/2011	69.5	0.0	33.3	29.2	0.0	42.7	20.4
SB75MW05B-SCR050	50	7/22/2011	69.5	0.0	61.8	62.1	0.0	98.3	45.0
SB75MW05B-SCR052	52	7/22/2011	71.0	0.0	24.2	36.6	0.0	52.7	25.1
SB75MW05B-SCR054	54	7/22/2011	69.5	0.0	0.0	23.7	0.0	31.5	14.4
SB75MW05B-SCR056	56	7/22/2011	69.0	0.0	0.0	29.0	0.0	35.8	16.3
SB75MW05B-SCR058	58	7/22/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR060	60	7/22/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR062	62	7/22/2011	71.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR064	64	7/22/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR066	66	7/22/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0

SB75MW05B

Sample Name	Depth Ft bgs	Date	Temp °F	PCE µg/kg	TCE µg/kg	DCE µg/kg	1,1,1-TCA µg/kg	1,1-DCA µg/kg	VC+1,2-DCA µg/kg
SB75MW05B-SCR068	68	7/22/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR070	70	7/22/2011	69.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR072	72	7/22/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR074	74	7/22/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR076	76	7/22/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR078	78	7/22/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR080	80	7/22/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR082	82	7/22/2011	70.5	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR084	84	7/22/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR086	86	7/22/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR088	88	7/22/2011	70.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR090	90	7/22/2011	69.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR092	92	7/22/2011	71.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR094	94	7/22/2011	72.0	0.0	0.0	0.0	0.0	0.0	0.0
SB75MW05B-SCR096	96	7/22/2011	74.5	0.0	0.0	0.0	0.0	0.0	0.0

Appendix K (Included in CD-ROM)

Field Audit Forms

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BRADY

Field Sampling Technical Systems Audit

Project Name: Seal Beach, Site 75
Date of Audit: 9/27/11
Auditor: Jesse MacNeill
Audit No: 007 (#1 for the project)

General:

A. Has the site exclusion zone been defined and secured?
SAT X UNSAT ____ N/A ____

B. Is site access log available and in use?
SAT ____ UNSAT ____ N/A X

C. Is the Work Plan, including the SAP, available onsite and are personnel complying?
SAT X UNSAT ____ N/A ____

D. Has the Project Personnel Sign-Off Sheet (SAP Worksheet #4) been signed by the key personnel prior to the start of work on-site?
SAT ____ UNSAT X[1] N/A ____

E. Are the appropriate and current SOPs available onsite?
SAT X UNSAT ____ N/A ____

F. Have the site emergency phone numbers and the medical facilities address and route map been posted?
SAT X UNSAT ____ N/A ____

LOGBOOKS

1) Are logbooks permanently bound and pre-paginated?
SAT ____ UNSAT X[2] N/A ____

2) Are corrections to logbook entries made with a single line out of the incorrect entry, and has the correction been initialed by the person making the correction?
SAT X UNSAT ____ N/A ____

3) Is each sample or field measurement properly documented to facilitate timely, correct and complete analysis of data?
SAT X UNSAT ____ N/A ____

HEALTH & SAFETY

4) Has a daily Health & Safety meeting covering site-specific health hazards and required PPE been conducted?
SAT X UNSAT ____ N/A ____

5) Have all visible Health & Safety concerns been addressed (ex. slips, trips, or falls)?
SAT X UNSAT ____ N/A ____

6) Have the utility & geophysical clearances been completed prior to the start of intrusive work?
SAT ____ UNSAT ____ N/A X

BRADY

7) Is an organic vapor meter, a PID/FID, being used to monitor organic vapors during direct push operations?

SAT ____ UNSAT ____ N/A X

8) Are the field instruments being used calibrated, and is the calibration recorded? (Record instrument serial numbers.)

SAT X UNSAT ____ N/A ____

SCAPS

9) Was the SCAPS pre-push calibration of the laser performed and documented?

SAT ____ UNSAT ____ N/A X

10) Was the SCAPS cone& sleeve strain gauge calibration performed and documented?

SAT ____ UNSAT ____ N/A X

11) Are the site location names being used consistently with respect to the SCAPS WinOCPT data files and the sample identification numbers?

SAT ____ UNSAT ____ N/A X

SAMPLING & ANALYSIS

12) Does the onsite mobile laboratory have current state certification? Current SOPs for methods they are performing? Qualification and certifications for the mobile lab operator?

SAT ____ UNSAT ____ N/A X

13) Verify that the physical parameters for each groundwater sample collected are recorded and are in range. (include conductivity, pH, and temperature)

SAT X UNSAT ____ N/A ____

14) Verify that the soil or groundwater sample is transferred directly into the appropriate sample container, labeled, and placed into an ice chest.

SAT X UNSAT ____ N/A ____

15) Do the sample labels affixed to each sample container have the following information: project name and number, sample ID, analysis to be performed, type of preservative, sample collector's initials, collection date and time, and special instructions?

Pre-printed

SAT X UNSAT ____ N/A ____

16) Are sampling equipment, materials, tools, and field measurement devices being decontaminated before each use, and in accordance with ~~SOP T-001?~~ SOP F10-003 (AEI)

Water-Level Meter

SAT X UNSAT ____ N/A ____

17) Are equipment rinsate blanks collected by pouring deionized water over or through the sampling equipment after decontamination and prior to taking the next sample?

SAT ____ UNSAT X[3] N/A ____

18) Is one equipment rinsate sample (equipment blank) collected for each day that non-disposable sample equipment is used?

SAT ____ UNSAT X[4] N/A ____

19) Is equipment rinsate documentation complete with detail of the equipment used and the source water description (ex. Arrowhead Distilled, Lot No., etc.)?

SAT ____ UNSAT X[5] N/A ____

BRADY

20) Is one MS/MSD sample collected for every 20 environmental samples collected?

MW01A SAT X UNSAT ____ N/A ____

21) Are source blanks being collected from the same source of water used for equipment decontamination?

FB - MW02C SAT X UNSAT ____ N/A ____

22) Is one groundwater field duplicate sample collected for every 10 groundwater samples collected?

SAT X UNSAT ____ N/A ____

23) Does each shipping container being sent to the fixed-base laboratory contain a temperature blank?

SAT X UNSAT ____ N/A ____

24) Does each shipping container being sent to the fixed-base laboratory contain the appropriate number of trip blank samples?

SAT X UNSAT ____ N/A ____

25) Are soil and groundwater samples being sent to a fixed-base laboratory for the methods indicated in QAPP Worksheets 19, 20, and 28?

SAT X UNSAT ____ N/A ____

26) Are sample containers being placed in a cooler with wet or dry ice to maintain sample temperatures at 4°C?

SAT X UNSAT ____ N/A ____

27) Are glass sample containers being wrapped in foam or bubble wrap before being placed in a Ziploc style bag?

SAT X UNSAT ____ N/A ____

28) Are shipping containers being secured with two custody seals (front right & back left)?

lab courier SAT ____ UNSAT ____ N/A X

29) Have all the appropriate sampling forms and sample decontamination been completed?

SAT X UNSAT ____ N/A ____

30) Is all applicable information recorded on the chain-of-custody (COC), including sample ID, "relinquished/received by" signatures, and time and date of relinquishment?

SAT X UNSAT ____ N/A ____

31) Are samples requiring different QC levels or turnaround times recorded correctly on the COCs?

SAT X UNSAT ____ N/A ____

32) If samples are to be delivered to the fixed-base laboratory by an overnight carrier, has the airbill number been recorded on the COC?

lab courier SAT ____ UNSAT ____ N/A X

33) If samples are to be delivered to the fixed-base laboratory by an overnight carrier, has the COC been placed inside a plastic Ziploc style bag and taped to the inside of the sample container lid?

SAT ____ UNSAT ____ N/A X

lab courier

BRADY

INVESTIGATION DERIVED WASTE

34) Is IDW being handled and stored appropriately? (i.e. soil being placed in covered portable roll-off bins lined with plastic sheeting or DOT approved drums (ex. 17H 55-gallon drum) and liquids in a separate 17H 55-gallon drum?) Baker Tank SAT X UNSAT ____ N/A ____

35) Is each IDW container clearly marked with a label to indicate the waste source, date of generation, point of contact, etc.?

SAT X UNSAT ____ N/A ____

36) Is any IDW being stored over 90 days? If storage area is at Camp Pendleton, is any IDW being stored over 60 days?

SAT X UNSAT ____ N/A ____

COMMENTS:

1. Project Personnel have reviewed the SAP, but a signed copy of WS#4 is not available.

2. Field logbook/notebook is permanently bound, but not pre-paginated.

3. An equipment rinsate blank was not performed on the water-level meter after decontamination.

4. Per the SAP, equipment rinsate blanks should have been collected daily.

5. Source water description was included for the documentation of the field blank.

BRADY

Field Sampling Technical Systems Audit

Project Name: ACCORD.001-001 Seal Beach IR Site 75
Date of Audit: 12/28/2011 13:18 onsite
Auditor: Tim Shields.
Audit No: #2 for the project. groundwater sampling.
(Audit was performed during previous groundwater sampling event.)

General:

A. Has the site exclusion zone been defined and secured?
SAT ✓ UNSAT ____ N/A ____

B. Is site access log available and in use?
SAT ____ UNSAT ____ N/A ✓

C. Is the Work Plan, including the SAP, available onsite and are personnel complying?
SAT ✓ UNSAT ____ N/A ____

D. Has the Project Personnel Sign-Off Sheet (SAP Worksheet #4) been signed by the key personnel prior to the start of work on-site?
SAT ✓ UNSAT ____ N/A ____

E. Are the appropriate and current SOPs available onsite?
SAT ✓ UNSAT ____ N/A ____

F. Have the site emergency phone numbers and the medical facilities address and route map been posted?
SAT ✓ UNSAT ____ N/A ____

LOGBOOKS

1) Are logbooks permanently bound and pre-paginated? Not pre-paginated.
SAT ✓ UNSAT ____ N/A ____

2) Are corrections to logbook entries made with a single line out of the incorrect entry, and has the correction been initialed by the person making the correction?
SAT ____ UNSAT ____ N/A ✓

3) Is each sample or field measurement properly documented to facilitate timely, correct and complete analysis of data?
SAT ✓ UNSAT ____ N/A ____

HEALTH & SAFETY

4) Has a daily Health & Safety meeting covering site-specific health hazards and required PPE been conducted?
Not evaluated
SAT ____ UNSAT ____ N/A ____ NE

5) Have all visible Health & Safety concerns been addressed (ex. slips, trips, or falls)?
Not evaluated
SAT ____ UNSAT ____ N/A ____ NE

6) Have the utility & geophysical clearances been completed prior to the start of intrusive work?
SAT ____ UNSAT ____ N/A X

BRADY

7) Is an organic vapor meter, a PID/FID, being used to monitor organic vapors during direct push operations?

SAT ____ UNSAT ____ N/A X

8) Are the field instruments being used calibrated, and is the calibration recorded? (Record instrument serial numbers.) Not evaluated.

SAT ✓ UNSAT ____ N/A ____ ~~NE~~

SCAPS

9) Was the SCAPS pre-push calibration of the laser performed and documented?

SAT ____ UNSAT ____ N/A X

10) Was the SCAPS cone& sleeve strain gauge calibration performed and documented?

SAT ____ UNSAT ____ N/A X

11) Are the site location names being used consistently with respect to the SCAPS WinOCPT data files and the sample identification numbers?

SAT ____ UNSAT ____ N/A X

SAMPLING & ANALYSIS

12) Does the onsite mobile laboratory have current state certification? Current SOPs for methods they are performing? Qualification and certifications for the mobile lab operator?

SAT ____ UNSAT ____ N/A X

pH ± 0.1
°C ± 1
µohms/cm ± 3%
millivolts ± 10 (ORP)
mg/L ± 0.3 DO

13) Verify that the physical parameters for each groundwater sample collected are recorded and are in range. (include conductivity, pH, and temperature)

SAT ✓* UNSAT ____ N/A ____

ORP Not w/ 10% if defined by last reading

14) Verify that the soil or groundwater sample is transferred directly into the appropriate sample container, labeled, and placed into an ice chest.

SAT ✓ UNSAT ____ N/A ____

15) Do the sample labels affixed to each sample container have the following information: project name ~~and number~~, sample ID, analysis to be performed, type of preservative, sample collector's initials, collection date and ~~time~~, and special instructions?

Stet - ok

SAT ✓ UNSAT ____ N/A ____

Time is logged on COC and on label.

16) Are sampling equipment, materials, tools, and field measurement devices being decontaminated before each use, and in accordance with SOP T-001?

well sounder - will collect equipment blank

SAT ✓ UNSAT ____ N/A ____

17) Are equipment rinsate blanks collected by pouring deionized water over or through the sampling equipment after decontamination and prior to taking the next sample?

SAT ✓ UNSAT ____ N/A ____

18) Is one equipment rinsate sample (equipment blank) collected for each day that non-disposable sample equipment is used?

see comments. Rinsate collected on day 2 - for well sounder.

SAT ____ UNSAT ____ N/A ____

19) Is equipment rinsate documentation complete with detail of the equipment used and the source water description (ex. Arrowhead Distilled, Lot No., etc.)?

~~Not evaluated~~. in logbook

SAT ✓ UNSAT ____ N/A ____

Arrowhead distilled water, 2.5 gallon container

BRADY

20) Is one MS/MSD sample collected for every 20 environmental samples collected?

SAT ✓ UNSAT ____ N/A ____

See WS#20 field blank

21) Are source blanks being collected from the same source of water used for equipment decontamination?

* yes, we will collect field blank as source blank

SAT ✓ UNSAT ____ N/A ____

22) Is one groundwater field duplicate sample collected for every 10 groundwater samples collected?

SAT ✓ UNSAT ____ N/A ____

23) Does each shipping container being sent to the fixed-base laboratory contain a temperature blank?

SAT ✓ UNSAT ____ N/A ____

14.7.4 In each cooler

24) Does each shipping container being sent to the fixed-base laboratory contain the appropriate number of trip blank samples?

SAT ✓ UNSAT ____ N/A ____

8260B

25) Are soil and groundwater samples being sent to a fixed-base laboratory for the methods indicated in QAPP Worksheets 19, 20, and 28?

SAT ✓ UNSAT ____ N/A ____

26) Are sample containers being placed in a cooler with wet or dry ice to maintain sample temperatures at 4°C?

SAT ✓ UNSAT ____ N/A ____

27) Are glass sample containers being wrapped in foam or bubble wrap before being placed in a Ziploc style bag?

SAT ✓ UNSAT ____ N/A ____

WS 20, only needed if courier is used.

28) Are shipping containers being secured with two custody seals (front right & back left)? – Lab courier

SAT ✓ UNSAT ____ N/A ____

29) Have all the appropriate sampling forms and sample decontamination been completed?

SAT ✓ UNSAT ____ N/A ____

30) Is all applicable information recorded on the chain-of-custody (COC), including sample ID, "relinquished/received by" signatures, and time and date of relinquishment?

SAT ✓ UNSAT ____ N/A ____

31) Are samples requiring different QC levels or turnaround times recorded correctly on the COCs?

SAT ____ UNSAT ____ N/A ✓

32) If samples are to be delivered to the fixed-base laboratory by an overnight carrier, has the airbill number been recorded on the COC?

SAT ____ UNSAT ____ N/A ✓

33) If samples are to be delivered to the fixed-base laboratory by an overnight carrier, has the COC been placed inside a plastic Ziploc style bag and taped to the inside of the sample container lid?

SAT ____ UNSAT ____ N/A ✓

BRADY

INVESTIGATION DERIVED WASTE

34) Is IDW being handled and stored appropriately? (i.e. soil being placed in covered portable roll-off bins lined with plastic sheeting or DOT approved drums (ex. 17H 55-gallon drum) and liquids in a separate 17H 55-gallon drum?)

SAT ✓ UNSAT ____ N/A ____

35) Is each IDW container clearly marked with a label to indicate the waste source, date of generation, point of contact, etc.?

SAT ✓ UNSAT ____ N/A ____

36) Is any IDW being stored over 90 days? If storage area is at Camp Pendleton, is any IDW being stored over 60 days?

SAT ✓ UNSAT ____ N/A ____

COMMENTS:

13:18 Arrived onsite als they finished the final sample. Oihai & Justin onsite.

- Field blank had not been collected. CA = blank collected. This will also serve as source blank
- Equipment blank of well sounder had not been collected. CA = equipment blank collected.
- RE #13, ORP readings were within 10% of the penultimate reading. I instructed Oihai to ask Rain about this. Brady's definition is that the last 3 readings should be within 10% of the Third from final reading, not the penultimate.

13:54 offsite.

Note CA = corrective action.

Appendix L (Included in CD-ROM)

Laboratory Data

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TABLE OF CONTENTS

CLIENT: **ACCORD ENGINEERING**

PROJECT: **SEAL BEACH SITE 75**

SDG: **11I265**

SECTION		PAGE
Cover Letter, COC/Sample Receipt Form		1000 – 1006
GC/MS-VOA	METHOD 5030B/8260B	2000 – 2035
GC/MS-SVOA	**	3000 –
GC-VOA	**	4000 –
GC-SVOA	**	5000 –
HPLC	**	6000 –
METALS	**	7000 –
WET	**	8000 –
OTHERS	**	9000 –

** - Not Requested

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 10-18-2011
EMAX Batch No.: 11I265

Attn: Qihai Chen

ACCORD ENGINEERING
6050 Santo Road, Suite 175
San Diego, CA 92124

Subject: Laboratory Report
Project: SEAL BEACH SITE 75

Enclosed is the Laboratory report for samples received on 09/28/11.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
SB75MW02C-Q311-02	I265-01	09/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW02C-Q311-01	I265-02	09/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW02A-Q311-01	I265-03	09/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW03A-Q311-01	I265-04	09/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW03A-Q311-02	I265-05	09/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW03B-Q311-01	I265-06	09/28/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW01B-Q311-01	I265-07	09/28/11	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

for

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that the results included in this report meets all *NELAC & DOD requirements* unless noted in the Case Narrative.

NELAC Accredited Certificate Number 02116CA
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing

AEC_1104_

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.

1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER: 101003-03

SAMPLE STORAGE: Coo, 8r

EMAX CONTROL NO. * 111265

PROJECT CODE:

CLIENT: Accord Engineering, Inc.
PROJECT: Site 75 PA/SI, NWS Seal Beach
COORDINATOR: Qihai Chen
TEL: 626-617-2171 FAX: EMAIL: qchen@accordeng.com
SEND REPORT TO: same
COMPANY:
ADDRESS: 6050 Santo Rd, Suite 175
San Diego, CA 92124
EMAX PM: Ye Myint.

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O= DI H2O	

ANALYSIS REQUIRED: VOCs 8260B

TAT:
- ☐ Rush ____hrs.
- ☐ Rush ____days
- ☐ 7 days
- ☒ 14 days
- ☐ 21 days
- ☐ 30 days
- ☐ ____days
- ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	VOCs 8260B	COMMENTS
1	SB75MW02C-Q311-02	Site 75	9/27	1155	3		O			X	
2	SB75MW02C-Q311-01	Site 75	9/27	1402	3		GW			X	
3	SB75MW02A-Q311-01	Site 75	9/27	1450	3		GW			X	
4	SB75MW03A-Q311-01	Site 75	9/27	1640	3		GW			X	
5	SB75MW03A-Q311-02	Site 75	9/27	1645	3		O			X	
6	SB75MW03B-Q311-01	Site 75	9/28	1120	3		GW			X	
7	SB75MW01B-Q311-01	Site 75	9/28	1225	3		GW			X	
8											
9											
10											

Instructions: Send Accord & Brady NEPD files

Cooler #	Temp. (°C)	Sample #s
1	3.0	

SAMPLER: Ravi Singh & Qihai Chen

COURIER/AIRBILL: EMAX

RELINQUISHED BY	Date	Time	RECEIVED BY
Qihai Chen	9-28-11	1350	Keith Stout
Keith Stout	9-28-11	1421	

NOTICE: Turn-around-time (TAT) for samples shall not begin untill all discrepancies have been resolved. For samples received and discrepacies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill	ECN 11I265
☑ EMAX Courier	See 4	Recepient J-LUNA
☐ Client Delivery		Date 9-28-11
☐ Third Party		Time 1421

COC Inspection

☑ Client Name ☐ Client PM/FC ☑ Sampler Name ☑ Sampling Date/Time/Location ☑ Sample ID ☐ Matrix
☑ Address ☑ Tel # / Fax # ☑ Courier Signature ☑ Analysis Required ☐ Preservative (if any) ☐ TAT
Safety Issues ☑ None ☐ High concentrations expected ☐ Superfund Site samples ☐ Rad screening required
Comments:

Packaging Inspection

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☐ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	A ☐ Cooler 1 3.0 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C

Thermometer: *A - S/N 101541371* *B - S/N 101541382*

Comments: ☐ **PM was informed on non-compliant coolers immediately.**

Note: **pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.**

DISCREPANCIES

LSID	LSCID	Sample Label ID/COC ID	Discrepancy Code	Corrective Action Code

REVIEWS

Sample Labeling _____ Date 9/28/11

SRP _____ Date 9/28/11

PM HDB Date 9/29/11

LEGEND:

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Project Management
A1	Analysis is not indicated in COC	D1	Date and/or time is not indicated in COC	R1	Hold sample(s); wait for further instructions
A2	Analysis is not indicated in label	D2	Date and/or time is not indicated in label	R2	Proceed as indicated in COC
A3	Analysis is inconsistent in COC vis-à-vis label	D3	Date and/or time is inconsistent in COC vis-à-vis label	R3	Refer to attached instruction
A4	_____	E1	Insuficient preservative	R4	Cancel the analysis
B1	Sample ID is not indicated in COC	E2	Improper preservation	R5	_____
B2	Sample ID is not indicated in label	F1	Insufficient Sample	R6	_____
B3	Sample ID is inconsistent in COC vis-à-vis label	F2	Bubble is> 6mm		
B4	_____	G1	Temperature is out of range		
C1	Wrong container	G2	Out of Holding Time		
C2	Broken container	G3	>20 % solid particle		
C3	Leaking container	H1	_____		
C4	_____	H2	_____		

Hanh Bui

From: Hanh Bui
Sent: Friday, October 07, 2011 1:54 PM
To: 'Jesse MacNeill'; Ye Myint
Cc: Yu Zeng; tshields@rbrady.net; Qihai Chen
Subject: Results SDG: 11I265 (Seal Beach Site 75)

Hi all,
Attached please find the result of 8260 for 11I265, thanks.
Hanh
In observance of Columbus Day, EMAX will be closed on Monday, October 10, 2011.

-----Original Message-----
From: Jesse MacNeill [mailto:jmacneill@rbrady.net]
Sent: Monday, October 03, 2011 11:44 AM
To: Ye Myint; Hanh Bui
Cc: Yu Zeng; tshields@rbrady.net; Qihai Chen
Subject: Re: Samples Login SDG: 11I265 (Seal Beach Site 75)

Hanh,

The NEDD info stated below looks correct. For the EDF:

Global ID: **T10000003011**
Field point names will be the monitoring well IDs (the first nine characters of the sample ID).
Logcode is RBSD

Ye,

Since it's not listed on the sample receipt documents, can you please make sure that the analyte list (8 VOCs) for these samples is consistent with what is listed on SAP worksheet #15 (see attached).

Thanks.

On Fri, Sep 30, 2011 at 10:39 AM, Qihai Chen <QChen@accordeng.com> wrote:

Hi Hanh,

Jesse MacNeil from Richard Brady and Associates is responsible for the data management portion of the project. Please forward future questions to him, but please CC both Yu and I. Thanks!

Qihai Chen

Project Engineer

Accord Engineering, Inc.

6050 Santo Road, Suite 175

San Diego, CA 92124

qchen@accordeng.com

(O) 858-771-3559

(M) 626-617-2171

From: Hanh Bui [mailto:HDBui@emaxlabs.com]
Sent: *Thursday, September 29, 2011 3:05 PM*
To: Qihai Chen; Yu Zeng
Cc: Ye Myint
Subject: Samples Login SDG: 11I265 (Seal Beach Site 75)

Hi Qihai,

Please review the login samples received on 9/28. All samples are level 3?

This project requested NEDD/EDF

Please provide the information for

NEDD NIRIS.

1. *CONTRACT ID: Unique contract ID assigned by Division Contracting Office:*
2. DO_CTO_NUMBER: 4-character Delivery Order or Contract Task Order number assigned by Navy
3. PHASE: Task phase, subtask number or quarter.
4. Installation ID if it does not show in the NEDD NIRIS website.

Please check four fields for NEDD: N6247309D2613, 0018, 3Q11 ?, SEAL_BEACH_NWS ?

GEOTRACKER EDF

1. Global ID if they have : T0605901373 ?
2. Field point name if it is different than the COC sample ID
3. Logcode if it is not in the Coelt VVL database. Usually, it happens with new project.

Thanks,

Hanh

--

Jesse MacNeill, CQM
Quality Assurance Manager

Richard Brady & Associates
3710 Ruffin Road
San Diego, California 92123
www.richardbrady.com

Telephone: 858.496.0500
Direct Line: 858.634.4549
Cell: 619.571.4931

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

ACCORD ENGINEERING

SEAL BEACH SITE 75

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 11I265

CASE NARRATIVE

Client : ACCORD ENGINEERING

Project : SEAL BEACH SITE 75

SDG : 11I265

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

A total of seven (7) water samples were received on 09/28/11 for Volatile Organics by GC/MS analysis, Method 5030B/8260B in accordance with DoD Quality Systems Manual for Environmental Laboratories, Version 4.2.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms for ICAL, ICV and CCV for details.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for VO01J01L/C were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated in this SDG.

Surrogate
Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING
Project : SEAL BEACH SITE 75

SDG NO. : 111265
Instrument ID : T-001

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	V001J01B	1	NA	10/03/1112:22	10/03/1112:22	RJV007	RIV507	V001J01	Method Blank
LCS1W	V001J01L	1	NA	10/03/1110:57	10/03/1110:57	RJV004	RIV507	V001J01	Lab Control Sample (LCS)
LCD1W	V001J01C	1	NA	10/03/1111:26	10/03/1111:26	RJV005	RIV507	V001J01	LCS Duplicate
SB75MW02C-Q311-02	I265-01R	1	NA	10/03/1112:51	10/03/1112:51	RJV008	RIV507	V001J01	Field Sample
SB75MW02C-Q311-01	I265-02R	1	NA	10/03/1113:19	10/03/1113:19	RJV009	RIV507	V001J01	Field Sample
SB75MW02A-Q311-01	I265-03R	1	NA	10/03/1113:47	10/03/1113:47	RJV010	RIV507	V001J01	Field Sample
SB75MW03A-Q311-01	I265-04R	1	NA	10/03/1114:16	10/03/1114:16	RJV011	RIV507	V001J01	Field Sample
SB75MW03A-Q311-02	I265-05R	1	NA	10/03/1114:45	10/03/1114:45	RJV012	RIV507	V001J01	Field Sample
SB75MW03B-Q311-01	I265-06R	1	NA	10/03/1115:13	10/03/1115:13	RJV013	RIV507	V001J01	Field Sample
SB75MW01B-Q311-01	I265-07R	1	NA	10/03/1115:40	10/03/1115:40	RJV014	RIV507	V001J01	Field Sample
SB75MW01B-Q311-01DL	I265-07T	25	NA	10/03/1116:08	10/03/1116:08	RJV015	RIV507	V001J01	Diluted Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/27/11
Project	: SEAL BEACH SITE 75	Date Received:	09/28/11
Batch No.	: 11I265	Date Extracted:	10/03/11 12:51
Sample ID:	SB75MW02C-0311-02	Date Analyzed:	10/03/11 12:51
Lab Samp ID:	I265-01R	Dilution Factor:	1
Lab File ID:	RJV008	Matrix :	WATER
Ext Btch ID:	V001J01	% Moisture :	NA
Calib. Ref.:	RIV507	Instrument ID :	T-001

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	9.89	10.00	98.9	70-140
4-BROMOFLUOROBENZENE	10.1	10.00	101	70-130
TOLUENE-D8	10.0	10.00	100	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/27/11
Project	: SEAL BEACH SITE 75	Date Received:	09/28/11
Batch No.	: 111265	Date Extracted:	10/03/11 13:19
Sample ID:	SB75MW02C-Q311-01	Date Analyzed:	10/03/11 13:19
Lab Samp ID:	I265-02R	Dilution Factor:	1
Lab File ID:	RJV009	Matrix :	WATER
Ext Btch ID:	VO01J01	% Moisture :	NA
Calib. Ref.:	RIV507	Instrument ID :	T-001

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.3	10.00	103	70-140
4-BROMOFLUOROBENZENE	10.1	10.00	101	70-130
TOLUENE-D8	10.1	10.00	101	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/27/11
Project	: SEAL BEACH SITE 75	Date Received:	09/28/11
Batch No.	: 111265	Date Extracted:	10/03/11 13:47
Sample ID:	SB75MW02A-Q311-01	Date Analyzed:	10/03/11 13:47
Lab Samp ID:	I265-03R	Dilution Factor:	1
Lab File ID:	RJV010	Matrix :	WATER
Ext Btch ID:	V001J01	% Moisture :	NA
Calib. Ref.:	RIV507	Instrument ID :	T-001

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	4.4	1.0	0.20
1,1-DICHLOROETHENE	13	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	0.79J	1.0	0.20
TRICHLOROETHENE	14	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.7	10.00	107	70-140
4-BROMOFLUOROBENZENE	10.2	10.00	102	70-130
TOLUENE-D8	9.74	10.00	97.4	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/27/11
Project	: SEAL BEACH SITE 75	Date Received:	09/28/11
Batch No.	: 11I265	Date Extracted:	10/03/11 14:16
Sample ID:	SB75MW03A-Q311-01	Date Analyzed:	10/03/11 14:16
Lab Samp ID:	I265-04R	Dilution Factor:	1
Lab File ID:	RJV011	Matrix :	WATER
Ext Btch ID:	V001J01	% Moisture :	NA
Calib. Ref.:	RIV507	Instrument ID :	T-001

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.4	10.00	104	70-140
4-BROMOFLUOROBENZENE	10.2	10.00	102	70-130
TOLUENE-D8	10.1	10.00	101	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/27/11
Project	: SEAL BEACH SITE 75	Date Received:	09/28/11
Batch No.	: 111265	Date Extracted:	10/03/11 14:45
Sample ID:	SB75MW03A-Q311-02	Date Analyzed:	10/03/11 14:45
Lab Samp ID:	I265-05R	Dilution Factor:	1
Lab File ID:	RJV012	Matrix :	WATER
Ext Btch ID:	V001J01	% Moisture :	NA
Calib. Ref.:	RIV507	Instrument ID :	T-001

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.5	10.00	105	70-140
4-BROMOFLUOROBENZENE	10.0	10.00	100	70-130
TOLUENE-D8	9.81	10.00	98.1	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/28/11
Project	: SEAL BEACH SITE 75	Date Received:	09/28/11
Batch No.	: 11I265	Date Extracted:	10/03/11 15:13
Sample ID:	SB75MW03B-Q311-01	Date Analyzed:	10/03/11 15:13
Lab Samp ID:	1265-06R	Dilution Factor:	1
Lab File ID:	RJV013	Matrix :	WATER
Ext Btch ID:	V001J01	% Moisture :	NA
Calib. Ref.:	RIV507	Instrument ID :	T-001

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.4	10.00	104	70-140
4-BROMOFLUOROBENZENE	10.6	10.00	106	70-130
TOLUENE-D8	10.0	10.00	100	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/28/11
Project	: SEAL BEACH SITE 75	Date Received:	09/28/11
Batch No.	: 111265	Date Extracted:	10/03/11 15:40
Sample ID:	SB75MW01B-Q311-01	Date Analyzed:	10/03/11 15:40
Lab Samp ID:	I265-07R	Dilution Factor:	1
Lab File ID:	RJV014	Matrix :	WATER
Ext Btch ID:	V001J01	% Moisture :	NA
Calib. Ref.:	RIV507	Instrument ID :	T-001

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	170E	1.0	0.20
1,1-DICHLOROETHENE	380E	1.0	0.20
1,2-DICHLOROETHANE	1.2	1.0	0.20
CIS-1,2-DICHLOROETHENE	2.6	1.0	0.20
TETRACHLOROETHENE	62	1.0	0.20
TRICHLOROETHENE	340E	1.0	0.20
VINYL CHLORIDE	2.0	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.5	10.00	105	70-140
4-BROMOFLUOROBENZENE	10.7	10.00	107	70-130
TOLUENE-D8	9.95	10.00	99.5	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/28/11
Project	: SEAL BEACH SITE 75	Date Received:	09/28/11
Batch No.	: 111265	Date Extracted:	10/03/11 16:08
Sample ID:	SB75MW01B-Q311-01DL	Date Analyzed:	10/03/11 16:08
Lab Samp ID:	I265-07T	Dilution Factor:	25
Lab File ID:	RJV015	Matrix :	WATER
Ext Btch ID:	V001J01	% Moisture :	NA
Calib. Ref.:	RIV507	Instrument ID :	T-001

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	25	5.0
1,1-DICHLOROETHANE	190	25	5.0
1,1-DICHLOROETHENE	470	25	5.0
1,2-DICHLOROETHANE	ND	25	5.0
CIS-1,2-DICHLOROETHENE	ND	25	5.0
TETRACHLOROETHENE	61	25	5.0
TRICHLOROETHENE	400	25	5.0
VINYL CHLORIDE	ND	25	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	258	250.0	103	70-140
4-BROMOFLUOROBENZENE	264	250.0	106	70-130
TOLUENE-D8	258	250.0	103	70-140

QC SUMMARIES

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	NA
Project	: SEAL BEACH SITE 75	Date Received:	10/03/11
Batch No.	: 111265	Date Extracted:	10/03/11 12:22
Sample ID:	MBLK1W	Date Analyzed:	10/03/11 12:22
Lab Samp ID:	V001J01B	Dilution Factor:	1
Lab File ID:	RJV007	Matrix :	WATER
Ext Btch ID:	V001J01	% Moisture :	NA
Calib. Ref.:	RIV507	Instrument ID :	T-001

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	9.60	10.00	96.0	70-140
4-BROMOFLUOROBENZENE	10.2	10.00	102	70-130
TOLUENE-D8	9.99	10.00	99.9	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 111265
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	V001J01B	V001J01L	V001J01C		
LAB FILE ID:	RJV007	RJV004	RJV005		
DATE EXTRACTED:	10/03/1112:22	10/03/1110:57	10/03/1111:26	DATE COLLECTED:	NA
DATE ANALYZED:	10/03/1112:22	10/03/1110:57	10/03/1111:26	DATE RECEIVED:	10/03/11
PREP. BATCH:	V001J01	V001J01	V001J01		
CALIB. REF:	RIV507	RIV507	RIV507		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	9.83	98	10.0	9.62	96	2	70-130	30
1,1-Dichloroethane	ND	10.0	9.73	97	10.0	9.37	94	4	70-130	30
1,1-Dichloroethene	ND	10.0	9.57	96	10.0	9.38	94	2	60-130	30
1,2-Dichloroethane	ND	10.0	9.21	92	10.0	8.94	89	3	70-130	30
cis-1,2-Dichloroethene	ND	10.0	9.36	94	10.0	9.55	95	2	70-130	30
Tetrachloroethene	ND	10.0	9.80	98	10.0	9.70	97	1	70-130	30
Trichloroethene	ND	10.0	9.72	97	10.0	9.54	95	2	70-130	30
Vinyl Chloride	ND	10.0	9.24	92	10.0	8.94	89	3	60-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	9.45	95	10.0	9.48	95	70-140
4-Bromofluorobenzene	10.0	9.65	96	10.0	9.60	96	70-130
Toluene-d8	10.0	10.0	100	10.0	9.53	95	70-130

INITIAL CALIBRATION(S)

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RIV501
Instrument ID: TO01
GC Column:RTX502.2ID:0.32mm (mm)

Contract: SEAL BEACH SITE 75
SAS No.: SDG No.: 11I265
BFB Injection Date : 09/23/11
BFB Injection Time : 11:05
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.37
75	30.0 - 60.0% of mass 95	52.73
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.71
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	68.92
175	5.0 - 9.0% of mass 174	5.01(7.3)1
176	95.0 - 101.0% of mass 174	66.25(96.1)1
177	5.0 - 9.0% of mass 176	4.47(6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD0.3	VO01I231	RIV502	09/23/11	11:36
2	VSTD0.5	VO01I232	RIV503	09/23/11	12:05
3	VSTD01	VO01I233	RIV504	09/23/11	12:33
4	VSTD02	VO01I234	RIV505	09/23/11	13:01
5	VSTD05	VO01I235	RIV506	09/23/11	13:30
6	VSTD010	VO01I236	RIV507	09/23/11	13:58
7	VSTD020	VO01I237	RIV508	09/23/11	14:26
8	VSTD030	VO01I238	RIV509	09/23/11	14:55
9	VSTD050	VO01I239	RIV510	09/23/11	15:23
10	VSTD100	VO01I2310	RIV511	09/23/11	15:52

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :T001
Beginning DateTime :09/23/11 11:36
Spike Units :PPB
IC File :RIV507

Column Spec :RTX502.2 ID :0.32MM
Ending DateTime :09/23/11 15:52
HPChem Method :V001I23

M	IDX	Parameters	.3 11:36 RIV502	.5 12:05 RIV503	1 12:33 RIV504	2 13:01 RIV505	5 13:30 RIV506	10 13:58 RIV507	20 14:26 RIV508	30 14:55 RIV509	50 15:23 RIV510	100 15:52 RIV511	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	7.7813
	2	Dichlorodifluoromethane	------	0.293	0.332	0.329	0.342	0.316	0.319	0.285	0.284	0.284	0.310	7.41	2.1409
	3	Chloromethane	0.324	0.414	0.465	0.422	0.437	0.434	0.448	0.415	0.408	0.405	0.417	9.06	2.3451
	4	Vinyl chloride	------	0.367	0.435	0.414	0.437	0.425	0.440	0.401	0.419	0.397	0.415	5.64	2.5174
	5	Bromomethane	0.154	0.210	0.238	0.234	0.232	0.226	0.226	0.202	0.188	0.178	0.209	13.50	2.8941
	6	Chloroethane	0.157	0.228	0.245	0.244	0.253	0.245	0.250	0.224	0.226	0.198	0.227	13.03	3.0110
	7	Dichlorofluoromethane	0.594	0.578	0.633	0.572	0.580	0.560	0.558	0.524	0.520	0.480	0.560	7.67	3.3010
	8	Trichlorofluoromethane	------	0.381	0.463	0.448	0.471	0.441	0.458	0.412	0.406	0.387	0.430	7.87	3.3707
5	9	Acrolein	------	------	------	0.017	0.017	0.016	0.018	0.016	0.017	0.017	0.017	4.88	3.7950
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	0.199	0.184	0.196	0.186	0.185	0.184	0.188	0.178	0.185	0.184	0.187	3.25	3.9742
5	11	Acetone	------	------	------	0.047	0.041	0.039	0.042	0.036	0.037	0.036	0.040	10.46	3.9556
	12	1,1-Dichloroethene	0.597	0.585	0.642	0.571	0.573	0.542	0.546	0.506	0.516	0.475	0.555	8.78	3.9402
	13	Iodomethane	0.449	0.434	0.478	0.437	0.453	0.445	0.460	0.452	0.470	0.478	0.456	3.45	4.1162
	14	Carbon disulfide	------	0.883	0.975	0.960	0.973	0.963	0.963	1.030	1.060	------	0.976	5.39	4.2346
	15	Methylene chloride	0.634	0.524	0.541	0.495	0.470	0.437	0.454	0.432	0.454	0.460	0.490	12.63	4.5113
5	16	tert-Butyl alcohol	------	------	------	0.010	0.010	0.009	0.013	0.013	0.014	0.013	0.012	17.04	4.6404
5	17	Acrylonitrile	0.053	0.049	0.053	0.049	0.052	0.048	0.056	0.051	0.056	0.058	0.052	6.41	4.7688
	18	tert-Butyl methyl ether (MTBE)	0.579	0.572	0.648	0.582	0.586	0.564	0.617	0.545	0.567	0.591	0.585	4.97	4.8398
	19	trans-1,2-Dichloroethene	0.608	0.575	0.642	0.583	0.594	0.580	0.583	0.553	0.565	0.569	0.585	4.27	4.8457
	20	Vinyl acetate	0.351	0.376	0.551	0.477	0.512	0.460	0.541	0.499	0.540	0.545	0.485	14.66	5.3532
	21	1,1-Dichloroethane	0.711	0.735	0.776	0.698	0.708	0.689	0.707	0.671	0.694	0.725	0.711	4.05	5.3710
	22	Isopropyl ether (DIPE)	1.230	1.151	1.321	1.216	1.242	1.206	1.295	1.232	1.262	------	1.239	4.03	5.4125
5	23	2-Butanol	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	24	tert-Butyl ethyl ether (ETBE)	1.093	0.990	1.044	0.949	0.944	0.908	0.956	0.864	0.886	0.932	0.957	7.34	5.8651
5	25	2-Butanone	0.076	0.067	0.074	0.066	0.070	0.067	0.076	0.068	0.073	0.081	0.072	6.87	6.0486
	26	cis-1,2-Dichloroethene	0.351	0.326	0.364	0.332	0.342	0.327	0.345	0.334	0.342	0.357	0.342	3.69	6.0782
	27	2,2-Dichloropropane	0.537	0.486	0.540	0.477	0.486	0.463	0.454	0.418	0.402	0.410	0.467	10.36	6.1019
	28	Bromochloromethane	0.290	0.284	0.319	0.294	0.301	0.287	0.303	0.274	0.292	0.301	0.294	4.20	6.3801
	29	Chloroform	0.659	0.637	0.699	0.641	0.662	0.641	0.647	0.601	0.620	0.652	0.646	4.03	6.5058
	30	Dibromofluoromethane	------	------	------	------	0.312	0.277	0.302	0.280	0.283	0.293	0.291	4.71	6.7142
	31	1,1,1-Trichloroethane	0.468	0.471	0.512	0.474	0.499	0.488	0.476	0.445	0.435	0.464	0.473	4.88	6.7470
	32	tert-Amyl methyl ether (TAME)	0.145	0.135	0.148	0.136	0.144	0.140	0.148	0.134	0.139	0.144	0.141	3.82	7.3877
	33	1,2-Dichloroethane-d4	------	------	------	------	0.367	0.320	0.345	0.300	0.301	0.310	0.324	8.26	7.1729
	34	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	12.3282
	35	1,1-Dichloropropene	0.187	0.194	0.202	0.183	0.186	0.187	0.194	0.191	0.197	0.221	0.194	5.72	6.9512
	36	Carbon tetrachloride	0.449	0.481	0.511	0.467	0.481	0.484	0.475	0.454	0.461	0.517	0.478	4.68	6.9616
	37	Benzene	1.571	1.528	1.638	1.466	1.509	1.477	1.588	1.562	1.650	------	1.554	4.21	7.2161
	38	1,2-Dichloroethane	0.467	0.495	0.535	0.484	0.499	0.476	0.486	0.435	0.440	0.505	0.482	6.26	7.2752
	39	Trichloroethene	0.438	0.416	0.461	0.401	0.415	0.419	0.433	0.427	0.445	0.510	0.436	7.06	8.1260
	40	1,2-Dichloropropane	0.442	0.426	0.442	0.411	0.413	0.414	0.437	0.426	0.445	0.499	0.436	5.87	8.4945
20	41	1,4-Dioxane	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	42	Dibromomethane	0.141	0.154	0.169	0.147	0.150	0.147	0.159	0.148	0.156	0.179	0.155	7.42	8.6202
	43	Bromodichloromethane	0.499	0.487	0.549	0.495	0.503	0.503	0.526	0.488	0.508	0.584	0.514	6.01	8.8717
	44	2-Chloroethyl vinyl ether	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	45	cis-1,3-Dichloropropene	0.604	0.583	0.624	0.577	0.606	0.603	0.632	0.605	0.635	0.728	0.620	6.85	9.5317
	46	4-Methyl-2-pentanone	0.202	0.194	0.199	0.180	0.189	0.184	0.215	0.195	0.213	------	0.197	6.14	9.7462
	47	Toluene-d8	------	------	------	------	1.400	1.303	1.433	1.359	1.430	------	1.385	3.94	9.9667
	48	Toluene	1.617	1.558	1.695	1.522	1.575	1.585	1.622	1.597	1.670	------	1.605	3.37	10.0717

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49	Ethyl methacrylate	0.225	0.241	0.270	0.254	0.282	0.289	0.332	0.312	0.337	------	0.282	13.97	10.5140
50	trans-1,3-Dichloropropene	0.447	0.445	0.509	0.461	0.487	0.484	0.510	0.470	0.490	0.556	0.486	6.93	10.4268
51	1,1,2-Trichloroethane	0.217	0.204	0.230	0.217	0.222	0.216	0.230	0.211	0.226	0.255	0.223	6.32	10.7553
52	Tetrachloroethene	0.317	0.315	0.332	0.316	0.325	0.328	0.337	0.329	0.337	0.382	0.332	5.84	10.9181
53	1,3-Dichloropropane	0.426	0.455	0.461	0.438	0.451	0.442	0.474	0.441	0.457	0.523	0.457	5.86	11.0261
5 54	2-Hexanone	0.134	0.129	0.133	0.121	0.129	0.125	0.146	0.131	0.144	0.169	0.136	10.28	11.0971
55	Dibromochloromethane	0.242	0.242	0.280	0.252	0.274	0.273	0.292	0.269	0.279	0.318	0.272	8.54	11.3945
56	1,2-Dibromoethane	0.185	0.187	0.206	0.190	0.200	0.198	0.214	0.196	0.208	0.234	0.202	7.29	11.6046
57	1-Chlorohexane	0.690	0.615	0.658	0.635	0.661	0.681	0.696	0.671	0.668	0.735	0.671	4.96	12.3459
58	Chlorobenzene	0.981	0.972	1.051	0.999	0.991	1.007	1.041	0.983	0.999	------	1.003	2.68	12.3717
59	1,1,1,2-Tetrachloroethane	0.322	0.316	0.349	0.319	0.336	0.328	0.342	0.315	0.322	0.342	0.329	3.75	12.4998
60	Ethylbenzene	1.828	1.827	1.929	1.813	1.893	1.894	1.928	1.861	1.761	------	1.859	3.06	12.5115
2 61	m-Xylene & p-Xylene	1.421	1.369	1.463	1.394	1.440	1.467	1.480	1.398	------	------	1.429	2.79	12.6918
62	o-Xylene	1.394	1.342	1.491	1.389	1.462	1.469	1.475	1.393	1.381	------	1.422	3.70	13.1937
63	Styrene	0.816	0.810	0.913	0.912	1.029	1.074	1.105	1.044	1.048	0.997	0.975	10.84	13.2218
64	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	15.4250
65	Bromoform	0.290	0.296	0.334	0.309	0.330	0.330	0.359	0.353	0.374	0.457	0.343	14.06	13.4482
66	Isopropylbenzene	4.788	4.419	4.622	4.350	4.498	4.501	4.549	4.663	4.365	------	4.528	3.19	13.6442
67	4-Bromofluorobenzene	------	------	------	------	1.233	1.114	1.210	1.192	1.222	1.400	1.229	7.64	13.8534
68	1,1,2,2-Tetrachloroethane	0.642	0.664	0.704	0.600	0.641	0.607	0.671	0.653	0.680	0.790	0.665	8.11	13.9927
69	Bromobenzene	0.888	0.895	0.927	0.835	0.857	0.861	0.889	0.901	0.938	1.086	0.908	7.72	14.0194
70	trans-1,4-Dichloro-2-butene	------	0.155	0.169	0.158	0.174	0.173	0.186	0.175	0.182	0.214	0.176	9.82	14.0322
71	1,2,3-Trichloropropane	0.186	0.202	0.200	0.169	0.173	0.168	0.181	0.171	0.177	0.208	0.184	8.15	14.0593
72	n-Propylbenzene	5.482	5.140	5.455	5.320	5.518	5.614	5.627	5.719	------	------	5.484	3.38	14.1233
73	1,3,5-Trimethylbenzene	3.402	3.244	3.505	3.370	3.471	3.541	3.545	3.545	3.445	2.903	3.397	5.83	14.3182
74	2-Chlorotoluene	3.287	3.150	3.199	2.960	3.087	3.075	3.070	3.114	3.143	------	3.121	2.93	14.2212
75	4-Chlorotoluene	3.632	3.509	3.676	3.388	3.556	3.542	3.550	3.503	3.563	------	3.547	2.29	14.3495
76	tert-Butylbenzene	0.741	0.736	0.805	0.773	0.812	0.824	0.818	0.821	0.816	0.923	0.807	6.49	14.6571
77	1,2,4-Trimethylbenzene	3.551	3.166	3.569	3.443	3.543	3.603	3.586	3.558	3.543	------	3.507	3.86	14.7079
78	sec-Butylbenzene	4.564	4.200	4.562	4.585	4.841	4.868	4.848	4.886	4.348	------	4.634	5.34	14.8789
79	p-Isopropyltoluene	3.436	3.158	3.486	3.628	3.884	3.930	3.941	3.862	3.662	------	3.665	7.32	15.0285
80	1,3-Dichlorobenzene	1.832	1.785	1.897	1.797	1.862	1.855	1.919	1.870	1.888	2.047	1.875	3.92	15.0018
81	1,4-Dichlorobenzene	1.745	1.623	1.805	1.728	1.798	1.806	1.864	1.799	1.838	2.039	1.804	5.91	15.1054
82	n-Butylbenzene	3.205	2.895	3.197	3.329	3.651	3.781	3.765	3.642	3.605	------	3.452	8.91	15.4099
83	1,2-Dichlorobenzene	1.561	1.477	1.589	1.495	1.537	1.527	1.583	1.516	1.545	1.691	1.552	3.90	15.4428
84	1,2-Dibromo-3-chloropropane	------	0.063	0.079	0.074	0.080	0.078	0.091	0.083	0.091	0.097	0.082	12.49	16.1809
85	1,2,4-Trichlorobenzene	0.671	0.632	0.749	0.802	0.879	0.904	0.936	0.838	0.904	0.871	0.819	12.67	16.9697
86	Hexachlorobutadiene	0.486	0.431	0.488	0.537	0.584	0.608	0.587	0.522	0.558	0.573	0.537	10.38	17.0970
87	Naphthalene	------	0.757	0.865	0.855	0.988	1.082	1.197	------	------	------	0.957	17.04	17.2468
88	1,2,3-Trichlorobenzene	0.465	0.482	0.561	0.577	0.650	0.664	0.691	0.611	0.684	0.645	0.603	13.34	17.4713

Spike Amount = Nominal Amount * M
Ave_%RSD : 7 Max_%RSD : 17

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
16	tert-Butyl alcohol	-0.00707	0.01359	0.9969
87	Naphthalene	-0.03100	1.15617	0.9974

SG 9/27/11

2918

SECOND SOURCE VERIFICATION

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RIV528
Instrument ID: T001
GC Column:RTX502.2ID:0.32mm (mm)

Contract: SEAL BEACH SITE 75
SAS No.: SDG No.: 111265
BFB Injection Date : 09/26/11
BFB Injection Time : 07:27
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.53
75	30.0 - 60.0% of mass 95	52.53
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.96
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	85.40
175	5.0 - 9.0% of mass 174	5.69(6.7)1
176	95.0 - 101.0% of mass 174	81.54(95.5)1
177	5.0 - 9.0% of mass 176	5.68(7.0)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	IV0011232	RIV529	09/26/11	07:53

FORM V VOA OLM02.0

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :T001
IC_Beginning DateTime :09/23/11 11:36
Spike Amount :10 PPB
CC/CV File :RIV529
IC File :RIV507

Column Spec :RTX502.2 ID :0.32MM
IC_Ending DateTime :09/23/11 15:52
HPChem Method :V001123
Date_Time :09/26/11 07:53

M	IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AvRRF	CC_Rtm	AvRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	10.000	0	1892007	1	1	7.786	7.781	0				
	2	Dichlorodifluoromethane	10.564	5.6	618650	0.327	0.310	2.133	2.141	7.41				
	3	Chloromethane	10.262	2.6	810254	0.428	0.417	2.341	2.345	9.06				
	4	Vinyl chloride	10.279	2.8	807361	0.427	0.415	2.518	2.517	5.64				
	5	Bromomethane	11.190	11.9	442494	0.234	0.209	2.888	2.894	13.50				
	6	Chloroethane	11.058	10.6	475058	0.251	0.227	3.006	3.011	13.03				
	7	Dichlorofluoromethane	10.200	2.0	1080494	0.571	0.560	3.302	3.301	7.67				
	8	Trichlorofluoromethane	10.793	7.9	877274	0.464	0.430	3.376	3.371	7.87				
5	9	Acrolein	40.819	-18.4	131620	0.014	0.017	3.790	3.795	4.88				
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	10.491	4.9	371218	0.196	0.187	3.983	3.974	3.25				
5	11	Acetone	50.776	1.6	381913	0.040	0.040	3.953	3.956	10.46				
	12	1,1-Dichloroethene	9.879	-1.2	1038308	0.549	0.555	3.938	3.940	8.78				
	13	Iodomethane	10.098	1.0	870603	0.460	0.456	4.116	4.116	3.45				
	14	Carbon disulfide	9.989	-0.1	1844504	0.975	0.976	4.220	4.235	5.39				
	15	Methylene chloride	8.834	-11.7	819310	0.433	0.490	4.516	4.511	12.63				
5	16	tert-Butyl alcohol	42.045	-15.9	94766	0.010	0.012	4.663	4.640	17.04	-0.0071	0.0136		0.9969
5	17	Acrylonitrile	46.649	-6.7	462178	0.049	0.052	4.767	4.769	6.41				
	18	tert-Butyl methyl ether (MTBE)	9.439	-5.6	1044967	0.552	0.585	4.841	4.840	4.97				
	19	trans-1,2-Dichloroethene	9.920	-0.8	1098627	0.581	0.585	4.856	4.846	4.27				
	20	Vinyl acetate	10.814	8.1	992758	0.525	0.485	5.359	5.353	14.66				
	21	1,1-Dichloroethane	9.763	-2.4	1314040	0.695	0.711	5.374	5.371	4.05				
	22	Isopropyl ether (DIPE)	9.453	-5.5	2216848	1.172	1.239	5.418	5.412	4.03				
5	23	2-Butanol												
	24	tert-Butyl ethyl ether (ETBE)	9.137	-8.6	1653667	0.874	0.957	5.862	5.865	7.34				
5	25	2-Butanone	45.152	-9.7	613358	0.065	0.072	6.054	6.049	6.87				
	26	cis-1,2-Dichloroethene	9.726	-2.7	629293	0.333	0.342	6.084	6.078	3.69				
	27	2,2-Dichloropropane	10.945	9.4	968049	0.512	0.467	6.099	6.102	10.36				
	28	Bromochloromethane	9.348	-6.5	520895	0.275	0.294	6.380	6.380	4.20				
	29	Chloroform	9.925	-0.7	1213100	0.641	0.646	6.513	6.506	4.03				
	30	Dibromofluoromethane	9.769	-2.3	538171	0.284	0.291	6.720	6.714	4.71				
	31	1,1,1-Trichloroethane	10.346	3.5	926354	0.490	0.473	6.750	6.747	4.88				
	32	tert-Amyl methyl ether (TAME)	9.541	-4.6	255057	0.135	0.141	7.386	7.388	3.82				
	33	1,2-Dichloroethane-d4	9.823	-1.8	602332	0.318	0.324	7.179	7.173	8.26				
	34	CHLOROBENZENE-D5	10.000	0	1607894	1	1	12.328	12.328	0				
	35	1,1-Dichloropropene	10.292	2.9	321257	0.200	0.194	6.957	6.951	5.72				
	36	Carbon tetrachloride	10.478	4.8	805211	0.501	0.478	6.972	6.962	4.68				
	37	Benzene	10.130	1.3	2531952	1.575	1.554	7.223	7.216	4.21				
	38	1,2-Dichloroethane	9.524	-4.8	738393	0.459	0.482	7.282	7.275	6.26				
	39	Trichloroethene	9.928	-0.7	696716	0.433	0.436	8.126	8.126	7.06				
	40	1,2-Dichloropropane	9.759	-2.4	683443	0.425	0.436	8.496	8.495	5.87				
20	41	1,4-Dioxane												
	42	Dibromomethane	9.596	-4.0	238992	0.149	0.155	8.629	8.620	7.42				
	43	Bromodichloromethane	9.858	-1.4	814913	0.507	0.514	8.880	8.872	6.01				
	44	2-Chloroethyl vinyl ether												
	45	cis-1,3-Dichloropropene	10.080	0.8	1004076	0.624	0.620	9.531	9.532	6.85				
5	46	4-Methyl-2-pentanone	46.149	-7.7	1458849	0.181	0.197	9.739	9.746	6.14				
	47	Toluene-d8	9.946	-0.5	2215034	1.378	1.385	9.960	9.967	3.94				
	48	Toluene	10.136	1.4	2615366	1.627	1.605	10.079	10.072	3.37				
	49	Ethyl methacrylate	10.049	0.5	456278	0.284	0.282	10.508	10.514	13.97				
	50	trans-1,3-Dichloropropene	10.071	0.7	786659	0.489	0.486	10.434	10.427	6.93				
	51	1,1,2-Trichloroethane	9.737	-2.6	349100	0.217	0.223	10.759	10.755	6.32				
	52	Tetrachloroethene	10.330	3.3	550971	0.343	0.332	10.922	10.918	5.84				
	53	1,3-Dichloropropane	9.860	-1.4	724041	0.450	0.457	11.026	11.026	5.86				
5	54	2-Hexanone	44.414	-11.2	972015	0.121	0.136	11.100	11.097	10.28				
	55	Dibromochloromethane	10.114	1.1	442412	0.275	0.272	11.396	11.394	8.54				
	56	1,2-Dibromoethane	9.752	-2.5	316249	0.197	0.202	11.603	11.605	7.29				
	57	1-Chlorohexane	10.616	6.2	1145235	0.712	0.671	12.343	12.346	4.96				
	58	Chlorobenzene	10.010	0.1	1613880	1.004	1.003	12.372	12.372	2.68				
	59	1,1,1,2-Tetrachloroethane	10.105	1.0	534869	0.333	0.329	12.505	12.500	3.75				

SW
9/27/11

2021

60	Ethylbenzene	10.657	6.6	3186164	1.982	1.859	12.520	12.512	3.06				
2 61	m-Xylene & p-Xylene	20.743	3.7	4765593	1.482	1.429	12.698	12.692	2.79				
62	o-Xylene	10.268	2.7	2347619	1.460	1.422	13.201	13.194	3.70				
63	Styrene	10.603	6.0	1662000	1.034	0.975	13.216	13.222	10.84				
64	1,2-DICHLOROBENZENE-D4	10.000	0	654534	1	1	15.420	15.425	0				
65	Bromoform	9.767	-2.3	219428	0.335	0.343	13.452	13.448	14.06				
66	Isopropylbenzene	10.278	2.8	3046528	4.654	4.528	13.645	13.644	3.19				
67	4-Bromofluorobenzene	9.721	-2.8	781793	1.194	1.229	13.852	13.853	7.64				
68	1,1,2,2-Tetrachloroethane	9.649	-3.5	420204	0.642	0.665	13.985	13.993	8.11				
69	Bromobenzene	9.830	-1.7	584142	0.892	0.908	14.015	14.019	7.72				
70	trans-1,4-Dichloro-2-butene	9.526	-4.7	109894	0.168	0.176	14.030	14.032	9.82				
71	1,2,3-Trichloropropane	9.156	-8.4	109978	0.168	0.184	14.059	14.059	8.15				
72	n-Propylbenzene	10.628	6.3	3815312	5.829	5.484	14.118	14.123	3.38				
73	1,3,5-Trimethylbenzene	10.634	6.3	2364591	3.613	3.397	14.325	14.318	5.83				
74	2-Chlorotoluene	10.138	1.4	2070771	3.164	3.121	14.222	14.221	2.93				
75	4-Chlorotoluene	10.137	1.4	2353164	3.595	3.547	14.355	14.349	2.29				
76	tert-Butylbenzene	10.433	4.3	551043	0.842	0.807	14.651	14.657	6.49				
77	1,2,4-Trimethylbenzene	10.269	2.7	2357196	3.601	3.507	14.710	14.708	3.86				
78	sec-Butylbenzene	10.849	8.5	3290365	5.027	4.634	14.873	14.879	5.34				
79	p-Isopropyltoluene	10.737	7.4	2575798	3.935	3.665	15.021	15.028	7.32				
80	1,3-Dichlorobenzene	9.998	-0.0	1227226	1.875	1.875	15.006	15.002	3.92				
81	1,4-Dichlorobenzene	10.173	1.7	1201543	1.836	1.804	15.110	15.105	5.91				
82	n-Butylbenzene	11.134	11.3	2515956	3.844	3.452	15.406	15.410	8.91				
83	1,2-Dichlorobenzene	9.884	-1.2	1004183	1.534	1.552	15.435	15.443	3.90				
84	1,2-Dibromo-3-chloropropane	9.723	-2.8	52079	0.080	0.082	16.190	16.181	12.49				
85	1,2,4-Trichlorobenzene	10.486	4.9	561860	0.858	0.819	16.974	16.970	12.67				
86	Hexachlorobutadiene	11.217	12.2	394553	0.603	0.537	17.092	17.097	10.38				
87	Naphthalene	8.293	-17.1	607329	0.928	0.957	17.240	17.247	17.04	-0.0310	1.1562		0.9974
88	1,2,3-Trichlorobenzene	10.373	3.7	409261	0.625	0.603	17.462	17.471	13.34				

Spike Amount = Nominal Amount * M

3cc

9/27/11

2022

DAILY CALIBRATION(S)

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RJV001
Instrument ID: T001
GC Column:RTX502.2ID:0.32mm (mm)

Contract: SEAL BEACH SITE 75
SAS No.: SDG No.: 11I265
BFB Injection Date : 10/03/11
BFB Injection Time : 09:20
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	25.56
75	30.0 - 60.0% of mass 95	55.45
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.39
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	66.73
175	5.0 - 9.0% of mass 174	5.15(7.7)1
176	95.0 - 101.0% of mass 174	65.55(98.2)1
177	5.0 - 9.0% of mass 176	4.71(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:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CV001I2312	RJV003	10/03/11	10:29
2	MBLK1W	V001J01B	RJV007	10/03/11	12:22
3	LCS1W	V001J01L	RJV004	10/03/11	10:57
4	LCD1W	V001J01C	RJV005	10/03/11	11:26
5	SB75MW02C-Q311-02	I265-01R	RJV008	10/03/11	12:51
6	SB75MW02C-Q311-01	I265-02R	RJV009	10/03/11	13:19
7	SB75MW02A-Q311-01	I265-03R	RJV010	10/03/11	13:47
8	SB75MW03A-Q311-01	I265-04R	RJV011	10/03/11	14:16
9	SB75MW03A-Q311-02	I265-05R	RJV012	10/03/11	14:45
10	SB75MW03B-Q311-01	I265-06R	RJV013	10/03/11	15:13
11	SB75MW01B-Q311-01	I265-07R	RJV014	10/03/11	15:40
12	SB75MW01B-Q311-01DL	I265-07T	RJV015	10/03/11	16:08

FORM V VOA OLM02.0

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RIV507
Instrument ID: T001
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: SEAL BEACH SITE 75
SDG No.: 111265
Date Analyzed: 09/23/11
Time Analyzed: 13:58
Heated Purge: (Y/N) N

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1847354	7.78	1625800	12.34	683953	15.43
	UPPER LIMIT	3694708	8.28	3251600	12.84	1367906	15.93
	LOWER LIMIT	923677	7.28	812900	11.84	341977	14.93
	SAMPLE ID						
1	VSTD010	1705609	7.78	1447887	12.32	579713	15.43
2	MBLK1W	1801444	7.78	1489261	12.33	527075	15.42
3	LCS1W	1787458	7.78	1501966	12.32	596119	15.43
4	LCD1W	1874470	7.78	1618398	12.33	640443	15.42
5	SB75MW02C-Q311-02	1635155	7.78	1357725	12.34	488429	15.43
6	SB75MW02C-Q311-01	1548919	7.79	1279931	12.34	465829	15.43
7	SB75MW02A-Q311-01	1590979	7.78	1337128	12.34	473817	15.43
8	SB75MW03A-Q311-01	1552818	7.78	1271901	12.34	453827	15.43
9	SB75MW03A-Q311-02	1547205	7.78	1307437	12.34	459269	15.43
10	SB75MW03B-Q311-01	1524405	7.78	1265365	12.34	435196	15.43
11	SB75MW01B-Q311-01	1526507	7.79	1281909	12.34	431559	15.43
12	SB75MW01B-Q311-01DL	1489586	7.78	1207651	12.33	419499	15.43

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJV003.D
Acq On : 3 Oct 2011 10:29 am
Sample : CV001I2312
Misc : 10.0ppb 8260/50ppb TBA-KET-AA
MS Integration Params: 524C.P

Vial: 3
Operator: DN
Inst : TO01
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO01I23.M (RTE Integrator)
Title : METHOD 8260 25mls
Last Update : Mon Sep 26 13:22:55 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	92	0.00
2	T,M	Dichlorodifluoromethane	10.000	8.513	14.9	77	0.00
3	P,T,M	Chloromethane	10.000	8.551	14.5	76	0.00
4	C,T,M	Vinyl chloride	10.000	9.460	5.4	85	-0.01
5	T,M	Bromomethane	10.000	10.380	-3.8	88	0.00
6	T,M	Chloroethane	10.000	10.507	-5.1	90	0.00
7	T,M	Dichlorofluoromethane	10.000	10.197	-2.0	94	-0.01
8	T,M	Trichlorofluoromethane	10.000	9.419	5.8	85	0.00
9	T,M	Acrolein	50.000	28.270	43.5#	54	0.00
10	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	10.035	-0.4	94	0.00
11	T,M	Acetone	50.000	50.670	-1.3	95	0.00
12	C,T,M	1,1-Dichloroethene	10.000	9.411	5.9	89	-0.01
13	T,M	Iodomethane	10.000	9.496	5.0	90	-0.01
14	T,M	Carbon disulfide	10.000	9.088	9.1	85	-0.03
15	T,M	Methylene chloride	10.000	8.719	12.8	90	0.00
16	T,M	tert-Butyl alcohol	50.000	41.798	16.4	104	0.00
17	T,M	Acrylonitrile	50.000	43.656	12.7	88	-0.01
18	T,M	tert-Butyl methyl ether (MT	10.000	9.201	8.0	88	-0.01
19	T,M	trans-1,2-Dichloroethene	10.000	9.559	4.4	89	0.00
20	T,M	Vinyl acetate	10.000	9.492	5.1	92	0.00
21	P,T,M	1,1-Dichloroethane	10.000	9.696	3.0	92	-0.01
22	T,M	Isopropyl ether (DIPE)	10.000	9.045	9.6	86	0.00
23	T,M	2-Butanol	-1.000	0.000	0.0	86	0.00
24	T,M	tert-Butyl ethyl ether (ETB	10.000	8.767	12.3	85	0.00
25	T,M	2-Butanone	50.000	42.877	14.2	85	0.00
26	T,M	cis-1,2-Dichloroethene	10.000	9.325	6.8	90	0.00
27	T,M	2,2-Dichloropropane	10.000	10.933	-9.3	102	-0.01
28	T,M	Bromochloromethane	10.000	9.245	7.6	88	-0.01
29	C,T,M	Chloroform	10.000	9.620	3.8	89	0.00
30	S	Dibromofluoromethane	10.000	9.865	1.3	96	0.00
31	T,M	1,1,1-Trichloroethane	10.000	10.416	-4.2	93	0.00
32	T,M	tert-Amyl methyl ether (TAM	10.000	9.401	6.0	88	-0.01
33	S	1,2-Dichloroethane-d4	10.000	9.775	2.2	91	0.00
34	I	CHLOROBENZENE-D5	10.000	10.000	0.0	89	-0.01
35	T,M	1,1-Dichloropropene	10.000	9.843	1.6	91	0.00
36	T,M	Carbon tetrachloride	10.000	10.296	-3.0	91	-0.01
37	T,M	Benzene	10.000	9.644	3.6	90	0.00
38	T,M	1,2-Dichloroethane	10.000	9.424	5.8	85	0.00
39	T,M	Trichloroethene	10.000	9.679	3.2	90	-0.01
40	C,T,M	1,2-Dichloropropane	10.000	9.499	5.0	89	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJV003.D
Acq On : 3 Oct 2011 10:29 am
Sample : CV001I2312
Misc : 10.0ppb 8260/50ppb TBA-KET-AA
MS Integration Params: 524C.P

Vial: 3
Operator: DN
Inst : TO01
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO01I23.M (RTE Integrator)
Title : METHOD 8260 25mls
Last Update : Mon Sep 26 13:22:55 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
41	T,M	1,4-Dioxane	-1.000	0.000	0.0	0	0.00
42	T,M	Dibromomethane	10.000	9.407	5.9	88	0.00
43	T,M	Bromodichloromethane	10.000	9.577	4.2	87	0.00
44	T,M	2-Chloroethyl vinyl ether	-1.000	0.000	0.0	0	-0.01
45	T,M	cis-1,3-Dichloropropene	10.000	9.609	3.9	88	-0.01
46	T,M	4-Methyl-2-pentanone	50.000	42.763	14.5	81	0.00
47	S	Toluene-d8	10.000	9.763	2.4	92	-0.01
48	C,T,M	Toluene	10.000	9.738	2.6	88	0.00
49	T,M	Ethyl methacrylate	10.000	8.855	11.4	77	0.00
50	T,M	trans-1,3-Dichloropropene	10.000	9.598	4.0	86	0.00
51	T,M	1,1,2-Trichloroethane	10.000	9.434	5.7	87	0.00
52	T,M	Tetrachloroethene	10.000	9.993	0.1	90	0.00
53	T,M	1,3-Dichloropropane	10.000	9.384	6.2	86	-0.01
54	T,M	2-Hexanone	50.000	41.232	17.5	80	0.00
55	T,M	Dibromochloromethane	10.000	9.733	2.7	86	-0.01
56	T,M	1,2-Dibromoethane	10.000	9.426	5.7	85	-0.01
57	T,M	1-Chlorohexane	10.000	10.009	-0.1	88	-0.01
58	P,M	Chlorobenzene	10.000	9.506	4.9	84	-0.01
59	T,M	1,1,1,2-Tetrachloroethane	10.000	9.676	3.2	87	0.00
60	C,T,M	Ethylbenzene	10.000	10.018	-0.2	88	0.00
61	T,M	m-Xylene & p-Xylene	20.000	20.005	-0.0	87	0.00
62	T,M	o-Xylene	10.000	9.851	1.5	85	0.00
63	T,M	Styrene	10.000	9.580	4.2	77	0.00
64	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	85	0.00
65	P,T,M	Bromoform	10.000	9.688	3.1	86	0.00
66	T,M	Isopropylbenzene	10.000	9.995	0.1	85	-0.01
67	S	4-Bromofluorobenzene	10.000	9.715	2.9	91	0.00
68	P,T,M	1,1,2,2-Tetrachloroethane	10.000	9.248	7.5	86	0.00
69	T,M	Bromobenzene	10.000	9.371	6.3	84	-0.01
70	T,M	trans-1,4-Dichloro-2-butene	10.000	8.683	13.2	75	-0.01
71	T,M	1,2,3-Trichloropropane	10.000	8.809	11.9	82	0.00
72	T,M	n-Propylbenzene	10.000	10.153	-1.5	84	0.00
73	T,M	1,3,5-Trimethylbenzene	10.000	10.259	-2.6	83	0.00
74	T,M	2-Chlorotoluene	10.000	9.851	1.5	85	-0.01
75	T,M	4-Chlorotoluene	10.000	9.759	2.4	83	0.00
76	T,M	tert-Butylbenzene	10.000	10.195	-2.0	85	-0.01
77	T,M	1,2,4-Trimethylbenzene	10.000	9.959	0.4	82	0.00
78	T,M	sec-Butylbenzene	10.000	10.385	-3.8	84	0.00
79	T,M	p-Isopropyltoluene	10.000	10.454	-4.5	83	0.00
80	T,M	1,3-Dichlorobenzene	10.000	9.814	1.9	84	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJV003.D
Acq On : 3 Oct 2011 10:29 am
Sample : CV001I2312
Misc : 10.0ppb 8260/50ppb TBA-KET-AA
MS Integration Params: 524C.P

Vial: 3
Operator: DN
Inst : TO01
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO01I23.M (RTE Integrator)
Title : METHOD 8260 25mls
Last Update : Mon Sep 26 13:22:55 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	1,4-Dichlorobenzene	10.000	9.752	2.5	83	0.00
82	T,M	n-Butylbenzene	10.000	10.663	-6.6	83	-0.01
83	T,M	1,2-Dichlorobenzene	10.000	9.566	4.3	82	0.00
84	T,M	1,2-Dibromo-3-chloropropane	10.000	9.162	8.4	82	0.00
85	T,M	1,2,4-Trichlorobenzene	10.000	10.220	-2.2	78	0.00
86	T,M	Hexachlorobutadiene	10.000	10.953	-9.5	82	0.00
87	T,M	Naphthalene	10.000	9.019	9.8	79	0.00
88	T,M	1,2,3-Trichlorobenzene	10.000	10.140	-1.4	78	0.00

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJV003.D Vial: 3
Acq On : 3 Oct 2011 10:29 am Operator: DN
Sample : CVO01I2312 Inst : TO01
Misc : 10.0ppb 8260/50ppb TBA-KET-AA Multiplr: 1.00
MS Integration Params: 524C.P

Method : D:\HPCHEM\1\METHODS\VO01I23.M (RTE Integrator)
Title : METHOD 8260 25mls
Last Update : Mon Sep 26 13:22:55 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	92	0.00
2	T,M	Dichlorodifluoromethane	0.310	0.263	15.2	77	0.00
3	P,T,M	Chloromethane	0.417	0.357	14.4	76	0.00
4	C,T,M	Vinyl chloride	0.415	0.393	5.3	85	-0.01
5	T,M	Bromomethane	0.209	0.217	-3.8	88	0.00
6	T,M	Chloroethane	0.227	0.239	-5.3	90	0.00
7	T,M	Dichlorofluoromethane	0.560	0.571	-2.0	94	-0.01
8	T,M	Trichlorofluoromethane	0.430	0.405	5.8	85	0.00
9	T,M	Acrolein	0.017	0.010	41.2#	54	0.00
10	T,M	1,1,2-Trichloro-1,2,2-trifl	0.187	0.188	-0.5	94	0.00
11	T,M	Acetone	0.040	0.040	0.0	95	0.00
12	C,T,M	1,1-Dichloroethene	0.555	0.523	5.8	89	-0.01
13	T,M	Iodomethane	0.456	0.433	5.0	90	-0.01
14	T,M	Carbon disulfide	0.976	0.887	9.1	85	-0.03
15	T,M	Methylene chloride	0.490	0.427	12.9	90	0.00
16	T,M	tert-Butyl alcohol	0.012	0.010	16.7	104	0.00
17	T,M	Acrylonitrile	0.052	0.046	11.5	88	-0.01
18	T,M	tert-Butyl methyl ether (MT	0.585	0.538	8.0	88	-0.01
19	T,M	trans-1,2-Dichloroethene	0.585	0.559	4.4	89	0.00
20	T,M	Vinyl acetate	0.485	0.461	4.9	92	0.00
21	P,T,M	1,1-Dichloroethane	0.711	0.690	3.0	92	-0.01
22	T,M	Isopropyl ether (DIPE)	1.239	1.121	9.5	86	0.00
23	T,M	2-Butanol	0.000	0.000	0.0	86	0.00
24	T,M	tert-Butyl ethyl ether (ETB	0.957	0.839	12.3	85	0.00
25	T,M	2-Butanone	0.072	0.062	13.9	85	0.00
26	T,M	cis-1,2-Dichloroethene	0.342	0.319	6.7	90	0.00
27	T,M	2,2-Dichloropropane	0.467	0.511	-9.4	102	-0.01
28	T,M	Bromochloromethane	0.294	0.272	7.5	88	-0.01
29	C,T,M	Chloroform	0.646	0.621	3.9	89	0.00
30	S	Dibromofluoromethane	0.291	0.287	1.4	96	0.00
31	T,M	1,1,1-Trichloroethane	0.473	0.493	-4.2	93	0.00
32	T,M	tert-Amyl methyl ether (TAM	0.141	0.133	5.7	88	-0.01
33	S	1,2-Dichloroethane-d4	0.324	0.317	2.2	91	0.00
34	I	CHLOROBENZENE-D5	1.000	1.000	0.0	89	-0.01
35	T,M	1,1-Dichloropropene	0.194	0.191	1.5	91	0.00
36	T,M	Carbon tetrachloride	0.478	0.492	-2.9	91	-0.01
37	T,M	Benzene	1.554	1.499	3.5	90	0.00
38	T,M	1,2-Dichloroethane	0.482	0.454	5.8	85	0.00
39	T,M	Trichloroethene	0.436	0.422	3.2	90	-0.01
40	C,T,M	1,2-Dichloropropane	0.436	0.414	5.0	89	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJV003.D Vial: 3
Acq On : 3 Oct 2011 10:29 am Operator: DN
Sample : CVO01I2312 Inst : TO01
Misc : 10.0ppb 8260/50ppb TBA-KET-AA Multiplr: 1.00
MS Integration Params: 524C.P

Method : D:\HPCHEM\1\METHODS\VO01I23.M (RTE Integrator)
Title : METHOD 8260 25mls
Last Update : Mon Sep 26 13:22:55 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
41	T,M	1,4-Dioxane	0.000	0.000	0.0	0#	0.00
42	T,M	Dibromomethane	0.155	0.146	5.8	88	0.00
43	T,M	Bromodichloromethane	0.514	0.492	4.3	87	0.00
44	T,M	2-Chloroethyl vinyl ether	0.000	0.000	0.0	0#	-0.01
45	T,M	cis-1,3-Dichloropropene	0.620	0.595	4.0	88	-0.01
46	T,M	4-Methyl-2-pentanone	0.197	0.168	14.7	81	0.00
47	S	Toluene-d8	1.385	1.352	2.4	92	-0.01
48	C,T,M	Toluene	1.605	1.563	2.6	88	0.00
49	T,M	Ethyl methacrylate	0.282	0.250	11.3	77	0.00
50	T,M	trans-1,3-Dichloropropene	0.486	0.466	4.1	86	0.00
51	T,M	1,1,2-Trichloroethane	0.223	0.210	5.8	87	0.00
52	T,M	Tetrachloroethene	0.332	0.331	0.3	90	0.00
53	T,M	1,3-Dichloropropane	0.457	0.429	6.1	86	-0.01
54	T,M	2-Hexanone	0.136	0.112	17.6	80	0.00
55	T,M	Dibromochloromethane	0.272	0.265	2.6	86	-0.01
56	T,M	1,2-Dibromoethane	0.202	0.190	5.9	85	-0.01
57	T,M	1-Chlorohexane	0.671	0.672	-0.1	88	-0.01
58	P,M	Chlorobenzene	1.003	0.953	5.0	84	-0.01
59	T,M	1,1,1,2-Tetrachloroethane	0.329	0.319	3.0	87	0.00
60	C,T,M	Ethylbenzene	1.859	1.863	-0.2	88	0.00
61	T,M	m-Xylene & p-Xylene	1.429	1.429	0.0	87	0.00
62	T,M	o-Xylene	1.422	1.401	1.5	85	0.00
63	T,M	Styrene	0.975	0.934	4.2	77	0.00
64	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	85	0.00
65	P,T,M	Bromoform	0.343	0.333	2.9	86	0.00
66	T,M	Isopropylbenzene	4.528	4.526	0.0	85	-0.01
67	S	4-Bromofluorobenzene	1.229	1.194	2.8	91	0.00
68	P,T,M	1,1,2,2-Tetrachloroethane	0.665	0.615	7.5	86	0.00
69	T,M	Bromobenzene	0.908	0.851	6.3	84	-0.01
70	T,M	trans-1,4-Dichloro-2-butene	0.176	0.153	13.1	75	-0.01
71	T,M	1,2,3-Trichloropropane	0.184	0.162	12.0	82	0.00
72	T,M	n-Propylbenzene	5.484	5.568	-1.5	84	0.00
73	T,M	1,3,5-Trimethylbenzene	3.397	3.485	-2.6	83	0.00
74	T,M	2-Chlorotoluene	3.121	3.074	1.5	85	-0.01
75	T,M	4-Chlorotoluene	3.547	3.461	2.4	83	0.00
76	T,M	tert-Butylbenzene	0.807	0.823	-2.0	85	-0.01
77	T,M	1,2,4-Trimethylbenzene	3.507	3.492	0.4	82	0.00
78	T,M	sec-Butylbenzene	4.634	4.812	-3.8	84	0.00
79	T,M	p-Isopropyltoluene	3.665	3.832	-4.6	83	0.00
80	T,M	1,3-Dichlorobenzene	1.875	1.840	1.9	84	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJV003.D Vial: 3
Acq On : 3 Oct 2011 10:29 am Operator: DN
Sample : CVO01I2312 Inst : TO01
Misc : 10.0ppb 8260/50ppb TBA-KET-AA Multiplr: 1.00
MS Integration Params: 524C.P

Method : D:\HPCHEM\1\METHODS\VO01I23.M (RTE Integrator)
Title : METHOD 8260 25mls
Last Update : Mon Sep 26 13:22:55 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	1,4-Dichlorobenzene	1.804	1.760	2.4	83	0.00
82	T,M	n-Butylbenzene	3.452	3.681	-6.6	83	-0.01
83	T,M	1,2-Dichlorobenzene	1.552	1.485	4.3	82	0.00
84	T,M	1,2-Dibromo-3-chloropropane	0.082	0.075	8.5	82	0.00
85	T,M	1,2,4-Trichlorobenzene	0.819	0.837	-2.2	78	0.00
86	T,M	Hexachlorobutadiene	0.537	0.589	-9.7	82	0.00
87	T,M	Naphthalene	0.957	1.012	-5.7	79	0.00
88	T,M	1,2,3-Trichlorobenzene	0.603	0.611	-1.3	78	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 6 A MW 9/26/11 ☐ EMAX-524.2 Rev.No. 5 ☐ EMAX-CLP-VOA ☐ EMAX-624 Rev.No. 2 ☐ EMAX-8260SIM Rev.No.0 ☐ EMAX-TCPSIM Rev.No.1 ☐ EMAX-M8260SIM Rev.No.0 ☐

Start Date: 9/23/11 ☐ 5-ml Purge ☐ 15-ml Purge ☑ 25-ml Purge

Book # A01 -037

Sample Prep. ID	Data File Name	Lab Sample ID	* Sample Amount A/B/C	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01	RIV501	BFB01I22	1mL	N/A	N/A	N/A	N/A	11:05am
02	502	V001I231	.04/.15/1mL					0.3/1.5/1.5ppb 8260
03	503	2	.01/.05/.5mL					0.5/2.5/2.5ppb
04	504	3	.1/.5/5mL					1.0/5.0/5.0ppb
05	505	4	.2/1mL					2.0/10/10ppb MW 9/26/11
06	506	5	.5/2.5/5mL					5.0/10/25ppb
07	507	6	1/5/5mL					10/50/50ppb
08	508	7	2/10/10mL					20/100/100ppb
09	509	8	3/15/15mL					50/150/150ppb
10	510	9	5/25/25mL					50/250/250ppb
11	511	10	10/50/50mL					100/500/500ppb
12	512	15/SS	25mL					
13	513	V001I22B	↓					
14	514	V001I231	1/5/5mL					-001 und, bad spike
15	515	RINSE	25mL					5:5ppm
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								

BATCH V001I230

Instrument No.	01
INITIAL CALIBRATION REFERENCE	
DATE	9/23/11
ICAL ID	V001I23

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC 60/C	SV1-17-86-1	*	
DCC CL	-82-1		
DCC 8260	-72-1		
DCC KTM	-80-3	↓	10/250
BFB	-45-3	1	
IS/SURR.	-73-3	1	
ICV/LCS 60/C	-81-2	1	
ICV/LCS CL	-71-3	1	
ICV/LCS 8260	-60-1	5	
ICV/LCS KTM	-70-2	5	
DATA FILE	11I23		

Electronic Data Archival

Location	Date
HPCHEM_VOA/T001	

Comments: IS: SV1-17-76-3 1 } 25ppm
SS: ↓ -77-1 ↓
* please refer to sample amount
A: 95, 60/C, CL
B: 8260
C: KTM

Analyzed By: MW
Date Disposed: 9/26/11
Disposed By: MW

2033

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☐ EMAX-8260 Rev.No. 8 ☐ EMAX-524.2 Rev.No. 5 ☐ EMAX-CLP-VOA ☐ EMAX-624 Rev.No. 2 ☐ EMAX-8260SIM Rev.No.0 ☐ EMAX-TCPSIM Rev.No.1 ☐ EMAX-M8260SIM Rev.No.0 ☐

Start Date: 9/26/11 ☐ 5-ml Purge ☐ 15-ml Purge ☑ 25-ml Purge

Book # A01 -037

BATCH CV001I2302

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01	RIV528	BFB01I25	1mL					7:27am
02	529	IV001I232	1/5.5mL					
03	530	CV001I2302						
04	531	V001I25L x 9/27/11						
05	532							
06	533	RINSE	25mL					
07	534	V001I25B						
08	535	Q						
09	536	IIIB2-05		1.0	✓			
10	537	-03			✓			
11	538	-06I	100mL	250	✓			
12	539	-07I			✓			
13	540	-04	25mL	1.0	✓			
14	541	-06T	5.0mL	5.0	✓			
15	542	-07T			✓			
16	543	RINSE	25mL					
17	544							
18	545	V001I25X	1/5.5mL					
19	546	IIIB1-08M	25mL		✓			
20	547	-08S			✓			
21	548	IIIB2-03T 9/27/11	2.5mL	10	✓			
22	549	IIIB1-06 07R	25mL	1.0	✓			
23	550	-07 08R			✓			
24	551	IIIB2-06			✓			
25	552	-07			✓			7:13pm
26	553	RINSE						
27	554							
28	555							
29								

Instrument No.	01
INITIAL CALIBRATION REFERENCE	
DATE	9/23/11
ICAL ID	V001I23

STANDARDS

NAME	ID	Amount (µL)	Conc. (mg/L)
DCC	SVI-17-86-1	1	
DCC	-82-1	1	
DCC	-72-1	5	
DCC	-80-3	5	
BFB	-45-3	1	250/250
IS/SURR.	-73-3	1	
ICV/LCS	-81-2	1	
ICV/LCS	-71-3	1	
ICV/LCS	-60-1	5	
ICV/LCS	-70-2	5	
DATA FILE	117226		

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO01	

Comments:

Analyzed By: NW

Date Disposed: 9/27/11

Disposed By: NW

2634

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☐ EMAX-8260 Rev.No. 8 ☐ EMAX-524.2 Rev.No. 5 ☐ EMAX-CLP-VOA ☐ EMAX-624 Rev.No. 2 ☐ EMAX-8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐

Start Date: 10/4/11 ☐ 5-ml Purge ☐ 15-ml Purge ☑ 25-ml Purge

Book # A01 -037

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01	RJV001	BFJ301J01	1 mL					a=200 µg
02	02	STDCHK	115/5 mL					
03	03	CV001I2312						
04	04	V001T01L						
05	05	C						
06	06	RINSE	25 mL					
07	07	V001J01B						
08	08	11I265-01R		1.0	✓			
09	09	-02R			✓			
10	10	-03R			✓			
11	11	-04R			✓			
12	12	-05R			✓			
13	13	-06R			✓			
14	14	-07R			✓			
15	15	-07T	10 mL	25	✓			
16	16	11I274-01R	25 mL	1.0	✓			
17	17	-02R			✓			
18	18	-05R			✓			
19	19	-07R			✓			
20	20	-09R			✓			
21	21	-03R			✓			
22	22	-04R			✓			
23	23	-06R			✓			
24	24	-08R			✓			
25	25	-08M			✓			2nd Methylene failed
26	26	-08S			✓			OUT-1 chk. a=4 µg/m
27	27	RINSE						
28								
29								
30								

NW 10/4/11

BATCH V001I2312

2035

Instrument No.	01
INITIAL CALIBRATION REFERENCE	
DATE	9/23/11
ICAL ID	V001I23

STANDARDS

NAME	ID	Amount (µL)	Conc. (mg/L)
DCC	SV1-17-86-1	1	
DCC	-82-1	1	
DCC	-72-1	5	
DCC	-80-3	5	
BFB	-45-3	1	50/250
IS/SURR.	-73-3	1	
ICV/LCS	-81-2	1	
ICV/LCS	-71-3	1	
ICV/LCS	-60-1	5	
ICV/LCS	-89-2	5	
DATA FILE	11A303		

Electronic Data Archival NW 10/4/11

Location	Date
HPCHEM_VOA/T001	

Comments:

Analyzed By: NW

Date Disposed: 10/4/11

Disposed By: NW

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CLIENT: **ACCORD ENGINEERING**

PROJECT: **SEAL BEACH SITE 75**

SDG: **11I284**

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GC/MS-VOA	METHOD 5030B/8260B	2000 – 2165
GC/MS-SVOA	**	3000 –
GC-VOA	**	4000 –
GC-SVOA	**	5000 –
HPLC	**	6000 –
METALS	**	7000 –
WET	**	8000 –
OTHERS	**	9000 –

** - Not Requested

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 10-20-2011
EMAX Batch No.: 11I284

Attn: Qihai Chen

ACCORD ENGINEERING
6050 Santo Road, Suite 175
San Diego, CA 92124

Subject: Laboratory Report
Project: SEAL BEACH SITE 75

Enclosed is the Laboratory report for samples received on 09/30/11.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
SB75MW01A-Q311-01	I284-01	09/28/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW01A-Q311-02	I284-02	09/28/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW04B-Q311-01	I284-03	09/29/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW04A-Q311-01	I284-04	09/29/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW05B-Q311-01	I284-05	09/29/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW05A-Q311-01	I284-06	09/29/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW05A-Q311-02	I284-07	09/29/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW01A-Q311-01MS	I284-01M	09/28/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW01A-Q311-01MSD	I284-01S	09/28/11	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that the results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAC Accredited Certificate Number 02116CA
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER: 101003-03
SAMPLE STORAGE: cooler
EMAX CONTROL NO. *: 11I284
PROJECT CODE:

CLIENT: Accord Engineering, Inc.
PROJECT: Site 75 PA/SI, NWS Seal Beach
COORDINATOR: Qihai Chen
TEL: 626-617-2171 FAX: EMAIL: qchen@accordeng.com
SEND REPORT TO: same
COMPANY:
ADDRESS: 6050 Santo Rd, Suite 175, San Diego, CA 92124
EMAX PM: Ye Mint

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O= DI H2O	

ANALYSIS REQUIRED: VOCs 8260B

TAT:
- ☐ Rush ____hrs.
- ☐ Rush ____days
- ☐ 7 days
- ☒ 14 days
- ☐ 21 days
- ☐ 30 days
- ☐ ____days
- ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	VOCs 8260B	COMMENTS
1	SB75MW01A-Q311-01	Site 75	9/28	1320	9	Q.G	~~G~~ VOA	GW		X	3 X Volume for MS/MSD
2	SB75MW01A-Q311-02	Site 75	9/28	1330	3	Q.G	~~G~~	O		X	
3	SB75MW04B-Q311-01	Site 75	9/29	1025	3			GW		X	
4	SB75MW04A-Q311-01	Site 75	9/29	1108	3			GW		X	
5	SB75MW05B-Q311-01	Site 75	9/29	1255	3			GW		X	
Qc ~~6~~	~~SB75MW05B-Q311-02~~	~~Site 75~~	~~9/29~~		~~3~~			~~GW~~		~~X~~	
6	SB75MW05A-Q311-01	Site 75	9/29	1340	3			GW		X	
7	SB75MW05A-Q311-02	Site 75	9/29	1400	3			GW		X	
9											
0											

Instructions – Send Accord & Brady NEDD datafiles
– Select SB75MW05A-Q311-01 for Level IV data package, rest Level III.

Cooler #	Temp. (°C)
1	3.0

Sample #s:

SAMPLER: Ravi Singh & Qihai Chen
COURIER/AIRBILL: EMAX: Keith

RELINQUISHED BY	Date	Time	RECEIVED BY
Qihai Chen	9-30-11	1200	Keith Stout
Keith Stout	9-30-11	1435	

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associated with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill		
☑ EMAX Courier	GE COC	ECN	11I284
☐ Client Delivery		Recepient	J-LUNA
☐ Third Party		Date	09-30-11
		Time	1435

COC Inspection

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time/Location	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☑ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues	☑ None	☐ High concentrations expected	☐ Superfund Site samples	☐ Rad screening required	

Comments:

Packaging Inspection

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	A ☑ Cooler 1 3.0 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C

Thermometer: *A - S/N 101541371* *B - S/N 101541382*

Comments: ☐ **PM was informed on non-compliant coolers immediately.**

Note: **pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.**

DISCREPANCIES

LSID	LSCID	Sample Label ID/COC ID	Discrepancy Code	Corrective Action Code

REVIEWS

Sample Labeling [signature] Date 9/30/11

SRF [signature] Date 9/30/11

PM HMB Date 10/3/11

LEGEND:

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Project Management
A1	Analysis is not indicated in COC	D1	Date and/or time is not indicated in COC	R1	Hold sample(s); wait for further instructions
A2	Analysis is not indicated in label	D2	Date and/or time is not indicated in label	R2	Proceed as indicated in COC
A3	Analysis is inconsistent in COC vis-à-vis label	D3	Date and/or time is inconsistent in COC vis-à-vis label	R3	Refer to attached instruction
A4	_____	E1	Insuficient preservative	R4	Cancel the analysis
B1	Sample ID is not indicated in COC	E2	Improper preservation	R5	_____
B2	Sample ID is not indicated in label	F1	Insufficient Sample	R6	_____
B3	Sample ID is inconsistent in COC vis-à-vis label	F2	Bubble is> 6mm		
B4	_____	G1	Temperature is out of range		
C1	Wrong container	G2	Out of Holding Time		
C2	Broken container	G3	>20 % solid particle		
C3	Leaking container	H1	_____		
C4	_____	H2	_____		

Hanh Bui

From: Hanh Bui
Sent: Thursday, October 06, 2011 3:28 PM
To: 'Jesse MacNeill'; Ye Myint
Cc: Yu Zeng; tshields@rbrady.net; Qihai Chen
Subject: Results SDG: 11I284 (Seal Beach Site 75)

Hi all,
Attached please find the result of 8260 for 11I284, thanks.
Hanh

-----Original Message-----
From: Jesse MacNeill [mailto:jmacneill@rbrady.net]
Sent: Monday, October 03, 2011 11:44 AM
To: Ye Myint; Hanh Bui
Cc: Yu Zeng; tshields@rbrady.net; Qihai Chen
Subject: Re: Samples Login SDG: 11I265 (Seal Beach Site 75)

Hanh,

The NEDD info stated below looks correct. For the EDF:

Global ID: **T10000003011**
Field point names will be the monitoring well IDs (the first nine characters of the sample ID).
Logcode is RBSD

Ye,

Since it's not listed on the sample receipt documents, can you please make sure that the analyte list (8 VOCs) for these samples is consistent with what is listed on SAP worksheet #15 (see attached).

Thanks.

On Fri, Sep 30, 2011 at 10:39 AM, Qihai Chen <QChen@accordeng.com> wrote:

Hi Hanh,

Jesse MacNeil from Richard Brady and Associates is responsible for the data management portion of the project. Please forward future questions to him, but please CC both Yu and I. Thanks!

Qihai Chen

Project Engineer

Accord Engineering, Inc.

6050 Santo Road, Suite 175

San Diego, CA 92124

qchen@accordeng.com

(O) 858-771-3559

(M) 626-617-2171

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

ACCORD ENGINEERING

SEAL BEACH SITE 75

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 11I284

CASE NARRATIVE

Client : ACCORD ENGINEERING

Project : SEAL BEACH SITE 75

SDG : 11I284

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

A total of seven (7) water samples were received on 09/30/11 for Volatile Organics by GC/MS analysis, Method 5030B/8260B in accordance with DoD Quality Systems Manual for Environmental Laboratories, Version 4.2.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms for ICAL, ICV and CCV for details.

Method Blank
Method blanks were analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed with the samples. All results were compliant to project requirement. Refer to QC result summary form for details.

Lab Control Sample
Two (2) sets of LCS/LCD were analyzed with the samples in this SDG.
Percent recoveries for VO67J01L/C were all within QC limits.
Percent recoveries for VO67J02L/C were all within QC limits.

Matrix QC Sample
A set of MS/MSD was analyzed with the samples in this SDG.
Percent recoveries were within project QC limits except for results qualified with [*] in I284-01 M/S summary form, due to high parent sample concentration. Check QC summary form for details.

Surrogate
Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Manual integration was applied to 1,1-Dichloroethene in samples I284-06 and -07 because of improper integration. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING
Project : SEAL BEACH SITE 75

SDG NO. : 111284
Instrument ID : T-067

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
M8LK1W	V067J01B	1	NA	10/03/1116:00	10/03/1116:00	RJC011	RGC139	V067J01	Method Blank
LCS1W	V067J01L	1	NA	10/03/1111:49	10/03/1111:49	RJC003	RGC139	V067J01	Lab Control Sample (LCS)
LCD1W	V067J01C	1	NA	10/03/1112:20	10/03/1112:20	RJC004	RGC139	V067J01	LCS Duplicate
SB75MW01A-Q311-02	I284-02	1	NA	10/03/1117:02	10/03/1117:02	RJC013	RGC139	V067J01	Field Sample
SB75MW01A-Q311-01	I284-01	1	NA	10/03/1118:36	10/03/1118:36	RJC016	RGC139	V067J01	Field Sample
SB75MW01A-Q311-01MS	I284-01M	1	NA	10/03/1119:07	10/03/1119:07	RJC017	RGC139	V067J01	Matrix Spike Sample (MS)
SB75MW01A-Q311-01MSD	I284-01S	1	NA	10/03/1119:38	10/03/1119:38	RJC018	RGC139	V067J01	MS Duplicate (MSD)
SB75MW04B-Q311-01	I284-03	1	NA	10/03/1120:42	10/03/1120:42	RJC020	RGC139	V067J01	Field Sample
SB75MW04A-Q311-01	I284-04	1	NA	10/03/1121:13	10/03/1121:13	RJC021	RGC139	V067J01	Field Sample
SB75MW05B-Q311-01	I284-05	1	NA	10/03/1121:43	10/03/1121:43	RJC022	RGC139	V067J01	Field Sample
SB75MW05A-Q311-01	I284-06	1	NA	10/03/1122:14	10/03/1122:14	RJC023	RGC139	V067J01	Field Sample
SB75MW05A-Q311-02	I284-07	1	NA	10/03/1122:46	10/03/1122:46	RJC024	RGC139	V067J01	Field Sample
M8LK2W	V067J02Q	1	NA	10/04/1114:24	10/04/1114:24	RJC039	RGC139	V067J02	Method Blank
LCS2W	V067J02L	1	NA	10/04/1110:48	10/04/1110:48	RJC032	RGC139	V067J02	Lab Control Sample (LCS)
LCD2W	V067J02C	1	NA	10/04/1111:19	10/04/1111:19	RJC033	RGC139	V067J02	LCS Duplicate
SB75MW01A-Q311-01DL	I284-01T	25	NA	10/04/1114:55	10/04/1114:55	RJC040	RGC139	V067J02	Diluted Sample
SB75MW05A-Q311-01DL	I284-06T	25	NA	10/04/1115:25	10/04/1115:25	RJC041	RGC139	V067J02	Diluted Sample
SB75MW05A-Q311-02DL	I284-07T	25	NA	10/04/1115:56	10/04/1115:56	RJC042	RGC139	V067J02	Diluted Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 09/28/11
Project : SEAL BEACH SITE 75	Date Received: 09/30/11
Batch No. : 111284	Date Extracted: 10/03/11 18:36
Sample ID: SB75MW01A-Q311-01	Date Analyzed: 10/03/11 18:36
Lab Samp ID: I284-01	Dilution Factor: 1
Lab File ID: RJC016	Matrix : WATER
Ext Btch ID: V067J01	% Moisture : NA
Calib. Ref.: RGC139	Instrument ID : 67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	4.3	1.0	0.20
1,1-DICHLOROETHANE	230E	1.0	0.20
1,1-DICHLOROETHENE	340E	1.0	0.20
1,2-DICHLOROETHANE	1.3	1.0	0.20
CIS-1,2-DICHLOROETHENE	3.4	1.0	0.20
TETRACHLOROETHENE	79	1.0	0.20
TRICHLOROETHENE	390E	1.0	0.20
VINYL CHLORIDE	1.7	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.1	10.00	111	70-140
4-BROMOFLUOROBENZENE	11.9	10.00	119	70-130
TOLUENE-D8	10.7	10.00	107	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/28/11
Project	: SEAL BEACH SITE 75	Date Received:	09/30/11
Batch No.	: 111284	Date Extracted:	10/04/11 14:55
Sample ID:	SB75MW01A-Q311-01DL	Date Analyzed:	10/04/11 14:55
Lab Samp ID:	I284-01T	Dilution Factor:	25
Lab File ID:	RJC040	Matrix :	WATER
Ext Btch ID:	V067J02	% Moisture :	NA
Calib. Ref.:	RGC139	Instrument ID :	67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	25	5.0
1,1-DICHLOROETHANE	290	25	5.0
1,1-DICHLOROETHENE	770	25	5.0
1,2-DICHLOROETHANE	ND	25	5.0
CIS-1,2-DICHLOROETHENE	ND	25	5.0
TETRACHLOROETHENE	74	25	5.0
TRICHLOROETHENE	410	25	5.0
VINYL CHLORIDE	ND	25	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	270	250.0	108	70-140
4-BROMOFLUOROBENZENE	290	250.0	116	70-130
TOLUENE-D8	270	250.0	108	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/28/11
Project	: SEAL BEACH SITE 75	Date Received:	09/30/11
Batch No.	: 11I284	Date Extracted:	10/03/11 17:02
Sample ID:	SB75MW01A-Q311-02	Date Analyzed:	10/03/11 17:02
Lab Samp ID:	I284-02	Dilution Factor:	1
Lab File ID:	RJC013	Matrix :	WATER
Ext Btch ID:	V067J01	% Moisture :	NA
Calib. Ref.:	RGC139	Instrument ID :	67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.7	10.00	107	70-140
4-BROMOFLUOROBENZENE	11.5	10.00	115	70-130
TOLUENE-D8	10.8	10.00	108	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 09/29/11
Project : SEAL BEACH SITE 75	Date Received: 09/30/11
Batch No. : 11I284	Date Extracted: 10/03/11 20:42
Sample ID: SB75MW04B-Q311-01	Date Analyzed: 10/03/11 20:42
Lab Samp ID: I284-03	Dilution Factor: 1
Lab File ID: RJC020	Matrix : WATER
Ext Btch ID: V067J01	% Moisture : NA
Calib. Ref.: RGC139	Instrument ID : 67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	4.7	1.0	0.20
1,1-DICHLOROETHENE	7.4	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	1.9	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.2	10.00	112	70-140
4-BROMOFLUOROBENZENE	11.5	10.00	115	70-130
TOLUENE-D8	10.7	10.00	107	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/29/11
Project	: SEAL BEACH SITE 75	Date Received:	09/30/11
Batch No.	: 11I284	Date Extracted:	10/03/11 21:13
Sample ID:	SB75MW04A-Q311-01	Date Analyzed:	10/03/11 21:13
Lab Samp ID:	I284-04	Dilution Factor:	1
Lab File ID:	RJC021	Matrix :	WATER
Ext Btch ID:	V067J01	% Moisture :	NA
Calib. Ref.:	RGC139	Instrument ID :	67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	0.50J	1.0	0.20
1,1-DICHLOROETHANE	6.0	1.0	0.20
1,1-DICHLOROETHENE	13	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	0.57J	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.1	10.00	111	70-140
4-BROMOFLUOROBENZENE	11.3	10.00	113	70-130
TOLUENE-D8	10.9	10.00	109	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/29/11
Project	: SEAL BEACH SITE 75	Date Received:	09/30/11
Batch No.	: 11I284	Date Extracted:	10/03/11 21:43
Sample ID:	SB75MW05B-Q311-01	Date Analyzed:	10/03/11 21:43
Lab Samp ID:	I284-05	Dilution Factor:	1
Lab File ID:	RJC022	Matrix :	WATER
Ext Btch ID:	V067J01	% Moisture :	NA
Calib. Ref.:	RGC139	Instrument ID :	67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	13	1.0	0.20
1,1-DICHLOROETHENE	34	1.0	0.20
1,2-DICHLOROETHANE	0.21J	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	0.23J	1.0	0.20
TRICHLOROETHENE	15	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.3	10.00	113	70-140
4-BROMOFLUOROBENZENE	11.4	10.00	114	70-130
TOLUENE-D8	10.7	10.00	107	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 09/29/11
Project : SEAL BEACH SITE 75	Date Received: 09/30/11
Batch No. : 11I284	Date Extracted: 10/03/11 22:14
Sample ID: SB75MW05A-Q311-01	Date Analyzed: 10/03/11 22:14
Lab Samp ID: I284-06	Dilution Factor: 1
Lab File ID: RJC023	Matrix : WATER
Ext Btch ID: V067J01	% Moisture : NA
Calib. Ref.: RGC139	Instrument ID : 67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	17	1.0	0.20
1,1-DICHLOROETHANE	240E	1.0	0.20
1,1-DICHLOROETHENE	420E	1.0	0.20
1,2-DICHLOROETHANE	2.2	1.0	0.20
CIS-1,2-DICHLOROETHENE	5.3	1.0	0.20
TETRACHLOROETHENE	170E	1.0	0.20
TRICHLOROETHENE	480E	1.0	0.20
VINYL CHLORIDE	1.3	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.2	10.00	112	70-140
4-BROMOFLUOROBENZENE	11.8	10.00	118	70-130
TOLUENE-D8	10.6	10.00	106	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC023.D
Acq On : 3 Oct 2011 10:14 pm
Sample : 11I284-06 25mL
Misc : DF=1.0
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 13:11 2011

Vial: 23
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

R/RQ 4/25

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1651546	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1164402	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	292101	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.82	111	498412	10.52	ug/l	-0.01
Spiked Amount 10.000			Recovery	=	105.20%	
40) 1,2-Dichloroethane-d4	7.55	65	356063	11.16	ug/l	0.00
Spiked Amount 10.000			Recovery	=	111.60%	
55) Toluene-d8	10.58	98	1871789	10.56	ug/l	0.00
Spiked Amount 10.000			Recovery	=	105.60%	
77) 4-Bromofluorobenzene	15.52	95	478159	11.78	ug/l	-0.01
Spiked Amount 10.000			Recovery	=	117.80%	
Target Compounds						Qvalue
5) Vinyl chloride	2.31	62	112865	1.26	ug/l	96
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	37048	0.88	ug/l	99
14) 1,1-Dichloroethene	3.86	61	47962625m	417.42	ug/l E, Sat'd	
23) trans-1,2-Dichloroethene	4.89	61	42771	0.39	ug/l	97
25) 1,1-Dichloroethane	5.46	63	28246282	242.05	ug/l E, Sat'd	88
31) cis-1,2-Dichloroethene	6.29	96	339314	5.27	ug/l	92
37) 1,1,1-Trichloroethane	7.08	97	1434494	17.46	ug/l	99
44) 1,2-Dichloroethane	7.68	62	80803	2.18	ug/l	95
46) Trichloroethene	8.64	130	30551043	483.31	ug/l E, Sat'd	89
59) 1,1,2-Trichloroethane	11.30	97	17545	0.81	ug/l #	66
62) Tetrachloroethene	11.84	164	7637699	167.06	ug/l E	96
68) Ethylbenzene	13.41	91	357343	1.46	ug/l	96
69) m-Xylene & p-Xylene	13.54	91	237158	1.34	ug/l	95
70) o-Xylene	14.36	91	75573	0.44	ug/l	93
73) Isopropylbenzene	15.05	105	147059	0.77	ug/l	96
81) 1,3,5-Trimethylbenzene	16.12	105	147929	0.98	ug/l	94
85) 1,2,4-Trimethylbenzene	16.88	105	263924	1.87	ug/l	83

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

2011

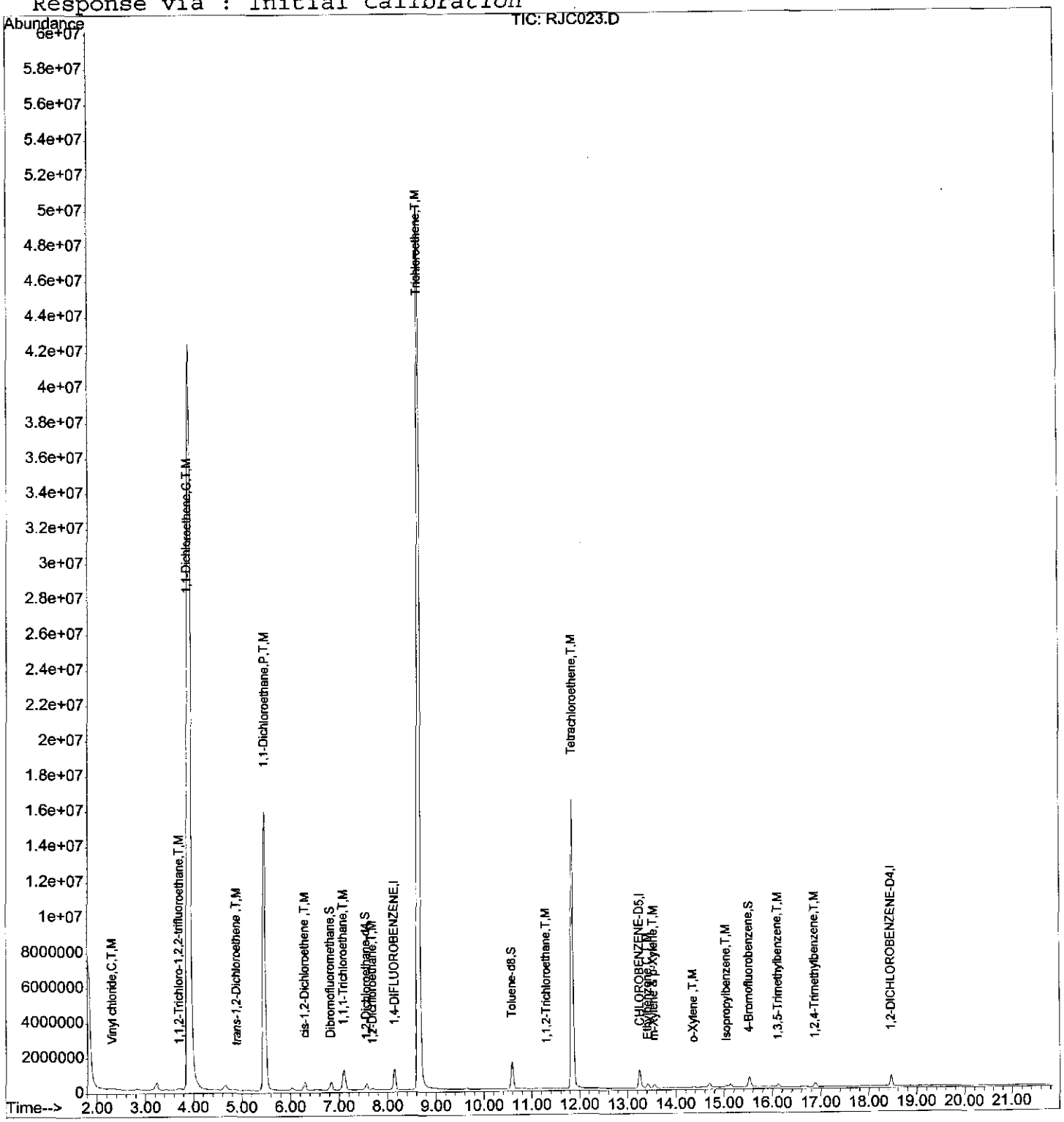
Quantitation Report

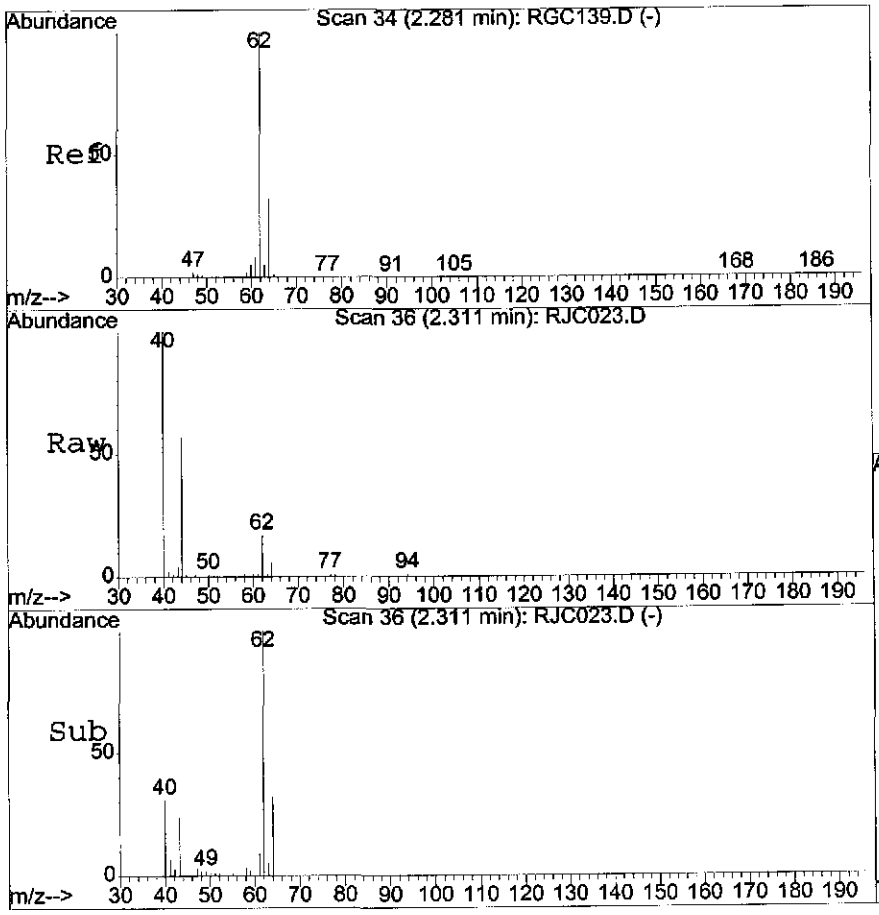
Data File : D:\HPCHEM\1\DATA\11J03\RJC023.D
Acq On : 3 Oct 2011 10:14 pm
Sample : 11I284-06 25mL
Misc : DF=1.0
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 13:11 2011

Vial: 23
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration

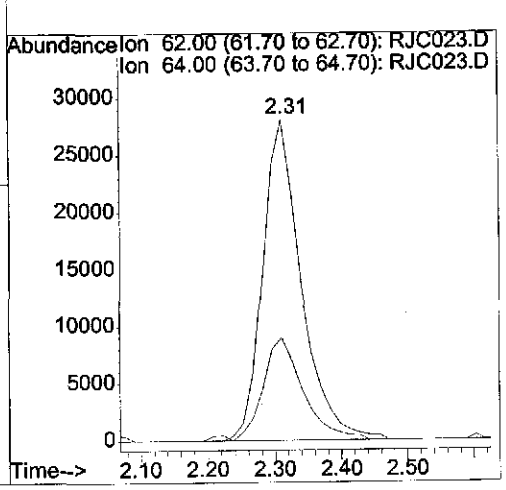


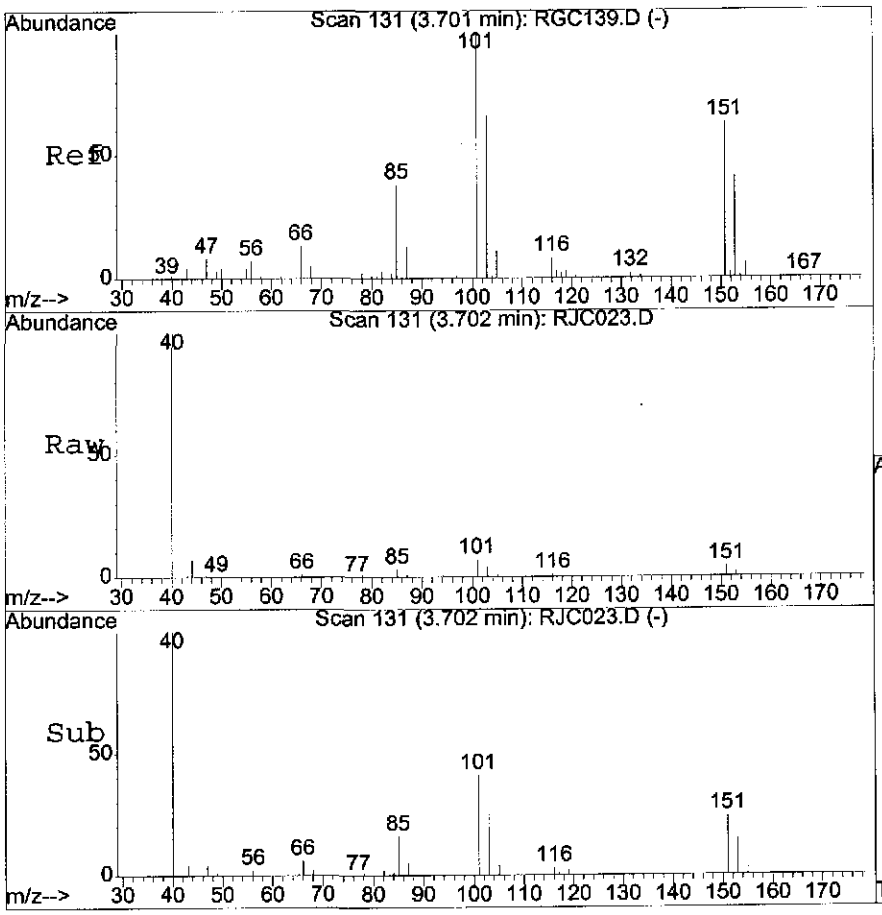


#5
Vinyl chloride
Concen: 1.26 ug/l
RT: 2.31 min Scan# 36
Delta R.T. 0.03 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion: 62 Resp: 112865

Ion	Ratio	Lower	Upper
62	100		
64	33.8	1.6	61.6

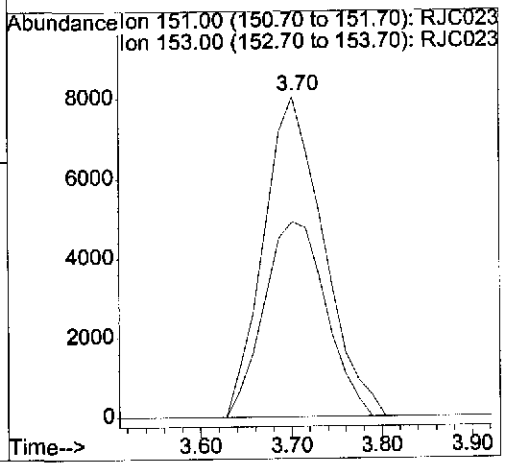


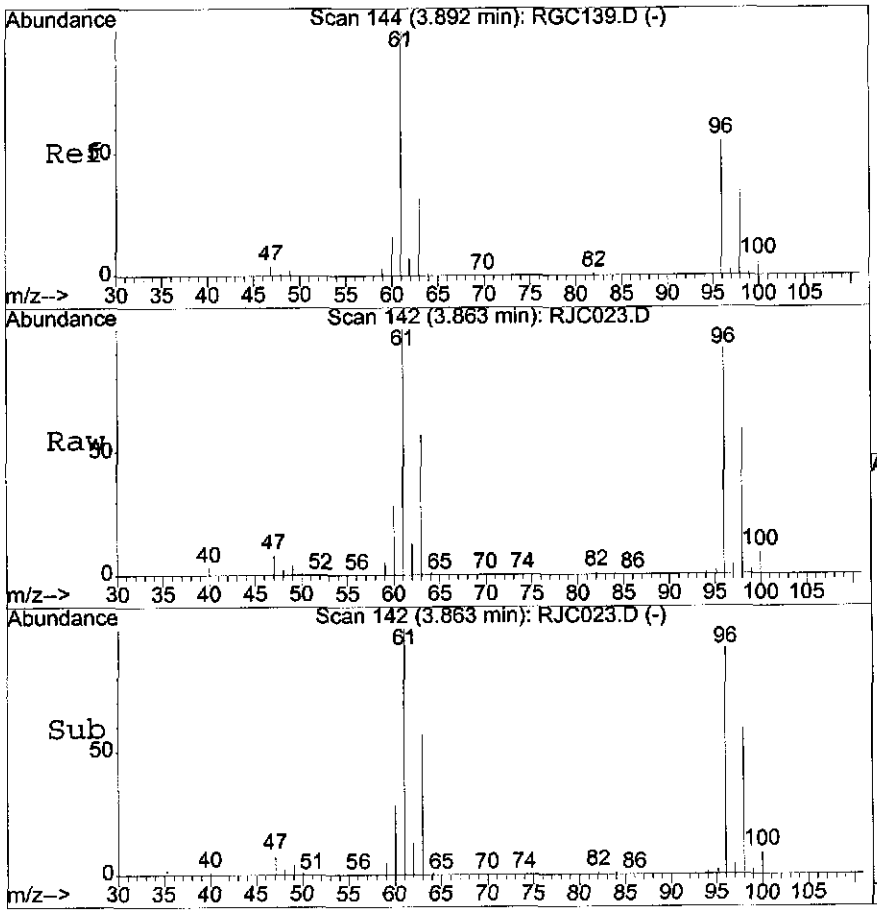


#12
1,1,2-Trichloro-1,2,2-trifluc
Concen: 0.88 ug/l
RT: 3.70 min Scan# 131
Delta R.T. 0.00 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion:151 Resp: 37048

Ion	Ratio	Lower	Upper
151	100		
153	63.3	32.7	92.7

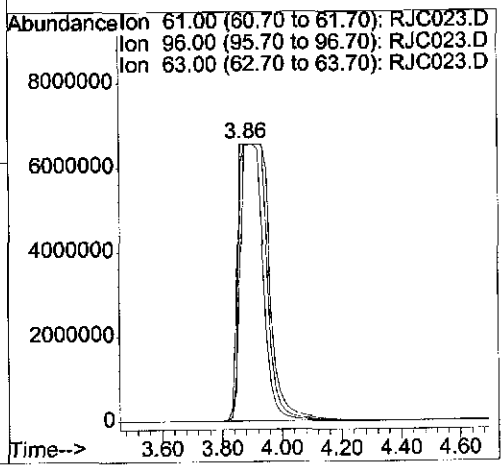


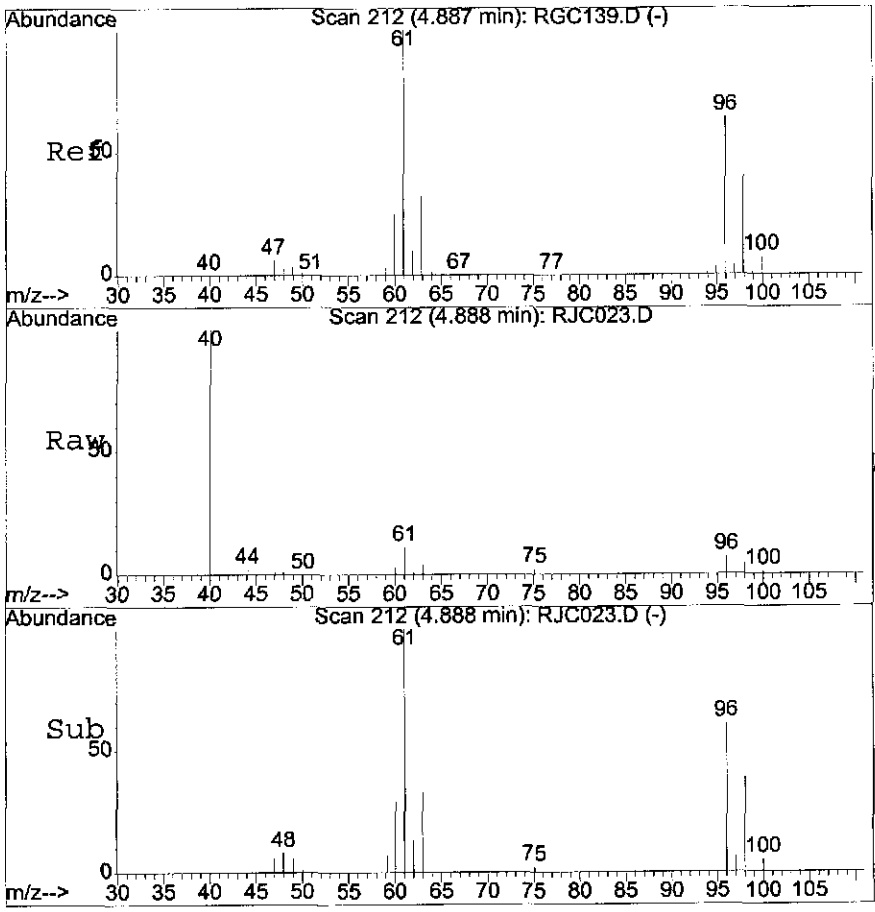


#14
1,1-Dichloroethene
Concen: 417.42 ug/l m
RT: 3.86 min Scan# 142
Delta R.T. -0.03 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion: 61 Resp:47962625

Ion	Ratio	Lower	Upper
61	100		
96	0.0	27.3	87.3#
63	0.0	2.1	62.1#

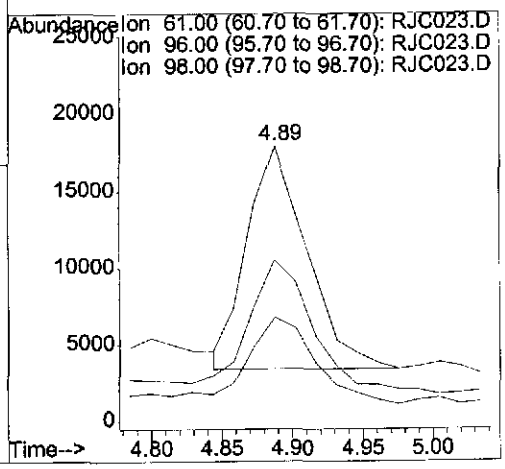


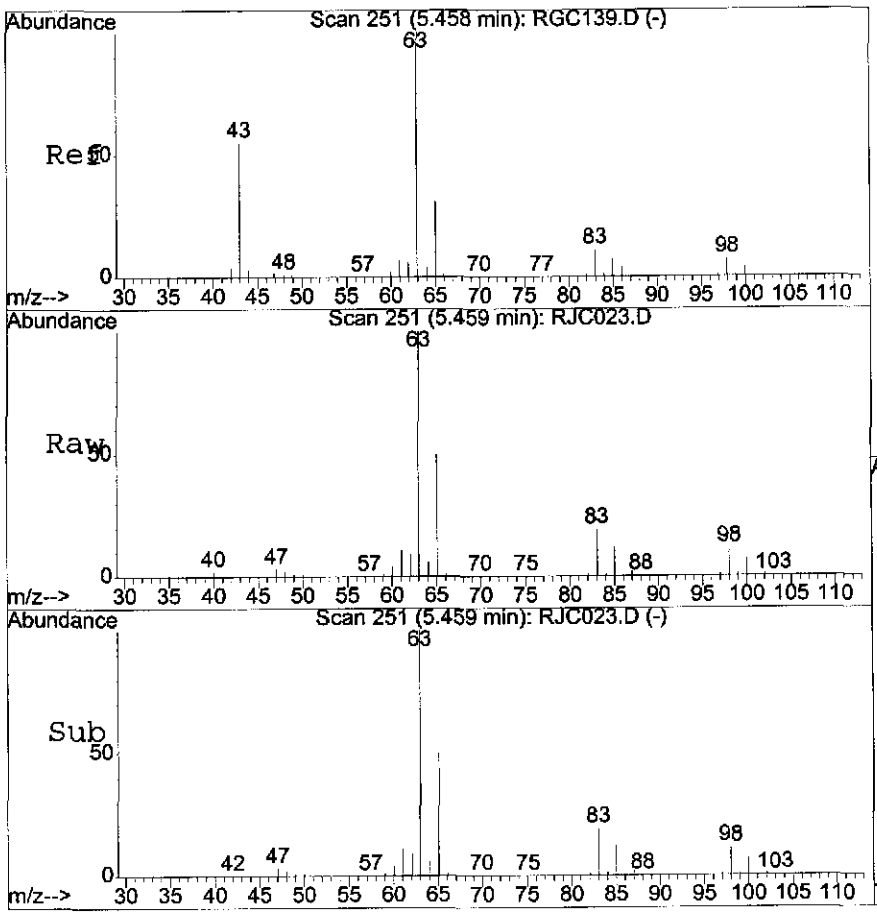


#23
trans-1,2-Dichloroethene
Concen: 0.39 ug/l
RT: 4.89 min Scan# 212
Delta R.T. 0.00 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion: 61 Resp: 42771

Ion	Ratio	Lower	Upper
61	100		
96	67.4	36.1	96.1
98	45.7	12.0	72.0

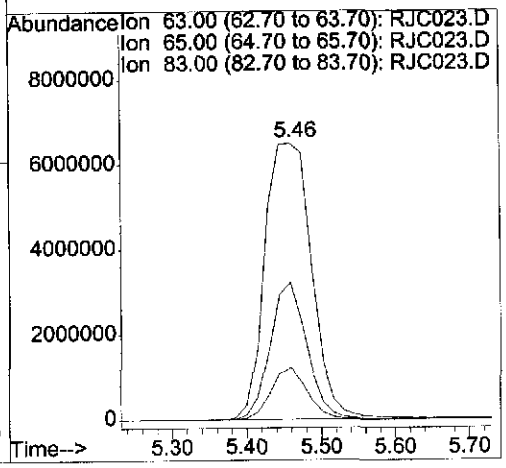


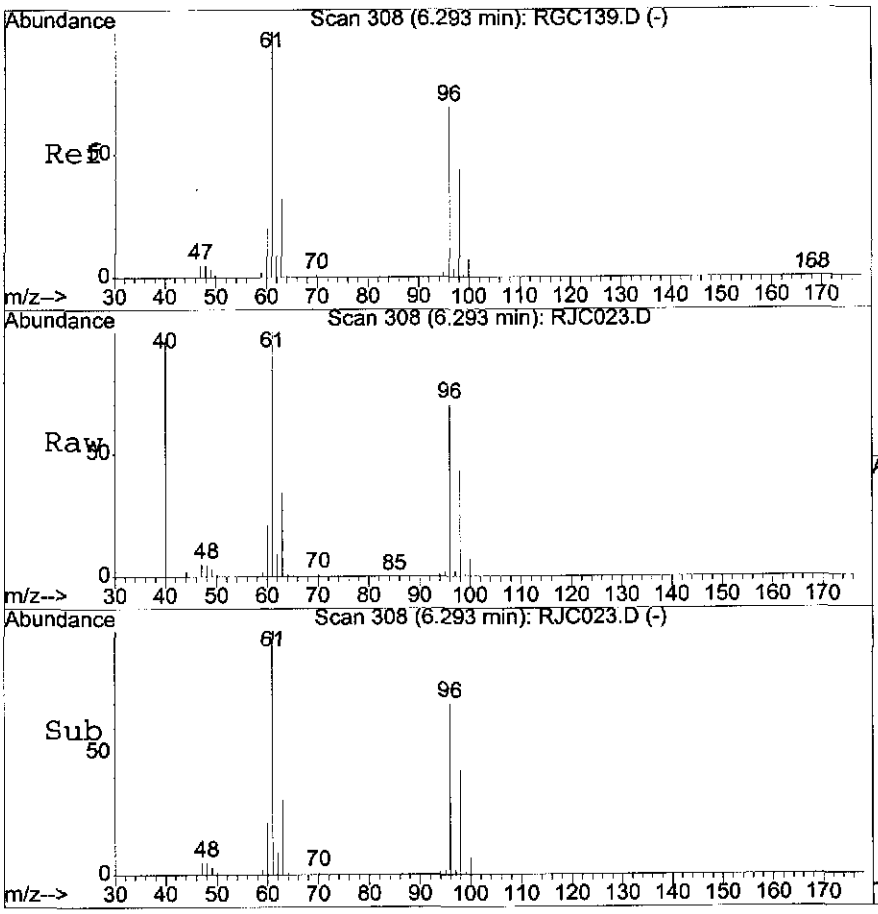


#25
1,1-Dichloroethane
Concen: 242.05 ug/l
RT: 5.46 min Scan# 251
Delta R.T. 0.00 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion: 63 Resp:28246282

Ion	Ratio	Lower	Upper
63	100		
65	39.0	1.3	61.3
83	14.6	0.0	41.6

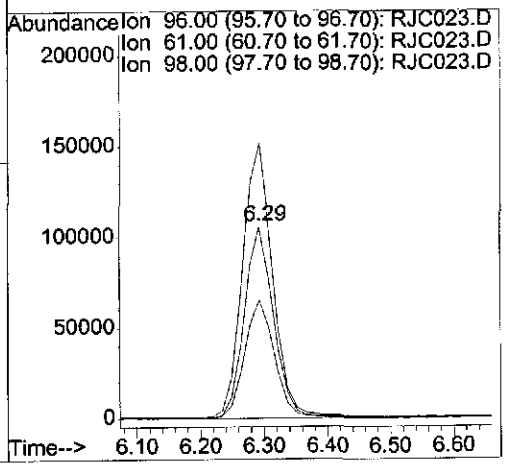


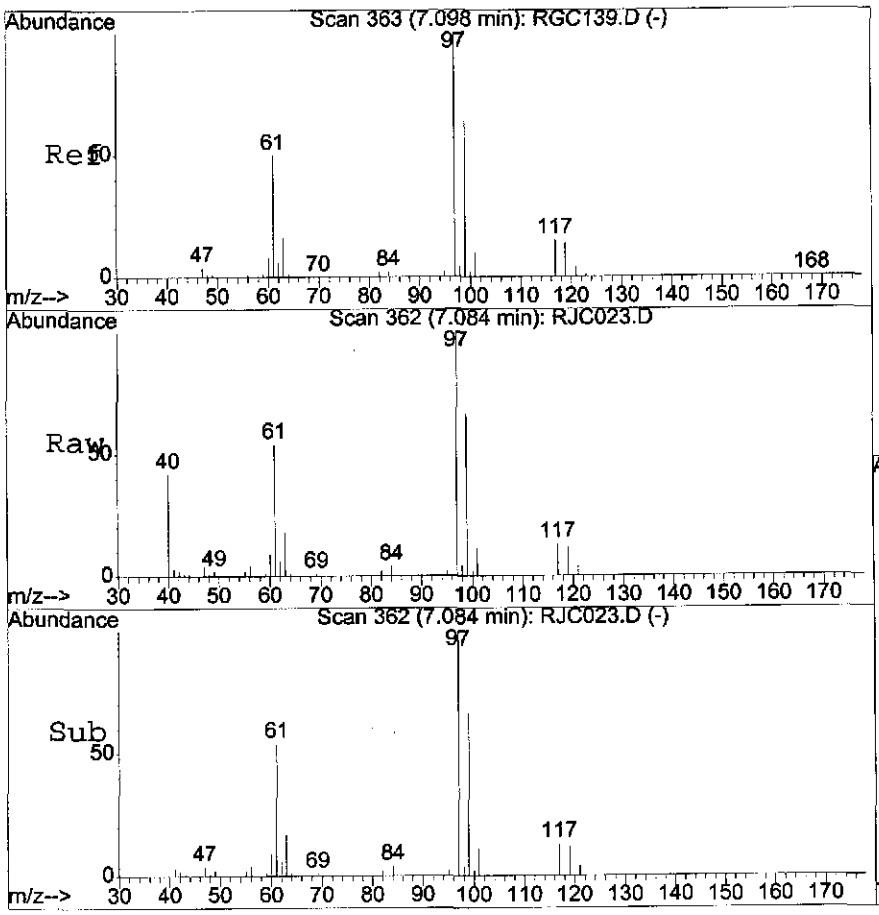


#31
cis-1,2-Dichloroethene
Concen: 5.27 ug/l
RT: 6.29 min Scan# 308
Delta R.T. 0.00 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion: 96 Resp: 339314

Ion	Ratio	Lower	Upper
96	100		
61	143.3	127.6	187.6
98	63.5	34.5	94.5

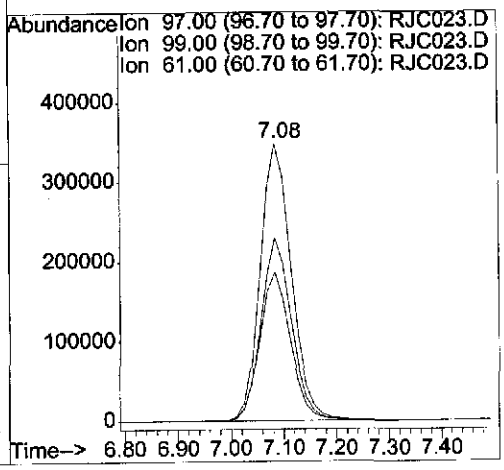


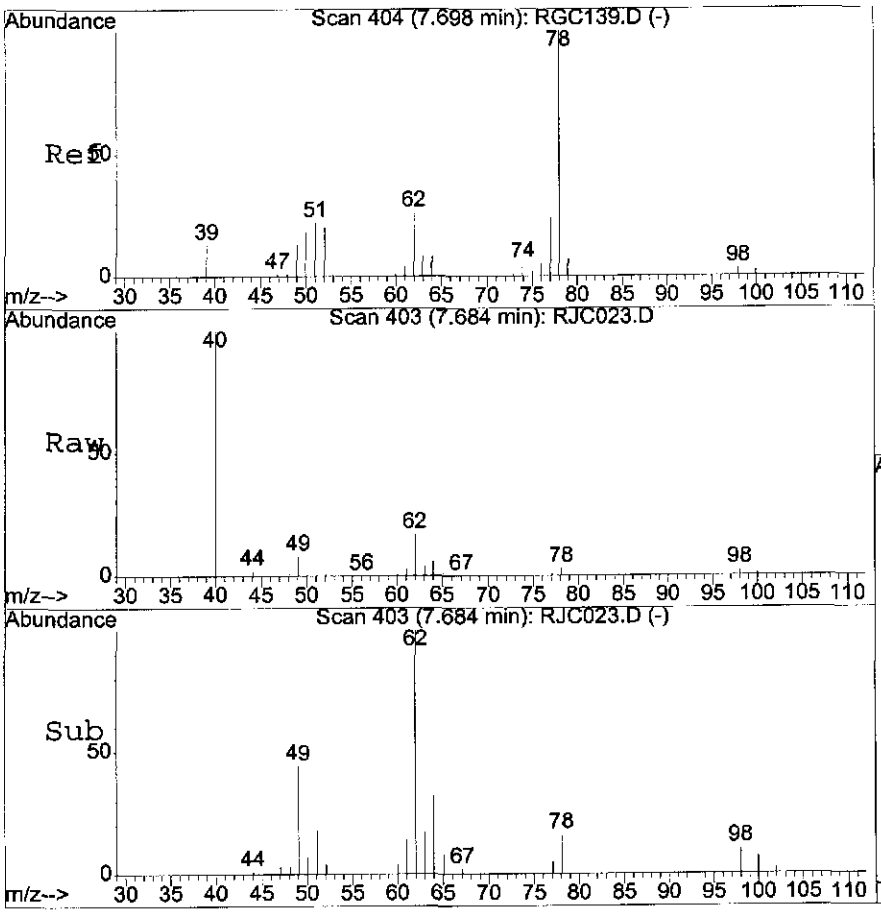


#37
1,1,1-Trichloroethane
Concen: 17.46 ug/l
RT: 7.08 min Scan# 362
Delta R.T. -0.01 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion: 97 Resp: 1434494

Ion	Ratio	Lower	Upper
97	100		
99	64.9	34.8	94.8
61	52.8	21.0	81.0

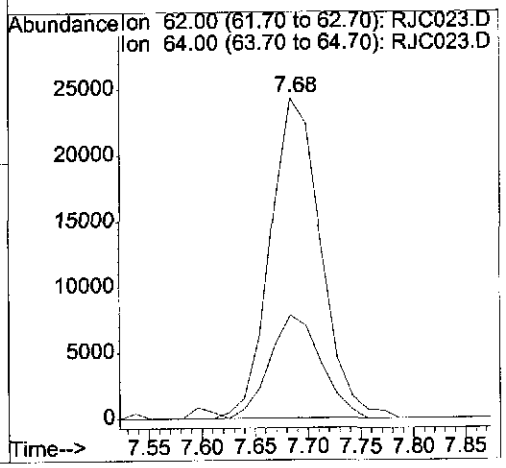


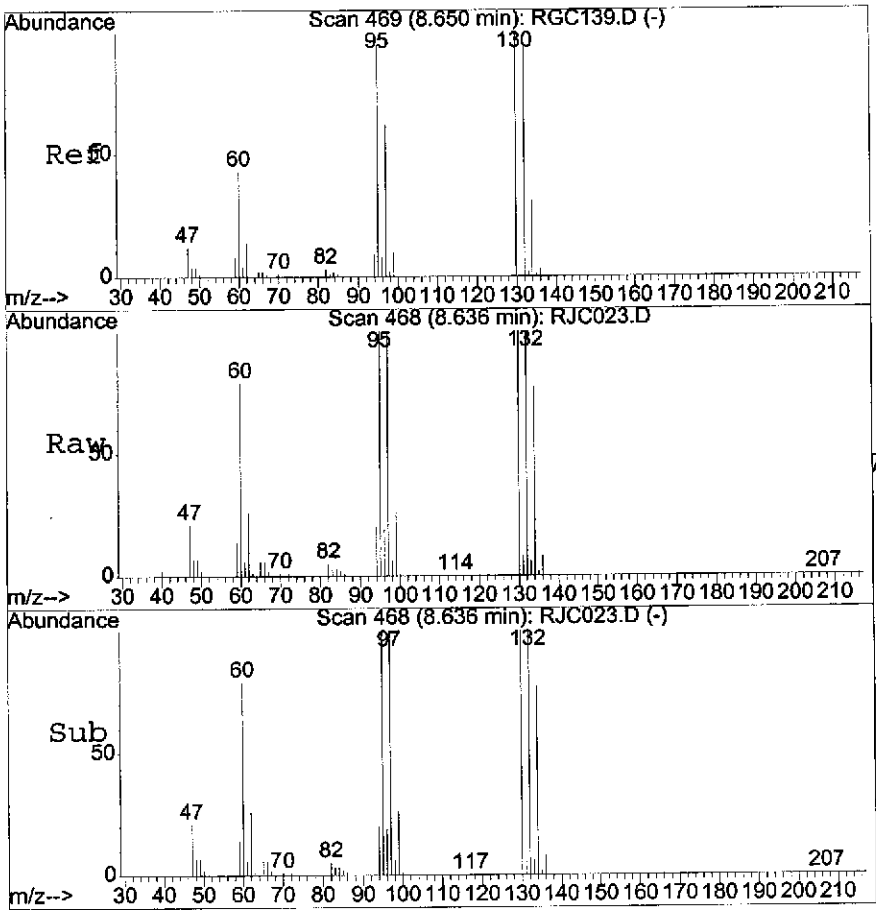


#44
1,2-Dichloroethane
Concen: 2.18 ug/l
RT: 7.68 min Scan# 403
Delta R.T. -0.01 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion: 62 Resp: 80803

Ion	Ratio	Lower	Upper
62	100		
64	32.5	0.0	60.0

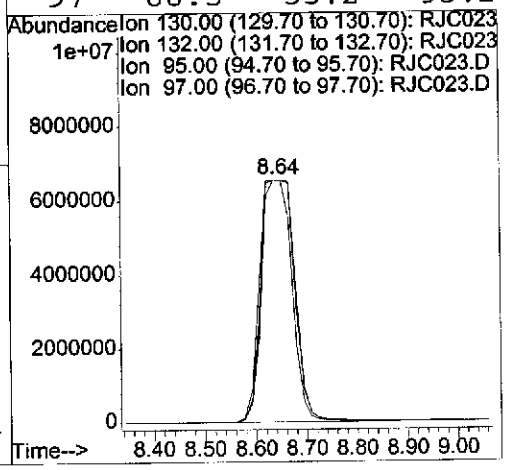


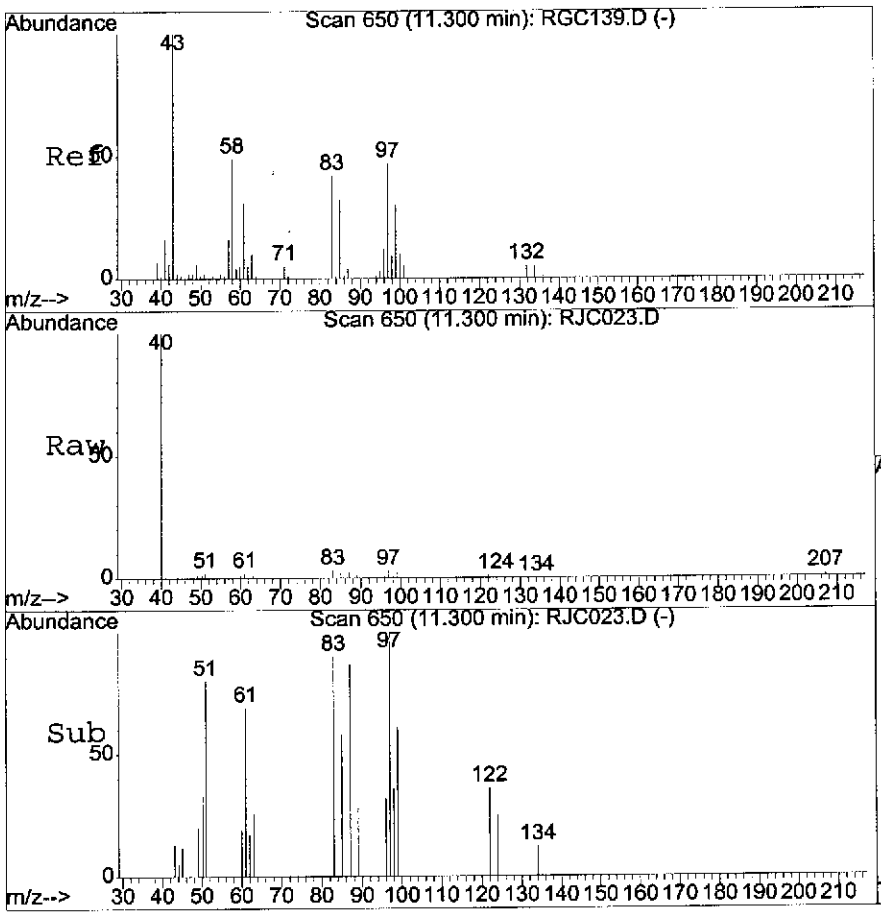


#46
Trichloroethene
Concen: 483.31 ug/l
RT: 8.64 min Scan# 468
Delta R.T. -0.01 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion:130 Resp:30551043

Ion	Ratio	Lower	Upper
130	100		
132	99.3	65.9	125.9
95	102.0	66.6	126.6
97	88.5	33.2	93.2

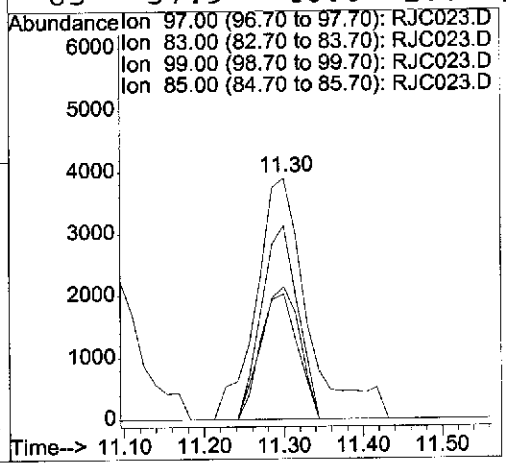


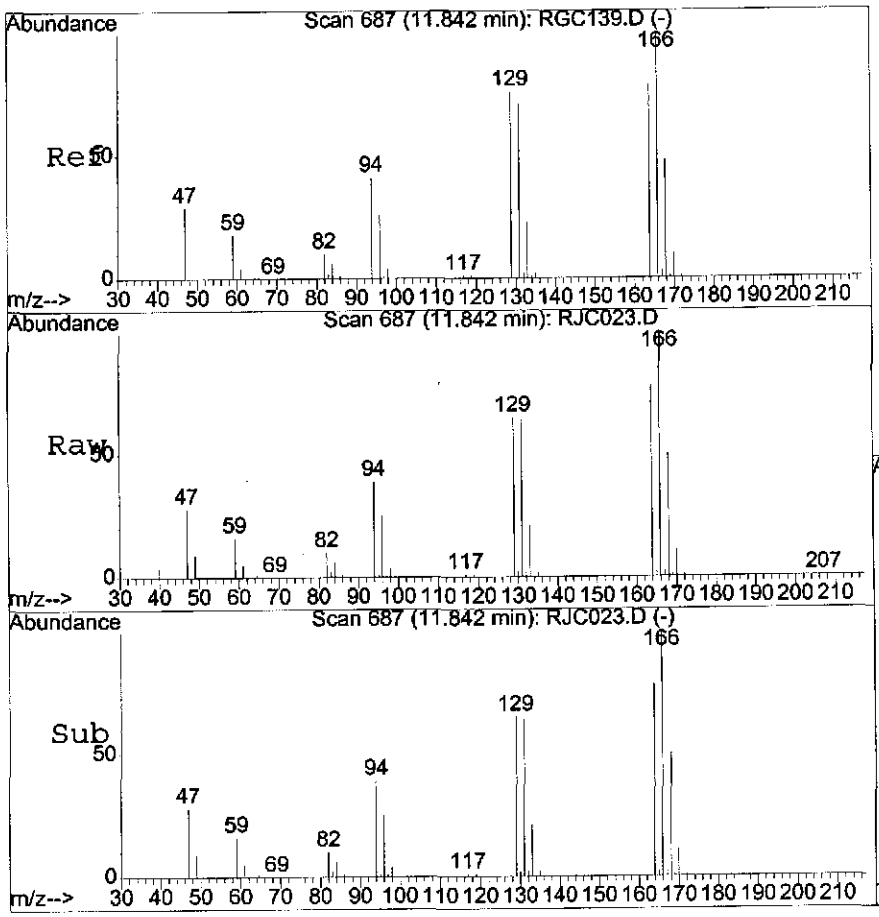


#59
1,1,2-Trichloroethane
Concen: 0.81 ug/l
RT: 11.30 min Scan# 650
Delta R.T. 0.00 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion: 97 Resp: 17545

Ion	Ratio	Lower	Upper
97	100		
83	57.0	58.6	118.6#
99	41.6	33.4	93.4
85	37.9	40.0	100.0#

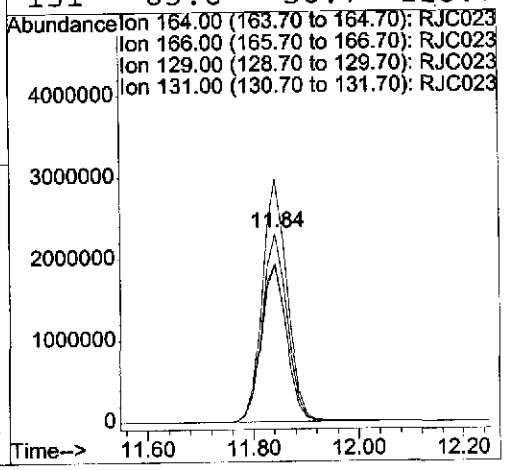


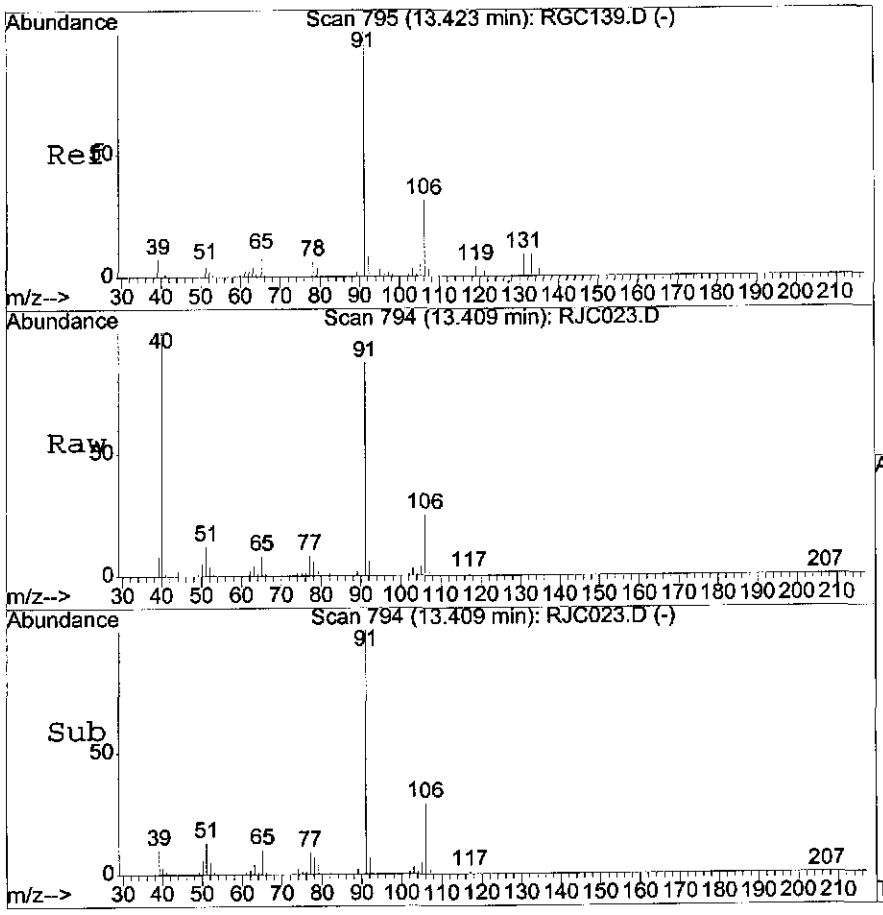


#62
Tetrachloroethene
Concen: 167.06 ug/l
RT: 11.84 min Scan# 687
Delta R.T. 0.00 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion:164 Resp: 7637699

Ion	Ratio	Lower	Upper
164	100		
166	128.0	98.3	158.3
129	85.7	63.7	123.7
131	83.8	58.7	118.7

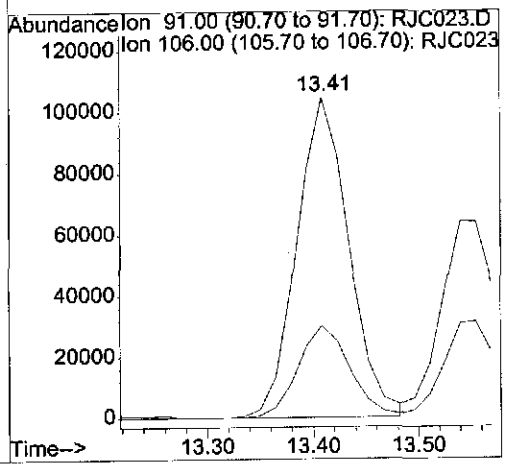


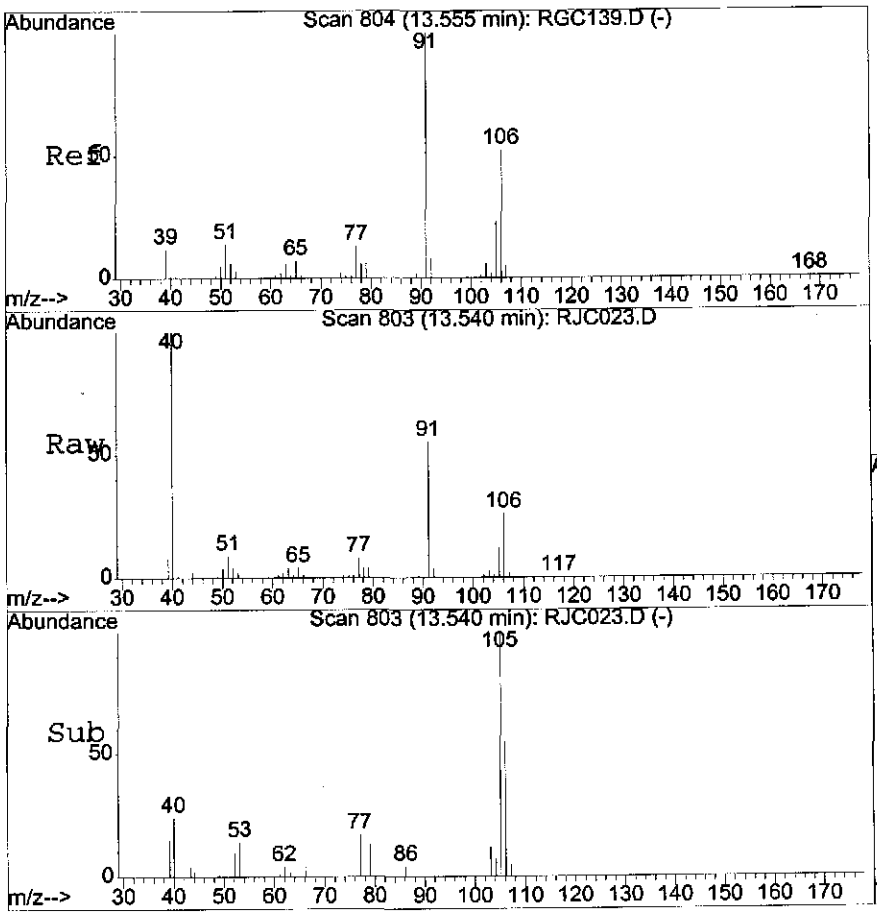


#68
Ethylbenzene
Concen: 1.46 ug/l
RT: 13.41 min Scan# 794
Delta R.T. -0.01 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion: 91 Resp: 357343

Ion	Ratio	Lower	Upper
91	100		
106	28.6	0.7	60.7

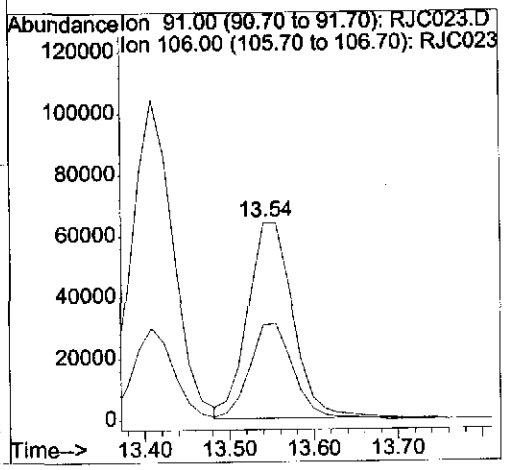


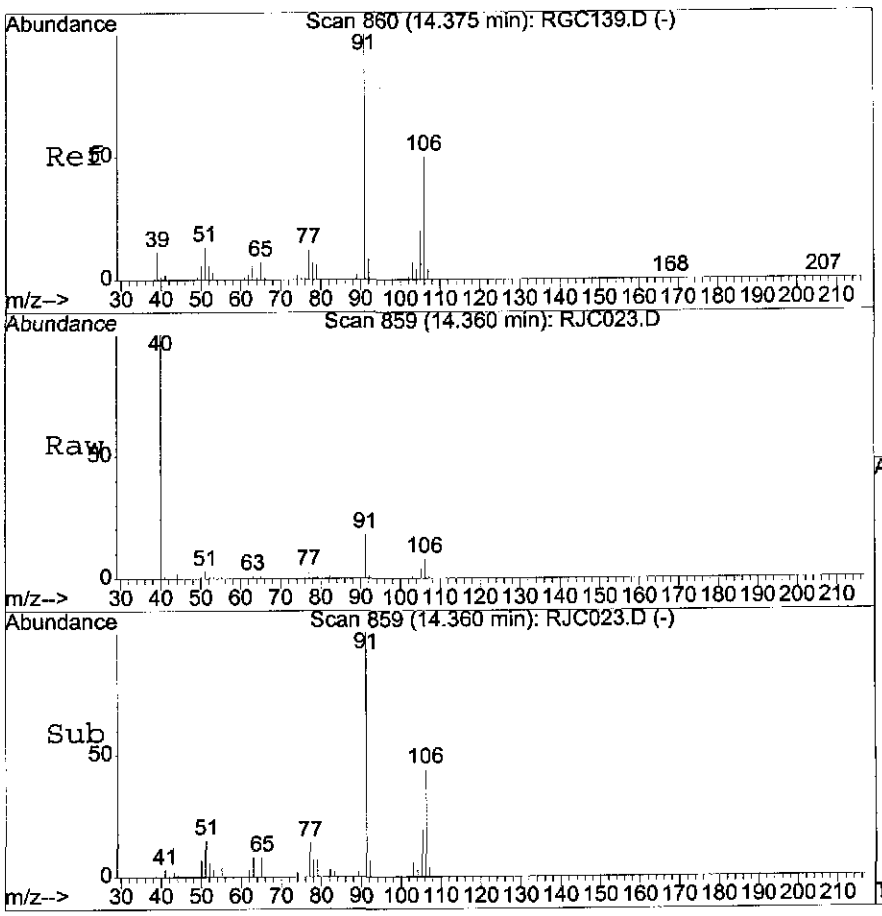


#69
m-Xylene & p-Xylene
Concen: 1.34 ug/l
RT: 13.54 min Scan# 803
Delta R.T. -0.01 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion: 91 Resp: 237158

Ion	Ratio	Lower	Upper
91	100		
106	48.1	21.6	81.6

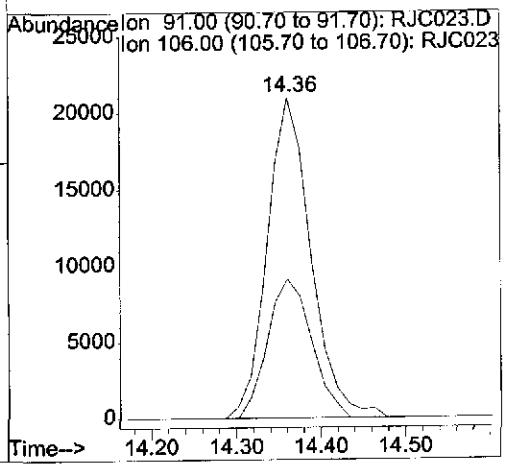


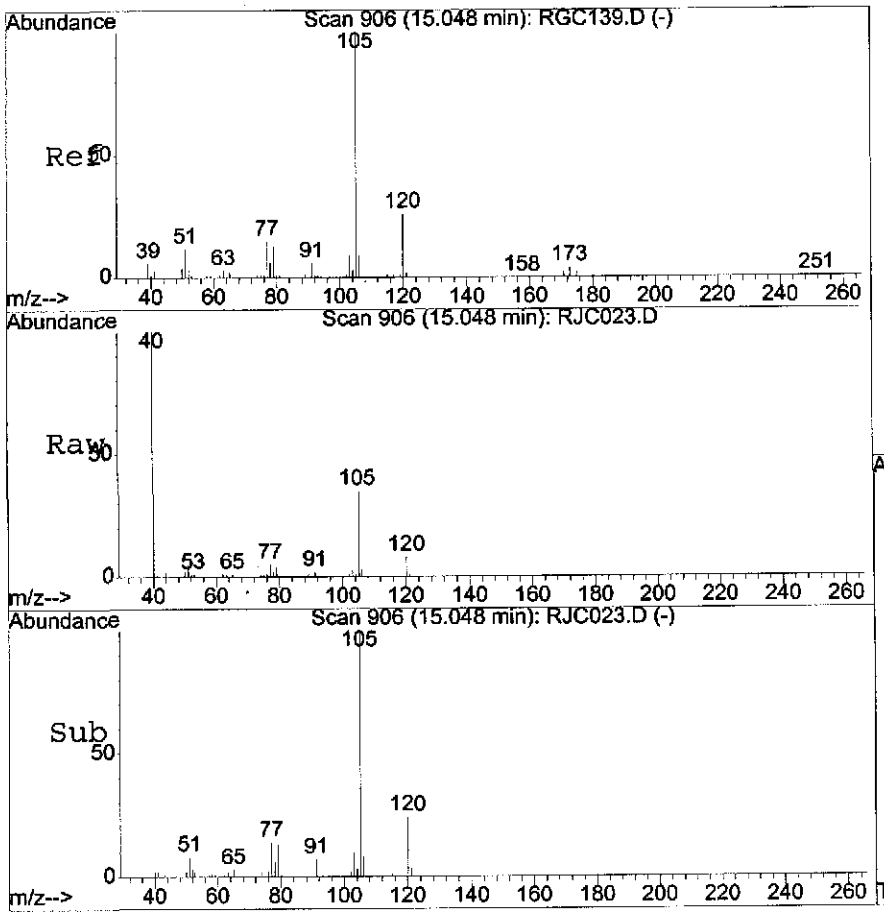


#70
o-Xylene
Concen: 0.44 ug/l
RT: 14.36 min Scan# 859
Delta R.T. -0.01 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion: 91 Resp: 75573

Ion	Ratio	Lower	Upper
91	100		
106	44.0	19.0	79.0

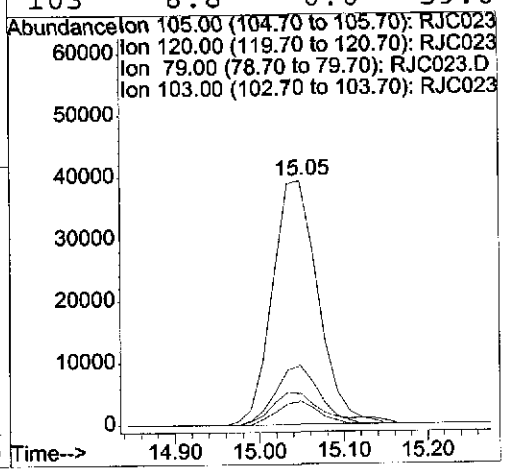


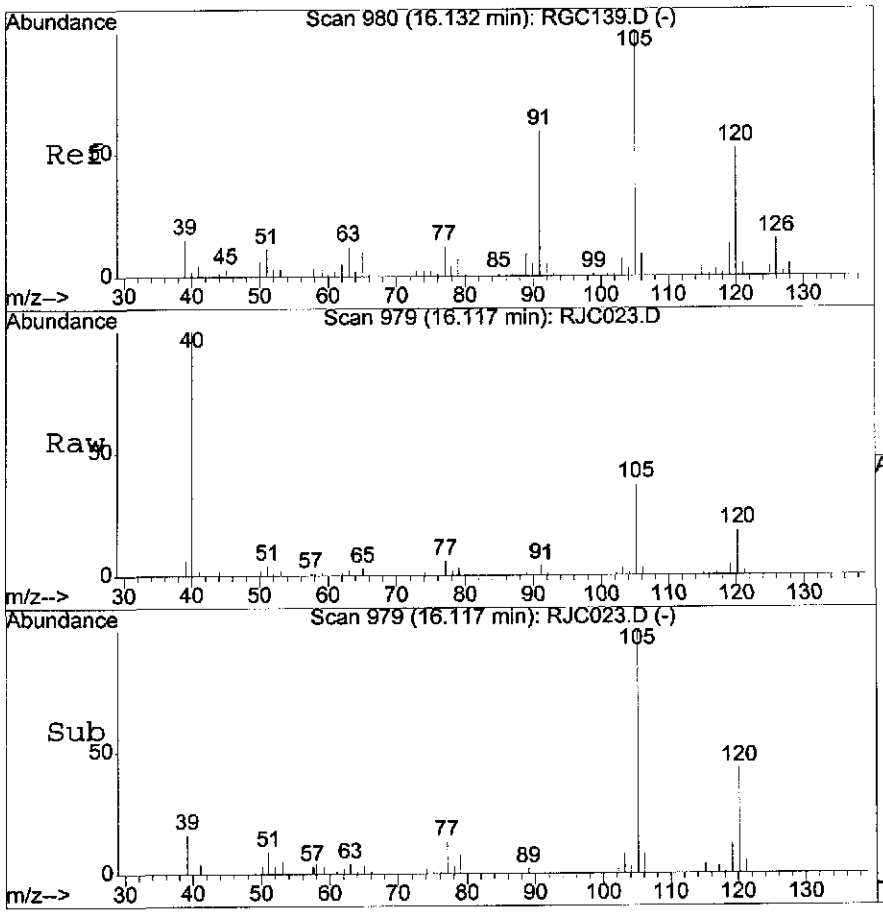


#73
Isopropylbenzene
Concen: 0.77 ug/l
RT: 15.05 min Scan# 906
Delta R.T. 0.00 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion:105 Resp: 147059

Ion	Ratio	Lower	Upper
105	100		
120	23.2	0.0	55.4
79	15.4	0.0	43.0
103	8.8	0.0	39.0

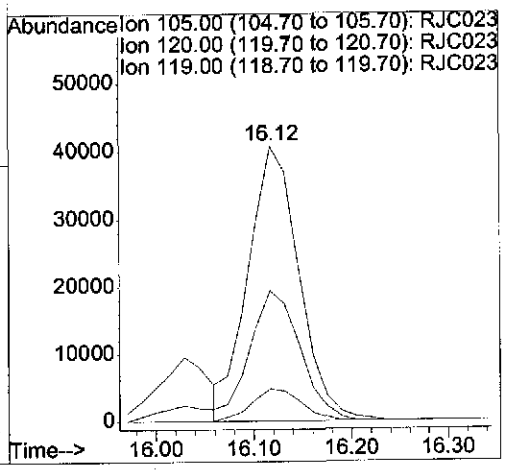


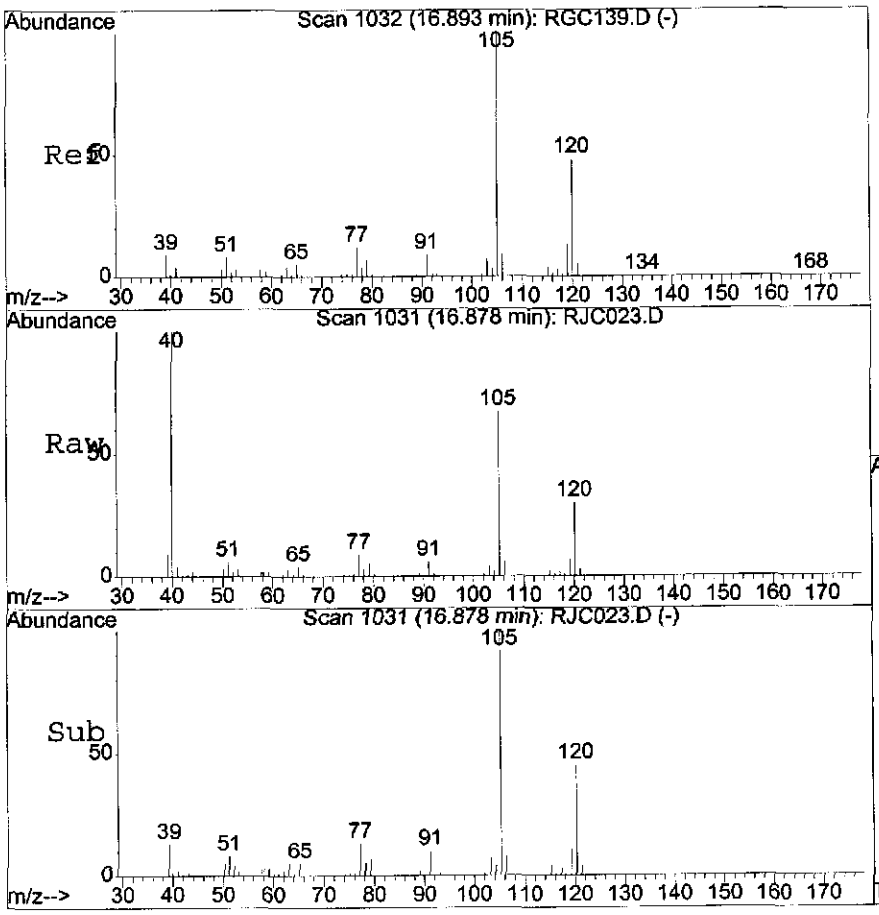


#81
1,3,5-Trimethylbenzene
Concen: 0.98 ug/l
RT: 16.12 min Scan# 979
Delta R.T. -0.01 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion:105 Resp: 147929

Ion	Ratio	Lower	Upper
105	100		
120	47.1	21.8	81.8
119	11.5	0.0	42.5

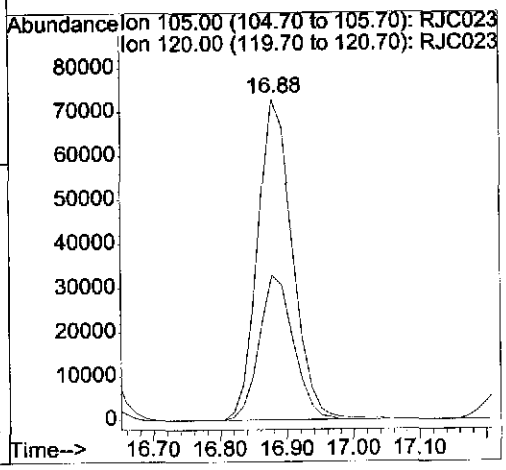




#85
1,2,4-Trimethylbenzene
Concen: 1.87 ug/l
RT: 16.88 min Scan# 1031
Delta R.T. -0.01 min
Lab File: RJC023.D
Acq: 3 Oct 2011 10:14 pm

Tgt Ion:105 Resp: 263924

Ion	Ratio	Lower	Upper
105	100		
120	44.3	26.8	86.8



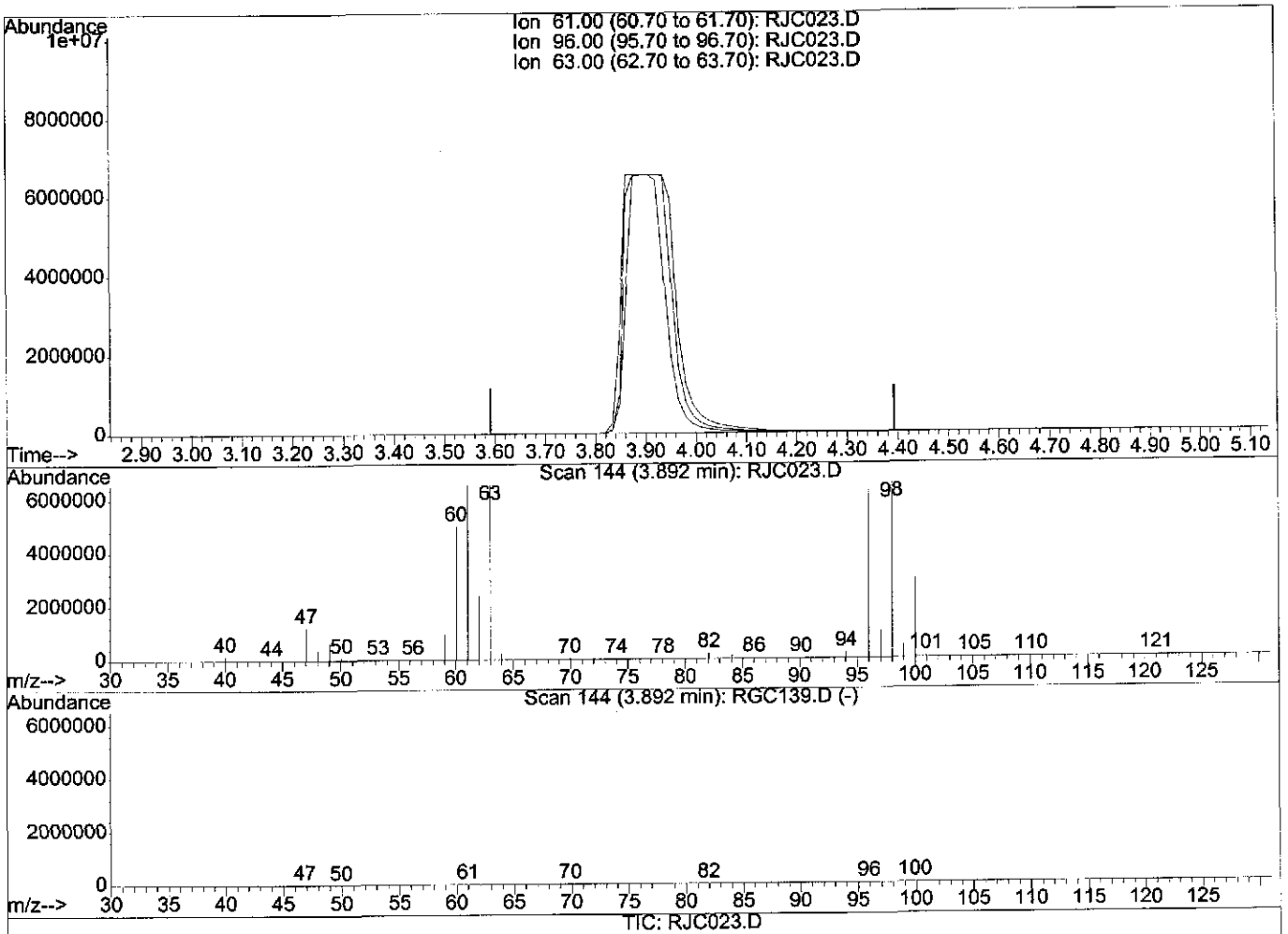
Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA\11J03\RJC023.D
Acq On : 3 Oct 2011 10:14 pm
Sample : 11I284-06 25mL
Misc : DF=1.0
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 11:48 2011

Vial: 23
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration



(14) 1,1-Dichloroethene (C,T,M)

3.89min 0.00ug/l

response 0

Ion	Exp%	Act%
61.00	100	0.00
96.00	57.30	0.00#
63.00	32.10	0.00#
0.00	0.00	0.00

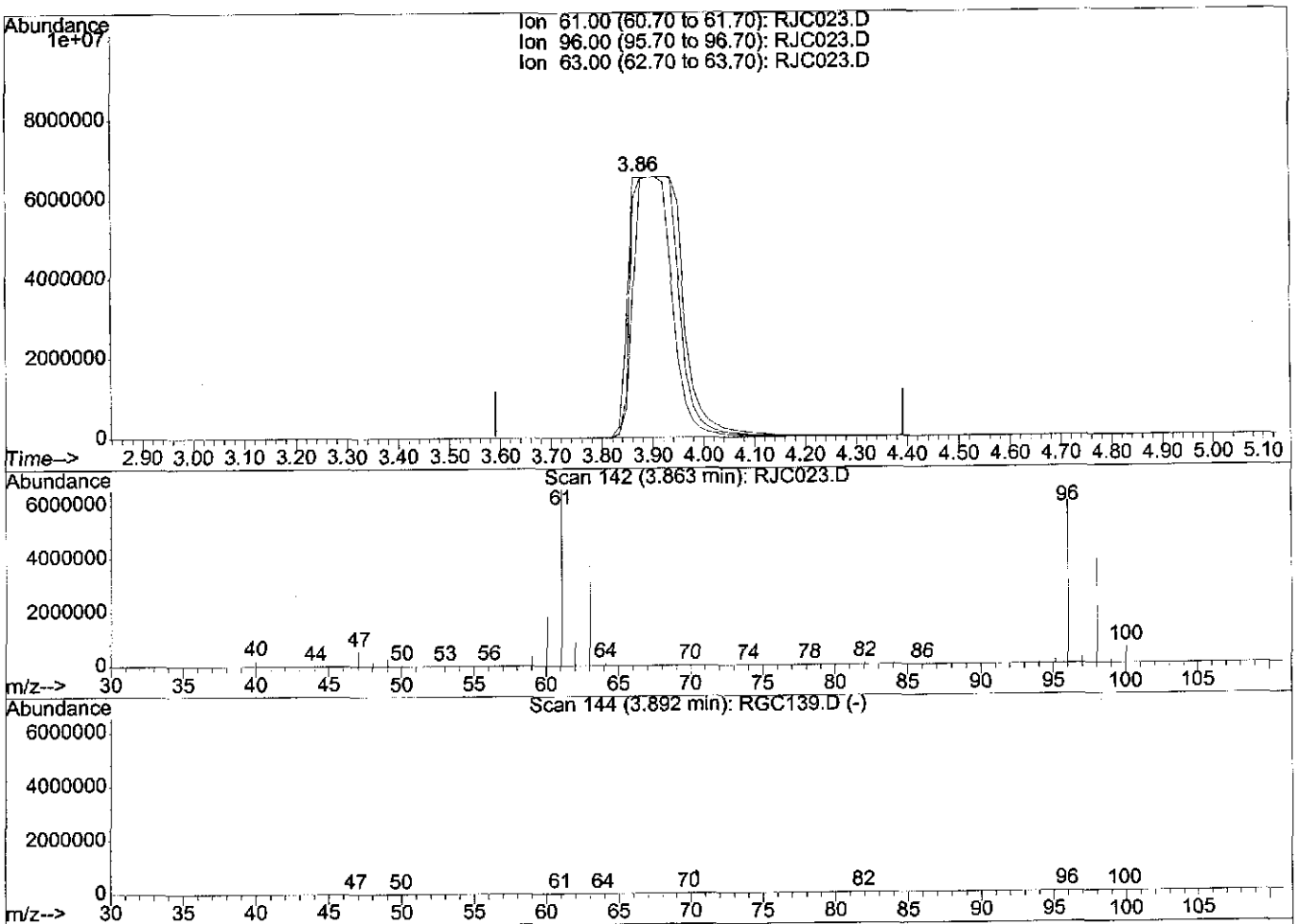
RJC023.D VO67G13.M Tue Oct 04 11:48:49 2011

Quantitation Report (Qedit)

Data File : D:\HPCHEM\1\DATA\11J03\RJC023.D
Acq On : 3 Oct 2011 10:14 pm
Sample : 11I284-06 25mL
Misc : DF=1.0
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 11:48 2011

Vial: 23
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: temp.res

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration



(14) 1,1-Dichloroethene (C,T,M)

3.86min 417.42ug/l m

response 47962625

Ion	Exp%	Act%
61.00	100	100
96.00	57.30	0.00#
63.00	32.10	0.00#
0.00	0.00	0.00

☐ Incorrect Retention Time
☐ Incorrect Baseline
☐ Incorrect Integration
☒ Other Missed Sat peak

Initials AS 10-4-11

Sa 10/6/11

RJC023.D VO67G13.M Tue Oct 04 11:49:01 2011

2023

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 09/29/11
Project : SEAL BEACH SITE 75	Date Received: 09/30/11
Batch No. : 111284	Date Extracted: 10/04/11 15:25
Sample ID: SB75MW05A-Q311-01DL	Date Analyzed: 10/04/11 15:25
Lab Samp ID: I284-06T	Dilution Factor: 25
Lab File ID: RJC041	Matrix : WATER
Ext Btch ID: V067J02	% Moisture : NA
Calib. Ref.: RGC139	Instrument ID : 67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	18J	25	5.0
1,1-DICHLOROETHANE	320	25	5.0
1,1-DICHLOROETHENE	1400	25	5.0
1,2-DICHLOROETHANE	ND	25	5.0
CIS-1,2-DICHLOROETHENE	5.4J	25	5.0
TETRACHLOROETHENE	160	25	5.0
TRICHLOROETHENE	690	25	5.0
VINYL CHLORIDE	ND	25	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	277	250.0	111	70-140
4-BROMOFLUOROBENZENE	284	250.0	113	70-130
TOLUENE-D8	269	250.0	108	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J04\RJC041.D
Acq On : 4 Oct 2011 3:25 pm
Sample : 11I284-06T 1mL
Misc : DF=25
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 16:08 2011

Vial: 12
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.13	114	1539618	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1051061	10.00 ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	261194	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	6.82	111	465853	10.55 ug/l	0.00
Spiked Amount 10.000			Recovery	= 105.50%	
40) 1,2-Dichloroethane-d4	7.54	65	329478	11.08 ug/l	0.00
Spiked Amount 10.000			Recovery	= 110.80%	
55) Toluene-d8	10.59	98	1722724	10.77 ug/l	0.00
Spiked Amount 10.000			Recovery	= 107.70%	
77) 4-Bromofluorobenzene	15.52	95	411848	11.35 ug/l	0.00
Spiked Amount 10.000			Recovery	= 113.50%	
Target Compounds					Qvalue
14) 1,1-Dichloroethene	3.90	61	6099837	56.95 ug/l	98
25) 1,1-Dichloroethane	5.45	63	1378711	12.67 ug/l	99
31) cis-1,2-Dichloroethene	6.30	96	12892	0.21 ug/l	98
37) 1,1,1-Trichloroethane	7.09	97	56562	0.74 ug/l	98
46) Trichloroethene	8.64	130	1584030	27.76 ug/l	92
62) Tetrachloroethene	11.85	164	261234	6.33 ug/l	96

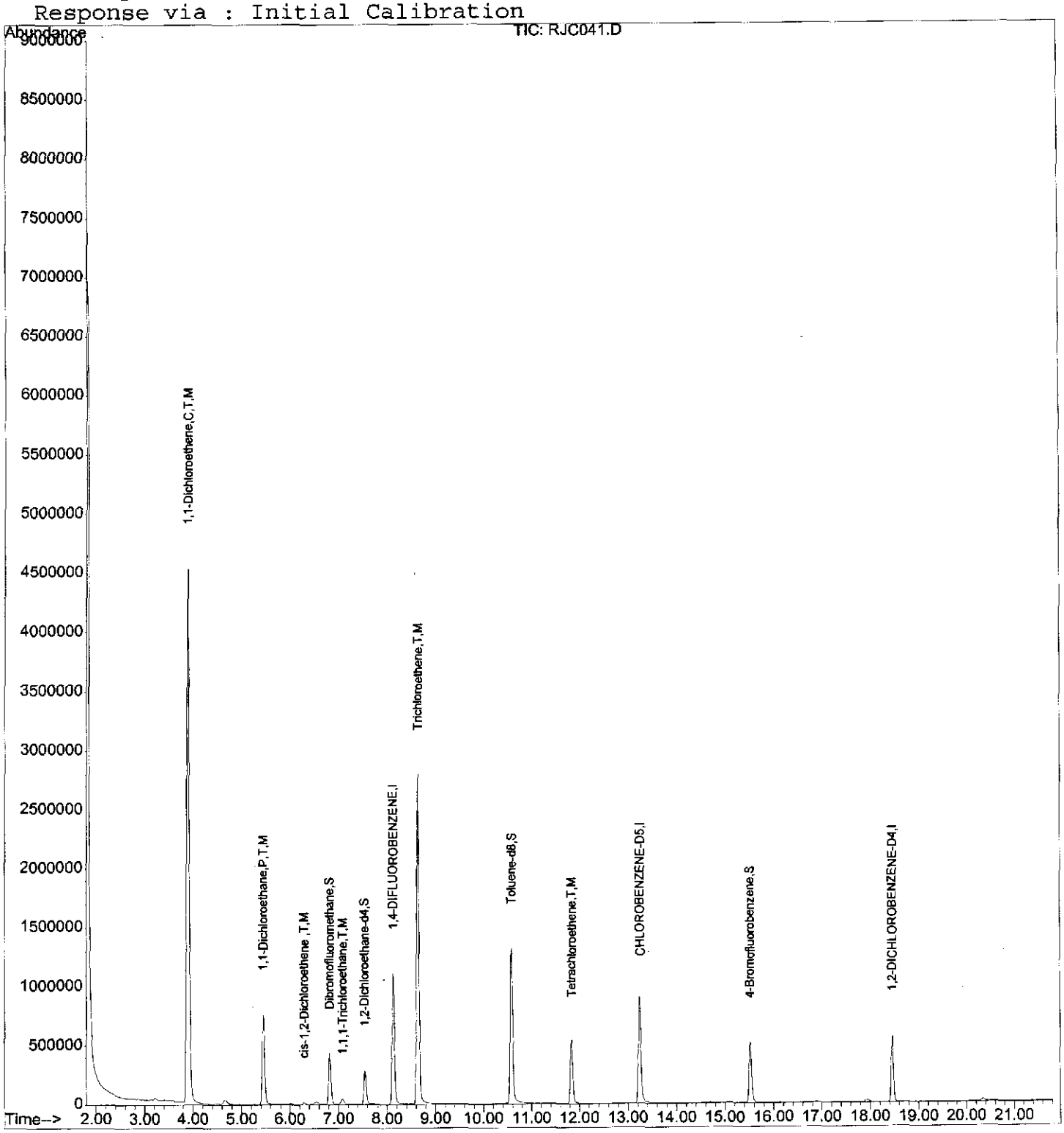
(#) = qualifier out of range (m) = manual integration

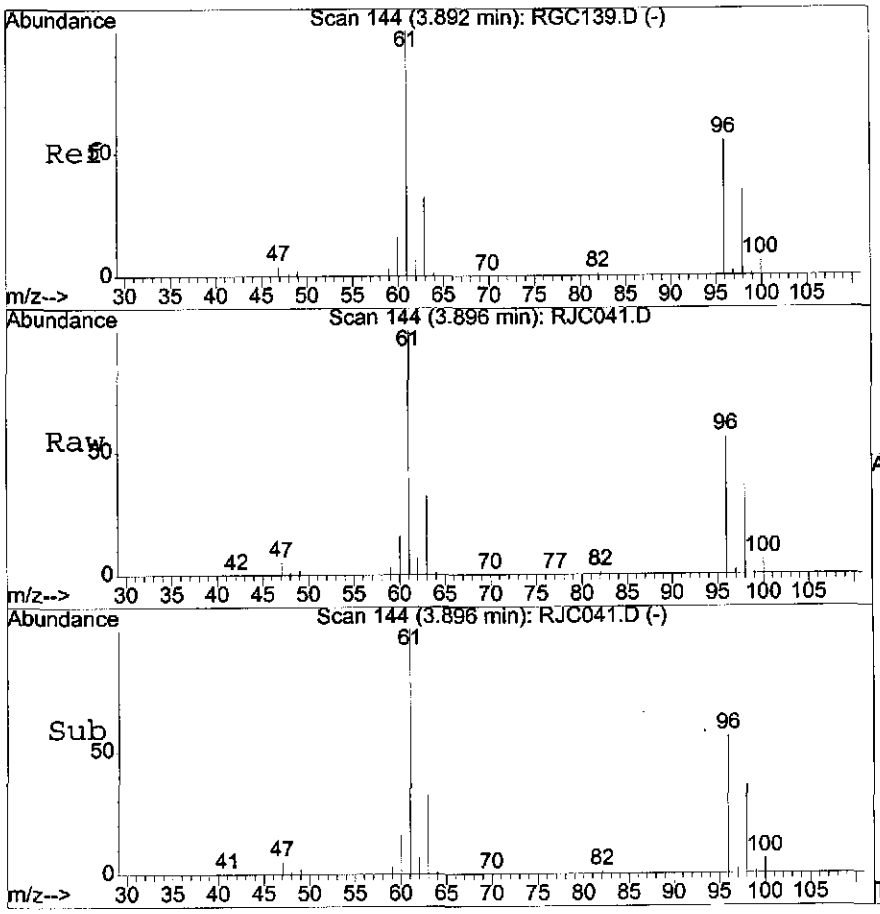
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J04\RJC041.D
Acq On : 4 Oct 2011 3:25 pm
Sample : 11I284-06T 1mL
Misc : DF=25
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 16:08 2011

Vial: 12
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration

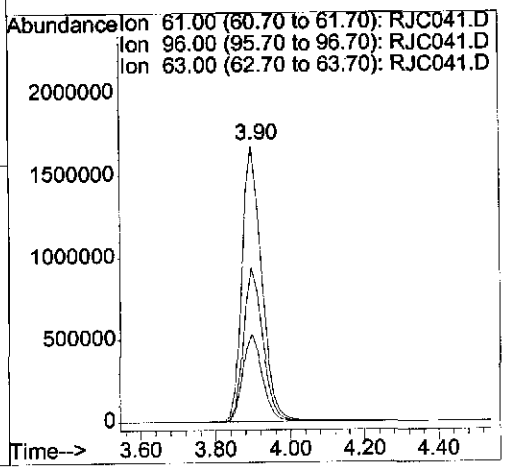


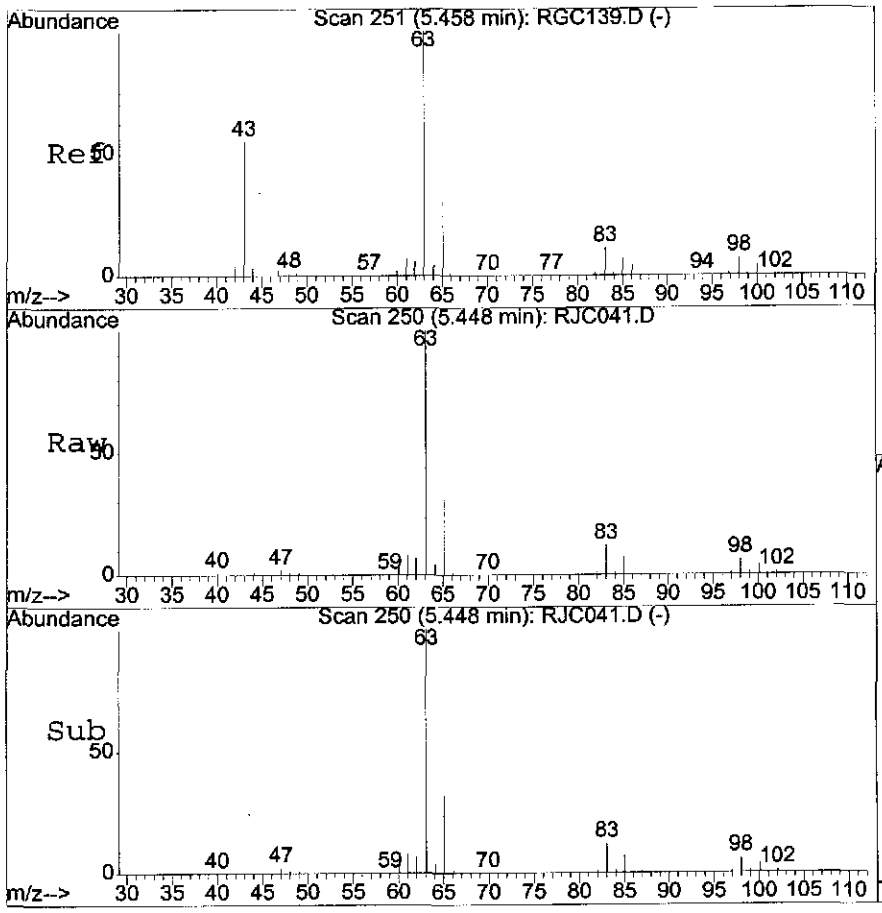


#14
1,1-Dichloroethene
Concen: 56.95 ug/l
RT: 3.90 min Scan# 144
Delta R.T. 0.00 min
Lab File: RJC041.D
Acq: 4 Oct 2011 3:25 pm

Tgt Ion: 61 Resp: 6099837

Ion	Ratio	Lower	Upper
61	100		
96	55.1	27.3	87.3
63	31.9	2.1	62.1

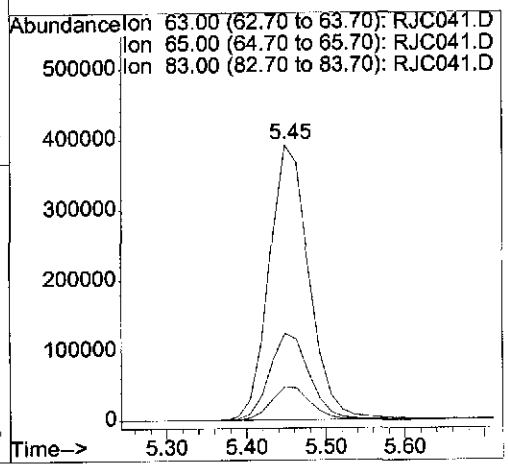


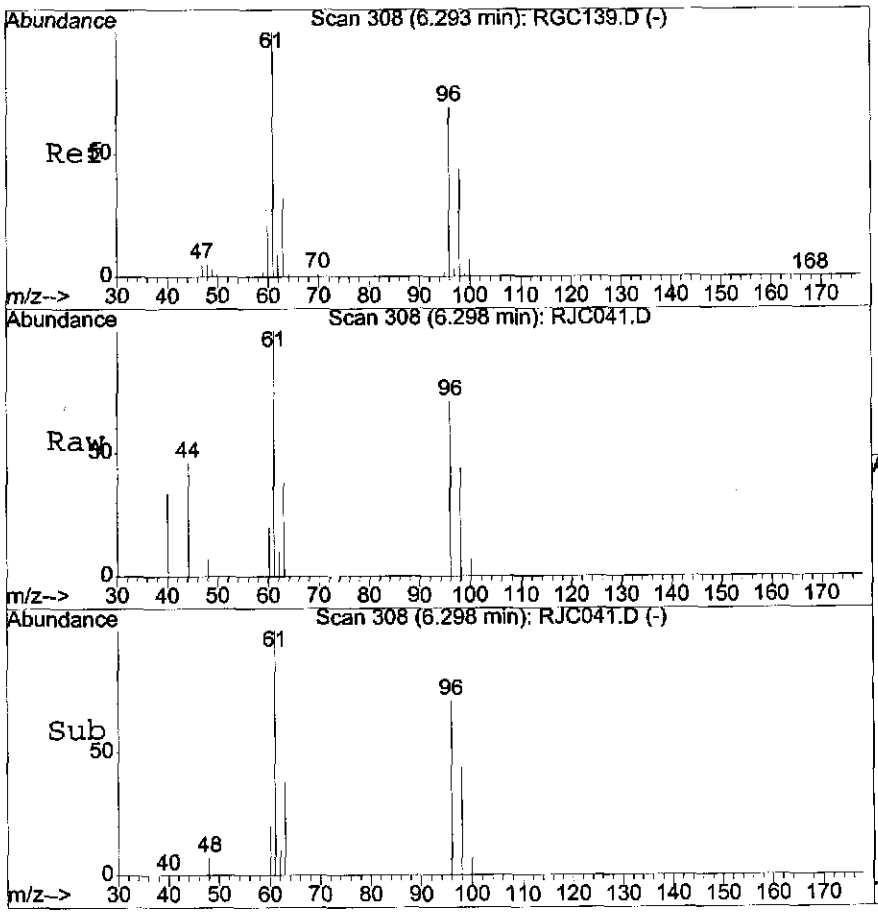


#25
1,1-Dichloroethane
Concen: 12.67 ug/l
RT: 5.45 min Scan# 250
Delta R.T. -0.01 min
Lab File: RJC041.D
Acq: 4 Oct 2011 3:25 pm

Tgt Ion: 63 Resp: 1378711

Ion	Ratio	Lower	Upper
63	100		
65	31.6	1.3	61.3
83	12.0	0.0	41.6

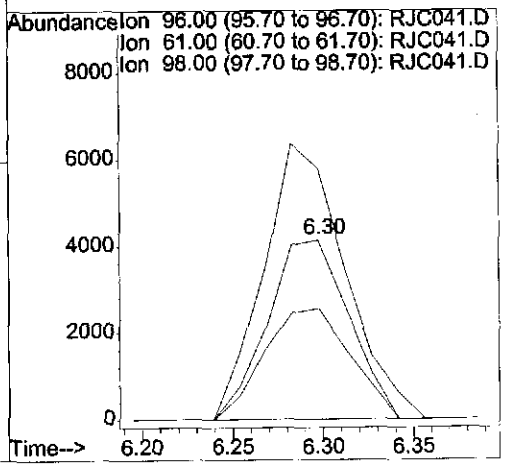


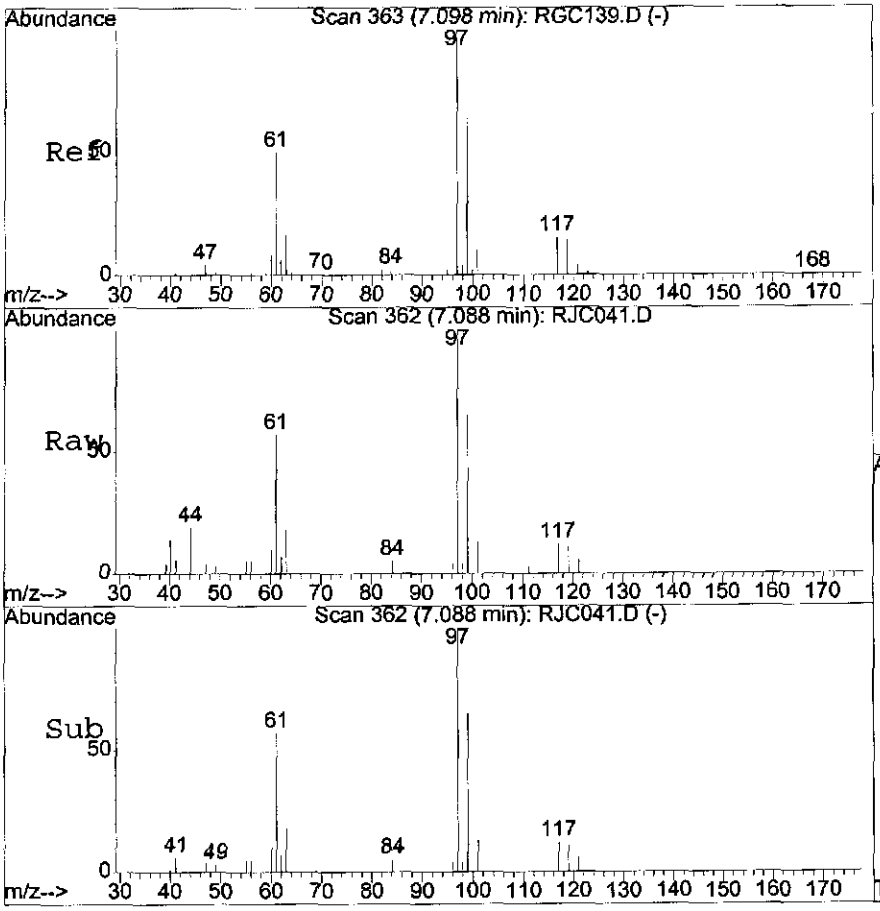


#31
cis-1,2-Dichloroethene
Concen: 0.21 ug/l
RT: 6.30 min Scan# 308
Delta R.T. 0.00 min
Lab File: RJC041.D
Acq: 4 Oct 2011 3:25 pm

Tgt Ion: 96 Resp: 12892

Ion	Ratio	Lower	Upper
96	100		
61	154.7	127.6	187.6
98	65.3	34.5	94.5

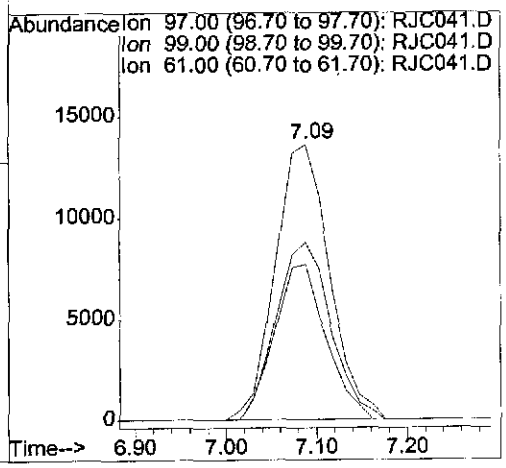


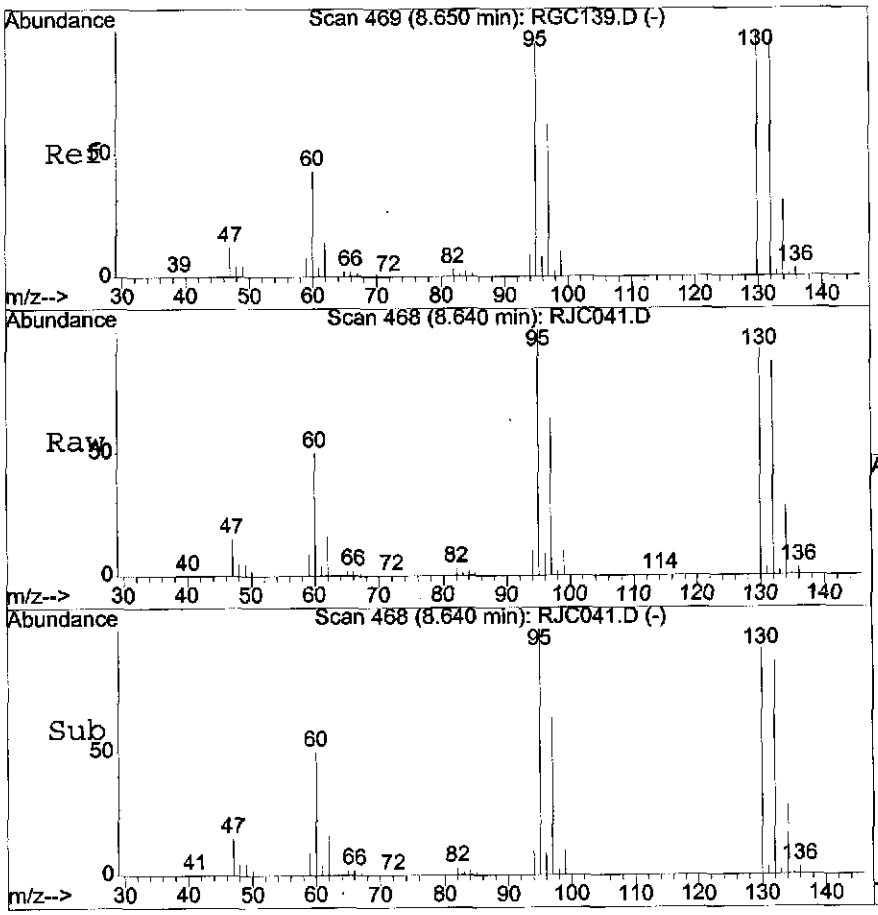


#37
1,1,1-Trichloroethane
Concen: 0.74 ug/l
RT: 7.09 min Scan# 362
Delta R.T. -0.01 min
Lab File: RJC041.D
Acq: 4 Oct 2011 3:25 pm

Tgt Ion: 97 Resp: 56562

Ion	Ratio	Lower	Upper
97	100		
99	65.1	34.8	94.8
61	53.8	21.0	81.0

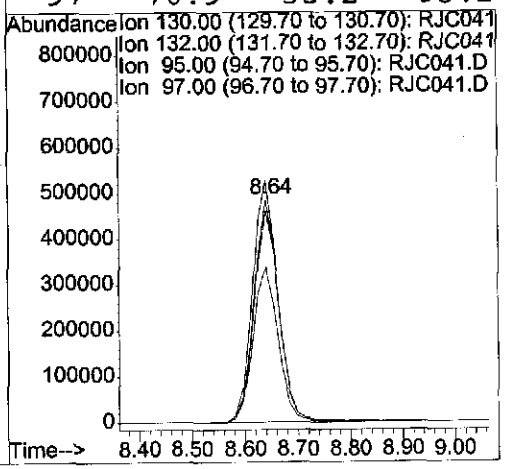


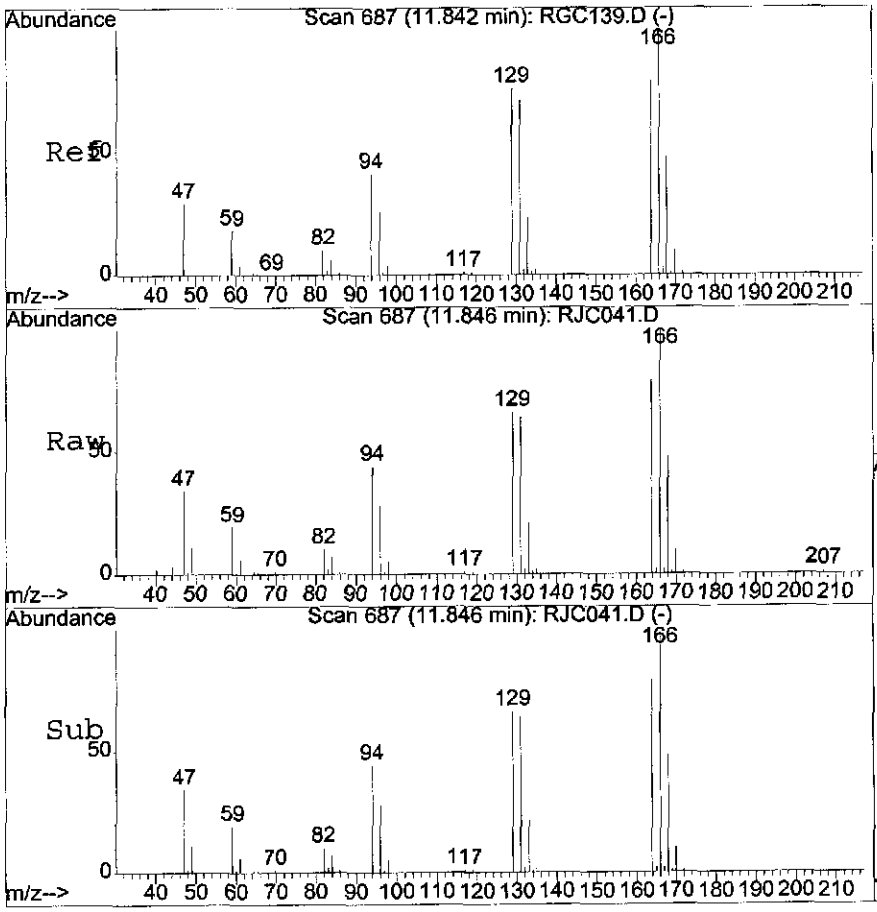


#46
Trichloroethene
Concen: 27.76 ug/l
RT: 8.64 min Scan# 468
Delta R.T. -0.01 min
Lab File: RJC041.D
Acq: 4 Oct 2011 3:25 pm

Tgt Ion:130 Resp: 1584030

Ion	Ratio	Lower	Upper
130	100		
132	96.0	65.9	125.9
95	111.1	66.6	126.6
97	70.9	33.2	93.2

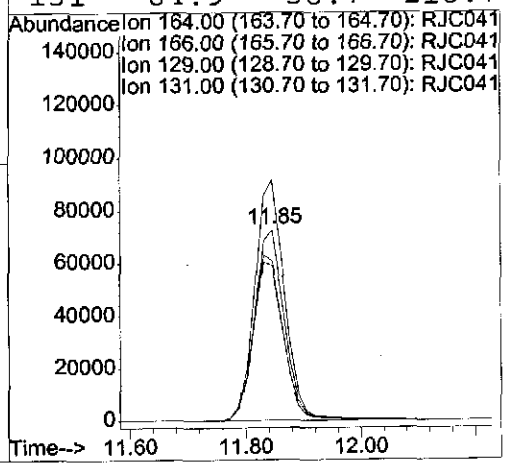




#62
Tetrachloroethene
Concen: 6.33 ug/l
RT: 11.85 min Scan# 687
Delta R.T. 0.00 min
Lab File: RJC041.D
Acq: 4 Oct 2011 3:25 pm

Tgt Ion:164 Resp: 261234

Ion	Ratio	Lower	Upper
164	100		
166	126.5	98.3	158.3
129	87.9	63.7	123.7
131	84.9	58.7	118.7



METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	09/29/11
Project	: SEAL BEACH SITE 75	Date Received:	09/30/11
Batch No.	: 11I284	Date Extracted:	10/03/11 22:46
Sample ID:	SB75MW05A-Q311-02	Date Analyzed:	10/03/11 22:46
Lab Samp ID:	I284-07	Dilution Factor:	1
Lab File ID:	RJC024	Matrix :	WATER
Ext Btch ID:	V067J01	% Moisture :	NA
Calib. Ref.:	RGC139	Instrument ID :	67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	17	1.0	0.20
1,1-DICHLOROETHANE	230E	1.0	0.20
1,1-DICHLOROETHENE	400E	1.0	0.20
1,2-DICHLOROETHANE	2.1	1.0	0.20
CIS-1,2-DICHLOROETHENE	5.0	1.0	0.20
TETRACHLOROETHENE	160E	1.0	0.20
TRICHLOROETHENE	460E	1.0	0.20
VINYL CHLORIDE	1.3	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.2	10.00	112	70-140
4-BROMOFLUOROBENZENE	11.7	10.00	117	70-130
TOLUENE-D8	10.5	10.00	105	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 09/29/11
Project : SEAL BEACH SITE 75	Date Received: 09/30/11
Batch No. : 11I284	Date Extracted: 10/04/11 15:56
Sample ID: SB75MW05A-Q311-02DL	Date Analyzed: 10/04/11 15:56
Lab Samp ID: I284-07T	Dilution Factor: 25
Lab File ID: RJC042	Matrix : WATER
Ext Btch ID: VO67J02	% Moisture : NA
Calib. Ref.: RGC139	Instrument ID : 67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	18J	25	5.0
1,1-DICHLOROETHANE	310	25	5.0
1,1-DICHLOROETHENE	1400	25	5.0
1,2-DICHLOROETHANE	ND	25	5.0
CIS-1,2-DICHLOROETHENE	5.5J	25	5.0
TETRACHLOROETHENE	160	25	5.0
TRICHLOROETHENE	680	25	5.0
VINYL CHLORIDE	ND	25	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	275	250.0	110	70-140
4-BROMOFLUOROBENZENE	289	250.0	116	70-130
TOLUENE-D8	270	250.0	108	70-140

QC SUMMARIES

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	NA
Project	: SEAL BEACH SITE 75	Date Received:	10/03/11
Batch No.	: 11I284	Date Extracted:	10/03/11 16:00
Sample ID:	MBLK1W	Date Analyzed:	10/03/11 16:00
Lab Samp ID:	V067J01B	Dilution Factor:	1
Lab File ID:	RJC011	Matrix :	WATER
Ext Btch ID:	V067J01	% Moisture :	NA
Calib. Ref.:	RGC139	Instrument ID :	67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.6	10.00	106	70-140
4-BROMOFLUOROBENZENE	11.5	10.00	115	70-130
TOLUENE-D8	10.8	10.00	108	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11I284
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	V067J01B	V067J01L	V067J01C		
LAB FILE ID:	RJC011	RJC003	RJC004		
DATE EXTRACTED:	10/03/1116:00	10/03/1111:49	10/03/1112:20	DATE COLLECTED:	NA
DATE ANALYZED:	10/03/1116:00	10/03/1111:49	10/03/1112:20	DATE RECEIVED:	10/03/11
PREP. BATCH:	V067J01	V067J01	V067J01		
CALIB. REF:	RGC139	RGC139	RGC139		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	10.2	102	10.0	9.55	96	6	70-130	30
1,1-Dichloroethane	ND	10.0	10.3	103	10.0	9.82	98	5	70-130	30
1,1-Dichloroethene	ND	10.0	8.90	89	10.0	8.44	84	5	60-130	30
1,2-Dichloroethane	ND	10.0	10.5	105	10.0	9.93	99	5	70-130	30
cis-1,2-Dichloroethene	ND	10.0	9.17	92	10.0	8.64	86	6	70-130	30
Tetrachloroethene	ND	10.0	8.87	89	10.0	8.35	83	6	70-130	30
Trichloroethene	ND	10.0	8.64	86	10.0	8.08	81	7	70-130	30
Vinyl Chloride	ND	10.0	9.30	93	10.0	8.38	84	10	60-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.1	101	10.0	10.2	102	70-140
4-Bromofluorobenzene	10.0	10.6	106	10.0	10.9	109	70-130
Toluene-d8	10.0	10.7	107	10.0	10.6	106	70-130

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: NA
Project : SEAL BEACH SITE 75	Date Received: 10/04/11
Batch No. : 111284	Date Extracted: 10/04/11 14:24
Sample ID: MBLK2W	Date Analyzed: 10/04/11 14:24
Lab Samp ID: V067J02Q	Dilution Factor: 1
Lab File ID: RJC039	Matrix : WATER
Ext Btch ID: V067J02	% Moisture : NA
Calib. Ref.: RGC139	Instrument ID : 67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.8	10.00	108	70-140
4-BROMOFLUOROBENZENE	11.7	10.00	117	70-130
TOLUENE-D8	10.8	10.00	108	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11I284
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK2W				
LAB SAMP ID:	V067J02Q	V067J02L	V067J02C		
LAB FILE ID:	RJC039	RJC032	RJC033		
DATE EXTRACTED:	10/04/1114:24	10/04/1110:48	10/04/1111:19	DATE COLLECTED:	NA
DATE ANALYZED:	10/04/1114:24	10/04/1110:48	10/04/1111:19	DATE RECEIVED:	10/04/11
PREP. BATCH:	V067J02	V067J02	V067J02		
CALIB. REF:	RGC139	RGC139	RGC139		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	9.72	97	10.0	10.3	103	6	70-130	30
1,1 Dichloroethane	ND	10.0	9.89	99	10.0	10.5	105	6	70-130	30
1,1-Dichloroethene	ND	10.0	8.51	85	10.0	9.10	91	7	60-130	30
1,2-Dichloroethane	ND	10.0	10.3	103	10.0	10.8	108	4	70-130	30
cis-1,2-Dichloroethene	ND	10.0	8.76	88	10.0	9.31	93	6	70-130	30
Tetrachloroethene	ND	10.0	8.66	87	10.0	9.00	90	4	70-130	30
Trichloroethene	ND	10.0	8.34	83	10.0	8.84	88	6	70-130	30
Vinyl Chloride	ND	10.0	9.36	94	10.0	10.4	104	11	60-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.2	102	10.0	10.3	103	70-140
4-Bromofluorobenzene	10.0	10.7	107	10.0	10.7	107	70-130
Toluene-d8	10.0	10.6	106	10.0	10.6	106	70-130

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 111284
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	SB75MW01A-Q311-01				
LAB SAMP ID:	I284-01	I284-01M	I284-01S		
LAB FILE ID:	RJC016	RJC017	RJC018		
DATE EXTRACTED:	10/03/1118:36	10/03/1119:07	10/03/1119:38	DATE COLLECTED:	09/28/11
DATE ANALYZED:	10/03/1118:36	10/03/1119:07	10/03/1119:38	DATE RECEIVED:	09/30/11
PREP. BATCH:	V067J01	V067J01	V067J01		
CALIB. REF:	RGC139	RGC139	RGC139		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	4.25	10.0	15.4	111	10.0	15.0	107	3	70-130	30
1,1-Dichloroethane	226E	10.0	251E	256*	10.0	247E	214*	2	70-130	30
1,1-Dichloroethene	338E	10.0	375E	369*	10.0	364E	255*	3	60-140	30
1,2-Dichloroethane	1.28	10.0	13.3	120	10.0	12.7	114	4	70-140	30
cis-1,2-Dichloroethene	3.36	10.0	13.5	102	10.0	13.2	99	2	70-140	30
Tetrachloroethene	78.5	10.0	92.1	136*	10.0	90.3	118	2	70-130	30
Trichloroethene	387E	10.0	407E	201*	10.0	394E	69	3	60-140	30
Vinyl Chloride	1.68	10.0	11.6	100	10.0	11.6	99	1	60-160	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	11.1	111	10.0	10.8	108	70-140
4-Bromofluorobenzene	10.0	10.8	108	10.0	10.8	108	70-130
Toluene-d8	10.0	10.6	106	10.0	10.5	105	70-140

QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC011.D
Acq On : 3 Oct 2011 4:00 pm
Sample : VO67J01B 25mL
Misc : DF=1.0, MB
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 16:24 2011

Vial: 11
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1787192	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1220100	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	285876	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.83	111	531883	10.37	ug/l	0.00
Spiked Amount 10.000			Recovery	=	103.70%	
40) 1,2-Dichloroethane-d4	7.55	65	366699	10.63	ug/l	0.00
Spiked Amount 10.000			Recovery	=	106.30%	
55) Toluene-d8	10.58	98	1998845	10.77	ug/l	0.00
Spiked Amount 10.000			Recovery	=	107.70%	
77) 4-Bromofluorobenzene	15.53	95	458554	11.54	ug/l	0.00
Spiked Amount 10.000			Recovery	=	115.40%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
RJC011.D VO67G13.M Mon Oct 03 16:25:09 2011

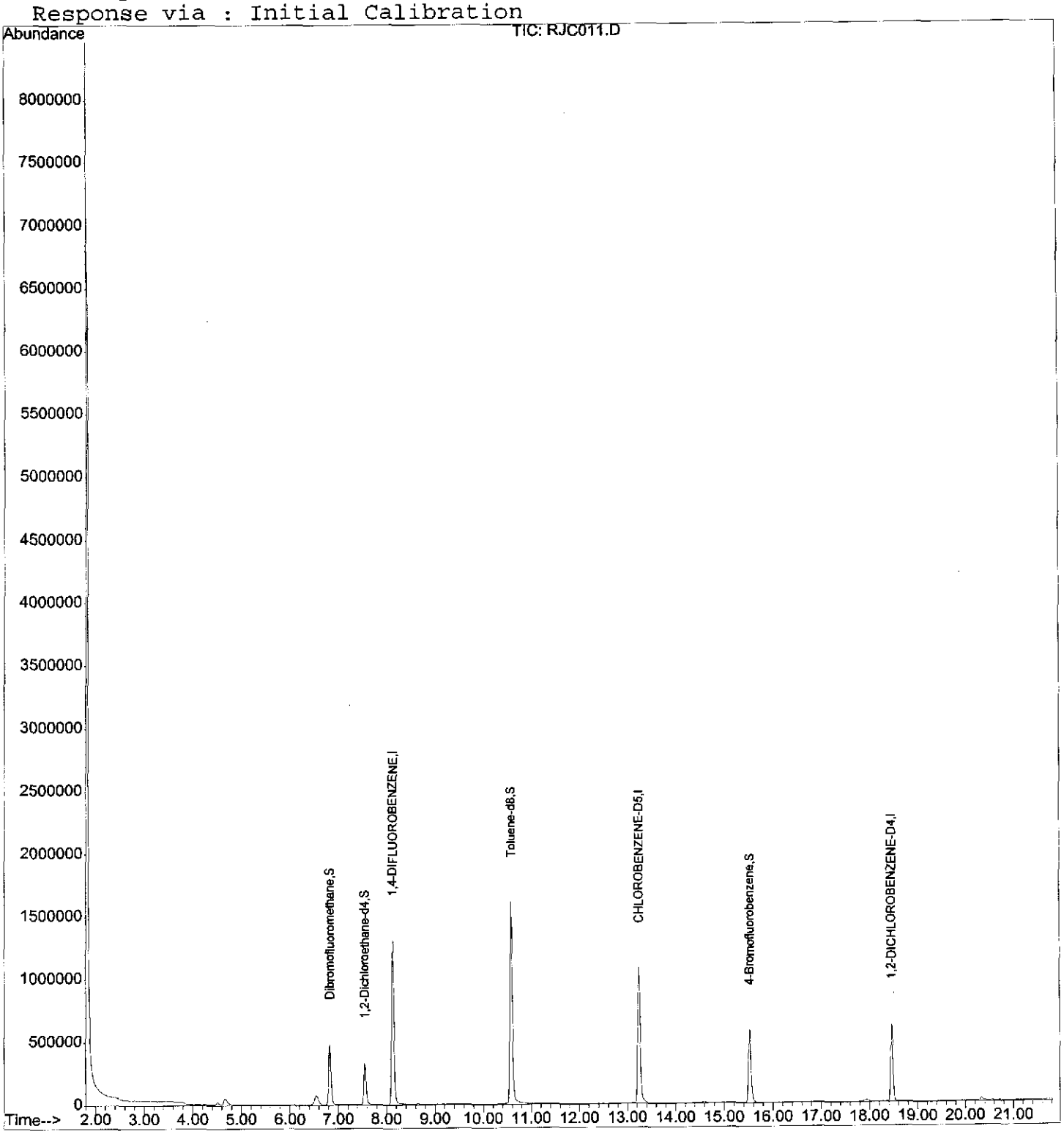
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC011.D
Acq On : 3 Oct 2011 4:00 pm
Sample : VO67J01B 25mL
Misc : DF=1.0, MB
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 16:24 2011

Vial: 11
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC003.D
Acq On : 3 Oct 2011 11:49 am
Sample : VO67J01L
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 13:06 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1747660	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1257900	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	351443	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.83	111	499163	9.96	ug/l	0.00
Spiked Amount 10.000			Recovery = 99.60%			
40) 1,2-Dichloroethane-d4	7.55	65	341981	10.13	ug/l	0.00
Spiked Amount 10.000			Recovery = 101.30%			
55) Toluene-d8	10.58	98	2041764	10.67	ug/l	0.00
Spiked Amount 10.000			Recovery = 106.70%			
77) 4-Bromofluorobenzene	15.52	95	517413	10.59	ug/l	-0.02
Spiked Amount 10.000			Recovery = 105.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.91	85	427227	7.92	ug/l	99
4) Chloromethane	2.16	50	892343	9.53	ug/l	99
5) Vinyl chloride	2.30	62	880864	9.30	ug/l	99
6) Bromomethane	2.79	94	474909	9.35	ug/l	98
7) Chloroethane	2.88	64	512412	9.91	ug/l	97
8) Dichlorofluoromethane	2.92	67	1346585	10.51	ug/l	100
9) Trichlorofluoromethane	3.17	101	682875	9.54	ug/l	98
11) Acrolein	3.67	56	144864	56.41	ug/l	95
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	424612	9.48	ug/l	99
13) Acetone	3.74	43	252495	50.89	ug/l	99
14) 1,1-Dichloroethene	3.91	61	1082722	8.90	ug/l	98
15) tert-Butyl alcohol	4.01	59	64295	46.62	ug/l	84
17) Iodomethane	4.29	142	882922	8.53	ug/l	99
18) Acetonitrile	4.36	41	1438225	103.73	ug/l	99
19) Methylene chloride	4.51	49	844529	10.64	ug/l	97
20) Carbon disulfide	4.52	76	2506748	8.89	ug/l	100
21) Acrylonitrile	4.67	53	340857	44.81	ug/l	99
22) tert-Butyl methyl ether (M	4.71	73	649772	9.59	ug/l	97
23) trans-1,2-Dichloroethene	4.89	61	1030044	8.89	ug/l	98
24) Isopropyl ether (DIPE)	5.31	45	2131083	10.29	ug/l	98
25) 1,1-Dichloroethane	5.46	63	1268909	10.28	ug/l	99
26) Vinyl acetate	5.46	43	431572	6.96	ug/l	100
28) tert-Butyl ethyl ether (ET	5.85	59	1131899	9.36	ug/l	99
29) 2-Butanone	6.03	43	414736	44.86	ug/l	99
30) 2,2-Dichloropropane	6.22	77	762013	10.04	ug/l	99
31) cis-1,2-Dichloroethene	6.29	96	624583	9.17	ug/l	98
32) Chloroform	6.51	83	1026499	10.68	ug/l	98

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC003.D
Acq On : 3 Oct 2011 11:49 am
Sample : VO67J01L
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 13:06 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.75	49	441608	9.71 ug/l	86
36)	Tetrahydrofuran	6.80	42	58893	9.55 ug/l	94
37)	1,1,1-Trichloroethane	7.08	97	884104	10.17 ug/l	98
39)	tert-Amyl methyl ether (TA	7.48	87	147676	8.51 ug/l	95
42)	1,1-Dichloropropene	7.32	110	299050	8.94 ug/l	100
43)	Carbon tetrachloride	7.46	119	676126	9.61 ug/l	100
44)	1,2-Dichloroethane	7.70	62	419184	10.48 ug/l	96
45)	Benzene	7.71	78	2387115	10.01 ug/l	99
46)	Trichloroethene	8.65	130	590213	8.64 ug/l	92
48)	1,2-Dichloropropane	8.93	63	580218	10.41 ug/l	95
49)	Bromodichloromethane	9.29	83	595045	10.71 ug/l	99
50)	1,4-Dioxane	9.32	88	31890	223.11 ug/l	97
51)	Dibromomethane	9.38	93	192019	9.82 ug/l	98
52)	2-Chloroethyl vinyl ether	9.79	63	32587	2.14 ug/l	92
53)	4-Methyl-2-pentanone	9.84	43	950877	43.17 ug/l	99
54)	cis-1,3-Dichloropropene	10.17	75	693108	10.19 ug/l	95
56)	Toluene	10.71	91	2323778	9.45 ug/l	99
57)	Ethyl methacrylate	11.01	69	249890	8.35 ug/l	98
58)	trans-1,3-Dichloropropene	11.02	75	449068	9.89 ug/l	98
59)	1,1,2-Trichloroethane	11.30	97	226867	9.66 ug/l	98
60)	2-Hexanone	11.31	43	558465	43.77 ug/l	96
61)	1,3-Dichloropropane	11.74	76	437033	9.79 ug/l	100
62)	Tetrachloroethene	11.84	164	438295	8.87 ug/l	97
63)	Dibromochloromethane	12.19	129	259964	8.67 ug/l	98
64)	1,2-Dibromoethane	12.56	107	202946	8.30 ug/l	100
65)	1-Chlorohexane	12.85	91	1000446	9.49 ug/l	98
66)	Chlorobenzene	13.32	112	1254342	9.36 ug/l	95
67)	1,1,1,2-Tetrachloroethane	13.39	131	361027	9.30 ug/l	99
68)	Ethylbenzene	13.41	91	2597396	9.85 ug/l	97
69)	m-Xylene & p-Xylene	13.55	91	3759277	19.68 ug/l	96
70)	o-Xylene	14.36	91	1818463	9.84 ug/l	96
71)	Styrene	14.43	104	1234456	8.57 ug/l	97
73)	Isopropylbenzene	15.05	105	2479634	10.82 ug/l	98
74)	Bromoform	15.06	173	123755	10.36 ug/l	99
75)	trans-1,4-Dichloro-2-buten	15.14	53	50505	7.41 ug/l	100
76)	1,1,2,2-Tetrachloroethane	15.37	83	218602	10.50 ug/l	100
78)	1,2,3-Trichloropropane	15.66	110	51587	9.30 ug/l	91
79)	n-Propylbenzene	15.81	91	3014178	10.56 ug/l	96
80)	Bromobenzene	15.88	156	348753	9.02 ug/l	89
81)	1,3,5-Trimethylbenzene	16.12	105	1771804	9.71 ug/l	97
82)	2-Chlorotoluene	16.15	91	1729519	10.31 ug/l	93

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC003.D
Acq On : 3 Oct 2011 11:49 am
Sample : VO67J01L
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 13:06 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
83) 4-Chlorotoluene	16.23	91	1467908	10.83 ug/l	92
84) tert-Butylbenzene	16.80	134	399761	9.77 ug/l	91
85) 1,2,4-Trimethylbenzene	16.88	105	1659150	9.80 ug/l	96
86) sec-Butylbenzene	17.23	105	2588358	10.12 ug/l	97
87) p-Isopropyltoluene	17.51	119	1797533	8.83 ug/l	97
88) 1,3-Dichlorobenzene	17.67	146	722389	9.60 ug/l	98
89) 1,4-Dichlorobenzene	17.87	146	672040	9.53 ug/l	100
90) n-Butylbenzene	18.25	91	1789653	9.20 ug/l	98
91) 1,2-Dichlorobenzene	18.50	146	538081	9.32 ug/l	98
92) 1,2-Dibromo-3-chloropropan	19.63	157	22934	8.43 ug/l	90
93) 1,2,4-Trichlorobenzene	20.73	180	292711	8.30 ug/l	99
94) Hexachlorobutadiene	20.90	225	263310	8.17 ug/l	100
95) Naphthalene	21.06	128	304768	6.70 ug/l	100
96) 1,2,3-Trichlorobenzene	21.39	180	205670	7.88 ug/l	99

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

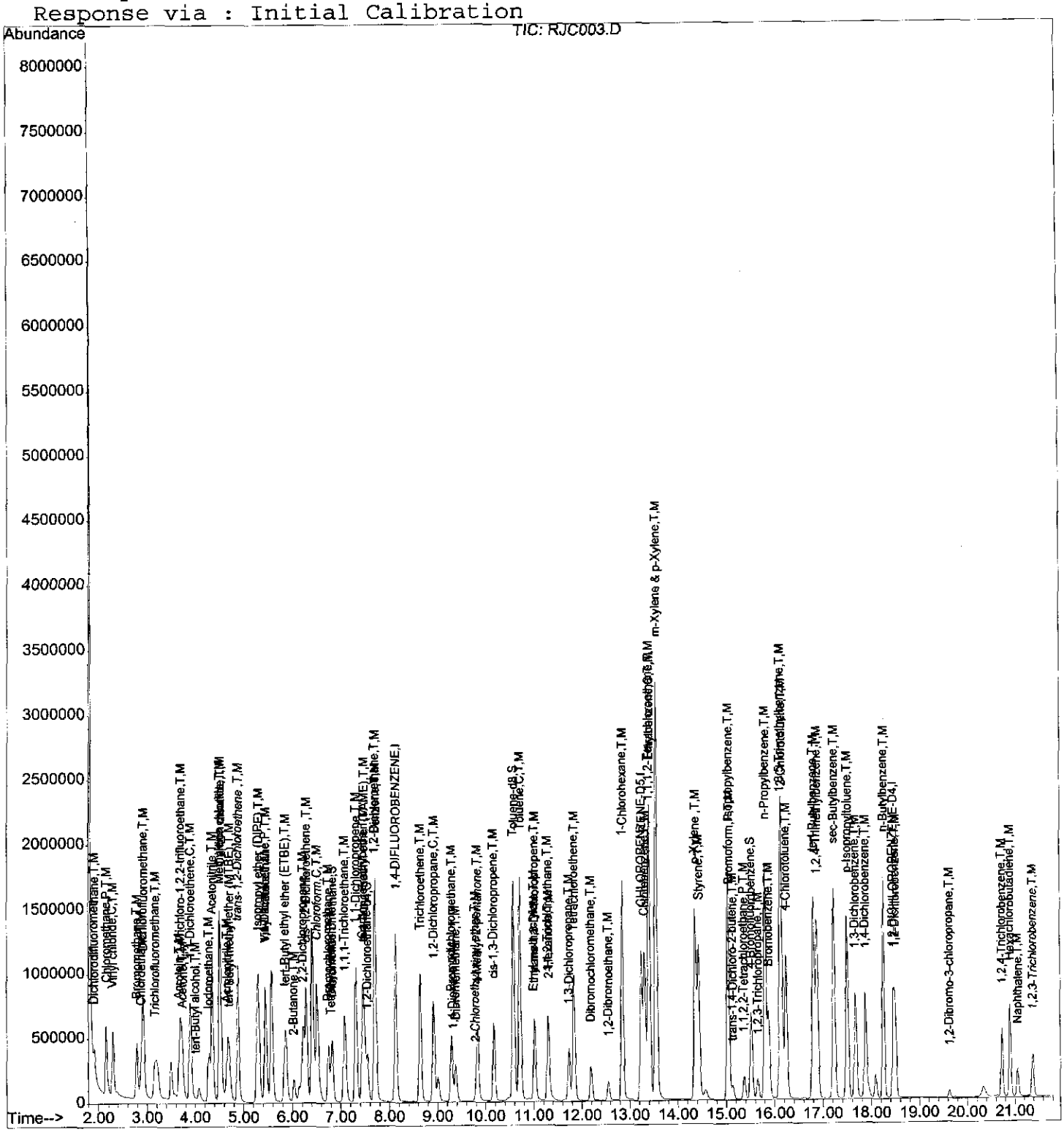
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC003.D
Acq On : 3 Oct 2011 11:49 am
Sample : VO67J01L
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 13:06 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC004.D
Acq On : 3 Oct 2011 12:20 pm
Sample : VO67J01C
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 13:07 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.13	114	1832654	10.00 ug/l	-0.01
41) CHLOROBENZENE-D5	13.24	117	1337834	10.00 ug/l	-0.01
72) 1,2-DICHLOROBENZENE-D4	18.46	152	365435	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	6.82	111	526356	10.01 ug/l	-0.01
Spiked Amount 10.000			Recovery =	100.10%	
40) 1,2-Dichloroethane-d4	7.54	65	360861	10.20 ug/l	-0.01
Spiked Amount 10.000			Recovery =	102.00%	
55) Toluene-d8	10.57	98	2164086	10.63 ug/l	-0.01
Spiked Amount 10.000			Recovery =	106.30%	
77) 4-Bromofluorobenzene	15.52	95	552575	10.88 ug/l	-0.01
Spiked Amount 10.000			Recovery =	108.80%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.92	85	402220	7.11 ug/l		99
4) Chloromethane	2.15	50	849301	8.65 ug/l		98
5) Vinyl chloride	2.30	62	832663	8.38 ug/l		99
6) Bromomethane	2.78	94	448130	8.41 ug/l		99
7) Chloroethane	2.89	64	487583	8.99 ug/l		98
8) Dichlorofluoromethane	2.93	67	1347578	10.03 ug/l		99
9) Trichlorofluoromethane	3.18	101	650608	8.67 ug/l		99
11) Acrolein	3.66	56	152421	56.62 ug/l		99
12) 1,1,2-Trichloro-1,2,2-trif	3.71	151	417498	8.89 ug/l		98
13) Acetone	3.74	43	254632	48.69 ug/l		98
14) 1,1-Dichloroethene	3.90	61	1076011	8.44 ug/l		98
15) tert-Butyl alcohol	4.00	59	72371	50.04 ug/l	#	1
17) Iodomethane	4.28	142	879383	8.10 ug/l		99
18) Acetonitrile	4.35	41	1432387	98.52 ug/l		99
19) Methylene chloride	4.50	49	837454	10.04 ug/l		98
20) Carbon disulfide	4.53	76	2533704	8.57 ug/l		100
21) Acrylonitrile	4.67	53	341492	42.81 ug/l		99
22) tert-Butyl methyl ether (M	4.70	73	645649	9.09 ug/l		98
23) trans-1,2-Dichloroethene	4.89	61	1025118	8.44 ug/l		98
24) Isopropyl ether (DIPE)	5.30	45	2144347	9.88 ug/l		97
25) 1,1-Dichloroethane	5.45	63	1271787	9.82 ug/l		99
26) Vinyl acetate	5.45	43	407620	6.27 ug/l		100
28) tert-Butyl ethyl ether (ET	5.86	59	1132709	8.94 ug/l		99
29) 2-Butanone	6.03	43	428206	44.17 ug/l		98
30) 2,2-Dichloropropane	6.22	77	743251	9.34 ug/l		99
31) cis-1,2-Dichloroethene	6.28	96	616843	8.64 ug/l		97
32) Chloroform	6.52	83	1030431	10.22 ug/l		99

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC004.D
Acq On : 3 Oct 2011 12:20 pm
Sample : VO67J01C
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 13:07 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.75	49	440984	9.25 ug/l	86
36) Tetrahydrofuran	6.79	42	60626	9.36 ug/l	95
37) 1,1,1-Trichloroethane	7.09	97	870716	9.55 ug/l	98
39) tert-Amyl methyl ether (TA	7.48	87	151707	8.34 ug/l	96
42) 1,1-Dichloropropene	7.31	110	299520	8.42 ug/l	100
43) Carbon tetrachloride	7.45	119	669156	8.95 ug/l	99
44) 1,2-Dichloroethane	7.69	62	422757	9.93 ug/l	97
45) Benzene	7.70	78	2375136	9.37 ug/l	99
46) Trichloroethene	8.64	130	586829	8.08 ug/l	92
48) 1,2-Dichloropropane	8.92	63	580881	9.80 ug/l	96
49) Bromodichloromethane	9.28	83	590198	9.99 ug/l	100
50) 1,4-Dioxane	9.33	88	30224	198.82 ug/l	98
51) Dibromomethane	9.37	93	194457	9.35 ug/l	96
52) 2-Chloroethyl vinyl ether	9.78	63	33596	2.08 ug/l	88
53) 4-Methyl-2-pentanone	9.83	43	970805	41.44 ug/l	99
54) cis-1,3-Dichloropropene	10.18	75	693552	9.59 ug/l	95
56) Toluene	10.72	91	2319403	8.87 ug/l	100
57) Ethyl methacrylate	11.01	69	246113	7.73 ug/l	98
58) trans-1,3-Dichloropropene	11.03	75	456454	9.45 ug/l	97
59) 1,1,2-Trichloroethane	11.29	97	226633	9.08 ug/l	98
60) 2-Hexanone	11.30	43	559949	41.27 ug/l	98
61) 1,3-Dichloropropane	11.73	76	443107	9.33 ug/l	98
62) Tetrachloroethene	11.85	164	438592	8.35 ug/l	97
63) Dibromochloromethane	12.20	129	258188	8.09 ug/l	99
64) 1,2-Dibromoethane	12.56	107	203485	7.83 ug/l	99
65) 1-Chlorohexane	12.86	91	991289	8.84 ug/l	98
66) Chlorobenzene	13.31	112	1262218	8.85 ug/l	95
67) 1,1,1,2-Tetrachloroethane	13.40	131	358853	8.69 ug/l	99
68) Ethylbenzene	13.41	91	2583602	9.22 ug/l	96
69) m-Xylene & p-Xylene	13.56	91	3729233	18.36 ug/l	96
70) o-Xylene	14.36	91	1820311	9.26 ug/l	96
71) Styrene	14.44	104	1231338	8.04 ug/l	97
73) Isopropylbenzene	15.04	105	2472520	10.38 ug/l	98
74) Bromoform	15.07	173	123288	9.93 ug/l	99
75) trans-1,4-Dichloro-2-buten	15.14	53	51579	7.28 ug/l	98
76) 1,1,2,2-Tetrachloroethane	15.37	83	219300	10.13 ug/l	100
78) 1,2,3-Trichloropropane	15.67	110	51502	8.93 ug/l	90
79) n-Propylbenzene	15.81	91	2973112	10.02 ug/l	97
80) Bromobenzene	15.89	156	347071	8.63 ug/l	88
81) 1,3,5-Trimethylbenzene	16.12	105	1761255	9.29 ug/l	97
82) 2-Chlorotoluene	16.15	91	1754466	10.05 ug/l	93

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC004.D
Acq On : 3 Oct 2011 12:20 pm
Sample : VO67J01C
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 13:07 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
83)	4-Chlorotoluene	16.24	91	1431607	10.16 ug/l	91
84)	tert-Butylbenzene	16.81	134	392612	9.23 ug/l	92
85)	1,2,4-Trimethylbenzene	16.88	105	1629817	9.25 ug/l	97
86)	sec-Butylbenzene	17.23	105	2567614	9.65 ug/l	97
87)	p-Isopropyltoluene	17.50	119	1758932	8.31 ug/l	96
88)	1,3-Dichlorobenzene	17.67	146	720030	9.20 ug/l	98
89)	1,4-Dichlorobenzene	17.88	146	667621	9.10 ug/l	100
90)	n-Butylbenzene	18.26	91	1766735	8.73 ug/l	98
91)	1,2-Dichlorobenzene	18.51	146	539572	8.99 ug/l	98
92)	1,2-Dibromo-3-chloropropan	19.64	157	23080	8.16 ug/l	90
93)	1,2,4-Trichlorobenzene	20.73	180	287730	7.85 ug/l	98
94)	Hexachlorobutadiene	20.91	225	256650	7.65 ug/l	99
95)	Naphthalene	21.07	128	306293	6.48 ug/l	100
96)	1,2,3-Trichlorobenzene	21.38	180	203348	7.49 ug/l	98

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

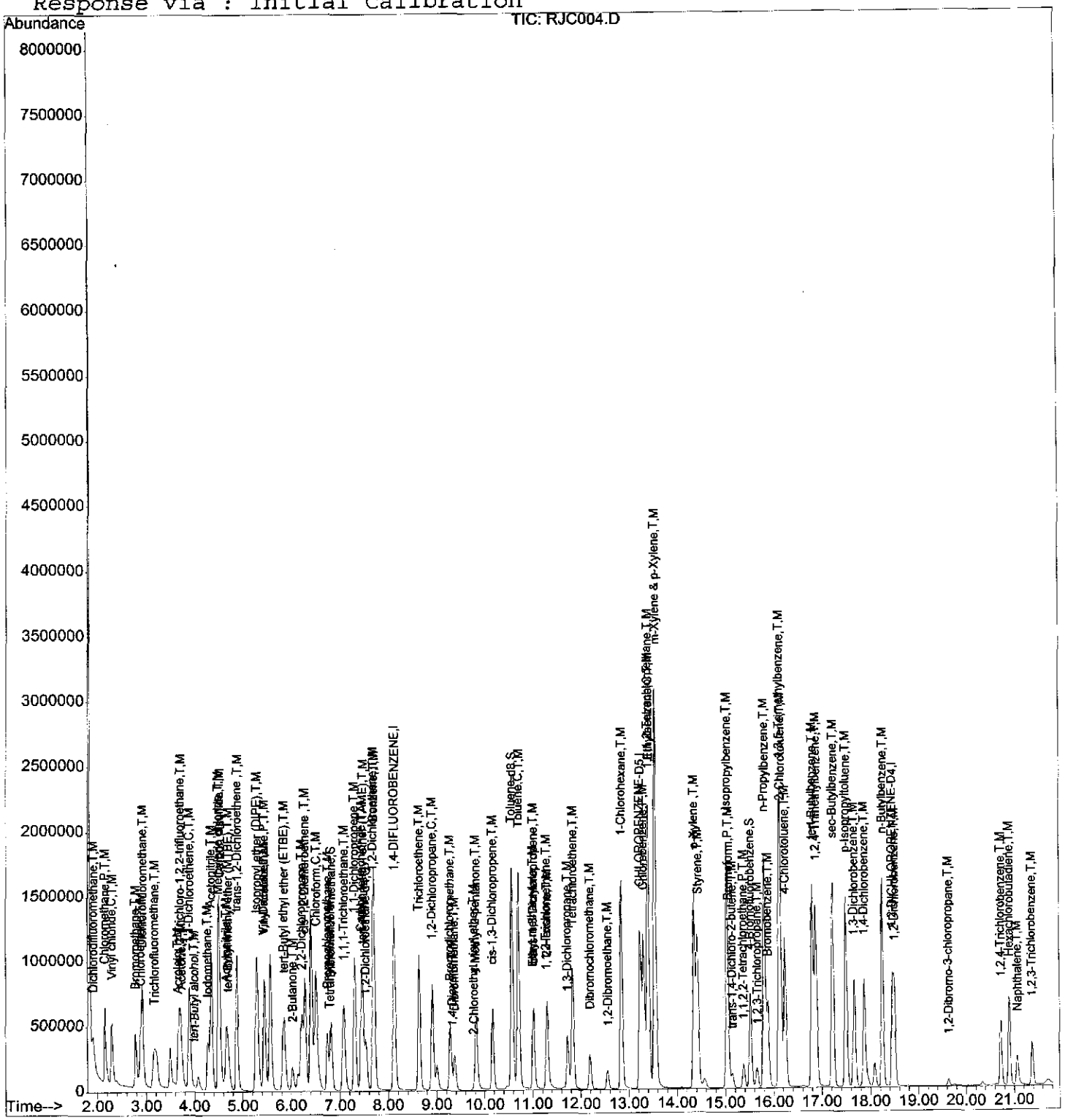
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC004.D
Acq On : 3 Oct 2011 12:20 pm
Sample : VO67J01C
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 13:07 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J04\RJC039.D
Acq On : 4 Oct 2011 2:24 pm
Sample : VO67J02Q 25mL
Misc : DF=1.0, MB
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 15:10 2011

Vial: 10
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1645042	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1121634	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	266245	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.82	111	498306	10.56	ug/l	-0.01
Spiked Amount 10.000			Recovery	=	105.60%	
40) 1,2-Dichloroethane-d4	7.55	65	344453	10.84	ug/l	0.00
Spiked Amount 10.000			Recovery	=	108.40%	
55) Toluene-d8	10.58	98	1835613	10.75	ug/l	0.00
Spiked Amount 10.000			Recovery	=	107.50%	
77) 4-Bromofluorobenzene	15.53	95	434060	11.73	ug/l	0.00
Spiked Amount 10.000			Recovery	=	117.30%	

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
RJC039.D VO67G13.M Tue Oct 04 15:10:57 2011

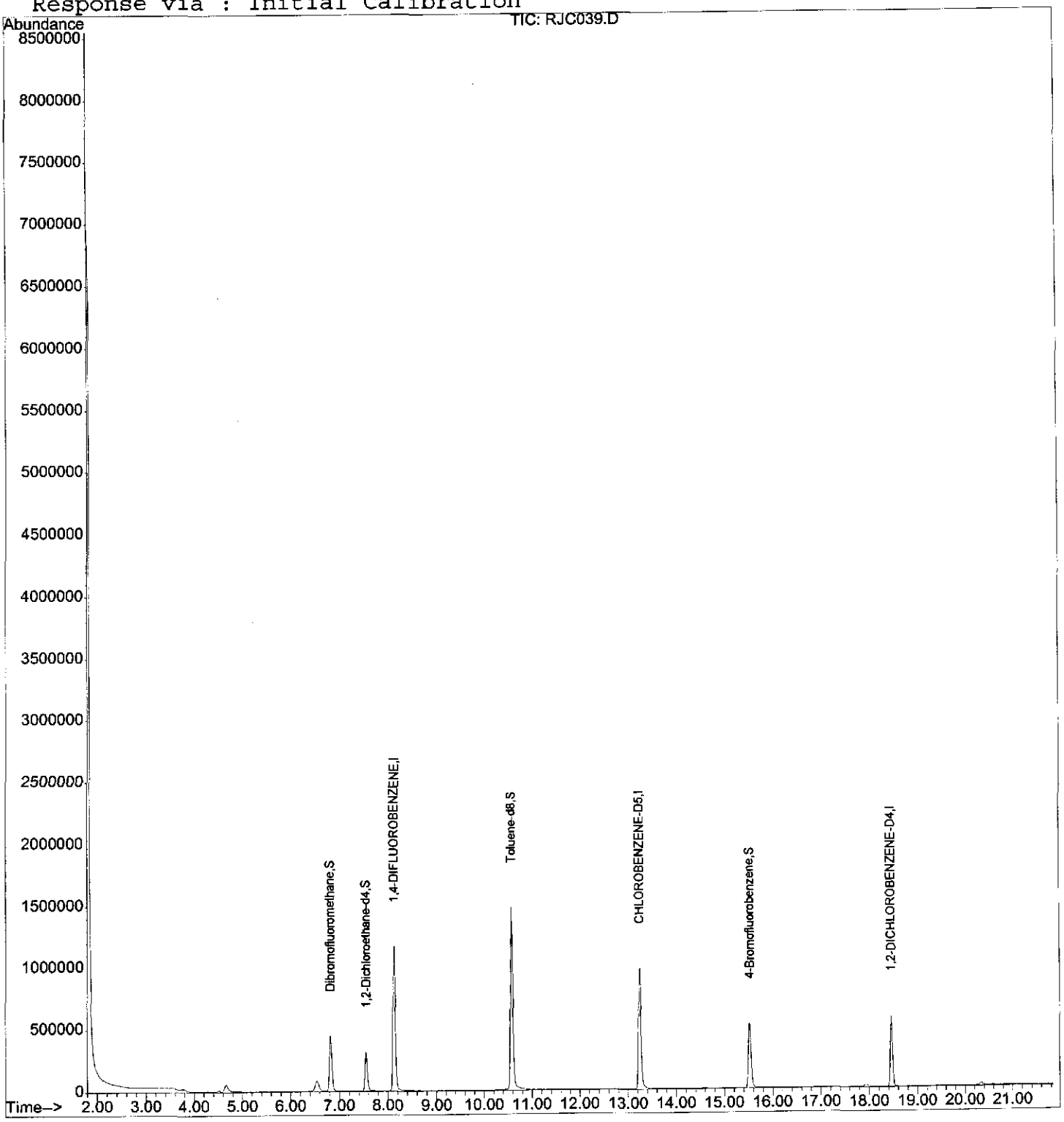
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J04\RJC039.D
Acq On : 4 Oct 2011 2:24 pm
Sample : VO67J02Q 25mL
Misc : DF=1.0, MB
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 15:10 2011

Vial: 10
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J04\RJC032.D
Acq On : 4 Oct 2011 10:48 am
Sample : VO67J02L
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 13:28 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1720507	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1232265	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	344919	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.82	111	490709	9.94	ug/l	-0.01
Spiked Amount 10.000			Recovery = 99.40%			
40) 1,2-Dichloroethane-d4	7.55	65	340011	10.23	ug/l	0.00
Spiked Amount 10.000			Recovery = 102.30%			
55) Toluene-d8	10.58	98	1990340	10.61	ug/l	0.00
Spiked Amount 10.000			Recovery = 106.10%			
77) 4-Bromofluorobenzene	15.52	95	511812	10.68	ug/l	-0.01
Spiked Amount 10.000			Recovery = 106.80%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.92	85	428992	8.08	ug/l	100
4) Chloromethane	2.15	50	892230	9.68	ug/l	100
5) Vinyl chloride	2.30	62	872865	9.36	ug/l	99
6) Bromomethane	2.78	94	456602	9.13	ug/l	98
7) Chloroethane	2.88	64	499804	9.82	ug/l	99
8) Dichlorofluoromethane	2.93	67	1245105	9.88	ug/l	100
9) Trichlorofluoromethane	3.18	101	677301	9.61	ug/l	99
11) Acrolein	3.66	56	150914	59.93	ug/l	92
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	389337	8.83	ug/l	99
13) Acetone	3.73	43	244516	49.95	ug/l	99
14) 1,1-Dichloroethene	3.89	61	1018176	8.51	ug/l	99
15) tert-Butyl alcohol	4.00	59	66726	49.15	ug/l #	1
17) Iodomethane	4.27	142	819130	8.04	ug/l	98
18) Acetonitrile	4.36	41	1340833	98.23	ug/l	99
19) Methylene chloride	4.51	49	799385	10.22	ug/l	98
20) Carbon disulfide	4.52	76	2579647	9.29	ug/l	100
21) Acrylonitrile	4.67	53	323782	43.24	ug/l	99
22) tert-Butyl methyl ether (M	4.70	73	610416	9.15	ug/l	98
23) trans-1,2-Dichloroethene	4.89	61	968777	8.49	ug/l	98
24) Isopropyl ether (DIPE)	5.30	45	2012941	9.87	ug/l	98
25) 1,1-Dichloroethane	5.46	63	1202176	9.89	ug/l	99
26) Vinyl acetate	5.46	43	406357	6.65	ug/l	100
28) tert-Butyl ethyl ether (ET	5.86	59	1076274	9.04	ug/l	98
29) 2-Butanone	6.03	43	404869	44.48	ug/l	97
30) 2,2-Dichloropropane	6.22	77	682548	9.13	ug/l	99
31) cis-1,2-Dichloroethene	6.29	96	587382	8.76	ug/l	97
32) Chloroform	6.51	83	974915	10.30	ug/l	98

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J04\RJC032.D
Acq On : 4 Oct 2011 10:48 am
Sample : VO67J02L
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 13:28 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.75	49	421164	9.41 ug/l	86
36)	Tetrahydrofuran	6.79	42	50038	8.11 ug/l	94
37)	1,1,1-Trichloroethane	7.09	97	831842	9.72 ug/l	98
39)	tert-Amyl methyl ether (TA	7.48	87	141824	8.30 ug/l	96
42)	1,1-Dichloropropene	7.32	110	283946	8.66 ug/l	98
43)	Carbon tetrachloride	7.45	119	639813	9.29 ug/l	99
44)	1,2-Dichloroethane	7.69	62	405123	10.33 ug/l	97
45)	Benzene	7.71	78	2265204	9.70 ug/l	99
46)	Trichloroethene	8.64	130	557977	8.34 ug/l	92
48)	1,2-Dichloropropane	8.92	63	551046	10.09 ug/l	94
49)	Bromodichloromethane	9.30	83	568518	10.45 ug/l	100
50)	1,4-Dioxane	9.33	88	27764	198.29 ug/l	99
51)	Dibromomethane	9.38	93	182716	9.54 ug/l	97
52)	2-Chloroethyl vinyl ether	9.79	63	27437	1.84 ug/l	87
53)	4-Methyl-2-pentanone	9.84	43	918905	42.58 ug/l	99
54)	cis-1,3-Dichloropropene	10.17	75	658448	9.88 ug/l	95
56)	Toluene	10.72	91	2196690	9.12 ug/l	100
57)	Ethyl methacrylate	11.01	69	234214	7.99 ug/l	99
58)	trans-1,3-Dichloropropene	11.02	75	435962	9.80 ug/l	98
59)	1,1,2-Trichloroethane	11.30	97	218318	9.49 ug/l	98
60)	2-Hexanone	11.32	43	537625	43.02 ug/l	97
61)	1,3-Dichloropropane	11.74	76	419991	9.60 ug/l	100
62)	Tetrachloroethene	11.84	164	419123	8.66 ug/l	96
63)	Dibromochloromethane	12.20	129	253457	8.63 ug/l	100
64)	1,2-Dibromoethane	12.56	107	191934	8.02 ug/l	99
65)	1-Chlorohexane	12.85	91	937070	9.08 ug/l	98
66)	Chlorobenzene	13.31	112	1194202	9.09 ug/l	95
67)	1,1,1,2-Tetrachloroethane	13.40	131	347590	9.14 ug/l	99
68)	Ethylbenzene	13.41	91	2447835	9.48 ug/l	96
69)	m-Xylene & p-Xylene	13.56	91	3543063	18.93 ug/l	96
70)	o-Xylene	14.36	91	1729788	9.55 ug/l	96
71)	Styrene	14.44	104	1157063	8.20 ug/l	96
73)	Isopropylbenzene	15.05	105	2340704	10.41 ug/l	98
74)	Bromoform	15.06	173	118942	10.15 ug/l	98
75)	trans-1,4-Dichloro-2-buten	15.15	53	50110	7.49 ug/l	100
76)	1,1,2,2-Tetrachloroethane	15.37	83	208248	10.19 ug/l	99
78)	1,2,3-Trichloropropane	15.66	110	49890	9.17 ug/l	93
79)	n-Propylbenzene	15.81	91	2817008	10.06 ug/l	96
80)	Bromobenzene	15.88	156	330207	8.70 ug/l	88
81)	1,3,5-Trimethylbenzene	16.12	105	1682718	9.40 ug/l	96
82)	2-Chlorotoluene	16.15	91	1649343	10.01 ug/l	93

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J04\RJC032.D
Acq On : 4 Oct 2011 10:48 am
Sample : VO67J02L
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 13:28 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
83)	4-Chlorotoluene	16.24	91	1376817	10.35 ug/l		92
84)	tert-Butylbenzene	16.81	134	372860	9.28 ug/l	#	92
85)	1,2,4-Trimethylbenzene	16.88	105	1571194	9.45 ug/l		95
86)	sec-Butylbenzene	17.23	105	2444572	9.74 ug/l		97
87)	p-Isopropyltoluene	17.51	119	1690654	8.46 ug/l		97
88)	1,3-Dichlorobenzene	17.67	146	685401	9.28 ug/l		98
89)	1,4-Dichlorobenzene	17.88	146	630848	9.11 ug/l		100
90)	n-Butylbenzene	18.26	91	1669488	8.74 ug/l		97
91)	1,2-Dichlorobenzene	18.51	146	512425	9.05 ug/l		98
92)	1,2-Dibromo-3-chloropropan	19.63	157	21521	8.06 ug/l		93
93)	1,2,4-Trichlorobenzene	20.73	180	277467	8.02 ug/l		99
94)	Hexachlorobutadiene	20.91	225	251779	7.96 ug/l		99
95)	Naphthalene	21.07	128	288917	6.47 ug/l		99
96)	1,2,3-Trichlorobenzene	21.39	180	194092	7.58 ug/l		99

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

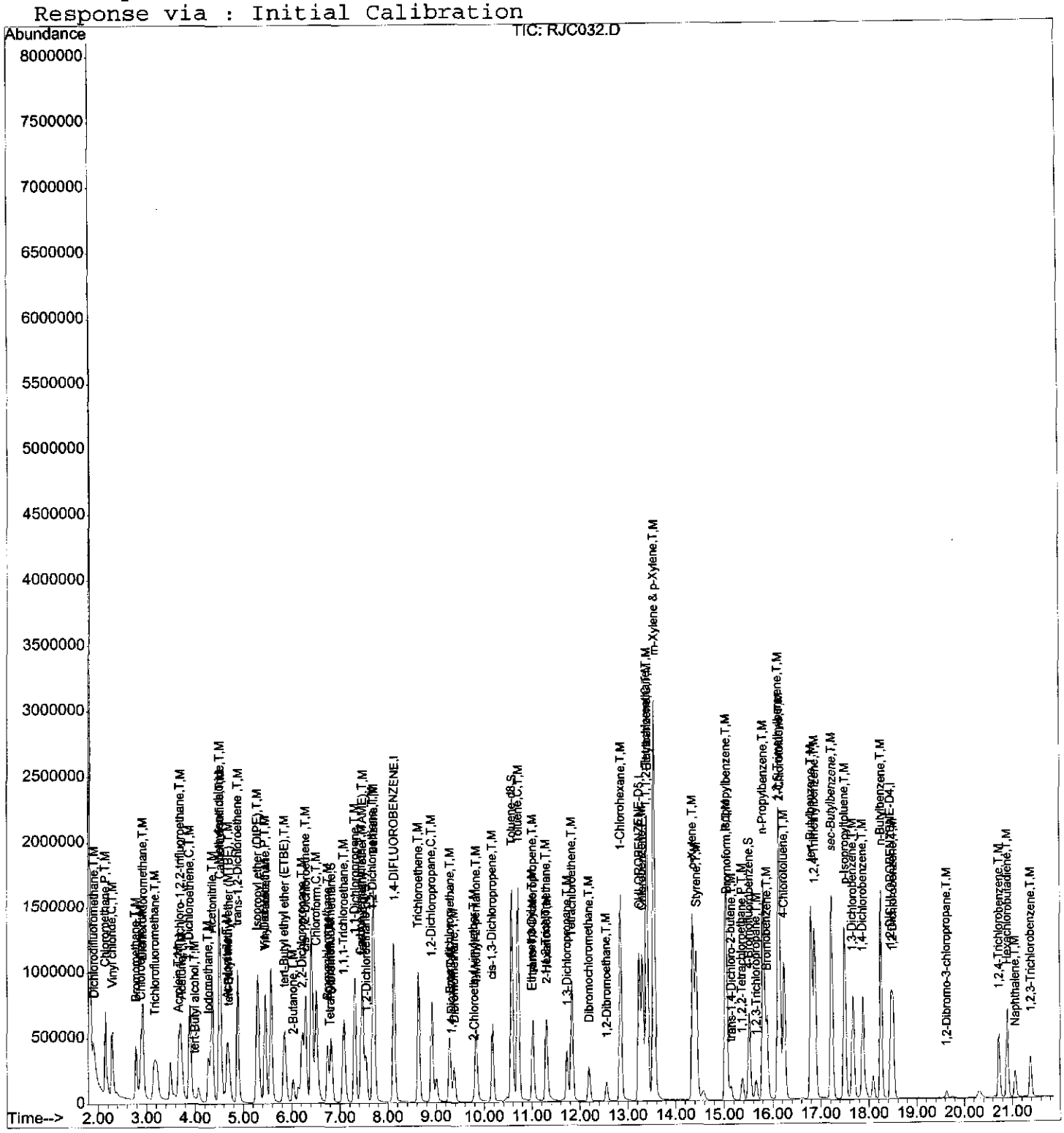
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J04\RJC032.D
Acq On : 4 Oct 2011 10:48 am
Sample : VO67J02L
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 13:28 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J04\RJC033.D
Acq On : 4 Oct 2011 11:19 am
Sample : VO67J02C
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 13:31 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.12	114	1688443	10.00 ug/l	-0.01
41) CHLOROBENZENE-D5	13.23	117	1214616	10.00 ug/l	-0.01
72) 1,2-DICHLOROBENZENE-D4	18.46	152	334079	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	6.82	111	489872	10.11 ug/l	-0.01
Spiked Amount 10.000			Recovery	= 101.10%	
40) 1,2-Dichloroethane-d4	7.55	65	336628	10.32 ug/l	0.00
Spiked Amount 10.000			Recovery	= 103.20%	
55) Toluene-d8	10.58	98	1959913	10.60 ug/l	0.00
Spiked Amount 10.000			Recovery	= 106.00%	
77) 4-Bromofluorobenzene	15.52	95	496273	10.69 ug/l	-0.01
Spiked Amount 10.000			Recovery	= 106.90%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.92	85	458569	8.80 ug/l	100
4) Chloromethane	2.15	50	967030	10.69 ug/l	99
5) Vinyl chloride	2.30	62	952576	10.41 ug/l	99
6) Bromomethane	2.78	94	502954	10.25 ug/l	100
7) Chloroethane	2.88	64	555250	11.12 ug/l	99
8) Dichlorofluoromethane	2.93	67	1310525	10.59 ug/l	100
9) Trichlorofluoromethane	3.18	101	748028	10.82 ug/l	99
11) Acrolein	3.66	56	158676	64.50 ug/l	98
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	413682	9.56 ug/l	97
13) Acetone	3.75	43	257476	54.07 ug/l	99
14) 1,1-Dichloroethene	3.89	61	1068375	9.09 ug/l	98
15) tert-Butyl alcohol	4.01	59	70378	52.82 ug/l	86
17) Iodomethane	4.29	142	861775	8.62 ug/l	98
18) Acetonitrile	4.36	41	1391617	103.89 ug/l	98
19) Methylene chloride	4.51	49	842963	11.01 ug/l	97
20) Carbon disulfide	4.52	76	2481988	9.11 ug/l	100
21) Acrylonitrile	4.67	53	348110	47.37 ug/l	99
22) tert-Butyl methyl ether (M	4.70	73	645005	9.86 ug/l	100
23) trans-1,2-Dichloroethene	4.89	61	1006859	9.00 ug/l	98
24) Isopropyl ether (DIPE)	5.30	45	2104277	10.52 ug/l	98
25) 1,1-Dichloroethane	5.46	63	1255152	10.52 ug/l	100
26) Vinyl acetate	5.46	43	454741	7.59 ug/l	99
28) tert-Butyl ethyl ether (ET	5.86	59	1129887	9.67 ug/l	99
29) 2-Butanone	6.03	43	434397	48.64 ug/l	97
30) 2,2-Dichloropropane	6.22	77	725824	9.89 ug/l	98
31) cis-1,2-Dichloroethene	6.29	96	612329	9.31 ug/l	97
32) Chloroform	6.51	83	1014113	10.92 ug/l	98

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J04\RJC033.D
Acq On : 4 Oct 2011 11:19 am
Sample : VO67J02C
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 13:31 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.75	49	435399	9.91 ug/l	86
36)	Tetrahydrofuran	6.79	42	63089	10.70 ug/l	94
37)	1,1,1-Trichloroethane	7.09	97	862782	10.27 ug/l	98
39)	tert-Amyl methyl ether (TA	7.48	87	152596	9.10 ug/l	99
42)	1,1-Dichloropropene	7.32	110	292848	9.07 ug/l	99
43)	Carbon tetrachloride	7.45	119	662320	9.75 ug/l	100
44)	1,2-Dichloroethane	7.69	62	417177	10.80 ug/l	97
45)	Benzene	7.71	78	2328270	10.11 ug/l	99
46)	Trichloroethene	8.64	130	582777	8.84 ug/l	93
48)	1,2-Dichloropropane	8.92	63	568420	10.56 ug/l	96
49)	Bromodichloromethane	9.28	83	584677	10.90 ug/l	99
50)	1,4-Dioxane	9.33	88	28027	203.07 ug/l	99
51)	Dibromomethane	9.37	93	191913	10.16 ug/l	97
52)	2-Chloroethyl vinyl ether	9.79	63	32226	2.20 ug/l	92
53)	4-Methyl-2-pentanone	9.84	43	958345	45.06 ug/l	99
54)	cis-1,3-Dichloropropene	10.17	75	676777	10.30 ug/l	95
56)	Toluene	10.72	91	2274548	9.58 ug/l	100
57)	Ethyl methacrylate	11.01	69	243861	8.44 ug/l	98
58)	trans-1,3-Dichloropropene	11.02	75	436688	9.96 ug/l	99
59)	1,1,2-Trichloroethane	11.29	97	221596	9.77 ug/l	98
60)	2-Hexanone	11.30	43	558978	45.38 ug/l	98
61)	1,3-Dichloropropane	11.73	76	433682	10.06 ug/l	98
62)	Tetrachloroethene	11.84	164	429069	9.00 ug/l	97
63)	Dibromochloromethane	12.19	129	256220	8.85 ug/l	100
64)	1,2-Dibromoethane	12.56	107	197496	8.37 ug/l	100
65)	1-Chlorohexane	12.85	91	953371	9.37 ug/l	98
66)	Chlorobenzene	13.31	112	1220309	9.43 ug/l	96
67)	1,1,1,2-Tetrachloroethane	13.40	131	353603	9.43 ug/l	98
68)	Ethylbenzene	13.41	91	2507266	9.85 ug/l	96
69)	m-Xylene & p-Xylene	13.56	91	3622625	19.64 ug/l	96
70)	o-Xylene	14.36	91	1752062	9.82 ug/l	96
71)	Styrene	14.43	104	1194800	8.60 ug/l	97
73)	Isopropylbenzene	15.04	105	2388200	10.97 ug/l	98
74)	Bromoform	15.06	173	120763	10.64 ug/l	99
75)	trans-1,4-Dichloro-2-buten	15.14	53	49938	7.71 ug/l	98
76)	1,1,2,2-Tetrachloroethane	15.37	83	211939	10.71 ug/l	100
78)	1,2,3-Trichloropropane	15.65	110	50044	9.49 ug/l	92
79)	n-Propylbenzene	15.81	91	2881279	10.62 ug/l	97
80)	Bromobenzene	15.88	156	339886	9.25 ug/l	89
81)	1,3,5-Trimethylbenzene	16.12	105	1692351	9.76 ug/l	97
82)	2-Chlorotoluene	16.15	91	1691358	10.60 ug/l	93

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J04\RJC033.D
Acq On : 4 Oct 2011 11:19 am
Sample : VO67J02C
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 13:31 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
83)	4-Chlorotoluene	16.24	91	1398687	10.86 ug/l		91
84)	tert-Butylbenzene	16.81	134	377135	9.70 ug/l	#	92
85)	1,2,4-Trimethylbenzene	16.88	105	1592132	9.89 ug/l		96
86)	sec-Butylbenzene	17.23	105	2464539	10.13 ug/l		97
87)	p-Isopropyltoluene	17.49	119	1690449	8.73 ug/l		97
88)	1,3-Dichlorobenzene	17.67	146	696684	9.74 ug/l		98
89)	1,4-Dichlorobenzene	17.88	146	639680	9.54 ug/l		99
90)	n-Butylbenzene	18.26	91	1682807	9.10 ug/l		97
91)	1,2-Dichlorobenzene	18.50	146	525001	9.57 ug/l		98
92)	1,2-Dibromo-3-chloropropan	19.63	157	22201	8.58 ug/l		90
93)	1,2,4-Trichlorobenzene	20.73	180	279956	8.35 ug/l		98
94)	Hexachlorobutadiene	20.91	225	249664	8.15 ug/l		99
95)	Naphthalene	21.07	128	302458	7.00 ug/l		99
96)	1,2,3-Trichlorobenzene	21.39	180	200191	8.07 ug/l		97

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

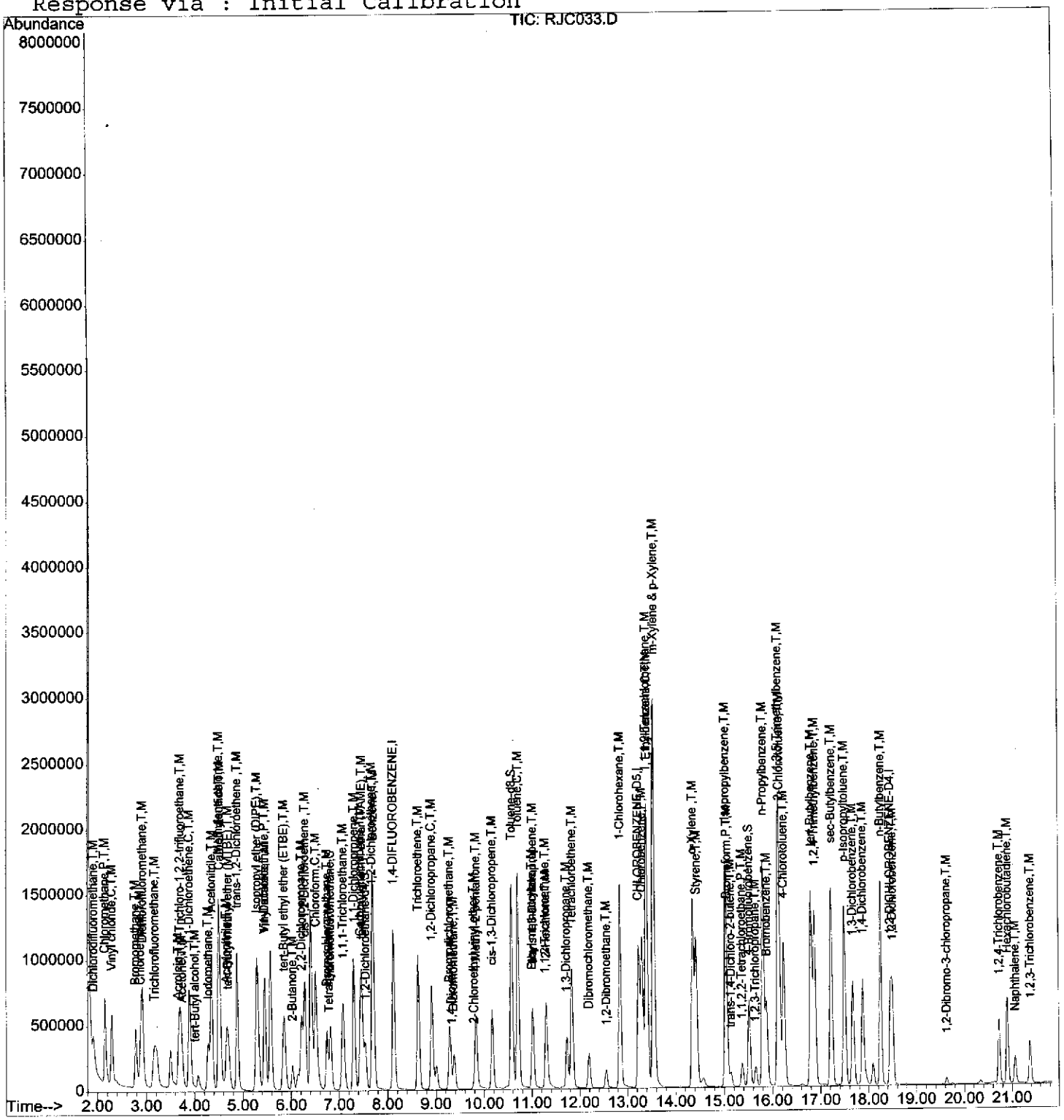
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J04\RJC033.D
Acq On : 4 Oct 2011 11:19 am
Sample : VO67J02C
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 13:31 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC016.D
Acq On : 3 Oct 2011 6:36 pm
Sample : 11I284-01 25mL
Misc : DF=1.0
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 10:29 2011

Vial: 16
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

R/R@f25

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1742710	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1202105	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	288109	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.83	111	522015	10.44	ug/l	0.00
Spiked Amount 10.000			Recovery	=	104.40%	
40) 1,2-Dichloroethane-d4	7.55	65	372903	11.08	ug/l	0.00
Spiked Amount 10.000			Recovery	=	110.80%	
55) Toluene-d8	10.58	98	1964524	10.74	ug/l	0.00
Spiked Amount 10.000			Recovery	=	107.40%	
77) 4-Bromofluorobenzene	15.53	95	478320	11.95	ug/l	0.00
Spiked Amount 10.000			Recovery	=	119.50%	

Target Compounds						Qvalue
5) Vinyl chloride	2.31	62	158908	1.68	ug/l	98
12) 1,1,2-Trichloro-1,2,2-trif	3.72	151	17260	0.39	ug/l	96
14) 1,1-Dichloroethene	3.88	61	41035373	338.45	ug/l E # SAT'd	56
23) trans-1,2-Dichloroethene	4.89	61	37522	0.32	ug/l	95
25) 1,1-Dichloroethane	5.46	63	27801447	225.78	ug/l E, SAT'd	88
31) cis-1,2-Dichloroethene	6.29	96	228390	3.36	ug/l	94
37) 1,1,1-Trichloroethane	7.08	97	368624	4.25	ug/l	97
44) 1,2-Dichloroethane	7.70	62	48945	1.28	ug/l	91
46) Trichloroethene	8.65	130	25248298	386.89	ug/l E, SAT'd	92
59) 1,1,2-Trichloroethane	11.30	97	9888	0.44	ug/l #	66
62) Tetrachloroethene	11.84	164	3706065	78.52	ug/l	96

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

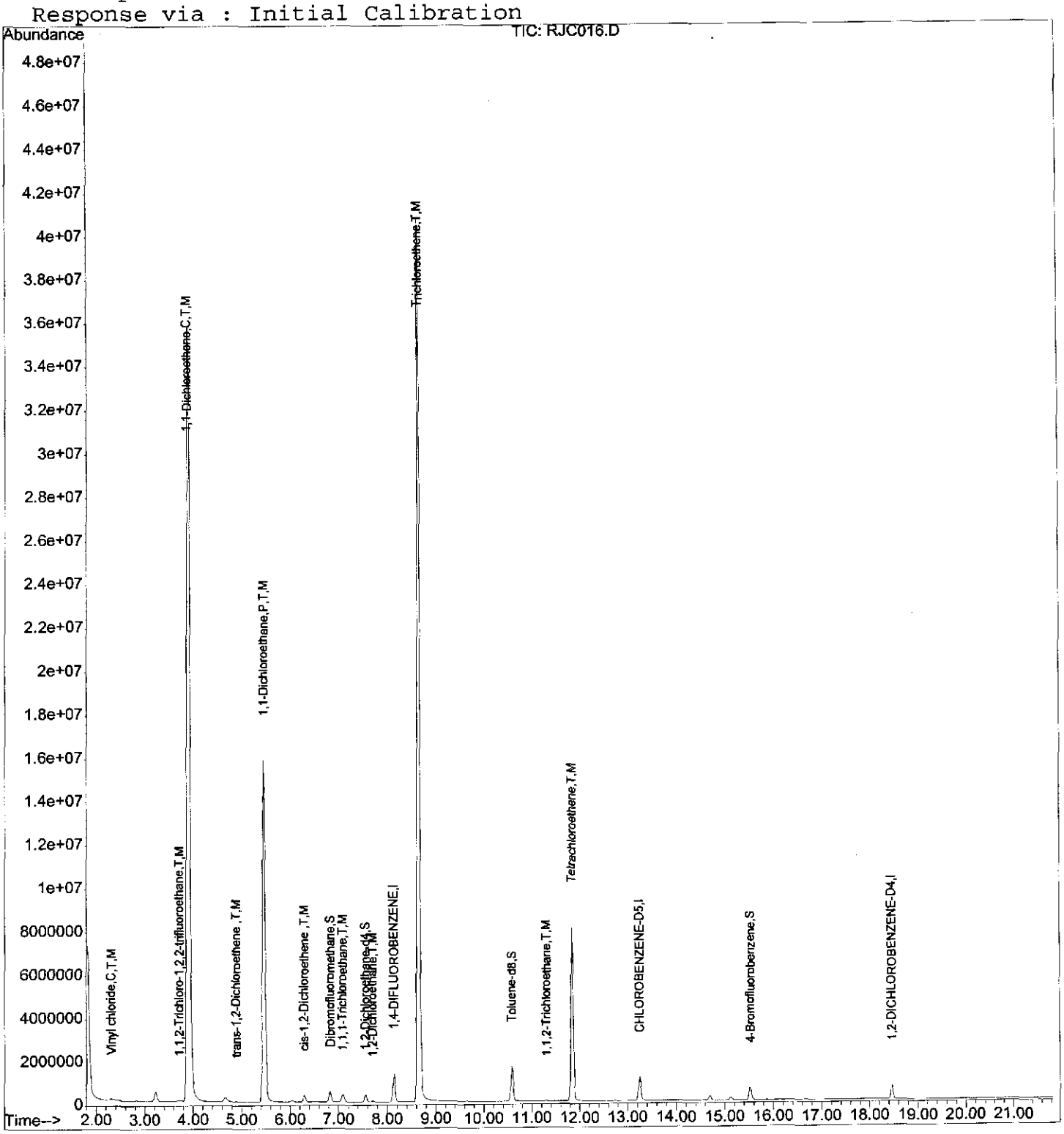
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC016.D
Acq On : 3 Oct 2011 6:36 pm
Sample : 11I284-01 25mL
Misc : DF=1.0
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 10:29 2011

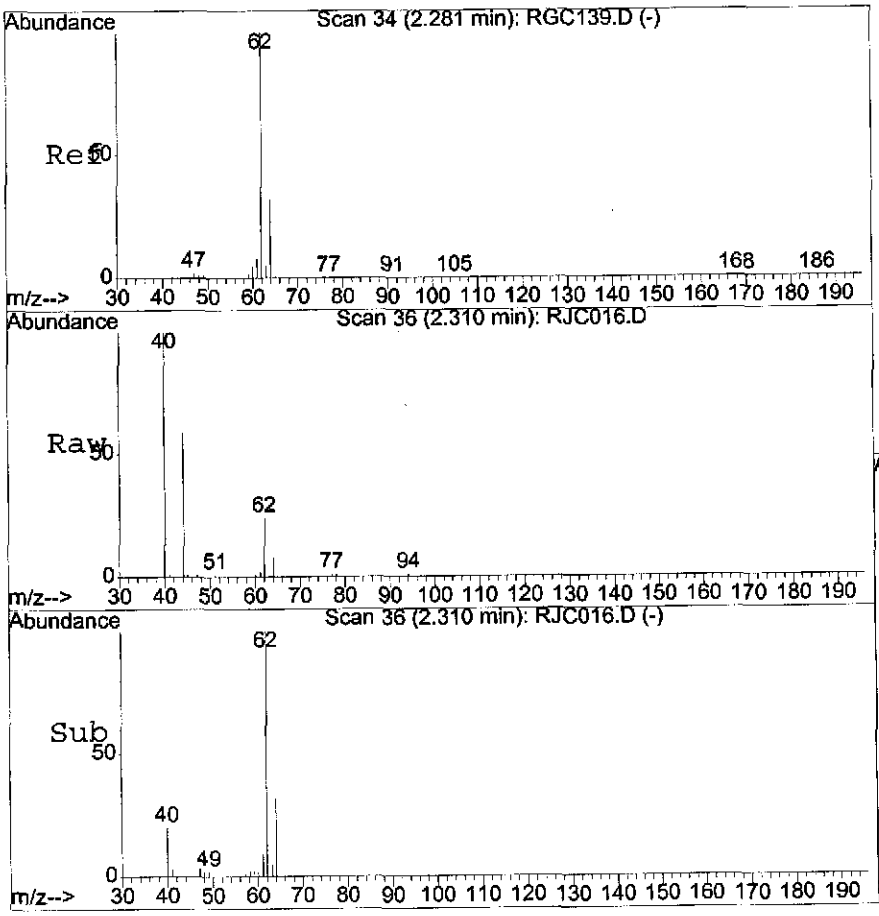
Vial: 16
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



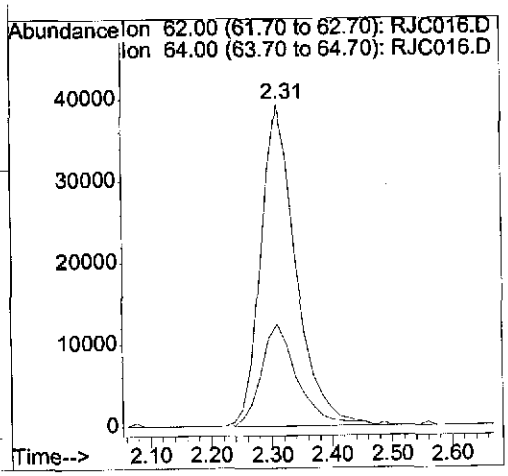
2060

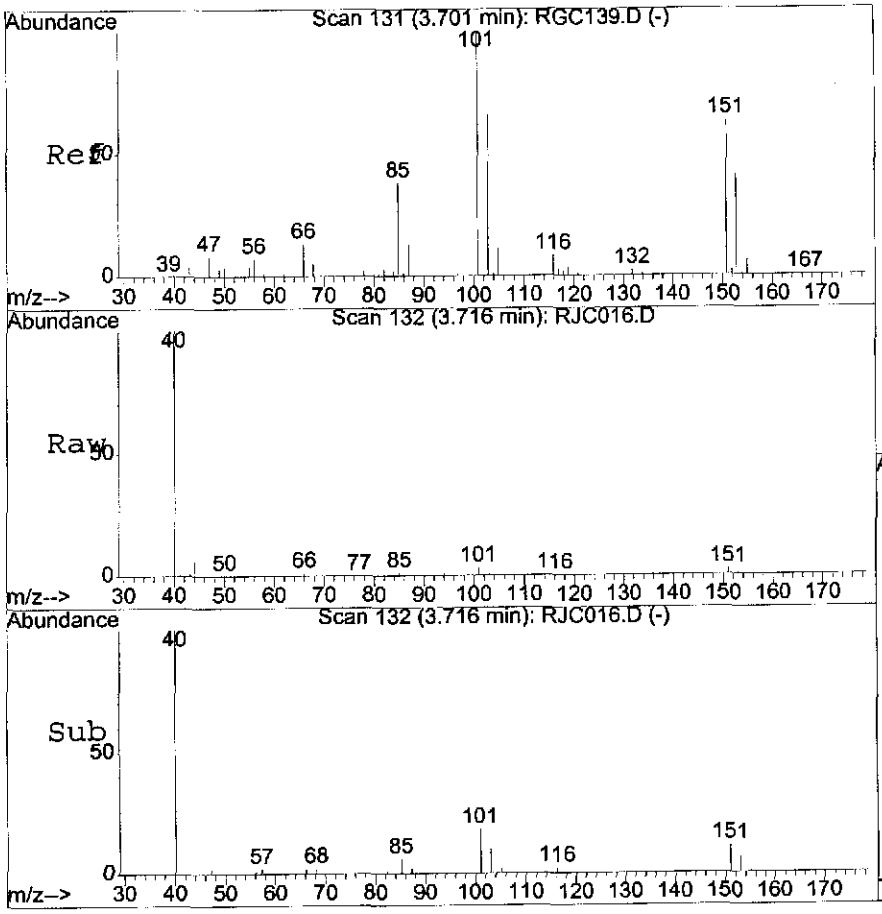


#5
Vinyl chloride
Concen: 1.68 ug/l
RT: 2.31 min Scan# 36
Delta R.T. 0.03 min
Lab File: RJC016.D
Acq: 3 Oct 2011 6:36 pm

Tgt Ion: 62 Resp: 158908

Ion	Ratio	Lower	Upper
62	100		
64	32.8	1.6	61.6

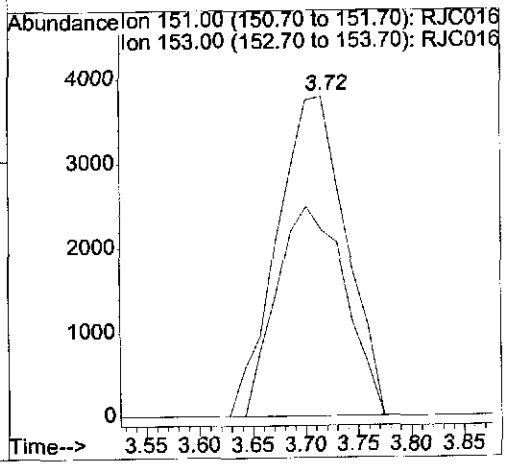


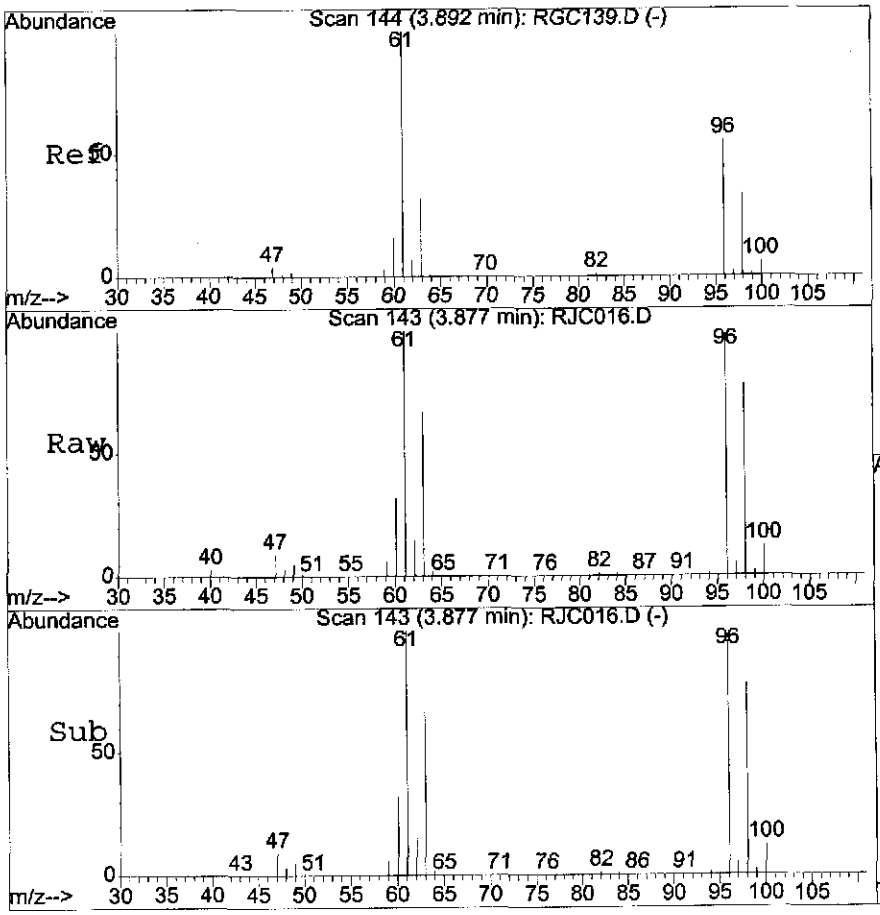


#12
1,1,2-Trichloro-1,2,2-trifluc
Concen: 0.39 ug/l
RT: 3.72 min Scan# 132
Delta R.T. 0.01 min
Lab File: RJC016.D
Acq: 3 Oct 2011 6:36 pm

Tgt Ion:151 Resp: 17260

Ion	Ratio	Lower	Upper
151	100		
153	65.7	32.7	92.7

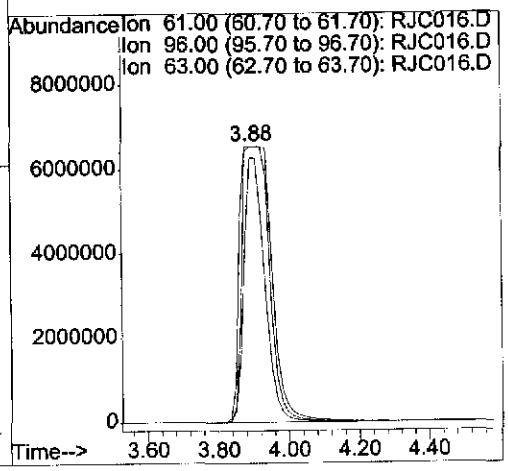


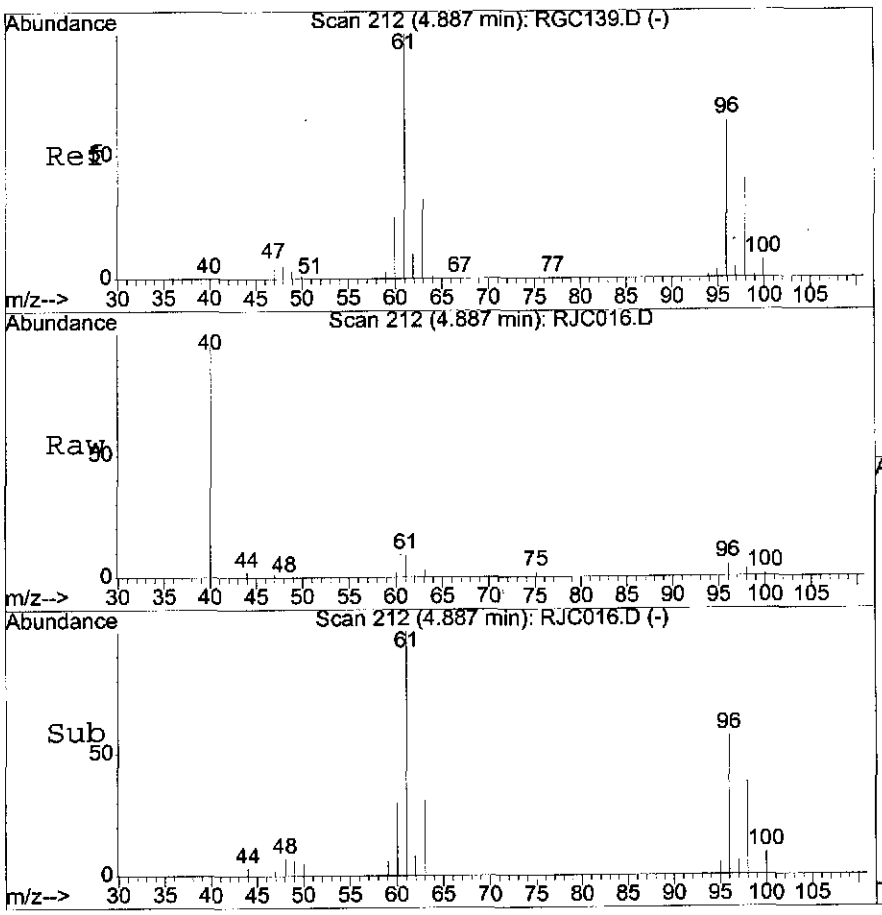


#14
1,1-Dichloroethene
Concen: 338.45 ug/l
RT: 3.88 min Scan# 143
Delta R.T. -0.01 min
Lab File: RJC016.D
Acq: 3 Oct 2011 6:36 pm

Tgt Ion: 61 Resp:41035373

Ion	Ratio	Lower	Upper
61	100		
96	85.1	27.3	87.3
63	62.3	2.1	62.1#

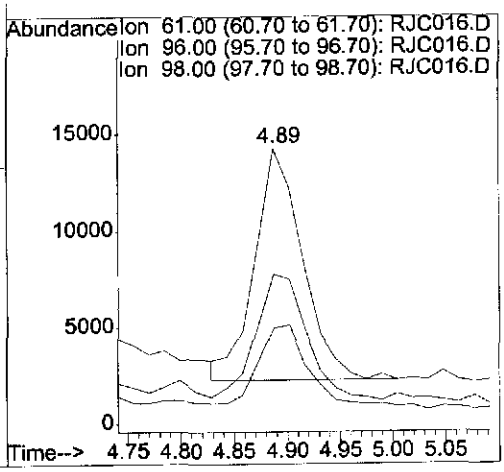


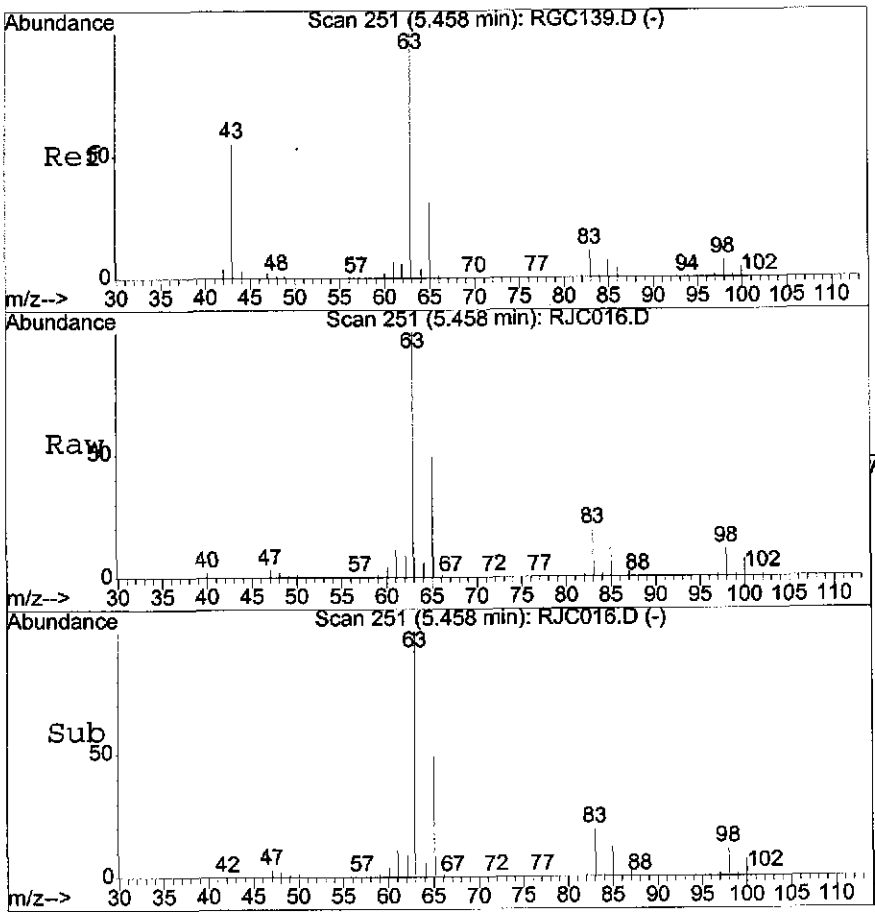


#23
trans-1,2-Dichloroethene
Concen: 0.32 ug/l
RT: 4.89 min Scan# 212
Delta R.T. -0.00 min
Lab File: RJC016.D
Acq: 3 Oct 2011 6:36 pm

Tgt Ion: 61 Resp: 37522

Ion	Ratio	Lower	Upper
61	100		
96	59.8	36.1	96.1
98	41.4	12.0	72.0

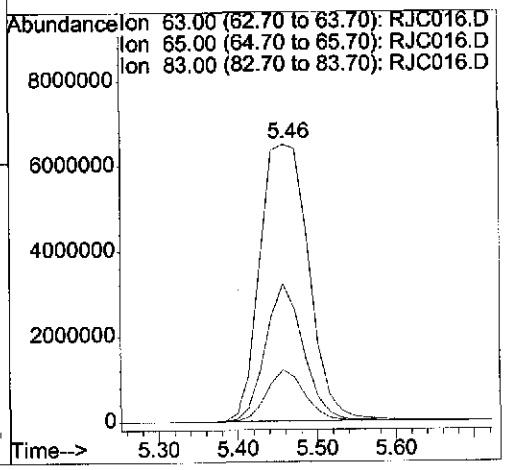


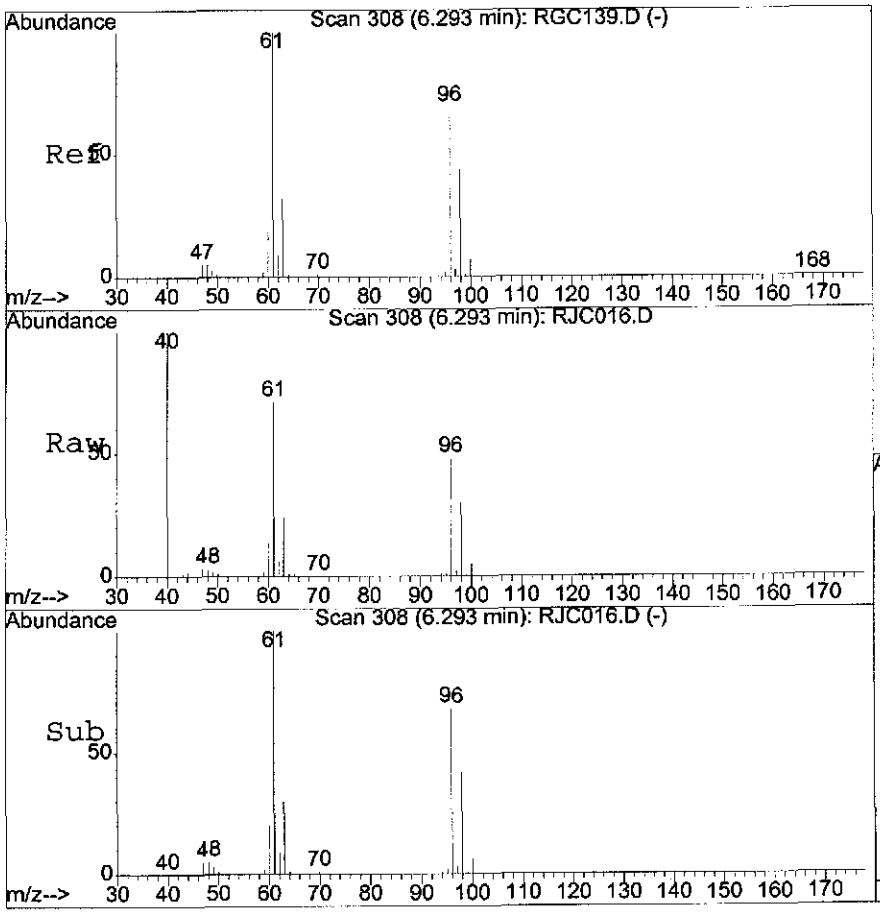


#25
1,1-Dichloroethane
Concen: 225.78 ug/l
RT: 5.46 min Scan# 251
Delta R.T. -0.00 min
Lab File: RJC016.D
Acq: 3 Oct 2011 6:36 pm

Tgt Ion: 63 Resp:27801447

Ion	Ratio	Lower	Upper
63	100		
65	38.7	1.3	61.3
83	14.6	0.0	41.6

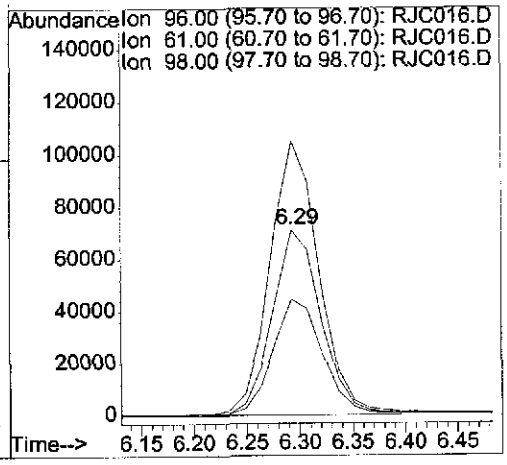


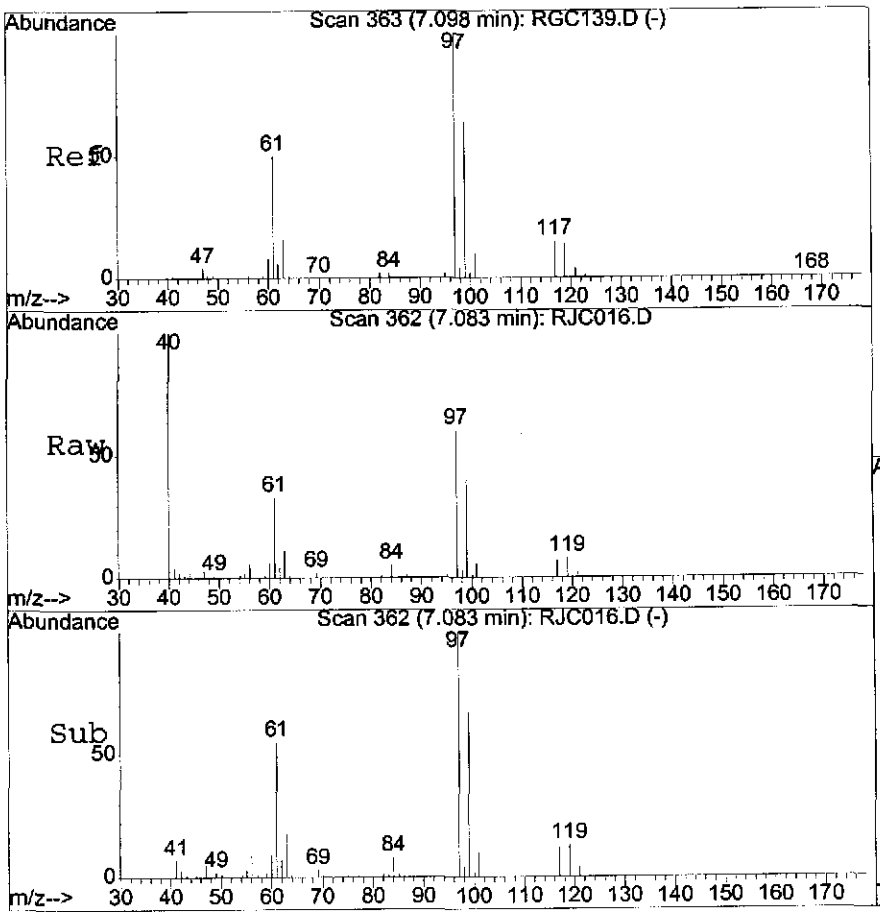


#31
cis-1,2-Dichloroethene
Concen: 3.36 ug/l
RT: 6.29 min Scan# 308
Delta R.T. -0.00 min
Lab File: RJC016.D
Acq: 3 Oct 2011 6:36 pm

Tgt Ion: 96 Resp: 228390

Ion	Ratio	Lower	Upper
96	100		
61	146.8	127.6	187.6
98	65.1	34.5	94.5

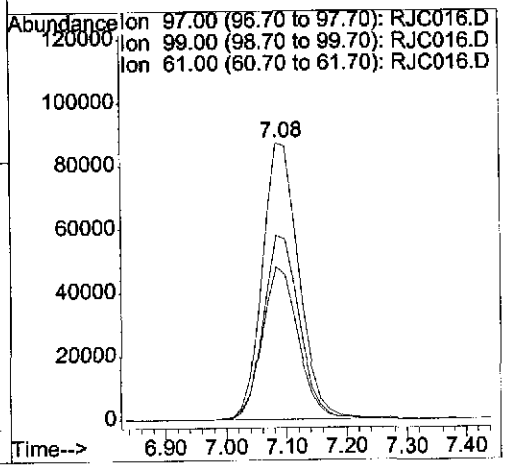


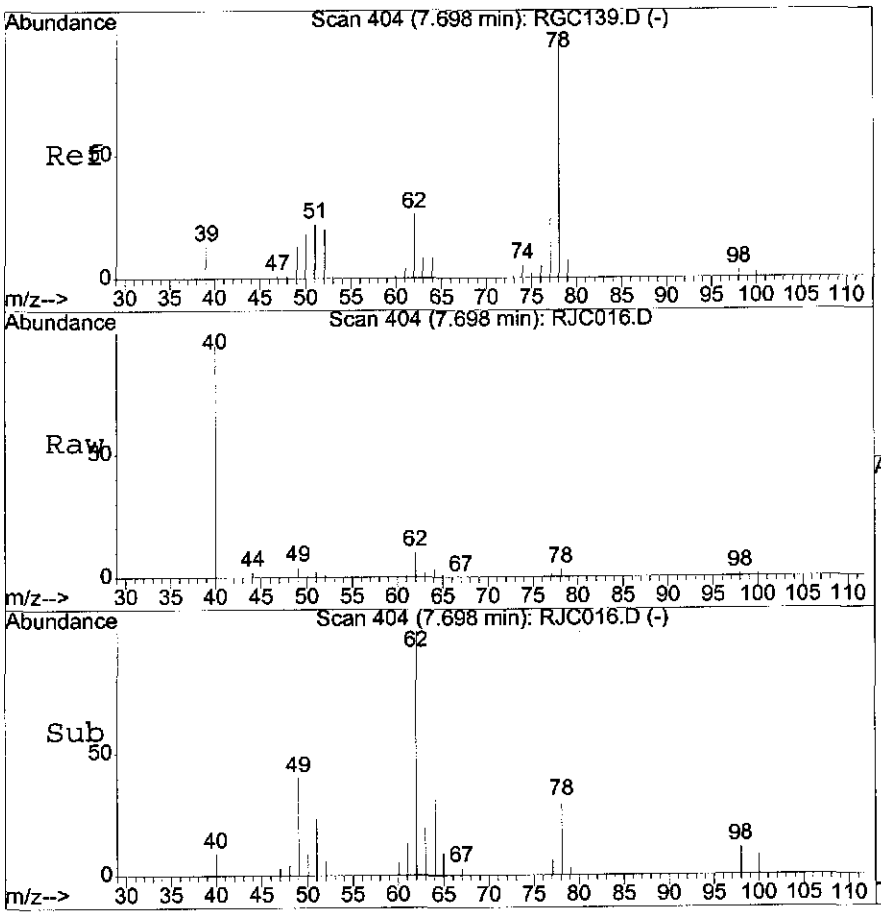


#37
1,1,1-Trichloroethane
Concen: 4.25 ug/l
RT: 7.08 min Scan# 362
Delta R.T. -0.01 min
Lab File: RJC016.D
Acq: 3 Oct 2011 6:36 pm

Tgt Ion: 97 Resp: 368624

Ion	Ratio	Lower	Upper
97	100		
99	65.6	34.8	94.8
61	55.3	21.0	81.0

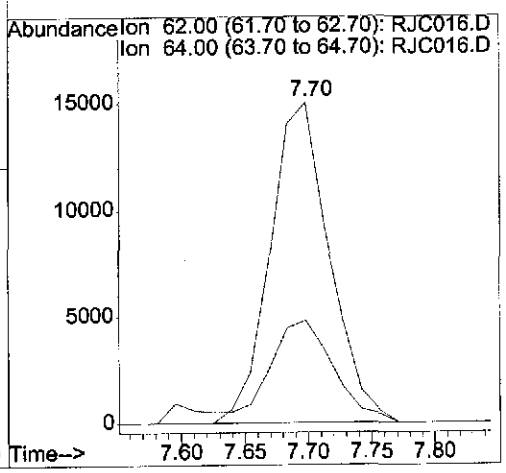


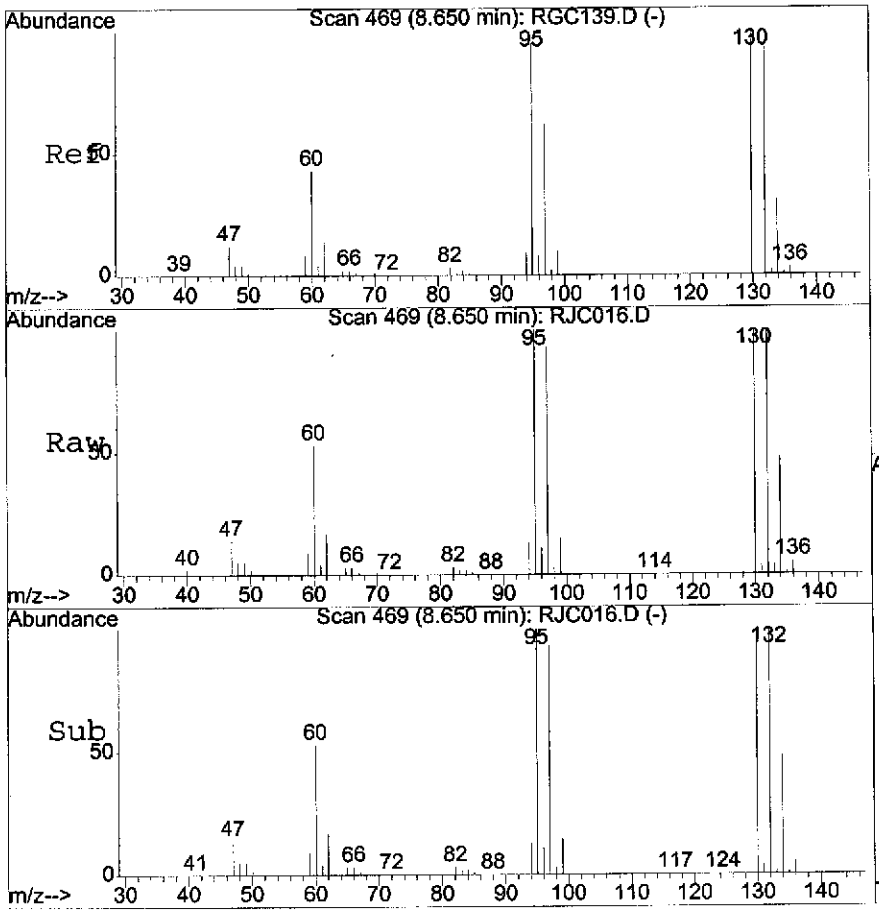


#44
1,2-Dichloroethane
Concen: 1.28 ug/l
RT: 7.70 min Scan# 404
Delta R.T. -0.00 min
Lab File: RJC016.D
Acq: 3 Oct 2011 6:36 pm

Tgt Ion: 62 Resp: 48945

Ion	Ratio	Lower	Upper
62	100		
64	34.6	0.0	60.0

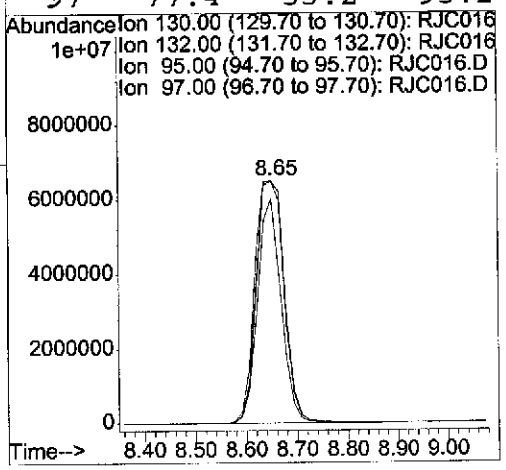


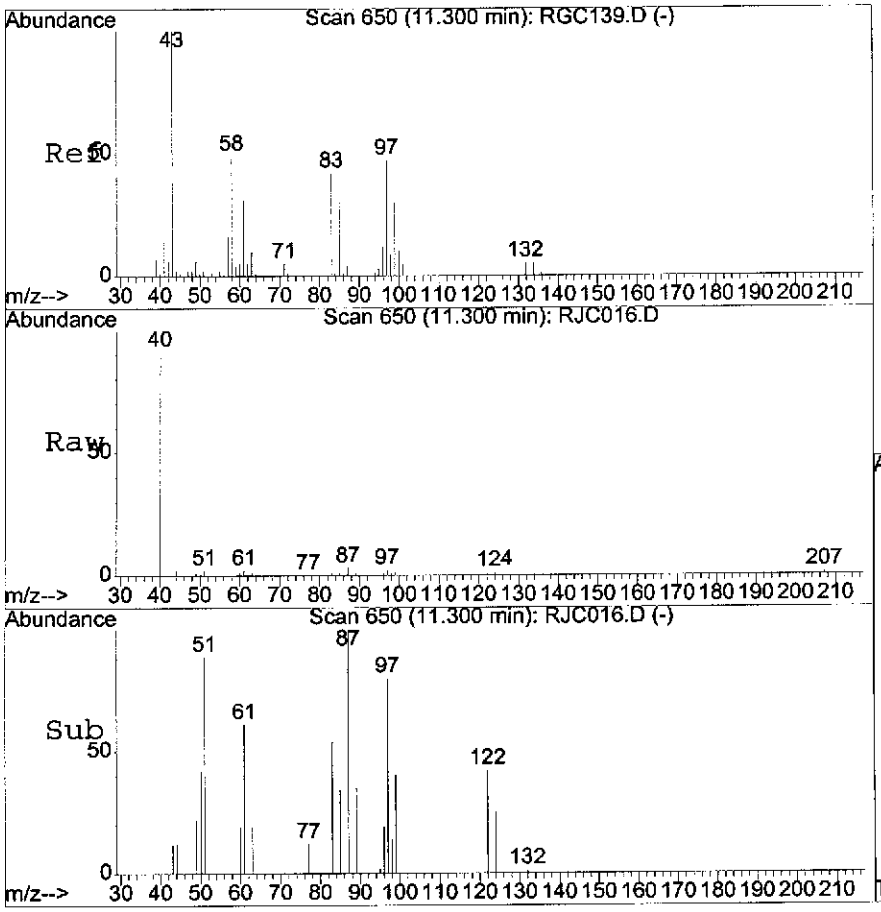


#46
Trichloroethene
Concen: 386.89 ug/l
RT: 8.65 min Scan# 469
Delta R.T. -0.00 min
Lab File: RJC016.D
Acq: 3 Oct 2011 6:36 pm

Tgt Ion:130 Resp:25248298

Ion	Ratio	Lower	Upper
130	100		
132	99.0	65.9	125.9
95	102.5	66.6	126.6
97	77.4	33.2	93.2

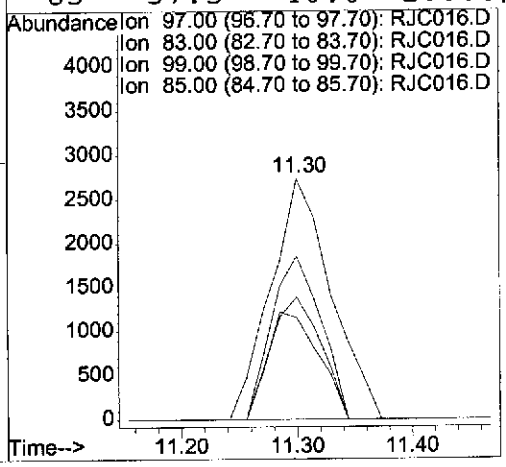


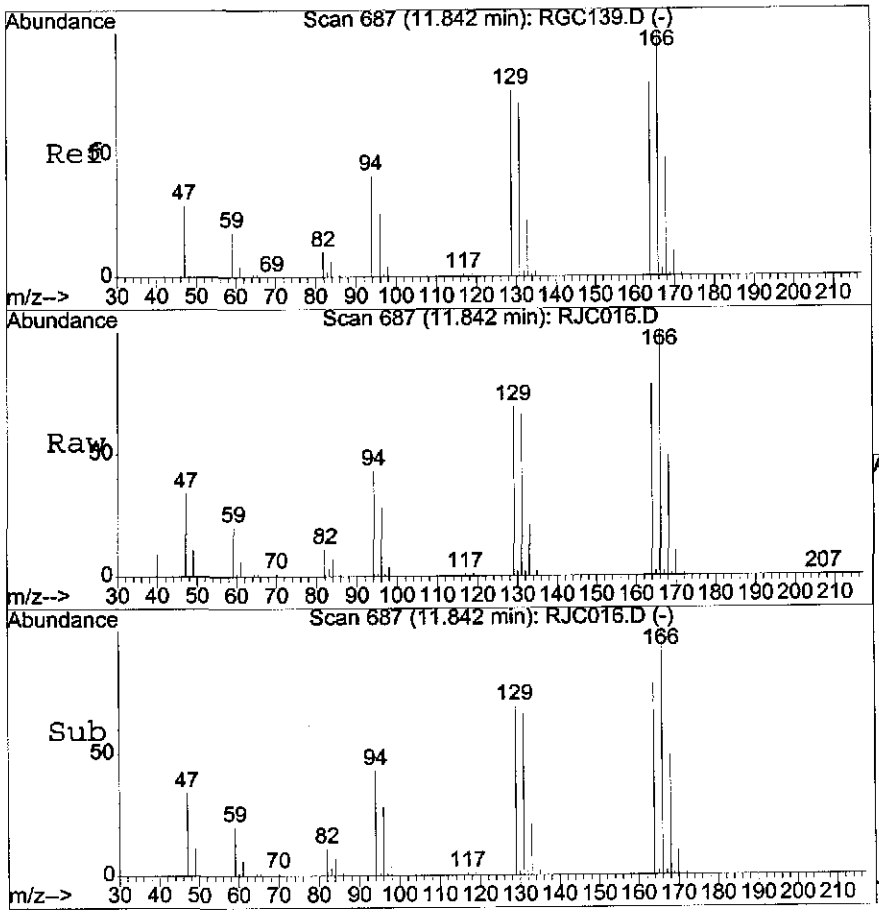


#59
1,1,2-Trichloroethane
Concen: 0.44 ug/l
RT: 11.30 min Scan# 650
Delta R.T. -0.00 min
Lab File: RJC016.D
Acq: 3 Oct 2011 6:36 pm

Tgt Ion: 97 Resp: 9888

Ion	Ratio	Lower	Upper
97	100		
83	55.5	58.6	118.6#
99	42.2	33.4	93.4
85	37.5	40.0	100.0#

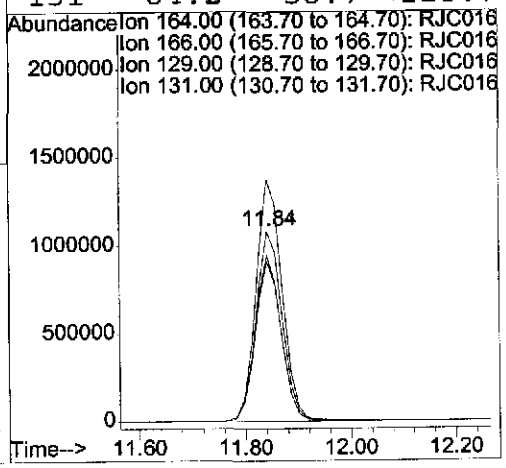




#62
Tetrachloroethene
Concen: 78.52 ug/l
RT: 11.84 min Scan# 687
Delta R.T. -0.00 min
Lab File: RJC016.D
Acq: 3 Oct 2011 6:36 pm

Tgt Ion:164 Resp: 3706065

Ion	Ratio	Lower	Upper
164	100		
166	127.1	98.3	158.3
129	86.6	63.7	123.7
131	84.2	58.7	118.7



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC017.D
Acq On : 3 Oct 2011 7:07 pm
Sample : 11I284-01M 25mL
Misc : DF=1.0, MS
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 11:09 2011

Vial: 17
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1582048	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1146792	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	318376	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.82	111	473904	10.44	ug/l	-0.01
Spiked Amount 10.000			Recovery	=	104.40%	
40) 1,2-Dichloroethane-d4	7.56	65	339225	11.10	ug/l	0.00
Spiked Amount 10.000			Recovery	=	111.00%	
55) Toluene-d8	10.59	98	1848856	10.59	ug/l	0.00
Spiked Amount 10.000			Recovery	=	105.90%	
77) 4-Bromofluorobenzene	15.52	95	479704	10.84	ug/l	-0.01
Spiked Amount 10.000			Recovery	=	108.40%	
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.92	85	432713	8.87	ug/l	99
4) Chloromethane	2.17	50	822035	9.70	ug/l	99
5) Vinyl chloride	2.31	62	999132	11.65	ug/l	100
6) Bromomethane	2.80	94	450292	9.79	ug/l	100
7) Chloroethane	2.88	64	501707	10.72	ug/l	99
8) Dichlorofluoromethane	2.93	67	1259900	10.87	ug/l	100
9) Trichlorofluoromethane	3.18	101	677150	10.45	ug/l	99
11) Acrolein	3.68	56	158661	69.11	ug/l	95
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	418772	10.33	ug/l	99
13) Acetone	3.75	43	242949	54.50	ug/l	98
14) 1,1-Dichloroethene	3.88	61	41310436	375.32	ug/l	59
17) Iodomethane	4.29	142	820506	8.75	ug/l	99
18) Acetonitrile	4.36	41	1346255	107.26	ug/l	96
19) Methylene chloride	4.51	49	805051	11.22	ug/l	97
20) Carbon disulfide	4.52	76	2677191	10.48	ug/l	100
21) Acrylonitrile	4.67	53	352805	51.23	ug/l	100
22) tert-Butyl methyl ether (M	4.70	73	664765	10.84	ug/l	97
23) trans-1,2-Dichloroethene	4.89	61	1014743	9.68	ug/l	98
24) Isopropyl ether (DIPE)	5.30	45	2144259	11.44	ug/l	97
25) 1,1-Dichloroethane	5.46	63	28105272	251.42	ug/l	88
26) Vinyl acetate	5.46	43	411944	7.34	ug/l	62
28) tert-Butyl ethyl ether (ET	5.86	59	1147796	10.49	ug/l	99
29) 2-Butanone	6.03	43	437524	52.28	ug/l	97
30) 2,2-Dichloropropane	6.22	77	660953	9.62	ug/l	100
31) cis-1,2-Dichloroethene	6.30	96	835286	13.55	ug/l	99
32) Chloroform	6.52	83	1026583	11.80	ug/l	98
33) Bromochloromethane	6.75	49	443171	10.77	ug/l	85

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC017.D
Acq On : 3 Oct 2011 7:07 pm
Sample : 11I284-01M 25mL
Misc : DF=1.0, MS
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 11:09 2011

Vial: 17
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
36)	Tetrahydrofuran	6.81	42	64108	11.69	ug/l		95
37)	1,1,1-Trichloroethane	7.09	97	1209858	15.37	ug/l		98
39)	tert-Amyl methyl ether (TA	7.48	87	152339	9.70	ug/l		94
42)	1,1-Dichloropropene	7.32	110	288129	9.45	ug/l		96
43)	Carbon tetrachloride	7.47	119	641505	10.01	ug/l		99
44)	1,2-Dichloroethane	7.69	62	484543	13.28	ug/l		97
45)	Benzene	7.72	78	2328533	10.71	ug/l		99
46)	Trichloroethene	8.65	130	25339361	407.02	ug/l		92
48)	1,2-Dichloropropane	8.92	63	557968	10.98	ug/l		93
49)	Bromodichloromethane	9.30	83	594672	11.74	ug/l		99
50)	1,4-Dioxane	9.34	88	27070	207.74	ug/l		97
51)	Dibromomethane	9.39	93	193876	10.87	ug/l		96
53)	4-Methyl-2-pentanone	9.84	43	929821	46.30	ug/l		97
54)	cis-1,3-Dichloropropene	10.18	75	682609	11.01	ug/l		95
56)	Toluene	10.72	91	2222747	9.91	ug/l		100
57)	Ethyl methacrylate	11.01	69	248921	9.13	ug/l		96
58)	trans-1,3-Dichloropropene	11.03	75	448868	10.84	ug/l		100
59)	1,1,2-Trichloroethane	11.30	97	240455	11.23	ug/l		98
60)	2-Hexanone	11.32	43	542472	46.64	ug/l		98
61)	1,3-Dichloropropane	11.74	76	443169	10.88	ug/l		99
62)	Tetrachloroethene	11.85	164	4148387	92.13	ug/l		96
63)	Dibromochloromethane	12.20	129	257902	9.43	ug/l		99
64)	1,2-Dibromoethane	12.56	107	197893	8.88	ug/l		99
65)	1-Chlorohexane	12.86	91	909912	9.47	ug/l		97
66)	Chlorobenzene	13.31	112	1203514	9.85	ug/l		94
67)	1,1,1,2-Tetrachloroethane	13.40	131	357440	10.10	ug/l		99
68)	Ethylbenzene	13.41	91	2433462	10.13	ug/l		97
69)	m-Xylene & p-Xylene	13.56	91	3528429	20.26	ug/l		95
70)	o-Xylene	14.36	91	1737141	10.31	ug/l		96
71)	Styrene	14.44	104	1177383	8.97	ug/l		97
73)	Isopropylbenzene	15.05	105	2307965	11.12	ug/l		97
74)	Bromoform	15.07	173	123325	11.40	ug/l		99
75)	trans-1,4-Dichloro-2-buten	15.14	53	87267	14.13	ug/l	#	62
76)	1,1,2,2-Tetrachloroethane	15.37	83	221303	11.74	ug/l		100
78)	1,2,3-Trichloropropane	15.67	110	50805	10.11	ug/l		88
79)	n-Propylbenzene	15.81	91	2731519	10.57	ug/l		96
80)	Bromobenzene	15.89	156	336127	9.60	ug/l		88
81)	1,3,5-Trimethylbenzene	16.12	105	1645278	9.96	ug/l		96
82)	2-Chlorotoluene	16.15	91	1642010	10.80	ug/l		93
83)	4-Chlorotoluene	16.24	91	1379839	11.24	ug/l		91
84)	tert-Butylbenzene	16.81	134	357529	9.64	ug/l	#	91

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC017.D
Acq On : 3 Oct 2011 7:07 pm
Sample : 11I284-01M 25mL
Misc : DF=1.0, MS
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 11:09 2011

Vial: 17
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
85)	1,2,4-Trimethylbenzene	16.88	105	1509655	9.84	ug/l	96
86)	sec-Butylbenzene	17.23	105	2356112	10.17	ug/l	97
87)	p-Isopropyltoluene	17.50	119	1583839	8.58	ug/l	96
88)	1,3-Dichlorobenzene	17.67	146	670795	9.84	ug/l	98
89)	1,4-Dichlorobenzene	17.88	146	612223	9.58	ug/l	98
90)	n-Butylbenzene	18.26	91	1538844	8.73	ug/l	98
91)	1,2-Dichlorobenzene	18.51	146	506879	9.69	ug/l	98
92)	1,2-Dibromo-3-chloropropan	19.63	157	21854	8.86	ug/l	90
93)	1,2,4-Trichlorobenzene	20.73	180	258006	8.07	ug/l	99
94)	Hexachlorobutadiene	20.91	225	224896	7.70	ug/l	99
95)	Naphthalene	21.07	128	266819	6.48	ug/l	100
96)	1,2,3-Trichlorobenzene	21.39	180	186401	7.88	ug/l	99

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

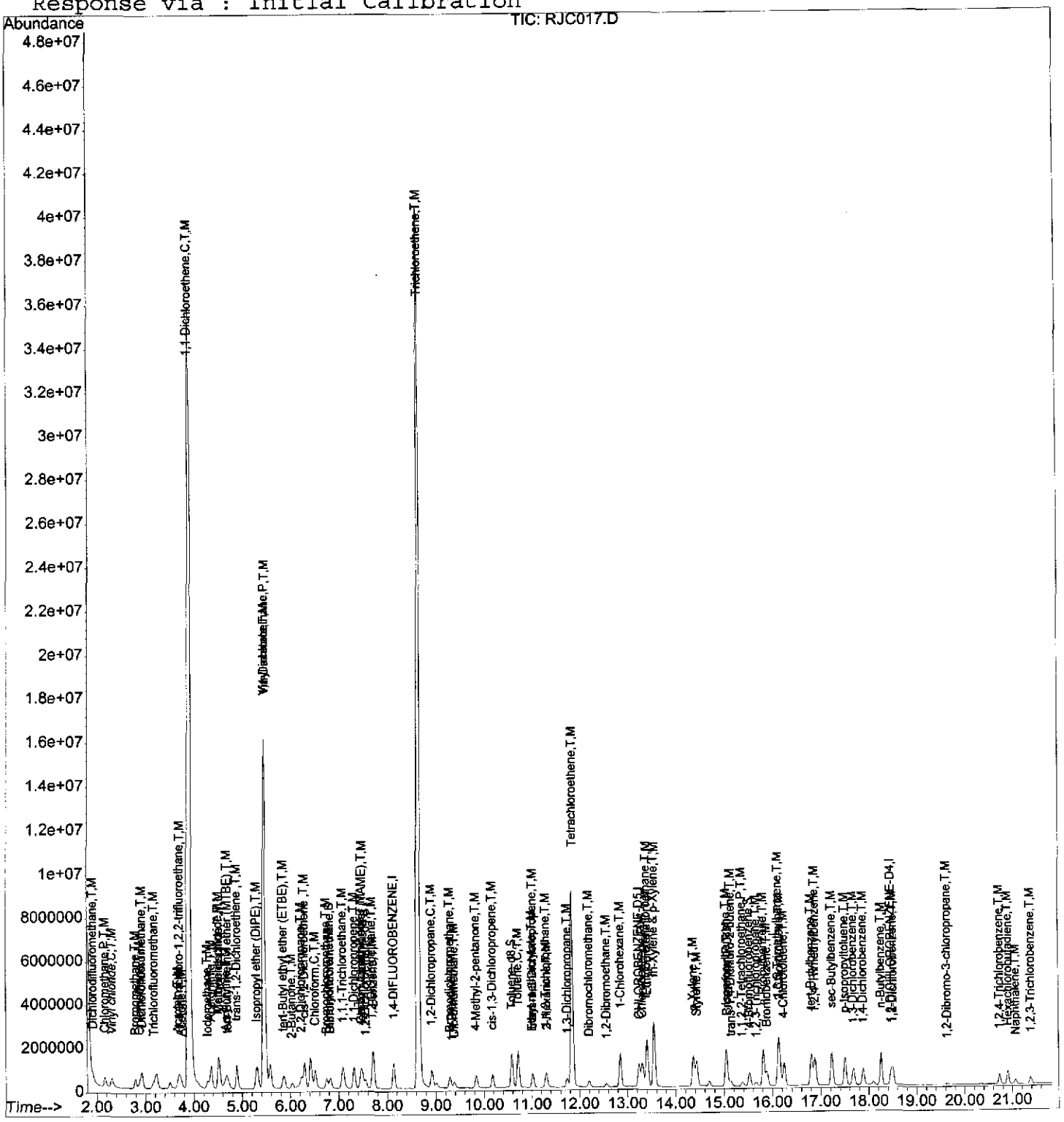
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC017.D
Acq On : 3 Oct 2011 7:07 pm
Sample : 11I284-01M 25mL
Misc : DF=1.0, MS
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 11:09 2011

Vial: 17
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC018.D
Acq On : 3 Oct 2011 7:38 pm
Sample : 11I284-01S 25mL
Misc : DF=1.0, MSD
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 11:13 2011

Vial: 18
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1637163	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1194714	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	333763	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.82	111	486613	10.36	ug/l	0.00
Spiked Amount 10.000			Recovery	=	103.60%	
40) 1,2-Dichloroethane-d4	7.56	65	341799	10.81	ug/l	0.00
Spiked Amount 10.000			Recovery	=	108.10%	
55) Toluene-d8	10.59	98	1906147	10.48	ug/l	0.00
Spiked Amount 10.000			Recovery	=	104.80%	
77) 4-Bromofluorobenzene	15.52	95	502570	10.83	ug/l	0.00
Spiked Amount 10.000			Recovery	=	108.30%	
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.92	85	439638	8.70	ug/l	99
4) Chloromethane	2.17	50	870611	9.92	ug/l	100
5) Vinyl chloride	2.30	62	1028467	11.59	ug/l	99
6) Bromomethane	2.78	94	466984	9.81	ug/l	99
7) Chloroethane	2.89	64	526253	10.87	ug/l	98
8) Dichlorofluoromethane	2.93	67	1270620	10.59	ug/l	99
9) Trichlorofluoromethane	3.18	101	693784	10.35	ug/l	99
11) Acrolein	3.66	56	161947	68.11	ug/l	94
12) 1,1,2-Trichloro-1,2,2-trif	3.71	151	422020	10.06	ug/l	98
13) Acetone	3.75	43	247701	53.60	ug/l	99
14) 1,1-Dichloroethene	3.88	61	41452358	363.93	ug/l	58
17) Iodomethane	4.29	142	836355	8.62	ug/l	98
18) Acetonitrile	4.37	41	1363492	104.98	ug/l	96
19) Methylene chloride	4.51	49	807674	10.87	ug/l	97
20) Carbon disulfide	4.53	76	2580687	9.77	ug/l	100
21) Acrylonitrile	4.67	53	356635	50.05	ug/l	100
22) tert-Butyl methyl ether (M	4.70	73	660002	10.40	ug/l	95
23) trans-1,2-Dichloroethene	4.89	61	1021690	9.41	ug/l	98
24) Isopropyl ether (DIPE)	5.30	45	2158490	11.13	ug/l	97
25) 1,1-Dichloroethane	5.46	63	28593140	247.17	ug/l	88
26) Vinyl acetate	5.46	43	419010	7.21	ug/l	63
28) tert-Butyl ethyl ether (ET	5.86	59	1147335	10.13	ug/l	99
29) 2-Butanone	6.03	43	438324	50.61	ug/l	98
30) 2,2-Dichloropropane	6.22	77	663438	9.33	ug/l	99
31) cis-1,2-Dichloroethene	6.30	96	844341	13.24	ug/l	99
32) Chloroform	6.52	83	1032425	11.47	ug/l	98
33) Bromochloromethane	6.75	49	446853	10.49	ug/l	85

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC018.D
Acq On : 3 Oct 2011 7:38 pm
Sample : 11I284-01S 25mL
Misc : DF=1.0, MSD
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 11:13 2011

Vial: 18
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
36)	Tetrahydrofuran	6.80	42	64977	11.43 ug/l		94
37)	1,1,1-Trichloroethane	7.09	97	1219108	14.97 ug/l		99
39)	tert-Amyl methyl ether (TA	7.48	87	154750	9.52 ug/l		95
42)	1,1-Dichloropropene	7.32	110	289881	9.12 ug/l		98
43)	Carbon tetrachloride	7.45	119	647088	9.69 ug/l		99
44)	1,2-Dichloroethane	7.69	62	482594	12.70 ug/l		97
45)	Benzene	7.72	78	2358369	10.42 ug/l		99
46)	Trichloroethene	8.64	130	25541748	393.81 ug/l		92
48)	1,2-Dichloropropane	8.92	63	564818	10.67 ug/l		96
49)	Bromodichloromethane	9.30	83	598595	11.34 ug/l		99
50)	1,4-Dioxane	9.33	88	28890	212.81 ug/l		97
51)	Dibromomethane	9.39	93	190327	10.24 ug/l		96
53)	4-Methyl-2-pentanone	9.84	43	949580	45.39 ug/l		98
54)	cis-1,3-Dichloropropene	10.18	75	680471	10.53 ug/l		95
56)	Toluene	10.72	91	2258086	9.67 ug/l		100
57)	Ethyl methacrylate	11.01	69	254142	8.94 ug/l		93
58)	trans-1,3-Dichloropropene	11.03	75	452824	10.50 ug/l		99
59)	1,1,2-Trichloroethane	11.29	97	241093	10.81 ug/l		98
60)	2-Hexanone	11.32	43	562745	46.44 ug/l		97
61)	1,3-Dichloropropane	11.74	76	445862	10.51 ug/l		99
62)	Tetrachloroethene	11.85	164	4235706	90.30 ug/l		96
63)	Dibromochloromethane	12.20	129	267858	9.40 ug/l		99
64)	1,2-Dibromoethane	12.56	107	201457	8.68 ug/l		99
65)	1-Chlorohexane	12.86	91	929672	9.29 ug/l		97
66)	Chlorobenzene	13.31	112	1227075	9.64 ug/l		95
67)	1,1,1,2-Tetrachloroethane	13.40	131	361256	9.80 ug/l		100
68)	Ethylbenzene	13.41	91	2472100	9.87 ug/l		97
69)	m-Xylene & p-Xylene	13.56	91	3567043	19.66 ug/l		96
70)	o-Xylene	14.37	91	1768200	10.07 ug/l		96
71)	Styrene	14.44	104	1193711	8.73 ug/l		96
73)	Isopropylbenzene	15.04	105	2357088	10.83 ug/l		97
74)	Bromoform	15.07	173	126342	11.14 ug/l		98
75)	trans-1,4-Dichloro-2-buten	15.14	53	87464	13.51 ug/l	#	61
76)	1,1,2,2-Tetrachloroethane	15.38	83	221090	11.18 ug/l		100
78)	1,2,3-Trichloropropane	15.65	110	52555	9.98 ug/l		91
79)	n-Propylbenzene	15.81	91	2814849	10.39 ug/l		96
80)	Bromobenzene	15.89	156	340147	9.26 ug/l		89
81)	1,3,5-Trimethylbenzene	16.12	105	1681194	9.71 ug/l		96
82)	2-Chlorotoluene	16.15	91	1689100	10.60 ug/l		93
83)	4-Chlorotoluene	16.24	91	1377533	10.71 ug/l		92
84)	tert-Butylbenzene	16.81	134	372268	9.58 ug/l	#	92

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC018.D
Acq On : 3 Oct 2011 7:38 pm
Sample : 11I284-01S 25mL
Misc : DF=1.0, MSD
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 11:13 2011

Vial: 18
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
85) 1,2,4-Trimethylbenzene	16.88	105	1551570	9.65 ug/l	96
86) sec-Butylbenzene	17.23	105	2392858	9.85 ug/l	97
87) p-Isopropyltoluene	17.50	119	1651632	8.54 ug/l	97
88) 1,3-Dichlorobenzene	17.67	146	686854	9.61 ug/l	98
89) 1,4-Dichlorobenzene	17.88	146	630010	9.41 ug/l	99
90) n-Butylbenzene	18.26	91	1594802	8.63 ug/l	98
91) 1,2-Dichlorobenzene	18.51	146	522232	9.53 ug/l	98
92) 1,2-Dibromo-3-chloropropan	19.64	157	21643	8.37 ug/l	92
93) 1,2,4-Trichlorobenzene	20.73	180	275987	8.24 ug/l	97
94) Hexachlorobutadiene	20.91	225	233523	7.63 ug/l	98
95) Naphthalene	21.07	128	289804	6.71 ug/l	99
96) 1,2,3-Trichlorobenzene	21.38	180	194242	7.84 ug/l	99

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

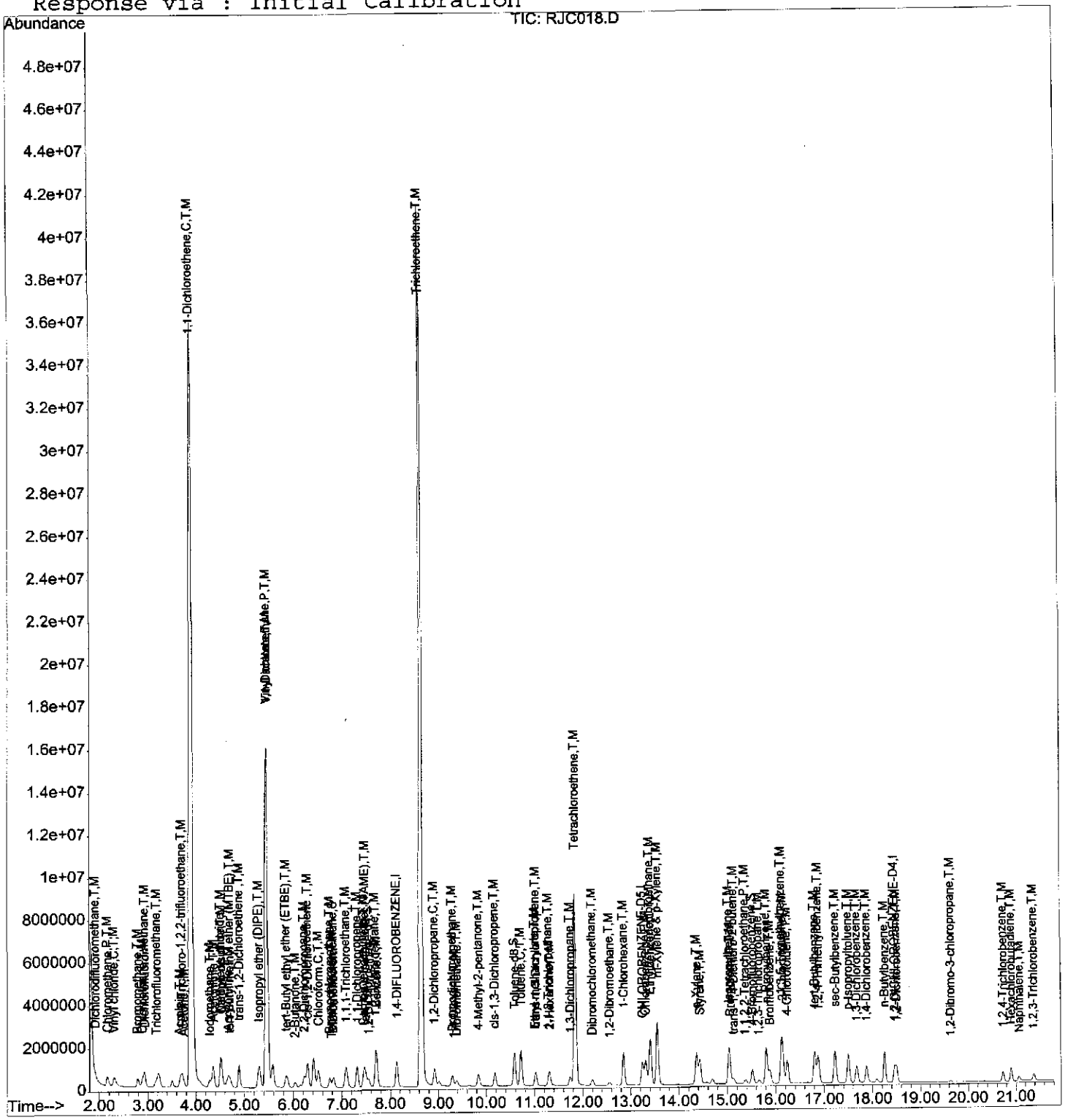
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC018.D
Acq On : 3 Oct 2011 7:38 pm
Sample : 11I284-01S 25mL
Misc : DF=1.0, MSD
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 11:13 2011

Vial: 18
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



INITIAL CALIBRATION(S)

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RGC133
Instrument ID: 67
GC Column:RTX502.21D:0.25mm (mm)

Contract: SEAL BEACH SITE 75
SAS No.: SDG No.: 11I284
BFB Injection Date : 07/13/11
BFB Injection Time : 09:39
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	22.52
75	30.0 - 60.0% of mass 95	45.33
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.01
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	73.28
175	5.0 - 9.0% of mass 174	5.45(7.4)1
176	95.0 - 101.0% of mass 174	71.57(97.7)1
177	5.0 - 9.0% of mass 176	4.83(6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD0.3	V067G1301	RGC134	07/13/11	10:11
2	VSTD0.5	V067G1302	RGC135	07/13/11	10:42
3	VSTD01	V067G1303	RGC136	07/13/11	11:13
4	VSTD02	V067G1304	RGC137	07/13/11	11:44
5	VSTD05	V067G1305	RGC138	07/13/11	12:15
6	VSTD010	V067G1306	RGC139	07/13/11	12:45
7	VSTD020	V067G1307	RGC140	07/13/11	13:16
8	VSTD030	V067G1308	RGC141	07/13/11	13:47
9	VSTD050	V067G1309	RGC142	07/13/11	14:18
10	VSTD100	V067G1310	RGC143	07/13/11	14:48
11	VSTD010	IV067G1301	RGC147	07/13/11	16:51

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :T067
Beginning DateTime :07/13/11 10:11
Spike Units :PPB
IC File :RGC139

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :07/13/11 14:48
HPChem Method :V067G13

	M IDX	Parameters	.3 10:11 RGC134	.5 10:42 RGC135	1 11:13 RGC136	2 11:44 RGC137	5 12:15 RGC138	10 12:45 RGC139	20 13:16 RGC140	30 13:47 RGC141	50 14:18 RGC142	100 14:48 RGC143	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	8.1361
	2	Dichlorodifluoromethane	------	0.274	0.280	0.314	0.317	0.332	0.326	0.312	0.309	0.313	0.309	6.24	1.9156
	3	Dichlorotetrafluoroethane	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	4	Chloromethane	------	0.466	0.484	0.544	0.543	0.578	0.574	0.539	0.548	0.546	0.536	6.98	2.1482
	5	Vinyl chloride	------	0.506	0.546	0.606	0.595	0.615	0.581	0.522	0.482	0.426	0.542	11.77	2.2767
	6	Bromomethane	------	0.259	0.257	0.290	0.292	0.305	0.311	0.292	0.301	0.307	0.291	6.79	2.7778
	7	Chloroethane	0.206	0.280	0.285	0.311	0.308	0.325	0.321	0.304	0.309	0.309	0.296	11.66	2.8771
	8	Dichlorofluoromethane	0.688	0.761	0.726	0.748	0.729	0.752	0.768	0.712	0.739	0.704	0.733	3.54	2.9152
	9	Trichlorofluoromethane	------	0.336	0.369	0.417	0.421	0.442	0.444	0.416	0.421	0.420	0.410	8.51	3.1682
	10	sec-Propyl alcohol	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
5	11	Acrolein	------	------	0.023	0.020	0.014	0.017	0.015	0.014	0.014	0.013	0.016	20.50	3.6651
	12	1,1,2-Trichloro-1,2,2-trifluoroethane	0.235	0.281	0.255	0.256	0.256	0.262	0.268	0.251	0.254	0.246	0.256	4.83	3.6955
5	13	Acetone	------	------	------	0.039	0.031	0.031	0.029	0.025	0.026	0.025	0.029	16.65	3.7440
	14	1,1-Dichloroethene	0.636	0.729	0.697	0.714	0.700	0.721	0.734	0.677	0.692	0.658	0.696	4.51	3.8932
5	15	tert-Butyl alcohol	------	------	0.008	0.008	0.008	0.008	0.008	0.007	0.008	0.007	0.008	7.02	4.0018
	16	Methyl acetate	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	17	Iodomethane	0.520	0.613	0.587	0.604	0.599	0.621	0.631	0.580	0.599	0.572	0.592	5.25	4.2855
10	18	Acetonitrile	0.070	0.084	0.078	0.082	0.080	0.083	0.084	0.078	0.080	0.076	0.079	5.44	4.3587
	19	Methylene chloride	------	0.674	0.557	0.533	0.487	0.489	0.488	0.440	0.454	0.425	0.505	15.03	4.5054
	20	Carbon disulfide	1.431	1.699	1.707	1.749	1.638	1.707	1.662	1.574	1.577	1.397	1.614	7.42	4.5198
5	21	Acrylonitrile	0.043	0.047	0.044	0.046	0.043	0.046	0.044	0.039	0.041	0.040	0.044	6.14	4.6662
	22	tert-Butyl methyl ether (MTBE)	0.351	0.411	0.386	0.398	0.398	0.416	0.411	0.360	0.382	0.362	0.388	6.06	4.7043
	23	trans-1,2-Dichloroethene	0.570	0.711	0.662	0.674	0.676	0.689	0.705	0.653	0.665	0.625	0.663	6.21	4.8858
	24	Isopropyl ether (DIPE)	1.062	1.283	1.183	1.205	1.188	1.239	1.260	1.123	1.183	1.122	1.185	5.73	5.3045
	25	1,1-Dichloroethane	0.639	0.748	0.704	0.721	0.715	0.732	0.742	0.689	0.706	0.671	0.707	4.72	5.4568
	26	Vinyl acetate	------	0.305	0.283	0.348	0.358	0.398	0.385	0.354	0.370	0.393	0.355	11.00	5.4571
5	27	2-Butanol	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	28	tert-Butyl ethyl ether (ETBE)	0.610	0.724	0.674	0.712	0.712	0.738	0.743	0.651	0.694	0.659	0.692	6.19	5.8623
5	29	2-Butanone	------	0.067	0.053	0.054	0.052	0.055	0.053	0.046	0.050	0.047	0.053	11.52	6.0313
	30	2,2-Dichloropropane	0.454	0.499	0.452	0.447	0.426	0.442	0.433	0.414	0.409	0.368	0.434	7.92	6.2284
	31	cis-1,2-Dichloroethene	0.338	0.405	0.386	0.396	0.396	0.409	0.415	0.382	0.393	0.375	0.390	5.60	6.2928
	32	Chloroform	0.514	0.591	0.555	0.560	0.556	0.569	0.576	0.526	0.541	0.512	0.550	4.81	6.5139
	33	Bromochloromethane	0.243	0.273	0.261	0.266	0.265	0.276	0.274	0.246	0.255	0.243	0.260	4.91	6.7452
5	34	tert-Amyl alcohol	------	------	0.006	0.007	0.007	0.008	0.007	0.006	0.007	0.007	0.007	7.94	6.7507
	35	Dibromofluoromethane	0.281	0.289	0.263	0.285	0.283	0.302	0.306	0.281	0.291	0.287	0.287	4.15	6.8286
	36	Tetrahydrofuran	------	------	0.051	0.050	0.042	0.042	0.036	0.031	0.032	0.032	0.040	20.35	6.7982
	37	1,1,1-Trichloroethane	0.438	0.522	0.499	0.512	0.506	0.518	0.528	0.489	0.497	0.466	0.497	5.53	7.0878
	38	Cyclohexane	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	39	tert-Amyl methyl ether (TAME)	0.096	0.103	0.099	0.099	0.100	0.106	0.106	0.093	0.098	0.092	0.099	4.83	7.4861
	40	1,2-Dichloroethane-d4	0.197	0.208	0.184	0.201	0.186	0.199	0.203	0.180	0.189	0.184	0.193	5.09	7.5505
	41	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	13.2473
	42	1,1-Dichloropropene	0.240	0.289	0.274	0.269	0.261	0.267	0.280	0.260	0.263	0.257	0.266	5.01	7.3162
	43	Carbon tetrachloride	0.500	0.573	0.563	0.575	0.561	0.569	0.593	0.555	0.561	0.542	0.559	4.42	7.4626
	44	1,2-Dichloroethane	0.294	0.337	0.320	0.330	0.322	0.331	0.341	0.303	0.309	0.294	0.318	5.41	7.6939
	45	Benzene	1.792	2.047	1.918	1.969	1.880	1.906	1.977	1.822	1.853	1.788	1.895	4.51	7.7115
	46	Trichloroethene	0.656	0.643	0.540	0.535	0.507	0.512	0.534	0.499	0.508	0.495	0.543	10.76	8.6471
	47	Methylcyclohexane	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	48	1,2-Dichloropropane	0.433	0.491	0.436	0.454	0.437	0.447	0.460	0.420	0.433	0.420	0.443	4.83	8.9223
	49	Bromodichloromethane	0.405	0.466	0.437	0.456	0.444	0.452	0.468	0.424	0.438	0.426	0.442	4.47	9.2942
20	50	1,4-Dioxane	------	------	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	14.81	9.3220
	51	Dibromomethane	0.126	0.155	0.149	0.167	0.158	0.166	0.170	0.151	0.158	0.153	0.155	8.12	9.3820
	52	2-Chloroethyl vinyl ether	------	0.131	0.113	0.122	0.119	0.123	0.130	0.113	0.119	0.118	0.121	5.26	9.7908
	53	4-Methyl-2-pentanone	0.169	0.202	0.178	0.172	0.171	0.184	0.184	0.159	0.169	0.164	0.175	7.10	9.8374
	54	cis-1,3-Dichloropropene	0.497	0.545	0.535	0.550	0.538	0.561	0.580	0.526	0.543	0.532	0.541	4.07	10.1800
	55	Toluene-d8	1.538	1.499	1.410	1.564	1.463	1.552	1.627	1.501	1.540	1.525	1.522	3.88	10.5826
	56	Toluene	2.229	2.212	1.949	1.973	1.894	1.906	1.975	1.824	1.849	1.744	1.956	8.01	10.7202
	57	Ethyl methacrylate	0.207	0.249	0.221	0.237	0.241	0.255	0.266	0.226	0.243	0.234	0.238	7.19	11.0189
	58	trans-1,3-Dichloropropene	0.322	0.381	0.354	0.361	0.361	0.376	0.390	0.351	0.363	0.352	0.361	5.25	11.0350

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59	1,1,2-Trichloroethane	0.173	0.197	0.184	0.192	0.188	0.194	0.200	0.176	0.184	0.177	0.187	4.95	11.2985
5 60	2-Hexanone	0.109	0.116	0.100	0.102	0.098	0.104	0.104	0.091	0.097	0.093	0.101	7.21	11.3147
61	1,3-Dichloropropane	0.337	0.375	0.346	0.359	0.357	0.370	0.382	0.336	0.351	0.337	0.355	4.73	11.7392
62	Tetrachloroethene	0.366	0.418	0.394	0.407	0.390	0.397	0.413	0.383	0.385	0.373	0.393	4.25	11.8432
63	Dibromochloromethane	0.196	0.240	0.239	0.245	0.240	0.253	0.263	0.232	0.243	0.234	0.238	7.27	12.2048
64	1,2-Dibromoethane	0.173	0.201	0.191	0.198	0.196	0.204	0.211	0.185	0.195	0.188	0.194	5.50	12.5591
65	1-Chlorohexane	0.767	0.865	0.822	0.844	0.833	0.853	0.896	0.834	0.848	0.816	0.838	4.04	12.8549
66	Chlorobenzene	0.970	1.131	1.070	1.089	1.057	1.088	1.131	1.038	1.065	1.020	1.066	4.61	13.3190
67	1,1,1,2-Tetrachloroethane	0.281	0.326	0.306	0.320	0.309	0.318	0.326	0.299	0.306	0.296	0.309	4.64	13.3981
68	Ethylbenzene	1.941	2.256	2.102	2.143	2.104	2.144	2.226	2.076	2.082	1.880	2.095	5.48	13.4156
2 69	m-Xylene & p-Xylene	1.469	1.691	1.533	1.569	1.553	1.585	1.642	1.503	1.509	1.133	1.519	9.93	13.5577
70	o-Xylene	1.351	1.584	1.459	1.517	1.461	1.487	1.569	1.428	1.457	1.382	1.470	5.03	14.3673
71	Styrene	1.001	1.167	1.101	1.153	1.157	1.191	1.248	1.138	1.172	1.115	1.144	5.66	14.4361
72	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	18.4668
73	Isopropylbenzene	6.010	6.727	6.487	6.650	6.504	6.504	6.851	6.483	6.681	6.286	6.518	3.66	15.0481
74	Bromoform	0.262	0.308	0.336	0.361	0.350	0.356	0.372	0.337	0.362	0.354	0.340	9.62	15.0671
75	trans-1,4-Dichloro-2-butene	0.166	0.196	0.175	0.195	0.197	0.200	0.209	0.192	0.208	0.202	0.194	7.04	15.1491
76	1,1,2,2-Tetrachloroethane	0.500	0.629	0.594	0.614	0.610	0.615	0.629	0.561	0.599	0.571	0.592	6.69	15.3819
77	4-Bromofluorobenzene	1.694	1.466	1.295	1.392	1.288	1.342	1.387	1.310	1.372	1.352	1.390	8.60	15.5283
78	1,2,3-Trichloropropane	------	0.180	0.154	0.160	0.151	0.158	0.165	0.147	0.157	0.148	0.158	6.31	15.6651
79	n-Propylbenzene	7.389	8.496	8.101	8.295	8.227	8.219	8.580	8.278	8.454	7.141	8.118	5.86	15.8182
80	Bromobenzene	1.034	1.184	1.066	1.128	1.097	1.095	1.141	1.062	1.117	1.077	1.100	3.97	15.8944
81	1,3,5-Trimethylbenzene	4.687	5.406	5.132	5.267	5.267	5.215	5.493	5.185	5.256	4.986	5.189	4.32	16.1301
82	2-Chlorotoluene	4.533	4.985	4.827	5.007	4.835	4.822	5.006	4.635	4.717	4.388	4.775	4.36	16.1491
83	4-Chlorotoluene	3.687	4.355	3.856	3.778	3.729	3.751	3.922	3.779	3.903	3.794	3.855	4.94	16.2487
84	tert-Butylbenzene	1.000	1.209	1.161	1.178	1.173	1.167	1.233	1.181	1.191	1.151	1.164	5.37	16.8167
85	1,2,4-Trimethylbenzene	4.421	4.910	4.748	4.962	4.845	4.876	5.129	4.817	4.874	4.613	4.819	4.02	16.8899
86	sec-Butylbenzene	6.550	7.448	7.189	7.517	7.316	7.392	7.808	7.387	7.425	6.769	7.280	5.04	17.2340
87	p-Isopropyltoluene	5.186	5.851	5.547	5.833	5.850	5.947	6.264	5.919	5.942	5.611	5.795	4.99	17.5078
88	1,3-Dichlorobenzene	1.914	2.221	2.066	2.161	2.157	2.186	2.283	2.132	2.192	2.094	2.141	4.71	17.6820
89	1,4-Dichlorobenzene	1.822	2.097	1.982	2.056	2.008	2.033	2.125	1.975	2.039	1.933	2.007	4.31	17.8870
90	n-Butylbenzene	4.837	5.638	5.324	5.603	5.601	5.710	5.993	5.721	5.714	5.239	5.538	5.85	18.2559
91	1,2-Dichlorobenzene	1.534	1.791	1.613	1.672	1.639	1.678	1.714	1.583	1.639	1.561	1.642	4.64	18.5063
92	1,2-Dibromo-3-chloropropane	------	0.069	0.076	0.070	0.079	0.081	0.086	0.076	0.082	0.077	0.077	7.24	19.6376
93	1,2,4-Trichlorobenzene	0.900	1.045	0.952	0.991	0.984	1.052	1.093	0.998	1.029	0.993	1.004	5.44	20.7332
94	Hexachlorobutadiene	0.577	0.903	0.901	0.965	0.964	0.999	1.033	0.962	0.947	0.924	0.917	13.76	20.9089
95	Naphthalene	1.142	1.356	1.189	1.286	1.257	1.382	1.418	1.272	1.340	1.298	1.294	6.56	21.0641
96	1,2,3-Trichlorobenzene	0.664	0.758	0.709	0.747	0.733	0.785	0.813	0.734	0.754	0.730	0.743	5.47	21.3876

Spike Amount = Nominal Amount * M
Ave_%RSD : 6.8 Max_%RSD : 20.5

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
11	Acrolein	0.00556	0.01371	0.9983
13	Acetone	0.01648	0.02515	0.9989
19	Methylene chloride	0.01501	0.43998	0.9989
36	Tetrahydrofuran	0.00321	0.03191	0.9972

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Compound List Report TO67

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
Total Cpnds : 96

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-DIFLUOROBENZENE	114	8.14	1.000	A	1	A	B
2	T	Dichlorodifluoromethane	85	1.92	0.235	A	1	A	B
3	T	Dichlorotetrafluoroethane	85	0.00	0.000	A	2	A	B
4	T	Chloromethane	50	2.15	0.264	A	1	A	B
5	T	Vinyl chloride	62	2.28	0.280	A	1	A	B
6	T	Bromomethane	94	2.78	0.342	A	1	A	B
7	T	Chloroethane	64	2.88	0.354	A	2	A	B
8	T	Dichlorofluoromethane	67	2.93	0.359	A	1	A	B
9	T	Trichlorofluoromethane	101	3.17	0.390	A	1	A	B
10	T	sec-Propyl alcohol	45	0.00	0.000	A	1	A	B
11	T	Acrolein	56	3.67	0.451	L	1	A	B
12	T	1,1,2-Trichloro-1,2,2-trifluor	151	3.70	0.455	A	1	A	B
13	T	Acetone	43	3.75	0.460	L	2	A	B
14	T	1,1-Dichloroethene	61	3.89	0.478	A	2	A	B
15	T	tert-Butyl alcohol	59	4.01	0.493	A	1	A	B
16	T	Methyl acetate	43	4.32	0.530	A	1	A	B
17	T	Iodomethane	142	4.29	0.527	A	1	A	B
18	T	Acetonitrile	41	4.36	0.536	A	2	A	B
19	T	Methylene chloride	49	4.51	0.554	L	2	A	B
20	T	Carbon disulfide	76	4.52	0.556	A	1	A	B
21	T	Acrylonitrile	53	4.67	0.574	A	2	A	B
22	T	tert-Butyl methyl ether (MTBE)	73	4.71	0.579	A	1	A	B
23	T	trans-1,2-Dichloroethene	61	4.89	0.601	A	2	A	B
24	T	Isopropyl ether (DIPE)	45	5.31	0.653	A	1	A	B
25	T	1,1-Dichloroethane	63	5.46	0.671	A	2	A	B
26	T	Vinyl acetate	43	5.46	0.671	A	1	A	B
27	T	2-Butanol	45	5.87	0.721	A	1	A	B
28	T	tert-Butyl ethyl ether (ETBE)	59	5.87	0.721	A	1	A	B
29	T	2-Butanone	43	6.03	0.741	A	1	A	B
30	T	2,2-Dichloropropane	77	6.23	0.766	A	2	A	B
31	T	cis-1,2-Dichloroethene	96	6.29	0.773	A	2	A	B
32	T	Chloroform	83	6.51	0.800	A	2	A	B
33	T	Bromochloromethane	49	6.75	0.829	A	2	A	B
34	T	tert-Amyl alcohol	59	6.75	0.829	A	2	A	B
35	S	Dibromofluoromethane	111	6.83	0.840	A	2	A	B
36	T	Tetrahydrofuran	42	6.81	0.836	L	2	A	B
37	T	1,1,1-Trichloroethane	97	7.10	0.872	A	2	A	B
38	T	Cyclohexane	56	7.11	0.874	A	2	A	B
39	T	tert-Amyl methyl ether (TAME)	87	7.49	0.921	A	2	A	B
40	S	1,2-Dichloroethane-d4	65	7.55	0.928	A	1	A	B
41	I	CHLOROBENZENE-D5	117	13.25	1.000	A	2	A	B
42	T	1,1-Dichloropropene	110	7.32	0.552	A	1	A	B
43	T	Carbon tetrachloride	119	7.46	0.563	A	1	A	B
44	T	1,2-Dichloroethane	62	7.70	0.581	A	1	A	B
45	T	Benzene	78	7.71	0.582	A	2	A	B
46	T	Trichloroethene	130	8.65	0.653	A	3	A	B
47	T	Methylcyclohexane	83	8.74	0.660	A	2	A	B
48	T	1,2-Dichloropropane	63	8.93	0.674	A	2	A	B
49	T	Bromodichloromethane	83	9.29	0.702	A	1	A	B
50	T	1,4-Dioxane	88	9.32	0.704	A	1	A	B
51	T	Dibromomethane	93	9.38	0.708	A	2	A	B
52	T	2-Chloroethyl vinyl ether	63	9.79	0.739	A	2	A	B

See 11/14/11

53	T	4-Methyl-2-pentanone	43	9.84	0.742	A	3	A	B
54	T	cis-1,3-Dichloropropene	75	10.19	0.769	A	3	A	B
55	S	Toluene-d8	98	10.58	0.799	A	1	A	B
56	T	Toluene	91	10.71	0.809	A	1	A	B
57	T	Ethyl methacrylate	69	11.02	0.832	A	2	A	B
58	T	trans-1,3-Dichloropropene	75	11.04	0.833	A	2	A	B
59	T	1,1,2-Trichloroethane	97	11.30	0.853	A	3	A	B
60	T	2-Hexanone	43	11.31	0.854	A	2	A	B
61	T	1,3-Dichloropropane	76	11.74	0.886	A	1	A	B
62	T	Tetrachloroethene	164	11.84	0.894	A	3	A	B
63	T	Dibromochloromethane	129	12.21	0.922	A	1	A	B
64	T	1,2-Dibromoethane	107	12.56	0.948	A	1	A	B
65	T	1-Chlorohexane	91	12.85	0.970	A	3	A	B
66	P,M	Chlorobenzene	112	13.32	1.006	A	3	A	B
67	T	1,1,1,2-Tetrachloroethane	131	13.39	1.011	A	3	A	B
68	T	Ethylbenzene	91	13.42	1.013	A	1	A	B
69	T	m-Xylene & p-Xylene	91	13.55	1.023	A	1	A	B
70	T	o-Xylene	91	14.37	1.085	A	1	A	B
71	T	Styrene	104	14.43	1.090	A	2	A	B
72	I	1,2-DICHLOROBENZENE-D4	152	18.46	1.000	A	1	A	B
73	T	Isopropylbenzene	105	15.05	0.815	A	3	A	B
74	T	Bromoform	173	15.06	0.816	A	2	A	B
75	T	trans-1,4-Dichloro-2-butene	53	15.15	0.821	A	1	A	B
76	T	1,1,2,2-Tetrachloroethane	83	15.38	0.833	A	1	A	B
77	S	4-Bromofluorobenzene	95	15.53	0.841	A	2	A	B
78	T	1,2,3-Trichloropropane	110	15.66	0.849	A	2	A	B
79	T	n-Propylbenzene	91	15.82	0.857	A	2	A	B
80	T	Bromobenzene	156	15.90	0.861	A	2	A	B
81	T	1,3,5-Trimethylbenzene	105	16.13	0.874	A	2	A	B
82	T	2-Chlorotoluene	91	16.15	0.875	A	1	A	B
83	T	4-Chlorotoluene	91	16.25	0.880	A	1	A	B
84	T	tert-Butylbenzene	134	16.82	0.911	A	2	A	B
85	T	1,2,4-Trimethylbenzene	105	16.89	0.915	A	1	A	B
86	T	sec-Butylbenzene	105	17.23	0.933	A	1	A	B
87	T	p-Isopropyltoluene	119	17.51	0.948	A	2	A	B
88	T	1,3-Dichlorobenzene	146	17.68	0.958	A	2	A	B
89	T	1,4-Dichlorobenzene	146	17.89	0.969	A	2	A	B
90	T	n-Butylbenzene	91	18.25	0.989	A	2	A	B
91	T	1,2-Dichlorobenzene	146	18.50	1.002	A	2	A	B
92	T	1,2-Dibromo-3-chloropropane	157	19.63	1.063	A	2	A	B
93	T	1,2,4-Trichlorobenzene	180	20.73	1.123	A	2	A	B
94	T	Hexachlorobutadiene	225	20.90	1.132	A	2	A	B
95	T	Naphthalene	128	21.07	1.141	A	1	A	B
96	T	1,2,3-Trichlorobenzene	180	21.39	1.159	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

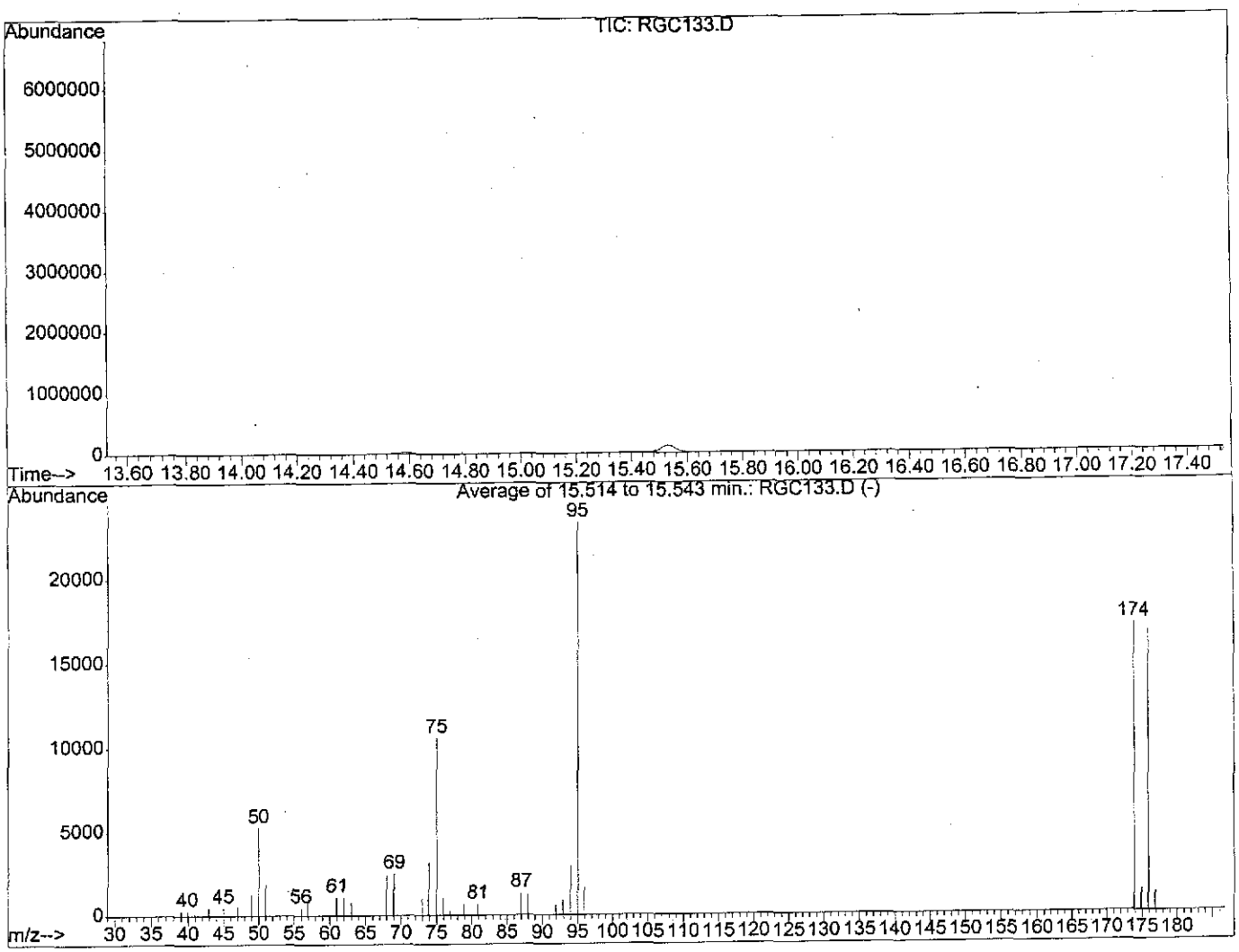
VO67G13.M Thu Jul 14 09:33:47 2011

SW 7/14/11

BFB

Data File : D:\HPCHEM\1\DATA\11G13\RGC133.D
Acq On : 13 Jul 2011 9:39 am
Sample : BFB67G07
Misc : T/CHK
MS Integration Params: LSCINT1.P
Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0

Vial: 1
Operator: AS
Inst : TO67
Multiplr: 1.00



AutoFind: Scans 938, 939, 940; Background Corrected with Scan 932

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	22.5	5251	PASS
75	95	30	60	45.3	10568	PASS
95	95	100	100	100.0	23312	PASS
96	95	5	9	7.0	1635	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	73.3	17083	PASS
175	174	5	9	7.4	1270	PASS
176	174	95	101	97.7	16684	PASS
177	176	5	9	6.7	1125	PASS

SC
7/14

RGC133.D VO67G13.M Wed Jul 13 10:44:04 2011

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC134.D
Acq On : 13 Jul 2011 10:11 am
Sample : VO67G1301 .3ppb
Misc : .3ppb 8260/1.5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 14 14:05 2011

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.13	114	1563146	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	13.24	117	1161385	10.00 ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.47	152	352477	10.00 ug/l	0.01
System Monitoring Compounds					
35) Dibromofluoromethane	6.83	111	13155	0.29 ug/l	0.00
Spiked Amount 10.000			Recovery	= 2.90%	
40) 1,2-Dichloroethane-d4	7.55	65	9231	0.31 ug/l	0.00
Spiked Amount 10.000			Recovery	= 3.10%	
55) Toluene-d8	10.58	98	53585	0.30 ug/l	0.00
Spiked Amount 10.000			Recovery	= 3.00%	
77) 4-Bromofluorobenzene	15.53	95	17918	0.37 ug/l	0.00
Spiked Amount 10.000			Recovery	= 3.70%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.91	85	8671	0.18 ug/l	89
4) Chloromethane	2.15	50	15813	0.20 ug/l	48
5) Vinyl chloride	2.28	62	16904	0.19 ug/l	89
6) Bromomethane	2.79	94	8215	0.18 ug/l	98
7) Chloroethane	2.88	64	9654	0.21 ug/l #	26
8) Dichlorofluoromethane	2.92	67	32261	0.28 ug/l	69
9) Trichlorofluoromethane	3.17	101	11477	0.18 ug/l	99
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	11001	0.27 ug/l	100
14) 1,1-Dichloroethene	3.89	61	29842	0.27 ug/l	96
15) tert-Butyl alcohol	4.01	59	1612	1.31 ug/l #	1
17) Iodomethane	4.28	142	24400	0.26 ug/l	97
18) Acetonitrile	4.36	41	32745	2.64 ug/l	94
19) Methylene chloride	4.50	49	34817	0.17 ug/l	99
20) Carbon disulfide	4.52	76	67085	0.27 ug/l	94
21) Acrylonitrile	4.66	53	10144	1.49 ug/l	88
22) tert-Butyl methyl ether (M	4.71	73	16446	0.27 ug/l	70
23) trans-1,2-Dichloroethene	4.88	61	26712	0.26 ug/l	99
24) Isopropyl ether (DIPE)	5.31	45	49799	0.27 ug/l	95
25) 1,1-Dichloroethane	5.45	63	29965	0.27 ug/l	95
26) Vinyl acetate	5.47	43	9582	0.17 ug/l #	78
28) tert-Butyl ethyl ether (ET	5.86	59	28600	0.26 ug/l	100
29) 2-Butanone	6.04	43	16981	2.05 ug/l	86
30) 2,2-Dichloropropane	6.23	77	21300	0.31 ug/l	92
31) cis-1,2-Dichloroethene	6.30	96	15868	0.26 ug/l	93
32) Chloroform	6.51	83	24126	0.28 ug/l	96
33) Bromochloromethane	6.74	49	11405	0.28 ug/l	93
34) tert-Amyl alcohol	6.54	59	4368	4.05 ug/l #	1

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

SW 7/14/11

2082

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC134.D
Acq On : 13 Jul 2011 10:11 am
Sample : VO67G1301 .3ppb
Misc : .3ppb 8260/1.5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 14 14:05 2011

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
37) 1,1,1-Trichloroethane	7.09	97	20558	0.26 ug/l	97
39) tert-Amyl methyl ether (TA	7.48	87	4520	0.29 ug/l #	81
42) 1,1-Dichloropropene	7.31	110	8371	0.27 ug/l	98
43) Carbon tetrachloride	7.46	119	17421	0.27 ug/l	96
44) 1,2-Dichloroethane	7.69	62	10236	0.28 ug/l	92
45) Benzene	7.71	78	62438	0.28 ug/l	95
46) Trichloroethene	8.65	130	22848	0.36 ug/l	97
48) 1,2-Dichloropropane	8.92	63	15094	0.29 ug/l	80
49) Bromodichloromethane	9.31	83	14126	0.28 ug/l	96
51) Dibromomethane	9.39	93	4387	0.24 ug/l	93
52) 2-Chloroethyl vinyl ether	9.80	63	3289	0.23 ug/l #	75
53) 4-Methyl-2-pentanone	9.85	43	29528	1.45 ug/l	93
54) cis-1,3-Dichloropropene	10.18	75	17306	0.28 ug/l	89
56) Toluene	10.73	91	77672	0.34 ug/l	100
57) Ethyl methacrylate	11.02	69	7223	0.26 ug/l #	58
58) trans-1,3-Dichloropropene	11.03	75	11203	0.27 ug/l	84
59) 1,1,2-Trichloroethane	11.30	97	6045	0.28 ug/l	94
60) 2-Hexanone	11.33	43	18932	1.61 ug/l #	80
61) 1,3-Dichloropropane	11.74	76	11725	0.28 ug/l	85
62) Tetrachloroethene	11.84	164	12763	0.28 ug/l	98
63) Dibromochloromethane	12.20	129	6835	0.25 ug/l	100
64) 1,2-Dibromoethane	12.56	107	6044	0.27 ug/l	100
65) 1-Chlorohexane	12.85	91	26712	0.27 ug/l	94
66) Chlorobenzene	13.32	112	33784	0.27 ug/l #	67
67) 1,1,1,2-Tetrachloroethane	13.39	131	9795	0.27 ug/l #	66
68) Ethylbenzene	13.42	91	67630	0.28 ug/l	99
69) m-Xylene & p-Xylene	13.57	91	102339	0.58 ug/l	97
70) o-Xylene	14.37	91	47088	0.28 ug/l	98
71) Styrene	14.43	104	34884	0.26 ug/l	96
73) Isopropylbenzene	15.04	105	63548	0.28 ug/l	99
74) Bromoform	15.07	173	2771	0.23 ug/l #	59
75) trans-1,4-Dichloro-2-buten	15.16	53	1756	0.26 ug/l #	7
76) 1,1,2,2-Tetrachloroethane	15.38	83	5282	0.25 ug/l	97
79) n-Propylbenzene	15.82	91	78138	0.27 ug/l	99
80) Bromobenzene	15.89	156	10936	0.28 ug/l	85
81) 1,3,5-Trimethylbenzene	16.13	105	49566	0.27 ug/l	99
82) 2-Chlorotoluene	16.14	91	47938	0.28 ug/l	97
83) 4-Chlorotoluene	16.24	91	38985	0.29 ug/l	97
84) tert-Butylbenzene	16.82	134	10573	0.26 ug/l	88
85) 1,2,4-Trimethylbenzene	16.89	105	46744	0.28 ug/l	100
86) sec-Butylbenzene	17.24	105	69258	0.27 ug/l	100

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

SA 7/14/11

2083

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC134.D
Acq On : 13 Jul 2011 10:11 am
Sample : VO67G1301 .3ppb
Misc : .3ppb 8260/1.5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 14 14:05 2011

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
87) p-Isopropyltoluene	17.50	119	54838	0.27 ug/l	99
88) 1,3-Dichlorobenzene	17.68	146	20236	0.27 ug/l	97
89) 1,4-Dichlorobenzene	17.88	146	19267	0.27 ug/l	98
90) n-Butylbenzene	18.27	91	51145	0.26 ug/l	96
91) 1,2-Dichlorobenzene	18.50	146	16222	0.28 ug/l	79
93) 1,2,4-Trichlorobenzene	20.74	180	9515	0.27 ug/l	94
94) Hexachlorobutadiene	20.92	225	6104	0.19 ug/l	64
95) Naphthalene	21.06	128	12076	0.26 ug/l	92
96) 1,2,3-Trichlorobenzene	21.40	180	7020	0.27 ug/l	97

Sa
7/14/11

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

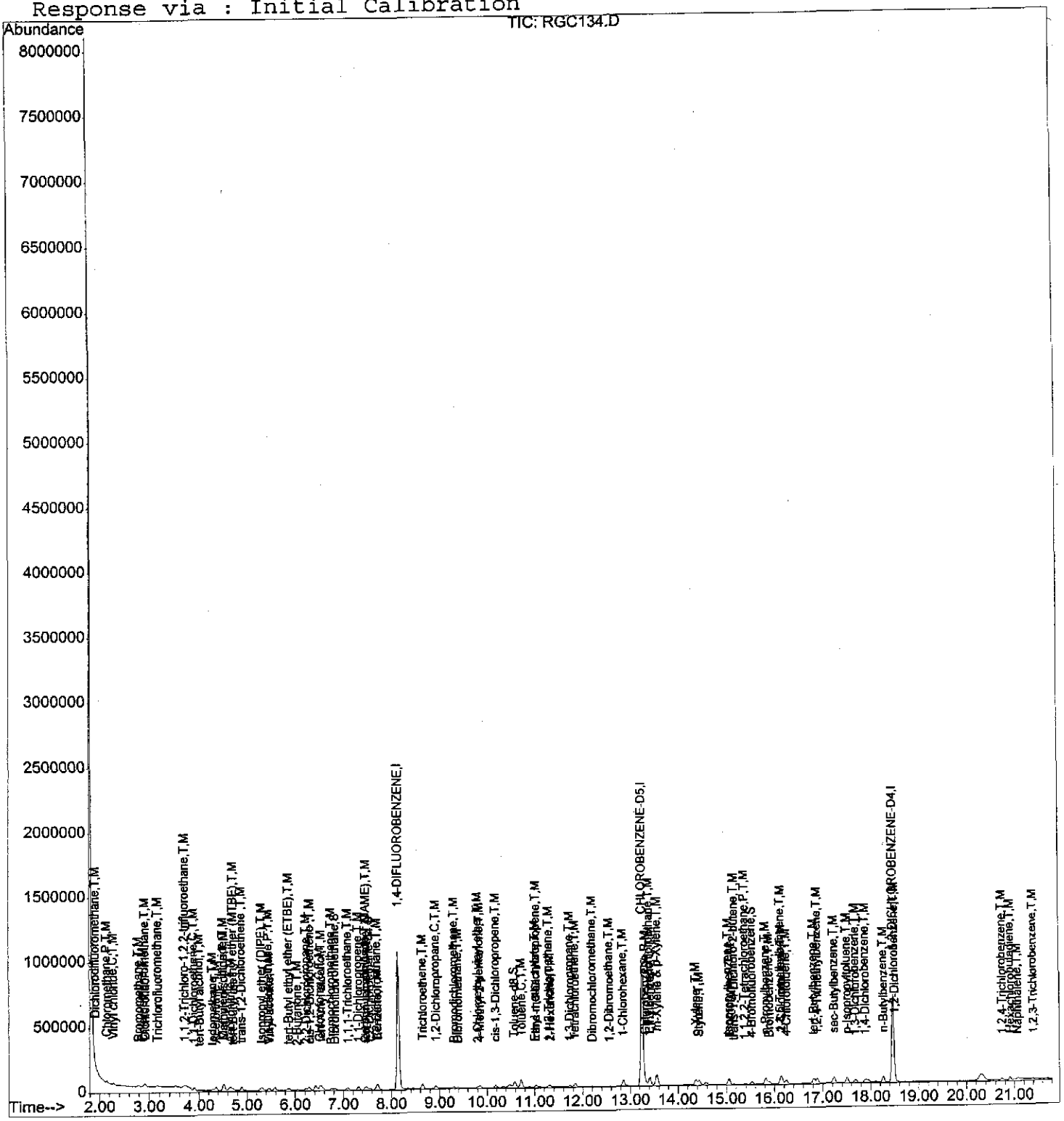
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC134.D
Acq On : 13 Jul 2011 10:11 am
Sample : VO67G1301 .3ppb
Misc : .3ppb 8260/1.5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 14 14:05 2011

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



SA 7/14/11

2085

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC135.D
Acq On : 13 Jul 2011 10:42 am
Sample : VO67G1302 .5ppb
Misc : .5ppb 8260/2.5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:51 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1447151	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1086295	10.00 ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	333797	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	6.82	111	20921	0.50 ug/l	-0.01
Spiked Amount 10.000			Recovery	= 5.00%	
40) 1,2-Dichloroethane-d4	7.55	65	15067	0.54 ug/l	0.00
Spiked Amount 10.000			Recovery	= 5.40%	
55) Toluene-d8	10.58	98	81392	0.49 ug/l	0.00
Spiked Amount 10.000			Recovery	= 4.90%	
77) 4-Bromofluorobenzene	15.52	95	24475	0.53 ug/l	-0.01
Spiked Amount 10.000			Recovery	= 5.30%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.92	85	19832	0.44 ug/l	94
4) Chloromethane	2.15	50	33698	0.45 ug/l	96
5) Vinyl chloride	2.28	62	36602	0.45 ug/l	96
6) Bromomethane	2.78	94	18766	0.45 ug/l	89
7) Chloroethane	2.88	64	20278	0.47 ug/l	98
8) Dichlorofluoromethane	2.91	67	55074	0.52 ug/l	82
9) Trichlorofluoromethane	3.16	101	24330	0.41 ug/l	97
11) Acrolein	3.66	56	9457	0.71 ug/l	89
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	20320	0.55 ug/l	99
13) Acetone	3.75	43	27646	1.04 ug/l	90
14) 1,1-Dichloroethene	3.89	61	52772	0.52 ug/l	98
15) tert-Butyl alcohol	4.01	59	3691	3.23 ug/l #	1
17) Iodomethane	4.29	142	44343	0.52 ug/l	100
18) Acetonitrile	4.36	41	60942	5.31 ug/l	93
19) Methylene chloride	4.51	49	48782	0.43 ug/l	98
20) Carbon disulfide	4.52	76	122917	0.53 ug/l	96
21) Acrylonitrile	4.67	53	17171	2.73 ug/l	91
22) tert-Butyl methyl ether (M	4.70	73	29751	0.53 ug/l	93
23) trans-1,2-Dichloroethene	4.89	61	51436	0.54 ug/l	98
24) Isopropyl ether (DIPE)	5.30	45	92838	0.54 ug/l	98
25) 1,1-Dichloroethane	5.46	63	54118	0.53 ug/l	97
26) Vinyl acetate	5.46	43	22039	0.43 ug/l #	78
28) tert-Butyl ethyl ether (ET	5.87	59	52386	0.52 ug/l	99
29) 2-Butanone	6.03	43	24243	3.17 ug/l	91
30) 2,2-Dichloropropane	6.22	77	36129	0.58 ug/l	95
31) cis-1,2-Dichloroethene	6.29	96	29334	0.52 ug/l	99
32) Chloroform	6.51	83	42753	0.54 ug/l	99

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

SW 7/14/11

2086

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC135.D
Acq On : 13 Jul 2011 10:42 am
Sample : VO67G1302 .5ppb
Misc : .5ppb 8260/2.5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:51 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.75	49	19768	0.53 ug/l	99
34) tert-Amyl alcohol	6.75	59	1553	1.56 ug/l #	1
36) Tetrahydrofuran	6.79	42	5157	0.11 ug/l #	45
37) 1,1,1-Trichloroethane	7.08	97	37762	0.52 ug/l	98
39) tert-Amyl methyl ether (TA	7.48	87	7437	0.52 ug/l #	88
42) 1,1-Dichloropropene	7.32	110	15679	0.54 ug/l	99
43) Carbon tetrachloride	7.47	119	31145	0.51 ug/l	99
44) 1,2-Dichloroethane	7.68	62	18291	0.53 ug/l	93
45) Benzene	7.71	78	111208	0.54 ug/l	99
46) Trichloroethene	8.64	130	34943	0.59 ug/l	98
48) 1,2-Dichloropropane	8.91	63	26691	0.56 ug/l	91
49) Bromodichloromethane	9.30	83	25312	0.53 ug/l	100
51) Dibromomethane	9.38	93	8442	0.50 ug/l	95
52) 2-Chloroethyl vinyl ether	9.79	63	7096	0.54 ug/l	90
53) 4-Methyl-2-pentanone	9.84	43	54820	2.88 ug/l	95
54) cis-1,3-Dichloropropene	10.17	75	29625	0.50 ug/l	90
56) Toluene	10.72	91	120134	0.57 ug/l	99
57) Ethyl methacrylate	11.02	69	13525	0.52 ug/l #	70
58) trans-1,3-Dichloropropene	11.04	75	20705	0.53 ug/l	86
59) 1,1,2-Trichloroethane	11.30	97	10711	0.53 ug/l	96
60) 2-Hexanone	11.32	43	31440	2.85 ug/l	86
61) 1,3-Dichloropropane	11.74	76	20389	0.53 ug/l	87
62) Tetrachloroethene	11.84	164	22710	0.53 ug/l	98
63) Dibromochloromethane	12.19	129	13014	0.50 ug/l	99
64) 1,2-Dibromoethane	12.55	107	10935	0.52 ug/l	100
65) 1-Chlorohexane	12.85	91	46993	0.52 ug/l	96
66) Chlorobenzene	13.32	112	61405	0.53 ug/l	85
67) 1,1,1,2-Tetrachloroethane	13.39	131	17728	0.53 ug/l	89
68) Ethylbenzene	13.41	91	122523	0.54 ug/l	100
69) m-Xylene & p-Xylene	13.56	91	183708	1.11 ug/l	99
70) o-Xylene	14.36	91	86018	0.54 ug/l	97
71) Styrene	14.43	104	63404	0.51 ug/l	98
73) Isopropylbenzene	15.05	105	112268	0.52 ug/l	99
74) Bromoform	15.06	173	5139	0.45 ug/l	93
75) trans-1,4-Dichloro-2-buten	15.14	53	3267	0.50 ug/l	71
76) 1,1,2,2-Tetrachloroethane	15.37	83	10493	0.53 ug/l	98
78) 1,2,3-Trichloropropane	15.66	110	2997	0.57 ug/l #	59
79) n-Propylbenzene	15.81	91	141798	0.52 ug/l	99
80) Bromobenzene	15.88	156	19755	0.54 ug/l	91
81) 1,3,5-Trimethylbenzene	16.12	105	90217	0.52 ug/l	99
82) 2-Chlorotoluene	16.15	91	83192	0.52 ug/l	97

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

Sa 7/14/11

2087

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC135.D
Acq On : 13 Jul 2011 10:42 am
Sample : VO67G1302 .5ppb
Misc : .5ppb 8260/2.5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:51 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
83) 4-Chlorotoluene	16.25	91	72683	0.56 ug/l	93
84) tert-Butylbenzene	16.81	134	20173	0.52 ug/l	98
85) 1,2,4-Trimethylbenzene	16.88	105	81942	0.51 ug/l	98
86) sec-Butylbenzene	17.23	105	124307	0.51 ug/l	100
87) p-Isopropyltoluene	17.51	119	97649	0.50 ug/l	98
88) 1,3-Dichlorobenzene	17.68	146	37071	0.52 ug/l	98
89) 1,4-Dichlorobenzene	17.89	146	34995	0.52 ug/l	97
90) n-Butylbenzene	18.26	91	94092	0.51 ug/l	97
91) 1,2-Dichlorobenzene	18.50	146	29899	0.55 ug/l	91
92) 1,2-Dibromo-3-chloropropan	19.65	157	1148	0.44 ug/l #	49
93) 1,2,4-Trichlorobenzene	20.73	180	17436	0.52 ug/l	100
94) Hexachlorobutadiene	20.91	225	15069	0.49 ug/l	84
95) Naphthalene	21.07	128	22625	0.52 ug/l	98
96) 1,2,3-Trichlorobenzene	21.39	180	12651	0.51 ug/l	96

Sa 7/14/11

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

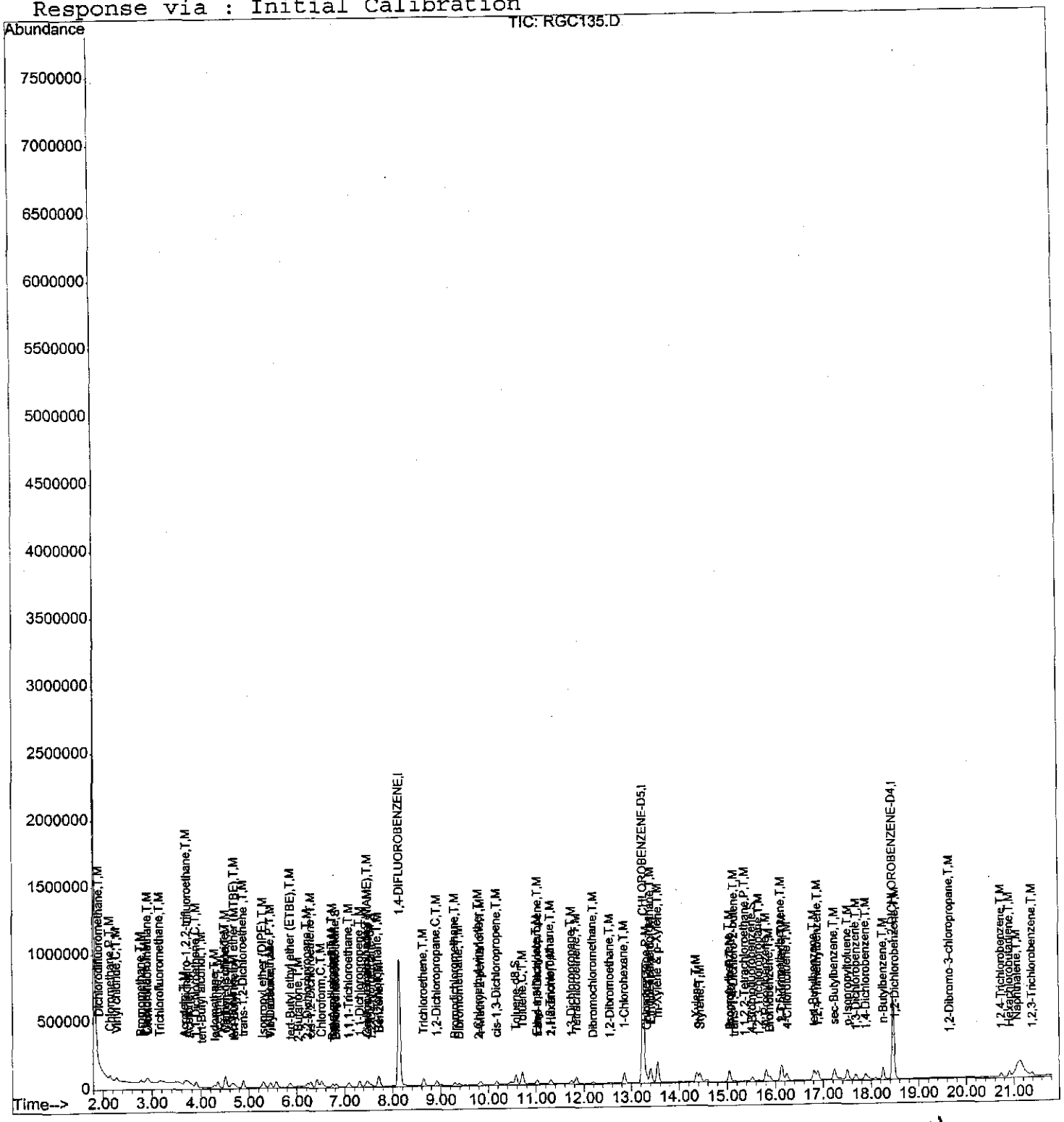
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC135.D
Acq On : 13 Jul 2011 10:42 am
Sample : VO67G1302 .5ppb
Misc : .5ppb 8260/2.5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:51 2011

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:54:28 2011
Response via : Initial Calibration



SC 7/14/11

2089

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC136.D
Acq On : 13 Jul 2011 11:13 am
Sample : VO67G1303 1ppb
Misc : 1ppb 8260/5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:56 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.13	114	1527731	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	13.24	117	1151190	10.00 ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.47	152	350363	10.00 ug/l	0.01
System Monitoring Compounds					
35) Dibromofluoromethane	6.83	111	40235	0.92 ug/l	0.00
Spiked Amount 10.000			Recovery	= 9.20%	
40) 1,2-Dichloroethane-d4	7.55	65	28115	0.95 ug/l	0.00
Spiked Amount 10.000			Recovery	= 9.50%	
55) Toluene-d8	10.58	98	162322	0.93 ug/l	0.00
Spiked Amount 10.000			Recovery	= 9.30%	
77) 4-Bromofluorobenzene	15.53	95	45370	0.93 ug/l	0.00
Spiked Amount 10.000			Recovery	= 9.30%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.93	85	42770	0.91 ug/l	99
4) Chloromethane	2.15	50	73993	0.94 ug/l	87
5) Vinyl chloride	2.28	62	83378	0.98 ug/l	97
6) Bromomethane	2.79	94	39325	0.89 ug/l	99
7) Chloroethane	2.88	64	43608	0.96 ug/l	100
8) Dichlorofluoromethane	2.92	67	110903	0.99 ug/l	92
9) Trichlorofluoromethane	3.17	101	56351	0.90 ug/l	97
11) Acrolein	3.67	56	17230	4.17 ug/l	97
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	38958	0.99 ug/l	99
13) Acetone	3.74	43	38975	3.59 ug/l	89
14) 1,1-Dichloroethene	3.90	61	106492	1.00 ug/l	99
15) tert-Butyl alcohol	4.01	59	6384	5.30 ug/l	95
17) Iodomethane	4.28	142	89640	0.99 ug/l	99
18) Acetonitrile	4.36	41	119045	9.82 ug/l	93
19) Methylene chloride	4.50	49	85129	0.93 ug/l	99
20) Carbon disulfide	4.52	76	260768	1.06 ug/l	99
21) Acrylonitrile	4.66	53	33741	5.07 ug/l	94
22) tert-Butyl methyl ether (M	4.71	73	59019	1.00 ug/l	96
23) trans-1,2-Dichloroethene	4.88	61	101186	1.00 ug/l	99
24) Isopropyl ether (DIPE)	5.31	45	180771	1.00 ug/l	99
25) 1,1-Dichloroethane	5.46	63	107487	1.00 ug/l	98
26) Vinyl acetate	5.46	43	43281	0.80 ug/l	97
28) tert-Butyl ethyl ether (ET	5.87	59	102928	0.97 ug/l	99
29) 2-Butanone	6.04	43	40830	5.05 ug/l	99
30) 2,2-Dichloropropane	6.23	77	69028	1.04 ug/l	99
31) cis-1,2-Dichloroethene	6.29	96	58995	0.99 ug/l	98
32) Chloroform	6.52	83	84791	1.01 ug/l	99

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

SW 7/14/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC136.D
Acq On : 13 Jul 2011 11:13 am
Sample : VO67G1303 1ppb
Misc : 1ppb 8260/5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:56 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.74	49	39937	1.00 ug/l	99
34) tert-Amyl alcohol	6.77	59	4793	4.55 ug/l	89
36) Tetrahydrofuran	6.80	42	7755	0.58 ug/l	86
37) 1,1,1-Trichloroethane	7.09	97	76180	1.00 ug/l	98
39) tert-Amyl methyl ether (TA	7.49	87	15066	0.99 ug/l	95
42) 1,1-Dichloropropene	7.31	110	31573	1.03 ug/l	96
43) Carbon tetrachloride	7.46	119	64769	1.01 ug/l	99
44) 1,2-Dichloroethane	7.70	62	36883	1.01 ug/l	94
45) Benzene	7.71	78	220769	1.01 ug/l	99
46) Trichloroethene	8.65	130	62209	1.00 ug/l	99
48) 1,2-Dichloropropane	8.93	63	50227	0.99 ug/l	97
49) Bromodichloromethane	9.29	83	50353	0.99 ug/l	99
50) 1,4-Dioxane	9.32	88	1837	14.04 ug/l	66
51) Dibromomethane	9.38	93	17118	0.96 ug/l	91
52) 2-Chloroethyl vinyl ether	9.79	63	12995	0.93 ug/l	97
53) 4-Methyl-2-pentanone	9.85	43	102642	5.09 ug/l	98
54) cis-1,3-Dichloropropene	10.18	75	61563	0.99 ug/l	96
56) Toluene	10.73	91	224366	1.00 ug/l	100
57) Ethyl methacrylate	11.02	69	25393	0.93 ug/l	87
58) trans-1,3-Dichloropropene	11.03	75	40712	0.98 ug/l	83
59) 1,1,2-Trichloroethane	11.30	97	21139	0.98 ug/l	98
60) 2-Hexanone	11.31	43	57519	4.93 ug/l	95
61) 1,3-Dichloropropane	11.74	76	39786	0.97 ug/l	93
62) Tetrachloroethene	11.84	164	45410	1.00 ug/l	99
63) Dibromochloromethane	12.20	129	27536	1.00 ug/l	95
64) 1,2-Dibromoethane	12.57	107	22027	0.98 ug/l	99
65) 1-Chlorohexane	12.85	91	94602	0.98 ug/l	98
66) Chlorobenzene	13.32	112	123152	1.00 ug/l	92
67) 1,1,1,2-Tetrachloroethane	13.41	131	35216	0.99 ug/l	89
68) Ethylbenzene	13.42	91	241967	1.00 ug/l	99
69) m-Xylene & p-Xylene	13.55	91	352951	2.02 ug/l	99
70) o-Xylene	14.37	91	167951	0.99 ug/l	99
71) Styrene	14.43	104	126741	0.96 ug/l	98
73) Isopropylbenzene	15.05	105	227294	1.00 ug/l	99
74) Bromoform	15.06	173	11771	0.99 ug/l	99
75) trans-1,4-Dichloro-2-buten	15.15	53	6139	0.90 ug/l	94
76) 1,1,2,2-Tetrachloroethane	15.38	83	20829	1.00 ug/l	98
78) 1,2,3-Trichloropropane	15.67	110	5399	0.98 ug/l #	75
79) n-Propylbenzene	15.82	91	283817	1.00 ug/l	99
80) Bromobenzene	15.89	156	37332	0.97 ug/l	93
81) 1,3,5-Trimethylbenzene	16.13	105	179796	0.99 ug/l	99

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

SA 7/14/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC136.D
Acq On : 13 Jul 2011 11:13 am
Sample : VO67G1303 1ppb
Misc : 1ppb 8260/5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:56 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
82) 2-Chlorotoluene	16.14	91	169106	1.01 ug/l	99
83) 4-Chlorotoluene	16.25	91	135098	1.00 ug/l	97
84) tert-Butylbenzene	16.82	134	40682	1.00 ug/l	98
85) 1,2,4-Trimethylbenzene	16.89	105	166350	0.99 ug/l	100
86) sec-Butylbenzene	17.23	105	251878	0.99 ug/l	100
87) p-Isopropyltoluene	17.50	119	194338	0.96 ug/l	98
88) 1,3-Dichlorobenzene	17.68	146	72393	0.97 ug/l	97
89) 1,4-Dichlorobenzene	17.89	146	69436	0.99 ug/l	99
90) n-Butylbenzene	18.25	91	186535	0.96 ug/l	98
91) 1,2-Dichlorobenzene	18.50	146	56508	0.98 ug/l	93
92) 1,2-Dibromo-3-chloropropan	19.63	157	2647	0.98 ug/l	91
93) 1,2,4-Trichlorobenzene	20.74	180	33344	0.95 ug/l	99
94) Hexachlorobutadiene	20.92	225	31569	0.98 ug/l	98
95) Naphthalene	21.06	128	41668	0.92 ug/l	100
96) 1,2,3-Trichlorobenzene	21.38	180	24846	0.96 ug/l	99

SA 7/14/11

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

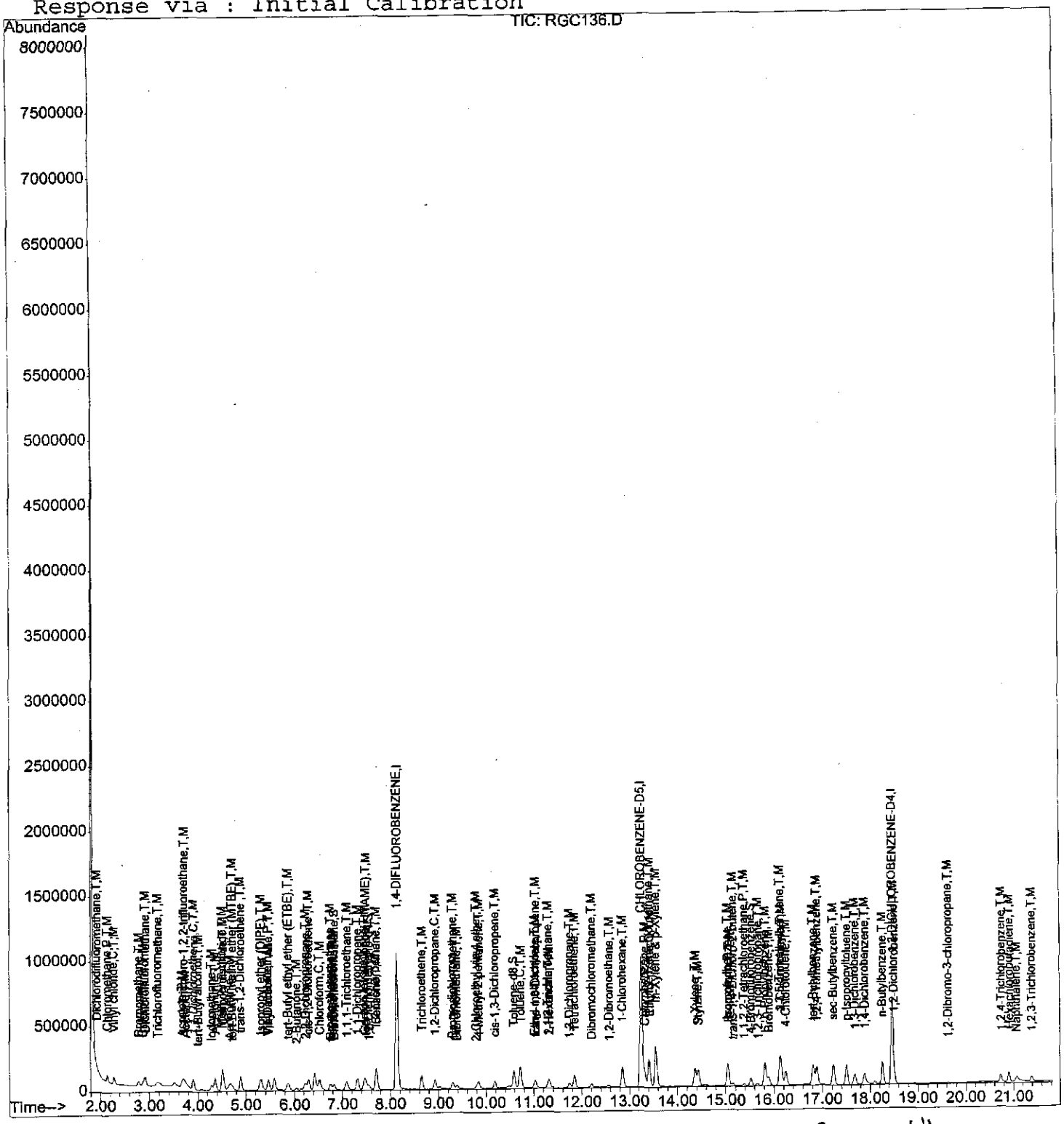
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC136.D
Acq On : 13 Jul 2011 11:13 am
Sample : VO67G1303 1ppb
Misc : 1ppb 8260/5ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:56 2011

Vial: 4
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:57:09 2011
Response via : Initial Calibration



Sa 7/14/11

2093

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC137.D
Acq On : 13 Jul 2011 11:44 am
Sample : VO67G1304 2ppb
Misc : 2ppb 8260/10ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:58 2011

Vial: 5
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.13	114	1536581	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	13.24	117	1156977	10.00 ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	354914	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	6.83	111	87576	1.99 ug/l	0.00
Spiked Amount 10.000			Recovery	= 19.90%	
40) 1,2-Dichloroethane-d4	7.55	65	61826	2.08 ug/l	0.00
Spiked Amount 10.000			Recovery	= 20.80%	
55) Toluene-d8	10.58	98	361835	2.06 ug/l	0.00
Spiked Amount 10.000			Recovery	= 20.60%	
77) 4-Bromofluorobenzene	15.53	95	98815	2.00 ug/l	0.00
Spiked Amount 10.000			Recovery	= 20.00%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.91	85	96373	2.03 ug/l	100
4) Chloromethane	2.15	50	167208	2.11 ug/l	99
5) Vinyl chloride	2.28	62	186148	2.18 ug/l	99
6) Bromomethane	2.78	94	89125	2.00 ug/l	99
7) Chloroethane	2.88	64	95647	2.10 ug/l	98
8) Dichlorofluoromethane	2.91	67	230003	2.04 ug/l	100
9) Trichlorofluoromethane	3.17	101	128108	2.04 ug/l	100
11) Acrolein	3.67	56	31000	10.66 ug/l	64
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	78817	2.00 ug/l	99
13) Acetone	3.74	43	59870	8.94 ug/l	94
14) 1,1-Dichloroethene	3.89	61	219462	2.05 ug/l	98
15) tert-Butyl alcohol	4.01	59	12388	10.22 ug/l #	1
17) Iodomethane	4.28	142	185769	2.04 ug/l	99
18) Acetonitrile	4.36	41	251234	20.61 ug/l	89
19) Methylene chloride	4.50	49	163659	2.08 ug/l	99
20) Carbon disulfide	4.52	76	537401	2.17 ug/l	100
21) Acrylonitrile	4.66	53	70607	10.56 ug/l	96
22) tert-Butyl methyl ether (M	4.71	73	122406	2.06 ug/l	96
23) trans-1,2-Dichloroethene	4.88	61	207032	2.03 ug/l	99
24) Isopropyl ether (DIPE)	5.31	45	370335	2.04 ug/l	100
25) 1,1-Dichloroethane	5.46	63	221617	2.04 ug/l	99
26) Vinyl acetate	5.46	43	107057	1.97 ug/l	98
28) tert-Butyl ethyl ether (ET	5.87	59	218899	2.06 ug/l	99
29) 2-Butanone	6.04	43	82448	10.14 ug/l	99
30) 2,2-Dichloropropane	6.23	77	137519	2.06 ug/l	99
31) cis-1,2-Dichloroethene	6.29	96	121545	2.03 ug/l	99
32) Chloroform	6.51	83	172203	2.04 ug/l	100

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

SU 7/14/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC137.D
Acq On : 13 Jul 2011 11:44 am
Sample : VO67G1304 2ppb
Misc : 2ppb 8260/10ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:58 2011

Vial: 5
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33) Bromochloromethane	6.74	49	81594	2.04 ug/l		99
34) tert-Amyl alcohol	6.76	59	10709	10.11 ug/l		83
36) Tetrahydrofuran	6.80	42	15491	2.15 ug/l		91
37) 1,1,1-Trichloroethane	7.08	97	157283	2.06 ug/l		100
39) tert-Amyl methyl ether (TA	7.48	87	30500	2.00 ug/l	#	87
42) 1,1-Dichloropropene	7.31	110	62201	2.02 ug/l		100
43) Carbon tetrachloride	7.46	119	132942	2.06 ug/l		99
44) 1,2-Dichloroethane	7.70	62	76403	2.08 ug/l		94
45) Benzene	7.71	78	455711	2.08 ug/l		100
46) Trichloroethene	8.65	130	123821	1.97 ug/l		99
48) 1,2-Dichloropropane	8.91	63	105070	2.05 ug/l		98
49) Bromodichloromethane	9.29	83	105462	2.06 ug/l		98
50) 1,4-Dioxane	9.32	88	4508	34.29 ug/l		66
51) Dibromomethane	9.38	93	38730	2.15 ug/l		98
52) 2-Chloroethyl vinyl ether	9.79	63	28191	2.02 ug/l		99
53) 4-Methyl-2-pentanone	9.83	43	198702	9.81 ug/l		98
54) cis-1,3-Dichloropropene	10.17	75	127325	2.04 ug/l		97
56) Toluene	10.71	91	456502	2.02 ug/l		99
57) Ethyl methacrylate	11.02	69	54760	1.99 ug/l		99
58) trans-1,3-Dichloropropene	11.03	75	83543	2.00 ug/l		98
59) 1,1,2-Trichloroethane	11.30	97	44516	2.06 ug/l		99
60) 2-Hexanone	11.31	43	117875	10.05 ug/l		97
61) 1,3-Dichloropropane	11.74	76	83031	2.02 ug/l		96
62) Tetrachloroethene	11.84	164	94167	2.07 ug/l		99
63) Dibromochloromethane	12.21	129	56737	2.06 ug/l		99
64) 1,2-Dibromoethane	12.56	107	45923	2.04 ug/l		100
65) 1-Chlorohexane	12.85	91	195234	2.01 ug/l		99
66) Chlorobenzene	13.32	112	251956	2.04 ug/l		96
67) 1,1,1,2-Tetrachloroethane	13.39	131	73958	2.07 ug/l		96
68) Ethylbenzene	13.41	91	495940	2.05 ug/l		99
69) m-Xylene & p-Xylene	13.55	91	726154	4.13 ug/l		100
70) o-Xylene	14.36	91	351043	2.06 ug/l		98
71) Styrene	14.43	104	266833	2.02 ug/l		99
73) Isopropylbenzene	15.05	105	472061	2.04 ug/l		100
74) Bromoform	15.06	173	25594	2.12 ug/l		97
75) trans-1,4-Dichloro-2-buten	15.15	53	13830	2.01 ug/l		97
76) 1,1,2,2-Tetrachloroethane	15.38	83	43589	2.07 ug/l		100
78) 1,2,3-Trichloropropane	15.66	110	11370	2.03 ug/l		90
79) n-Propylbenzene	15.81	91	588816	2.04 ug/l		100
80) Bromobenzene	15.89	156	80047	2.05 ug/l		98
81) 1,3,5-Trimethylbenzene	16.13	105	373883	2.03 ug/l		99

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

Sa 7/14/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC137.D
Acq On : 13 Jul 2011 11:44 am
Sample : VO67G1304 2ppb
Misc : 2ppb 8260/10ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:58 2011

Vial: 5
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
82) 2-Chlorotoluene	16.14	91	355403	2.10 ug/l	100
83) 4-Chlorotoluene	16.25	91	268188	1.96 ug/l	99
84) tert-Butylbenzene	16.82	134	83631	2.02 ug/l	97
85) 1,2,4-Trimethylbenzene	16.89	105	352187	2.06 ug/l	98
86) sec-Butylbenzene	17.23	105	533575	2.07 ug/l	99
87) p-Isopropyltoluene	17.51	119	414069	2.01 ug/l	99
88) 1,3-Dichlorobenzene	17.68	146	153375	2.02 ug/l	99
89) 1,4-Dichlorobenzene	17.89	146	145910	2.05 ug/l	99
90) n-Butylbenzene	18.25	91	397742	2.02 ug/l	99
91) 1,2-Dichlorobenzene	18.50	146	118658	2.04 ug/l	97
92) 1,2-Dibromo-3-chloropropan	19.63	157	4989	1.82 ug/l	90
93) 1,2,4-Trichlorobenzene	20.73	180	70378	1.98 ug/l	98
94) Hexachlorobutadiene	20.90	225	68484	2.10 ug/l	98
95) Naphthalene	21.06	128	91305	1.99 ug/l	100
96) 1,2,3-Trichlorobenzene	21.38	180	52993	2.01 ug/l	99

Sa 1114/11

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

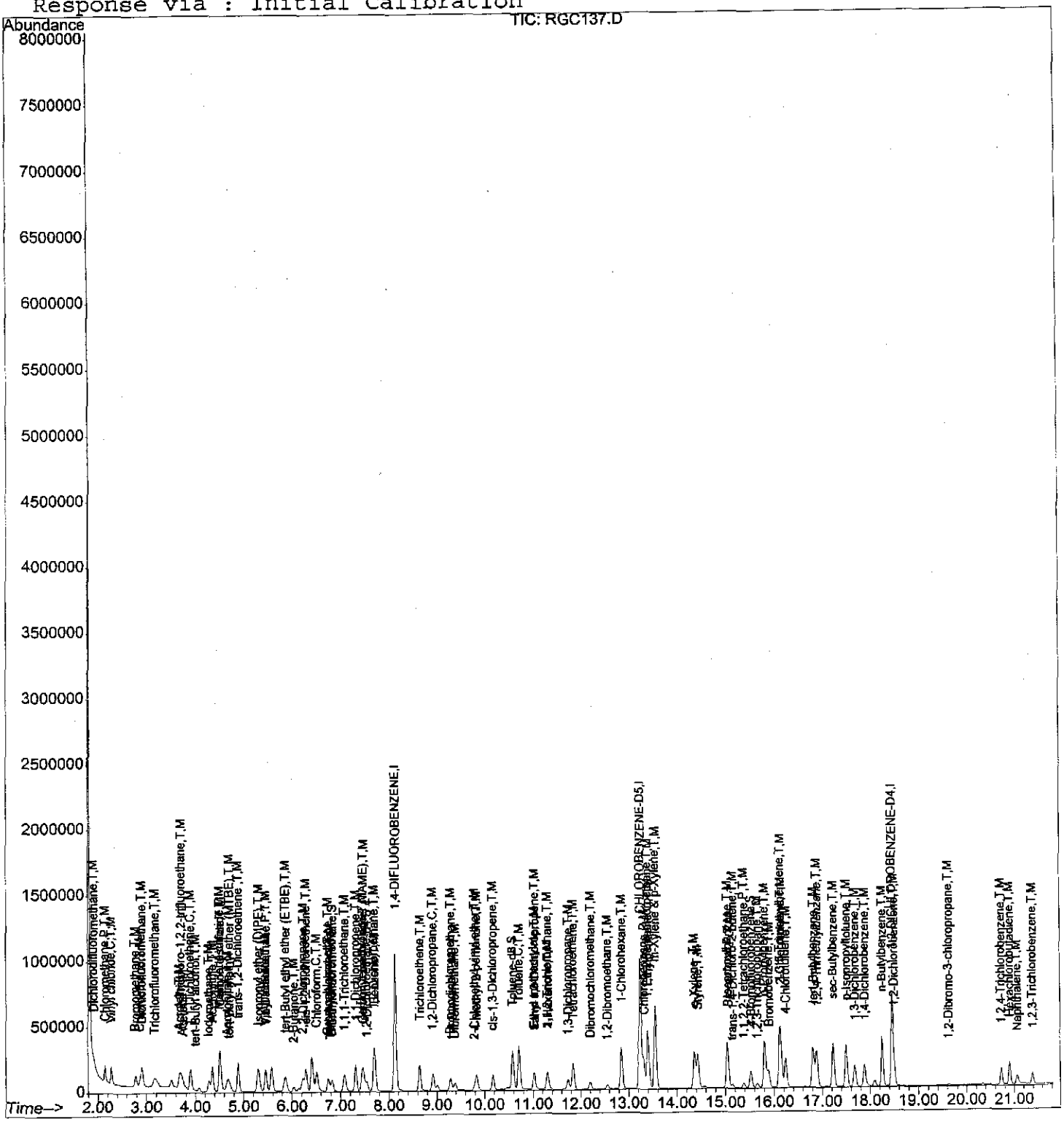
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC137.D
Acq On : 13 Jul 2011 11:44 am
Sample : VO67G1304 2ppb
Misc : 2ppb 8260/10ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:58 2011

Vial: 5
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:59:03 2011
Response via : Initial Calibration



Sa 7/14/11

2097

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC138.D
Acq On : 13 Jul 2011 12:15 pm
Sample : VO67G1305 5ppb
Misc : 5ppb 8260/25ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:00 2011

Vial: 6
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1621303	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1241075	10.00 ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	382633	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	6.82	111	229081	4.93 ug/l	-0.02
Spiked Amount 10.000			Recovery	= 49.30%	
40) 1,2-Dichloroethane-d4	7.55	65	151012	4.82 ug/l	0.00
Spiked Amount 10.000			Recovery	= 48.20%	
55) Toluene-d8	10.58	98	907727	4.81 ug/l	0.00
Spiked Amount 10.000			Recovery	= 48.10%	
77) 4-Bromofluorobenzene	15.53	95	246484	4.64 ug/l	0.00
Spiked Amount 10.000			Recovery	= 46.40%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.91	85	256796	5.13 ug/l	100
4) Chloromethane	2.15	50	440442	5.27 ug/l	100
5) Vinyl chloride	2.28	62	482637	5.35 ug/l	100
6) Bromomethane	2.78	94	236735	5.02 ug/l	99
7) Chloroethane	2.88	64	249643	5.21 ug/l	98
8) Dichlorofluoromethane	2.91	67	590929	4.97 ug/l	97
9) Trichlorofluoromethane	3.17	101	341225	5.14 ug/l	100
11) Acrolein	3.66	56	58610	22.31 ug/l	76
12) 1,1,2-Trichloro-1,2,2-trif	3.69	151	207836	5.00 ug/l	99
13) Acetone	3.74	43	126194	24.39 ug/l	98
14) 1,1-Dichloroethene	3.89	61	567056	5.03 ug/l	99
15) tert-Butyl alcohol	3.99	59	32223	25.19 ug/l #	1
17) Iodomethane	4.29	142	485204	5.05 ug/l	100
18) Acetonitrile	4.36	41	647991	50.38 ug/l	99
19) Methylene chloride	4.51	49	394557	5.19 ug/l	99
20) Carbon disulfide	4.52	76	1327585	5.07 ug/l	99
21) Acrylonitrile	4.67	53	175803	24.91 ug/l	98
22) tert-Butyl methyl ether (M	4.70	73	322419	5.13 ug/l	98
23) trans-1,2-Dichloroethene	4.89	61	548036	5.10 ug/l	99
24) Isopropyl ether (DIPE)	5.30	45	962988	5.02 ug/l	100
25) 1,1-Dichloroethane	5.46	63	579253	5.06 ug/l	99
26) Vinyl acetate	5.46	43	290125	5.06 ug/l	100
28) tert-Butyl ethyl ether (ET	5.85	59	576987	5.15 ug/l	98
29) 2-Butanone	6.03	43	209217	24.40 ug/l	99
30) 2,2-Dichloropropane	6.23	77	345740	4.91 ug/l	99
31) cis-1,2-Dichloroethene	6.29	96	320927	5.08 ug/l	99
32) Chloroform	6.51	83	450434	5.05 ug/l	100

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

Sa 7/14/11

2098

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC138.D
Acq On : 13 Jul 2011 12:15 pm
Sample : VO67G1305 5ppb
Misc : 5ppb 8260/25ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:00 2011

Vial: 6
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.75	49	214521	5.09 ug/l	100
34) tert-Amyl alcohol	6.75	59	28739	25.71 ug/l	88
36) Tetrahydrofuran	6.79	42	34294	5.62 ug/l	95
37) 1,1,1-Trichloroethane	7.08	97	410207	5.09 ug/l	99
39) tert-Amyl methyl ether (TA	7.49	87	81366	5.06 ug/l	97
42) 1,1-Dichloropropene	7.32	110	162112	4.91 ug/l	99
43) Carbon tetrachloride	7.46	119	348120	5.02 ug/l	100
44) 1,2-Dichloroethane	7.70	62	200063	5.07 ug/l	98
45) Benzene	7.71	78	1166529	4.96 ug/l	99
46) Trichloroethene	8.65	130	314608	4.67 ug/l	99
48) 1,2-Dichloropropane	8.93	63	270929	4.93 ug/l	98
49) Bromodichloromethane	9.29	83	275377	5.02 ug/l	99
50) 1,4-Dioxane	9.32	88	15494	109.87 ug/l	98
51) Dibromomethane	9.38	93	98152	5.09 ug/l	98
52) 2-Chloroethyl vinyl ether	9.79	63	73726	4.92 ug/l	98
53) 4-Methyl-2-pentanone	9.83	43	529545	24.37 ug/l	100
54) cis-1,3-Dichloropropene	10.17	75	334062	4.98 ug/l	97
56) Toluene	10.71	91	1175518	4.84 ug/l	100
57) Ethyl methacrylate	11.02	69	149373	5.06 ug/l	98
58) trans-1,3-Dichloropropene	11.04	75	224290	5.01 ug/l	98
59) 1,1,2-Trichloroethane	11.30	97	116830	5.04 ug/l	99
60) 2-Hexanone	11.31	43	305583	24.28 ug/l	100
61) 1,3-Dichloropropane	11.74	76	221603	5.03 ug/l	98
62) Tetrachloroethene	11.84	164	242167	4.97 ug/l	98
63) Dibromochloromethane	12.21	129	148759	5.03 ug/l	99
64) 1,2-Dibromoethane	12.56	107	121921	5.06 ug/l	99
65) 1-Chlorohexane	12.85	91	516997	4.97 ug/l	99
66) Chlorobenzene	13.32	112	656080	4.96 ug/l	99
67) 1,1,1,2-Tetrachloroethane	13.39	131	191857	5.01 ug/l	99
68) Ethylbenzene	13.41	91	1305731	5.02 ug/l	100
69) m-Xylene & p-Xylene	13.55	91	1927195	10.23 ug/l	99
70) o-Xylene	14.36	91	906515	4.97 ug/l	100
71) Styrene	14.43	104	717870	5.05 ug/l	100
73) Isopropylbenzene	15.05	105	1244250	4.99 ug/l	100
74) Bromoform	15.06	173	66956	5.15 ug/l	99
75) trans-1,4-Dichloro-2-buten	15.15	53	37595	5.07 ug/l	96
76) 1,1,2,2-Tetrachloroethane	15.38	83	116715	5.15 ug/l	98
78) 1,2,3-Trichloropropane	15.66	110	28843	4.78 ug/l	90
79) n-Propylbenzene	15.82	91	1573940	5.07 ug/l	100
80) Bromobenzene	15.90	156	209805	4.99 ug/l	98
81) 1,3,5-Trimethylbenzene	16.13	105	1007722	5.08 ug/l	99

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

Su 7/14/11

2099

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC138.D
Acq On : 13 Jul 2011 12:15 pm
Sample : VO67G1305 5ppb
Misc : 5ppb 8260/25ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:00 2011

Vial: 6
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
82)	2-Chlorotoluene	16.14	91	924989	5.06 ug/l	100
83)	4-Chlorotoluene	16.25	91	713470	4.84 ug/l	100
84)	tert-Butylbenzene	16.82	134	224399	5.04 ug/l	100
85)	1,2,4-Trimethylbenzene	16.89	105	926843	5.03 ug/l	100
86)	sec-Butylbenzene	17.23	105	1399755	5.02 ug/l	100
87)	p-Isopropyltoluene	17.51	119	1119253	5.05 ug/l	99
88)	1,3-Dichlorobenzene	17.68	146	412765	5.04 ug/l	100
89)	1,4-Dichlorobenzene	17.89	146	384071	5.00 ug/l	99
90)	n-Butylbenzene	18.25	91	1071591	5.06 ug/l	99
91)	1,2-Dichlorobenzene	18.50	146	313526	4.99 ug/l	99
92)	1,2-Dibromo-3-chloropropan	19.64	157	15155	5.11 ug/l	97
93)	1,2,4-Trichlorobenzene	20.73	180	188239	4.90 ug/l	99
94)	Hexachlorobutadiene	20.90	225	184502	5.26 ug/l	97
95)	Naphthalene	21.06	128	240508	4.86 ug/l	99
96)	1,2,3-Trichlorobenzene	21.39	180	140215	4.94 ug/l	99

SW 7/14/11

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

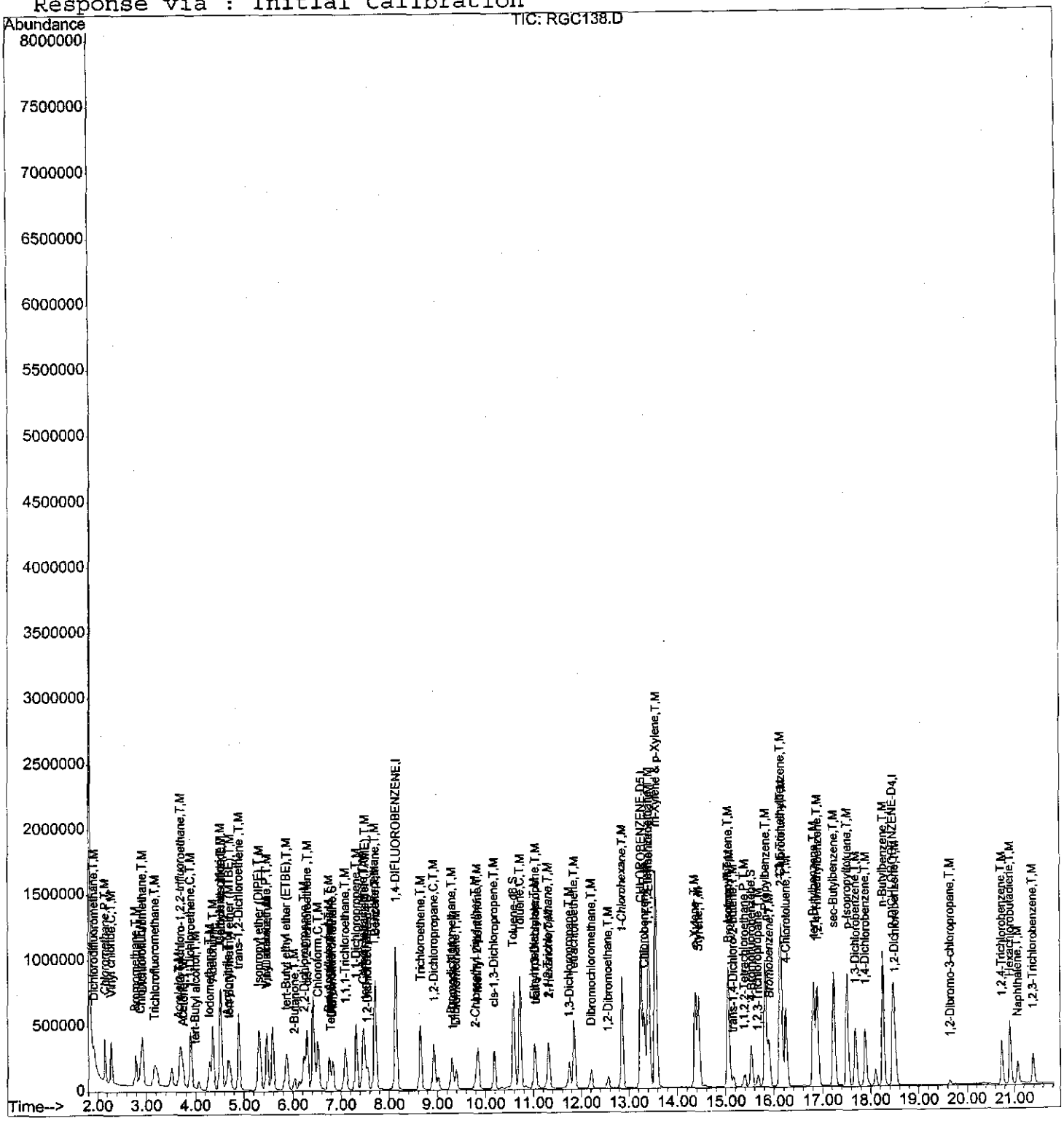
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC138.D
Acq On : 13 Jul 2011 12:15 pm
Sample : VO67G1305 5ppb
Misc : 5ppb 8260/25ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:00 2011

Vial: 6
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 17:00:51 2011
Response via : Initial Calibration



SA 7/14/11

2101

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC139.D
Acq On : 13 Jul 2011 12:45 pm
Sample : VO67G1306 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:38 2011

Vial: 7
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1529972	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1189960	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	374890	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.83	111	462652	10.54	ug/l	0.00
Spiked Amount 10.000			Recovery	=	105.40%	
40) 1,2-Dichloroethane-d4	7.55	65	304492	10.31	ug/l	0.00
Spiked Amount 10.000			Recovery	=	103.10%	
55) Toluene-d8	10.58	98	1847096	10.20	ug/l	0.00
Spiked Amount 10.000			Recovery	=	102.00%	
77) 4-Bromofluorobenzene	15.53	95	502957	9.66	ug/l	0.00
Spiked Amount 10.000			Recovery	=	96.60%	
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.92	85	507632	10.75	ug/l	100
4) Chloromethane	2.15	50	885028	11.22	ug/l	100
5) Vinyl chloride	2.28	62	940997	11.05	ug/l	100
6) Bromomethane	2.78	94	466796	10.50	ug/l	100
7) Chloroethane	2.88	64	497140	10.99	ug/l	100
8) Dichlorofluoromethane	2.93	67	1150994	10.27	ug/l	100
9) Trichlorofluoromethane	3.17	101	676514	10.80	ug/l	100
11) Acrolein	3.67	56	131355	58.58	ug/l	100
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	400325	10.21	ug/l	100
13) Acetone	3.75	43	236495	54.90	ug/l	100
14) 1,1-Dichloroethene	3.89	61	1102741	10.36	ug/l	100
15) tert-Butyl alcohol	4.01	59	64581	53.49	ug/l	99
17) Iodomethane	4.29	142	949444	10.47	ug/l	100
18) Acetonitrile	4.36	41	1263713	104.11	ug/l	100
19) Methylene chloride	4.51	49	747526	10.77	ug/l	100
20) Carbon disulfide	4.52	76	2611325	10.58	ug/l	100
21) Acrylonitrile	4.67	53	353201	53.04	ug/l	100
22) tert-Butyl methyl ether (M	4.71	73	636962	10.75	ug/l	97
23) trans-1,2-Dichloroethene	4.89	61	1053726	10.39	ug/l	100
24) Isopropyl ether (DIPE)	5.31	45	1895658	10.47	ug/l	100
25) 1,1-Dichloroethane	5.46	63	1120120	10.36	ug/l	100
26) Vinyl acetate	5.46	43	608961	11.25	ug/l	100
28) tert-Butyl ethyl ether (ET	5.87	59	1129521	10.68	ug/l	100
29) 2-Butanone	6.03	43	419387	51.82	ug/l	100
30) 2,2-Dichloropropane	6.23	77	675535	10.17	ug/l	100
31) cis-1,2-Dichloroethene	6.29	96	626383	10.51	ug/l	100
32) Chloroform	6.51	83	871155	10.35	ug/l	100

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

Sa 7/14/11

2102

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC139.D
Acq On : 13 Jul 2011 12:45 pm
Sample : VO67G1306 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:38 2011

Vial: 7
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.75	49	422114	10.60 ug/l	100
34) tert-Amyl alcohol	6.75	59	59430	56.33 ug/l	100
36) Tetrahydrofuran	6.81	42	64135	12.13 ug/l	100
37) 1,1,1-Trichloroethane	7.10	97	792733	10.42 ug/l	100
39) tert-Amyl methyl ether (TA	7.49	87	162200	10.68 ug/l	100
42) 1,1-Dichloropropene	7.32	110	317589	10.04 ug/l	100
43) Carbon tetrachloride	7.46	119	676856	10.17 ug/l	100
44) 1,2-Dichloroethane	7.70	62	393781	10.40 ug/l	100
45) Benzene	7.71	78	2267981	10.06 ug/l	100
46) Trichloroethene	8.65	130	609065	9.43 ug/l	100
48) 1,2-Dichloropropane	8.93	63	531691	10.09 ug/l	100
49) Bromodichloromethane	9.29	83	538364	10.24 ug/l	100
50) 1,4-Dioxane	9.32	88	29741	219.96 ug/l	100
51) Dibromomethane	9.38	93	198113	10.71 ug/l	100
52) 2-Chloroethyl vinyl ether	9.79	63	146535	10.19 ug/l	100
53) 4-Methyl-2-pentanone	9.84	43	1096989	52.65 ug/l	100
54) cis-1,3-Dichloropropene	10.19	75	667574	10.38 ug/l	100
56) Toluene	10.71	91	2267852	9.75 ug/l	100
57) Ethyl methacrylate	11.02	69	303642	10.73 ug/l	100
58) trans-1,3-Dichloropropene	11.04	75	447049	10.41 ug/l	100
59) 1,1,2-Trichloroethane	11.30	97	230402	10.37 ug/l	100
60) 2-Hexanone	11.31	43	619451	51.33 ug/l	100
61) 1,3-Dichloropropane	11.74	76	440233	10.42 ug/l	100
62) Tetrachloroethene	11.84	164	471949	10.10 ug/l	100
63) Dibromochloromethane	12.21	129	300615	10.60 ug/l	100
64) 1,2-Dibromoethane	12.56	107	243030	10.51 ug/l	100
65) 1-Chlorohexane	12.85	91	1015412	10.19 ug/l	100
66) Chlorobenzene	13.32	112	1294334	10.21 ug/l	100
67) 1,1,1,2-Tetrachloroethane	13.39	131	377854	10.29 ug/l	100
68) Ethylbenzene	13.42	91	2551520	10.23 ug/l	100
69) m-Xylene & p-Xylene	13.55	91	3773060	20.89 ug/l	100
70) o-Xylene	14.37	91	1769042	10.12 ug/l	100
71) Styrene	14.43	104	1417030	10.41 ug/l	100
73) Isopropylbenzene	15.05	105	2438450	9.98 ug/l	100
74) Bromoform	15.06	173	133326	10.47 ug/l	100
75) trans-1,4-Dichloro-2-buten	15.15	53	75058	10.32 ug/l	100
76) 1,1,2,2-Tetrachloroethane	15.38	83	230696	10.39 ug/l	100
78) 1,2,3-Trichloropropane	15.66	110	59288	10.02 ug/l	100
79) n-Propylbenzene	15.82	91	3081070	10.12 ug/l	100
80) Bromobenzene	15.90	156	410595	9.96 ug/l	100
81) 1,3,5-Trimethylbenzene	16.13	105	1955167	10.05 ug/l	100

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

SA 7/14/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC139.D
Acq On : 13 Jul 2011 12:45 pm
Sample : VO67G1306 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:38 2011

Vial: 7
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
82) 2-Chlorotoluene	16.15	91	1807636	10.10 ug/l	100
83) 4-Chlorotoluene	16.25	91	1406343	9.73 ug/l	100
84) tert-Butylbenzene	16.82	134	437573	10.02 ug/l	100
85) 1,2,4-Trimethylbenzene	16.89	105	1827860	10.12 ug/l	100
86) sec-Butylbenzene	17.23	105	2771040	10.15 ug/l	100
87) p-Isopropyltoluene	17.51	119	2229577	10.26 ug/l	100
88) 1,3-Dichlorobenzene	17.68	146	819444	10.21 ug/l	100
89) 1,4-Dichlorobenzene	17.89	146	762144	10.13 ug/l	100
90) n-Butylbenzene	18.25	91	2140607	10.31 ug/l	100
91) 1,2-Dichlorobenzene	18.50	146	629074	10.22 ug/l	100
92) 1,2-Dibromo-3-chloropropan	19.63	157	30245	10.42 ug/l	100
93) 1,2,4-Trichlorobenzene	20.73	180	394233	10.48 ug/l	100
94) Hexachlorobutadiene	20.90	225	374371	10.88 ug/l	100
95) Naphthalene	21.07	128	518035	10.68 ug/l	100
96) 1,2,3-Trichlorobenzene	21.39	180	294469	10.58 ug/l	100

(#) = qualifier out of range (m) = manual integration SA 7/14/11

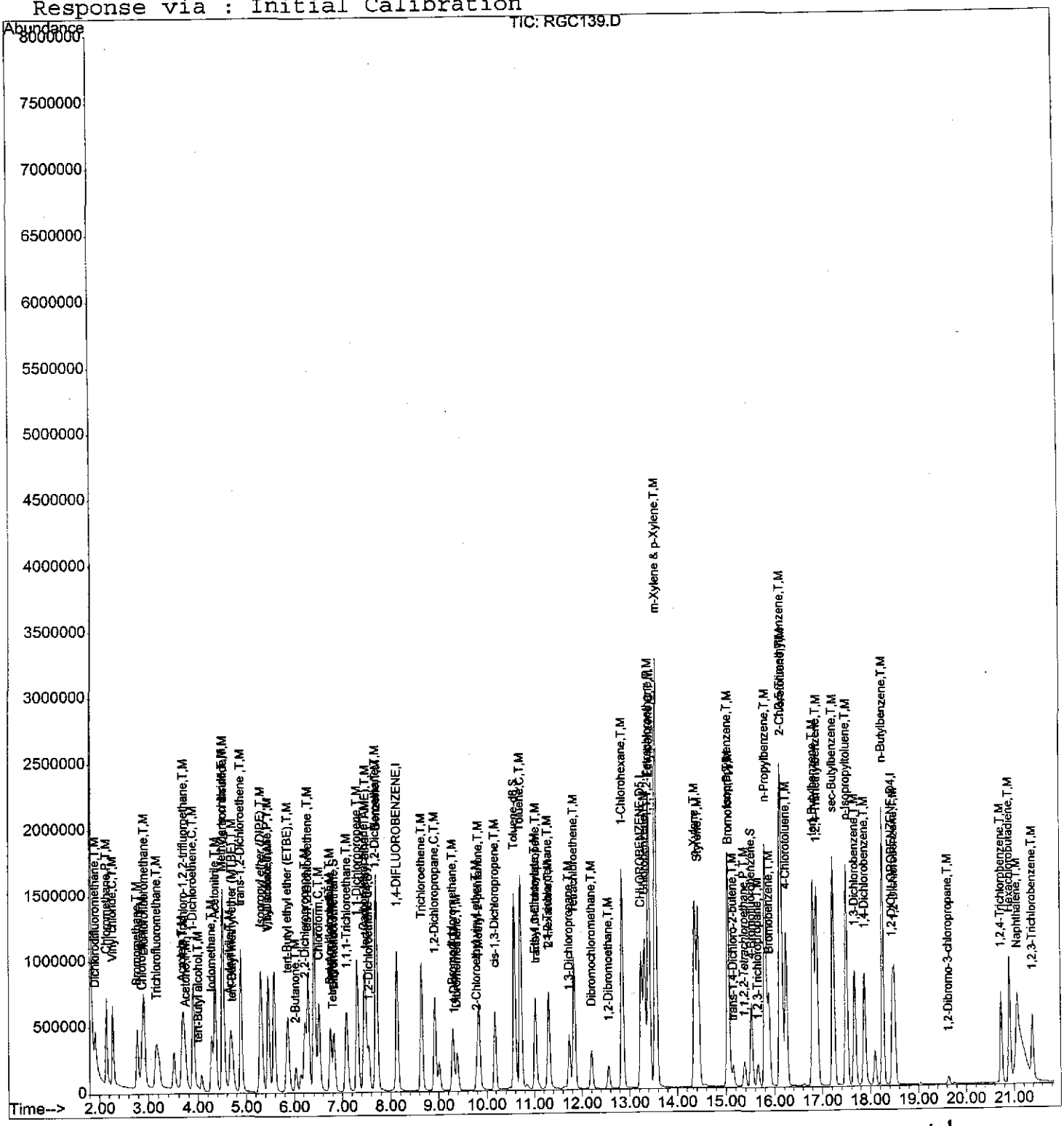
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC139.D
Acq On : 13 Jul 2011 12:45 pm
Sample : VO67G1306 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 16:38 2011

Vial: 7
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 17:03:34 2011
Response via : Initial Calibration



SA 7/14/11

2165

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC140.D
Acq On : 13 Jul 2011 1:16 pm
Sample : VO67G1307 20ppb
Misc : 20ppb 8260/100ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:05 2011

Vial: 8
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1556566	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1184583	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.47	152	373638	10.00	ug/l	0.01
System Monitoring Compounds						
35) Dibromofluoromethane	6.82	111	952342	21.33	ug/l	-0.02
Spiked Amount 10.000			Recovery	=	213.30%	
40) 1,2-Dichloroethane-d4	7.55	65	633374	21.07	ug/l	0.00
Spiked Amount 10.000			Recovery	=	210.70%	
55) Toluene-d8	10.58	98	3854728	21.39	ug/l	0.00
Spiked Amount 10.000			Recovery	=	213.90%	
77) 4-Bromofluorobenzene	15.53	95	1036147	19.96	ug/l	0.00
Spiked Amount 10.000			Recovery	=	199.60%	
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.91	85	1013618	21.11	ug/l	99
4) Chloromethane	2.15	50	1785960	22.25	ug/l	100
5) Vinyl chloride	2.28	62	1809975	20.89	ug/l	100
6) Bromomethane	2.78	94	968845	21.41	ug/l	99
7) Chloroethane	2.88	64	998432	21.68	ug/l	100
8) Dichlorofluoromethane	2.91	67	2391869	20.97	ug/l	100
9) Trichlorofluoromethane	3.17	101	1381296	21.67	ug/l	99
11) Acrolein	3.67	56	237384	107.20	ug/l	97
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	833363	20.89	ug/l	100
13) Acetone	3.74	43	445848	107.32	ug/l	99
14) 1,1-Dichloroethene	3.89	61	2283536	21.09	ug/l	100
15) tert-Butyl alcohol	3.99	59	129710	105.60	ug/l	93
17) Iodomethane	4.29	142	1963611	21.29	ug/l	100
18) Acetonitrile	4.36	41	2602456	210.74	ug/l	100
19) Methylene chloride	4.51	49	1520017	21.86	ug/l	100
20) Carbon disulfide	4.52	76	5174523	20.60	ug/l	99
21) Acrylonitrile	4.67	53	686968	101.40	ug/l	99
22) tert-Butyl methyl ether (M	4.70	73	1279356	21.22	ug/l	98
23) trans-1,2-Dichloroethene	4.89	61	2194544	21.27	ug/l	99
24) Isopropyl ether (DIPE)	5.30	45	3922087	21.30	ug/l	100
25) 1,1-Dichloroethane	5.46	63	2308939	20.99	ug/l	100
26) Vinyl acetate	5.46	43	1199700	21.78	ug/l	99
28) tert-Butyl ethyl ether (ET	5.85	59	2314539	21.51	ug/l	100
29) 2-Butanone	6.03	43	822536	99.91	ug/l	100
30) 2,2-Dichloropropane	6.22	77	1346644	19.93	ug/l	99
31) cis-1,2-Dichloroethene	6.29	96	1292600	21.31	ug/l	100
32) Chloroform	6.51	83	1793579	20.95	ug/l	100

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

Sa 7/14/11

2166

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC140.D
Acq On : 13 Jul 2011 1:16 pm
Sample : VO67G1307 20ppb
Misc : 20ppb 8260/100ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:05 2011

Vial: 8
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.75	49	853614	21.08 ug/l	99
34) tert-Amyl alcohol	6.75	59	115884	107.97 ug/l	94
36) Tetrahydrofuran	6.79	42	113366	21.82 ug/l	91
37) 1,1,1-Trichloroethane	7.08	97	1643308	21.22 ug/l	100
39) tert-Amyl methyl ether (TA	7.48	87	330803	21.42 ug/l	100
42) 1,1-Dichloropropene	7.32	110	663156	21.05 ug/l	99
43) Carbon tetrachloride	7.46	119	1404265	21.20 ug/l	100
44) 1,2-Dichloroethane	7.68	62	807162	21.42 ug/l	98
45) Benzene	7.71	78	4684620	20.87 ug/l	99
46) Trichloroethene	8.65	130	1265086	19.67 ug/l	99
48) 1,2-Dichloropropane	8.91	63	1089266	20.77 ug/l	99
49) Bromodichloromethane	9.29	83	1109242	21.20 ug/l	100
50) 1,4-Dioxane	9.32	88	61442	456.48 ug/l	99
51) Dibromomethane	9.38	93	403269	21.89 ug/l	99
52) 2-Chloroethyl vinyl ether	9.79	63	307183	21.47 ug/l	99
53) 4-Methyl-2-pentanone	9.83	43	2174994	104.86 ug/l	100
54) cis-1,3-Dichloropropene	10.17	75	1374498	21.46 ug/l	100
56) Toluene	10.71	91	4678483	20.20 ug/l	100
57) Ethyl methacrylate	11.01	69	629754	22.35 ug/l	100
58) trans-1,3-Dichloropropene	11.04	75	922903	21.58 ug/l	98
59) 1,1,2-Trichloroethane	11.30	97	474644	21.47 ug/l	99
60) 2-Hexanone	11.31	43	1235886	102.88 ug/l	99
61) 1,3-Dichloropropane	11.74	76	906158	21.55 ug/l	100
62) Tetrachloroethene	11.84	164	977353	21.01 ug/l	99
63) Dibromochloromethane	12.21	129	622179	22.03 ug/l	98
64) 1,2-Dibromoethane	12.56	107	499880	21.71 ug/l	99
65) 1-Chlorohexane	12.85	91	2121884	21.38 ug/l	99
66) Chlorobenzene	13.32	112	2680664	21.24 ug/l	99
67) 1,1,1,2-Tetrachloroethane	13.39	131	772555	21.13 ug/l	99
68) Ethylbenzene	13.41	91	5274916	21.25 ug/l	100
69) m-Xylene & p-Xylene	13.55	91	7778832	43.26 ug/l	100
70) o-Xylene	14.36	91	3718244	21.36 ug/l	99
71) Styrene	14.43	104	2957732	21.82 ug/l	100
73) Isopropylbenzene	15.05	105	5119690	21.02 ug/l	100
74) Bromoform	15.06	173	278115	21.91 ug/l	100
75) trans-1,4-Dichloro-2-buten	15.15	53	156164	21.55 ug/l	100
76) 1,1,2,2-Tetrachloroethane	15.38	83	470289	21.25 ug/l	99
78) 1,2,3-Trichloropropane	15.66	110	123081	20.88 ug/l	98
79) n-Propylbenzene	15.81	91	6411788	21.14 ug/l	100
80) Bromobenzene	15.90	156	852305	20.74 ug/l	99
81) 1,3,5-Trimethylbenzene	16.13	105	4104746	21.17 ug/l	100

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

SW 7/14/11 2107

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC140.D
Acq On : 13 Jul 2011 1:16 pm
Sample : VO67G1307 20ppb
Misc : 20ppb 8260/100ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:05 2011

Vial: 8
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
82) 2-Chlorotoluene	16.14	91	3740943	20.97 ug/l	100
83) 4-Chlorotoluene	16.25	91	2931125	20.35 ug/l	100
84) tert-Butylbenzene	16.82	134	921615	21.18 ug/l	100
85) 1,2,4-Trimethylbenzene	16.89	105	3832785	21.29 ug/l	99
86) sec-Butylbenzene	17.23	105	5834561	21.45 ug/l	100
87) p-Isopropyltoluene	17.51	119	4680688	21.62 ug/l	100
88) 1,3-Dichlorobenzene	17.68	146	1706103	21.33 ug/l	100
89) 1,4-Dichlorobenzene	17.89	146	1587808	21.17 ug/l	99
90) n-Butylbenzene	18.25	91	4478107	21.64 ug/l	100
91) 1,2-Dichlorobenzene	18.50	146	1280910	20.87 ug/l	99
92) 1,2-Dibromo-3-chloropropan	19.63	157	64635	22.34 ug/l	96
93) 1,2,4-Trichlorobenzene	20.73	180	817047	21.79 ug/l	99
94) Hexachlorobutadiene	20.90	225	771924	22.52 ug/l	99
95) Naphthalene	21.06	128	1059590	21.91 ug/l	100
96) 1,2,3-Trichlorobenzene	21.39	180	607526	21.90 ug/l	99

Su 7/14/11

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

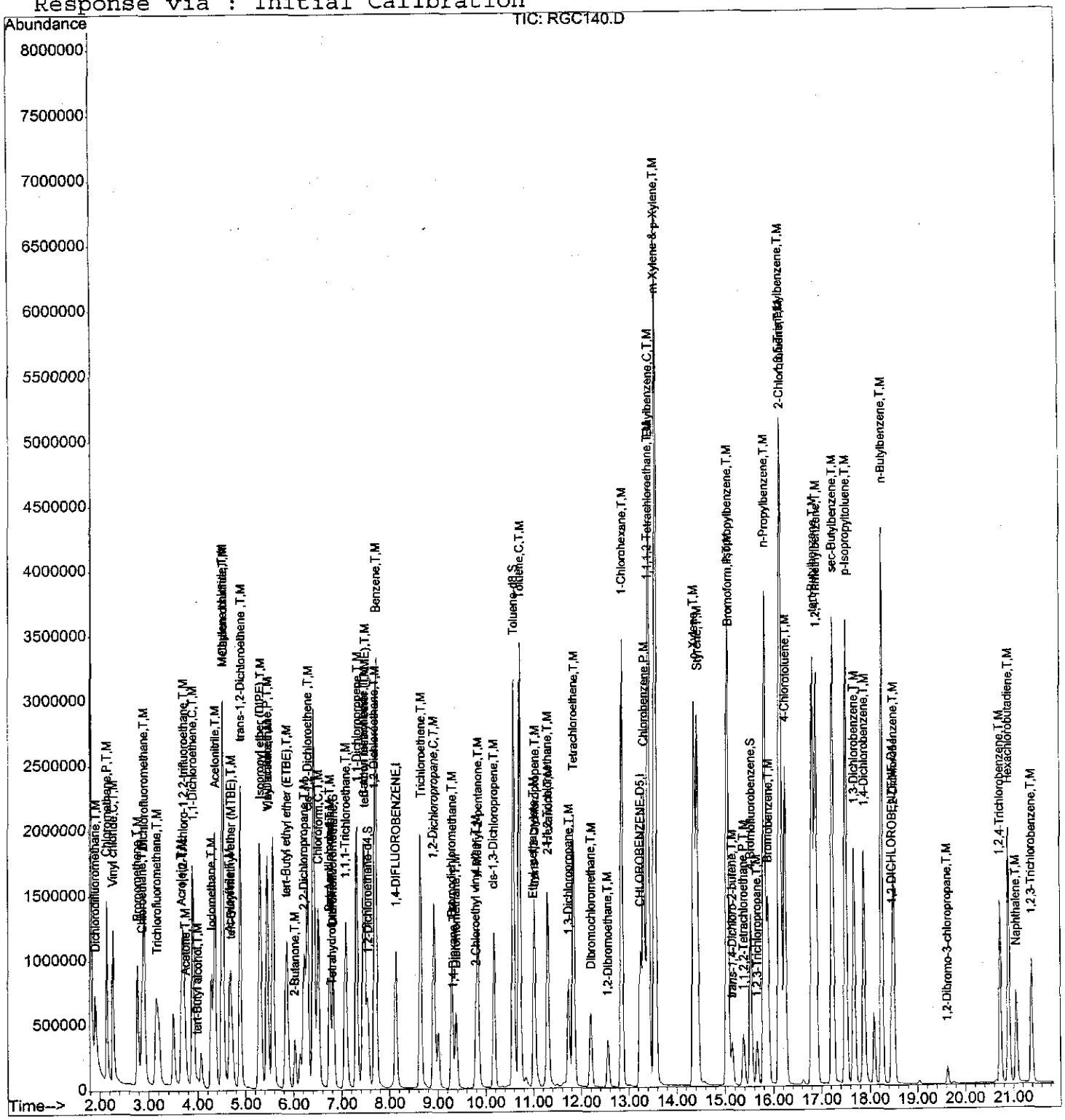
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC140.D
Acq On : 13 Jul 2011 1:16 pm
Sample : VO67G1307 20ppb
Misc : 20ppb 8260/100ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:05 2011

Vial: 8
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 17:05:25 2011
Response via : Initial Calibration



Su 7/14/11

2169

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC141.D
Acq On : 13 Jul 2011 1:47 pm
Sample : VO67G1308 30ppb
Misc : 30ppb 8260/150ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:06 2011

Vial: 9
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.13	114	1672943	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.24	117	1269334	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.47	152	386341	10.00	ug/l	0.01
System Monitoring Compounds						
35) Dibromofluoromethane	6.83	111	1411511	29.42	ug/l	0.00
Spiked Amount 10.000			Recovery	=	294.20%	
40) 1,2-Dichloroethane-d4	7.55	65	900895	27.89	ug/l	0.00
Spiked Amount 10.000			Recovery	=	278.90%	
55) Toluene-d8	10.58	98	5714072	29.59	ug/l	0.00
Spiked Amount 10.000			Recovery	=	295.90%	
77) 4-Bromofluorobenzene	15.53	95	1517863	28.28	ug/l	0.00
Spiked Amount 10.000			Recovery	=	282.80%	

Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.91	85	1568129	30.38	ug/l	99
4) Chloromethane	2.15	50	2706064	31.36	ug/l	100
5) Vinyl chloride	2.28	62	2617546	28.11	ug/l	100
6) Bromomethane	2.78	94	1465691	30.14	ug/l	99
7) Chloroethane	2.88	64	1524686	30.81	ug/l	100
8) Dichlorofluoromethane	2.92	67	3574873	29.16	ug/l	100
9) Trichlorofluoromethane	3.17	101	2088703	30.49	ug/l	100
11) Acrolein	3.67	56	342760	145.42	ug/l	96
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	1257866	29.34	ug/l	100
13) Acetone	3.74	43	628745	142.87	ug/l	99
14) 1,1-Dichloroethene	3.90	61	3398462	29.20	ug/l	100
15) tert-Butyl alcohol	4.01	59	172974	131.03	ug/l	98
17) Iodomethane	4.28	142	2910760	29.37	ug/l	99
18) Acetonitrile	4.36	41	3907646	294.42	ug/l	100
19) Methylene chloride	4.50	49	2210489	29.70	ug/l	100
20) Carbon disulfide	4.52	76	7899127	29.26	ug/l	99
21) Acrylonitrile	4.66	53	980776	134.70	ug/l	100
22) tert-Butyl methyl ether (M	4.71	73	1804475	27.84	ug/l	98
23) trans-1,2-Dichloroethene	4.88	61	3277188	29.55	ug/l	100
24) Isopropyl ether (DIPE)	5.31	45	5636298	28.47	ug/l	100
25) 1,1-Dichloroethane	5.46	63	3455653	29.23	ug/l	100
26) Vinyl acetate	5.46	43	1776534	30.01	ug/l	100
28) tert-Butyl ethyl ether (ET	5.87	59	3267307	28.26	ug/l	100
29) 2-Butanone	6.03	43	1158133	130.88	ug/l	100
30) 2,2-Dichloropropane	6.23	77	2077569	28.61	ug/l	99
31) cis-1,2-Dichloroethene	6.29	96	1917365	29.42	ug/l	100
32) Chloroform	6.51	83	2637662	28.67	ug/l	100

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC141.D
Acq On : 13 Jul 2011 1:47 pm
Sample : VO67G1308 30ppb
Misc : 30ppb 8260/150ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:06 2011

Vial: 9
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.74	49	1233387	28.34 ug/l	99
34) tert-Amyl alcohol	6.74	59	155166	134.51 ug/l	92
36) Tetrahydrofuran	6.80	42	156124	28.24 ug/l	92
37) 1,1,1-Trichloroethane	7.08	97	2454250	29.49 ug/l	99
39) tert-Amyl methyl ether (TA	7.49	87	467061	28.13 ug/l	99
42) 1,1-Dichloropropene	7.31	110	991173	29.36 ug/l	99
43) Carbon tetrachloride	7.46	119	2114623	29.80 ug/l	100
44) 1,2-Dichloroethane	7.70	62	1153460	28.57 ug/l	99
45) Benzene	7.71	78	6936529	28.84 ug/l	100
46) Trichloroethene	8.65	130	1900092	27.58 ug/l	99
48) 1,2-Dichloropropane	8.93	63	1598693	28.45 ug/l	99
49) Bromodichloromethane	9.29	83	1616087	28.83 ug/l	100
50) 1,4-Dioxane	9.32	88	87330	605.49 ug/l	96
51) Dibromomethane	9.38	93	576658	29.22 ug/l	99
52) 2-Chloroethyl vinyl ether	9.79	63	429201	27.99 ug/l	99
53) 4-Methyl-2-pentanone	9.83	43	3018140	135.79 ug/l	99
54) cis-1,3-Dichloropropene	10.18	75	2003744	29.20 ug/l	99
56) Toluene	10.73	91	6945092	27.99 ug/l	100
57) Ethyl methacrylate	11.02	69	860242	28.49 ug/l	98
58) trans-1,3-Dichloropropene	11.03	75	1337091	29.18 ug/l	98
59) 1,1,2-Trichloroethane	11.30	97	670944	28.32 ug/l	99
60) 2-Hexanone	11.31	43	1735454	134.82 ug/l	100
61) 1,3-Dichloropropane	11.74	76	1281035	28.43 ug/l	99
62) Tetrachloroethene	11.85	164	1458611	29.27 ug/l	99
63) Dibromochloromethane	12.21	129	883238	29.19 ug/l	99
64) 1,2-Dibromoethane	12.56	107	703433	28.52 ug/l	99
65) 1-Chlorohexane	12.86	91	3177449	29.88 ug/l	99
66) Chlorobenzene	13.32	112	3953695	29.23 ug/l	99
67) 1,1,1,2-Tetrachloroethane	13.41	131	1139274	29.08 ug/l	99
68) Ethylbenzene	13.42	91	7904564	29.72 ug/l	100
69) m-Xylene & p-Xylene	13.55	91	11445221	59.40 ug/l	99
70) o-Xylene	14.37	91	5439713	29.16 ug/l	100
71) Styrene	14.45	104	4334287	29.84 ug/l	100
73) Isopropylbenzene	15.05	105	7514064	29.84 ug/l	99
74) Bromoform	15.07	173	390785	29.77 ug/l	99
75) trans-1,4-Dichloro-2-buten	15.15	53	222089	29.64 ug/l	100
76) 1,1,2,2-Tetrachloroethane	15.38	83	650133	28.41 ug/l	100
78) 1,2,3-Trichloropropane	15.66	110	170668	28.00 ug/l	97
79) n-Propylbenzene	15.82	91	9593822	30.59 ug/l	100
80) Bromobenzene	15.89	156	1231249	28.97 ug/l	99
81) 1,3,5-Trimethylbenzene	16.13	105	6009736	29.98 ug/l	100

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

SA 7/14/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC141.D
Acq On : 13 Jul 2011 1:47 pm
Sample : VO67G1308 30ppb
Misc : 30ppb 8260/150ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:06 2011

Vial: 9
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
82)	2-Chlorotoluene	16.16	91	5372574	29.12 ug/l	100
83)	4-Chlorotoluene	16.25	91	4380119	29.41 ug/l	100
84)	tert-Butylbenzene	16.82	134	1369019	30.43 ug/l	98
85)	1,2,4-Trimethylbenzene	16.89	105	5583055	29.99 ug/l	100
86)	sec-Butylbenzene	17.24	105	8561937	30.44 ug/l	100
87)	p-Isopropyltoluene	17.51	119	6860034	30.64 ug/l	100
88)	1,3-Dichlorobenzene	17.68	146	2470777	29.88 ug/l	100
89)	1,4-Dichlorobenzene	17.89	146	2288905	29.51 ug/l	99
90)	n-Butylbenzene	18.25	91	6630674	30.99 ug/l	100
91)	1,2-Dichlorobenzene	18.52	146	1834608	28.91 ug/l	99
92)	1,2-Dibromo-3-chloropropan	19.64	157	88253	29.50 ug/l	97
93)	1,2,4-Trichlorobenzene	20.74	180	1156349	29.82 ug/l	99
94)	Hexachlorobutadiene	20.92	225	1115068	31.46 ug/l	100
95)	Naphthalene	21.06	128	1474782	29.50 ug/l	100
96)	1,2,3-Trichlorobenzene	21.38	180	850750	29.66 ug/l	99

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

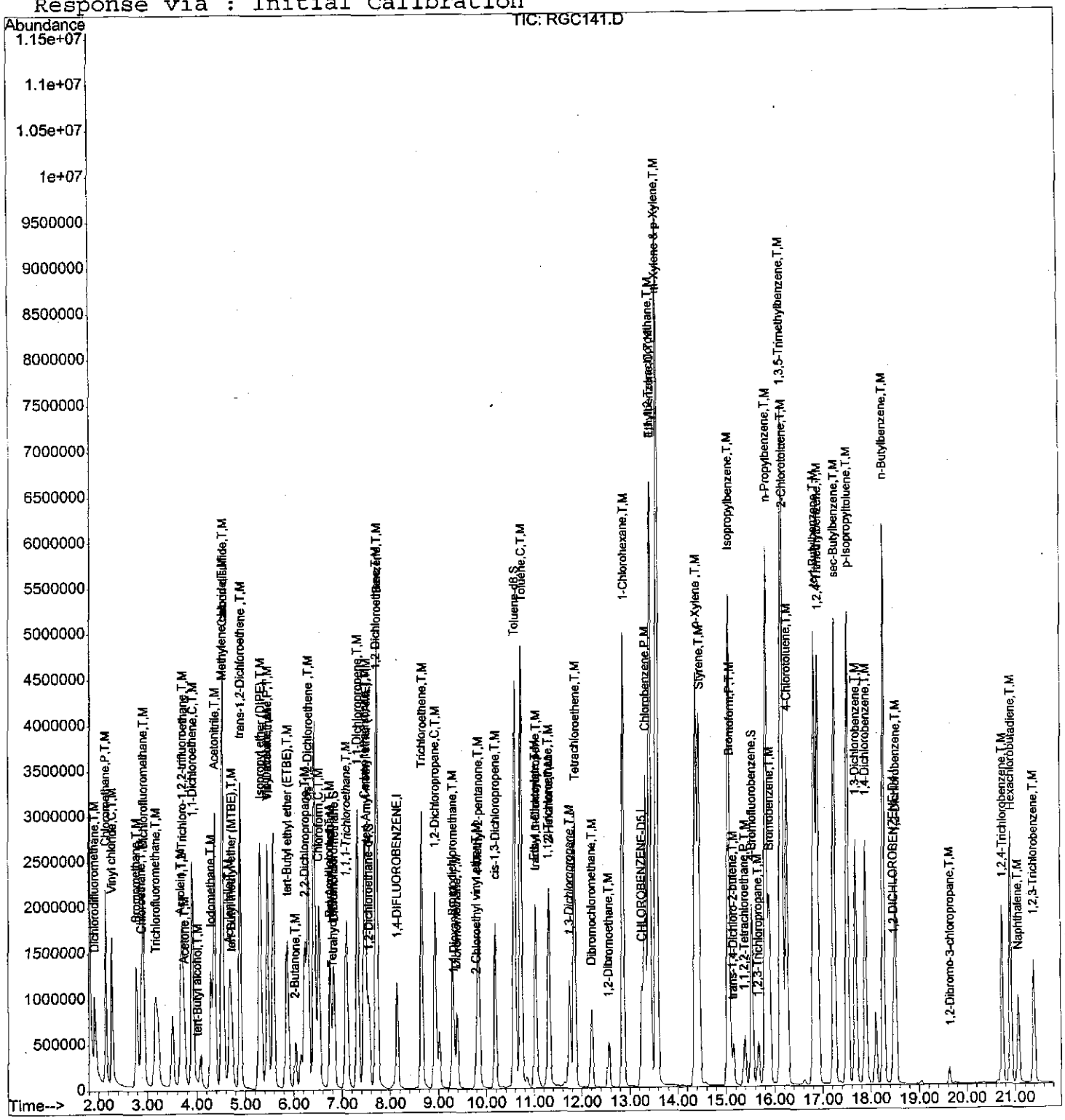
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC141.D
Acq On : 13 Jul 2011 1:47 pm
Sample : VO67G1308 30ppb
Misc : 30ppb 8260/150ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:06 2011

Vial: 9
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 17:07:41 2011
Response via : Initial Calibration



SW 1/14/11

2113

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC142.D
Acq On : 13 Jul 2011 2:18 pm
Sample : VO67G1309 50ppb
Misc : 50ppb 8260/250ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:08 2011

Vial: 10
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1620096	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1240879	10.00 ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.47	152	369792	10.00 ug/l	0.01
System Monitoring Compounds					
35) Dibromofluoromethane	6.83	111	2358868	50.76 ug/l	0.00
Spiked Amount 10.000			Recovery =	507.60%	
40) 1,2-Dichloroethane-d4	7.55	65	1529389	48.89 ug/l	0.00
Spiked Amount 10.000			Recovery =	488.90%	
55) Toluene-d8	10.58	98	9555226	50.61 ug/l	0.00
Spiked Amount 10.000			Recovery =	506.10%	
77) 4-Bromofluorobenzene	15.53	95	2536637	49.37 ug/l	0.00
Spiked Amount 10.000			Recovery =	493.70%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.92	85	2504905	50.11 ug/l	99
4) Chloromethane	2.15	50	4441258	53.15 ug/l	100
5) Vinyl chloride	2.27	62	3907518	43.33 ug/l	100
6) Bromomethane	2.78	94	2441877	51.86 ug/l	99
7) Chloroethane	2.87	64	2502167	52.21 ug/l	100
8) Dichlorofluoromethane	2.91	67	5983461	50.40 ug/l	100
9) Trichlorofluoromethane	3.16	101	3407553	51.36 ug/l	100
11) Acrolein	3.66	56	576747	255.66 ug/l	97
12) 1,1,2-Trichloro-1,2,2-trif	3.69	151	2054619	49.48 ug/l	99
13) Acetone	3.75	43	1072915	256.74 ug/l	99
14) 1,1-Dichloroethene	3.89	61	5603496	49.71 ug/l	100
15) tert-Butyl alcohol	3.99	59	317283	248.18 ug/l	91
17) Iodomethane	4.29	142	4848341	50.51 ug/l	100
18) Acetonitrile	4.36	41	6480463	504.19 ug/l	100
19) Methylene chloride	4.51	49	3675387	51.24 ug/l	99
20) Carbon disulfide	4.52	76	12777155	48.86 ug/l	100
21) Acrylonitrile	4.67	53	1677056	237.84 ug/l	99
22) tert-Butyl methyl ether (M	4.70	73	3094633	49.31 ug/l	98
23) trans-1,2-Dichloroethene	4.89	61	5384893	50.15 ug/l	100
24) Isopropyl ether (DIPE)	5.30	45	9585093	50.00 ug/l	100
25) 1,1-Dichloroethane	5.46	63	5719299	49.96 ug/l	100
26) Vinyl acetate	5.46	43	2996487	52.27 ug/l	99
28) tert-Butyl ethyl ether (ET	5.85	59	5621260	50.20 ug/l	100
29) 2-Butanone	6.03	43	2005725	234.06 ug/l	100
30) 2,2-Dichloropropane	6.22	77	3310701	47.07 ug/l	99
31) cis-1,2-Dichloroethene	6.29	96	3186492	50.48 ug/l	99
32) Chloroform	6.51	83	4382726	49.19 ug/l	100

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

SW 7/14/11

2114

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC142.D
Acq On : 13 Jul 2011 2:18 pm
Sample : VO67G1309 50ppb
Misc : 50ppb 8260/250ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:08 2011

Vial: 10
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.75	49	2064532	48.98 ug/l	98
34) tert-Amyl alcohol	6.75	59	277362	248.28 ug/l	93
36) Tetrahydrofuran	6.79	42	261576	49.59 ug/l	89
37) 1,1,1-Trichloroethane	7.08	97	4029161	50.00 ug/l	99
39) tert-Amyl methyl ether (TA	7.49	87	791810	49.25 ug/l	99
42) 1,1-Dichloropropene	7.32	110	1629960	49.39 ug/l	99
43) Carbon tetrachloride	7.46	119	3479085	50.15 ug/l	100
44) 1,2-Dichloroethane	7.70	62	1915866	48.54 ug/l	98
45) Benzene	7.71	78	11497058	48.89 ug/l	99
46) Trichloroethene	8.65	130	3149295	46.76 ug/l	99
48) 1,2-Dichloropropane	8.93	63	2687175	48.92 ug/l	99
49) Bromodichloromethane	9.29	83	2715702	49.55 ug/l	100
50) 1,4-Dioxane	9.32	88	149563	1060.75 ug/l	97
51) Dibromomethane	9.38	93	981340	50.86 ug/l	99
52) 2-Chloroethyl vinyl ether	9.79	63	740576	49.40 ug/l	98
53) 4-Methyl-2-pentanone	9.84	43	5235191	240.94 ug/l	100
54) cis-1,3-Dichloropropene	10.19	75	3368126	50.20 ug/l	100
56) Toluene	10.73	91	11473736	47.29 ug/l	100
57) Ethyl methacrylate	11.02	69	1509565	51.15 ug/l	99
58) trans-1,3-Dichloropropene	11.04	75	2254622	50.32 ug/l	98
59) 1,1,2-Trichloroethane	11.30	97	1143244	49.36 ug/l	99
60) 2-Hexanone	11.31	43	3001757	238.55 ug/l	100
61) 1,3-Dichloropropane	11.74	76	2179221	49.47 ug/l	99
62) Tetrachloroethene	11.84	164	2390922	49.08 ug/l	99
63) Dibromochloromethane	12.21	129	1508712	51.00 ug/l	99
64) 1,2-Dibromoethane	12.56	107	1207853	50.09 ug/l	99
65) 1-Chlorohexane	12.87	91	5263855	50.63 ug/l	99
66) Chlorobenzene	13.32	112	6608954	49.98 ug/l	98
67) 1,1,1,2-Tetrachloroethane	13.41	131	1896853	49.52 ug/l	100
68) Ethylbenzene	13.42	91	12915641	49.67 ug/l	99
69) m-Xylene & p-Xylene	13.57	91	18718814	99.38 ug/l	98
70) o-Xylene	14.37	91	9036873	49.56 ug/l	100
71) Styrene	14.45	104	7273762	51.22 ug/l	99
73) Isopropylbenzene	15.05	105	12352995	51.25 ug/l	99
74) Bromoform	15.08	173	668796	53.23 ug/l	99
75) trans-1,4-Dichloro-2-buten	15.15	53	385334	53.73 ug/l	100
76) 1,1,2,2-Tetrachloroethane	15.38	83	1107422	50.56 ug/l	100
78) 1,2,3-Trichloropropane	15.66	110	289922	49.70 ug/l	98
79) n-Propylbenzene	15.82	91	15630688	52.07 ug/l	99
80) Bromobenzene	15.90	156	2064970	50.77 ug/l	98
81) 1,3,5-Trimethylbenzene	16.13	105	9717560	50.64 ug/l	99

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

Sa 7/14/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC142.D
Acq On : 13 Jul 2011 2:18 pm
Sample : VO67G1309 50ppb
Misc : 50ppb 8260/250ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:08 2011

Vial: 10
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
82) 2-Chlorotoluene	16.16	91	8721974	49.39 ug/l	99
83) 4-Chlorotoluene	16.25	91	7216550	50.62 ug/l	100
84) tert-Butylbenzene	16.82	134	2201487	51.13 ug/l	98
85) 1,2,4-Trimethylbenzene	16.89	105	9012738	50.57 ug/l	99
86) sec-Butylbenzene	17.24	105	13729148	51.00 ug/l	100
87) p-Isopropyltoluene	17.51	119	10986809	51.27 ug/l	99
88) 1,3-Dichlorobenzene	17.68	146	4053070	51.20 ug/l	100
89) 1,4-Dichlorobenzene	17.89	146	3770485	50.79 ug/l	99
90) n-Butylbenzene	18.25	91	10565689	51.59 ug/l	100
91) 1,2-Dichlorobenzene	18.52	146	3031119	49.91 ug/l	99
92) 1,2-Dibromo-3-chloropropan	19.65	157	152307	53.19 ug/l	96
93) 1,2,4-Trichlorobenzene	20.73	180	1902080	51.25 ug/l	100
94) Hexachlorobutadiene	20.90	225	1750978	51.61 ug/l	99
95) Naphthalene	21.07	128	2476883	51.76 ug/l	99
96) 1,2,3-Trichlorobenzene	21.39	180	1394863	50.81 ug/l	99

(#) = qualifier out of range (m) = manual integration
RGC142.D VO67G13.M Wed Jul 13 17:09:30 2011

SW 7/14/11

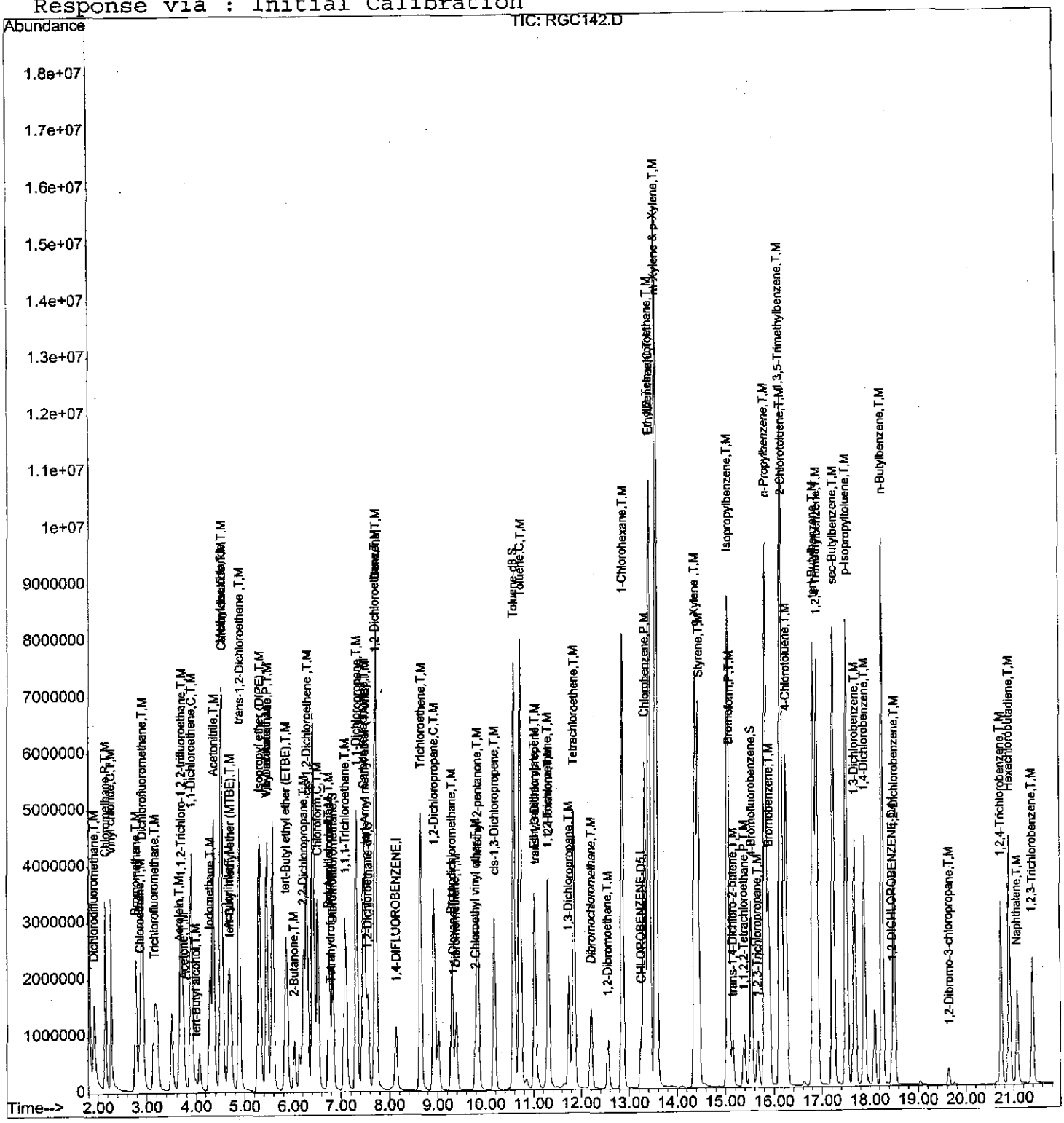
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC142.D
Acq On : 13 Jul 2011 2:18 pm
Sample : VO67G1309 50ppb
Misc : 50ppb 8260/250ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:08 2011

Vial: 10
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 17:09:14 2011
Response via : Initial Calibration



SW 7/14/11

2117

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC143.D
Acq On : 13 Jul 2011 2:48 pm
Sample : VO67G1310 100ppb
Misc : 100ppb 8260/500ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:11 2011

Vial: 11
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1675848	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	13.26	117	1258402	10.00 ug/l	0.01
72) 1,2-DICHLOROBENZENE-D4	18.47	152	369883	10.00 ug/l	0.01
System Monitoring Compounds					
35) Dibromofluoromethane	6.83	111	4815530	100.19 ug/l	0.00
Spiked Amount 10.000			Recovery	= 1001.90%	
40) 1,2-Dichloroethane-d4	7.55	65	3078624	95.13 ug/l	0.00
Spiked Amount 10.000			Recovery	= 951.30%	
55) Toluene-d8	10.60	98	19190970	100.23 ug/l	0.01
Spiked Amount 10.000			Recovery	= 1002.30%	
77) 4-Bromofluorobenzene	15.53	95	5001527	97.32 ug/l	0.00
Spiked Amount 10.000			Recovery	= 973.20%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.91	85	5249271	101.53 ug/l	100
4) Chloromethane	2.15	50	9143135	105.78 ug/l	99
5) Vinyl chloride	2.27	62	7138319	76.52 ug/l	100
6) Bromomethane	2.76	94	5149110	105.71 ug/l	99
7) Chloroethane	2.87	64	5176662	104.43 ug/l	100
8) Dichlorofluoromethane	2.91	67	11795970	96.06 ug/l	100
9) Trichlorofluoromethane	3.16	101	7038238	102.56 ug/l	99
11) Acrolein	3.66	56	1125686	486.00 ug/l	96
12) 1,1,2-Trichloro-1,2,2-trif	3.69	151	4122736	95.99 ug/l	99
13) Acetone	3.74	43	2092402	489.84 ug/l	98
14) 1,1-Dichloroethene	3.89	61	11021602	94.53 ug/l	99
15) tert-Butyl alcohol	4.01	59	608204	459.91 ug/l #	1
17) Iodomethane	4.29	142	9578798	96.48 ug/l	100
18) Acetonitrile	4.36	41	12676761	953.47 ug/l	99
19) Methylene chloride	4.51	49	7129435	96.38 ug/l	98
20) Carbon disulfide	4.52	76	23415923	86.57 ug/l	100
21) Acrylonitrile	4.67	53	3372645	462.40 ug/l	100
22) tert-Butyl methyl ether (M	4.71	73	6073858	93.56 ug/l	98
23) trans-1,2-Dichloroethene	4.89	61	10480196	94.35 ug/l	99
24) Isopropyl ether (DIPE)	5.31	45	18799497	94.81 ug/l	100
25) 1,1-Dichloroethane	5.46	63	11250230	95.01 ug/l	100
26) Vinyl acetate	5.46	43	6590022	111.13 ug/l	100
28) tert-Butyl ethyl ether (ET	5.87	59	11039749	95.31 ug/l	100
29) 2-Butanone	6.03	43	3939533	444.44 ug/l	100
30) 2,2-Dichloropropane	6.23	77	6172317	84.84 ug/l	99
31) cis-1,2-Dichloroethene	6.29	96	6288119	96.31 ug/l	98
32) Chloroform	6.53	83	8574782	93.04 ug/l	99

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

SU 7/14/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC143.D
Acq On : 13 Jul 2011 2:48 pm
Sample : VO67G1310 100ppb
Misc : 100ppb 8260/500ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:11 2011

Vial: 11
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.75	49	4079398	93.56 ug/l	98
34) tert-Amyl alcohol	6.75	59	551648	477.39 ug/l	92
36) Tetrahydrofuran	6.80	42	528723	97.86 ug/l	91
37) 1,1,1-Trichloroethane	7.10	97	7802050	93.60 ug/l	99
39) tert-Amyl methyl ether (TA	7.49	87	1545377	92.92 ug/l	98
42) 1,1-Dichloropropene	7.32	110	3229374	96.50 ug/l	99
43) Carbon tetrachloride	7.46	119	6814271	96.86 ug/l	100
44) 1,2-Dichloroethane	7.70	62	3704299	92.54 ug/l	97
45) Benzene	7.71	78	22496709	94.34 ug/l	100
46) Trichloroethene	8.65	130	6225709	91.14 ug/l	99
48) 1,2-Dichloropropane	8.93	63	5280394	94.78 ug/l	97
49) Bromodichloromethane	9.29	83	5358123	96.41 ug/l	99
50) 1,4-Dioxane	9.32	88	294846	2062.02 ug/l	96
51) Dibromomethane	9.38	93	1926478	98.45 ug/l	98
52) 2-Chloroethyl vinyl ether	9.79	63	1487185	97.83 ug/l	98
53) 4-Methyl-2-pentanone	9.83	43	10305511	467.69 ug/l	100
54) cis-1,3-Dichloropropene	10.19	75	6691833	98.36 ug/l	99
56) Toluene	10.73	91	21950864	89.22 ug/l	98
57) Ethyl methacrylate	11.02	69	2946982	98.46 ug/l	100
58) trans-1,3-Dichloropropene	11.04	75	4427881	97.46 ug/l	97
59) 1,1,2-Trichloroethane	11.30	97	2229833	94.93 ug/l	99
60) 2-Hexanone	11.31	43	5859323	459.15 ug/l	99
61) 1,3-Dichloropropane	11.75	76	4238253	94.87 ug/l	100
62) Tetrachloroethene	11.86	164	4689681	94.92 ug/l	99
63) Dibromochloromethane	12.21	129	2945661	98.19 ug/l	99
64) 1,2-Dibromoethane	12.57	107	2360764	96.54 ug/l	99
65) 1-Chlorohexane	12.87	91	10269536	97.41 ug/l	98
66) Chlorobenzene	13.32	112	12835773	95.72 ug/l	98
67) 1,1,1,2-Tetrachloroethane	13.41	131	3724374	95.88 ug/l	100
68) Ethylbenzene	13.42	91	23656394	89.71 ug/l	96
69) m-Xylene & p-Xylene	13.57	91	28525204	149.33 ug/l	78
70) o-Xylene	14.37	91	17396875	94.08 ug/l	99
71) Styrene	14.45	104	14034032	97.45 ug/l	99
73) Isopropylbenzene	15.06	105	23250797	96.45 ug/l	98
74) Bromoform	15.08	173	1310795	104.31 ug/l	100
75) trans-1,4-Dichloro-2-buten	15.15	53	746150	104.02 ug/l	97
76) 1,1,2,2-Tetrachloroethane	15.38	83	2112502	96.43 ug/l	100
78) 1,2,3-Trichloropropane	15.68	110	548774	94.04 ug/l	98
79) n-Propylbenzene	15.82	91	26414052	87.97 ug/l	94
80) Bromobenzene	15.90	156	3984033	97.93 ug/l	98
81) 1,3,5-Trimethylbenzene	16.15	105	18442926	96.09 ug/l	98

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

SU 7/14/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC143.D
Acq On : 13 Jul 2011 2:48 pm
Sample : VO67G1310 100ppb
Misc : 100ppb 8260/500ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:11 2011

Vial: 11
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 16:01:10 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
82) 2-Chlorotoluene	16.16	91	16228640	91.88 ug/l	93
83) 4-Chlorotoluene	16.26	91	14031777	98.39 ug/l	96
84) tert-Butylbenzene	16.82	134	4256492	98.83 ug/l	96
85) 1,2,4-Trimethylbenzene	16.89	105	17061169	95.71 ug/l	98
86) sec-Butylbenzene	17.24	105	25039075	92.99 ug/l	97
87) p-Isopropyltoluene	17.52	119	20754755	96.83 ug/l	99
88) 1,3-Dichlorobenzene	17.68	146	7745075	97.82 ug/l	100
89) 1,4-Dichlorobenzene	17.89	146	7150342	96.30 ug/l	99
90) n-Butylbenzene	18.27	91	19378106	94.60 ug/l	98
91) 1,2-Dichlorobenzene	18.52	146	5774577	95.05 ug/l	99
92) 1,2-Dibromo-3-chloropropan	19.64	157	286239	99.94 ug/l	97
93) 1,2,4-Trichlorobenzene	20.74	180	3671926	98.92 ug/l	99
94) Hexachlorobutadiene	20.92	225	3416812	100.68 ug/l	99
95) Naphthalene	21.06	128	4799883	100.28 ug/l	99
96) 1,2,3-Trichlorobenzene	21.39	180	2698866	98.28 ug/l	99

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

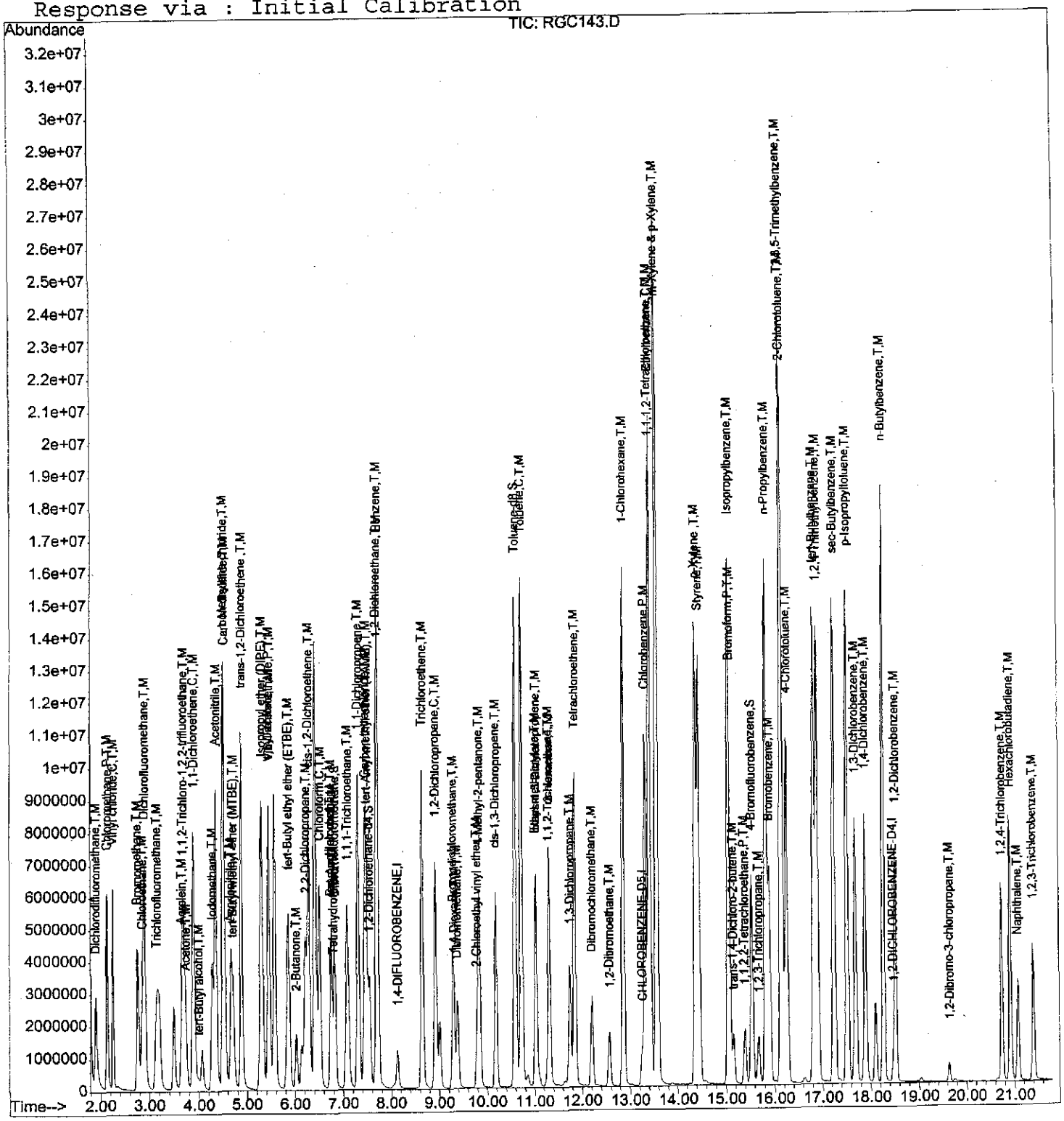
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC143.D
Acq On : 13 Jul 2011 2:48 pm
Sample : VO67G1310 100ppb
Misc : 100ppb 8260/500ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 13 17:11 2011

Vial: 11
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Wed Jul 13 17:11:35 2011
Response via : Initial Calibration



Sa 7/14/11

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SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :TO67
IC_Beginning DateTime :07/13/11 10:11
Spike Amount :10 PPB
CC/CV File :RGC147
IC File :RGC139

Column Spec :RTX502.2 ID :0.25MM
IC_Ending DateTime :07/13/11 14:48
HPChem Method :VO67G13
Date_Time :07/13/11 16:51

M	IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AvRRF	CC_Rtm	AvRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	10.000	0	1542691	1	1	8.135	8.136	0				
	2	Dichlorodifluoromethane	10.241	2.4	487438	0.316	0.309	1.928	1.916	6.24				
	3	Dichlorotetrafluoroethane												
	4	Chloromethane	11.546	15.5	954445	0.619	0.536	2.147	2.148	6.98				
	5	Vinyl chloride	11.493	14.9	961137	0.623	0.542	2.279	2.277	11.77				
	6	Bromomethane	10.583	5.8	474512	0.308	0.291	2.791	2.778	6.79				
	7	Chloroethane	11.182	11.8	510242	0.331	0.296	2.879	2.877	11.66				
	8	Dichlorofluoromethane	10.258	2.6	1159599	0.752	0.733	2.923	2.915	3.54				
	9	Trichlorofluoromethane	12.008	20.1	758596	0.492	0.410	3.172	3.168	8.51				
	10	sec-Propyl alcohol												
5	11	Acrolein	68.072	36.1	152524	0.020	0.016	3.670	3.665	20.50	0.0056	0.0137		0.9983
	12	1,1,2-Trichloro-1,2,2-trifluoroethane	10.859	8.6	429343	0.278	0.256	3.699	3.695	4.83				
5	13	Acetone	56.883	13.8	246145	0.032	0.029	3.743	3.744	16.65	0.0165	0.0251		0.9989
	14	1,1-Dichloroethene	10.743	7.4	1153046	0.747	0.696	3.904	3.893	4.51				
5	15	tert-Butyl alcohol	55.134	10.3	67119	0.009	0.008	4.007	4.002	7.02				
	16	Methyl acetate												
	17	Iodomethane	11.296	13.0	1032350	0.669	0.592	4.285	4.286	5.25				
10	18	Acetonitrile	109.684	9.7	1342424	0.087	0.079	4.358	4.359	5.44				
	19	Methylene chloride	11.202	12.0	783469	0.508	0.505	4.504	4.505	15.03	0.0150	0.4400		0.9989
	20	Carbon disulfide	10.358	3.6	2578948	1.672	1.614	4.534	4.520	7.42				
5	21	Acrylonitrile	52.268	4.5	350966	0.046	0.044	4.680	4.666	6.14				
	22	tert-Butyl methyl ether (MTBE)	10.723	7.2	641087	0.416	0.388	4.709	4.704	6.06				
	23	trans-1,2-Dichloroethene	10.286	2.9	1051916	0.682	0.663	4.900	4.886	6.21				
	24	Isopropyl ether (DIPE)	10.455	4.5	1910980	1.239	1.185	5.310	5.305	5.73				
	25	1,1-Dichloroethane	10.755	7.5	1172312	0.760	0.707	5.456	5.457	4.72				
	26	Vinyl acetate	11.260	12.6	616578	0.400	0.355	5.456	5.457	11.00				
5	27	2-Butanol												
	28	tert-Butyl ethyl ether (ETBE)	10.820	8.2	1154609	0.748	0.692	5.866	5.862	6.19				
5	29	2-Butanone	53.191	6.4	434069	0.056	0.053	6.042	6.031	11.52				
	30	2,2-Dichloropropane	9.934	-0.7	665758	0.432	0.434	6.232	6.228	7.92				
	31	cis-1,2-Dichloroethene	9.819	-1.8	590273	0.383	0.390	6.305	6.293	5.60				
	32	Chloroform	10.804	8.0	916751	0.594	0.550	6.525	6.514	4.81				
	33	Bromochloromethane	10.622	6.2	426403	0.276	0.260	6.759	6.745	4.91				
5	34	tert-Amyl alcohol	46.995	-6.0	49991	0.006	0.007	6.745	6.751	7.94				
	35	Dibromofluoromethane	10.318	3.2	456614	0.296	0.287	6.832	6.829	4.15				
	36	Tetrahydrofuran	11.868	18.7	63381	0.041	0.040	6.803	6.798	20.35	0.0032	0.0319		0.9972
	37	1,1,1-Trichloroethane	10.656	6.6	817790	0.530	0.497	7.096	7.088	5.53				
	38	Cyclohexane												
	39	tert-Amyl methyl ether (TAME)	10.851	8.5	166177	0.108	0.099	7.491	7.486	4.83				
	40	1,2-Dichloroethane-d4	10.266	2.7	305822	0.198	0.193	7.564	7.550	5.09				
	41	CHLOROBENZENE-D5	10.000	0	1179642	1	1	13.260	13.247	0				
	42	1,1-Dichloropropene	10.801	8.0	338878	0.287	0.266	7.315	7.316	5.01				
	43	Carbon tetrachloride	10.642	6.4	701873	0.595	0.559	7.462	7.463	4.42				
	44	1,2-Dichloroethane	11.031	10.3	413937	0.351	0.318	7.696	7.694	5.41				
	45	Benzene	10.256	2.6	2292946	1.944	1.895	7.725	7.712	4.51				
	46	Trichloroethene	10.319	3.2	660848	0.560	0.543	8.648	8.647	10.76				
	47	Methylcyclohexane												
	48	1,2-Dichloropropane	10.568	5.7	552330	0.468	0.443	8.926	8.922	4.83				
	49	Bromodichloromethane	10.456	4.6	544808	0.462	0.442	9.292	9.294	4.47				
20	50	1,4-Dioxane	223.329	11.7	29935	0.001	0.001	9.336	9.322	14.81				
	51	Dibromomethane	10.981	9.8	201419	0.171	0.155	9.380	9.382	8.12				
	52	2-Chloroethyl vinyl ether	10.287	2.9	146595	0.124	0.121	9.790	9.791	5.26				
5	53	4-Methyl-2-pentanone	54.022	8.0	1115937	0.189	0.175	9.834	9.837	7.10				
	54	cis-1,3-Dichloropropene	10.781	7.8	687689	0.583	0.541	10.185	10.180	4.07				
	55	Toluene-d8	10.292	2.9	1847529	1.566	1.522	10.595	10.583	3.88				
	56	Toluene	9.910	-0.9	2286173	1.938	1.956	10.727	10.720	8.01				
	57	Ethyl methacrylate	10.199	2.0	286173	0.243	0.238	11.020	11.019	7.19				
	58	trans-1,3-Dichloropropene	10.976	9.8	467495	0.396	0.361	11.034	11.035	5.25				
	59	1,1,2-Trichloroethane	10.655	6.5	234611	0.199	0.187	11.313	11.299	4.95				
5	60	2-Hexanone	54.177	8.4	648182	0.110	0.101	11.313	11.315	7.21				
	61	1,3-Dichloropropane	10.678	6.8	447225	0.379	0.355	11.737	11.739	4.73				
	62	Tetrachloroethene	10.533	5.3	487850	0.414	0.393	11.854	11.843	4.25				
	63	Dibromochloromethane	10.716	7.2	301395	0.255	0.238	12.205	12.205	7.27				
	64	1,2-Dibromoethane	9.947	-0.5	228020	0.193	0.194	12.572	12.559	5.50				
	65	1-Chlorohexane	10.770	7.7	1064473	0.902	0.838	12.864	12.855	4.04				
	66	Chlorobenzene	10.704	7.0	1345922	1.141	1.066	13.318	13.319	4.61				
	67	1,1,1,2-Tetrachloroethane	10.539	5.4	383741	0.325	0.309	13.406	13.398	4.64				
	68	Ethylbenzene	10.529	5.3	2602580	2.206	2.095	13.421	13.416	5.48				
2	69	m-Xylene & p-Xylene	21.148	5.7	3788566	1.606	1.519	13.567	13.558	9.93				
	70	o-Xylene	10.340	3.4	1792526	1.520	1.470	14.372	14.367	5.03				
	71	Styrene	10.053	0.5	1357191	1.151	1.144	14.446	14.436	5.66				
	72	1,2-DICHLOROBENZENE-D4	10.000	0	372183	1	1	18.472	18.467	0				
	73	Isopropylbenzene	10.596	6.0	2570504	6.907	6.518	15.061	15.048	3.66				
	74	Bromoform	10.650	6.5	134673	0.362	0.340	15.075	15.067	9.62				
	75	trans-1,4-Dichloro-2-butene	10.090	0.9	72828	0.196	0.194	15.148	15.149	7.04				
	76	1,1,2,2-Tetrachloroethane	10.188	1.9	224574	0.603	0.592	15.383	15.382	6.69				
	77	4-Bromofluorobenzene	9.745	-2.5	504092	1.354	1.390	15.529	15.528	8.60				
	78	1,2,3-Trichloropropane	10.174	1.7	59736	0.161	0.158	15.675	15.665	6.31				
	79	n-Propylbenzene	10.294	2.9	3110222	8.357	8.118	15.822	15.818	5.86				

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80	Bromobenzene	9.710	-2.9	397504	1.068	1.100	15.895	15.894	3.97				
81	1,3,5-Trimethylbenzene	9.750	-2.5	1883051	5.059	5.189	16.129	16.130	4.32				
82	2-Chlorotoluene	9.718	-2.8	1727190	4.641	4.775	16.159	16.149	4.36				
83	4-Chlorotoluene	10.464	4.6	1501577	4.035	3.855	16.246	16.249	4.94				
84	tert-Butylbenzene	10.063	0.6	436089	1.172	1.164	16.817	16.817	5.37				
85	1,2,4-Trimethylbenzene	10.051	0.5	1802818	4.844	4.819	16.891	16.890	4.02				
86	sec-Butylbenzene	10.338	3.4	2801072	7.526	7.280	17.242	17.234	5.04				
87	p-Isopropyltoluene	10.102	1.0	2178831	5.854	5.795	17.506	17.508	4.99				
88	1,3-Dichlorobenzene	10.498	5.0	836374	2.247	2.141	17.681	17.682	4.71				
89	1,4-Dichlorobenzene	10.474	4.7	782338	2.102	2.007	17.886	17.887	4.31				
90	n-Butylbenzene	10.031	0.3	2067631	5.555	5.538	18.267	18.256	5.85				
91	1,2-Dichlorobenzene	10.416	4.2	636736	1.711	1.642	18.516	18.506	4.64				
92	1,2-Dibromo-3-chloropropane	9.739	-2.6	28068	0.075	0.077	19.643	19.638	7.24				
93	1,2,4-Trichlorobenzene	10.436	4.4	389817	1.047	1.004	20.741	20.733	5.44				
94	Hexachlorobutadiene	10.580	5.8	361270	0.971	0.917	20.917	20.909	13.76				
95	Naphthalene	9.853	-1.5	474534	1.275	1.294	21.078	21.064	6.56				
96	1,2,3-Trichlorobenzene	10.087	0.9	278827	0.749	0.743	21.400	21.388	5.47				

Spike Amount = Nominal Amount * M

Sa
7/14/11

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC147.D
Acq On : 13 Jul 2011 4:51 pm
Sample : IVO67G1301 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P

Vial: 15
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

* Not valid analyte

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	101	0.00
2	T,M	Dichlorodifluoromethane	10.000	10.241	-2.4	96	0.01
3	T,M	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T,M	Chloromethane	10.000	11.546	-15.5	108	0.00
5	C,T,M	Vinyl chloride	10.000	11.493	-14.9	102	0.00
6	T,M	Bromomethane	10.000	10.583	-5.8	102	0.01
7	T,M	Chloroethane	10.000	11.182	-11.8	103	0.00
8	T,M	Dichlorofluoromethane	10.000	10.258	-2.6	101	0.00
9	T,M	Trichlorofluoromethane	10.000	12.008	-20.1#	112	0.00
10	T,M	sec-Propyl alcohol	-1.000	0.000	0.0	0	0.00
11	T,M	Acrolein *	50.000	68.072	-36.1#	116	0.00
12	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	10.859	-8.6	107	0.00
13	T,M	Acetone	50.000	56.883	-13.8	104	0.00
14	C,T,M	1,1-Dichloroethene	10.000	10.743	-7.4	105	0.01
15	T,M	tert-Butyl alcohol	50.000	55.134	-10.3	104	0.00
16	T,M	Methyl acetate	-1.000	0.000	0.0	0	-4.32#
17	T,M	Iodomethane	10.000	11.296	-13.0	109	0.00
18	T,M	Acetonitrile	100.000	109.684	-9.7	106	0.00
19	T,M	Methylene chloride	10.000	11.202	-12.0	105	0.00
20	T,M	Carbon disulfide	10.000	10.358	-3.6	99	0.01
21	T,M	Acrylonitrile	50.000	52.268	-4.5	99	0.01
22	T,M	tert-Butyl methyl ether (MT	10.000	10.723	-7.2	101	0.00
23	T,M	trans-1,2-Dichloroethene	10.000	10.286	-2.9	100	0.01
24	T,M	Isopropyl ether (DIPE)	10.000	10.455	-4.6	101	0.00
25	P,T,M	1,1-Dichloroethane	10.000	10.755	-7.6	105	0.00
26	T,M	Vinyl acetate	10.000	11.260	-12.6	101	0.00
27	T,M	2-Butanol	-1.000	0.000	0.0	0	-5.87#
28	T,M	tert-Butyl ethyl ether (ETB	10.000	10.820	-8.2	102	0.00
29	T,M	2-Butanone	50.000	53.191	-6.4	104	0.01
30	T,M	2,2-Dichloropropane	10.000	9.934	0.7	99	0.00
31	T,M	cis-1,2-Dichloroethene	10.000	9.820	1.8	94	0.01
32	C,T,M	Chloroform	10.000	10.804	-8.0	105	0.01
33	T,M	Bromochloromethane	10.000	10.622	-6.2	101	0.01
34	T,M	tert-Amyl alcohol	50.000	46.995	6.0	84	0.00
35	S	Dibromofluoromethane	10.000	10.318	-3.2	99	0.00
36	T,M	Tetrahydrofuran	10.000	11.868	-18.7	99	0.00
37	T,M	1,1,1-Trichloroethane	10.000	10.656	-6.6	103	0.00
38	T,M	Cyclohexane	-1.000	0.000	0.0	0	-7.11#
39	T,M	tert-Amyl methyl ether (TAM	10.000	10.851	-8.5	102	0.00
40	S	1,2-Dichloroethane-d4	10.000	10.266	-2.7	100	0.01
41	I	CHLOROBENZENE-D5	10.000	10.000	0.0	99	0.01

(#) = Out of Range

SA 7/14/11

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Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC147.D
Acq On : 13 Jul 2011 4:51 pm
Sample : IVO67G1301 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P

Vial: 15
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	10.000	10.801	-8.0	107	0.00
43	T,M	Carbon tetrachloride	10.000	10.643	-6.4	104	0.00
44	T,M	1,2-Dichloroethane	10.000	11.030	-10.3	105	0.00
45	T,M	Benzene	10.000	10.256	-2.6	101	0.01
46	T,M	Trichloroethene	10.000	10.319	-3.2	109	0.00
47	T,M	Methylcyclohexane	-1.000	0.000	0.0	0	-8.74#
48	C,T,M	1,2-Dichloropropane	10.000	10.568	-5.7	104	0.00
49	T,M	Bromodichloromethane	10.000	10.456	-4.6	101	0.00
50	T,M	1,4-Dioxane	200.000	223.328	-11.7	101	0.01
51	T,M	Dibromomethane	10.000	10.981	-9.8	102	0.00
52	T,M	2-Chloroethyl vinyl ether	10.000	10.287	-2.9	100	0.00
53	T,M	4-Methyl-2-pentanone	50.000	54.022	-8.0	102	0.00
54	T,M	cis-1,3-Dichloropropene	10.000	10.781	-7.8	103	0.00
55	S	Toluene-d8	10.000	10.292	-2.9	100	0.01
56	C,T,M	Toluene	10.000	9.910	0.9	101	0.01
57	T,M	Ethyl methacrylate	10.000	10.199	-2.0	94	0.00
58	T,M	trans-1,3-Dichloropropene	10.000	10.976	-9.8	105	0.00
59	T,M	1,1,2-Trichloroethane	10.000	10.655	-6.5	102	0.01
60	T,M	2-Hexanone	50.000	54.177	-8.4	105	0.00
61	T,M	1,3-Dichloropropane	10.000	10.678	-6.8	102	0.00
62	T,M	Tetrachloroethene	10.000	10.533	-5.3	103	0.01
63	T,M	Dibromochloromethane	10.000	10.716	-7.2	100	0.00
64	T,M	1,2-Dibromoethane	10.000	9.947	0.5	94	0.01
65	T,M	1-Chlorohexane	10.000	10.770	-7.7	105	0.01
66	P,M	Chlorobenzene	10.000	10.704	-7.0	104	0.00
67	T,M	1,1,1,2-Tetrachloroethane	10.000	10.539	-5.4	102	0.01
68	C,T,M	Ethylbenzene	10.000	10.529	-5.3	102	0.00
69	T,M	m-Xylene & p-Xylene	20.000	21.148	-5.7	100	0.01
70	T,M	o-Xylene	10.000	10.340	-3.4	101	0.00
71	T,M	Styrene	10.000	10.053	-0.5	96	0.01
72	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	99	0.01
73	T,M	Isopropylbenzene	10.000	10.596	-6.0	105	0.01
74	P,T,M	Bromoform	10.000	10.650	-6.5	101	0.01
75	T,M	trans-1,4-Dichloro-2-butene	10.000	10.090	-0.9	97	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	10.000	10.188	-1.9	97	0.00
77	S	4-Bromofluorobenzene	10.000	9.745	2.6	100	0.00
78	T,M	1,2,3-Trichloropropane	10.000	10.173	-1.7	101	0.01
79	T,M	n-Propylbenzene	10.000	10.294	-2.9	101	0.00
80	T,M	Bromobenzene	10.000	9.710	2.9	97	0.00
81	T,M	1,3,5-Trimethylbenzene	10.000	9.750	2.5	96	0.00

(#) = Out of Range

Sa 7/14/11

2126

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC147.D
Acq On : 13 Jul 2011 4:51 pm
Sample : IVO67G1301 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P

Vial: 15
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
82	T,M	2-Chlorotoluene	10.000	9.718	2.8	96	0.01
83	T,M	4-Chlorotoluene	10.000	10.464	-4.6	107	0.00
84	T,M	tert-Butylbenzene	10.000	10.063	-0.6	100	0.00
85	T,M	1,2,4-Trimethylbenzene	10.000	10.051	-0.5	99	0.00
86	T,M	sec-Butylbenzene	10.000	10.338	-3.4	101	0.01
87	T,M	p-Isopropyltoluene	10.000	10.102	-1.0	98	0.00
88	T,M	1,3-Dichlorobenzene	10.000	10.498	-5.0	102	0.00
89	T,M	1,4-Dichlorobenzene	10.000	10.474	-4.7	103	0.00
90	T,M	n-Butylbenzene	10.000	10.031	-0.3	97	0.01
91	T,M	1,2-Dichlorobenzene	10.000	10.416	-4.2	101	0.01
92	T,M	1,2-Dibromo-3-chloropropane	10.000	9.739	2.6	93	0.01
93	T,M	1,2,4-Trichlorobenzene	10.000	10.437	-4.4	99	0.01
94	T,M	Hexachlorobutadiene	10.000	10.580	-5.8	97	0.01
95	T,M	Naphthalene	10.000	9.853	1.5	92	0.01
96	T,M	1,2,3-Trichlorobenzene	10.000	10.087	-0.9	95	0.01

SU 7/14/11

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC147.D
Acq On : 13 Jul 2011 4:51 pm
Sample : IVO67G1301 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P

Vial: 15
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

* Not valid analyte

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	101	0.00
2	T,M	Dichlorodifluoromethane	0.309	0.316	-2.3	96	0.01
3	T,M	Dichlorotetrafluoroethane	0.000	0.000	0.0	0#	0.00
4	P,T,M	Chloromethane	0.536	0.619	-15.5	108	0.00
5	C,T,M	Vinyl chloride	0.542	0.623	-14.9	102	0.00
6	T,M	Bromomethane	0.291	0.308	-5.8	102	0.01
7	T,M	Chloroethane	0.296	0.331	-11.8	103	0.00
8	T,M	Dichlorofluoromethane	0.733	0.752	-2.6	101	0.00
9	T,M	Trichlorofluoromethane	0.410	0.492	-20.0#	112	0.00
10	T,M	sec-Propyl alcohol	0.000	0.000	0.0	0#	0.00
11	T,M	Acrolein *	0.016	0.020 *	-25.0#	116	0.00
12	T,M	1,1,2-Trichloro-1,2,2-trifl	0.256	0.278	-8.6	107	0.00
13	T,M	Acetone	0.029	0.032	-10.3	104	0.00
14	C,T,M	1,1-Dichloroethene	0.696	0.747	-7.3	105	0.01
15	T,M	tert-Butyl alcohol	0.008	0.009	-12.5	104	0.00
16	T,M	Methyl acetate	0.000	0.000	0.0	0#	-4.32#
17	T,M	Iodomethane	0.592	0.669	-13.0	109	0.00
18	T,M	Acetonitrile	0.079	0.087	-10.1	106	0.00
19	T,M	Methylene chloride	0.505	0.508	-0.6	105	0.00
20	T,M	Carbon disulfide	1.614	1.672	-3.6	99	0.01
21	T,M	Acrylonitrile	0.044	0.046	-4.5	99	0.01
22	T,M	tert-Butyl methyl ether (MT	0.388	0.416	-7.2	101	0.00
23	T,M	trans-1,2-Dichloroethene	0.663	0.682	-2.9	100	0.01
24	T,M	Isopropyl ether (DIPE)	1.185	1.239	-4.6	101	0.00
25	P,T,M	1,1-Dichloroethane	0.707	0.760	-7.5	105	0.00
26	T,M	Vinyl acetate	0.355	0.400	-12.7	101	0.00
27	T,M	2-Butanol	0.000	0.000	0.0	0#	-5.87#
28	T,M	tert-Butyl ethyl ether (ETB	0.692	0.748	-8.1	102	0.00
29	T,M	2-Butanone	0.053	0.056	-5.7	104	0.01
30	T,M	2,2-Dichloropropane	0.434	0.432	0.5	99	0.00
31	T,M	cis-1,2-Dichloroethene	0.390	0.383	1.8	94	0.01
32	C,T,M	Chloroform	0.550	0.594	-8.0	105	0.01
33	T,M	Bromochloromethane	0.260	0.276	-6.2	101	0.01
34	T,M	tert-Amyl alcohol	0.007	0.006	14.3	84	0.00
35	S	Dibromofluoromethane	0.287	0.296	-3.1	99	0.00
36	T,M	Tetrahydrofuran	0.040	0.041	-2.5	99	0.00
37	T,M	1,1,1-Trichloroethane	0.497	0.530	-6.6	103	0.00
38	T,M	Cyclohexane	0.000	0.000	0.0	0#	-7.11#
39	T,M	tert-Amyl methyl ether (TAM	0.099	0.108	-9.1	102	0.00
40	S	1,2-Dichloroethane-d4	0.193	0.198	-2.6	100	0.01
41	I	CHLOROBENZENE-D5	1.000	1.000	0.0	99	0.01

(#) = Out of Range

SA 7/14/11

2128

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC147.D
Acq On : 13 Jul 2011 4:51 pm
Sample : IV067G1301 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P

Vial: 15
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	0.266	0.287	-7.9	107	0.00
43	T,M	Carbon tetrachloride	0.559	0.595	-6.4	104	0.00
44	T,M	1,2-Dichloroethane	0.318	0.351	-10.4	105	0.00
45	T,M	Benzene	1.895	1.944	-2.6	101	0.01
46	T,M	Trichloroethene	0.543	0.560	-3.1	109	0.00
47	T,M	Methylcyclohexane	0.000	0.000	0.0	0#	-8.74#
48	C,T,M	1,2-Dichloropropane	0.443	0.468	-5.6	104	0.00
49	T,M	Bromodichloromethane	0.442	0.462	-4.5	101	0.00
50	T,M	1,4-Dioxane	0.001	0.001	0.0	101	0.01
51	T,M	Dibromomethane	0.155	0.171	-10.3	102	0.00
52	T,M	2-Chloroethyl vinyl ether	0.121	0.124	-2.5	100	0.00
53	T,M	4-Methyl-2-pentanone	0.175	0.189	-8.0	102	0.00
54	T,M	cis-1,3-Dichloropropene	0.541	0.583	-7.8	103	0.00
55	S	Toluene-d8	1.522	1.566	-2.9	100	0.01
56	C,T,M	Toluene	1.956	1.938	0.9	101	0.01
57	T,M	Ethyl methacrylate	0.238	0.243	-2.1	94	0.00
58	T,M	trans-1,3-Dichloropropene	0.361	0.396	-9.7	105	0.00
59	T,M	1,1,2-Trichloroethane	0.187	0.199	-6.4	102	0.01
60	T,M	2-Hexanone	0.101	0.110	-8.9	105	0.00
61	T,M	1,3-Dichloropropane	0.355	0.379	-6.8	102	0.00
62	T,M	Tetrachloroethene	0.393	0.414	-5.3	103	0.01
63	T,M	Dibromochloromethane	0.238	0.255	-7.1	100	0.00
64	T,M	1,2-Dibromoethane	0.194	0.193	0.5	94	0.01
65	T,M	1-Chlorohexane	0.838	0.902	-7.6	105	0.01
66	P,M	Chlorobenzene	1.066	1.141	-7.0	104	0.00
67	T,M	1,1,1,2-Tetrachloroethane	0.309	0.325	-5.2	102	0.01
68	C,T,M	Ethylbenzene	2.095	2.206	-5.3	102	0.00
69	T,M	m-Xylene & p-Xylene	1.519	1.606	-5.7	100	0.01
70	T,M	o-Xylene	1.470	1.520	-3.4	101	0.00
71	T,M	Styrene	1.144	1.151	-0.6	96	0.01
72	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	99	0.01
73	T,M	Isopropylbenzene	6.518	6.907	-6.0	105	0.01
74	P,T,M	Bromoform	0.340	0.362	-6.5	101	0.01
75	T,M	trans-1,4-Dichloro-2-butene	0.194	0.196	-1.0	97	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	0.592	0.603	-1.9	97	0.00
77	S	4-Bromofluorobenzene	1.390	1.354	2.6	100	0.00
78	T,M	1,2,3-Trichloropropane	0.158	0.161	-1.9	101	0.01
79	T,M	n-Propylbenzene	8.118	8.357	-2.9	101	0.00
80	T,M	Bromobenzene	1.100	1.068	2.9	97	0.00
81	T,M	1,3,5-Trimethylbenzene	5.189	5.059	2.5	96	0.00

(#) = Out of Range

Su 7/14/11

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC147.D
Acq On : 13 Jul 2011 4:51 pm
Sample : IVO67G1301 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P

Vial: 15
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
82	T,M	2-Chlorotoluene	4.775	4.641	2.8	96	0.01
83	T,M	4-Chlorotoluene	3.855	4.035	-4.7	107	0.00
84	T,M	tert-Butylbenzene	1.164	1.172	-0.7	100	0.00
85	T,M	1,2,4-Trimethylbenzene	4.819	4.844	-0.5	99	0.00
86	T,M	sec-Butylbenzene	7.280	7.526	-3.4	101	0.01
87	T,M	p-Isopropyltoluene	5.795	5.854	-1.0	98	0.00
88	T,M	1,3-Dichlorobenzene	2.141	2.247	-5.0	102	0.00
89	T,M	1,4-Dichlorobenzene	2.007	2.102	-4.7	103	0.00
90	T,M	n-Butylbenzene	5.538	5.555	-0.3	97	0.01
91	T,M	1,2-Dichlorobenzene	1.642	1.711	-4.2	101	0.01
92	T,M	1,2-Dibromo-3-chloropropane	0.077	0.075	2.6	93	0.01
93	T,M	1,2,4-Trichlorobenzene	1.004	1.047	-4.3	99	0.01
94	T,M	Hexachlorobutadiene	0.917	0.971	-5.9	97	0.01
95	T,M	Naphthalene	1.294	1.275	1.5	92	0.01
96	T,M	1,2,3-Trichlorobenzene	0.743	0.749	-0.8	95	0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

SU 7/14/11

2130

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC147.D
Acq On : 13 Jul 2011 4:51 pm
Sample : IVO67G1301 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 14 9:19 2011

Vial: 15
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1542691	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	13.26	117	1179642	10.00 ug/l	0.01
72) 1,2-DICHLOROBENZENE-D4	18.47	152	372183	10.00 ug/l	0.01
System Monitoring Compounds					
35) Dibromofluoromethane	6.83	111	456614	10.32 ug/l	0.00
Spiked Amount 10.000			Recovery	= 103.20%	
40) 1,2-Dichloroethane-d4	7.56	65	305822	10.27 ug/l	0.01
Spiked Amount 10.000			Recovery	= 102.70%	
55) Toluene-d8	10.60	98	1847529	10.29 ug/l	0.01
Spiked Amount 10.000			Recovery	= 102.90%	
77) 4-Bromofluorobenzene	15.53	95	504092	9.75 ug/l	0.00
Spiked Amount 10.000			Recovery	= 97.50%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.93	85	487438	10.24 ug/l	100
4) Chloromethane	2.15	50	954445	11.55 ug/l	100
5) Vinyl chloride	2.28	62	961137	11.49 ug/l	100
6) Bromomethane	2.79	94	474512	10.58 ug/l	100
7) Chloroethane	2.88	64	510242	11.18 ug/l	99
8) Dichlorofluoromethane	2.92	67	1159599	10.26 ug/l	100
9) Trichlorofluoromethane	3.17	101	758596	12.01 ug/l	100
11) Acrolein	3.67	56	152524	68.07 ug/l	99
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	429343	10.86 ug/l	100
13) Acetone	3.74	43	246145	56.88 ug/l	100
14) 1,1-Dichloroethene	3.90	61	1153046	10.74 ug/l	99
15) tert-Butyl alcohol	4.01	59	67119	55.13 ug/l	95
17) Iodomethane	4.28	142	1032350	11.30 ug/l	100
18) Acetonitrile	4.36	41	1342424	109.68 ug/l	99
19) Methylene chloride	4.50	49	783469	11.20 ug/l	99
20) Carbon disulfide	4.53	76	2578948	10.36 ug/l	99
21) Acrylonitrile	4.68	53	350966	52.27 ug/l	98
22) tert-Butyl methyl ether (M	4.71	73	641087	10.72 ug/l	99
23) trans-1,2-Dichloroethene	4.90	61	1051916	10.29 ug/l	99
24) Isopropyl ether (DIPE)	5.31	45	1910980	10.46 ug/l	100
25) 1,1-Dichloroethane	5.46	63	1172312	10.75 ug/l	100
26) Vinyl acetate	5.46	43	616578	11.26 ug/l	100
28) tert-Butyl ethyl ether (ET	5.87	59	1154609	10.82 ug/l	100
29) 2-Butanone	6.04	43	434069	53.19 ug/l	100
30) 2,2-Dichloropropane	6.23	77	665758	9.93 ug/l	100
31) cis-1,2-Dichloroethene	6.31	96	590273	9.82 ug/l	98
32) Chloroform	6.52	83	916751	10.80 ug/l	100

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

7/14/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC147.D
Acq On : 13 Jul 2011 4:51 pm
Sample : IV067G1301 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 14 9:19 2011

Vial: 15
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.76	49	426403	10.62 ug/l	100
34) tert-Amyl alcohol	6.74	59	49991	47.00 ug/l	98
36) Tetrahydrofuran	6.80	42	63381	11.87 ug/l	98
37) 1,1,1-Trichloroethane	7.10	97	817790	10.66 ug/l	100
39) tert-Amyl methyl ether (TA	7.49	87	166177	10.85 ug/l	99
42) 1,1-Dichloropropene	7.32	110	338878	10.80 ug/l	98
43) Carbon tetrachloride	7.46	119	701873	10.64 ug/l	100
44) 1,2-Dichloroethane	7.70	62	413937	11.03 ug/l	96
45) Benzene	7.73	78	2292946	10.26 ug/l	100
46) Trichloroethene	8.65	130	660848	10.32 ug/l	99
48) 1,2-Dichloropropane	8.93	63	552330	10.57 ug/l	99
49) Bromodichloromethane	9.29	83	544808	10.46 ug/l	99
50) 1,4-Dioxane	9.34	88	29935	223.33 ug/l	97
51) Dibromomethane	9.38	93	201419	10.98 ug/l	99
52) 2-Chloroethyl vinyl ether	9.79	63	146595	10.29 ug/l	98
53) 4-Methyl-2-pentanone	9.83	43	1115937	54.02 ug/l	99
54) cis-1,3-Dichloropropene	10.19	75	687689	10.78 ug/l	98
56) Toluene	10.73	91	2286173	9.91 ug/l	100
57) Ethyl methacrylate	11.02	69	286173	10.20 ug/l	97
58) trans-1,3-Dichloropropene	11.03	75	467495	10.98 ug/l	94
59) 1,1,2-Trichloroethane	11.31	97	234611	10.65 ug/l	100
60) 2-Hexanone	11.31	43	648182	54.18 ug/l	100
61) 1,3-Dichloropropane	11.74	76	447225	10.68 ug/l	99
62) Tetrachloroethene	11.85	164	487850	10.53 ug/l	99
63) Dibromochloromethane	12.21	129	301395	10.72 ug/l	99
64) 1,2-Dibromoethane	12.57	107	228020	9.95 ug/l	99
65) 1-Chlorohexane	12.86	91	1064473	10.77 ug/l	100
66) Chlorobenzene	13.32	112	1345922	10.70 ug/l	99
67) 1,1,1,2-Tetrachloroethane	13.41	131	383741	10.54 ug/l	99
68) Ethylbenzene	13.42	91	2602580	10.53 ug/l	100
69) m-Xylene & p-Xylene	13.57	91	3788566	21.15 ug/l	100
70) o-Xylene	14.37	91	1792526	10.34 ug/l	100
71) Styrene	14.45	104	1357191	10.05 ug/l	99
73) Isopropylbenzene	15.06	105	2570504	10.60 ug/l	100
74) Bromoform	15.08	173	134673	10.65 ug/l	99
75) trans-1,4-Dichloro-2-buten	15.15	53	72828	10.09 ug/l	99
76) 1,1,2,2-Tetrachloroethane	15.38	83	224574	10.19 ug/l	99
78) 1,2,3-Trichloropropane	15.68	110	59736	10.17 ug/l	97
79) n-Propylbenzene	15.82	91	3110222	10.29 ug/l	100
80) Bromobenzene	15.90	156	397504	9.71 ug/l	99
81) 1,3,5-Trimethylbenzene	16.13	105	1883051	9.75 ug/l	99

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

gu 7/14/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11G13\RGC147.D
Acq On : 13 Jul 2011 4:51 pm
Sample : IVO67G1301 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 14 9:19 2011

Vial: 15
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
82) 2-Chlorotoluene	16.16	91	1727190	9.72 ug/l	100
83) 4-Chlorotoluene	16.25	91	1501577	10.46 ug/l	99
84) tert-Butylbenzene	16.82	134	436089	10.06 ug/l	99
85) 1,2,4-Trimethylbenzene	16.89	105	1802818	10.05 ug/l	100
86) sec-Butylbenzene	17.24	105	2801072	10.34 ug/l	100
87) p-Isopropyltoluene	17.51	119	2178831	10.10 ug/l	99
88) 1,3-Dichlorobenzene	17.68	146	836374	10.50 ug/l	100
89) 1,4-Dichlorobenzene	17.89	146	782338	10.47 ug/l	100
90) n-Butylbenzene	18.27	91	2067631	10.03 ug/l	100
91) 1,2-Dichlorobenzene	18.52	146	636736	10.42 ug/l	100
92) 1,2-Dibromo-3-chloropropan	19.64	157	28068	9.74 ug/l	95
93) 1,2,4-Trichlorobenzene	20.74	180	389817	10.44 ug/l	99
94) Hexachlorobutadiene	20.92	225	361270	10.58 ug/l	98
95) Naphthalene	21.08	128	474534	9.85 ug/l	99
96) 1,2,3-Trichlorobenzene	21.40	180	278827	10.09 ug/l	99

(#) = qualifier out of range (m) = manual integration
RGC147.D VO67G13.M Thu Jul 14 09:19:54 2011

SW 7/14/11

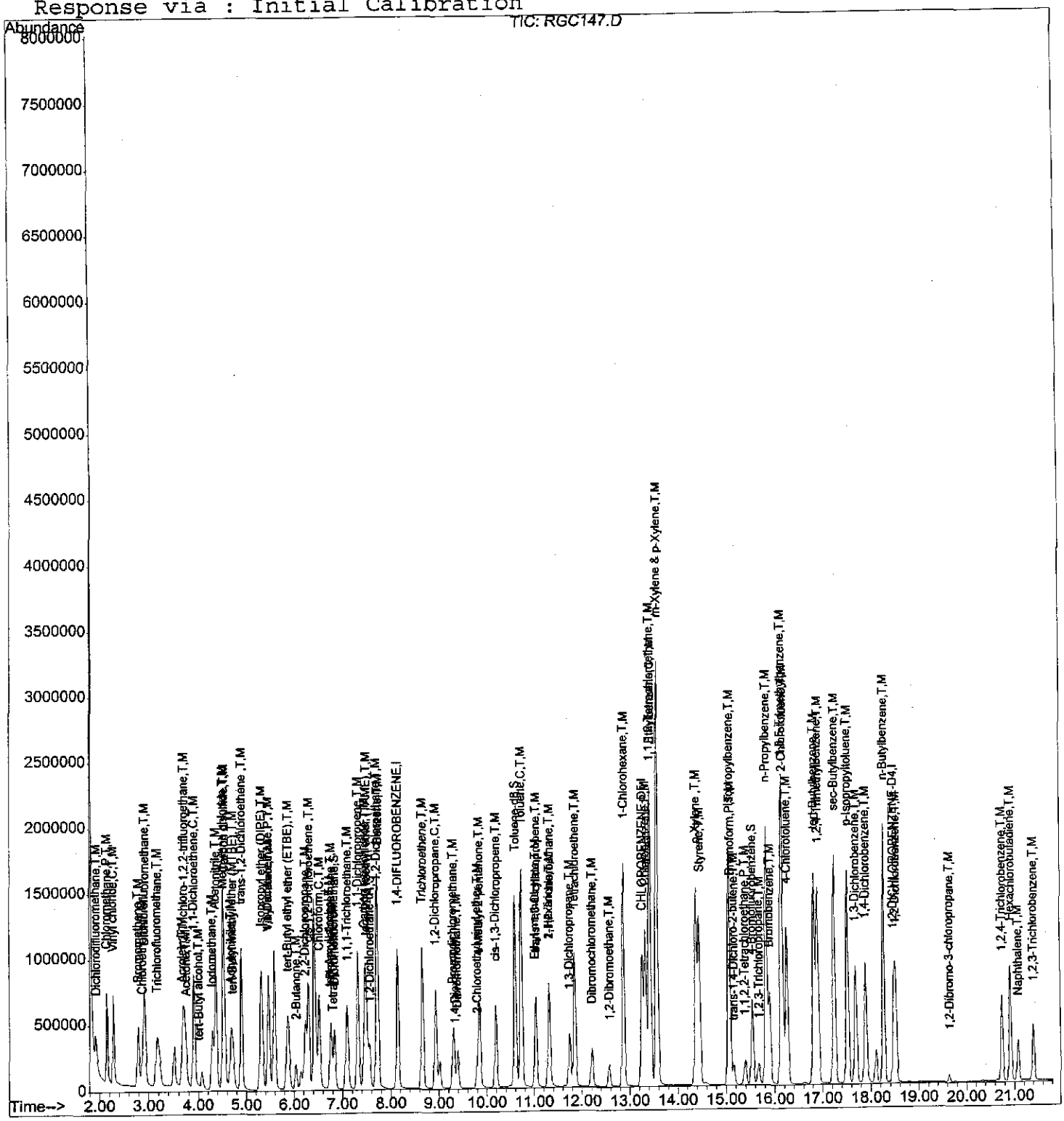
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11G13\RGC147.D
Acq On : 13 Jul 2011 4:51 pm
Sample : IV067G1301 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA-TAA
MS Integration Params: LSCINT1.P
Quant Time: Jul 14 9:19 2011

Vial: 15
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



SU 7/14/11

2134

DAILY CALIBRATION(S)

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RJC001
Instrument ID: 67
GC Column:RTX502.2ID:0.25mm (mm)

Contract: SEAL BEACH SITE 75
SAS No.: SDG No.: 11I284
BFB Injection Date : 10/03/11
BFB Injection Time : 10:46
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.38
75	30.0 - 60.0% of mass 95	49.47
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.80
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	73.87
175	5.0 - 9.0% of mass 174	5.22(7.1)1
176	95.0 - 101.0% of mass 174	71.95(97.4)1
177	5.0 - 9.0% of mass 176	5.04(7.0)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CV067G1381	RJC002	10/03/11	11:18
2	MBLK1W	V067J01B	RJC011	10/03/11	16:00
3	LCS1W	V067J01L	RJC003	10/03/11	11:49
4	LCD1W	V067J01C	RJC004	10/03/11	12:20
5	SB75MW01A-Q311-02	I284-02	RJC013	10/03/11	17:02
6	SB75MW01A-Q311-01	I284-01	RJC016	10/03/11	18:36
7	SB75MW01A-Q311-01MS	I284-01M	RJC017	10/03/11	19:07
8	SB75MW01A-Q311-01MSD	I284-01S	RJC018	10/03/11	19:38
9	SB75MW04B-Q311-01	I284-03	RJC020	10/03/11	20:42
10	SB75MW04A-Q311-01	I284-04	RJC021	10/03/11	21:13
11	SB75MW05B-Q311-01	I284-05	RJC022	10/03/11	21:43
12	SB75MW05A-Q311-01	I284-06	RJC023	10/03/11	22:14
13	SB75MW05A-Q311-02	I284-07	RJC024	10/03/11	22:46

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RGC139
Instrument ID: 67
GC Column: RTX502.2 ID: 0.25mm (mm)

Project: SEAL BEACH SITE 75
SDG No.: 111284
Date Analyzed: 07/13/11
Time Analyzed: 12:45
Heated Purge: (Y/N) N

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1529972	8.14	1189960	13.25	374890	18.46
	UPPER LIMIT	3059944	8.64	2379920	13.75	749780	18.96
	LOWER LIMIT	764986	7.64	594980	12.75	187445	17.96
	SAMPLE ID						
1	VSTD010	1703437	8.14	1231827	13.25	342358	18.46
2	MBLK1W	1787192	8.14	1220100	13.25	285876	18.46
3	LCS1W	1747660	8.14	1257900	13.25	351443	18.46
4	LCD1W	1832654	8.13	1337834	13.24	365435	18.46
5	SB75MW01A-Q311-02	1729960	8.14	1199128	13.25	294626	18.47
6	SB75MW01A-Q311-01	1742710	8.14	1202105	13.25	288109	18.46
7	SB75MW01A-Q311-01MS	1582048	8.14	1146792	13.25	318376	18.46
8	SB75MW01A-Q311-01MSD	1637163	8.14	1194714	13.25	333763	18.46
9	SB75MW04B-Q311-01	1723695	8.14	1199113	13.25	292283	18.46
10	SB75MW04A-Q311-01	1608139	8.13	1108758	13.24	277313	18.46
11	SB75MW05B-Q311-01	1642639	8.14	1140340	13.25	281652	18.46
12	SB75MW05A-Q311-01	1651546	8.14	1164402	13.25	292101	18.46
13	SB75MW05A-Q311-02	1712231	8.14	1210486	13.25	300233	18.46

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

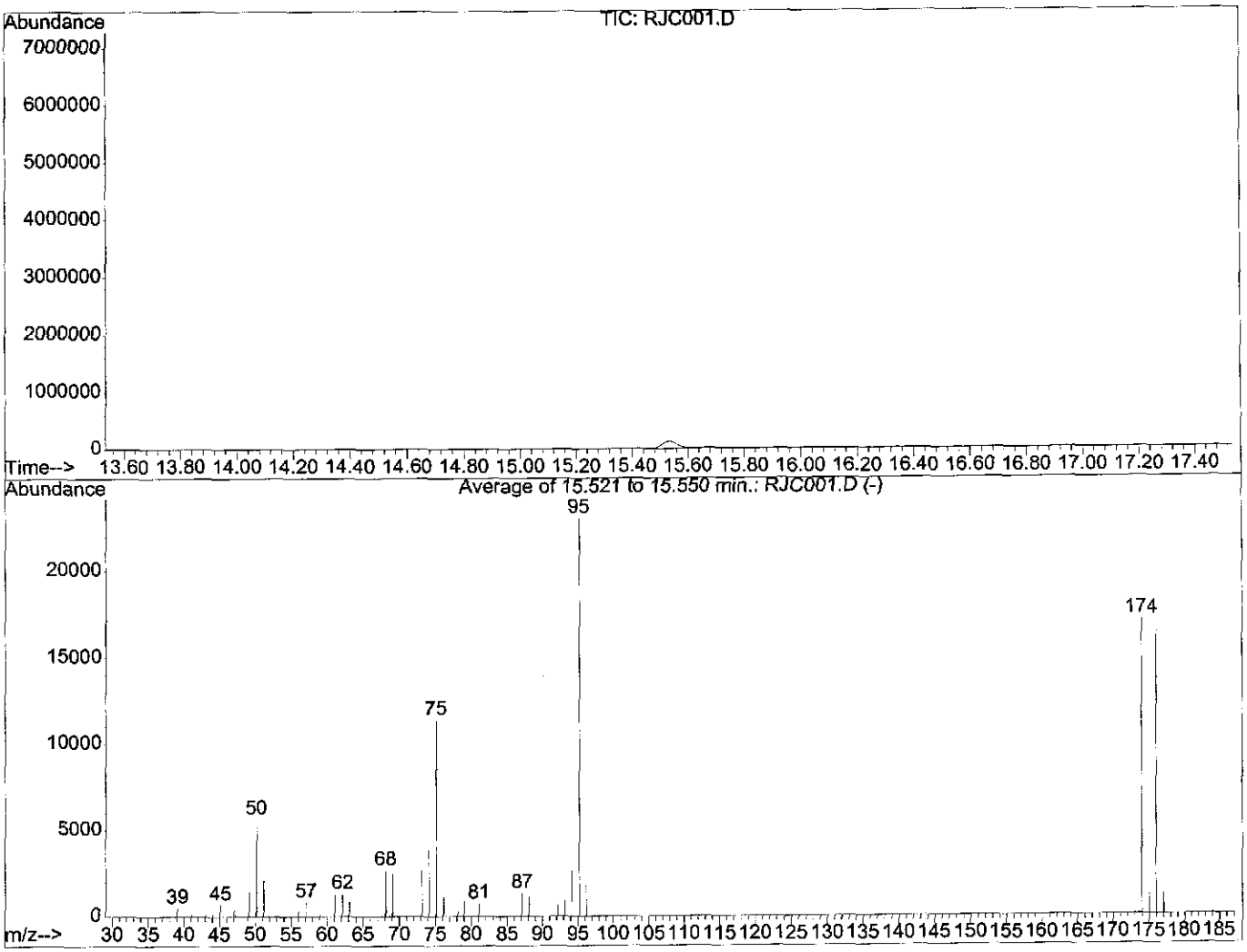
Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

BFB

Data File : D:\HPCHEM\1\DATA\11J03\RJC001.D
Acq On : 3 Oct 2011 10:46 am
Sample : BFB67J01
Misc : T/CHK
MS Integration Params: LSCINT1.P
Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0

Vial: 1
Operator: AS
Inst : TO67
Multiplr: 1.00



AutoFind: Scans 938, 939, 940; Background Corrected with Scan 932

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.4	5612	PASS
75	95	30	60	49.5	11389	PASS
95	95	100	100	100.0	23024	PASS
96	95	5	9	7.8	1795	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	73.9	17008	PASS
175	174	5	9	7.1	1203	PASS
176	174	95	101	97.4	16565	PASS
177	176	5	9	7.0	1161	PASS

RJC001.D VO67G13.M Mon Oct 03 11:18:02 2011

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC002.D
Acq On : 3 Oct 2011 11:18 am
Sample : CVO67G1381
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	111	0.00
2	T,M	Dichlorodifluoromethane	10.000	9.710	2.9	101	0.00
3	T,M	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T,M	Chloromethane	10.000	10.718	-7.2	111	0.00
5	C,T,M	Vinyl chloride	10.000	10.888	-8.9	107	0.01
6	T,M	Bromomethane	10.000	11.087	-10.9	118	0.00
7	T,M	Chloroethane	10.000	11.099	-11.0	112	0.00
8	T,M	Dichlorofluoromethane	10.000	10.611	-6.1	115	0.00
9	T,M	Trichlorofluoromethane	10.000	9.871	1.3	102	0.00
10	T,M	sec-Propyl alcohol	-1.000	0.000	0.0	0	0.00
11	T,M	Acrolein	50.000	23.988	52.0#	50	-0.02 NT
12	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	9.050	9.5	99	0.00
13	T,M	Acetone	50.000	52.933	-5.9	108	0.00
14	C,T,M	1,1-Dichloroethene	10.000	8.956	10.4	96	0.00
15	T,M	tert-Butyl alcohol	50.000	47.945	4.1	100	0.00
16	T,M	Methyl acetate	-1.000	0.000	0.0	0	-4.32# NT
17	T,M	Iodomethane	10.000	8.152	18.5	87	0.00
18	T,M	Acetonitrile	100.000	101.113	-1.1	108	0.00
19	T,M	Methylene chloride	10.000	10.251	-2.5	106	0.00
20	T,M	Carbon disulfide	10.000	9.087	9.1	96	0.00
21	T,M	Acrylonitrile	50.000	43.711	12.6	92	0.00
22	T,M	tert-Butyl methyl ether (MT	10.000	9.124	8.8	95	-0.02
23	T,M	trans-1,2-Dichloroethene	10.000	9.325	6.8	100	0.00
24	T,M	Isopropyl ether (DIPE)	10.000	10.127	-1.3	108	-0.02
25	P,T,M	1,1-Dichloroethane	10.000	10.054	-0.5	108	0.00
26	T,M	Vinyl acetate	10.000	8.157	18.4	81	0.00
27	T,M	2-Butanol	-1.000	0.000	0.0	0	-5.87# NT
28	T,M	tert-Butyl ethyl ether (ETB	10.000	9.037	9.6	94	-0.02
29	T,M	2-Butanone	50.000	46.131	7.7	99	0.00
30	T,M	2,2-Dichloropropane	10.000	10.401	-4.0	114	-0.02
31	T,M	cis-1,2-Dichloroethene	10.000	9.667	3.3	102	0.00
32	C,T,M	Chloroform	10.000	10.193	-1.9	110	0.00
33	T,M	Bromochloromethane	10.000	9.680	3.2	102	0.00
34	T,M	tert-Amyl alcohol	50.000	0.000	100.0#	0	-6.75# NT
35	S	Dibromofluoromethane	10.000	9.927	0.7	105	-0.02
36	T,M	Tetrahydrofuran	10.000	8.579	14.2	81	-0.02
37	T,M	1,1,1-Trichloroethane	10.000	10.232	-2.3	109	-0.02
38	T,M	Cyclohexane	-1.000	0.000	0.0	0	-7.11# NT
39	T,M	tert-Amyl methyl ether (TAM	10.000	8.307	16.9	87	-0.02
40	S	1,2-Dichloroethane-d4	10.000	10.133	-1.3	109	0.00
41	I	CHLOROBENZENE-D5	10.000	10.000	0.0	104	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC002.D
Acq On : 3 Oct 2011 11:18 am
Sample : CV067G1381
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	10.000	8.897	11.0	92	0.00
43	T,M	Carbon tetrachloride	10.000	9.643	3.6	98	0.00
44	T,M	1,2-Dichloroethane	10.000	10.127	-1.3	101	-0.02
45	T,M	Benzene	10.000	10.070	-0.7	104	0.00
46	T,M	Trichloroethene	10.000	8.496	15.0	93	-0.02
47	T,M	Methylcyclohexane	-1.000	0.000	0.0	0	-8.74#
48	C,T,M	1,2-Dichloropropane	10.000	10.179	-1.8	104	-0.02
49	T,M	Bromodichloromethane	10.000	10.540	-5.4	107	0.00
50	T,M	1,4-Dioxane	200.000	224.870	-12.4	106	0.00
51	T,M	Dibromomethane	10.000	9.606	3.9	93	0.00
52	T,M	2-Chloroethyl vinyl ether	10.000	1.843	81.6#	19	0.00
53	T,M	4-Methyl-2-pentanone	50.000	42.416	15.2	83	0.00
54	T,M	cis-1,3-Dichloropropene	10.000	9.819	1.8	98	-0.02
55	S	Toluene-d8	10.000	10.683	-6.8	108	0.00
56	C,T,M	Toluene	10.000	9.661	3.4	103	0.00
57	T,M	Ethyl methacrylate	10.000	8.559	14.4	83	-0.02
58	T,M	trans-1,3-Dichloropropene	10.000	9.649	3.5	96	-0.02
59	T,M	1,1,2-Trichloroethane	10.000	9.416	5.8	94	0.00
60	T,M	2-Hexanone	50.000	43.119	13.8	87	0.00
61	T,M	1,3-Dichloropropane	10.000	9.694	3.1	96	0.00
62	T,M	Tetrachloroethene	10.000	9.086	9.1	93	0.00
63	T,M	Dibromochloromethane	10.000	8.599	14.0	84	0.00
64	T,M	1,2-Dibromoethane	10.000	8.736	12.6	86	0.00
65	T,M	1-Chlorohexane	10.000	9.633	3.7	98	0.00
66	P,M	Chlorobenzene	10.000	9.141	8.6	93	0.00
67	T,M	1,1,1,2-Tetrachloroethane	10.000	9.185	8.1	92	0.00
68	C,T,M	Ethylbenzene	10.000	10.005	-0.1	101	-0.02
69	T,M	m-Xylene & p-Xylene	20.000	20.238	-1.2	100	0.00
70	T,M	o-Xylene	10.000	10.031	-0.3	103	-0.02
71	T,M	Styrene	10.000	9.131	8.7	91	0.00
72	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	91	0.00
73	T,M	Isopropylbenzene	10.000	10.715	-7.1	98	0.00
74	P,T,M	Bromoform	10.000	10.243	-2.4	89	0.00
75	T,M	trans-1,4-Dichloro-2-butene	10.000	8.063	19.4	71	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	10.000	10.488	-4.9	92	0.00
77	S	4-Bromofluorobenzene	10.000	10.763	-7.6	102	-0.02
78	T,M	1,2,3-Trichloropropane	10.000	9.405	6.0	86	0.00
79	T,M	n-Propylbenzene	10.000	10.939	-9.4	99	-0.02
80	T,M	Bromobenzene	10.000	9.563	4.4	88	-0.02
81	T,M	1,3,5-Trimethylbenzene	10.000	10.540	-5.4	96	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC002.D
Acq On : 3 Oct 2011 11:18 am
Sample : CVO67G1381
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
82	T,M	2-Chlorotoluene	10.000	10.798	-8.0	98	0.00
83	T,M	4-Chlorotoluene	10.000	11.111	-11.1	104	-0.02
84	T,M	tert-Butylbenzene	10.000	10.073	-0.7	92	0.00
85	T,M	1,2,4-Trimethylbenzene	10.000	10.295	-2.9	93	-0.02
86	T,M	sec-Butylbenzene	10.000	10.549	-5.5	95	0.00
87	T,M	p-Isopropyltoluene	10.000	9.403	6.0	84	0.00
88	T,M	1,3-Dichlorobenzene	10.000	9.741	2.6	87	0.00
89	T,M	1,4-Dichlorobenzene	10.000	9.489	5.1	86	-0.02
90	T,M	n-Butylbenzene	10.000	10.076	-0.8	89	0.00
91	T,M	1,2-Dichlorobenzene	10.000	9.282	7.2	83	0.00
92	T,M	1,2-Dibromo-3-chloropropane	10.000	8.748	12.5	77	0.00
93	T,M	1,2,4-Trichlorobenzene	10.000	8.306	16.9	72	0.00
94	T,M	Hexachlorobutadiene	10.000	8.754	12.5	73	0.00
95	T,M	Naphthalene	10.000	6.985	30.1#	60	0.00
96	T,M	1,2,3-Trichlorobenzene	10.000	8.137	18.6	70	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC002.D
Acq On : 3 Oct 2011 11:18 am
Sample : CVO67G1381
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	111	0.00
2	T,M	Dichlorodifluoromethane	0.309	0.300	2.9	101	0.00
3	T,M	Dichlorotetrafluoroethane	0.000	0.000	0.0	0#	0.00
4	P,T,M	Chloromethane	0.536	0.574	-7.1	111	0.00
5	C,T,M	Vinyl chloride	0.542	0.590	-8.9	107	0.01
6	T,M	Bromomethane	0.291	0.322	-10.7	118	0.00
7	T,M	Chloroethane	0.296	0.328	-10.8	112	0.00
8	T,M	Dichlorofluoromethane	0.733	0.778	-6.1	115	0.00
9	T,M	Trichlorofluoromethane	0.410	0.404	1.5	102	0.00
10	T,M	sec-Propyl alcohol	0.000	0.000	0.0	0#	0.00
11	T,M	Acrolein	0.016	0.008	50.0#	50#	-0.02
12	T,M	1,1,2-Trichloro-1,2,2-trifl	0.256	0.232	9.4	99	0.00
13	T,M	Acetone	0.029	0.030	-3.4	108	0.00
14	C,T,M	1,1-Dichloroethene	0.696	0.623	10.5	96	0.00
15	T,M	tert-Butyl alcohol	0.008	0.008	0.0	100	0.00
16	T,M	Methyl acetate	0.000	0.000	0.0	0#	-4.32#
17	T,M	Iodomethane	0.592	0.483	18.4	87	0.00
18	T,M	Acetonitrile	0.079	0.080	-1.3	108	0.00
19	T,M	Methylene chloride	0.505	0.466	7.7	106	0.00
20	T,M	Carbon disulfide	1.614	1.467	9.1	96	0.00
21	T,M	Acrylonitrile	0.044	0.038	13.6	92	0.00
22	T,M	tert-Butyl methyl ether (MT	0.388	0.354	8.8	95	-0.02
23	T,M	trans-1,2-Dichloroethene	0.663	0.618	6.8	100	0.00
24	T,M	Isopropyl ether (DIPE)	1.185	1.200	-1.3	108	-0.02
25	P,T,M	1,1-Dichloroethane	0.707	0.710	-0.4	108	0.00
26	T,M	Vinyl acetate	0.355	0.290	18.3	81	0.00
27	T,M	2-Butanol	0.000	0.000	0.0	0#	-5.87#
28	T,M	tert-Butyl ethyl ether (ETB	0.692	0.625	9.7	94	-0.02
29	T,M	2-Butanone	0.053	0.049	7.5	99	0.00
30	T,M	2,2-Dichloropropane	0.434	0.452	-4.1	114	-0.02
31	T,M	cis-1,2-Dichloroethene	0.390	0.377	3.3	102	0.00
32	C,T,M	Chloroform	0.550	0.561	-2.0	110	0.00
33	T,M	Bromochloromethane	0.260	0.252	3.1	102	0.00
34	T,M	tert-Amyl alcohol	0.007	0.000	100.0#	0#	-6.75#
35	S	Dibromofluoromethane	0.287	0.285	0.7	105	-0.02
36	T,M	Tetrahydrofuran	0.040	0.031	22.5#	81	-0.02
37	T,M	1,1,1-Trichloroethane	0.497	0.509	-2.4	109	-0.02
38	T,M	Cyclohexane	0.000	0.000	0.0	0#	-7.11#
39	T,M	tert-Amyl methyl ether (TAM	0.099	0.082	17.2	87	-0.02
40	S	1,2-Dichloroethane-d4	0.193	0.196	-1.6	109	0.00

41 I ----CHLOROBENZENE-D5----------1.000---1.000-------0.0--104---0.00-

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC002.D
Acq On : 3 Oct 2011 11:18 am
Sample : CVO67G1381
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	0.266	0.237	10.9	92	0.00
43	T,M	Carbon tetrachloride	0.559	0.539	3.6	98	0.00
44	T,M	1,2-Dichloroethane	0.318	0.322	-1.3	101	-0.02
45	T,M	Benzene	1.895	1.908	-0.7	104	0.00
46	T,M	Trichloroethene	0.543	0.461	15.1	93	-0.02
47	T,M	Methylcyclohexane	0.000	0.000	0.0	0#	-8.74#
48	C,T,M	1,2-Dichloropropane	0.443	0.451	-1.8	104	-0.02
49	T,M	Bromodichloromethane	0.442	0.466	-5.4	107	0.00
50	T,M	1,4-Dioxane	0.001	0.001	0.0	106	0.00
51	T,M	Dibromomethane	0.155	0.149	3.9	93	0.00
52	T,M	2-Chloroethyl vinyl ether	0.121	0.022	81.8#	19#	0.00
53	T,M	4-Methyl-2-pentanone	0.175	0.149	14.9	83	0.00
54	T,M	cis-1,3-Dichloropropene	0.541	0.531	1.8	98	-0.02
55	S	Toluene-d8	1.522	1.626	-6.8	108	0.00
56	C,T,M	Toluene	1.956	1.889	3.4	103	0.00
57	T,M	Ethyl methacrylate	0.238	0.204	14.3	83	-0.02
58	T,M	trans-1,3-Dichloropropene	0.361	0.348	3.6	96	-0.02
59	T,M	1,1,2-Trichloroethane	0.187	0.176	5.9	94	0.00
60	T,M	2-Hexanone	0.101	0.087	13.9	87	0.00
61	T,M	1,3-Dichloropropane	0.355	0.344	3.1	96	0.00
62	T,M	Tetrachloroethene	0.393	0.357	9.2	93	0.00
63	T,M	Dibromochloromethane	0.238	0.205	13.9	84	0.00
64	T,M	1,2-Dibromoethane	0.194	0.170	12.4	86	0.00
65	T,M	1-Chlorohexane	0.838	0.807	3.7	98	0.00
66	P,M	Chlorobenzene	1.066	0.974	8.6	93	0.00
67	T,M	1,1,1,2-Tetrachloroethane	0.309	0.284	8.1	92	0.00
68	C,T,M	Ethylbenzene	2.095	2.096	-0.0	101	-0.02
69	T,M	m-Xylene & p-Xylene	1.519	1.537	-1.2	100	0.00
70	T,M	o-Xylene	1.470	1.474	-0.3	103	-0.02
71	T,M	Styrene	1.144	1.045	8.7	91	0.00
72	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	91	0.00
73	T,M	Isopropylbenzene	6.518	6.984	-7.1	98	0.00
74	P,T,M	Bromoform	0.340	0.348	-2.4	89	0.00
75	T,M	trans-1,4-Dichloro-2-butene	0.194	0.156	19.6	71	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	0.592	0.621	-4.9	92	0.00
77	S	4-Bromofluorobenzene	1.390	1.496	-7.6	102	-0.02
78	T,M	1,2,3-Trichloropropane	0.158	0.148	6.3	86	0.00
79	T,M	n-Propylbenzene	8.118	8.880	-9.4	99	-0.02
80	T,M	Bromobenzene	1.100	1.052	4.4	88	-0.02
81	T,M	1,3,5-Trimethylbenzene	5.189	5.470	-5.4	96	-0.02

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC002.D
Acq On : 3 Oct 2011 11:18 am
Sample : CVO67G1381
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
82	T,M	2-Chlorotoluene	4.775	5.156	-8.0	98	0.00
83	T,M	4-Chlorotoluene	3.855	4.284	-11.1	104	-0.02
84	T,M	tert-Butylbenzene	1.164	1.173	-0.8	92	0.00
85	T,M	1,2,4-Trimethylbenzene	4.819	4.962	-3.0	93	-0.02
86	T,M	sec-Butylbenzene	7.280	7.680	-5.5	95	0.00
87	T,M	p-Isopropyltoluene	5.795	5.449	6.0	84	0.00
88	T,M	1,3-Dichlorobenzene	2.141	2.085	2.6	87	0.00
89	T,M	1,4-Dichlorobenzene	2.007	1.904	5.1	86	-0.02
90	T,M	n-Butylbenzene	5.538	5.580	-0.8	89	0.00
91	T,M	1,2-Dichlorobenzene	1.642	1.524	7.2	83	0.00
92	T,M	1,2-Dibromo-3-chloropropane	0.077	0.068	11.7	77	0.00
93	T,M	1,2,4-Trichlorobenzene	1.004	0.834	16.9	72	0.00
94	T,M	Hexachlorobutadiene	0.917	0.803	12.4	73	0.00
95	T,M	Naphthalene	1.294	0.904	30.1#	60	0.00
96	T,M	1,2,3-Trichlorobenzene	0.743	0.604	18.7	70	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC002.D
Acq On : 3 Oct 2011 11:18 am
Sample : CVO67G1381
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 11:43 2011

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1703437	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1231827	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	342358	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.82	111	485085	9.93	ug/l	-0.02
Spiked Amount 10.000			Recovery = 99.30%			
40) 1,2-Dichloroethane-d4	7.55	65	333319	10.13	ug/l	0.00
Spiked Amount 10.000			Recovery = 101.30%			
55) Toluene-d8	10.58	98	2002613	10.68	ug/l	0.00
Spiked Amount 10.000			Recovery = 106.80%			
77) 4-Bromofluorobenzene	15.52	95	512123	10.76	ug/l	-0.02
Spiked Amount 10.000			Recovery = 107.60%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.91	85	510300	9.71	ug/l	100
4) Chloromethane	2.15	50	978336	10.72	ug/l	100
5) Vinyl chloride	2.29	62	1005488	10.89	ug/l	100
6) Bromomethane	2.78	94	548925	11.09	ug/l	97
7) Chloroethane	2.88	64	559269	11.10	ug/l	99
8) Dichlorofluoromethane	2.92	67	1324554	10.61	ug/l	100
9) Trichlorofluoromethane	3.17	101	688582	9.87	ug/l	98
11) Acrolein	3.66	56	65486	23.99	ug/l	94
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	395117	9.05	ug/l	97
13) Acetone	3.74	43	254871	52.93	ug/l	98
14) 1,1-Dichloroethene	3.89	61	1061367	8.96	ug/l	98
15) tert-Butyl alcohol	4.01	59	64449	47.95	ug/l	86
17) Iodomethane	4.29	142	822667	8.15	ug/l	99
18) Acetonitrile	4.36	41	1366480	101.11	ug/l	99
19) Methylene chloride	4.51	49	793858	10.25	ug/l	98
20) Carbon disulfide	4.52	76	2498419	9.09	ug/l	99
21) Acrylonitrile	4.67	53	324090	43.71	ug/l	99
22) tert-Butyl methyl ether (M	4.70	73	602351	9.12	ug/l	98
23) trans-1,2-Dichloroethene	4.89	61	1052988	9.32	ug/l	98
24) Isopropyl ether (DIPE)	5.30	45	2043983	10.13	ug/l	97
25) 1,1-Dichloroethane	5.46	63	1210106	10.05	ug/l	99
26) Vinyl acetate	5.46	43	493221	8.16	ug/l	99
28) tert-Butyl ethyl ether (ET	5.85	59	1064829	9.04	ug/l	99
29) 2-Butanone	6.03	43	415685	46.13	ug/l	97
30) 2,2-Dichloropropane	6.22	77	769710	10.40	ug/l	99
31) cis-1,2-Dichloroethene	6.29	96	641676	9.67	ug/l	97
32) Chloroform	6.51	83	954985	10.19	ug/l	98

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC002.D
Acq On : 3 Oct 2011 11:18 am
Sample : CVO67G1381
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 11:43 2011

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.75	49	429056	9.68 ug/l	85
36)	Tetrahydrofuran	6.79	42	52108	8.58 ug/l	96
37)	1,1,1-Trichloroethane	7.08	97	867048	10.23 ug/l	99
39)	tert-Amyl methyl ether (TA	7.48	87	140465	8.31 ug/l	96
42)	1,1-Dichloropropene	7.32	110	291496	8.90 ug/l	98
43)	Carbon tetrachloride	7.46	119	664086	9.64 ug/l	100
44)	1,2-Dichloroethane	7.68	62	396830	10.13 ug/l	98
45)	Benzene	7.71	78	2350841	10.07 ug/l	99
46)	Trichloroethene	8.63	130	568151	8.50 ug/l	92
48)	1,2-Dichloropropane	8.91	63	555584	10.18 ug/l	94
49)	Bromodichloromethane	9.29	83	573481	10.54 ug/l	99
50)	1,4-Dioxane	9.32	88	31475	224.87 ug/l	98
51)	Dibromomethane	9.38	93	183994	9.61 ug/l	99
52)	2-Chloroethyl vinyl ether	9.79	63	27432	1.84 ug/l	87
53)	4-Methyl-2-pentanone	9.83	43	914966	42.42 ug/l	99
54)	cis-1,3-Dichloropropene	10.17	75	654075	9.82 ug/l	94
56)	Toluene	10.71	91	2327185	9.66 ug/l	99
57)	Ethyl methacrylate	11.01	69	250797	8.56 ug/l	92
58)	trans-1,3-Dichloropropene	11.02	75	429152	9.65 ug/l	98
59)	1,1,2-Trichloroethane	11.30	97	216505	9.42 ug/l	98
60)	2-Hexanone	11.31	43	538705	43.12 ug/l	97
61)	1,3-Dichloropropane	11.74	76	423976	9.69 ug/l	99
62)	Tetrachloroethene	11.84	164	439427	9.09 ug/l	97
63)	Dibromochloromethane	12.21	129	252573	8.60 ug/l	99
64)	1,2-Dibromoethane	12.56	107	209125	8.74 ug/l	100
65)	1-Chlorohexane	12.85	91	994172	9.63 ug/l	98
66)	Chlorobenzene	13.32	112	1200202	9.14 ug/l	95
67)	1,1,1,2-Tetrachloroethane	13.39	131	349260	9.19 ug/l	99
68)	Ethylbenzene	13.41	91	2582460	10.00 ug/l	97
69)	m-Xylene & p-Xylene	13.55	91	3785864	20.24 ug/l	96
70)	o-Xylene	14.36	91	1815767	10.03 ug/l	97
71)	Styrene	14.43	104	1287284	9.13 ug/l	98
73)	Isopropylbenzene	15.05	105	2391068	10.71 ug/l	98
74)	Bromoform	15.06	173	119140	10.24 ug/l	99
75)	trans-1,4-Dichloro-2-buten	15.15	53	53533	8.06 ug/l	100
76)	1,1,2,2-Tetrachloroethane	15.38	83	212650	10.49 ug/l	100
78)	1,2,3-Trichloropropane	15.66	110	50797	9.40 ug/l	93
79)	n-Propylbenzene	15.81	91	3040254	10.94 ug/l	97
80)	Bromobenzene	15.88	156	360146	9.56 ug/l	89
81)	1,3,5-Trimethylbenzene	16.12	105	1872637	10.54 ug/l	97
82)	2-Chlorotoluene	16.14	91	1765357	10.80 ug/l	96

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J03\RJC002.D
Acq On : 3 Oct 2011 11:18 am
Sample : CVO67G1381
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 11:43 2011

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
83)	4-Chlorotoluene	16.23	91	1466566	11.11 ug/l		88
84)	tert-Butylbenzene	16.82	134	401539	10.07 ug/l	#	91
85)	1,2,4-Trimethylbenzene	16.88	105	1698636	10.30 ug/l		97
86)	sec-Butylbenzene	17.23	105	2629368	10.55 ug/l		97
87)	p-Isopropyltoluene	17.51	119	1865590	9.40 ug/l		96
88)	1,3-Dichlorobenzene	17.68	146	713860	9.74 ug/l		98
89)	1,4-Dichlorobenzene	17.87	146	651959	9.49 ug/l		99
90)	n-Butylbenzene	18.25	91	1910358	10.08 ug/l		98
91)	1,2-Dichlorobenzene	18.50	146	521901	9.28 ug/l		98
92)	1,2-Dibromo-3-chloropropan	19.63	157	23192	8.75 ug/l		94
93)	1,2,4-Trichlorobenzene	20.73	180	285364	8.31 ug/l		98
94)	Hexachlorobutadiene	20.90	225	274980	8.75 ug/l		98
95)	Naphthalene	21.06	128	309438	6.98 ug/l		100
96)	1,2,3-Trichlorobenzene	21.39	180	206892	8.14 ug/l		98

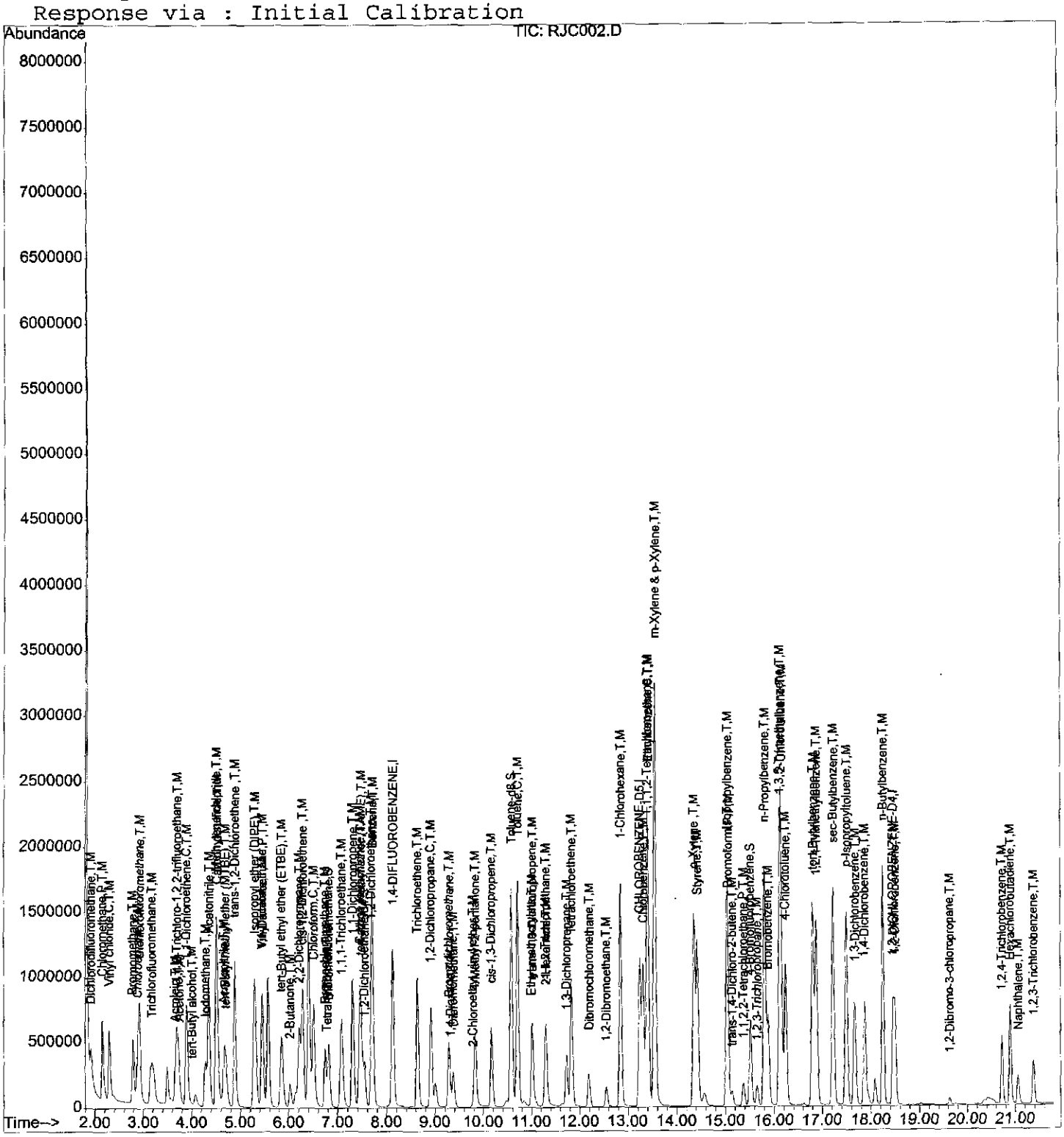
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J03\RJC002.D
Acq On : 3 Oct 2011 11:18 am
Sample : CVO67G1381
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 3 11:43 2011

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RJC030
Instrument ID: 67
GC Column:RTX502.2ID:0.25mm (mm)

Contract: SEAL BEACH SITE 75
SAS No.: SDG No.: 11I284
BFB Injection Date : 10/04/11
BFB Injection Time : 08:46
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23.56
75	30.0 - 60.0% of mass 95	50.02
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.77
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	71.42
175	5.0 - 9.0% of mass 174	4.79(6.7)1
176	95.0 - 101.0% of mass 174	72.11(101.0)1
177	5.0 - 9.0% of mass 176	4.40(6.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CV067G1382	RJC031	10/04/11	09:17
2	MBLK2W	V067J02Q	RJC039	10/04/11	14:24
3	LCS2W	V067J02L	RJC032	10/04/11	10:48
4	LCD2W	V067J02C	RJC033	10/04/11	11:19
5	SB75MW01A-Q311-01DL	I284-01T	RJC040	10/04/11	14:55
6	SB75MW05A-Q311-01DL	I284-06T	RJC041	10/04/11	15:25
7	SB75MWD5A-Q311-02DL	I284-07T	RJC042	10/04/11	15:56

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RGC139
Instrument ID: 67
GC Column: RTX502.2 ID: 0.25mm (mm)

Project: SEAL BEACH SITE 75
SDG No.: 11I284
Date Analyzed: 07/13/11
Time Analyzed: 12:45
Heated Purge: (Y/N) N

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1529972	8.14	1189960	13.25	374890	18.46
	UPPER LIMIT	3059944	8.64	2379920	13.75	749780	18.96
	LOWER LIMIT	764986	7.64	594980	12.75	187445	17.96
	SAMPLE ID						
1	VSTD010	1699597	8.14	1220105	13.25	342042	18.46
2	MBLK2W	1645042	8.14	1121634	13.25	266245	18.46
3	LCS2W	1720507	8.14	1232265	13.25	344919	18.46
4	LCD2W	1688443	8.12	1214616	13.23	334079	18.46
5	SB75MW01A-Q311-01DL	1587301	8.14	1066217	13.25	258281	18.47
6	SB75MW05A-Q311-01DL	1539618	8.13	1051061	13.25	261194	18.46
7	SB75MW05A-Q311-02DL	1579159	8.14	1063142	13.25	256985	18.46

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

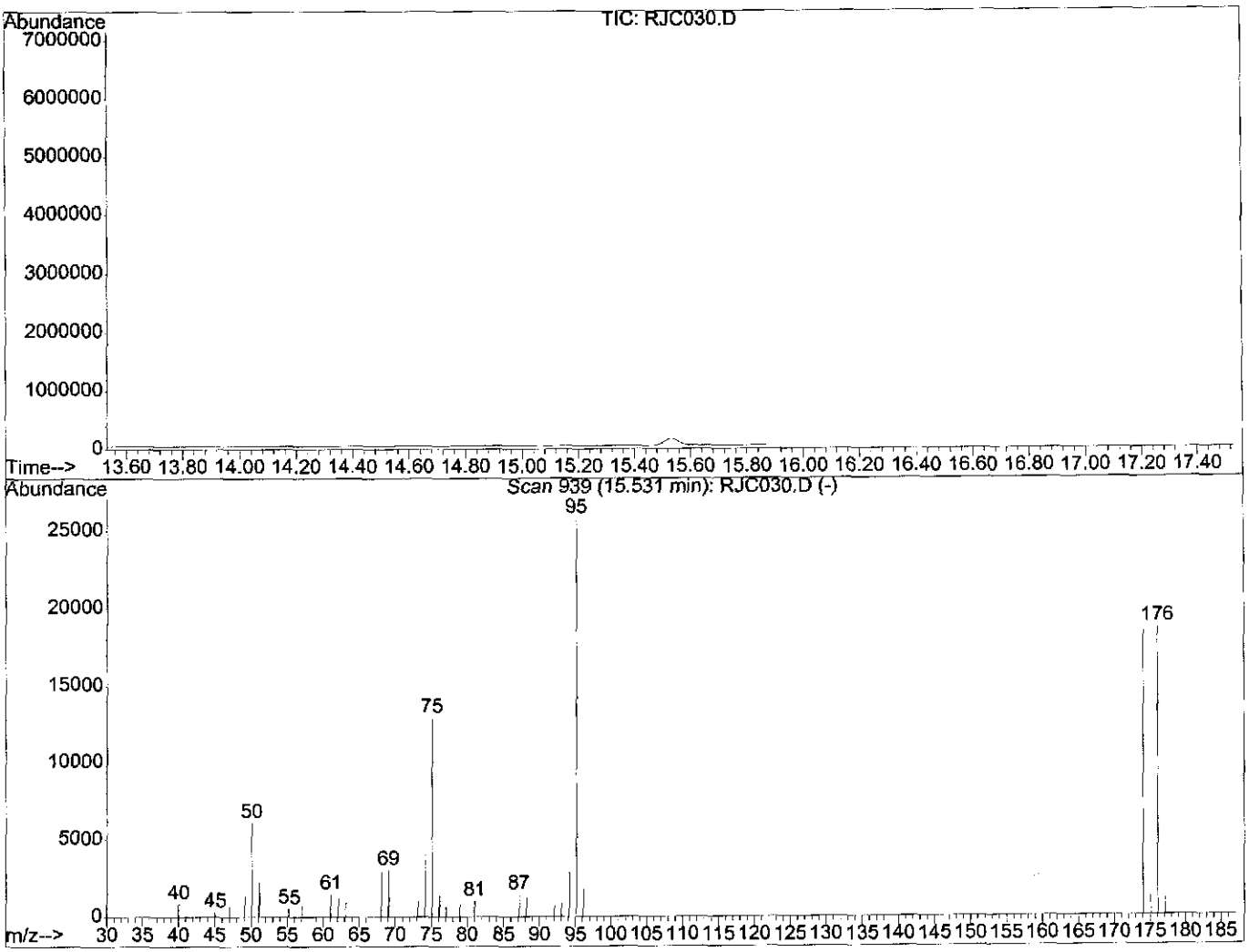
AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

BFB

Data File : D:\HPCHEM\1\DATA\11J04\RJC030.D
Acq On : 4 Oct 2011 8:46 am
Sample : BFB67J02
Misc : T/CHK
MS Integration Params: LSCINT1.P
Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0

Vial: 1
Operator: AS
Inst : TO67
Multiplr: 1.00



Spectrum Information: Scan 939 _ 932 AS 10-4-11

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.6	6074	PASS
75	95	30	60	50.0	12898	PASS
95	95	100	100	100.0	25784	PASS
96	95	5	9	6.8	1746	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	71.4	18416	PASS
175	174	5	9	6.7	1234	PASS
176	174	95	101	101.0	18592	PASS
177	176	5	9	6.1	1134	PASS

RJC030.D VO67G13.M Tue Oct 04 09:09:35 2011

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J04\RJC031.D
Acq On : 4 Oct 2011 9:17 am
Sample : CV067G1382
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	111	0.00
2	T,M	Dichlorodifluoromethane	10.000	9.461	5.4	98	0.00
3	T,M	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T,M	Chloromethane	10.000	10.574	-5.7	109	0.00
5	C,T,M	Vinyl chloride	10.000	10.745	-7.4	105	0.02
6	T,M	Bromomethane	10.000	10.940	-9.4	116	0.02
7	T,M	Chloroethane	10.000	10.766	-7.7	109	0.00
8	T,M	Dichlorofluoromethane	10.000	10.380	-3.8	112	0.00
9	T,M	Trichlorofluoromethane	10.000	9.558	4.4	98	0.00
10	T,M	sec-Propyl alcohol	-1.000	0.000	0.0	0	0.00
11	T,M	Acrolein	50.000	41.425	17.2	81	0.00
12	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	8.865	11.3	96	0.00
13	T,M	Acetone	50.000	51.728	-3.5	105	0.00
14	C,T,M	1,1-Dichloroethene	10.000	8.745	12.6	94	0.00
15	T,M	tert-Butyl alcohol	50.000	50.775	-1.5	105	0.00
16	T,M	Methyl acetate	-1.000	0.000	0.0	0	-4.32# nt
17	T,M	Iodomethane	10.000	7.883	21.2#	84	0.00 nt
18	T,M	Acetonitrile	100.000	99.760	0.2	106	0.00
19	T,M	Methylene chloride	10.000	10.157	-1.6	105	0.00
20	T,M	Carbon disulfide	10.000	8.143	18.6	86	0.00
21	T,M	Acrylonitrile	50.000	45.015	10.0	94	0.00
22	T,M	tert-Butyl methyl ether (MT	10.000	9.299	7.0	96	-0.01
23	T,M	trans-1,2-Dichloroethene	10.000	9.086	9.1	97	0.00
24	T,M	Isopropyl ether (DIPE)	10.000	10.062	-0.6	107	-0.01
25	P,T,M	1,1-Dichloroethane	10.000	9.945	0.5	107	0.00
26	T,M	Vinyl acetate	10.000	8.302	17.0	82	0.00
27	T,M	2-Butanol	-1.000	0.000	0.0	0	-5.87# nt
28	T,M	tert-Butyl ethyl ether (ETB	10.000	8.999	10.0	94	-0.01
29	T,M	2-Butanone	50.000	44.679	10.6	96	0.00
30	T,M	2,2-Dichloropropane	10.000	10.111	-1.1	111	-0.01
31	T,M	cis-1,2-Dichloroethene	10.000	9.616	3.8	102	0.00
32	C,T,M	Chloroform	10.000	10.293	-2.9	110	0.00
33	T,M	Bromochloromethane	10.000	9.630	3.7	101	0.00
34	T,M	tert-Amyl alcohol	50.000	0.000	100.0#	0	-6.75# nt
35	S	Dibromofluoromethane	10.000	10.031	-0.3	106	-0.01
36	T,M	Tetrahydrofuran	10.000	9.519	4.8	89	0.00
37	T,M	1,1,1-Trichloroethane	10.000	9.968	0.3	106	-0.01
38	T,M	Cyclohexane	-1.000	0.000	0.0	0	-7.11# nt
39	T,M	tert-Amyl methyl ether (TAM	10.000	8.170	18.3	85	-0.01
40	S	1,2-Dichloroethane-d4	10.000	10.477	-4.8	113	0.00
41	I	CHLOROBENZENE-D5	10.000	10.000	0.0	103	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J04\RJC031.D Vial: 2
Acq On : 4 Oct 2011 9:17 am Operator: AS
Sample : CVO67G1382 Inst : TO67
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA Multiplr: 1.00
MS Integration Params: LSCINT1.P

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M 1,1-Dichloropropene	10.000	8.614	13.9	88	0.00
43	T,M Carbon tetrachloride	10.000	9.379	6.2	95	0.00
44	T,M 1,2-Dichloroethane	10.000	10.168	-1.7	100	-0.01
45	T,M Benzene	10.000	9.992	0.1	102	0.00
46	T,M Trichloroethene	10.000	8.266	17.3	90	-0.01
47	T,M Methylcyclohexane	-1.000	0.000	0.0	0	-8.74#
48	C,T,M 1,2-Dichloropropane	10.000	10.083	-0.8	103	-0.01
49	T,M Bromodichloromethane	10.000	10.628	-6.3	106	0.00
50	T,M 1,4-Dioxane	200.000	193.461	3.3	90	0.00
51	T,M Dibromomethane	10.000	9.669	3.3	93	0.00
52	T,M 2-Chloroethyl vinyl ether	10.000	1.641	83.6#	17	0.00
53	T,M 4-Methyl-2-pentanone	50.000	41.122	17.8	80	0.00
54	T,M cis-1,3-Dichloropropene	10.000	9.881	1.2	98	-0.01
55	S Toluene-d8	10.000	10.668	-6.7	107	0.00
56	C,T,M Toluene	10.000	9.416	5.8	99	0.00
57	T,M Ethyl methacrylate	10.000	8.480	15.2	81	-0.01
58	T,M trans-1,3-Dichloropropene	10.000	9.580	4.2	94	-0.01
59	T,M 1,1,2-Trichloroethane	10.000	9.197	8.0	91	0.00
60	T,M 2-Hexanone	50.000	42.130	15.7	84	0.00
61	T,M 1,3-Dichloropropane	10.000	9.583	4.2	94	0.00
62	T,M Tetrachloroethene	10.000	8.771	12.3	89	0.00
63	T,M Dibromochloromethane	10.000	8.609	13.9	83	-0.01
64	T,M 1,2-Dibromoethane	10.000	8.633	13.7	84	0.00
65	T,M 1-Chlorohexane	10.000	9.000	10.0	91	0.00
66	P,M Chlorobenzene	10.000	8.982	10.2	90	-0.01
67	T,M 1,1,1,2-Tetrachloroethane	10.000	9.149	8.5	91	0.00
68	C,T,M Ethylbenzene	10.000	9.656	3.4	97	-0.01
69	T,M m-Xylene & p-Xylene	20.000	19.438	2.8	95	0.00
70	T,M o-Xylene	10.000	9.729	2.7	99	-0.01
71	T,M Styrene	10.000	8.770	12.3	86	0.00
72	I 1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	91	0.00
73	T,M Isopropylbenzene	10.000	10.163	-1.6	93	0.00
74	P,T,M Bromoform	10.000	9.876	1.2	86	0.00
75	T,M trans-1,4-Dichloro-2-butene	10.000	7.836	21.6#	69	0.00
76	P,T,M 1,1,2,2-Tetrachloroethane	10.000	10.170	-1.7	89	-0.01
77	S 4-Bromofluorobenzene	10.000	10.655	-6.5	101	-0.01
78	T,M 1,2,3-Trichloropropane	10.000	9.055	9.5	82	0.00
79	T,M n-Propylbenzene	10.000	10.314	-3.1	93	-0.01
80	T,M Bromobenzene	10.000	9.278	7.2	85	-0.01
81	T,M 1,3,5-Trimethylbenzene	10.000	9.976	0.2	91	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J04\RJC031.D Vial: 2
Acq On : 4 Oct 2011 9:17 am Operator: AS
Sample : CVO67G1382 Inst : TO67
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA Multiplr: 1.00
MS Integration Params: LSCINT1.P

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
82	T,M	2-Chlorotoluene	10.000	10.447	-4.5	94	0.00
83	T,M	4-Chlorotoluene	10.000	10.353	-3.5	97	-0.01
84	T,M	tert-Butylbenzene	10.000	9.417	5.8	86	-0.01
85	T,M	1,2,4-Trimethylbenzene	10.000	9.732	2.7	88	-0.01
86	T,M	sec-Butylbenzene	10.000	9.825	1.8	88	0.00
87	T,M	p-Isopropyltoluene	10.000	8.673	13.3	77	-0.01
88	T,M	1,3-Dichlorobenzene	10.000	9.250	7.5	83	-0.01
89	T,M	1,4-Dichlorobenzene	10.000	8.909	10.9	80	-0.01
90	T,M	n-Butylbenzene	10.000	9.118	8.8	81	0.00
91	T,M	1,2-Dichlorobenzene	10.000	8.955	10.4	80	0.00
92	T,M	1,2-Dibromo-3-chloropropane	10.000	8.417	15.8	74	0.00
93	T,M	1,2,4-Trichlorobenzene	10.000	7.888	21.1#	69	0.00
94	T,M	Hexachlorobutadiene	10.000	8.114	18.9	68	0.00
95	T,M	Naphthalene	10.000	6.353	36.5#	54	0.00
96	T,M	1,2,3-Trichlorobenzene	10.000	7.764	22.4#	67	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J04\RJC031.D
Acq On : 4 Oct 2011 9:17 am
Sample : CV067G1382
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	111	0.00
2	T,M	Dichlorodifluoromethane	0.309	0.292	5.5	98	0.00
3	T,M	Dichlorotetrafluoroethane	0.000	0.000	0.0	0#	0.00
4	P,T,M	Chloromethane	0.536	0.567	-5.8	109	0.00
5	C,T,M	Vinyl chloride	0.542	0.582	-7.4	105	0.02
6	T,M	Bromomethane	0.291	0.318	-9.3	116	0.02
7	T,M	Chloroethane	0.296	0.318	-7.4	109	0.00
8	T,M	Dichlorofluoromethane	0.733	0.761	-3.8	112	0.00
9	T,M	Trichlorofluoromethane	0.410	0.391	4.6	98	0.00
10	T,M	sec-Propyl alcohol	0.000	0.000	0.0	0#	0.00
11	T,M	Acrolein	0.016	0.012	25.0#	81	0.00
12	T,M	1,1,2-Trichloro-1,2,2-trifl	0.256	0.227	11.3	96	0.00
13	T,M	Acetone	0.029	0.029	0.0	105	0.00
14	C,T,M	1,1-Dichloroethene	0.696	0.608	12.6	94	0.00
15	T,M	tert-Butyl alcohol	0.008	0.008	0.0	105	0.00
16	T,M	Methyl acetate	0.000	0.000	0.0	0#	-4.32#
17	T,M	Iodomethane	0.592	0.467	21.1#	84	0.00
18	T,M	Acetonitrile	0.079	0.079	0.0	106	0.00
19	T,M	Methylene chloride	0.505	0.462	8.5	105	0.00
20	T,M	Carbon disulfide	1.614	1.314	18.6	86	0.00
21	T,M	Acrylonitrile	0.044	0.039	11.4	94	0.00
22	T,M	tert-Butyl methyl ether (MT	0.388	0.360	7.2	96	-0.01
23	T,M	trans-1,2-Dichloroethene	0.663	0.602	9.2	97	0.00
24	T,M	Isopropyl ether (DIPE)	1.185	1.192	-0.6	107	-0.01
25	P,T,M	1,1-Dichloroethane	0.707	0.703	0.6	107	0.00
26	T,M	Vinyl acetate	0.355	0.295	16.9	82	0.00
27	T,M	2-Butanol	0.000	0.000	0.0	0#	-5.87#
28	T,M	tert-Butyl ethyl ether (ETB	0.692	0.622	10.1	94	-0.01
29	T,M	2-Butanone	0.053	0.047	11.3	96	0.00
30	T,M	2,2-Dichloropropane	0.434	0.439	-1.2	111	-0.01
31	T,M	cis-1,2-Dichloroethene	0.390	0.375	3.8	102	0.00
32	C,T,M	Chloroform	0.550	0.566	-2.9	110	0.00
33	T,M	Bromochloromethane	0.260	0.251	3.5	101	0.00
34	T,M	tert-Amyl alcohol	0.007	0.000	100.0#	0#	-6.75#
35	S	Dibromofluoromethane	0.287	0.288	-0.3	106	-0.01
36	T,M	Tetrahydrofuran	0.040	0.034	15.0	89	0.00
37	T,M	1,1,1-Trichloroethane	0.497	0.496	0.2	106	-0.01
38	T,M	Cyclohexane	0.000	0.000	0.0	0#	-7.11#
39	T,M	tert-Amyl methyl ether (TAM	0.099	0.081	18.2	85	-0.01
40	S	1,2-Dichloroethane-d4	0.193	0.202	-4.7	113	0.00
41	I	CHLOROBENZENE-D5	1.000	1.000	0.0	103	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J04\RJC031.D
Acq On : 4 Oct 2011 9:17 am
Sample : CVO67G1382
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	0.266	0.229	13.9	88	0.00
43	T,M	Carbon tetrachloride	0.559	0.524	6.3	95	0.00
44	T,M	1,2-Dichloroethane	0.318	0.323	-1.6	100	-0.01
45	T,M	Benzene	1.895	1.894	0.1	102	0.00
46	T,M	Trichloroethene	0.543	0.449	17.3	90	-0.01
47	T,M	Methylcyclohexane	0.000	0.000	0.0	0#	-8.74#
48	C,T,M	1,2-Dichloropropane	0.443	0.447	-0.9	103	-0.01
49	T,M	Bromodichloromethane	0.442	0.469	-6.1	106	0.00
50	T,M	1,4-Dioxane	0.001	0.001	0.0	90	0.00
51	T,M	Dibromomethane	0.155	0.150	3.2	93	0.00
52	T,M	2-Chloroethyl vinyl ether	0.121	0.020	83.5#	17#	0.00
53	T,M	4-Methyl-2-pentanone	0.175	0.144	17.7	80	0.00
54	T,M	cis-1,3-Dichloropropene	0.541	0.534	1.3	98	-0.01
55	S	Toluene-d8	1.522	1.623	-6.6	107	0.00
56	C,T,M	Toluene	1.956	1.841	5.9	99	0.00
57	T,M	Ethyl methacrylate	0.238	0.202	15.1	81	-0.01
58	T,M	trans-1,3-Dichloropropene	0.361	0.346	4.2	94	-0.01
59	T,M	1,1,2-Trichloroethane	0.187	0.172	8.0	91	0.00
60	T,M	2-Hexanone	0.101	0.085	15.8	84	0.00
61	T,M	1,3-Dichloropropane	0.355	0.340	4.2	94	0.00
62	T,M	Tetrachloroethene	0.393	0.344	12.5	89	0.00
63	T,M	Dibromochloromethane	0.238	0.205	13.9	83	-0.01
64	T,M	1,2-Dibromoethane	0.194	0.168	13.4	84	0.00
65	T,M	1-Chlorohexane	0.838	0.754	10.0	91	0.00
66	P,M	Chlorobenzene	1.066	0.957	10.2	90	-0.01
67	T,M	1,1,1,2-Tetrachloroethane	0.309	0.282	8.7	91	0.00
68	C,T,M	Ethylbenzene	2.095	2.023	3.4	97	-0.01
69	T,M	m-Xylene & p-Xylene	1.519	1.476	2.8	95	0.00
70	T,M	o-Xylene	1.470	1.430	2.7	99	-0.01
71	T,M	Styrene	1.144	1.004	12.2	86	0.00
72	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	91	0.00
73	T,M	Isopropylbenzene	6.518	6.625	-1.6	93	0.00
74	P,T,M	Bromoform	0.340	0.336	1.2	86	0.00
75	T,M	trans-1,4-Dichloro-2-butene	0.194	0.152	21.6#	69	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	0.592	0.602	-1.7	89	-0.01
77	S	4-Bromofluorobenzene	1.390	1.481	-6.5	101	-0.01
78	T,M	1,2,3-Trichloropropane	0.158	0.143	9.5	82	0.00
79	T,M	n-Propylbenzene	8.118	8.373	-3.1	93	-0.01
80	T,M	Bromobenzene	1.100	1.021	7.2	85	-0.01
81	T,M	1,3,5-Trimethylbenzene	5.189	5.177	0.2	91	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11J04\RJC031.D
Acq On : 4 Oct 2011 9:17 am
Sample : CVO67G1382
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
82	T,M	2-Chlorotoluene	4.775	4.989	-4.5	94	0.00
83	T,M	4-Chlorotoluene	3.855	3.992	-3.6	97	-0.01
84	T,M	tert-Butylbenzene	1.164	1.096	5.8	86	-0.01
85	T,M	1,2,4-Trimethylbenzene	4.819	4.690	2.7	88	-0.01
86	T,M	sec-Butylbenzene	7.280	7.152	1.8	88	0.00
87	T,M	p-Isopropyltoluene	5.795	5.026	13.3	77	-0.01
88	T,M	1,3-Dichlorobenzene	2.141	1.980	7.5	83	-0.01
89	T,M	1,4-Dichlorobenzene	2.007	1.788	10.9	80	-0.01
90	T,M	n-Butylbenzene	5.538	5.049	8.8	81	0.00
91	T,M	1,2-Dichlorobenzene	1.642	1.471	10.4	80	0.00
92	T,M	1,2-Dibromo-3-chloropropane	0.077	0.065	15.6	74	0.00
93	T,M	1,2,4-Trichlorobenzene	1.004	0.792	21.1#	69	0.00
94	T,M	Hexachlorobutadiene	0.917	0.744	18.9	68	0.00
95	T,M	Naphthalene	1.294	0.822	36.5#	54	0.00
96	T,M	1,2,3-Trichlorobenzene	0.743	0.577	22.3#	67	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J04\RJC031.D
Acq On : 4 Oct 2011 9:17 am
Sample : CVO67G1382
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 9:42 2011

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.14	114	1699597	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	13.25	117	1220105	10.00	ug/l	0.00
72) 1,2-DICHLOROBENZENE-D4	18.46	152	342042	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.82	111	489080	10.03	ug/l	-0.01
Spiked Amount 10.000			Recovery = 100.30%			
40) 1,2-Dichloroethane-d4	7.55	65	343859	10.48	ug/l	0.00
Spiked Amount 10.000			Recovery = 104.80%			
55) Toluene-d8	10.58	98	1980700	10.67	ug/l	0.00
Spiked Amount 10.000			Recovery = 106.70%			
77) 4-Bromofluorobenzene	15.52	95	506506	10.65	ug/l	-0.01
Spiked Amount 10.000			Recovery = 106.50%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.92	85	496079	9.46	ug/l	99
4) Chloromethane	2.15	50	962964	10.57	ug/l	99
5) Vinyl chloride	2.30	62	990001	10.74	ug/l	100
6) Bromomethane	2.79	94	540433	10.94	ug/l	99
7) Chloroethane	2.88	64	541250	10.77	ug/l	98
8) Dichlorofluoromethane	2.93	67	1292720	10.38	ug/l	100
9) Trichlorofluoromethane	3.17	101	665262	9.56	ug/l	98
11) Acrolein	3.67	56	105961	41.43	ug/l	98
12) 1,1,2-Trichloro-1,2,2-trif	3.70	151	386160	8.87	ug/l	98
13) Acetone	3.75	43	249143	51.73	ug/l	98
14) 1,1-Dichloroethene	3.89	61	1034003	8.74	ug/l	98
15) tert-Butyl alcohol	4.01	59	68099	50.78	ug/l	89
17) Iodomethane	4.29	142	793707	7.88	ug/l	98
18) Acetonitrile	4.36	41	1345157	99.76	ug/l	97
19) Methylene chloride	4.51	49	785016	10.16	ug/l	98
20) Carbon disulfide	4.52	76	2233782	8.14	ug/l	100
21) Acrylonitrile	4.67	53	333008	45.01	ug/l	100
22) tert-Butyl methyl ether (M	4.70	73	612486	9.30	ug/l	98
23) trans-1,2-Dichloroethene	4.89	61	1023723	9.09	ug/l	98
24) Isopropyl ether (DIPE)	5.30	45	2026193	10.06	ug/l	98
25) 1,1-Dichloroethane	5.46	63	1194279	9.94	ug/l	99
26) Vinyl acetate	5.46	43	500868	8.30	ug/l	100
28) tert-Butyl ethyl ether (ET	5.85	59	1057961	9.00	ug/l	99
29) 2-Butanone	6.03	43	401689	44.68	ug/l	98
30) 2,2-Dichloropropane	6.22	77	746570	10.11	ug/l	99
31) cis-1,2-Dichloroethene	6.29	96	636815	9.62	ug/l	98
32) Chloroform	6.51	83	962165	10.29	ug/l	98

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J04\RJC031.D
Acq On : 4 Oct 2011 9:17 am
Sample : CVO67G1382
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 9:42 2011

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.75	49	425899	9.63 ug/l	86
36)	Tetrahydrofuran	6.81	42	57084	9.52 ug/l	94
37)	1,1,1-Trichloroethane	7.08	97	842811	9.97 ug/l	99
39)	tert-Amyl methyl ether (TA	7.48	87	137851	8.17 ug/l	95
42)	1,1-Dichloropropene	7.32	110	279538	8.61 ug/l	99
43)	Carbon tetrachloride	7.46	119	639773	9.38 ug/l	99
44)	1,2-Dichloroethane	7.68	62	394648	10.17 ug/l	97
45)	Benzene	7.71	78	2310515	9.99 ug/l	100
46)	Trichloroethene	8.64	130	547478	8.27 ug/l	92
48)	1,2-Dichloropropane	8.91	63	545087	10.08 ug/l	94
49)	Bromodichloromethane	9.29	83	572726	10.63 ug/l	99
50)	1,4-Dioxane	9.32	88	26821	193.46 ug/l	96
51)	Dibromomethane	9.38	93	183449	9.67 ug/l	98
52)	2-Chloroethyl vinyl ether	9.79	63	24183	1.64 ug/l	85
53)	4-Methyl-2-pentanone	9.84	43	878606	41.12 ug/l	98
54)	cis-1,3-Dichloropropene	10.17	75	651895	9.88 ug/l	94
56)	Toluene	10.71	91	2246632	9.42 ug/l	100
57)	Ethyl methacrylate	11.01	69	246095	8.48 ug/l	93
58)	trans-1,3-Dichloropropene	11.02	75	422022	9.58 ug/l	96
59)	1,1,2-Trichloroethane	11.30	97	209467	9.20 ug/l	98
60)	2-Hexanone	11.32	43	521338	42.13 ug/l	97
61)	1,3-Dichloropropane	11.74	76	415103	9.58 ug/l	99
62)	Tetrachloroethene	11.84	164	420166	8.77 ug/l	97
63)	Dibromochloromethane	12.19	129	250454	8.61 ug/l	99
64)	1,2-Dibromoethane	12.56	107	204699	8.63 ug/l	100
65)	1-Chlorohexane	12.85	91	919975	9.00 ug/l	98
66)	Chlorobenzene	13.31	112	1168124	8.98 ug/l	95
67)	1,1,1,2-Tetrachloroethane	13.39	131	344578	9.15 ug/l	99
68)	Ethylbenzene	13.41	91	2468786	9.66 ug/l	97
69)	m-Xylene & p-Xylene	13.56	91	3601632	19.44 ug/l	96
70)	o-Xylene	14.36	91	1744515	9.73 ug/l	96
71)	Styrene	14.43	104	1224602	8.77 ug/l	97
73)	Isopropylbenzene	15.05	105	2265948	10.16 ug/l	98
74)	Bromoform	15.06	173	114770	9.88 ug/l	99
75)	trans-1,4-Dichloro-2-buten	15.15	53	51979	7.84 ug/l	100
76)	1,1,2,2-Tetrachloroethane	15.37	83	206011	10.17 ug/l	100
78)	1,2,3-Trichloropropane	15.66	110	48865	9.06 ug/l	92
79)	n-Propylbenzene	15.81	91	2863793	10.31 ug/l	96
80)	Bromobenzene	15.88	156	349057	9.28 ug/l	90
81)	1,3,5-Trimethylbenzene	16.12	105	1770806	9.98 ug/l	96
82)	2-Chlorotoluene	16.15	91	1706419	10.45 ug/l	92

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11J04\RJC031.D
Acq On : 4 Oct 2011 9:17 am
Sample : CVO67G1382
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 9:42 2011

Vial: 2
Operator: AS
Inst : TO67
Multiplr: 1.00
Quant Results File: VO67G13.RES

Quant Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration
DataAcq Meth : VO67G13

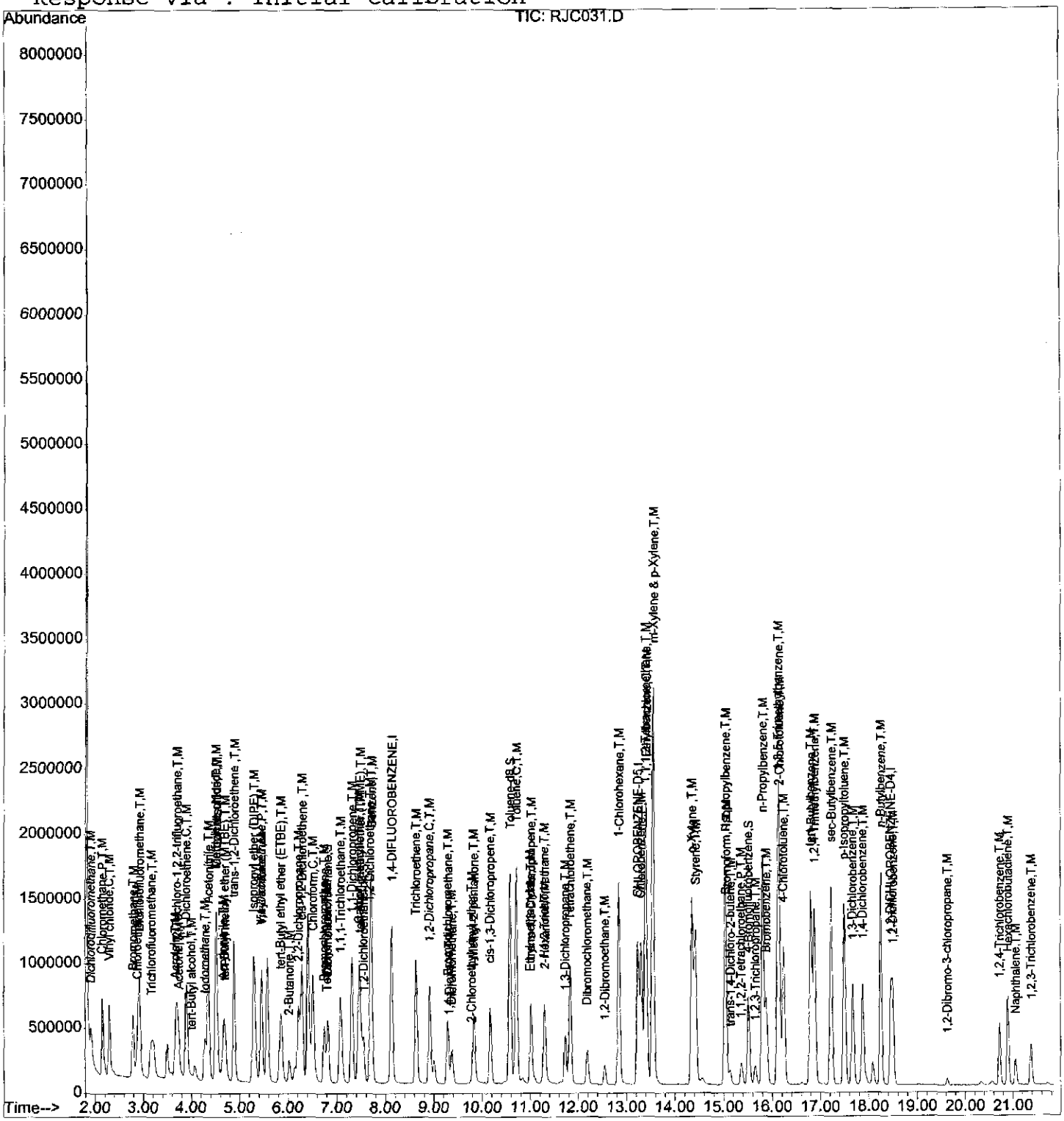
	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
83)	4-Chlorotoluene	16.23	91	1365341	10.35 ug/l		92
84)	tert-Butylbenzene	16.81	134	375033	9.42 ug/l	#	91
85)	1,2,4-Trimethylbenzene	16.88	105	1604253	9.73 ug/l		96
86)	sec-Butylbenzene	17.23	105	2446451	9.82 ug/l		97
87)	p-Isopropyltoluene	17.49	119	1719110	8.67 ug/l		96
88)	1,3-Dichlorobenzene	17.67	146	677247	9.25 ug/l		98
89)	1,4-Dichlorobenzene	17.87	146	611571	8.91 ug/l		99
90)	n-Butylbenzene	18.25	91	1727063	9.12 ug/l		97
91)	1,2-Dichlorobenzene	18.50	146	503063	8.95 ug/l		98
92)	1,2-Dibromo-3-chloropropan	19.63	157	22294	8.42 ug/l		92
93)	1,2,4-Trichlorobenzene	20.73	180	270750	7.89 ug/l		99
94)	Hexachlorobutadiene	20.91	225	254638	8.11 ug/l		97
95)	Naphthalene	21.07	128	281170	6.35 ug/l		100
96)	1,2,3-Trichlorobenzene	21.39	180	197235	7.76 ug/l		98

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\11J04\RJC031.D Vial: 2
Acq On : 4 Oct 2011 9:17 am Operator: AS
Sample : CVO67G1382 Inst : TO67
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA Multiplr: 1.00
MS Integration Params: LSCINT1.P
Quant Time: Oct 4 9:42 2011 Quant Results File: VO67G13.RES

Method : D:\HPCHEM\1\METHODS\VO67G13.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Thu Jul 14 08:15:49 2011
Response via : Initial Calibration



ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☒ EMAX-8260 Rev.No. 8 ☐ EMAX-524.2 Rev.No. 7 ☐ EMAX-624 Rev.No. 4 ☐ EMAX-8260SIM Rev.No.0 ☐ EMAX-TCPSIM Rev.No.1 ☐ EMAX-M8260SIM Rev.No.0 ☐

Start Date: 10-3-11 ☐ 5-mL Purge ☐ 10-mL Purge ☒ 25-mL Purge

Book # A67 -047

BATCH CV067G138

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01	RJC001	BF867J01	1µL					T/CHECK 10:46
02	02	CV067G138	5/5/1/1µL					
03	03	V067J01L						
04	04	C						
05	05	rinse	25mL	1.0				
06	06	LOD/LOQ 2/10ppb	1/1/.2/.2µL					
07	07	1/5ppb	.5/.5/.1/.1µL					
08	08	.5/5ppb	.25/.5/.05/.5µL					
09	09	.3/4ppb	.15/.4/.03/.07µL					
10	10	.2/4ppb	.1/.4/.02/.08µL					
11	11	V067J01B	25mL	1.0				MB
12	12	11J003-07			<2	<.5		RB
13	13	11I284-02			✓	✓		RB
14	14	11J003-05			5	✓		RB
15	15	-04			7	✓		
16	16	11I284-01			<2	✓		R/R@8:25
17	17	-01M			✓	✓		MS } high conc parent, probably salt
18	18	-01S			✓	✓		MSD }
19	19	rinse						
20	20	11I284-03			<2	<.5		
21	21	-04			✓	✓		
22	22	-05			✓	✓		
23	23	-06			✓	✓		R/R@8:25
24	24	-07			✓	✓		22:46
25	25-29	rinses						
26								
27								
28								
29								
30								AS 10-4-11

Instrument No.	67
INITIAL CALIBRATION REFERENCE	
DATE	7-13-11
ICAL ID	V067G13

STANDARDS

NAME	ID	Amount (ul)	Conc. (mg/L)
DCC 8260	SVL-17-72-03	5	
DCC 524.2	-80-03	5	
DCC gases	-86-01	1	50/250
DCC CS2	-82-01	1	
BFB	-77-2	1	
IS/SURR.	-85-01	1	
ICV/LCS 8260	-60-02	5	
ICV/LCS 524.2	-89-02	5	
ICV/LCS gases	-81-02	1	
ICV/LCS CS2	-71-03	1	

DATA FILE FOLDER	11J03
Electronic Data Archival	
Location	Date
HPCHEM_VOA/TO67	

Comments:

Analyzed By: AS

Date Disposed: 10-4-11

Disposed By: AS

2163

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☒ EMAX-8260 Rev.No. 8 ☐ EMAX-524.2 Rev.No. 7 ☐ EMAX-624 Rev.No. 4 ☐ EMAX-8260SIM Rev.No.0 ☐ EMAX-TCPSIM Rev.No.1 ☐ EMAX-M8260SIM Rev.No.0 ☐

Start Date: 10-4-11 ☐ 5-mL Purge ☐ 10-mL Purge ☒ 25-mL Purge

Book # A67 -047

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01	RJC030	BFB67J02	1mL					T/CHECK 8:46
02	31	CV067G1382	5/5/1/1mL					
03	32	V067J02L						
04	33	C						
05	34	rinse	25mL	1.0				
06	35	V067J02B						MB (S2 @ .25ppb r/e below 2")
07	36	11J005-01			7	<.5		TB-003-03-22
08	37	-02			7	-		-23
09	38	-03			7	-		-24
10	39	V067J02Q						MB
11	40	11I284-01T	1mL	25	<2	<.5		
12	41	-06T			-	-		
13	42	-07T			-	-		5:56
14	43	rinse						
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								AS 10-5-11

BATCH CV067G1382

Instrument No.	67
INITIAL CALIBRATION REFERENCE	
DATE	7-13-11
ICAL ID	V067G13

STANDARDS

NAME	ID	Amount (uL)	Conc. (mg/L)
DCC 8260	SV1-17-72-03	5	
DCC Ket-A4	-81-01	5	
DCC gases	-86-01	1	
DCC CS2	-82-01	1	
BFB	-37-2	1	50/250
IS/SURR.	-85-01	1	
ICV/LCS	-60-02	5	
ICV/LCS	-89-02	5	
ICV/LCS	-81-02	1	
ICV/LCS	-71-03	1	

DATA FILE FOLDER 11J04

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO67	

Comments:

Analyzed By: AS

Date Disposed: 10-5-11

Disposed By: AS

2154

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☒ EMAX-8260 Rev.No. 6 ☐ EMAX-524.2 Rev.No. 5 ☐ EMAX-CLP-VOA ☐ EMAX-624 Rev.No. 2 ☐ EMAX-8260SIM Rev.No.0 ☐ EMAX-TCPSIM Rev.No.1 ☐ EMAX-M8260SIM Rev.No.0 ☐

Start Date: 7-13-11 ☐ 5-ml Purge ☐ 15-ml Purge ☒ 25-ml Purge

Book # A67 -046

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01	RGC033	BFB67G07	1 µl					TICHECK
02	134	VO67G13Ø1	.5/.5/.5/.5/.5 µl					.3 ppm 8260 / 1.5 ppb Kit-AA, ACR, ACN, TBA, TPN
03	135	Ø2	.25/.25/.5/.5/.25 µl					5 / 2.5
04	136	Ø3	.5/.5/1/1/.5 µl					1 / 5
05	137	Ø4	1/1/2/2/1 µl					2 / 1Ø
06	138	Ø5	.25/.25/.5/.5/.25 µl					5 / 25
07	139	Ø6	.5/.5/1/1/.5 µl					1Ø / 5Ø
08	14Ø	Ø7	1Ø/1Ø/2/2/1 µl					2Ø / 1ØØ
09	141	Ø8	15/15/3/3/15 µl					3Ø / 15Ø
10	142	Ø9	.25/.25/.5/.5/.25 µl					5Ø / 25Ø
11	143	1Ø	5Ø/5Ø/1Ø/1Ø/5Ø µl					1ØØ / 5ØØ
12	144	rinse	25 mls	1.Ø				
13	145							
14	146	VO67GØ7B						
15	147	IVO67G13Ø1 *	.5/.5/1/1/.25 µl					1Ø / 5Ø
16	148	rinse	25 mls	1.Ø				
17	149							
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								AS

BATCH VO67G13Ø6

Instrument No.	67
INITIAL CALIBRATION REFERENCE	
DATE	7-13-11
ICAL ID	VO67G13

STANDARDS

NAME	ID	Amount (ul)	Conc. (mg/l)
DCC 8260	SVI-17-5Ø-Ø2	VARIES	5Ø ppm
DCC Kit-AA	-52-Ø2		25Ø
DCC gas	-61-Ø2		25Ø
DCC CS2 TAA	-53-Ø1 -29-1		25Ø 25Ø
BFB	-37-2	1	5Ø
IS/SURR. IS SS	-29-Ø3 -55-1	1 VARIES	25Ø 25Ø
ICV/LCS 8260	-37-1	5	5Ø
ICV/LCS Kit-AA	-53-3	5	25Ø
ICV/LCS gas	-61-Ø3	1	25Ø
ICV/LCS CS2 TAA	-46-Ø1 SVI-12-379	1/5	25Ø 1ØØØ
DATA FILE	11G13		

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO67	

Comments: * NOT VALIDATED FOR ACROLEIN >125Ø

Analyzed By: AS

Date Disposed: 7-14

Disposed By:

2165

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CLIENT: **ACCORD ENGINEERING**

PROJECT: **SEAL BEACH SITE 75**

SDG: **11L202**

SECTION		PAGE
Cover Letter, COC/Sample Receipt Form		1000 – 1004
GC/MS-VOA	METHOD 5030B/8260B	2000 – 2029
GC/MS-SVOA	**	3000 –
GC-VOA	**	4000 –
GC-SVOA	**	5000 –
HPLC	**	6000 –
METALS	**	7000 –
WET	**	8000 –
OTHERS	**	9000 –

** - Not Requested

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 01-10-2012
EMAX Batch No.: 11L202

Attn: Qihai Chen

ACCORD ENGINEERING
6050 Santo Road, Suite 175
San Diego, CA 92124

Subject: Laboratory Report
Project: SEAL BEACH SITE 75

Enclosed is the Laboratory report for samples received on 12/27/11.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
SB75MW03B-Q411-01	L202-01	12/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW03A-Q411-01	L202-02	12/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW03A-Q411-02	L202-03	12/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW02A-Q411-01	L202-04	12/27/11	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAC Accredited Certificate Number 02116CA
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER: 101003-03
SAMPLE STORAGE
EMAX CONTROL NO. * 11L202
PROJECT CODE:

CLIENT: Accord Engineering, Inc.
PROJECT: Site 75, PA/SI
COORDINATOR: Qihai Chen
TEL: 626-617-2171 FAX: EMAIL: qchen@accordeng.com
SEND REPORT TO: same
COMPANY:
ADDRESS: 6050 Santo Rd, Suite 175
EMAX PM: Ye Myint

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O= DI H2O	

ANALYSIS REQUIRED: VOCs 8260B

TAT:
- ☐ Rush ____hrs.
- ☐ Rush ____days
- ☐ 7 days
- ☒ 14 days
- ☐ 21 days
- ☐ 30 days
- ☐ ____days
- ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	PRESERVATIVE CODE: HC	COMMENTS
1	SB75MW03B-Q411-01	Site 75	12/27/11	1000	3			GW		X	
2	SB75MW03A-Q411-01	Site 75	12/27/11	1100	3			GW		X	
3	SB75MW03A-Q411-02	Site 75	12/27/11	1105	3			O		X	
4	SB75MW02A-Q411-01	Site 75	12/27/11	1145	3			GW		X	
5											
6											
7											
8											
9											
0											

Instructions: Send Accord NEDD data deliverable.
CC Rain Zeng (yzeng@accordeng.com) & Jesse MacNeill (Jmacneill@bradynet) for all electronic data files.

Cooler #	Temp. (°C)	Sample #s
1	3.6	

SAMPLER: Qihai Chen & Justin Soo Hoo
COURIER/AIRBILL: EMAX

RELINQUISHED BY	Date	Time	RECEIVED BY
Qihai Chen	12/27/11	1330	Keith Stant
Keith Stant	12/27/11	1352	Cliff Ramirez 12.27.11

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepacies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

1001

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill		
☒ EMAX Courier	GT COC	ECN	11L202
☐ Client Delivery		Recepient	J-LVNA
☐ Third Party		Date	12-27-11
		Time	1352

COC Inspection

☒ Client Name	☒ Client PM/FC	☒ Sampler Name	☒ Sampling Date/Time/Location	☒ Sample ID	☒ Matrix
☒ Address	☒ Tel # / Fax #	☒ Courier Signature	☒ Analysis Required	☒ Preservative (if any)	☒ TAT
Safety Issues	☒ None	☐ High concentrations expected	☐ Superfund Site samples	☐ Rad screening required	

Comments:

Packaging Inspection

Container	☒ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☒ Intact	☐ Damaged		
Packaging	☒ Bubble Pack	☐ Styrofoam	☐ Popcorn	☒ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	A ☒ Cooler 1 3.6 °C	☐ Cooler 2 _____ °C	☐ Cooler 3 _____ °C	☐ Cooler 4 _____ °C	☐ Cooler 5 _____ °C
	☐ Cooler 6 _____ °C	☐ Cooler 7 _____ °C	☐ Cooler 8 _____ °C	☐ Cooler 9 _____ °C	☐ Cooler 10 _____ °C

Thermometer: *A - S/N 101541371* *B - S/N 101541382*

Comments: ☐ **PM was informed on non-compliant coolers immediately.**

Note: **pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time .**

DISCREPANCIES

LSID	LSCID	Sample Label ID/COC ID	Discrepancy Code	Corrective Action Code

REVIEWS

Sample labeling _____ Date 12/27/11

SRF Cframulus Date 12-27-11

PM LP for Richard Date 12/28/11

LEGEND:

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Project Management
A1	Analysis is not indicated in COC	D1	Date and/or time is not indicated in COC	R1	Hold sample(s); wait for further instructions
A2	Analysis is not indicated in label	D2	Date and/or time is not indicated in label	R2	Proceed as indicated in COC
A3	Analysis is inconsistent in COC vis-à-vis label	D3	Date and/or time is inconsistent in COC vis-à-vis label	R3	Refer to attached instruction
A4	_____	E1	Insuficient preservative	R4	Cancel the analysis
B1	Sample ID is not indicated in COC	E2	Improper preservation	R5	_____
B2	Sample ID is not indicated in label	F1	Insufficient Sample	R6	_____
B3	Sample ID is inconsistent in COC vis-à-vis label	F2	Bubble is> 6mm		
B4	_____	G1	Temperature is out of range		
C1	Wrong container	G2	Out of Holding Time		
C2	Broken container	G3	>20 % solid particle		
C3	Leaking container	H1	_____		
C4	_____	H2	_____		

Hanh Bui

From: Hanh Bui
Sent: Friday, January 06, 2012 3:19 PM
To: 'Jesse MacNeill'; Ye Myint
Cc: Yu Zeng; tshields@rbrady.net; Qihai Chen
Subject: Results SDG: 11L202 (Seal Beach Site 75)

Hi all,
Attached please find the result of 8260 for 11L202, thanks.
Hanh

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

ACCORD ENGINEERING

SEAL BEACH SITE 75

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 11L202

CASE NARRATIVE

Client : ACCORD ENGINEERING

Project : SEAL BEACH SITE 75

SDG : 11L202

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

A total of four (4) water samples were received on 12/27/11 for Volatile Organics by GC/MS analysis, Method 5030B/8260B in accordance with DoD Quality Systems Manual for Environmental Laboratories, Version 4.2.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms for ICAL, ICV and CCV for details.

Method Blank
Method blank was analyzed at the frequency required by the project. For this SDG, one method blank was analyzed with the samples. Result was compliant to project requirement.

Lab Control Sample
A set of LCS/LCD was analyzed with the samples in this SDG.
Percent recoveries for VO67L23X/Y were all within QC limits.

Matrix QC Sample
No matrix QC sample was designated in this SDG.

Surrogate
Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING
Project : SEAL BEACH SITE 75

SDG NO. : 11L202
Instrument ID : T-067

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	V067L23B	1	NA	12/28/1113:28	12/28/1113:28	RLC572	RKC306	V067L23	Method Blank
LCS1W	V067L23X	1	NA	12/28/1111:54	12/28/1111:54	RLC569	RKC306	V067L23	Lab Control Sample (LCS)
LCD1W	V067L23Y	1	NA	12/28/1112:26	12/28/1112:26	RLC570	RKC306	V067L23	LCS Duplicate
SB75MW03A-Q411-02	L202-03	1	NA	12/28/1118:49	12/28/1118:49	RLC582	RKC306	V067L23	Field Sample
SB75MW03B-Q411-01	L202-01	1	NA	12/28/1119:51	12/28/1119:51	RLC584	RKC306	V067L23	Field Sample
SB75MW03A-Q411-01	L202-02	1	NA	12/28/1120:22	12/28/1120:22	RLC585	RKC306	V067L23	Field Sample
SB75MW02A-Q411-01	L202-04	1	NA	12/28/1120:53	12/28/1120:53	RLC586	RKC306	V067L23	Field Sample

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 12/27/11
Project : SEAL BEACH SITE 75	Date Received: 12/27/11
Batch No. : 11L202	Date Extracted: 12/28/11 19:51
Sample ID: SB75MW03B-Q411-01	Date Analyzed: 12/28/11 19:51
Lab Samp ID: L202-01	Dilution Factor: 1
Lab File ID: RLC584	Matrix : WATER
Ext Btch ID: V067L23	% Moisture : NA
Calib. Ref.: RKC306	Instrument ID : 67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	8.53	10.00	85.3	70-140
4-BROMOFLUOROBENZENE	9.04	10.00	90.4	70-130
TOLUENE-D8	9.60	10.00	96.0	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 12/27/11
Project : SEAL BEACH SITE 75	Date Received: 12/27/11
Batch No. : 11L202	Date Extracted: 12/28/11 20:22
Sample ID: SB75MW03A-0411-01	Date Analyzed: 12/28/11 20:22
Lab Samp ID: L202-02	Dilution Factor: 1
Lab File ID: RLC585	Matrix : WATER
Ext Btch ID: V067L23	% Moisture : NA
Calib. Ref.: RKC306	Instrument ID : 67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	8.45	10.00	84.5	70-140
4-BROMOFLUOROBENZENE	9.01	10.00	90.1	70-130
TOLUENE-D8	9.67	10.00	96.7	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 12/27/11
Project : SEAL BEACH SITE 75	Date Received: 12/27/11
Batch No. : 11L202	Date Extracted: 12/28/11 18:49
Sample ID: SB75MW03A-Q411-02	Date Analyzed: 12/28/11 18:49
Lab Samp ID: L202-03	Dilution Factor: 1
Lab File ID: RLC582	Matrix : WATER
Ext Btch ID: V067L23	% Moisture : NA
Calib. Ref.: RKC306	Instrument ID : 67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	8.39	10.00	83.9	70-140
4-BROMOFLUOROBENZENE	8.95	10.00	89.5	70-130
TOLUENE-D8	9.72	10.00	97.1	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 12/27/11
Project : SEAL BEACH SITE 75	Date Received: 12/27/11
Batch No. : 11L202	Date Extracted: 12/28/11 20:53
Sample ID: SB75MW02A-Q411-01	Date Analyzed: 12/28/11 20:53
Lab Samp ID: L202-04	Dilution Factor: 1
Lab File ID: RLC586	Matrix : WATER
Ext Btch ID: V067L23	% Moisture : NA
Calib. Ref.: RKC306	Instrument ID : 67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	3.4	1.0	0.20
1,1-DICHLOROETHENE	8.8	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	0.76J	1.0	0.20
TRICHLOROETHENE	14	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	8.41	10.00	84.1	70-140
4-BROMOFLUOROBENZENE	9.00	10.00	90.0	70-130
TOLUENE-D8	9.66	10.00	96.6	70-140

QC SUMMARIES

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	NA
Project	: SEAL BEACH SITE 75	Date Received:	12/28/11
Batch No.	: 11L202	Date Extracted:	12/28/11 13:28
Sample ID:	MBLK1W	Date Analyzed:	12/28/11 13:28
Lab Samp ID:	V067L23B	Dilution Factor:	1
Lab File ID:	RLC572	Matrix :	WATER
Ext Btch ID:	V067L23	% Moisture :	NA
Calib. Ref.:	RKC306	Instrument ID :	67

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	8.22	10.00	82.2	70-140
4-BROMOFLUOROBENZENE	9.16	10.00	91.6	70-130
TOLUENE-D8	9.80	10.00	98.0	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11L202
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	V067L23B	V067L23X	V067L23Y		
LAB FILE ID:	RLC572	RLC569	RLC570		
DATE EXTRACTED:	12/28/1113:28	12/28/1111:54	12/28/1112:26	DATE COLLECTED:	NA
DATE ANALYZED:	12/28/1113:28	12/28/1111:54	12/28/1112:26	DATE RECEIVED:	12/28/11
PREP. BATCH:	V067L23	V067L23	V067L23		
CALIB. REF:	RKC306	RKC306	RKC306		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	10.5	105	10.0	10.4	104	0	70-130	30
1,1-Dichloroethane	ND	10.0	10.8	108	10.0	10.7	107	0	70-130	30
1,1-Dichloroethene	ND	10.0	10.2	102	10.0	10.1	101	1	60-130	30
1,2-Dichloroethane	ND	10.0	10.5	105	10.0	10.5	105	0	70-130	30
cis-1,2-Dichloroethene	ND	10.0	10.1	101	10.0	10.2	102	1	70-130	30
Tetrachloroethene	ND	10.0	12.1	121	10.0	11.9	119	1	70-130	30
Trichloroethene	ND	10.0	12.4	124	10.0	12.2	122	2	70-130	30
Vinyl Chloride	ND	10.0	8.52	85	10.0	9.11	91	7	60-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	8.06	81	10.0	8.23	82	70-140
4-Bromofluorobenzene	10.0	8.97	90	10.0	8.79	88	70-130
Toluene-d8	10.0	9.72	97	10.0	9.58	96	70-130

INITIAL CALIBRATION(S)

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RKC300
Instrument ID: 67
GC Column:RTX502.2ID:0.25mm (mm)

Contract: SEAL BEACH SITE 75
SAS No.: SDG No.: 11L202
BFB Injection Date : 11/23/11
BFB Injection Time : 17:45
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.93
75	30.0 - 60.0% of mass 95	44.61
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.68
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	74.57
175	5.0 - 9.0% of mass 174	5.59(7.5)1
176	95.0 - 101.0% of mass 174	72.22(96.8)1
177	5.0 - 9.0% of mass 176	5.30(7.3)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD0.3	V067K2301	RKC301	11/23/11	18:16
2	VSTD0.5	V067K2302	RKC302	11/23/11	18:47
3	VSTD01	V067K2303	RKC303	11/23/11	19:18
4	VSTD02	V067K2304	RKC304	11/23/11	19:49
5	VSTD05	V067K2305	RKC305	11/23/11	20:20
6	VSTD010	V067K2306	RKC306	11/23/11	20:51
7	VSTD020	V067K2307	RKC307	11/23/11	21:22
8	VSTD030	V067K2308	RKC308	11/23/11	21:53
9	VSTD050	V067K2309	RKC309	11/23/11	22:24
10	VSTD100	V067K2310	RKC310	11/23/11	22:55
11	VSTD010	IV067K2301	RKC314	11/24/11	00:59

FORM V VOA OLM02.0

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :T067
Beginning DateTime :11/23/11 18:16
Spike Units :PPB
IC File :RKC306

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :11/23/11 22:55
HPChem Method :V067K23

M	IDX	Parameters	.3 18:16 RKC301	.5 18:47 RKC302	1 19:18 RKC303	2 19:49 RKC304	5 20:20 RKC305	10 20:51 RKC306	20 21:22 RKC307	30 21:53 RKC308	50 22:24 RKC309	100 22:55 RKC310	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	8.0926
	2	Dichlorodifluoromethane	0.260	0.293	0.249	0.290	0.296	0.304	0.294	0.303	0.286	0.303	0.288	6.51	1.9056
	3	Dichlorotetrafluoroethane	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	4	Chloromethane	0.379	0.467	0.412	0.453	0.463	0.473	0.447	0.468	0.429	0.452	0.444	6.64	2.1494
	5	Vinyl chloride	0.402	0.460	0.419	0.464	0.467	0.468	0.445	0.461	0.415	------	0.445	5.75	2.2980
	6	Bromomethane	0.217	0.266	0.237	0.257	0.262	0.270	0.265	0.282	0.261	0.285	0.260	7.77	2.7699
	7	Chloroethane	0.285	0.280	0.250	0.266	0.262	0.272	0.260	0.273	0.252	0.274	0.267	4.37	2.8648
	8	Dichlorofluoromethane	0.597	0.651	0.615	0.595	0.594	0.650	0.616	0.640	0.588	0.624	0.617	3.84	2.9086
	9	Trichlorofluoromethane	0.311	0.353	0.314	0.373	0.374	0.385	0.374	0.393	0.364	0.386	0.363	7.91	3.1509
	10	sec-Propyl alcohol	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
5	11	Acrolein	0.016	0.012	0.013	0.012	0.012	0.013	0.012	0.013	0.012	0.012	0.013	9.18	3.6371
	12	1,1,2-Trichloro-1,2,2-trifluoroethane	0.226	0.231	0.215	0.214	0.216	0.237	0.224	0.228	0.221	0.231	0.224	3.41	3.6779
5	13	Acetone	------	------	0.035	0.031	0.024	0.025	0.022	0.022	0.019	0.021	0.025	21.57	3.7117
	14	1,1-Dichloroethene	0.549	0.613	0.573	0.556	0.568	0.613	0.569	0.581	0.548	0.562	0.573	4.06	3.8750
5	15	tert-Butyl alcohol	------	0.008	0.008	0.007	0.007	0.007	0.006	0.007	0.006	0.006	0.007	11.31	3.9718
	16	Methyl acetate	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	17	Iodomethane	0.488	0.539	0.540	0.517	0.539	0.575	0.537	0.574	0.534	0.578	0.542	5.17	4.2604
10	18	Acetonitrile	0.061	0.069	0.069	0.066	0.068	0.075	0.070	0.070	0.065	0.068	0.068	5.26	4.3232
	19	Methylene chloride	0.435	0.459	0.424	0.400	0.394	0.414	0.385	0.405	0.364	0.383	0.406	6.86	4.4692
	20	Carbon disulfide	1.033	1.440	1.268	1.386	1.351	1.328	1.330	1.400	1.269	1.346	1.315	8.57	4.4955
5	21	Acrylonitrile	0.039	0.040	0.037	0.038	0.035	0.039	0.036	0.039	0.035	0.038	0.038	4.45	4.6371
	22	tert-Butyl methyl ether (MTBE)	0.330	0.364	0.343	0.327	0.335	0.362	0.331	0.359	0.322	0.342	0.342	4.49	4.6721
	23	trans-1,2-Dichloroethene	0.545	0.606	0.592	0.563	0.578	0.615	0.583	0.595	0.560	0.582	0.582	3.70	4.8546
	24	Isopropyl ether (DIPE)	0.993	1.079	1.083	1.019	1.056	1.117	1.033	1.106	0.993	1.052	1.053	4.16	5.2707
	25	1,1-Dichloroethane	0.625	0.697	0.671	0.637	0.646	0.694	0.644	0.668	0.623	0.658	0.656	3.99	5.4181
	26	Vinyl acetate	0.292	0.273	0.267	0.271	0.279	0.279	0.260	0.299	0.268	0.281	0.277	4.22	5.4196
5	27	2-Butanol	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	28	tert-Butyl ethyl ether (ETBE)	0.574	0.627	0.647	0.598	0.624	0.669	0.621	0.666	0.599	0.635	0.626	4.82	5.8239
5	29	2-Butanone	0.050	0.047	0.045	0.047	0.042	0.046	0.043	0.046	0.041	0.044	0.045	5.69	5.9962
	30	2,2-Dichloropropane	0.383	0.433	0.394	0.396	0.386	0.408	0.373	0.391	0.339	0.334	0.384	7.73	6.1889
	31	cis-1,2-Dichloroethene	0.363	0.390	0.377	0.349	0.369	0.381	0.365	0.385	0.357	0.389	0.372	3.79	6.2532
	32	Chloroform	0.486	0.535	0.518	0.493	0.513	0.544	0.503	0.528	0.485	0.515	0.512	3.96	6.4736
	33	Bromochloromethane	0.212	0.249	0.233	0.215	0.223	0.243	0.221	0.235	0.211	0.222	0.226	5.80	6.7072
5	34	tert-Amyl alcohol	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	35	Dibromofluoromethane	0.299	0.300	0.257	0.256	0.277	0.266	0.270	0.288	0.265	0.287	0.277	5.87	6.7875
	36	Tetrahydrofuran	------	------	0.047	0.034	0.034	0.029	0.026	0.029	0.025	0.026	0.031	22.65	6.7593
	37	1,1,1-Trichloroethane	0.489	0.503	0.483	0.475	0.487	0.521	0.490	0.497	0.467	0.484	0.490	3.07	7.0459
	38	Cyclohexane	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	39	tert-Amyl methyl ether (TAME)	0.087	0.094	0.099	0.086	0.092	0.096	0.090	0.097	0.088	0.092	0.092	4.82	7.4459
	40	1,2-Dichloroethane-d4	0.214	0.188	0.181	0.168	0.171	0.168	0.168	0.175	0.155	0.164	0.175	9.43	7.5101
	41	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	13.1964
	42	1,1-Dichloropropene	0.263	0.252	0.244	0.243	0.247	0.268	0.250	0.249	0.246	0.260	0.252	3.41	7.2751
	43	Carbon tetrachloride	0.543	0.558	0.554	0.548	0.544	0.589	0.549	0.551	0.537	0.561	0.553	2.58	7.4181
	44	1,2-Dichloroethane	0.273	0.294	0.292	0.270	0.287	0.298	0.275	0.284	0.252	0.268	0.279	5.08	7.6488
	45	Benzene	1.830	1.889	1.812	1.745	1.749	1.874	1.744	1.793	1.694	1.567	1.770	5.32	7.6692
	46	Trichloroethene	0.485	0.513	0.494	0.465	0.474	0.513	0.478	0.494	0.474	0.515	0.490	3.74	8.5992
	47	Methylcyclohexane	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	48	1,2-Dichloropropane	0.417	0.434	0.424	0.401	0.405	0.433	0.405	0.422	0.391	0.421	0.415	3.41	8.8751

SG
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	49	Bromodichloromethane	0.392	0.431	0.425	0.397	0.408	0.437	0.408	0.430	0.395	0.428	0.415	4.06	9.2474
20	50	1,4-Dioxane	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	5.16	9.2809
	51	Dibromomethane	0.130	0.138	0.152	0.139	0.130	0.151	0.142	0.150	0.138	0.148	0.142	5.71	9.3350
	52	2-Chloroethyl vinyl ether	0.105	0.100	0.096	0.089	0.091	0.102	0.093	0.099	0.093	0.101	0.097	5.48	9.7437
5	53	4-Methyl-2-pentanone	0.148	0.162	0.144	0.153	0.139	0.159	0.148	0.156	0.139	0.148	0.150	5.32	9.7905
	54	cis-1,3-Dichloropropene	0.503	0.497	0.515	0.489	0.501	0.531	0.492	0.524	0.481	0.522	0.505	3.29	10.1335
	55	Toluene-d8	1.798	1.650	1.443	1.441	1.493	1.477	1.498	1.544	1.467	1.449	1.526	7.50	10.5350
	56	Toluene	1.795	1.953	1.860	1.781	1.798	1.945	1.800	1.856	1.760	1.576	1.813	5.87	10.6693
	57	Ethyl methacrylate	0.206	0.228	0.221	0.203	0.213	0.230	0.213	0.230	0.208	0.222	0.217	4.67	10.9700
	58	trans-1,3-Dichloropropene	0.299	0.336	0.335	0.308	0.324	0.347	0.326	0.340	0.314	0.334	0.326	4.65	10.9832
	59	1,1,2-Trichloroethane	0.170	0.173	0.168	0.161	0.164	0.178	0.167	0.176	0.162	0.175	0.169	3.49	11.2503
5	60	2-Hexanone	0.106	0.100	0.085	0.088	0.082	0.093	0.087	0.091	0.081	0.085	0.090	9.06	11.2679
	61	1,3-Dichloropropane	0.322	0.336	0.329	0.312	0.314	0.337	0.313	0.332	0.303	0.327	0.322	3.59	11.6912
	62	Tetrachloroethene	0.384	0.384	0.382	0.364	0.371	0.401	0.370	0.373	0.362	0.380	0.377	3.07	11.7949
	63	Dibromochloromethane	0.209	0.225	0.226	0.208	0.214	0.233	0.216	0.230	0.212	0.229	0.220	4.27	12.1525
	64	1,2-Dibromoethane	0.155	0.176	0.178	0.169	0.174	0.187	0.176	0.188	0.172	0.184	0.176	5.53	12.5117
	65	1-Chlorohexane	0.834	0.846	0.809	0.785	0.794	0.865	0.812	0.808	0.783	0.809	0.815	3.26	12.8095
	66	Chlorobenzene	0.990	1.044	1.042	1.004	1.009	1.083	1.016	1.058	0.991	1.066	1.030	3.19	13.2635
	67	1,1,1,2-Tetrachloroethane	0.283	0.311	0.298	0.282	0.287	0.313	0.295	0.305	0.287	0.311	0.297	4.13	13.3497
	68	Ethylbenzene	2.063	2.185	2.070	1.992	2.037	2.198	2.046	2.063	1.953	------	2.067	3.87	13.3656
2	69	m-Xylene & p-Xylene	1.535	1.567	1.516	1.462	1.492	1.618	1.481	1.502	1.301	------	1.497	5.86	13.5099
	70	o-Xylene	1.444	1.467	1.455	1.394	1.392	1.514	1.407	1.440	1.337	1.349	1.420	3.84	14.3146
	71	Styrene	1.055	1.130	1.149	1.076	1.127	1.209	1.131	1.167	1.087	1.153	1.128	4.08	14.3862
	72	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	18.4169
	73	Isopropylbenzene	6.672	7.150	6.905	6.632	6.733	7.264	6.843	6.947	6.815	6.130	6.809	4.57	14.9993
	74	Bromoform	0.273	0.343	0.333	0.321	0.328	0.358	0.342	0.364	0.348	0.385	0.339	8.82	15.0154
	75	trans-1,4-Dichloro-2-butene	0.225	0.219	0.206	0.173	0.179	0.183	0.174	0.186	0.167	0.179	0.189	10.72	15.0957
	76	1,1,2,2-Tetrachloroethane	0.534	0.577	0.576	0.536	0.529	0.580	0.549	0.576	0.540	0.582	0.558	3.93	15.3307
	77	4-Bromofluorobenzene	------	1.669	1.374	1.284	1.335	1.284	1.312	1.346	1.293	1.405	1.367	8.82	15.4708
	78	1,2,3-Trichloropropane	0.131	0.141	0.152	0.144	0.144	0.154	0.145	0.154	0.143	0.154	0.146	5.01	15.6139
	79	n-Propylbenzene	8.550	8.846	8.591	8.268	8.449	9.163	8.629	8.665	8.392	------	8.617	3.07	15.7614
	80	Bromobenzene	1.068	1.150	1.118	1.055	1.075	1.155	1.086	1.130	1.090	1.187	1.111	3.92	15.8402
	81	1,3,5-Trimethylbenzene	5.397	5.806	5.536	5.204	5.365	5.777	5.443	5.488	5.328	5.337	5.468	3.54	16.0767
	82	2-Chlorotoluene	4.681	5.134	5.078	4.727	4.898	5.234	4.680	4.792	4.784	5.019	4.903	4.10	16.0957
	83	4-Chlorotoluene	4.165	4.429	4.066	3.701	3.752	3.992	3.992	3.997	3.646	3.906	3.965	5.88	16.1950
	84	tert-Butylbenzene	1.238	1.276	1.219	1.198	1.221	1.319	1.240	1.252	1.223	1.324	1.251	3.41	16.7643
	85	1,2,4-Trimethylbenzene	4.937	5.326	5.233	4.885	4.995	5.346	5.045	5.087	4.903	5.054	5.081	3.31	16.8388
	86	sec-Butylbenzene	7.621	8.075	7.697	7.562	7.574	8.245	7.744	7.672	7.537	6.406	7.613	6.36	17.1760
	87	p-Isopropyltoluene	5.782	6.275	6.066	5.888	6.030	6.517	6.075	6.094	5.944	5.611	6.028	4.17	17.4534
	88	1,3-Dichlorobenzene	2.217	2.314	2.186	2.058	2.147	2.301	2.139	2.219	2.120	2.266	2.197	3.76	17.6271
	89	1,4-Dichlorobenzene	2.047	2.207	2.071	1.942	1.987	2.125	1.992	2.058	1.954	2.106	2.049	4.06	17.8330
	90	n-Butylbenzene	5.788	6.130	5.776	5.669	5.836	6.376	5.915	5.863	5.768	5.053	5.817	5.82	18.2125
	91	1,2-Dichlorobenzene	1.578	1.735	1.625	1.524	1.584	1.680	1.577	1.641	1.560	1.668	1.617	3.98	18.4622
	92	1,2-Dibromo-3-chloropropane	------	0.070	0.075	0.065	0.070	0.077	0.074	0.079	0.075	0.081	0.074	7.02	19.5991
	93	1,2,4-Trichlorobenzene	1.068	1.069	1.061	1.001	1.047	1.133	1.067	1.128	1.109	1.182	1.086	4.76	20.6943
	94	Hexachlorobutadiene	1.041	1.065	0.996	1.004	1.013	1.126	1.045	1.042	1.064	1.091	1.049	3.82	20.8695
	95	Naphthalene	1.260	1.331	1.265	1.175	1.227	1.348	1.293	1.396	1.345	1.452	1.309	6.28	21.0272
	96	1,2,3-Trichlorobenzene	0.791	0.793	0.774	0.735	0.763	0.843	0.783	0.837	0.809	0.867	0.799	5.01	21.3454

Spike Amount = Nominal Amount * M
Ave_%RSD : 5.6 Max_%RSD : 22.7

S4
11/29/11

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
13	Acetone	0.00937	0.02037	0.9983
56	Tetrahydrofuran	0.00219	0.02588	0.9987

SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :T067
IC_Beginning DateTime :11/23/11 18:16
Spike Amount :10 PPB
CC/CV File :RKC314
IC File :RKC306

Column Spec :RTX502.2 ID :0.25MM
IC_Ending DateTime :11/23/11 22:55
HPChem Method :V067K23
Date_Time :11/24/11 00:59

M	IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AvRRF	CC_Rtm	AvRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	10.000	0	1788448	1	1	8.093	8.093	0				
	2	Dichlorodifluoromethane	9.720	-2.8	500264	0.280	0.288	1.903	1.906	6.51				
	3	Dichlorotetrafluoroethane												
	4	Chloromethane	9.300	-7.0	738969	0.413	0.444	2.136	2.149	6.64				
	5	Vinyl chloride	9.365	-6.4	744725	0.416	0.445	2.283	2.298	5.75				
	6	Bromomethane	9.871	-1.3	459678	0.257	0.260	2.764	2.770	7.77				
	7	Chloroethane	9.637	-3.6	460924	0.258	0.267	2.866	2.865	4.37				
	8	Dichlorofluoromethane	10.276	2.8	1133916	0.634	0.617	2.910	2.909	3.84				
	9	Trichlorofluoromethane	10.912	9.1	708264	0.396	0.363	3.144	3.151	7.91				
	10	sec-Propyl alcohol												
5	11	Acrolein	53.199	6.4	120381	0.013	0.013	3.640	3.637	9.18				
	12	1,1,2-Trichloro-1,2,2-trifluoroethane	11.300	13.0	453648	0.254	0.224	3.669	3.678	3.41				
5	13	Acetone	55.726	11.5	219754	0.025	0.025	3.713	3.712	21.57	0.0094	0.0204		0.9983
	14	1,1-Dichloroethene	10.272	2.7	1052753	0.589	0.573	3.874	3.875	4.06				
5	15	tert-Butyl alcohol	53.455	6.9	67519	0.008	0.007	3.976	3.972	11.31				
	16	Methyl acetate												
	17	Iodomethane	11.376	13.8	1103172	0.617	0.542	4.253	4.260	5.17				
10	18	Acetonitrile	103.186	3.2	1258616	0.070	0.068	4.326	4.323	5.26				
	19	Methylene chloride	10.288	2.9	747714	0.418	0.406	4.472	4.469	6.86				
	20	Carbon disulfide	11.612	16.1	2731052	1.527	1.315	4.487	4.496	8.57				
5	21	Acrylonitrile	53.192	6.4	357469	0.040	0.038	4.633	4.637	4.45				
	22	tert-Butyl methyl ether (MTBE)	10.348	3.5	632096	0.353	0.342	4.677	4.672	4.49				
	23	trans-1,2-Dichloroethene	9.956	-0.4	1036356	0.579	0.582	4.852	4.855	3.70				
	24	Isopropyl ether (DIPE)	10.103	1.0	1902502	1.064	1.053	5.261	5.271	4.16				
	25	1,1-Dichloroethane	10.278	2.8	1206518	0.675	0.656	5.421	5.418	3.99				
	26	Vinyl acetate	8.867	-11.3	439369	0.246	0.277	5.421	5.420	4.22				
5	27	2-Butanol												
	28	tert-Butyl ethyl ether (ETBE)	10.436	4.4	1168278	0.653	0.626	5.830	5.824	4.82				
5	29	2-Butanone	51.689	3.4	416346	0.047	0.045	5.991	5.996	5.69				
	30	2,2-Dichloropropane	9.668	-3.3	663358	0.371	0.384	6.180	6.189	7.73				
	31	cis-1,2-Dichloroethene	9.712	-2.9	646925	0.362	0.372	6.253	6.253	3.79				
	32	Chloroform	10.512	5.1	962665	0.538	0.512	6.472	6.474	3.96				
	33	Bromochloromethane	10.330	3.3	418056	0.234	0.226	6.706	6.707	5.80				
5	34	tert-Amyl alcohol												
	35	Dibromofluoromethane	10.674	6.7	528024	0.295	0.277	6.779	6.787	5.87				
	36	Tetrahydrofuran	10.834	8.3	54063	0.030	0.031	6.750	6.759	22.65	0.0022	0.0259		0.9987
	37	1,1,1-Trichloroethane	10.189	1.9	892428	0.499	0.490	7.042	7.046	3.07				
	38	Cyclohexane												
	39	tert-Amyl methyl ether (TAME)	10.489	4.9	172856	0.097	0.092	7.436	7.446	4.82				
	40	1,2-Dichloroethane-d4	10.507	5.1	329393	0.184	0.175	7.509	7.510	9.43				
	41	CHLOROBENZENE-D5	10.000	0	1362441	1	1	13.202	13.196	0				
	42	1,1-Dichloropropene	10.495	4.9	360560	0.265	0.252	7.275	7.275	3.41				
	43	Carbon tetrachloride	10.272	2.7	774387	0.568	0.553	7.421	7.418	2.58				
	44	1,2-Dichloroethane	10.383	3.8	394996	0.290	0.279	7.655	7.649	5.08				

SG
11/29/11

2015

	45	Benzene	10.110	1.1	2437685	1.789	1.770	7.669	7.669	5.32				
	46	Trichloroethene	10.753	7.5	718572	0.527	0.490	8.604	8.599	3.74				
	47	Methylcyclohexane												
	48	1,2-Dichloropropane	10.243	2.4	579638	0.425	0.415	8.881	8.875	3.41				
	49	Bromodichloromethane	10.093	0.9	570669	0.419	0.415	9.246	9.247	4.06				
20	50	1,4-Dioxane	208.865	4.4	32672	0.001	0.001	9.275	9.281	5.16				
	51	Dibromomethane	9.629	-3.7	185895	0.136	0.142	9.334	9.335	5.71				
	52	2-Chloroethyl vinyl ether	10.499	5.0	138370	0.102	0.097	9.743	9.744	5.48				
5	53	4-Methyl-2-pentanone	51.514	3.0	1050271	0.154	0.150	9.786	9.790	5.32				
	54	cis-1,3-Dichloropropene	10.245	2.4	705531	0.518	0.505	10.137	10.134	3.29				
	55	Toluene-d8	10.683	6.8	2221159	1.630	1.526	10.531	10.535	7.50				
	56	Toluene	10.331	3.3	2551566	1.873	1.813	10.677	10.669	5.87				
	57	Ethyl methacrylate	9.900	-1.0	293083	0.215	0.217	10.969	10.970	4.67				
	58	trans-1,3-Dichloropropene	10.388	3.9	461812	0.339	0.326	10.983	10.983	4.65				
	59	1,1,2-Trichloroethane	10.757	7.6	248330	0.182	0.169	11.246	11.250	3.49				
5	60	2-Hexanone	50.456	0.9	616587	0.091	0.090	11.261	11.268	9.06				
	61	1,3-Dichloropropane	10.406	4.1	457007	0.335	0.322	11.684	11.691	3.59				
	62	Tetrachloroethene	10.355	3.5	531946	0.390	0.377	11.801	11.795	3.07				
	63	Dibromochloromethane	10.383	3.8	311376	0.229	0.220	12.151	12.153	4.27				
	64	1,2-Dibromoethane	10.053	0.5	240937	0.177	0.176	12.516	12.512	5.53				
	65	1-Chlorohexane	10.468	4.7	1161901	0.853	0.815	12.808	12.809	3.26				
	66	Chlorobenzene	10.538	5.4	1479247	1.086	1.030	13.261	13.264	3.19				
	67	1,1,1,2-Tetrachloroethane	10.416	4.2	421748	0.310	0.297	13.348	13.350	4.13				
	68	Ethylbenzene	10.070	0.7	2836333	2.082	2.067	13.363	13.366	3.87				
2	69	m-Xylene & p-Xylene	20.333	1.7	4147314	1.522	1.497	13.509	13.510	5.86				
	70	o-Xylene	10.134	1.3	1960683	1.439	1.420	14.312	14.315	3.84				
	71	Styrene	9.917	-0.8	1524546	1.119	1.128	14.385	14.386	4.08				
	72	1,2-DICHLOROBENZENE-D4	10.000	0	391560	1	1	18.414	18.417	0				
	73	Isopropylbenzene	10.858	8.6	2894946	7.393	6.809	14.998	14.999	4.57				
	74	Bromoform	10.719	7.2	142484	0.364	0.339	15.013	15.015	8.82				
	75	trans-1,4-Dichloro-2-butene	8.715	-12.8	64501	0.165	0.189	15.100	15.096	10.72				
	76	1,1,2,2-Tetrachloroethane	10.291	2.9	224778	0.574	0.558	15.334	15.331	3.93				
	77	4-Bromofluorobenzene	10.679	6.8	571686	1.460	1.367	15.465	15.471	8.82				
	78	1,2,3-Trichloropropane	10.742	7.4	61539	0.157	0.146	15.611	15.614	5.01				
	79	n-Propylbenzene	10.136	1.4	3420117	8.735	8.617	15.757	15.761	3.07				
	80	Bromobenzene	9.877	-1.2	429858	1.098	1.111	15.845	15.840	3.92				
	81	1,3,5-Trimethylbenzene	9.829	-1.7	2104616	5.375	5.468	16.078	16.077	3.54				
	82	2-Chlorotoluene	10.065	0.6	1932227	4.935	4.903	16.093	16.096	4.10				
	83	4-Chlorotoluene	9.821	-1.8	1524616	3.894	3.965	16.195	16.195	5.88				
	84	tert-Butylbenzene	10.150	1.5	497170	1.270	1.251	16.765	16.764	3.41				
	85	1,2,4-Trimethylbenzene	10.009	0.1	1991441	5.086	5.081	16.837	16.839	3.31				
	86	sec-Butylbenzene	10.486	4.9	3126276	7.984	7.613	17.173	17.176	6.36				
	87	p-Isopropyltoluene	10.200	2.0	2407852	6.149	6.028	17.451	17.453	4.17				
	88	1,3-Dichlorobenzene	10.347	3.5	890011	2.273	2.197	17.626	17.627	3.76				
	89	1,4-Dichlorobenzene	10.394	3.9	833898	2.130	2.049	17.830	17.833	4.06				
	90	n-Butylbenzene	10.031	0.3	2285098	5.836	5.817	18.210	18.212	5.82				
	91	1,2-Dichlorobenzene	10.361	3.6	656103	1.676	1.617	18.458	18.462	3.98				
	92	1,2-Dibromo-3-chloropropane	9.920	-0.8	28739	0.073	0.074	19.597	19.599	7.02				
	93	1,2,4-Trichlorobenzene	10.101	1.0	429723	1.097	1.086	20.692	20.694	4.76				
	94	Hexachlorobutadiene	10.094	0.9	414537	1.059	1.049	20.867	20.869	3.82				
	95	Naphthalene	9.699	-3.0	497211	1.270	1.309	21.027	21.027	6.28				
	96	1,2,3-Trichlorobenzene	9.848	-1.5	308259	0.787	0.799	21.349	21.345	5.01				

Spike Amount = Nominal Amount * M

SC
11/29/11

DAILY CALIBRATION(S)

2018

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLC564
Instrument ID: 67
GC Column:RTX502.2ID:0.25mm (mm)

Contract: SEAL BEACH SITE 75
SAS No.: SDG No.: 11L202
BFB Injection Date : 12/28/11
BFB Injection Time : 09:18
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	20.67
75	30.0 - 60.0% of mass 95	43.86
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.83
173	Less than 2.0% of mass 174	0.37(0.5)1
174	Greater than 50% of mass 95	81.38
175	5.0 - 9.0% of mass 174	6.29(7.7)1
176	95.0 - 101.0% of mass 174	80.62(99.1)1
177	5.0 - 9.0% of mass 176	5.22(6.5)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CV067K2326	RLC566	12/28/11	10:21
2	MBLK1W	V067L23B	RLC572	12/28/11	13:28
3	LCS1W	V067L23X	RLC569	12/28/11	11:54
4	LCD1W	V067L23Y	RLC570	12/28/11	12:26
5	SB75MW03A-Q411-02	L202-03	RLC582	12/28/11	18:49
6	SB75MW03B-Q411-01	L202-01	RLC584	12/28/11	19:51
7	SB75MW03A-Q411-01	L202-02	RLC585	12/28/11	20:22
8	SB75MW02A-Q411-01	L202-04	RLC586	12/28/11	20:53

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RKC306
Instrument ID: 67
GC Column: RTX502.2 ID: 0.25mm (mm)

Project: SEAL BEACH SITE 75
SDG No.: 11L202
Date Analyzed: 11/23/11
Time Analyzed: 20:51
Heated Purge: (Y/N) N

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	2156765	8.09	1637638	13.20	477066	18.42
	UPPER LIMIT	4313530	8.59	3275276	13.70	954132	18.92
	LOWER LIMIT	1078383	7.59	818819	12.70	238533	17.92
	SAMPLE ID						
1	VSTD010	2071557	8.07	1563354	13.16	466114	18.39
2	MBLK1W	2268464	8.07	1657032	13.18	471509	18.41
3	LCS1W	2193461	8.07	1635824	13.18	491445	18.40
4	LCD1W	2146151	8.06	1611744	13.17	490656	18.40
5	SB75MW03A-Q411-02	2295852	8.08	1689828	13.18	484480	18.40
6	SB75MW03B-Q411-01	2289699	8.07	1689363	13.18	490387	18.41
7	SB75MW03A-Q411-01	2305108	8.07	1708620	13.18	486270	18.41
8	SB75MW02A-Q411-01	2139811	8.07	1560708	13.18	443470	18.40

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L28\RLC566.D
Acq On : 28 Dec 2011 10:21 am
Sample : CVO67K2326 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67K23.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Mon Nov 28 09:48:33 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	96	-0.03
2	T,M	Dichlorodifluoromethane	10.000	8.621	13.8	78	0.00
3	T,M	Dichlorotetrafluoroethane	-1.000	0.000	0.0	0	0.00
4	P,T,M	Chloromethane	10.000	8.519	14.8	77	-0.01
5	C,T,M	Vinyl chloride	10.000	9.446	5.5	86	-0.03
6	T,M	Bromomethane	10.000	9.613	3.9	89	0.00
7	T,M	Chloroethane	10.000	9.681	3.2	91	-0.01
8	T,M	Dichlorofluoromethane	10.000	10.235	-2.3	93	-0.01
9	T,M	Trichlorofluoromethane	10.000	11.156	-11.6	101	-0.03
10	T,M	sec-Propyl alcohol	-1.000	0.000	0.0	0	0.00
11	T,M	Acrolein	50.000	29.949	40.1#	56	-0.02
12	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	11.206	-12.1	102	-0.02
13	T,M	Acetone	50.000	55.915	-11.8	96	0.00
14	C,T,M	1,1-Dichloroethene	10.000	9.822	1.8	88	-0.02
15	T,M	tert-Butyl alcohol	50.000	48.941	2.1	93	-0.02
16	T,M	Methyl acetate	-1.000	0.000	0.0	0	-4.30#
17	T,M	Iodomethane	10.000	10.983	-9.8	99	-0.04
18	T,M	Acetonitrile	100.000	98.274	1.7	86	-0.02
19	T,M	Methylene chloride	10.000	9.642	3.6	91	-0.02
20	T,M	Carbon disulfide	10.000	9.096	9.0	87	-0.02
21	T,M	Acrylonitrile	50.000	49.624	0.8	92	-0.02
22	T,M	tert-Butyl methyl ether (MT	10.000	9.848	1.5	89	-0.02
23	T,M	trans-1,2-Dichloroethene	10.000	9.961	0.4	90	-0.02
24	T,M	Isopropyl ether (DIPE)	10.000	9.983	0.2	90	-0.03
25	P,T,M	1,1-Dichloroethane	10.000	10.339	-3.4	94	-0.02
26	T,M	Vinyl acetate	10.000	10.216	-2.2	97	-0.02
27	T,M	2-Butanol	-1.000	0.000	0.0	0	-5.75#
28	T,M	tert-Butyl ethyl ether (ETB	10.000	10.150	-1.5	91	-0.03
29	T,M	2-Butanone	50.000	48.255	3.5	90	-0.02
30	T,M	2,2-Dichloropropane	10.000	11.633	-16.3	105	-0.03
31	T,M	cis-1,2-Dichloroethene	10.000	10.611	-6.1	100	-0.02
32	C,T,M	Chloroform	10.000	10.554	-5.5	95	-0.02
33	T,M	Bromochloromethane	10.000	9.721	2.8	87	-0.01
34	T,M	tert-Amyl alcohol	-1.000	0.000	0.0	0	-6.73#
35	S	Dibromofluoromethane	10.000	9.300	7.0	93	-0.03
36	T,M	Tetrahydrofuran	10.000	8.866	11.3	84	-0.03
37	T,M	1,1,1-Trichloroethane	10.000	10.427	-4.3	94	-0.01
38	T,M	Cyclohexane	-1.000	0.000	0.0	0	-7.09#
39	T,M	tert-Amyl methyl ether (TAM	10.000	10.134	-1.3	93	-0.03
40	S	1,2-Dichloroethane-d4	10.000	8.205	17.9	82	-0.03
41	I	CHLOROBENZENE-D5	10.000	10.000	0.0	95	0.04

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L28\RLC566.D
Acq On : 28 Dec 2011 10:21 am
Sample : CVO67K2326 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67K23.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Mon Nov 28 09:48:33 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M 1,1-Dichloropropene	10.000	10.822	-8.2	97	-0.03
43	T,M Carbon tetrachloride	10.000	10.745	-7.4	96	-0.03
44	T,M 1,2-Dichloroethane	10.000	9.670	3.3	87	-0.03
45	T,M Benzene	10.000	10.606	-6.1	96	-0.03
46	T,M Trichloroethene	10.000	11.363	-13.6	104	-0.02
47	T,M Methylcyclohexane	-1.000	0.000	0.0	0	-8.71#
48	C,T,M 1,2-Dichloropropane	10.000	10.414	-4.1	95	-0.04
49	T,M Bromodichloromethane	10.000	10.259	-2.6	93	-0.02
50	T,M 1,4-Dioxane	200.000	209.183	-4.6	98	-0.02
51	T,M Dibromomethane	10.000	10.320	-3.2	93	-0.02
52	T,M 2-Chloroethyl vinyl ether	10.000	1.468	85.3#	13	-0.02 NT
53	T,M 4-Methyl-2-pentanone	50.000	44.245	11.5	80	-0.02
54	T,M cis-1,3-Dichloropropene	10.000	10.235	-2.3	93	-0.03
55	S Toluene-d8	10.000	9.545	4.6	94	-0.02
56	C,T,M Toluene	10.000	10.983	-9.8	98	-0.02
57	T,M Ethyl methacrylate	10.000	9.798	2.0	88	-0.03
58	T,M trans-1,3-Dichloropropene	10.000	10.013	-0.1	90	-0.03
59	T,M 1,1,2-Trichloroethane	10.000	10.721	-7.2	97	-0.03
60	T,M 2-Hexanone	50.000	46.482	7.0	86	-0.02
61	T,M 1,3-Dichloropropane	10.000	10.199	-2.0	93	-0.02
62	T,M Tetrachloroethene	10.000	11.620	-16.2	104	-0.03
63	T,M Dibromochloromethane	10.000	11.105	-11.1	100	-0.03
64	T,M 1,2-Dibromoethane	10.000	10.686	-6.9	96	-0.04
65	T,M 1-Chlorohexane	10.000	10.828	-8.3	97	-0.03
66	P,M Chlorobenzene	10.000	11.356	-13.6	103	-0.03
67	T,M 1,1,1,2-Tetrachloroethane	10.000	11.519	-15.2	104	-0.03
68	C,T,M Ethylbenzene	10.000	10.967	-9.7	98	-0.03
69	T,M m-Xylene & p-Xylene	20.000	21.949	-9.7	97	-0.04
70	T,M o-Xylene	10.000	10.954	-9.5	98	-0.02
71	T,M Styrene	10.000	11.102	-11.0	99	-0.04
72	I 1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	98	-0.03
73	T,M Isopropylbenzene	10.000	11.070	-10.7	101	-0.03
74	P,T,M Bromoform	10.000	10.925	-9.3	101	-0.03
75	T,M trans-1,4-Dichloro-2-butene	10.000	5.916	40.8#	60	-0.03 NT
76	P,T,M 1,1,2,2-Tetrachloroethane	10.000	10.139	-1.4	95	-0.03
77	S 4-Bromofluorobenzene	10.000	8.891	11.1	92	-0.02
78	T,M 1,2,3-Trichloropropane	10.000	10.518	-5.2	98	-0.03
79	T,M n-Propylbenzene	10.000	10.632	-6.3	98	-0.02
80	T,M Bromobenzene	10.000	11.476	-14.8	108	-0.03
81	T,M 1,3,5-Trimethylbenzene	10.000	10.906	-9.1	101	-0.03

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L28\RLC566.D
Acq On : 28 Dec 2011 10:21 am
Sample : CVO67K2326 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67K23.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Mon Nov 28 09:48:33 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
82	T,M	2-Chlorotoluene	10.000	10.799	-8.0	99	-0.03
83	T,M	4-Chlorotoluene	10.000	10.233	-2.3	99	-0.03
84	T,M	tert-Butylbenzene	10.000	11.524	-15.2	107	-0.03
85	T,M	1,2,4-Trimethylbenzene	10.000	10.867	-8.7	101	-0.03
86	T,M	sec-Butylbenzene	10.000	11.218	-12.2	101	-0.03
87	T,M	p-Isopropyltoluene	10.000	11.662	-16.6	105	-0.03
88	T,M	1,3-Dichlorobenzene	10.000	11.713	-17.1	109	-0.03
89	T,M	1,4-Dichlorobenzene	10.000	11.451	-14.5	108	-0.03
90	T,M	n-Butylbenzene	10.000	10.714	-7.1	96	-0.03
91	T,M	1,2-Dichlorobenzene	10.000	11.522	-15.2	108	-0.02
92	T,M	1,2-Dibromo-3-chloropropane	10.000	11.220	-12.2	105	-0.02
93	T,M	1,2,4-Trichlorobenzene	10.000	10.857	-8.6	102	-0.02
94	T,M	Hexachlorobutadiene	10.000	11.549	-15.5	105	-0.02
95	T,M	Naphthalene	10.000	10.045	-0.4	95	-0.03
96	T,M	1,2,3-Trichlorobenzene	10.000	10.482	-4.8	97	-0.03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L28\RLC566.D
Acq On : 28 Dec 2011 10:21 am
Sample : CV067K2326 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67K23.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Mon Nov 28 09:48:33 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	96	-0.03
2	T,M	Dichlorodifluoromethane	0.288	0.248	13.9	78	0.00
3	T,M	Dichlorotetrafluoroethane	0.000	0.000	0.0	0#	0.00
4	P,T,M	Chloromethane	0.444	0.378	14.9	77	-0.01
5	C,T,M	Vinyl chloride	0.445	0.420	5.6	86	-0.03
6	T,M	Bromomethane	0.260	0.250	3.8	89	0.00
7	T,M	Chloroethane	0.267	0.259	3.0	91	-0.01
8	T,M	Dichlorofluoromethane	0.617	0.631	-2.3	93	-0.01
9	T,M	Trichlorofluoromethane	0.363	0.405	-11.6	101	-0.03
10	T,M	sec-Propyl alcohol	0.000	0.000	0.0	0#	0.00
11	T,M	Acrolein	0.013	0.008	38.5#	56	-0.02
12	T,M	1,1,2-Trichloro-1,2,2-trifl	0.224	0.252	-12.5	102	-0.02
13	T,M	Acetone	0.025	0.025	0.0	96	0.00
14	C,T,M	1,1-Dichloroethene	0.573	0.563	1.7	88	-0.02
15	T,M	tert-Butyl alcohol	0.007	0.007	0.0	93	-0.02
16	T,M	Methyl acetate	0.000	0.000	0.0	0#	-4.30#
17	T,M	Iodomethane	0.542	0.595	-9.8	99	-0.04
18	T,M	Acetonitrile	0.068	0.067	1.5	86	-0.02
19	T,M	Methylene chloride	0.406	0.392	3.4	91	-0.02
20	T,M	Carbon disulfide	1.315	1.196	9.0	87	-0.02
21	T,M	Acrylonitrile	0.038	0.037	2.6	92	-0.02
22	T,M	tert-Butyl methyl ether (MT	0.342	0.336	1.8	89	-0.02
23	T,M	trans-1,2-Dichloroethene	0.582	0.580	0.3	90	-0.02
24	T,M	Isopropyl ether (DIPE)	1.053	1.051	0.2	90	-0.03
25	P,T,M	1,1-Dichloroethane	0.656	0.679	-3.5	94	-0.02
26	T,M	Vinyl acetate	0.277	0.283	-2.2	97	-0.02
27	T,M	2-Butanol	0.000	0.000	0.0	0#	-5.75#
28	T,M	tert-Butyl ethyl ether (ETB	0.626	0.635	-1.4	91	-0.03
29	T,M	2-Butanone	0.045	0.043	4.4	90	-0.02
30	T,M	2,2-Dichloropropane	0.384	0.446	-16.1	105	-0.03
31	T,M	cis-1,2-Dichloroethene	0.372	0.395	-6.2	100	-0.02
32	C,T,M	Chloroform	0.512	0.540	-5.5	95	-0.02
33	T,M	Bromochloromethane	0.226	0.220	2.7	87	-0.01
34	T,M	tert-Amyl alcohol	0.000	0.000	0.0	0#	-6.73#
35	S	Dibromofluoromethane	0.277	0.257	7.2	93	-0.03
36	T,M	Tetrahydrofuran	0.031	0.025	19.4	84	-0.03
37	T,M	1,1,1-Trichloroethane	0.490	0.511	-4.3	94	-0.01
38	T,M	Cyclohexane	0.000	0.000	0.0	0#	-7.09#
39	T,M	tert-Amyl methyl ether (TAM	0.092	0.093	-1.1	93	-0.03
40	S	1,2-Dichloroethane-d4	0.175	0.144	17.7	82	-0.03
41	I	CHLOROBENZENE-D5	1.000	1.000	0.0	95	0.04

(#) = Out of Range

2024

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L28\RLC566.D
Acq On : 28 Dec 2011 10:21 am
Sample : CV067K2326 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67K23.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Mon Nov 28 09:48:33 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	0.252	0.273	-8.3	97	-0.03
43	T,M	Carbon tetrachloride	0.553	0.595	-7.6	96	-0.03
44	T,M	1,2-Dichloroethane	0.279	0.270	3.2	87	-0.03
45	T,M	Benzene	1.770	1.877	-6.0	96	-0.03
46	T,M	Trichloroethene	0.490	0.557	-13.7	104	-0.02
47	T,M	Methylcyclohexane	0.000	0.000	0.0	0#	-8.71#
48	C,T,M	1,2-Dichloropropane	0.415	0.433	-4.3	95	-0.04
49	T,M	Bromodichloromethane	0.415	0.426	-2.7	93	-0.02
50	T,M	1,4-Dioxane	0.001	0.001	0.0	98	-0.02
51	T,M	Dibromomethane	0.142	0.146	-2.8	93	-0.02
52	T,M	2-Chloroethyl vinyl ether	0.097	0.014	85.6#	13#	-0.02
53	T,M	4-Methyl-2-pentanone	0.150	0.132	12.0	80	-0.02
54	T,M	cis-1,3-Dichloropropene	0.505	0.517	-2.4	93	-0.03
55	S	Toluene-d8	1.526	1.457	4.5	94	-0.02
56	C,T,M	Toluene	1.813	1.991	-9.8	98	-0.02
57	T,M	Ethyl methacrylate	0.217	0.213	1.8	88	-0.03
58	T,M	trans-1,3-Dichloropropene	0.326	0.327	-0.3	90	-0.03
59	T,M	1,1,2-Trichloroethane	0.169	0.182	-7.7	97	-0.03
60	T,M	2-Hexanone	0.090	0.083	7.8	86	-0.02
61	T,M	1,3-Dichloropropane	0.322	0.329	-2.2	93	-0.02
62	T,M	Tetrachloroethene	0.377	0.438	-16.2	104	-0.03
63	T,M	Dibromochloromethane	0.220	0.244	-10.9	100	-0.03
64	T,M	1,2-Dibromoethane	0.176	0.188	-6.8	96	-0.04
65	T,M	1-Chlorohexane	0.815	0.882	-8.2	97	-0.03
66	P,M	Chlorobenzene	1.030	1.170	-13.6	103	-0.03
67	T,M	1,1,1,2-Tetrachloroethane	0.297	0.342	-15.2	104	-0.03
68	C,T,M	Ethylbenzene	2.067	2.267	-9.7	98	-0.03
69	T,M	m-Xylene & p-Xylene	1.497	1.643	-9.8	97	-0.04
70	T,M	o-Xylene	1.420	1.555	-9.5	98	-0.02
71	T,M	Styrene	1.128	1.253	-11.1	99	-0.04
72	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	98	-0.03
73	T,M	Isopropylbenzene	6.809	7.538	-10.7	101	-0.03
74	P,T,M	Bromoform	0.339	0.371	-9.4	101	-0.03
75	T,M	trans-1,4-Dichloro-2-butene	0.189	0.112	40.7#	60	-0.03
76	P,T,M	1,1,2,2-Tetrachloroethane	0.558	0.566	-1.4	95	-0.03
77	S	4-Bromofluorobenzene	1.367	1.215	11.1	92	-0.02
78	T,M	1,2,3-Trichloropropane	0.146	0.154	-5.5	98	-0.03
79	T,M	n-Propylbenzene	8.617	9.162	-6.3	98	-0.02
80	T,M	Bromobenzene	1.111	1.275	-14.8	108	-0.03
81	T,M	1,3,5-Trimethylbenzene	5.468	5.964	-9.1	101	-0.03

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L28\RLC566.D
Acq On : 28 Dec 2011 10:21 am
Sample : CV067K2326 10ppb
Misc : 10ppb 8260/50ppb KET-ACR-ACN-TBA
MS Integration Params: LSCINT1.P

Vial: 3
Operator: AS
Inst : TO67
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO67K23.M (RTE Integrator)
Title : METHOD 8260B 4.0
Last Update : Mon Nov 28 09:48:33 2011
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
82	T,M	2-Chlorotoluene	4.903	5.295	-8.0	99	-0.03
83	T,M	4-Chlorotoluene	3.965	4.057	-2.3	99	-0.03
84	T,M	tert-Butylbenzene	1.251	1.442	-15.3	107	-0.03
85	T,M	1,2,4-Trimethylbenzene	5.081	5.521	-8.7	101	-0.03
86	T,M	sec-Butylbenzene	7.613	8.541	-12.2	101	-0.03
87	T,M	p-Isopropyltoluene	6.028	7.030	-16.6	105	-0.03
88	T,M	1,3-Dichlorobenzene	2.197	2.573	-17.1	109	-0.03
89	T,M	1,4-Dichlorobenzene	2.049	2.346	-14.5	108	-0.03
90	T,M	n-Butylbenzene	5.817	6.233	-7.2	96	-0.03
91	T,M	1,2-Dichlorobenzene	1.617	1.863	-15.2	108	-0.02
92	T,M	1,2-Dibromo-3-chloropropane	0.074	0.083	-12.2	105	-0.02
93	T,M	1,2,4-Trichlorobenzene	1.086	1.180	-8.7	102	-0.02
94	T,M	Hexachlorobutadiene	1.049	1.211	-15.4	105	-0.02
95	T,M	Naphthalene	1.309	1.315	-0.5	95	-0.03
96	T,M	1,2,3-Trichlorobenzene	0.799	0.838	-4.9	97	-0.03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☒ EMAX-8260 Rev.No. 8 ☐ EMAX-524.2 Rev.No. 7 ☐ EMAX-624 Rev.No. 4 ☐ EMAX-8260SIM Rev.No.0 ☐ EMAX-TCPSIM Rev.No.1 ☐ EMAX-M8260SIM Rev.No.0 ☐

Start Date: 11-23-11 ☐ 5-mL Purge ☐ 10-mL Purge ☒ 25-mL Purge

Book # A67 -047

BATCH V067K2306

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01	RKC300	BFB67K14	1µL					T/CHECK 17:45
02	301	V067K2301	.05/.05/.2/.2µL					.3ppb 8260/1.5ppb Ket-Ark-Tan
03	302	02	.25/.25/.5/.5µL					.5 /2.5
04	303	03	.5/.5/.1/.1µL					1 /5
05	304	04	1/1/.2/.2µL					2 /10
06	305	05	2.5/2.5/.5/.5µL					5 /25
07	306	06	5/5/1/1µL					10 /50
08	307	07	10/10/2/2µL					20 /100
09	308	08	15/15/3/3µL					30 /150
10	309	09	25/25/5/5µL					50 /250
11	310	10	50/50/10/10µL					100 /500
12	311	rinse	25mL	1.0				
13	312	IS/SS						
14	313	V067K14B						MB
15	314	IV067K2301	5/5/1/1µL					10 /50
16	315	rinse	25mL	1.0				
17	316							
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								AS 11/28/11

Instrument No.	67
INITIAL CALIBRATION REFERENCE	
DATE	11-23-11
ICAL ID	V067K23

STANDARDS

NAME	ID	Amount (µL)	Conc. (mg/L)
DCC 8260	SVI-19-08-1	VARIES	50/250
DCC Ket-Ark	-07-2		250
DCC Gases	-06-2		250
DCC CS2	-07-1		250
BFB	-03-2	1	50
IS/SURR. IS SS	SVI-17 -9-1 -9-2	VARIES	250
ICV/LCS 8260	-100-2	5	50/250
ICV/LCS Ket-Ark	SVI-19 -9-2	5	250
ICV/LCS Gases	-10-3	1	250
ICV/LCS CS2	SVI-17-97-3	1	250

DATA FILE FOLDER	11K23

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO67	

Comments: IS/SS SVI-19-10-1

Analyzed By: AS

Date Disposed: 11-28-11

Disposed By: AS

2028

ANALYSIS LOG FOR VOLATILES

SOP ☒ EMAX-8260 Rev.No. 8 ☐ EMAX-524.2 Rev.No. 7 ☐ EMAX-624 Rev.No. 4 ☐ EMAX-8260SIM Rev.No.0 ☐ EMAX-TCPSIM Rev.No.1 ☐ EMAX-M8260SIM Rev.No.0 ☐

Start Date: 12-28-11 ☐ 5-mL Purge ☐ 10-mL Purge ☒ 25-mL Purge

Book # A67 -047

BATCH V067K2326

	Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01		RLCS64	BFB067L23	1mL					T/CHECK 09:48
02		565	500 TEST	5/5/1/1mL					
03		566	CV067K2326						
04		567	V067L23L						use X&Y
05		568	C						
06		569	X						
07		570	Y						
08		571	rinse	25mL	1.0				
09		572	V067L23B						MB
10		573	11L192-08R			<2	<5		
11		574	-06R						
12		575	-02T	1mL	25				
13		576	-03T						R/R@X250 2 Below
14		577	-04R	25mL	1.0				
15		578	-03I	100mL	250				
16		579	-07T	25mL	10				
17		580	rinse	25mL	1.0				
18		581							
19		582	11L202-03			<2	<5		TB
20		583	11L163-02N						
21		584	11L202-01						
22		585	-02						
23		586	-04						20:53
24		587-591	rinses						
25									
26									
27									
28									
29									
30									AS 12-29-11

Instrument No.	67
INITIAL CALIBRATION REFERENCE	
DATE	11-23-11
ICAL ID	V067K23

STANDARDS

NAME	ID	Amount (µL)	Conc. (mg/L)
DCC 8260	SVL-19-08-01	5	
DCC Ketones	-07-2	5	
DCC gases	-06-2	1	
DCC CS2	-07-1	1	50/250
BFB	-03-2	1	
IS/SURR.	-10-1	1	
ICV/LCS 8260	SVL-17-100-1	5	
ICV/LCS Ketones	SVL-19-9-2	5	
ICV/LCS gases	-10-3	1	
ICV/LCS CS2	SVL-17-99-3	1	

DATA FILE FOLDER: 11L28

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO67	

Comments:

Analyzed By: AS

Date Disposed: 12-29-11

Disposed By: AS

2029

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CLIENT: **ACCORD ENGINEERING**

PROJECT: **SEAL BEACH SITE 75**

SDG: **11L209**

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Cover Letter, COC/Sample Receipt Form		1000 – 1006
GC/MS-VOA	METHOD 5030B/8260B	2000 – 2153
GC/MS-SVOA	**	3000 –
GC-VOA	**	4000 –
GC-SVOA	**	5000 –
HPLC	**	6000 –
METALS	**	7000 –
WET	**	8000 –
OTHERS	**	9000 –

** - Not Requested

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 01-19-2012
EMAX Batch No.: 11L209

Attn: Qihai Chen

ACCORD ENGINEERING
6050 Santo Road, Suite 175
San Diego, CA 92124

Subject: Laboratory Report
Project: SEAL BEACH SITE 75

Enclosed is the Laboratory report for samples received on 12/29/11.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
SB75MW02C-Q411-01	L209-01	12/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW01A-Q411-01	L209-02	12/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW01A-Q411-02	L209-03	12/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW01B-Q411-01	L209-04	12/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW04A-Q411-01	L209-05	12/28/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW04B-Q411-01	L209-06	12/28/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW05A-Q411-01	L209-07	12/28/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW05A-Q411-02	L209-08	12/28/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW05B-Q411-01	L209-09	12/28/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW05A-Q411-03	L209-10	12/28/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW05A-Q411-04	L209-11	12/28/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW01A-Q411-01MS	L209-02M	12/27/11	WATER	VOLATILE ORGANICS BY GC/MS
SB75MW01A-Q411-01MSD	L209-02S	12/27/11	WATER	VOLATILE ORGANICS BY GC/MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

for

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAC Accredited Certificate Number 02116CA
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing

ACC1104 —

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.

1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER: 101003-03

SAMPLE STORAGE: Cooler

EMAX CONTROL NO. *: 11L209

PROJECT CODE:

CLIENT: Accord Engineering, Inc.
PROJECT: Site 75 PA/SI
COORDINATOR: Qihai Chen
TEL: 626-617-2171 FAX: EMAIL: qchen@accordeng.com
SEND REPORT TO: same
COMPANY: 6250 Lusk Rd, Suite 175
ADDRESS: San Diego, CA 92124
EMAX PM: Ye Myint

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O= DI H_2O	

ANALYSIS REQUIRED: VOCs 8260B

TAT: ☐ Rush ____hrs. ☐ Rush ____days ☐ 7 days ☑ 14 days ☐ 21 days ☐ 30 days ☐ ____days ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	PRESERVATIVE CODE (HC)	COMMENTS
1	SB75MW02L-Q411-01	Site 75	12/27/11	1335	3			GW		X	
2	SB75MW01A-Q411-01	Site 75	12/27/11	1435	9			GW		X	3X Volume for MS/MSD
3	SB75MW01A-Q411-02	Site 75	12/27/11	1500	3			O		X	
4	SB75MW01B-Q411-01	Site 75	12/27/11	1525	3			GW		X	
5	SB75MW04A-Q411-01	Site 75	12/28/11	0935	3			GW		X	
6	SB75MW04B-Q411-01	Site 75	12/28/11	1050	3			GW		X	
7	SB75MW05A-Q411-01	Site 75	12/28/11	1315	3			GW		X	
8	SB75MW05A-Q411-02	Site 75	12/28/11	1415	3			GW		X	
9	SB75MW05B-Q411-01	Site 75	12/28/11	1235	3			GW		X	
10	SB75MW05A-Q411-03	Site 75	12/28/11	1330	3			GW		X	

Instructions: Send Accord & Brady NEDD data deliverable. Select SB75MW05A-Q411-01 for Level 4 data package, rest Level 3. Send/CC Rain Zeng (yzeng@accordeng.com) & Jesse MacNeill (jmacneill@bradyinc.net) all lab electronic data.

Cooler #	Temp. (°C)
1	3.0

Sample #s:

SAMPLER: Qihai & Justin Soofoo

COURIER/AIRBILL: EMAX

RELINQUISHED BY	Date	Time	RECEIVED BY
Qihai Chen	12/29/11	1130	Keith Stout
Keith Stout	12/29/11	1336	

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepacies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

CHAIN OF CUSTODY

EMAX LABORATORIES, INC.
1835 W. 205th Street, Torrance, CA 90501
Tel #: 310-618-8889 Fax #: 310-618-0818
Email: info@emaxlabs.com

PO NUMBER: 101003-03

SAMPLE STORAGE: cooler

EMAX CONTROL NO. * 11L209

PROJECT CODE:

CLIENT: Accord Engineering, Inc.
PROJECT: Site 75 PA-SI
COORDINATOR: Qihai Chen
TEL: 626-617-2171 FAX: EMAIL: qchen@accordeng.com
SEND REPORT TO: same
COMPANY: 6050 Santo Road, Ste. 175
ADDRESS: San Diego, CA 92124
EMAX PM: [illegible]

MATRIX CODE	PRESERVATIVE CODE
DW=Drinking Water	IC = Ice
GW=Ground Water	HC = HCl
WW=Waste Water	HN=HNO3
SD=Solid Waste SL=Sludge	SH=NaOH
SS=Soil/ Sediment	ST=Na2S2O3
WP=Wipes PP=Pure Products	ZA=Zinc Acetate
AR=Air	HS=H_2SO_4
O=	

ANALYSIS REQUIRED: VOCs 8260B

TAT:
- ☐ Rush ____hrs.
- ☐ Rush ____days
- ☐ 7 days
- ☒ 14 days
- ☐ 21 days
- ☐ 30 days
- ☐ ____days
- ☐

LAB	SAMPLE ID CLIENT	SAMPLING LOCATION	DATE	TIME	CONTAINER NO.	SIZE	TYPE	MATRIX CODE	QC	PRESERVATIVE CODE HC								COMMENTS
1	SB75MW05A-Q411-04	Site 75	12/28/11	1345	3			GW		X								
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
0																		

Instructions: Send Accord & Brady NEDD data deliverable. Selected SB75MW05A-Q411-01 for Level 4 data package, rest Level 3.
Send/CC Rain Zeng & Jesse MacNeill for all electronic lab data.

Cooler #	Temp. (°C)	Sample #s

SAMPLER: Qihai Chen & Justin Soohoo
COURIER/AIRBILL: EMAX

RELINQUISHED BY	Date	Time	RECEIVED BY
[signature]	12/29/11	1130	Keith Stout
Keith Stout	12/29/11	1336	[signature]

NOTICE: Turn-around-time (TAT) for samples shall not begin until all discrepancies have been resolved. For samples received and discrepancies resolved after 1500 hrs, TAT shall start at 0800 hrs the next business day. The client is responsible for all cost associted with sample disposal. Samples shall be disposed of as soon as practical (but not prior to fifteen (15) calendar days) after issuance of analytical report unless a different sample disposal schedule is pre-arranged with EMAX. Disposal fee for samples defined by CA Title 22 as non-hazardous shall be $5.00 per sample. EMAX will return hazardous samples to the client at the client's expense unless directed in writing otherwise.

1002

EMAX LABORATORIES, INC.

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill		
☑ EMAX Courier	SEE COC	ECN	11L209
☐ Client Delivery		Recepient	J-LUNA
☐ Third Party		Date	12-29-11
		Time	1336

COC Inspection

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time/Location	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☑ Courier Signature	☐ Analysis Required	☑ Preservative (if any)	☑ TAT
Safety Issues	☑ None	☐ High concentrations expected	☐ Superfund Site samples	☐ Rad screening required	

Comments:

Packaging Inspection

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☐ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	A ☑ Cooler 1 3.0 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C

Thermometer: *A - S/N 101541371* *B - S/N 101541382*

Comments: ☐ **PM was informed on non-compliant coolers immediately.**

Note: **pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time .**

DISCREPANCIES

LSID	LSCID	Sample Label ID ~~/COC ID~~	Discrepancy Code	Corrective Action Code
-02	011, 012	SB75MW01A-	B3	R2
		04-01		

REVIEWS

Sample Labeling _____ Date 12/29/11

SRF _____ Date 12-29-11

PM LP for YO Date 12/29/11

LEGEND:

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Project Management
A1	Analysis is not indicated in COC	D1	Date and/or time is not indicated in COC	R1	Hold sample(s), wait for further instructions
A2	Analysis is not indicated in label	D2	Date and/or time is not indicated in label	R2	Proceed as indicated in COC
A3	Analysis is inconsistent in COC vis-à-vis label	D3	Date and/or time is inconsistent in COC vis-à-vis label	R3	Refer to attached instruction
A4	_____	E1	Insuficient preservative	R4	Cancel the analysis
B1	Sample ID is not indicated in COC	E2	Improper preservation	R5	_____
B2	Sample ID is not indicated in label	F1	Insufficient Sample	R6	_____
B3	Sample ID is inconsistent in COC vis-à-vis label	F2	Bubble is> 6mm		
B4	_____	G1	Temperature is out of range		
C1	Wrong container	G2	Out of Holding Time		
C2	Broken container	G3	>20 % solid particle		
C3	Leaking container	H1	_____		
C4	_____	H2	_____		

Hanh Bui

From: Yu Zeng [YZeng@accordeng.com]
Sent: Thursday, January 19, 2012 1:57 PM
To: Ye Myint
Cc: Hanh Bui; Riza Luna
Subject: RE: Accord - Miramar Project

Ye,

For all our on-going projects, please send the hard copy reports to LDC directly and send to our office the pdf reports and EDDs in a CD per event for each project.

The on-going projects include:

NTC NEX UST-3
NASNI IR Sites 1, 2, 4, 5
Miramar Soil sampling
NWS Seal Beach Site 75

Let me know if I miss anything else.

Thanks,
Rain

Rain Zeng
Accord Engineering Inc.
6050 Santo Road, #175
San Diego, CA 92124
(O) 858. 771.3518
(f) 858.565.4591
(M) 858.248.2083

From: Ye Myint [mailto:YMyint@emaxlabs.com]
Sent: Thursday, January 19, 2012 1:07 PM
To: Yu Zeng
Cc: Hanh Bui; Riza Luna
Subject: Accord - Miramar Project

Rain,

As discussed, I will be setting up an account to access our FTP site so that you can download the .pdf files for all of your projects.

For Miramar, we are sending a hard copy directly to LDC. Could you please list the projects for which you want the data packages sent directly to LDC so that we can update our spec. here accordingly? Thanks.

Hanh Bui

From: Hanh Bui
Sent: Wednesday, January 11, 2012 9:57 AM
To: 'Qihai Chen'; 'YZeng@accordeng.com'; 'jmacneill@rbrady.net'; 'tshields@rbrady.net'
Cc: Ye Myint
Subject: Results SDG: 11L209 (Seal Beach Site 75)

Hi all,
Attached please find the results of 8260, thanks.
Hanh

-----Original Message-----
From: Hanh Bui
Sent: Tuesday, January 03, 2012 11:32 AM
To: 'Qihai Chen'; 'YZeng@accordeng.com'
Cc: Ye Myint
Subject: Samples Login SDG: 11L202, 11L209 (Seal Beach Site 75)

Hi Qihai,
Please review the login samples received on 12/27 and 12/29, thanks.
Hanh

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LABORATORY REPORT FOR

ACCORD ENGINEERING

SEAL BEACH SITE 75

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

SDG#: 11L209

CASE NARRATIVE

Client : ACCORD ENGINEERING

Project : SEAL BEACH SITE 75

SDG : 11L209

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

A total of eleven (11) water samples were received on 12/29/11 for Volatile Organics by GC/MS analysis, Method 5030B/8260B in accordance with DoD Quality Systems Manual for Environmental Laboratories, Version 4.2.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried on at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms for ICAL, ICV and CCV for details.

Method Blank
Method blanks were analyzed at the frequency required by the project. For this SDG, three (3) method blanks were analyzed with the samples. All results were compliant to project requirement. Refer to QC result summary form for details.

Lab Control Sample
Three (3) sets of LCS/LCD were analyzed with the samples in this SDG.
Percent recoveries for VO05A01L/C were all within QC limits.
Percent recoveries for VO05A02L/C were all within QC limits.
Percent recoveries for VO05A03L/C were all within QC limits.

Matrix QC Sample
A set of MS/MSD was analyzed with the samples in this SDG.
Percent recoveries were within project QC limits except for results qualified with [*] in L209-02 M/S summary form, most likely due to matrix interference. Check QC summary form for details.

Surrogate
Surrogates were added on QC and field samples. Surrogate recoveries were within project QC limits.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. All project requirements were met otherwise anomalies were discussed within the associated QC parameter.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING
Project : SEAL BEACH SITE 75

SDG NO. : 11L209
Instrument ID : T-005

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	V005A01B	1	NA	01/03/1210:41	01/03/1210:41	RAQ006	RLQ176	V005A01	Method Blank
LCS1W	V005A01L	1	NA	01/03/1209:09	01/03/1209:09	RAQ003	RLQ176	V005A01	Lab Control Sample (LCS)
LCD1W	V005A01C	1	NA	01/03/1209:39	01/03/1209:39	RAQ004	RLQ176	V005A01	LCS Duplicate
SB75MW01A-Q411-02	L209-03	1	NA	01/03/1216:06	01/03/1216:06	RAQ016	RLQ176	V005A01	Field Sample
SB75MW01A-Q411-01	L209-02	1	NA	01/03/1216:37	01/03/1216:37	RAQ017	RLQ176	V005A01	Field Sample
SB75MW01A-Q411-01MS	L209-02M	1	NA	01/03/1217:08	01/03/1217:08	RAQ018	RLQ176	V005A01	Matrix Spike Sample (MS)
SB75MW01A-Q411-01MSD	L209-02S	1	NA	01/03/1217:39	01/03/1217:39	RAQ019	RLQ176	V005A01	MS Duplicate (MSD)
SB75MW01B-Q411-01	L209-04	1	NA	01/03/1218:09	01/03/1218:09	RAQ020	RLQ176	V005A01	Field Sample
SB75MW04B-Q411-01	L209-06	1	NA	01/03/1219:11	01/03/1219:11	RAQ022	RLQ176	V005A01	Field Sample
MBLK2W	V005A02B	1	NA	01/04/1210:54	01/04/1210:54	RAQ040	RLQ176	V005A02	Method Blank
LCS2W	V005A02L	1	NA	01/04/1209:23	01/04/1209:23	RAQ037	RLQ176	V005A02	Lab Control Sample (LCS)
LCD2W	V005A02C	1	NA	01/04/1209:55	01/04/1209:55	RAQ038	RLQ176	V005A02	LCS Duplicate
SB75MW01A-Q411-01DL	L209-02T	50	NA	01/04/1213:23	01/04/1213:23	RAQ045	RLQ176	V005A02	Diluted Sample
SB75MW04A-Q411-01	L209-05R	1	NA	01/04/1213:52	01/04/1213:52	RAQ046	RLQ176	V005A02	Field Sample
SB75MW01B-Q411-01DL	L209-04T	25	NA	01/04/1214:25	01/04/1214:25	RAQ047	RLQ176	V005A02	Diluted Sample
SB75MW05A-Q411-01	L209-07R	1	NA	01/04/1214:57	01/04/1214:57	RAQ048	RLQ176	V005A02	Field Sample
SB75MW05A-Q411-01DL	L209-07T	25	NA	01/04/1216:28	01/04/1216:28	RAQ051	RLQ176	V005A02	Diluted Sample
SB75MW05A-Q411-02	L209-08	1	NA	01/04/1216:58	01/04/1216:58	RAQ052	RLQ176	V005A02	Field Sample
SB75MW05A-Q411-03	L209-10	1	NA	01/04/1217:59	01/04/1217:59	RAQ054	RLQ176	V005A02	Field Sample
SB75MW05A-Q411-04	L209-11	1	NA	01/04/1218:31	01/04/1218:31	RAQ055	RLQ176	V005A02	Field Sample
SB75MW02C-Q411-01	L209-01	1	NA	01/04/1219:32	01/04/1219:32	RAQ057	RLQ176	V005A02	Field Sample
MBLK3W	V005A03B	1	NA	01/05/1211:24	01/05/1211:24	RAQ074	RLQ176	V005A03	Method Blank
LCS3W	V005A03L	1	NA	01/05/1209:51	01/05/1209:51	RAQ071	RLQ176	V005A03	Lab Control Sample (LCS)
LCD3W	V005A03C	1	NA	01/05/1210:22	01/05/1210:22	RAQ072	RLQ176	V005A03	LCS Duplicate
SB75MW05A-Q411-02DL	L209-08T	50	NA	01/05/1212:57	01/05/1212:57	RAQ077	RLQ176	V005A03	Diluted Sample
SB75MW05B-Q411-01	L209-09R	1	NA	01/05/1213:27	01/05/1213:27	RAQ078	RLQ176	V005A03	Field Sample

FN - Filename
% Moist - Percent Moisture

2002

SAMPLE RESULTS

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 12/27/11
Project : SEAL BEACH SITE 75	Date Received: 12/29/11
Batch No. : 11L209	Date Extracted: 01/04/12 19:32
Sample ID: SB75MW02C-Q411-01	Date Analyzed: 01/04/12 19:32
Lab Samp ID: L209-01	Dilution Factor: 1
Lab File ID: RAQ057	Matrix : WATER
Ext Btch ID: V005A02	% Moisture : NA
Calib. Ref.: RLQ176	Instrument ID : T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.5	10.00	115	70-140
4-BROMOFLUOROBENZENE	10.9	10.00	109	70-130
TOLUENE-D8	10.3	10.00	103	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/27/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/03/12 16:37
Sample ID:	SB75MW01A-Q411-01	Date Analyzed:	01/03/12 16:37
Lab Samp ID:	L209-02	Dilution Factor:	1
Lab File ID:	RAQ017	Matrix :	WATER
Ext Btch ID:	V005A01	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	6.4	1.0	0.20
1,1-DICHLOROETHANE	130E	1.0	0.20
1,1-DICHLOROETHENE	81E	1.0	0.20
1,2-DICHLOROETHANE	1.8	1.0	0.20
CIS-1,2-DICHLOROETHENE	4.2	1.0	0.20
TETRACHLOROETHENE	120E	1.0	0.20
TRICHLOROETHENE	110E	1.0	0.20
VINYL CHLORIDE	2.4	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.4	10.00	104	70-140
4-BROMOFLUOROBENZENE	10.7	10.00	107	70-130
TOLUENE-D8	10.2	10.00	102	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/27/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/04/12 13:23
Sample ID:	SB75MW01A-Q411-01DL	Date Analyzed:	01/04/12 13:23
Lab Samp ID:	L209-02T	Dilution Factor:	50
Lab File ID:	RAQ045	Matrix :	WATER
Ext Btch ID:	V005A02	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	50	10
1,1-DICHLOROETHANE	380	50	10
1,1-DICHLOROETHENE	1400	50	10
1,2-DICHLOROETHANE	ND	50	10
CIS-1,2-DICHLOROETHENE	ND	50	10
TETRACHLOROETHENE	12Q	50	10
TRICHLOROETHENE	730	50	10
VINYL CHLORIDE	ND	50	10

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	557	500.0	111	70-140
4-BROMOFLUOROBENZENE	557	500.0	111	70-130
TOLUENE-D8	523	500.0	105	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/27/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/03/12 16:06
Sample ID:	SB75MW01A-Q411-02	Date Analyzed:	01/03/12 16:06
Lab Samp ID:	L209-03	Dilution Factor:	1
Lab File ID:	RAQ016	Matrix :	WATER
Ext Btch ID:	V005A01	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	9.58	10.00	95.8	70-140
4-BROMOFLUOROBENZENE	10.6	10.00	106	70-130
TOLUENE-D8	10.4	10.00	104	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/27/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/03/12 18:09
Sample ID:	SB75MW01B-0411-01	Date Analyzed:	01/03/12 18:09
Lab Samp ID:	L209-04	Dilution Factor:	1
Lab File ID:	RAQ020	Matrix :	WATER
Ext Btch ID:	VO05A01	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	0.30J	1.0	0.20
1,1-DICHLOROETHANE	180E	1.0	0.20
1,1-DICHLOROETHENE	120E	1.0	0.20
1,2-DICHLOROETHANE	1.2	1.0	0.20
CIS-1,2-DICHLOROETHENE	2.5	1.0	0.20
TETRACHLOROETHENE	59	1.0	0.20
TRICHLOROETHENE	280E	1.0	0.20
VINYL CHLORIDE	1.3	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	9.86	10.00	98.6	70-140
4-BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	10.4	10.00	104	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/27/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/04/12 14:25
Sample ID:	SB75MW01B-Q411-01DL	Date Analyzed:	01/04/12 14:25
Lab Samp ID:	L209-04T	Dilution Factor:	25
Lab File ID:	RAQ047	Matrix :	WATER
Ext Btch ID:	V005A02	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	25	5.0
1,1-DICHLOROETHANE	200	25	5.0
1,1-DICHLOROETHENE	570	25	5.0
1,2-DICHLOROETHANE	ND	25	5.0
CIS-1,2-DICHLOROETHENE	ND	25	5.0
TETRACHLOROETHENE	62	25	5.0
TRICHLOROETHENE	430	25	5.0
VINYL CHLORIDE	ND	25	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	271	250.0	108	70-140
4-BROMOFLUOROBENZENE	285	250.0	114	70-130
TOLUENE-D8	267	250.0	107	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/28/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/04/12 13:52
Sample ID:	SB75MW04A-Q411-01	Date Analyzed:	01/04/12 13:52
Lab Samp ID:	L209-05R	Dilution Factor:	1
Lab File ID:	RAQ046	Matrix :	WATER
Ext Btch ID:	V005A02	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	7.3	1.0	0.20
1,1-DICHLOROETHENE	22	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	0.53J	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.7	10.00	107	70-140
4-BROMOFLUOROBENZENE	11.6	10.00	116	70-130
TOLUENE-D8	10.8	10.00	108	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/28/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/03/12 19:11
Sample ID:	SB75MW04B-Q411-01	Date Analyzed:	01/03/12 19:11
Lab Samp ID:	L209-06	Dilution Factor:	1
Lab File ID:	RAQ022	Matrix :	WATER
Ext Btch ID:	V005A01	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	6.3	1.0	0.20
1,1-DICHLOROETHENE	13	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	3.2	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	9.89	10.00	98.9	70-140
4-BROMOFLUOROBENZENE	10.4	10.00	104	70-130
TOLUENE-D8	10.3	10.00	103	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/28/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/04/12 14:57
Sample ID:	SB75MW05A-Q411-01	Date Analyzed:	01/04/12 14:57
Lab Samp ID:	L209-07R	Dilution Factor:	1
Lab File ID:	RAQ048	Matrix :	WATER
Ext Btch ID:	V005A02	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	19	1.0	0.20
1,1-DICHLOROETHANE	310E	1.0	0.20
1,1-DICHLOROETHENE	98E	1.0	0.20
1,2-DICHLOROETHANE	2.3	1.0	0.20
CIS-1,2-DICHLOROETHENE	5.3	1.0	0.20
TETRACHLOROETHENE	180E	1.0	0.20
TRICHLOROETHENE	320E	1.0	0.20
VINYL CHLORIDE	1.5	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.2	10.00	112	70-140
4-BROMOFLUOROBENZENE	11.3	10.00	113	70-130
TOLUENE-D8	10.2	10.00	102	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ048.D
Acq On : 4 Jan 2012 2:57 pm
Sample : 11L209-07R 25mL
Misc : DF=1.0
MS Integration Params: RTE.P
Quant Time: Jan 5 8:46 2012

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.73	114	1260858	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	12.41	117	986979	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.24	152	301783	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.51	111	499254	10.31	ug/l	0.00
Spiked Amount 10.000			Recovery	=	103.10%	
40) 1,2-Dichloroethane-d4	7.18	65	421552	11.19	ug/l	0.00
Spiked Amount 10.000			Recovery	=	111.90%	
55) Toluene-d8	10.00	98	1304991	10.17	ug/l	0.00
Spiked Amount 10.000			Recovery	=	101.70%	
77) 4-Bromofluorobenzene	14.49	95	457707	11.34	ug/l	0.00
Spiked Amount 10.000			Recovery	=	113.40%	

Target Compounds						Qvalue
6) Vinyl chloride	2.19	62	63234	1.53	ug/l	96
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	30413	1.00	ug/l	98
15) 1,1-Dichloroethene	3.74	61	7400238	97.90	ug/l E#	1
19) Methylene chloride	4.35	49	11245	0.22	ug/l	82
23) trans-1,2-Dichloroethene	4.71	61	34400	0.47	ug/l	92
26) 1,1-Dichloroethane	5.23	63	25283331	305.33	ug/l E	85
31) cis-1,2-Dichloroethene	6.02	96	265189	5.31	ug/l	97
37) 1,1,1-Trichloroethane	6.77	97	1509089	19.03	ug/l	98
44) 1,2-Dichloroethane	7.30	62	99661	2.27	ug/l	97
46) Trichloroethene	8.19	130	14507248	320.24	ug/l E#	75
59) 1,1,2-Trichloroethane	10.64	97	11675	0.54	ug/l	86
62) Tetrachloroethene	11.16	164	6290768	182.48	ug/l E	99
69) Ethylbenzene	12.59	91	291416	1.60	ug/l	98
70) m-Xylene & p-Xylene	12.72	91	194533	1.39	ug/l	98
71) o-Xylene	13.45	91	63906	0.46	ug/l	99
75) Isopropylbenzene	14.09	105	130030	0.89	ug/l	100
82) 1,3,5-Trimethylbenzene	15.07	105	138077	1.09	ug/l	95
86) 1,2,4-Trimethylbenzene	15.76	105	242223	1.99	ug/l	86

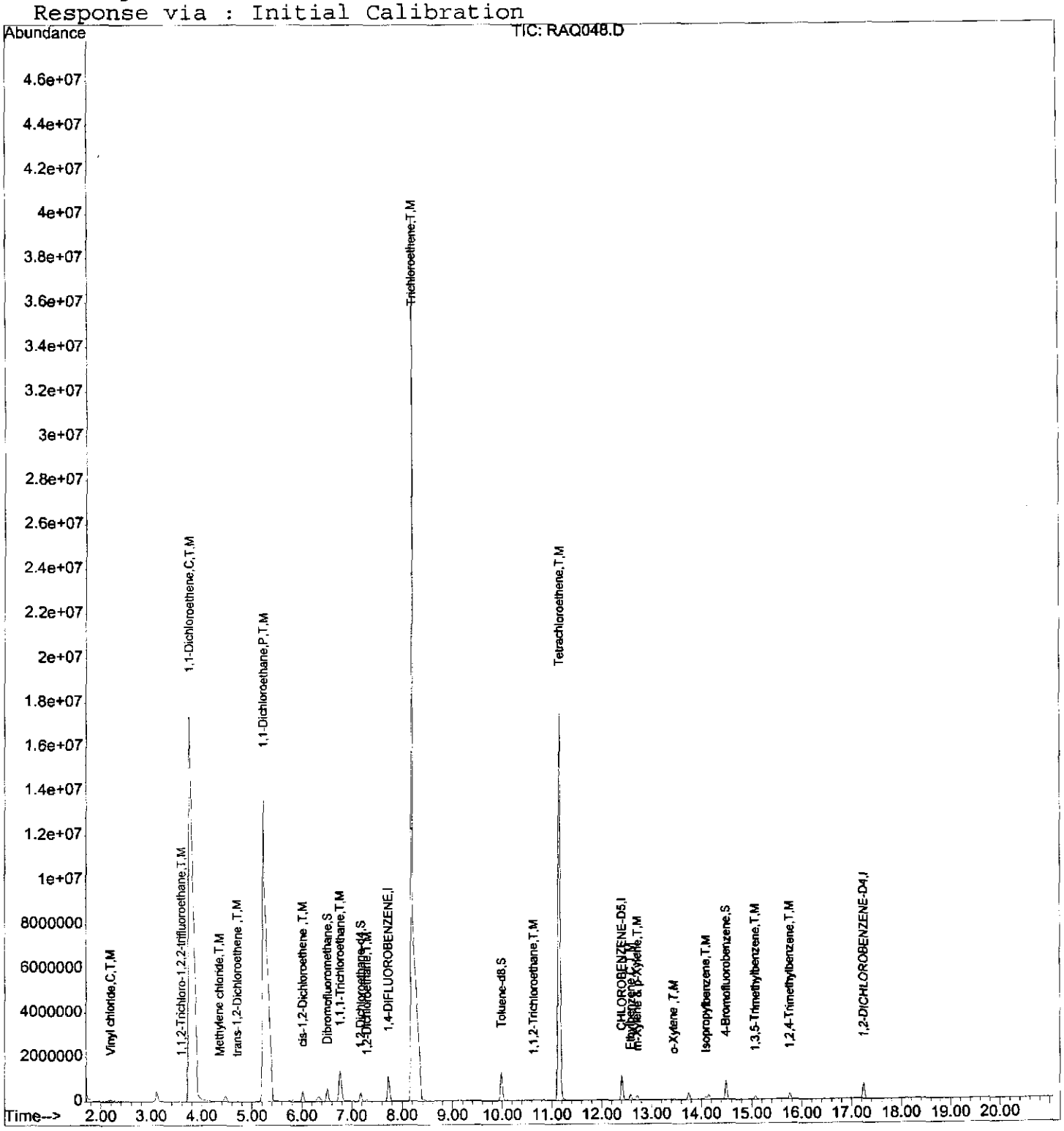
(#) = qualifier out of range (m) = manual integration

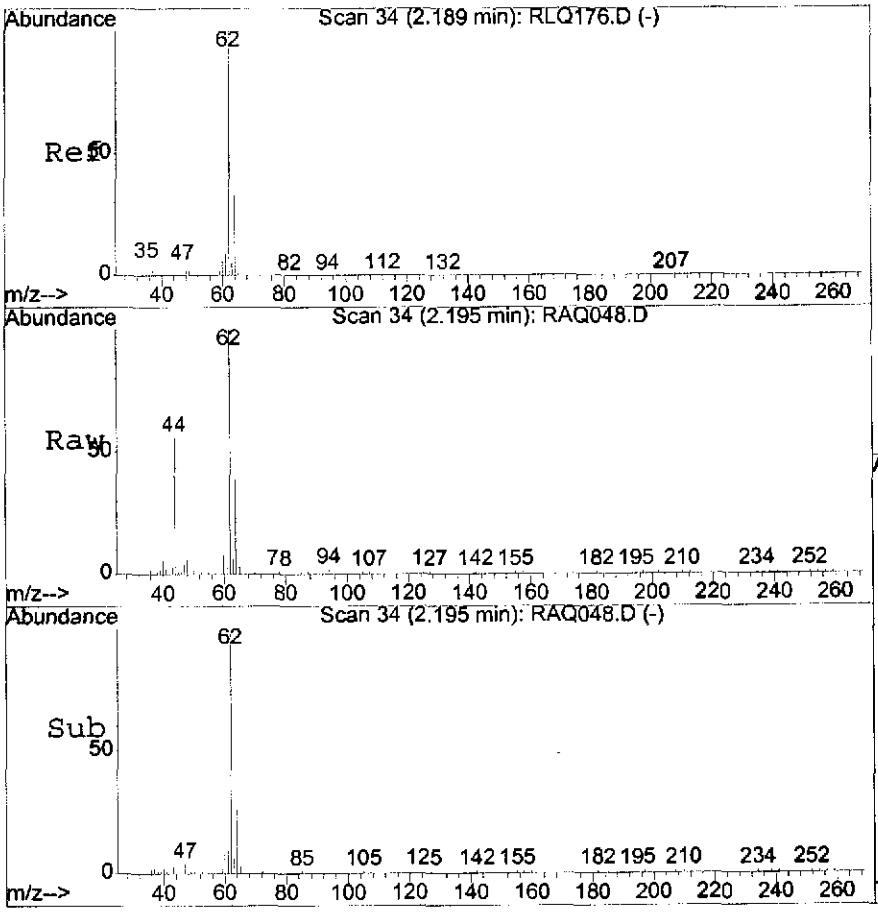
Quantitation Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ048.D
Acq On : 4 Jan 2012 2:57 pm
Sample : 11L209-07R 25mL
Misc : DF=1.0
MS Integration Params: RTE.P
Quant Time: Jan 5 8:46 2012

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration

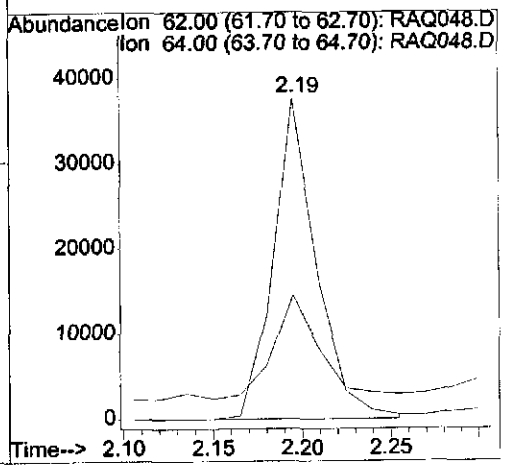


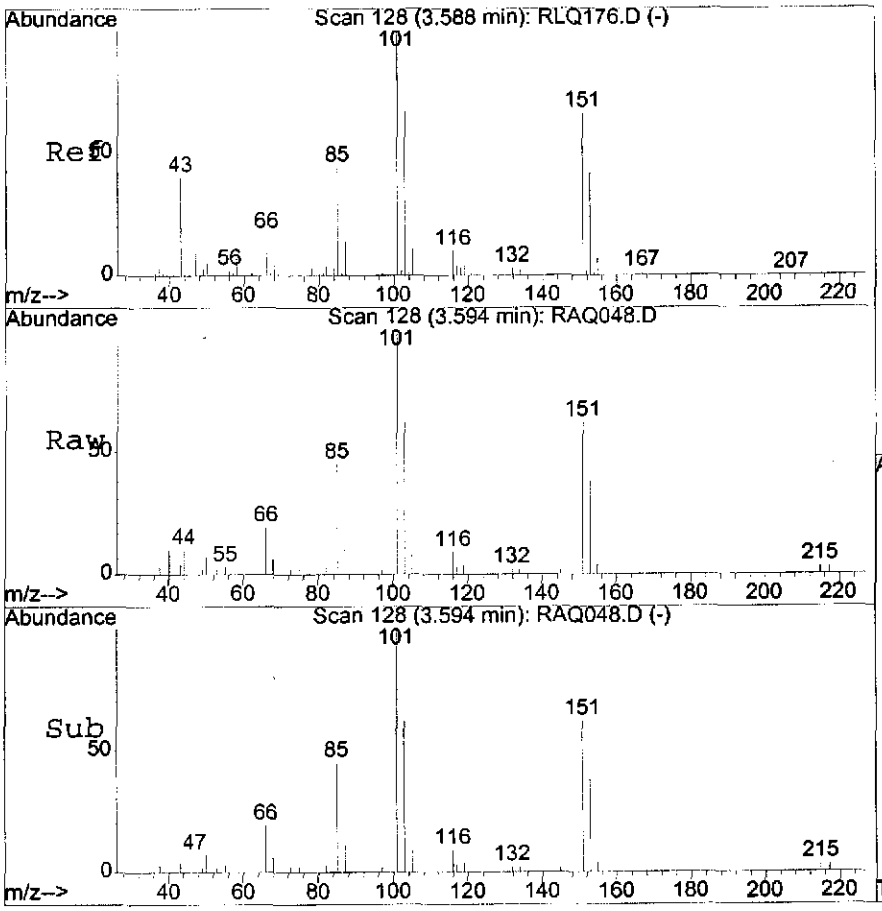


#6
Vinyl chloride
Concen: 1.53 ug/l
RT: 2.19 min Scan# 34
Delta R.T. 0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 62 Resp: 63234

Ion	Ratio	Lower	Upper
62	100		
64	34.9	2.4	62.4

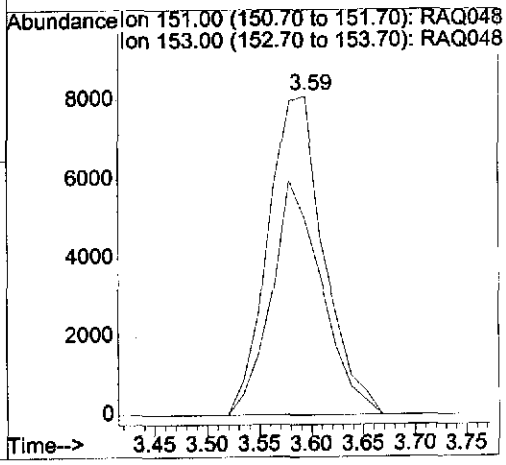


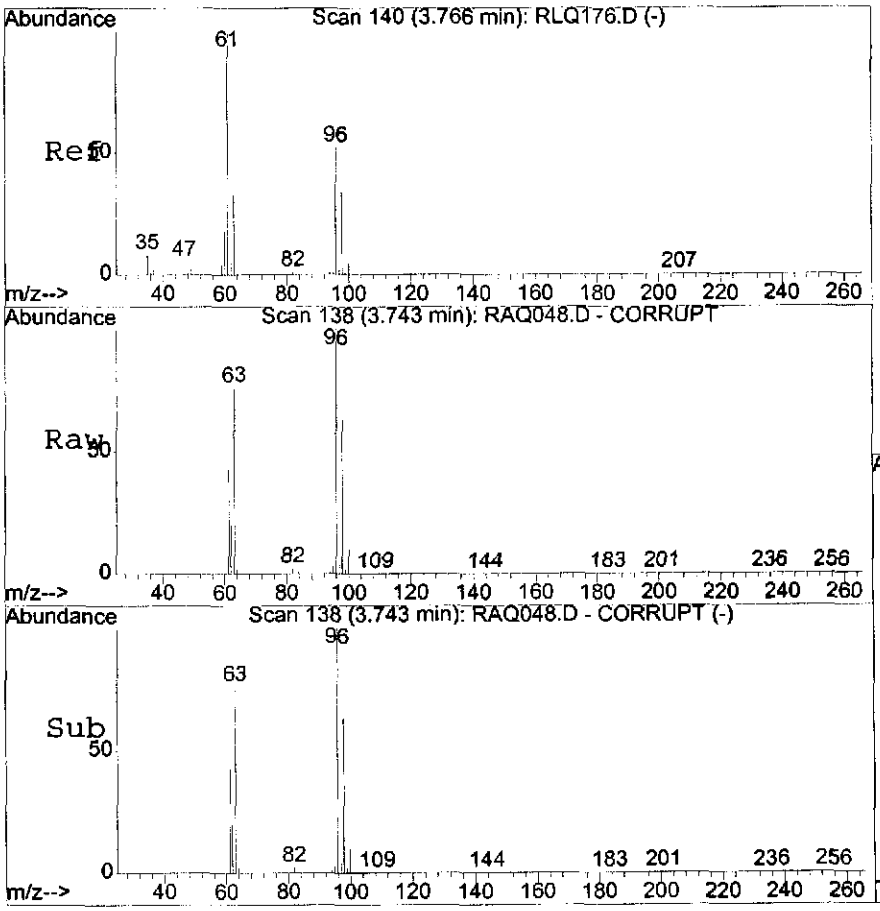


#13
1,1,2-Trichloro-1,2,2-trifluc
Concen: 1.00 ug/l
RT: 3.59 min Scan# 128
Delta R.T. 0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion:151 Resp: 30413

Ion	Ratio	Lower	Upper
151	100		
153	66.6	34.9	94.9

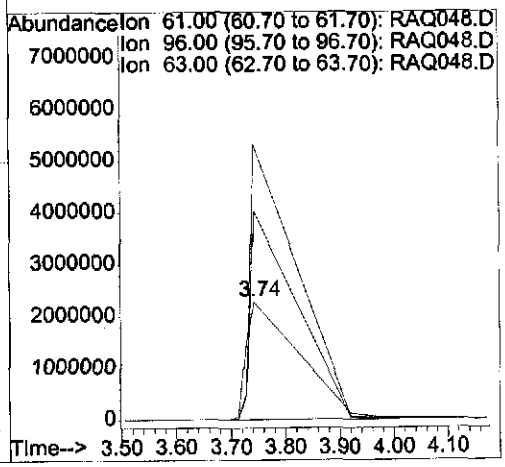


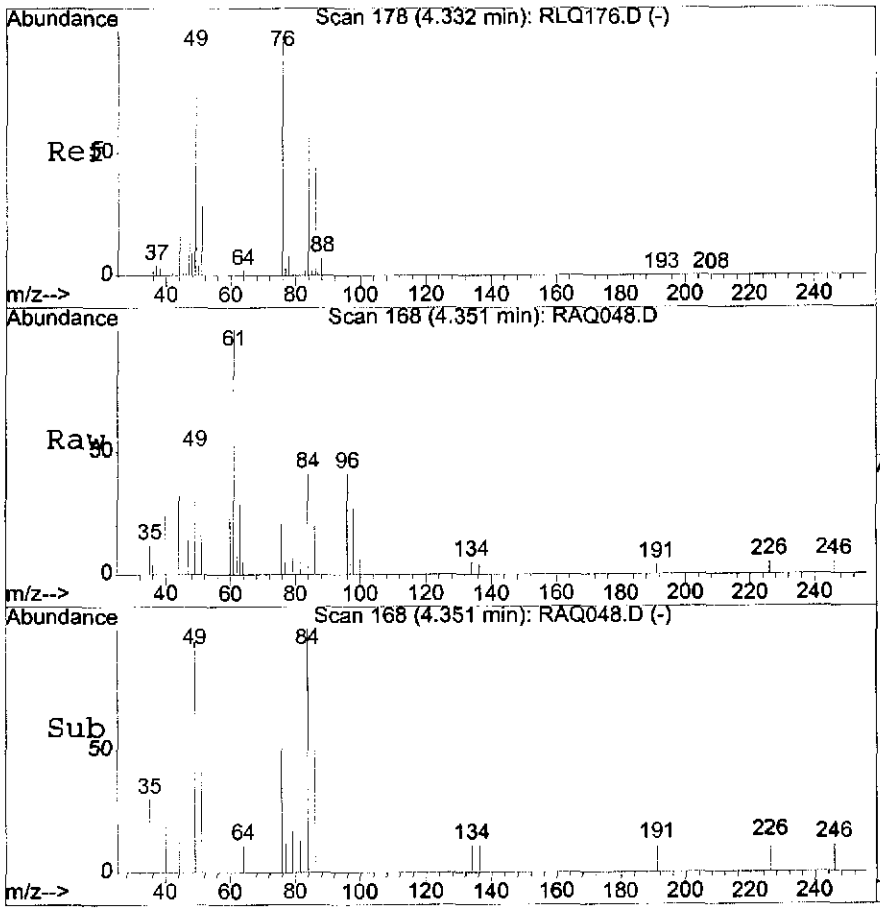


#15
1,1-Dichloroethene
Concen: 97.90 ug/l
RT: 3.74 min Scan# 138
Delta R.T. -0.02 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 61 Resp: 7400238

Ion	Ratio	Lower	Upper
61	100		
96	146.7	25.0	85.0#
63	107.3	2.7	62.7#

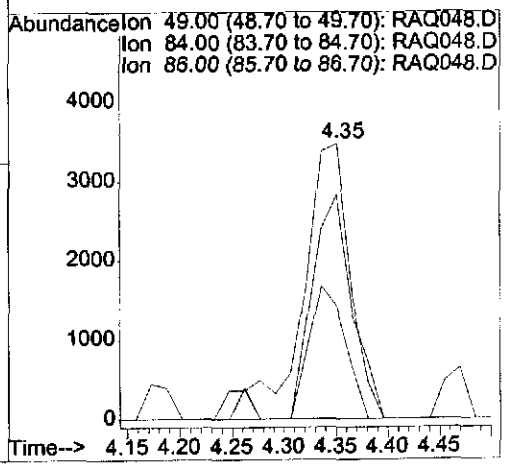


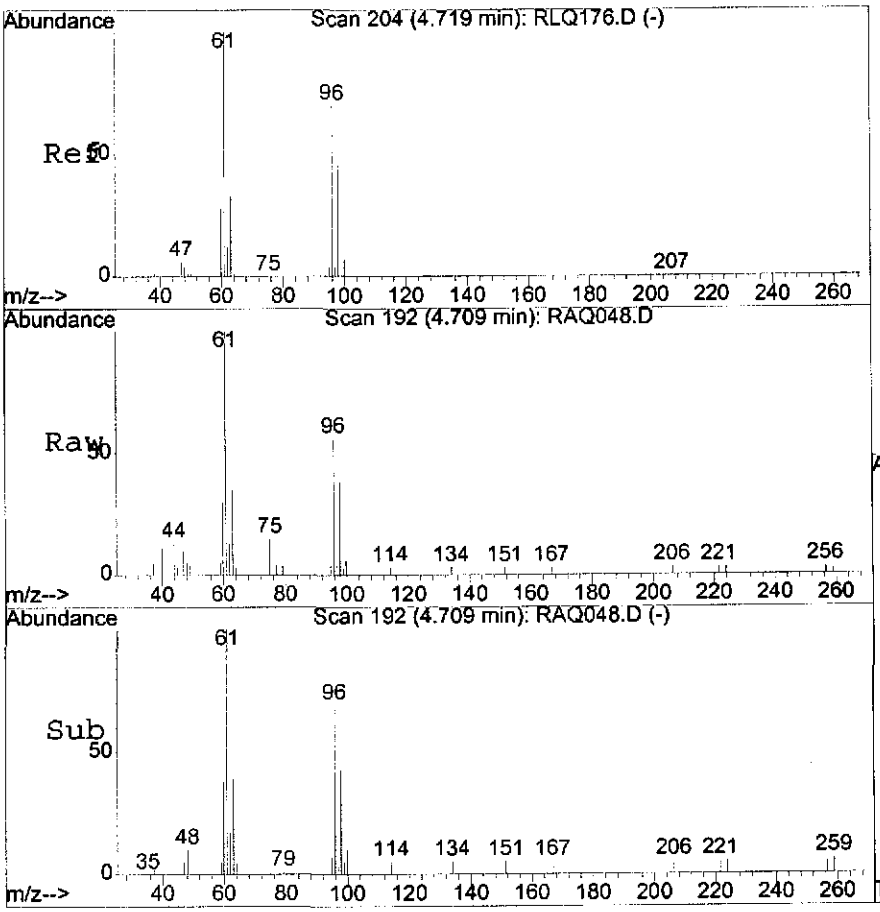


#19
Methylene chloride
Concen: 0.22 ug/l
RT: 4.35 min Scan# 168
Delta R.T. 0.02 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 49 Resp: 11245

Ion	Ratio	Lower	Upper
49	100		
84	67.0	51.1	111.1
86	36.0	21.8	81.8

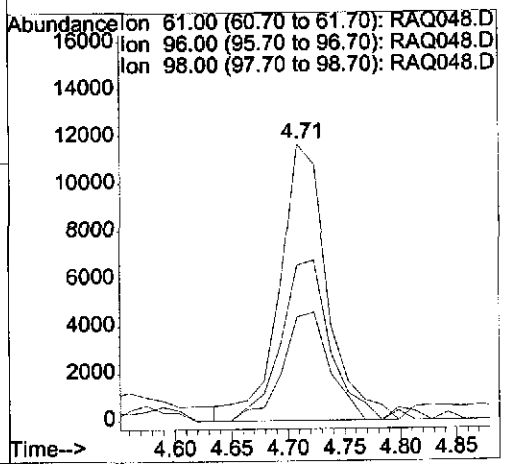


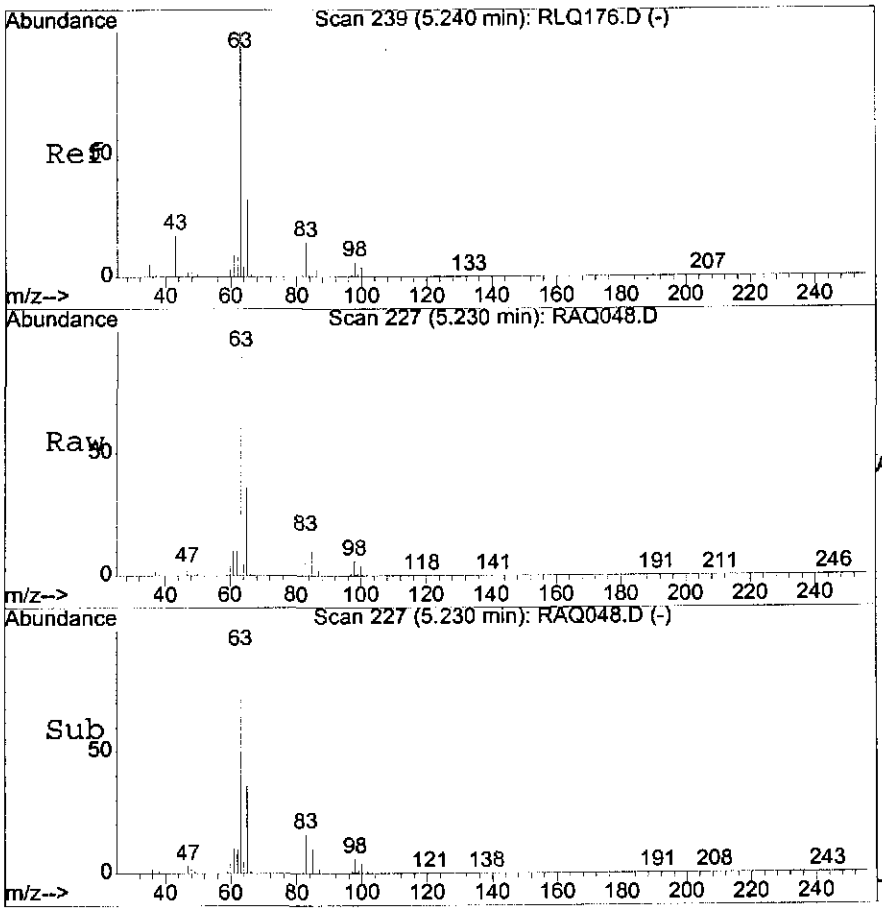


#23
trans-1,2-Dichloroethene
Concen: 0.47 ug/l
RT: 4.71 min Scan# 192
Delta R.T. -0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 61 Resp: 34400

Ion	Ratio	Lower	Upper
61	100		
96	59.6	36.9	96.9
98	38.6	12.7	72.7

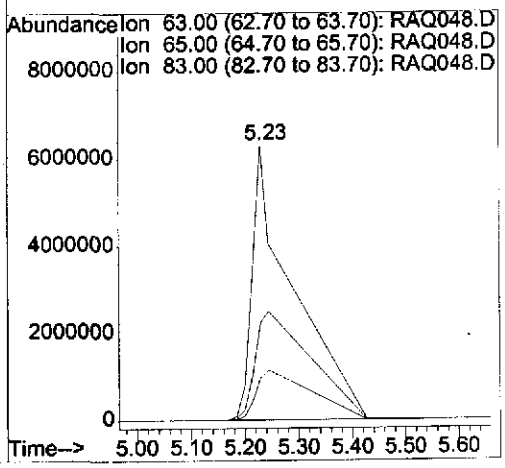


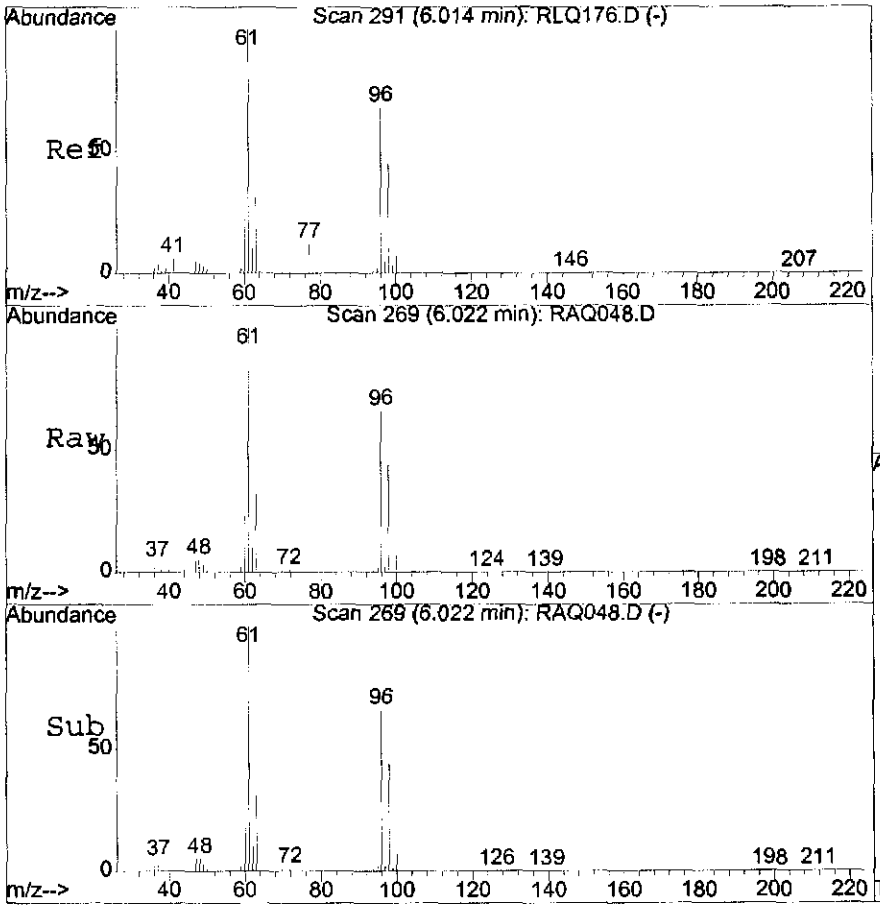


#26
1,1-Dichloroethane
Concen: 305.33 ug/l
RT: 5.23 min Scan# 227
Delta R.T. -0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 63 Resp:25283331

Ion	Ratio	Lower	Upper
63	100		
65	41.4	1.2	61.2
83	17.0	0.0	43.8

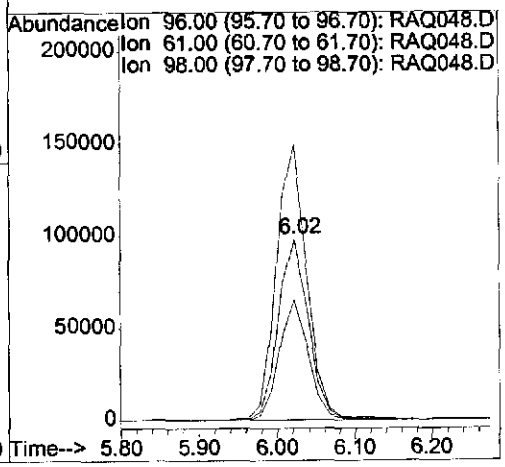


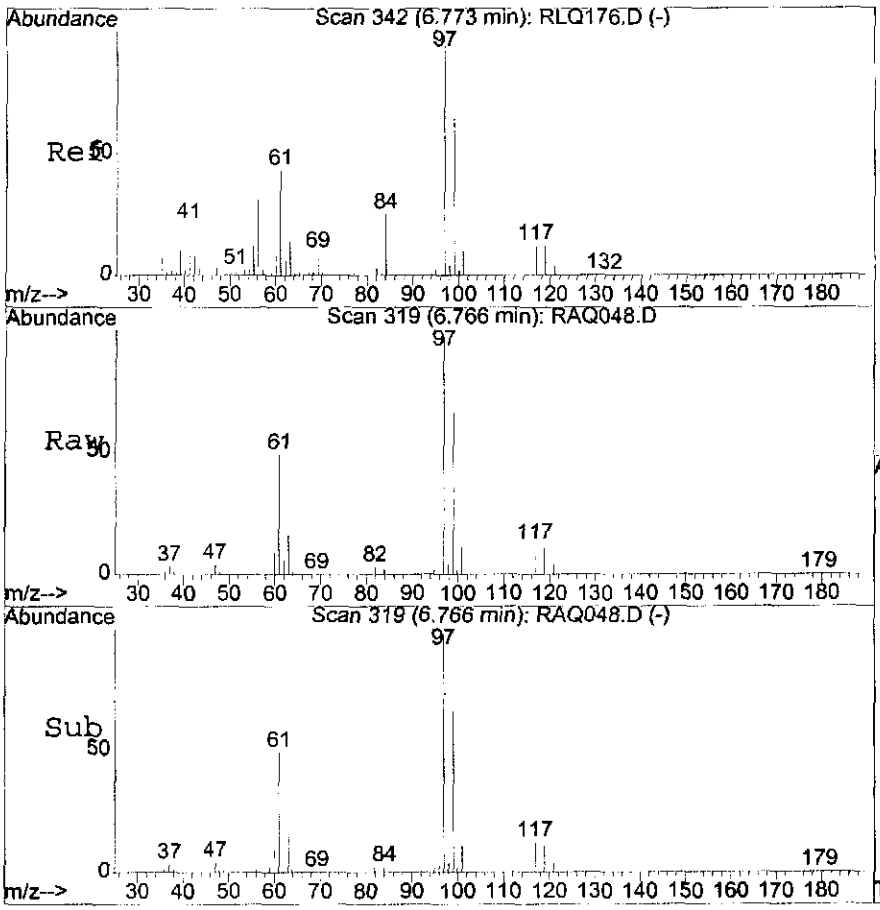


#31
cis-1,2-Dichloroethene
Concen: 5.31 ug/l
RT: 6.02 min Scan# 269
Delta R.T. 0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 96 Resp: 265189

Ion	Ratio	Lower	Upper
96	100		
61	153.7	128.4	188.4
98	64.6	35.0	95.0

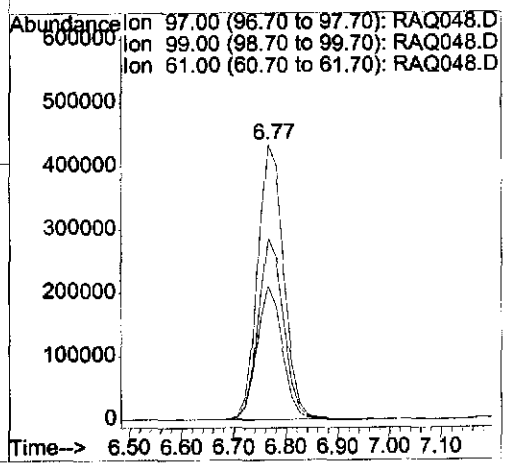


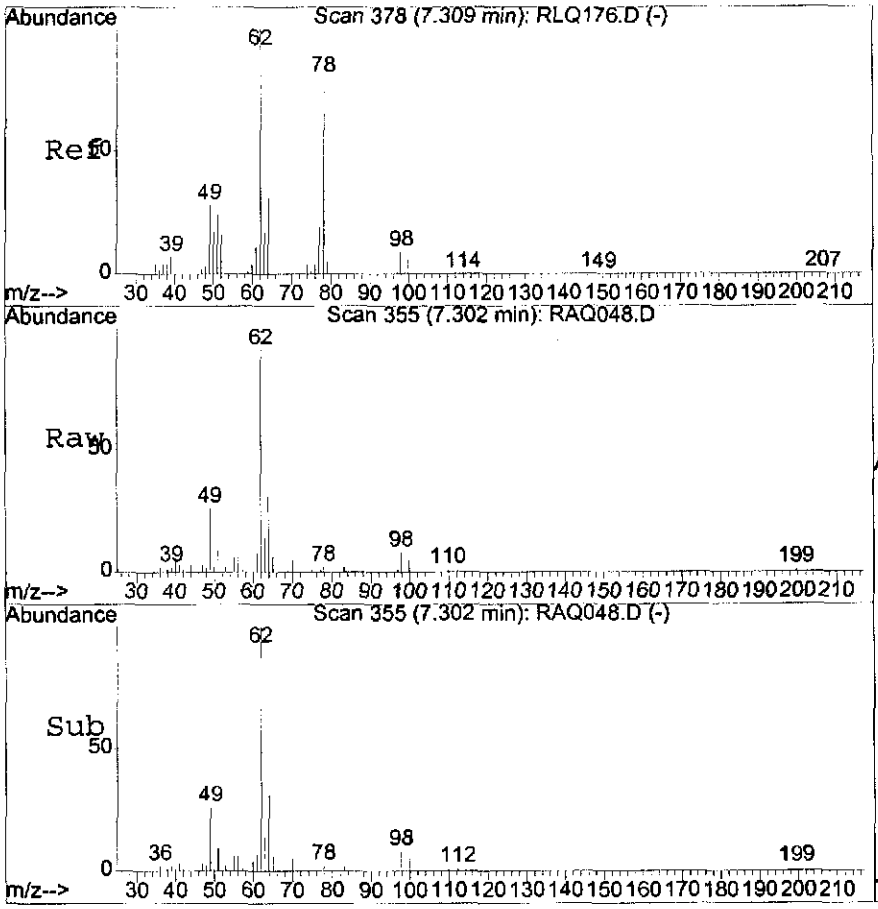


#37
1,1,1-Trichloroethane
Concen: 19.03 ug/l
RT: 6.77 min Scan# 319
Delta R.T. -0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 97 Resp: 1509089

Ion	Ratio	Lower	Upper
97	100		
99	64.3	34.4	94.4
61	47.3	14.4	74.4

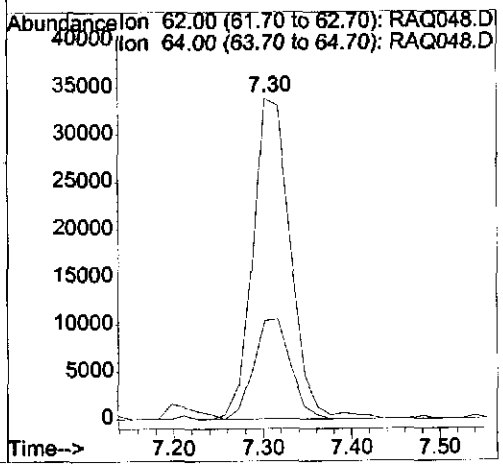


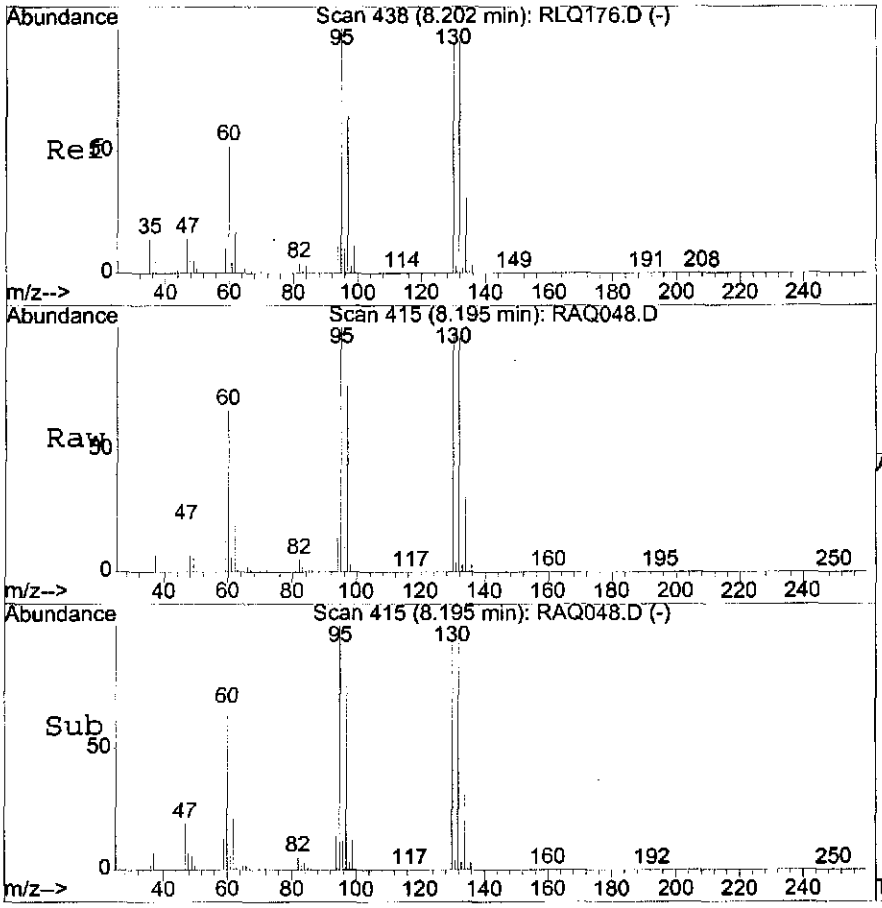


#44
1,2-Dichloroethane
Concen: 2.27 ug/l
RT: 7.30 min Scan# 355
Delta R.T. -0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 62 Resp: 99661

Ion	Ratio	Lower	Upper
62	100		
64	30.5	1.9	61.9

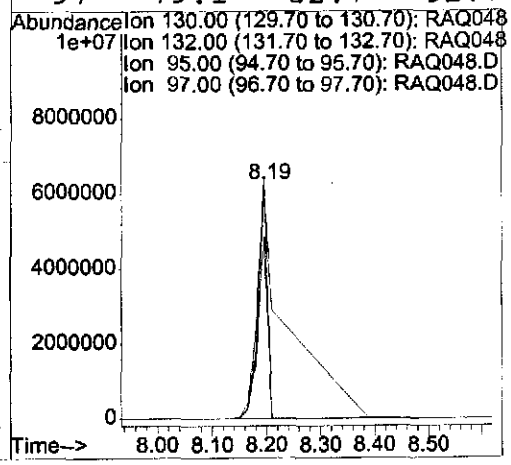


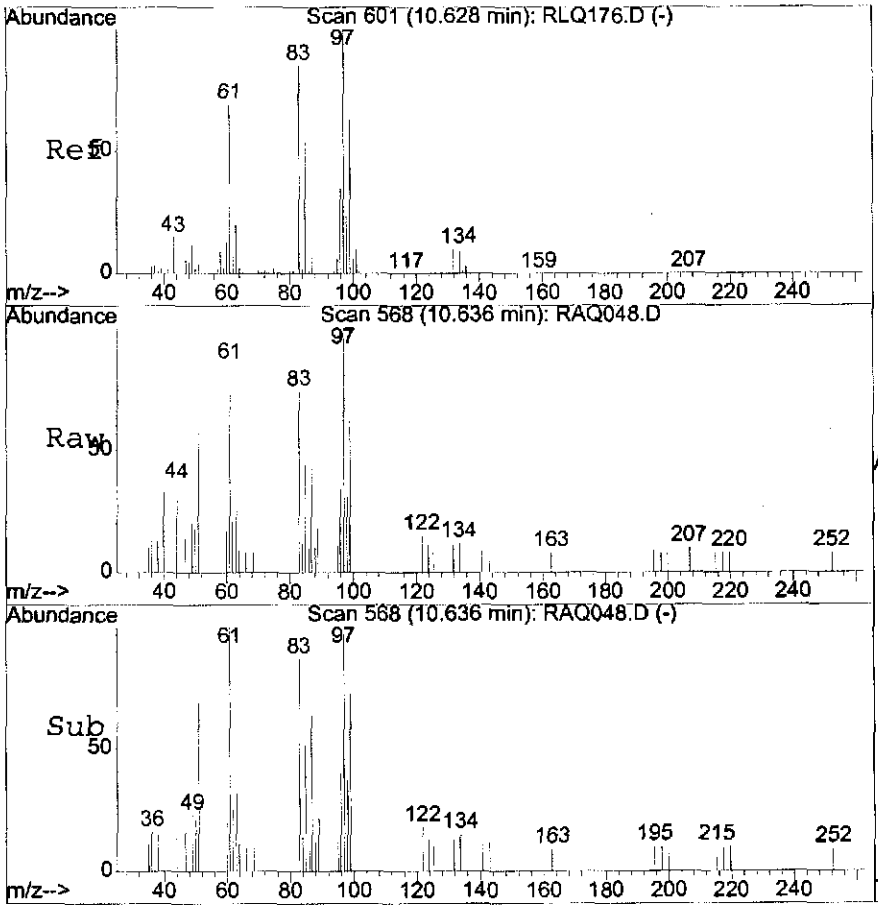


#46
Trichloroethene
Concen: 320.24 ug/l
RT: 8.19 min Scan# 415
Delta R.T. -0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion:130 Resp:14507248

Ion	Ratio	Lower	Upper
130	100		
132	131.0	65.4	125.4#
95	110.5	65.8	125.8
97	79.1	32.7	92.7

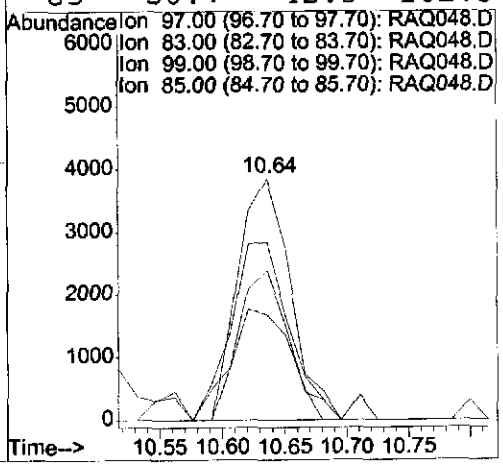


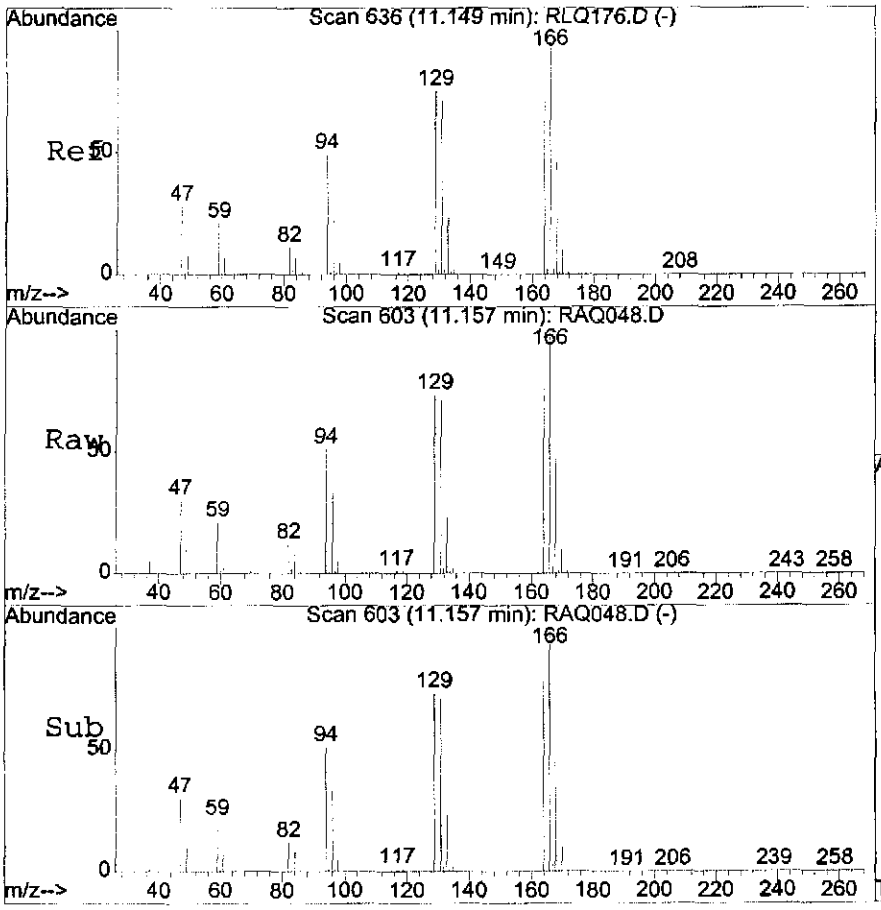


#59
1,1,2-Trichloroethane
Concen: 0.54 ug/l
RT: 10.64 min Scan# 568
Delta R.T. 0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 97 Resp: 11675

Ion	Ratio	Lower	Upper
97	100		
83	78.8	55.8	115.8
99	58.3	34.3	94.3
85	50.7	42.3	102.3

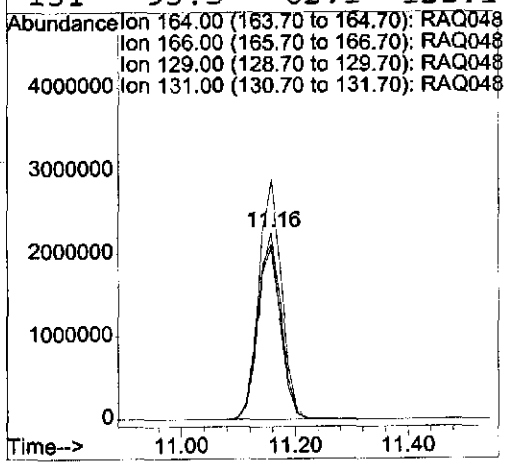


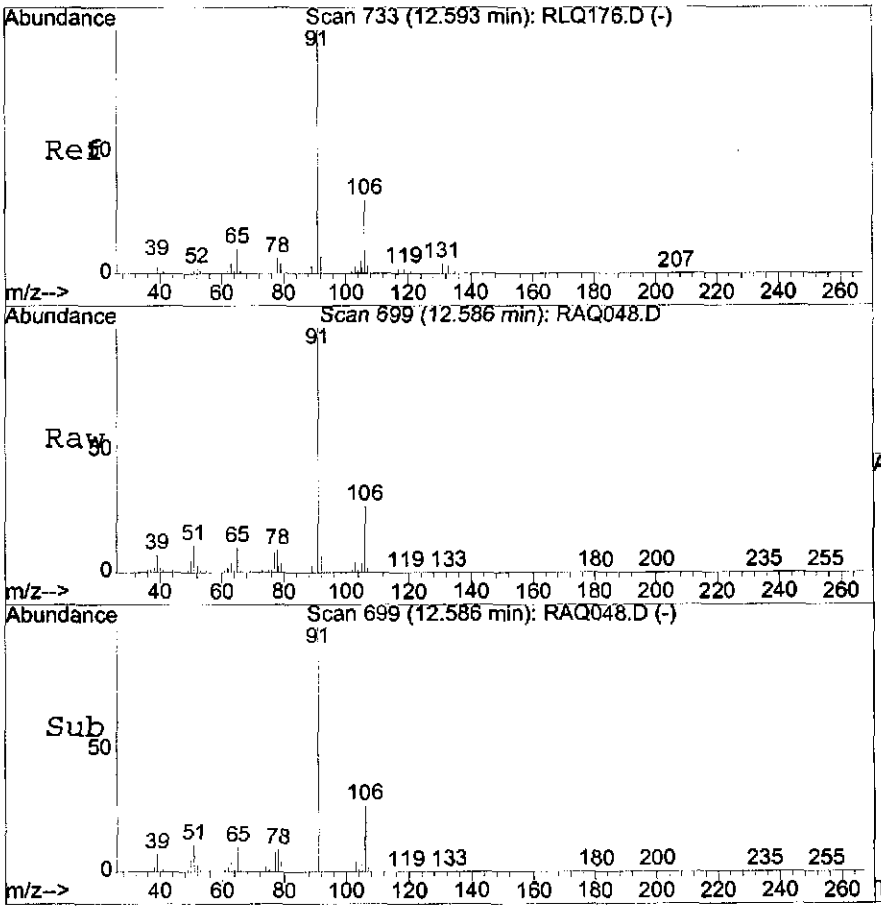


#62
Tetrachloroethene
Concen: 182.48 ug/l
RT: 11.16 min Scan# 603
Delta R.T. 0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion:164 Resp: 6290768

Ion	Ratio	Lower	Upper
164	100		
166	128.4	99.5	159.5
129	97.0	66.1	126.1
131	93.5	62.1	122.1

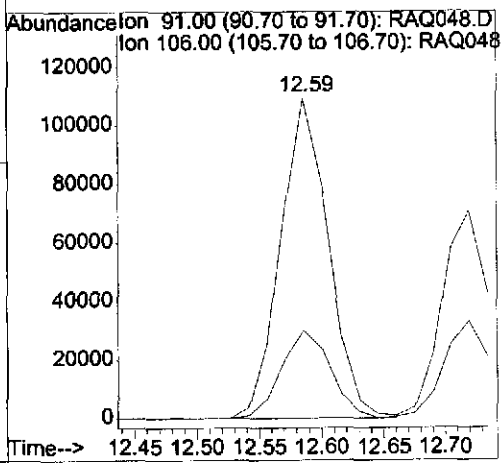


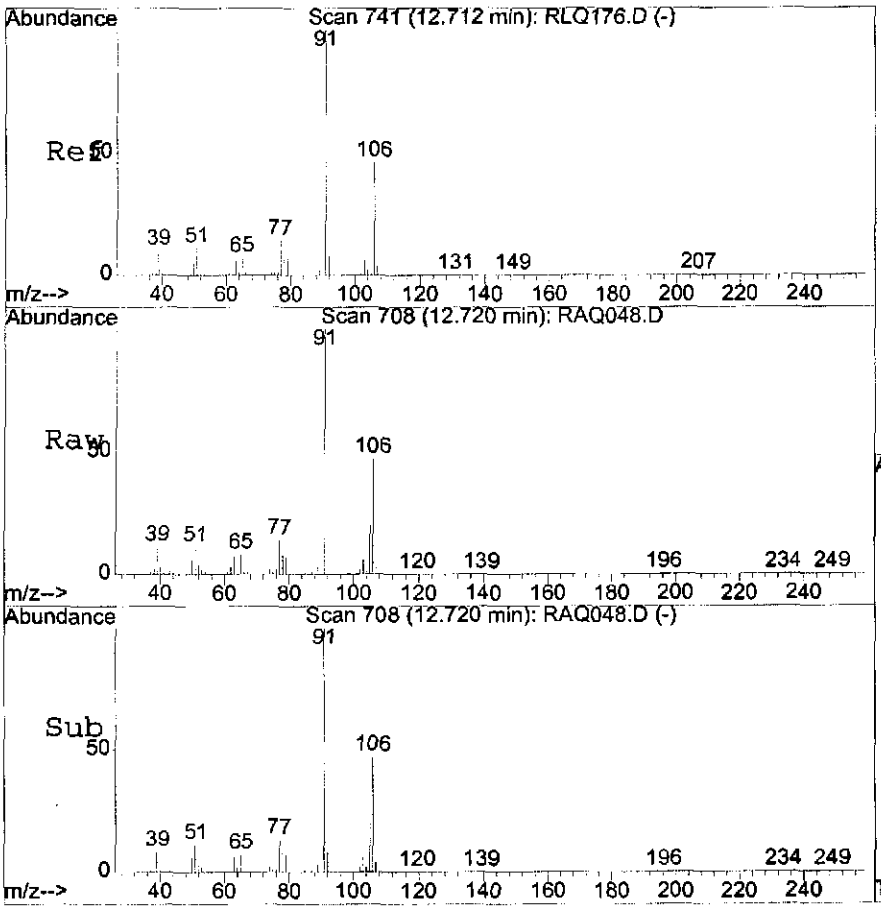


#69
Ethylbenzene
Concen: 1.60 ug/l
RT: 12.59 min Scan# 699
Delta R.T. -0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 91 Resp: 291416

Ion	Ratio	Lower	Upper
91	100		
106	28.2	0.0	59.3

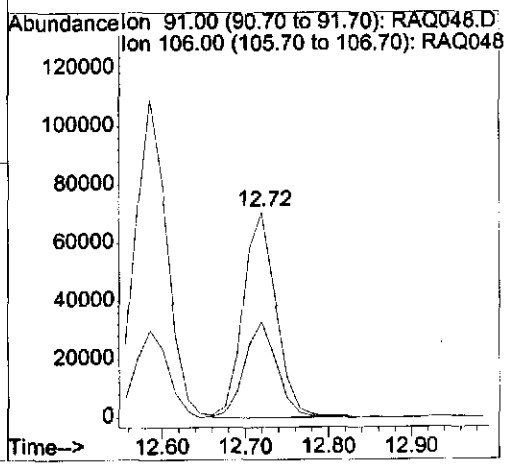


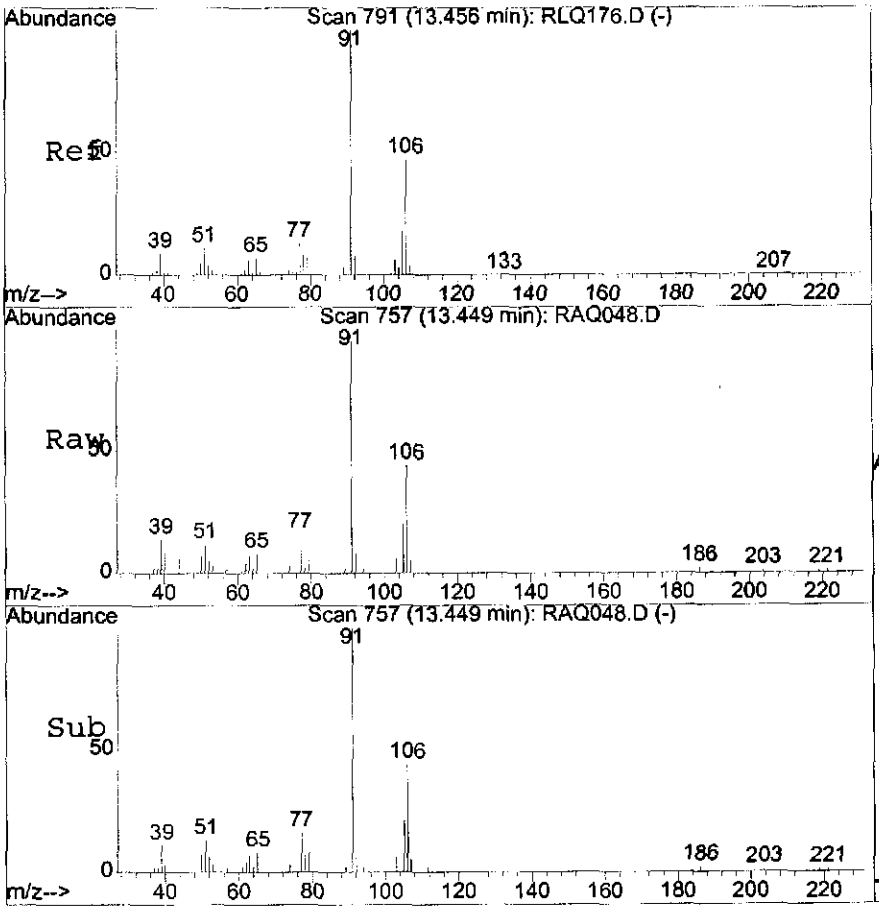


#70
m-Xylene & p-Xylene
Concen: 1.39 ug/l
RT: 12.72 min Scan# 708
Delta R.T. 0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 91 Resp: 194533

Ion	Ratio	Lower	Upper
91	100		
106	46.3	17.6	77.6

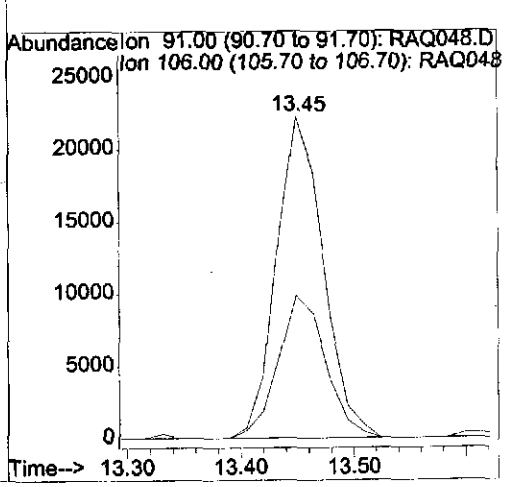


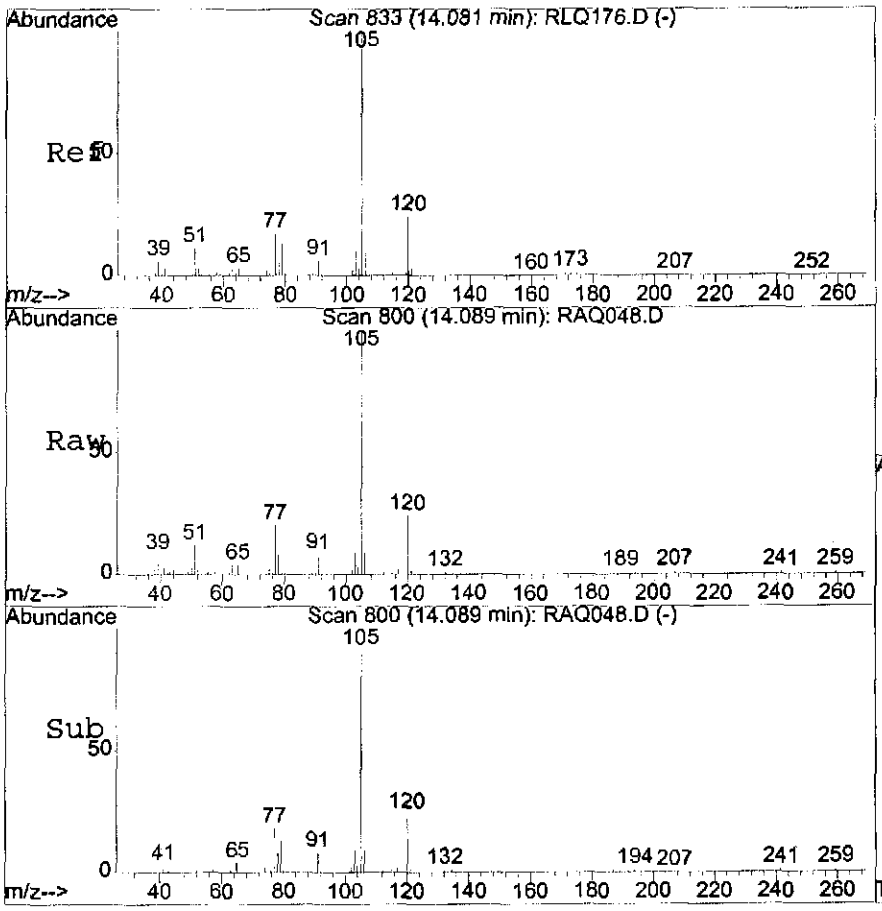


#71
o-Xylene
Concen: 0.46 ug/l
RT: 13.45 min Scan# 757
Delta R.T. -0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion: 91 Resp: 63906

Ion	Ratio	Lower	Upper
91	100		
106	45.0	15.5	75.5

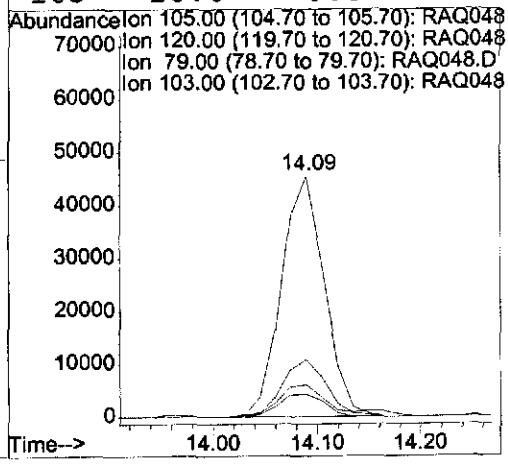


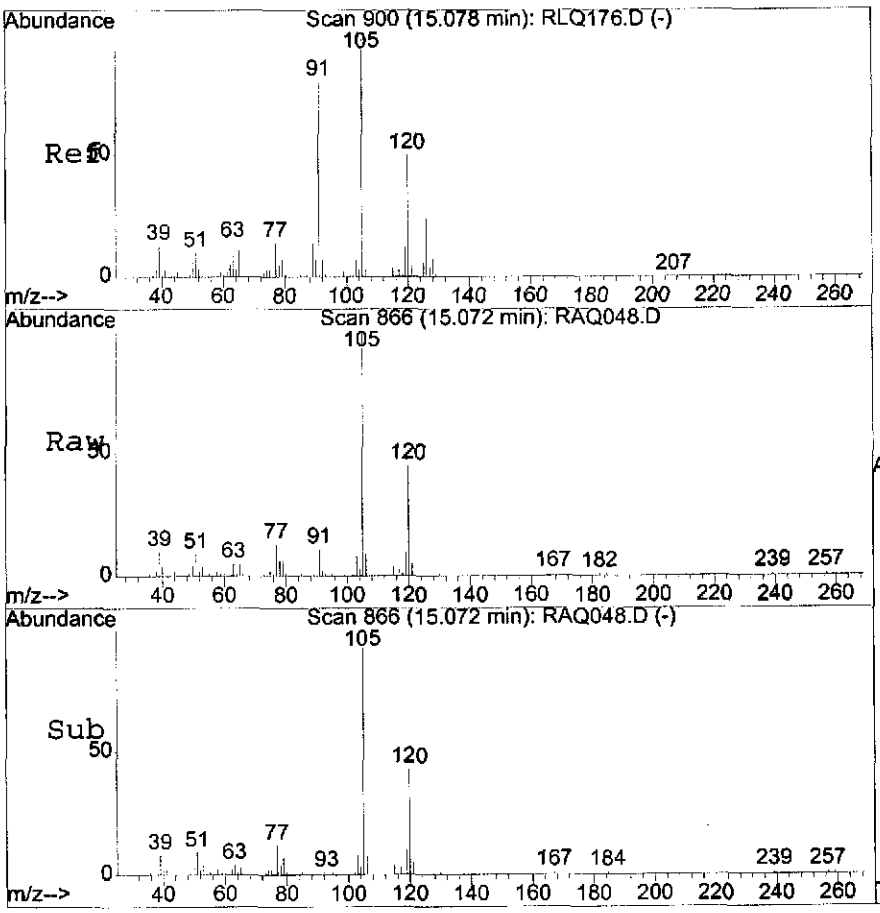


#75
Isopropylbenzene
Concen: 0.89 ug/l
RT: 14.09 min Scan# 800
Delta R.T. 0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion:105 Resp: 130030

Ion	Ratio	Lower	Upper
105	100		
120	24.5	0.0	54.5
79	16.1	0.0	46.0
103	10.0	0.0	39.8

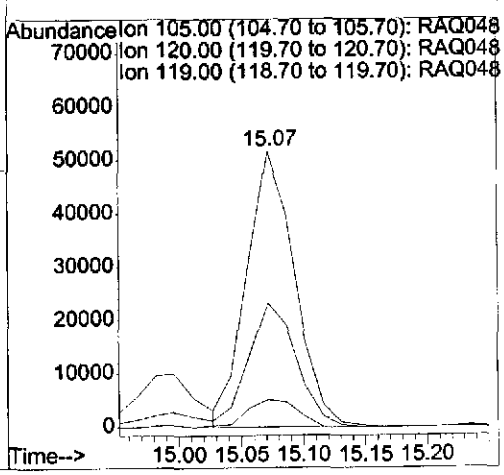


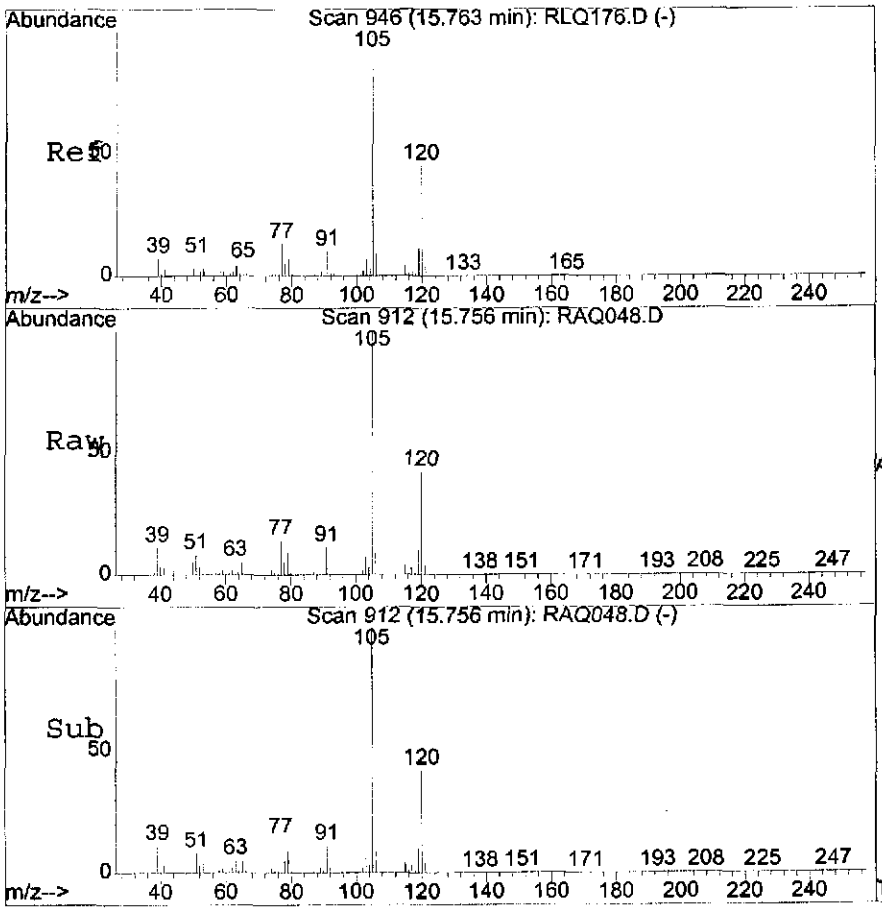


#82
1,3,5-Trimethylbenzene
Concen: 1.09 ug/l
RT: 15.07 min Scan# 866
Delta R.T. -0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion:105 Resp: 138077

Ion	Ratio	Lower	Upper
105	100		
120	44.9	18.8	78.8
119	10.5	0.0	41.6

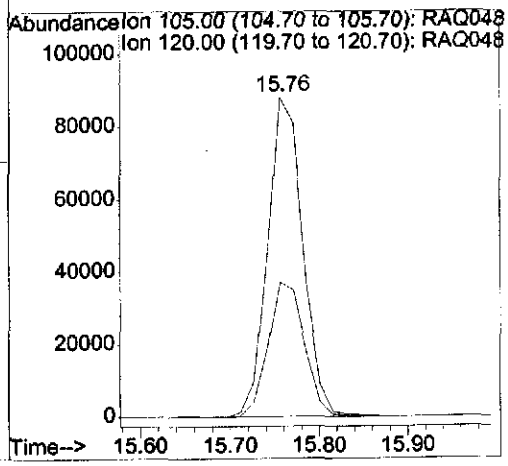




#86
1,2,4-Trimethylbenzene
Concen: 1.99 ug/l
RT: 15.76 min Scan# 912
Delta R.T. -0.01 min
Lab File: RAQ048.D
Acq: 4 Jan 2012 2:57 pm

Tgt Ion:105 Resp: 242223

Ion	Ratio	Lower	Upper
105	100		
120	43.2	23.2	83.2



METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/28/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/04/12 16:28
Sample ID:	SB75MW05A-Q411-01DL	Date Analyzed:	01/04/12 16:28
Lab Samp ID:	L209-07T	Dilution Factor:	25
Lab File ID:	RAQ051	Matrix :	WATER
Ext Btch ID:	V005A02	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	18J	25	5.0
1,1-DICHLOROETHANE	300	25	5.0
1,1-DICHLOROETHENE	1500	25	5.0
1,2-DICHLOROETHANE	ND	25	5.0
CIS-1,2-DICHLOROETHENE	5.1J	25	5.0
TETRACHLOROETHENE	170	25	5.0
TRICHLOROETHENE	750	25	5.0
VINYL CHLORIDE	ND	25	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	273	250.0	109	70-140
4-BROMOFLUOROBENZENE	276	250.0	110	70-130
TOLUENE-D8	257	250.0	103	70-140

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ051.D
Acq On : 4 Jan 2012 4:28 pm
Sample : 11L209-07T 1.0mL
Misc : DF=25
MS Integration Params: RTE.P
Quant Time: Jan 5 8:47 2012

Vial: 16
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.73	114	1278603	10.00	ug/l	-0.01
41) CHLOROBENZENE-D5	12.42	117	1026232	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.24	152	324574	10.00	ug/l	-0.01
System Monitoring Compounds						
35) Dibromofluoromethane	6.51	111	515091	10.49	ug/l	0.00
Spiked Amount 10.000			Recovery =	104.90%		
40) 1,2-Dichloroethane-d4	7.18	65	417334	10.92	ug/l	0.00
Spiked Amount 10.000			Recovery =	109.20%		
55) Toluene-d8	9.99	98	1369133	10.26	ug/l	0.00
Spiked Amount 10.000			Recovery =	102.60%		
77) 4-Bromofluorobenzene	14.48	95	479361	11.04	ug/l	-0.01
Spiked Amount 10.000			Recovery =	110.40%		
Target Compounds						Qvalue
15) 1,1-Dichloroethene	3.77	61	4617798	60.24	ug/l	96
19) Methylene chloride	4.33	49	15007	0.29	ug/l	89
20) Carbon disulfide	4.35	76	33807	0.21	ug/l	96
26) 1,1-Dichloroethane	5.23	63	1016689	12.11	ug/l	100
31) cis-1,2-Dichloroethene	6.02	96	10420	0.21	ug/l	98
37) 1,1,1-Trichloroethane	6.76	97	57248	0.71	ug/l	96
46) Trichloroethene	8.20	130	1414436	30.03	ug/l	93
62) Tetrachloroethene	11.15	164	247398	6.90	ug/l	98

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

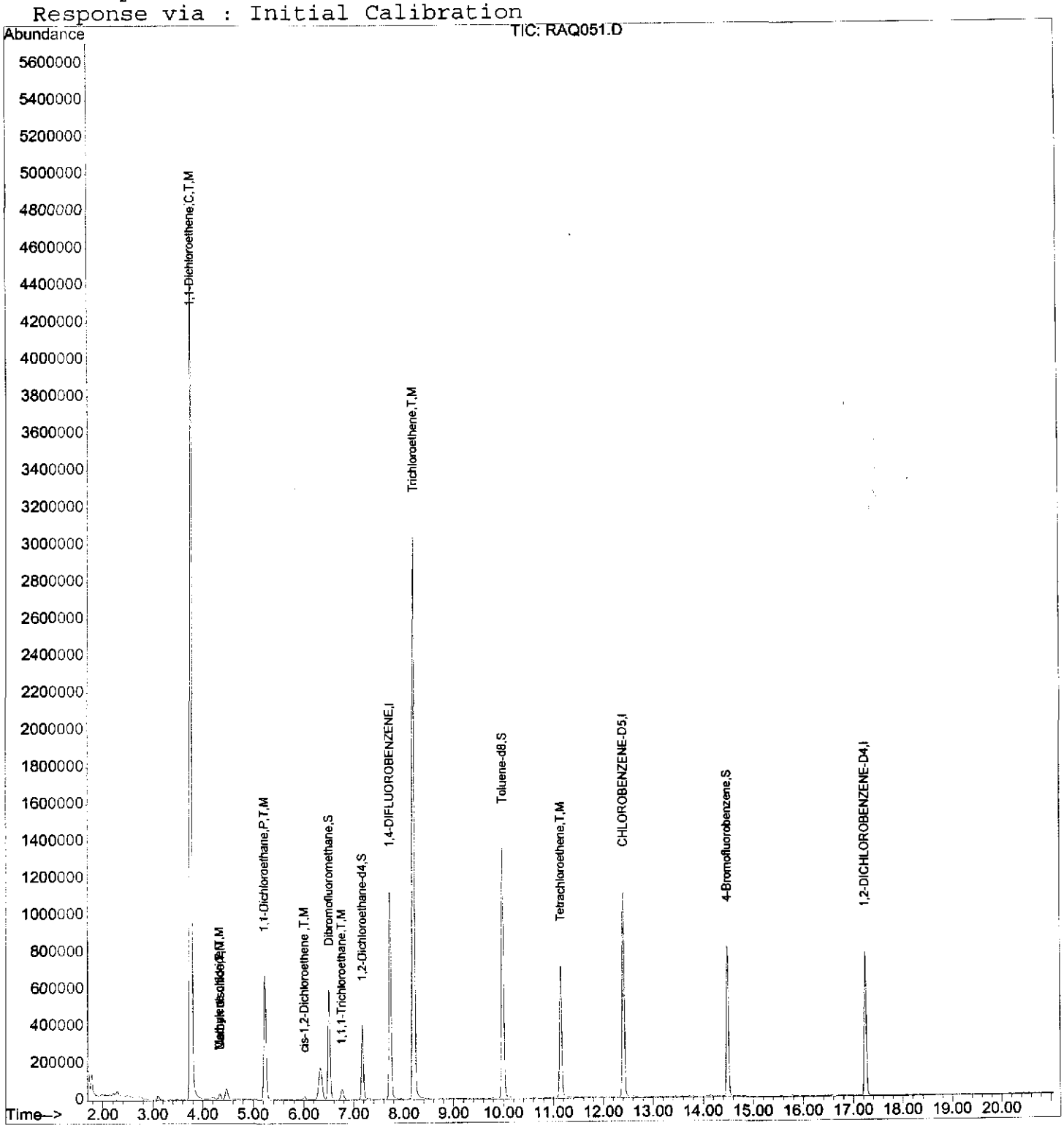
Quantitation Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ051.D
Acq On : 4 Jan 2012 4:28 pm
Sample : 11L209-07T 1.0mL
Misc : DF=25
MS Integration Params: RTE.P
Quant Time: Jan 5 8:47 2012

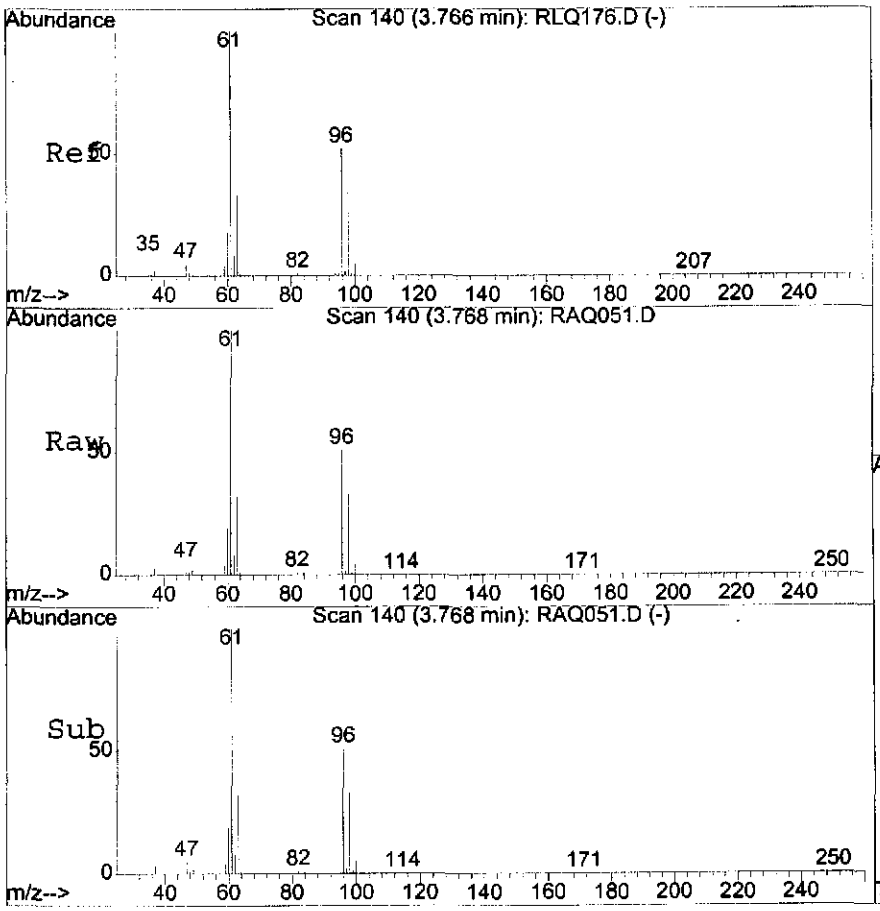
Vial: 16
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



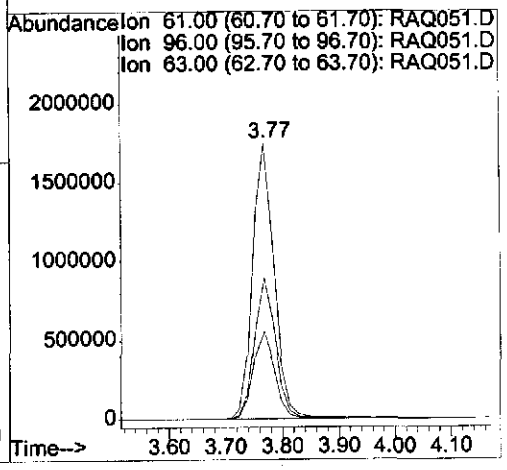
2026

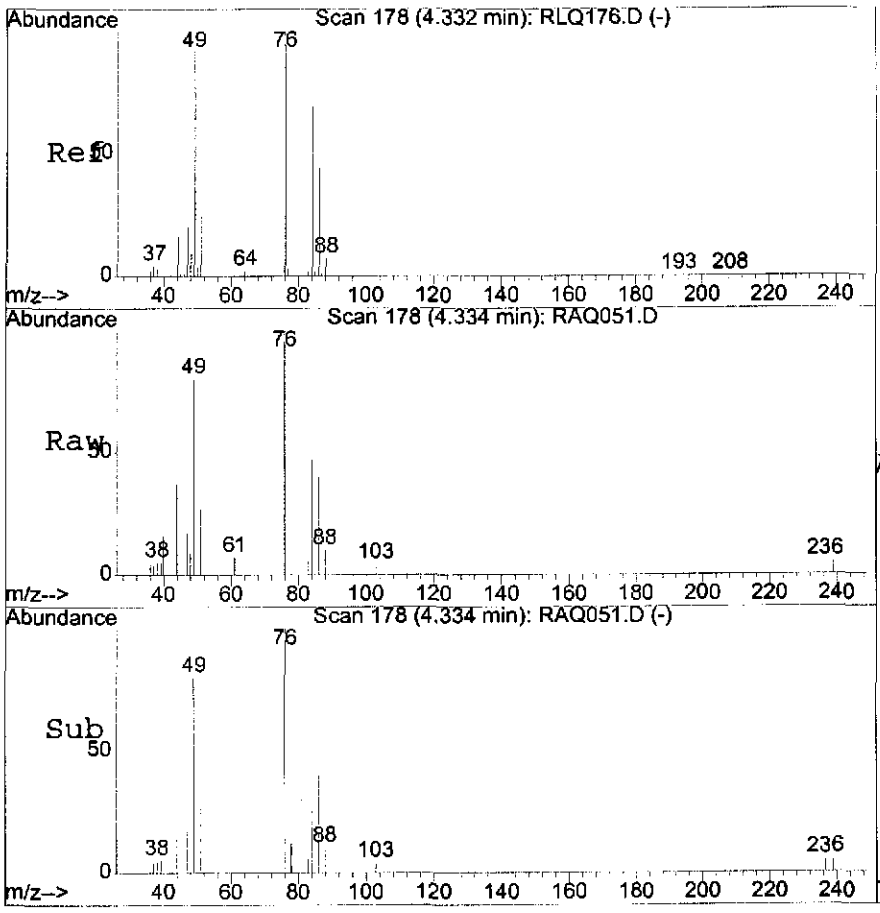


#15
1,1-Dichloroethene
Concen: 60.24 ug/l
RT: 3.77 min Scan# 140
Delta R.T. 0.00 min
Lab File: RAQ051.D
Acq: 4 Jan 2012 4:28 pm

Tgt Ion: 61 Resp: 4617798

Ion	Ratio	Lower	Upper
61	100		
96	50.5	25.0	85.0
63	32.0	2.7	62.7

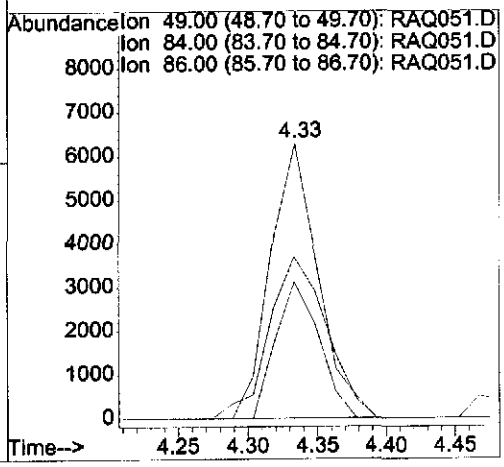


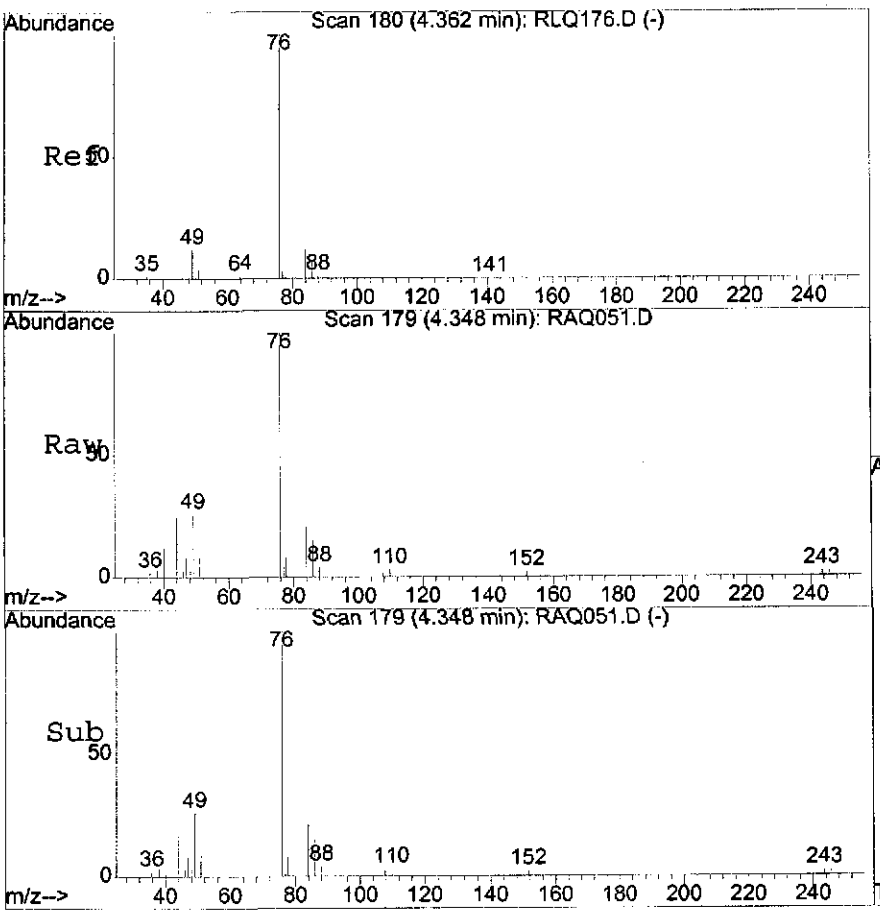


#19
Methylene chloride
Concen: 0.29 ug/l
RT: 4.33 min Scan# 178
Delta R.T. 0.00 min
Lab File: RAQ051.D
Acq: 4 Jan 2012 4:28 pm

Tgt Ion: 49 Resp: 15007

Ion	Ratio	Lower	Upper
49	100		
84	70.8	51.1	111.1
86	45.2	21.8	81.8

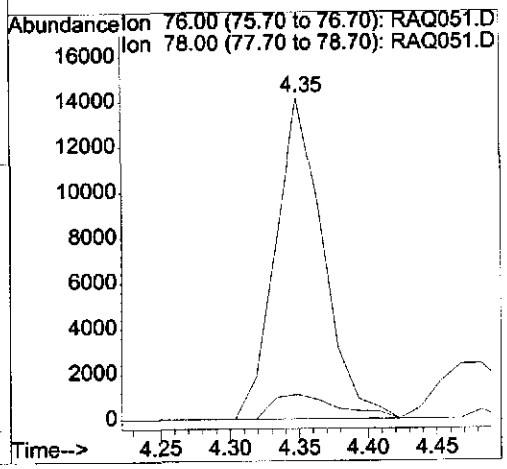


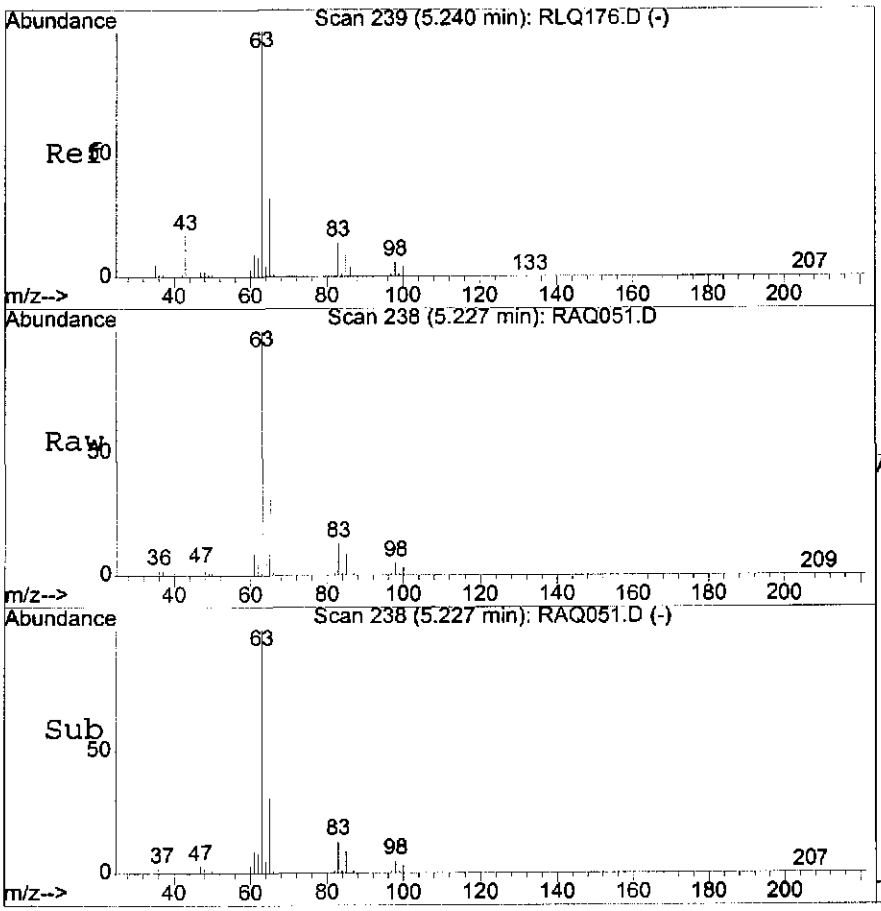


#20
Carbon disulfide
Concen: 0.21 ug/l
RT: 4.35 min Scan# 179
Delta R.T. -0.01 min
Lab File: RAQ051.D
Acq: 4 Jan 2012 4:28 pm

Tgt Ion: 76 Resp: 33807

Ion	Ratio	Lower	Upper
76	100		
78	10.6	0.0	39.0

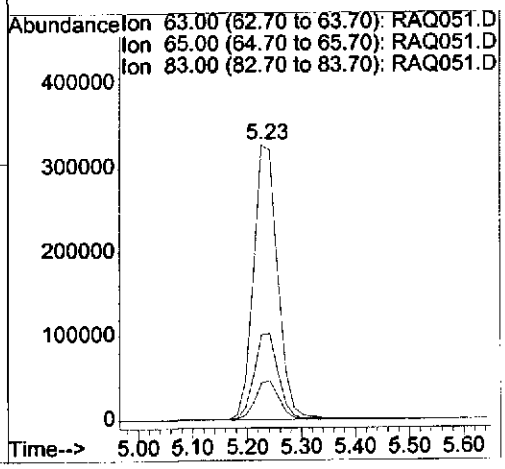


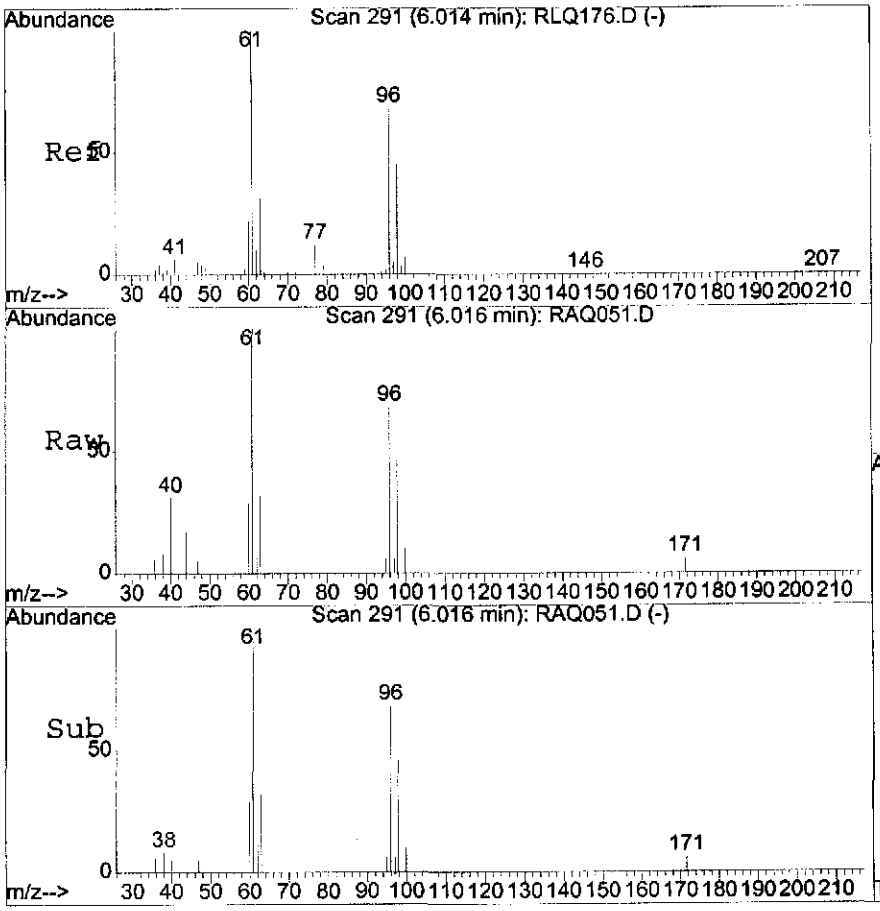


#26
1,1-Dichloroethane
Concen: 12.11 ug/l
RT: 5.23 min Scan# 238
Delta R.T. -0.01 min
Lab File: RAQ051.D
Acq: 4 Jan 2012 4:28 pm

Tgt Ion: 63 Resp: 1016689

Ion	Ratio	Lower	Upper
63	100		
65	31.2	1.2	61.2
83	13.8	0.0	43.8

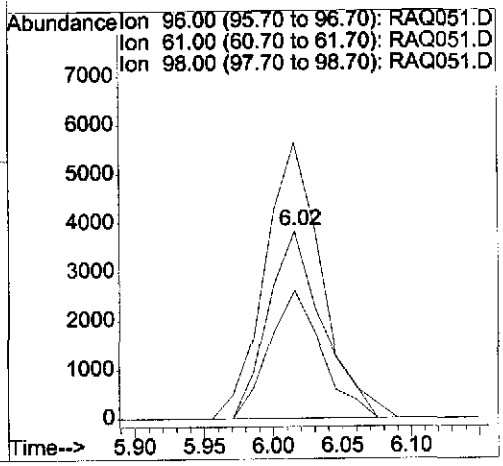


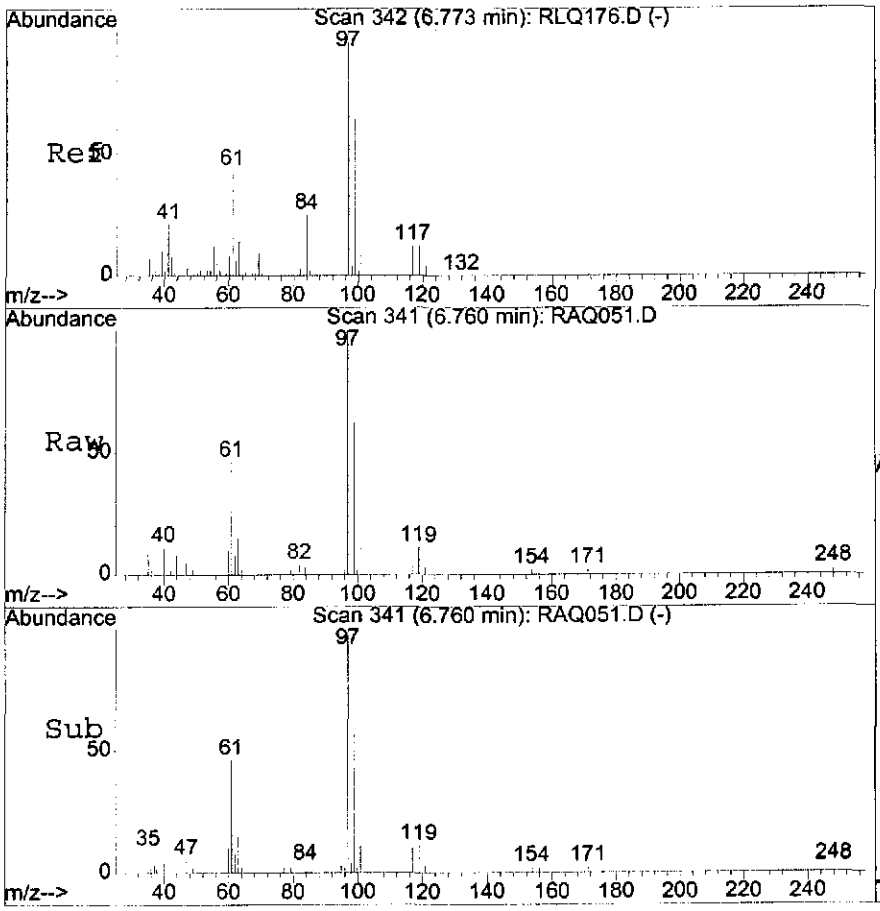


#31
cis-1,2-Dichloroethene
Concen: 0.21 ug/l
RT: 6.02 min Scan# 291
Delta R.T. 0.00 min
Lab File: RAQ051.D
Acq: 4 Jan 2012 4:28 pm

Tgt Ion: 96 Resp: 10420

Ion	Ratio	Lower	Upper
96	100		
61	154.6	128.4	188.4
98	66.1	35.0	95.0

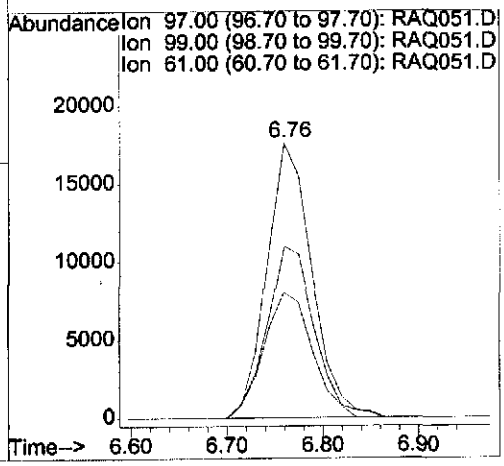


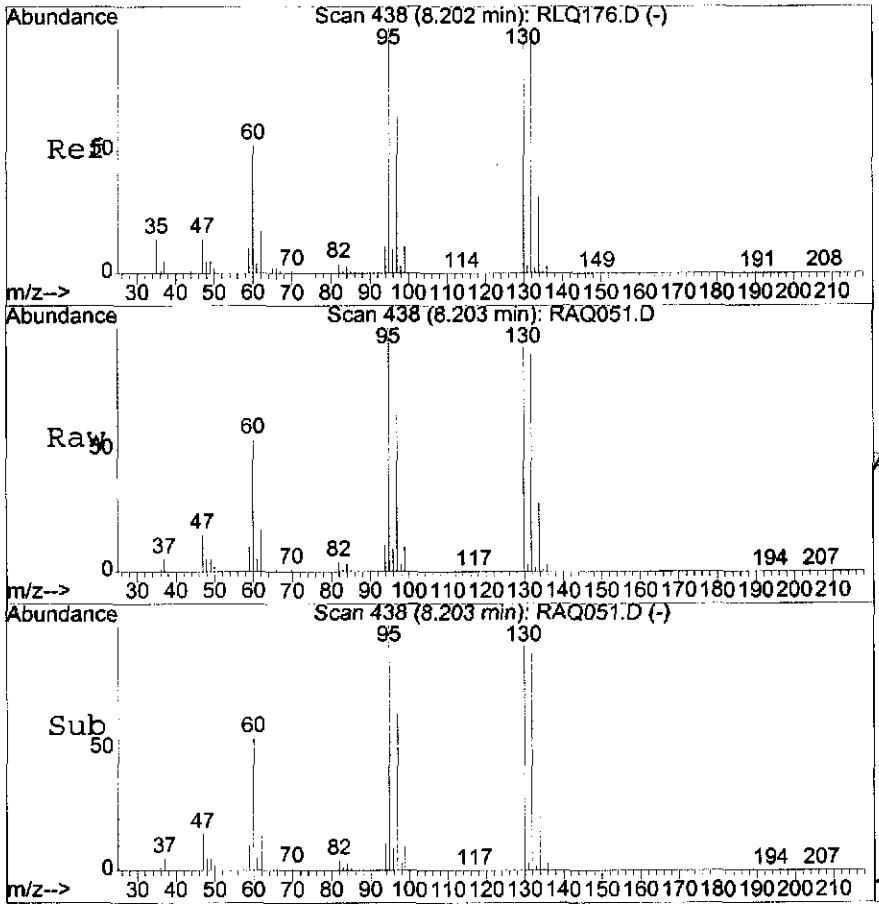


#37
1,1,1-Trichloroethane
Concen: 0.71 ug/l
RT: 6.76 min Scan# 341
Delta R.T. -0.01 min
Lab File: RAQ051.D
Acq: 4 Jan 2012 4:28 pm

Tgt Ion: 97 Resp: 57248

Ion	Ratio	Lower	Upper
97	100		
99	65.8	34.4	94.4
61	49.3	14.4	74.4

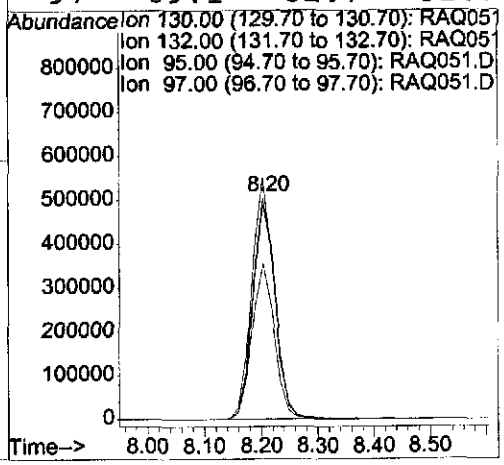


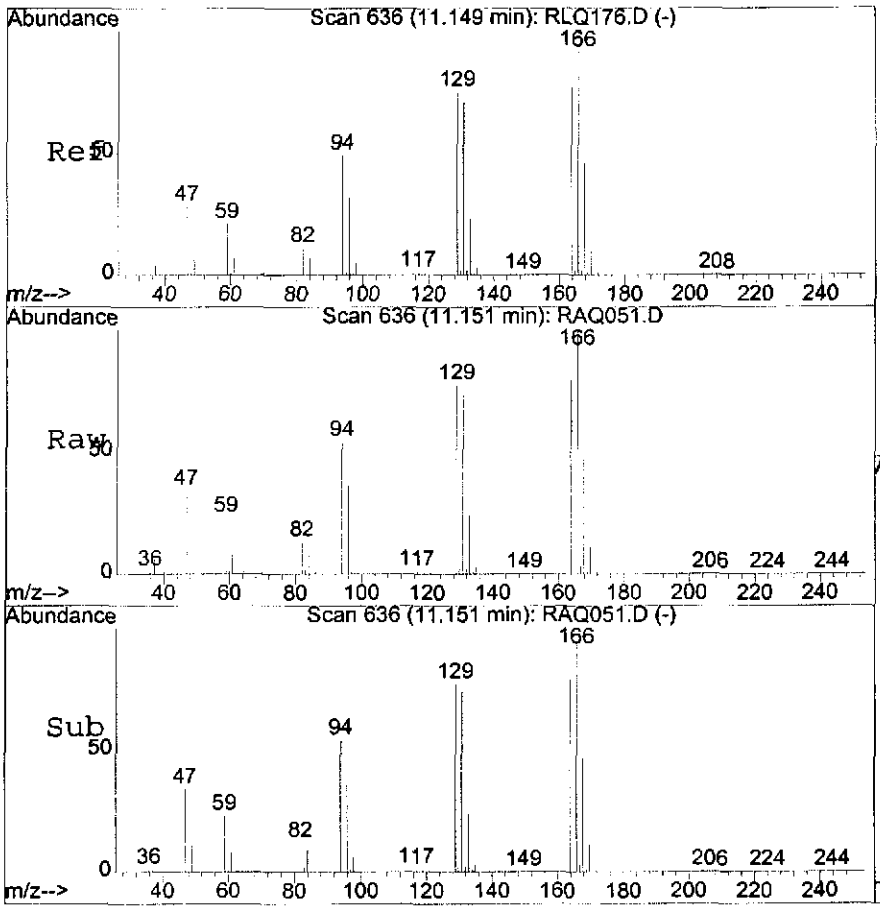


#46
Trichloroethene
Concen: 30.03 ug/l
RT: 8.20 min Scan# 438
Delta R.T. 0.00 min
Lab File: RAQ051.D
Acq: 4 Jan 2012 4:28 pm

Tgt Ion:130 Resp: 1414436

Ion	Ratio	Lower	Upper
130	100		
132	96.8	65.4	125.4
95	106.2	65.8	125.8
97	69.1	32.7	92.7

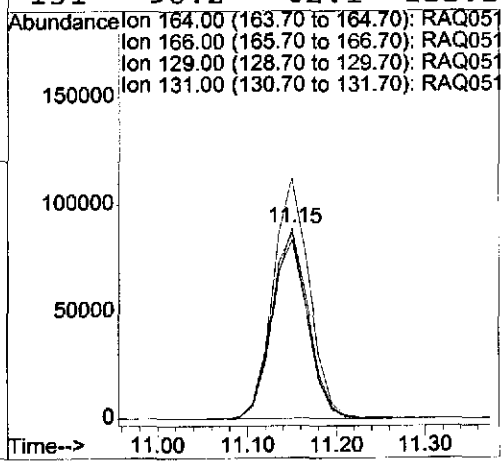




#62
Tetrachloroethene
Concen: 6.90 ug/l
RT: 11.15 min Scan# 636
Delta R.T. 0.00 min
Lab File: RAQ051.D
Acq: 4 Jan 2012 4:28 pm

Tgt Ion:164 Resp: 247398

Ion	Ratio	Lower	Upper
164	100		
166	129.3	99.5	159.5
129	99.2	66.1	126.1
131	96.2	62.1	122.1



METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 12/28/11
Project : SEAL BEACH SITE 75	Date Received: 12/29/11
Batch No. : 11L209	Date Extracted: 01/04/12 16:58
Sample ID: SB75MW05A-Q411-02	Date Analyzed: 01/04/12 16:58
Lab Samp ID: L209-08	Dilution Factor: 1
Lab File ID: RAQ052	Matrix : WATER
Ext Btch ID: V005A02	% Moisture : NA
Calib. Ref.: RLQ176	Instrument ID : T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	19	1.0	0.20
1,1-DICHLOROETHANE	210E	1.0	0.20
1,1-DICHLOROETHENE	76E	1.0	0.20
1,2-DICHLOROETHANE	2.3	1.0	0.20
CIS-1,2-DICHLOROETHENE	5.5	1.0	0.20
TETRACHLOROETHENE	180E	1.0	0.20
TRICHLOROETHENE	110E	1.0	0.20
VINYL CHLORIDE	1.5	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.5	10.00	115	70-140
4-BROMOFLUOROBENZENE	11.0	10.00	110	70-130
TOLUENE-D8	10.5	10.00	105	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/28/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/05/12 12:57
Sample ID:	SB75MW05A-0411-02DL	Date Analyzed:	01/05/12 12:57
Lab Samp ID:	L209-08T	Dilution Factor:	50
Lab File ID:	RAQ077	Matrix :	WATER
Ext Btch ID:	V005A03	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	18J	50	10
1,1-DICHLOROETHANE	300	50	10
1,1-DICHLOROETHENE	1500	50	10
1,2-DICHLOROETHANE	ND	50	10
CIS-1,2-DICHLOROETHENE	ND	50	10
TETRACHLOROETHENE	170	50	10
TRICHLOROETHENE	770	50	10
VINYL CHLORIDE	ND	50	10

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	521	500.0	104	70-140
4-BROMOFLUOROBENZENE	555	500.0	111	70-130
TOLUENE-D8	531	500.0	106	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/28/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/05/12 13:27
Sample ID:	SB75MW05B-Q411-01	Date Analyzed:	01/05/12 13:27
Lab Samp ID:	L209-09R	Dilution Factor:	1
Lab File ID:	RAQ078	Matrix :	WATER
Ext Btch ID:	V005A03	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	10	1.0	0.20
1,1-DICHLOROETHENE	31	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	14	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.0	10.00	110	70-140
4-BROMOFLUOROBENZENE	10.9	10.00	109	70-130
TOLUENE-D8	10.4	10.00	104	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	12/28/11
Project	: SEAL BEACH SITE 75	Date Received:	12/29/11
Batch No.	: 11L209	Date Extracted:	01/04/12 17:59
Sample ID:	SB75MW05A-Q411-03	Date Analyzed:	01/04/12 17:59
Lab Samp ID:	L209-10	Dilution Factor:	1
Lab File ID:	RAQ054	Matrix :	WATER
Ext Btch ID:	V005A02	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.1	10.00	111	70-140
4-BROMOFLUOROBENZENE	11.0	10.00	110	70-130
TOLUENE-D8	10.7	10.00	107	70-140

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: 12/28/11
Project : SEAL BEACH SITE 75	Date Received: 12/29/11
Batch No. : 11L209	Date Extracted: 01/04/12 18:31
Sample ID: SB75MW05A-Q411-04	Date Analyzed: 01/04/12 18:31
Lab Samp ID: L209-11	Dilution Factor: 1
Lab File ID: RAQ055	Matrix : WATER
Ext Btch ID: V005A02	% Moisture : NA
Calib. Ref.: RLQ176	Instrument ID : T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.1	10.00	111	70-140
4-BROMOFLUOROBENZENE	11.3	10.00	113	70-130
TOLUENE-D8	10.6	10.00	106	70-140

QC SUMMARIES

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client : ACCORD ENGINEERING	Date Collected: NA
Project : SEAL BEACH SITE 75	Date Received: 01/03/12
Batch No. : 11L209	Date Extracted: 01/03/12 10:41
Sample ID: MBLK1W	Date Analyzed: 01/03/12 10:41
Lab Samp ID: V005A01B	Dilution Factor: 1
Lab File ID: RAQ006	Matrix : WATER
Ext Btch ID: V005A01	% Moisture : NA
Calib. Ref.: RLQ176	Instrument ID : T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	11.0	10.00	110	70-140
4-BROMOFLUOROBENZENE	10.3	10.00	103	70-130
TOLUENE-D8	10.1	10.00	101	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11L209
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	V005A01B	V005A01L	V005A01C		
LAB FILE ID:	RAQ006	RAQ003	RAQ004		
DATE EXTRACTED:	01/03/1210:41	01/03/1209:09	01/03/1209:39	DATE COLLECTED:	NA
DATE ANALYZED:	01/03/1210:41	01/03/1209:09	01/03/1209:39	DATE RECEIVED:	01/03/12
PREP. BATCH:	V005A01	V005A01	V005A01		
CALIB. REF:	RLQ176	RLQ176	RLQ176		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	10.4	104	10.0	10.2	102	3	70-130	30
1,1-Dichloroethane	ND	10.0	10.1	101	10.0	10.3	103	2	70-130	30
1,1-Dichloroethene	ND	10.0	10.0	100	10.0	10.2	102	2	60-130	30
1,2-Dichloroethane	ND	10.0	10.9	109	10.0	10.7	107	1	70-130	30
cis-1,2-Dichloroethene	ND	10.0	9.11	91	10.0	9.00	90	1	70-130	30
Tetrachloroethene	ND	10.0	9.69	97	10.0	9.47	95	2	70-130	30
Trichloroethene	ND	10.0	9.80	98	10.0	9.91	99	1	70-130	30
Vinyl Chloride	ND	10.0	9.79	98	10.0	9.85	99	1	60-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.5	105	10.0	10.1	101	70-140
4-Bromofluorobenzene	10.0	10.3	103	10.0	9.97	100	70-130
Toluene-d8	10.0	10.3	103	10.0	10.1	101	70-130

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	NA
Project	: SEAL BEACH SITE 75	Date Received:	01/04/12
Batch No.	: 11L209	Date Extracted:	01/04/12 10:54
Sample ID:	MBLK2W	Date Analyzed:	01/04/12 10:54
Lab Samp ID:	V005A02B	Dilution Factor:	1
Lab File ID:	RAQ040	Matrix :	WATER
Ext Btch ID:	V005A02	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.3	10.00	103	70-140
4-BROMOFLUOROBENZENE	10.8	10.00	108	70-130
TOLUENE-D8	10.4	10.00	104	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11L209
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK2W				
LAB SAMP ID:	V005A02B	V005A02L	V005A02C		
LAB FILE ID:	RAQ040	RAQ037	RAQ038		
DATE EXTRACTED:	01/04/1210:54	01/04/1209:23	01/04/1209:55	DATE COLLECTED:	NA
DATE ANALYZED:	01/04/1210:54	01/04/1209:23	01/04/1209:55	DATE RECEIVED:	01/04/12
PREP. BATCH:	V005A02	V005A02	V005A02		
CALIB. REF:	RLQ176	RLQ176	RLQ176		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	11.0	110	10.0	11.0	110	1	70-130	30
1,1-Dichloroethane	ND	10.0	10.7	107	10.0	10.9	109	2	70-130	30
1,1-Dichloroethene	ND	10.0	10.9	109	10.0	11.0	110	1	60-130	30
1,2-Dichloroethane	ND	10.0	11.6	116	10.0	11.2	112	3	70-130	30
cis-1,2-Dichloroethene	ND	10.0	9.26	93	10.0	9.39	94	1	70-130	30
Tetrachloroethene	ND	10.0	10.2	102	10.0	9.80	98	4	70-130	30
Trichloroethene	ND	10.0	10.4	104	10.0	10.3	103	1	70-130	30
Vinyl Chloride	ND	10.0	11.2	112	10.0	11.3	113	1	60-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.7	107	10.0	10.3	103	70-140
4-Bromofluorobenzene	10.0	10.2	102	10.0	10.3	103	70-130
Toluene-d8	10.0	10.3	103	10.0	10.2	102	70-130

METHOD 5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: ACCORD ENGINEERING	Date Collected:	NA
Project	: SEAL BEACH SITE 75	Date Received:	01/05/12
Batch No.	: 11L209	Date Extracted:	01/05/12 11:24
Sample ID:	MBLK3W	Date Analyzed:	01/05/12 11:24
Lab Samp ID:	V005A03B	Dilution Factor:	1
Lab File ID:	RAQ074	Matrix :	WATER
Ext Btch ID:	V005A03	% Moisture :	NA
Calib. Ref.:	RLQ176	Instrument ID :	T-005

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHANE	ND	1.0	0.20
1,1-DICHLOROETHENE	ND	1.0	0.20
1,2-DICHLOROETHANE	ND	1.0	0.20
CIS-1,2-DICHLOROETHENE	ND	1.0	0.20
TETRACHLOROETHENE	ND	1.0	0.20
TRICHLOROETHENE	ND	1.0	0.20
VINYL CHLORIDE	ND	1.0	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.1	10.00	101	70-140
4-BROMOFLUOROBENZENE	10.7	10.00	107	70-130
TOLUENE-D8	10.3	10.00	103	70-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11L209
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK3W				
LAB SAMP ID:	V005A03B	V005A03L	V005A03C		
LAB FILE ID:	RAQ074	RAQ071	RAQ072		
DATE EXTRACTED:	01/05/1211:24	01/05/1209:51	01/05/1210:22	DATE COLLECTED:	NA
DATE ANALYZED:	01/05/1211:24	01/05/1209:51	01/05/1210:22	DATE RECEIVED:	01/05/12
PREP. BATCH:	V005A03	V005A03	V005A03		
CALIB. REF:	RLQ176	RLQ176	RLQ176		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	ND	10.0	10.5	105	10.0	10.2	102	2	70-130	30
1,1-Dichloroethane	ND	10.0	10.1	101	10.0	10.3	103	2	70-130	30
1,1-Dichloroethene	ND	10.0	10.4	104	10.0	10.2	102	2	60-130	30
1,2-Dichloroethane	ND	10.0	11.5	115	10.0	10.8	108	6	70-130	30
cis-1,2-Dichloroethene	ND	10.0	9.13	91	10.0	9.15	91	0	70-130	30
Tetrachloroethene	ND	10.0	9.85	98	10.0	9.52	95	3	70-130	30
Trichloroethene	ND	10.0	10.0	100	10.0	9.76	98	2	70-130	30
Vinyl Chloride	ND	10.0	12.8	128	10.0	12.2	122	5	60-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.5	105	10.0	10.1	101	70-140
4-Bromofluorobenzene	10.0	10.3	103	10.0	9.89	99	70-130
Toluene-d8	10.0	10.3	103	10.0	10.1	101	70-130

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: ACCORD ENGINEERING
PROJECT: SEAL BEACH SITE 75
BATCH NO.: 11L209
METHOD: SW 5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	SB75MW01A-Q411-01				
LAB SAMP ID:	L209-02	L209-02M	L209-02S		
LAB FILE ID:	RAQ017	RAQ018	RAQ019		
DATE EXTRACTED:	01/03/1216:37	01/03/1217:08	01/03/1217:39	DATE COLLECTED:	12/27/11
DATE ANALYZED:	01/03/1216:37	01/03/1217:08	01/03/1217:39	DATE RECEIVED:	12/29/11
PREP. BATCH:	V005A01	V005A01	V005A01		
CALIB. REF:	RLQ176	RLQ176	RLQ176		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
1,1,1-Trichloroethane	6.37	10.0	16.4	100	10.0	16.1	98	1	70-130	30
1,1-Dichloroethane	125E	10.0	175E	494*	10.0	166E	409*	5	70-130	30
1,1-Dichloroethene	81.4E	10.0	99.4E	181*	10.0	121E	398*	20	60-140	30
1,2-Dichloroethane	1.84	10.0	12.2	103	10.0	12.3	104	1	70-140	30
cis-1,2-Dichloroethene	4.24	10.0	13.1	89	10.0	13.1	89	0	70-140	30
Tetrachloroethene	116E	10.0	123E	64*	10.0	123E	73	1	70-130	30
Trichloroethene	108E	10.0	104E	-45*	10.0	102E	-58*	1	60-140	30
Vinyl Chloride	2.37	10.0	12.2	98	10.0	12.3	99	1	60-160	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.0	100	10.0	9.86	99	70-140
4-Bromofluorobenzene	10.0	10.4	104	10.0	10.3	103	70-130
Toluene-d8	10.0	10.4	104	10.0	10.2	102	70-140

QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ040.D
Acq On : 4 Jan 2012 10:54 am
Sample : VO05A02B
Misc : BLANK
MS Integration Params: RTE.P
Quant Time: Jan 4 15:14 2012

Vial: 6
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.73	114	1414529	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	12.41	117	1109573	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.24	152	351334	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.50	111	552488	10.17	ug/l	0.00
Spiked Amount 10.000			Recovery = 101.70%			
40) 1,2-Dichloroethane-d4	7.17	65	435596	10.30	ug/l	0.00
Spiked Amount 10.000			Recovery = 103.00%			
55) Toluene-d8	9.98	98	1492892	10.35	ug/l	0.00
Spiked Amount 10.000			Recovery = 103.50%			
77) 4-Bromofluorobenzene	14.49	95	509540	10.84	ug/l	0.00
Spiked Amount 10.000			Recovery = 108.40%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration
RAQ040.D VO05L09.M Wed Jan 04 15:15:54 2012

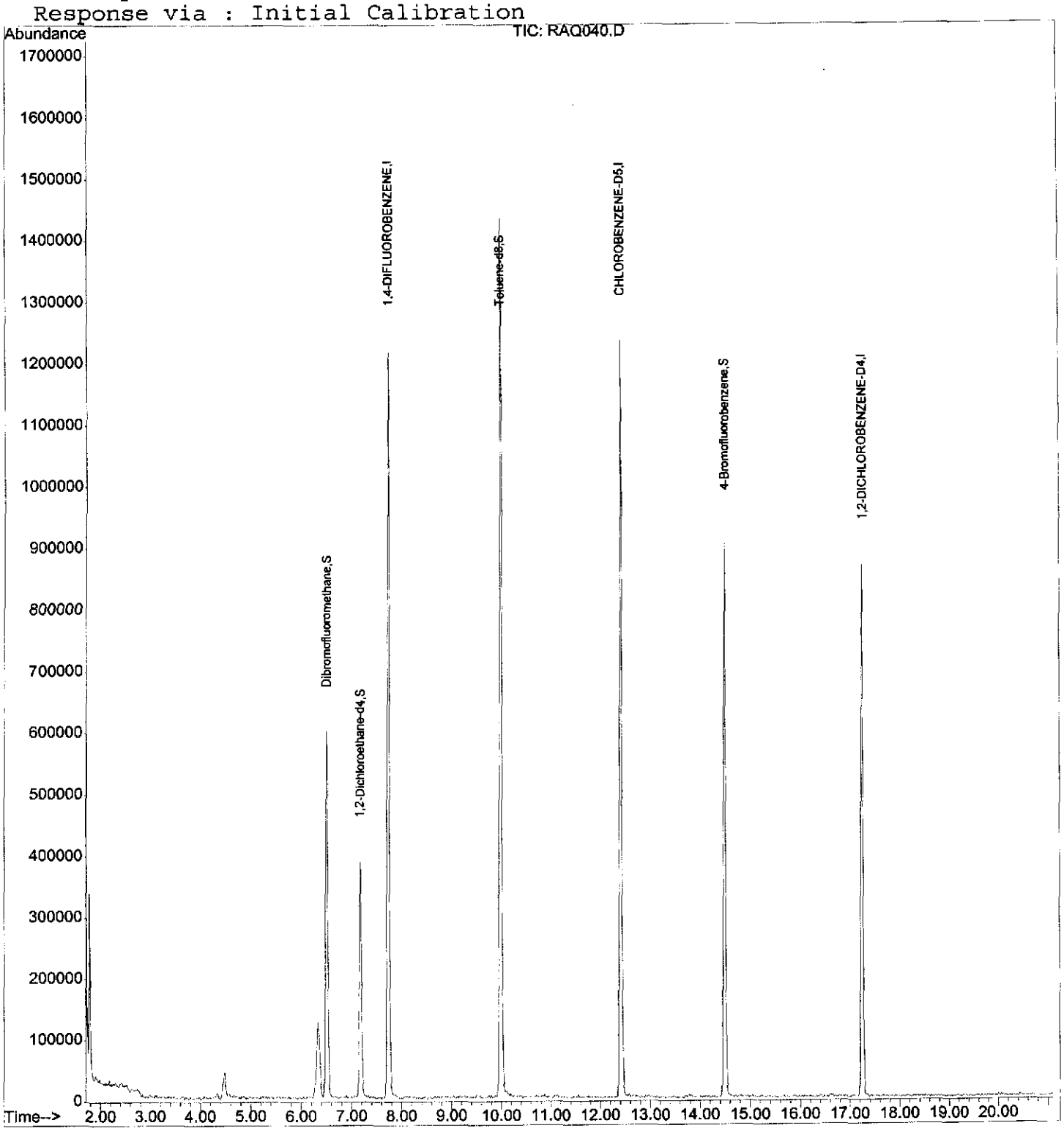
Quantitation Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ040.D
Acq On : 4 Jan 2012 10:54 am
Sample : VO05A02B
Misc : BLANK
MS Integration Params: RTE.P
Quant Time: Jan 4 15:14 2012

Vial: 6
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ037.D
Acq On : 4 Jan 2012 9:23 am
Sample : VO05A02L
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P
Quant Time: Jan 4 9:44 2012

Vial: 3
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.72	114	1282040	10.00	ug/l	-0.02
41) CHLOROBENZENE-D5	12.39	117	1017102	10.00	ug/l	-0.02
73) 1,2-DICHLOROBENZENE-D4	17.23	152	356582	10.00	ug/l	-0.02
System Monitoring Compounds						
35) Dibromofluoromethane	6.50	111	498359	10.12	ug/l	0.00
Spiked Amount 10.000			Recovery	=	101.20%	
40) 1,2-Dichloroethane-d4	7.17	65	408208	10.65	ug/l	0.00
Spiked Amount 10.000			Recovery	=	106.50%	
55) Toluene-d8	9.98	98	1364427	10.32	ug/l	0.00
Spiked Amount 10.000			Recovery	=	103.20%	
77) 4-Bromofluorobenzene	14.48	95	487061	10.21	ug/l	-0.02
Spiked Amount 10.000			Recovery	=	102.10%	
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.81	85	594969	13.21	ug/l	98
4) Chloromethane	2.06	50	431983	10.19	ug/l	100
6) Vinyl chloride	2.18	62	470068	11.17	ug/l	98
7) Bromomethane	2.66	94	376326	9.42	ug/l	100
8) Chloroethane	2.75	64	306607	10.21	ug/l	90
9) Dichlorofluoromethane	2.79	67	1081043	9.76	ug/l	100
10) Trichlorofluoromethane	3.04	101	956317	13.09	ug/l	98
12) Acrolein	3.52	56	53350	21.71	ug/l	97
13) 1,1,2-Trichloro-1,2,2-trif	3.57	151	350893	11.40	ug/l	99
14) Acetone	3.59	43	253188	54.10	ug/l	96
15) 1,1-Dichloroethene	3.76	61	837837	10.90	ug/l	97
16) tert-Butyl alcohol	3.86	59	76160	50.55	ug/l	94
17) Iodomethane	4.12	142	680721	9.16	ug/l	92
18) Methyl acetate	4.15	43	169926	10.18	ug/l	98
19) Methylene chloride	4.32	49	551734	10.45	ug/l	95
20) Carbon disulfide	4.34	76	1678262	10.24	ug/l	100
21) Acrylonitrile	4.46	53	276476	50.49	ug/l	97
22) tert-Butyl methyl ether (M	4.53	73	729779	9.85	ug/l	99
23) trans-1,2-Dichloroethene	4.70	61	744730	9.97	ug/l	97
24) Isopropyl ether (DIPE)	5.11	45	1259912	10.27	ug/l	98
25) Vinyl acetate	5.23	43	342201	10.51	ug/l	98
26) 1,1-Dichloroethane	5.22	63	900974	10.70	ug/l	99
28) tert-Butyl ethyl ether (ET	5.63	59	1091173	10.28	ug/l	97
29) 2-Butanone	5.75	43	363773	55.82	ug/l	98
30) 2,2-Dichloropropane	5.95	77	848701	11.29	ug/l	99
31) cis-1,2-Dichloroethene	6.01	96	469901	9.26	ug/l	93
32) Chloroform	6.21	83	947055	11.10	ug/l	97

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ037.D
Acq On : 4 Jan 2012 9:23 am
Sample : VO05A02L
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P
Quant Time: Jan 4 9:44 2012

Vial: 3
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.41	49	300483	10.66 ug/l	91
34)	tert-Amyl alcohol	6.44	59	56804	46.19 ug/l	95
36)	Tetrahydrofuran	6.47	42	43127	9.85 ug/l	89
37)	1,1,1-Trichloroethane	6.75	97	890093	11.04 ug/l	98
38)	Cyclohexane	6.80	56	756670	9.53 ug/l	99
39)	tert-Amyl methyl ether (TA	7.14	87	178562	10.11 ug/l	96
42)	1,1-Dichloropropene	6.97	110	228396	10.75 ug/l	100
43)	Carbon tetrachloride	7.11	119	786447	11.29 ug/l	99
44)	1,2-Dichloroethane	7.29	62	522239	11.56 ug/l	100
45)	Benzene	7.33	78	1561856	9.96 ug/l	99
46)	Trichloroethene	8.19	130	484214	10.37 ug/l	93
47)	Methylcyclohexane	8.30	83	711892	9.82 ug/l	97
48)	1,2-Dichloropropane	8.43	63	391374	10.88 ug/l	95
49)	Bromodichloromethane	8.77	83	623370	10.74 ug/l	97
50)	1,4-Dioxane	8.80	88	29660	206.61 ug/l	89
51)	Dibromomethane	8.83	93	211612	10.60 ug/l	95
52)	2-Chloroethyl vinyl ether	9.25	63	44786	5.04 ug/l	97
53)	4-Methyl-2-pentanone	9.30	43	879732	54.86 ug/l	98
54)	cis-1,3-Dichloropropene	9.59	75	617711	10.45 ug/l	98
56)	Toluene	10.10	91	1603164	9.95 ug/l	99
57)	Ethyl methacrylate	10.38	69	276290	9.23 ug/l	99
58)	trans-1,3-Dichloropropene	10.37	75	488842	10.48 ug/l	98
59)	1,1,2-Trichloroethane	10.62	97	233552	10.42 ug/l	98
60)	2-Hexanone	10.65	43	562173	57.10 ug/l	95
61)	1,3-Dichloropropane	11.02	76	413238	10.37 ug/l	99
62)	Tetrachloroethene	11.14	164	361062	10.16 ug/l	98
63)	Dibromochloromethane	11.42	129	358665	9.70 ug/l	100
65)	1,2-Dibromoethane	11.75	107	243252	9.19 ug/l	100
66)	1-Chlorohexane	12.08	91	713805	11.39 ug/l	98
67)	Chlorobenzene	12.47	112	1069890	10.53 ug/l	98
68)	1,1,1,2-Tetrachloroethane	12.54	131	381517	9.80 ug/l	98
69)	Ethylbenzene	12.57	91	1955596	10.45 ug/l	99
70)	m-Xylene & p-Xylene	12.70	91	3017165	20.86 ug/l	99
71)	o-Xylene	13.43	91	1513982	10.54 ug/l	98
72)	Styrene	13.49	104	1094055	9.84 ug/l	98
74)	Bromoform	14.03	173	174067	9.49 ug/l	100
75)	Isopropylbenzene	14.07	105	1943987	11.24 ug/l	99
76)	1,1,2,2-Tetrachloroethane	14.34	83	240564	10.24 ug/l	100
78)	1,2,3-Trichloropropane	14.59	110	69169	10.33 ug/l	99
79)	trans-1,4-Dichloro-2-buten	14.74	53	73236	9.96 ug/l	94
80)	n-Propylbenzene	14.77	91	2346931	11.02 ug/l	98

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ037.D
Acq On : 4 Jan 2012 9:23 am
Sample : VO05A02L
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P
Quant Time: Jan 4 9:44 2012

Vial: 3
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
81)	Bromobenzene	14.80	156	380223	9.47 ug/l	93
82)	1,3,5-Trimethylbenzene	15.06	105	1492498	9.97 ug/l	98
83)	2-Chlorotoluene	15.06	91	1476253	10.44 ug/l	97
84)	4-Chlorotoluene	15.15	91	1295881	10.71 ug/l	97
85)	tert-Butylbenzene	15.68	134	304533	10.34 ug/l	92
86)	1,2,4-Trimethylbenzene	15.74	105	1515700	10.52 ug/l	98
87)	sec-Butylbenzene	16.07	105	2068944	11.30 ug/l	97
88)	p-Isopropyltoluene	16.32	119	1655402	10.53 ug/l	99
89)	1,3-Dichlorobenzene	16.44	146	739425	10.29 ug/l	98
90)	1,4-Dichlorobenzene	16.63	146	710378	10.30 ug/l	98
91)	n-Butylbenzene	17.07	91	1609952	11.36 ug/l	99
92)	1,2-Dichlorobenzene	17.27	146	590748	10.16 ug/l	97
93)	1,2-Dibromo-3-chloropropan	18.55	157	33633	8.61 ug/l	95
94)	1,2,4-Trichlorobenzene	19.60	180	385196	11.43 ug/l	99
95)	Hexachlorobutadiene	19.77	225	267270	11.09 ug/l	99
96)	Naphthalene	19.85	128	436293	9.22 ug/l	99
97)	1,2,3-Trichlorobenzene	20.10	180	284173	10.50 ug/l	98

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

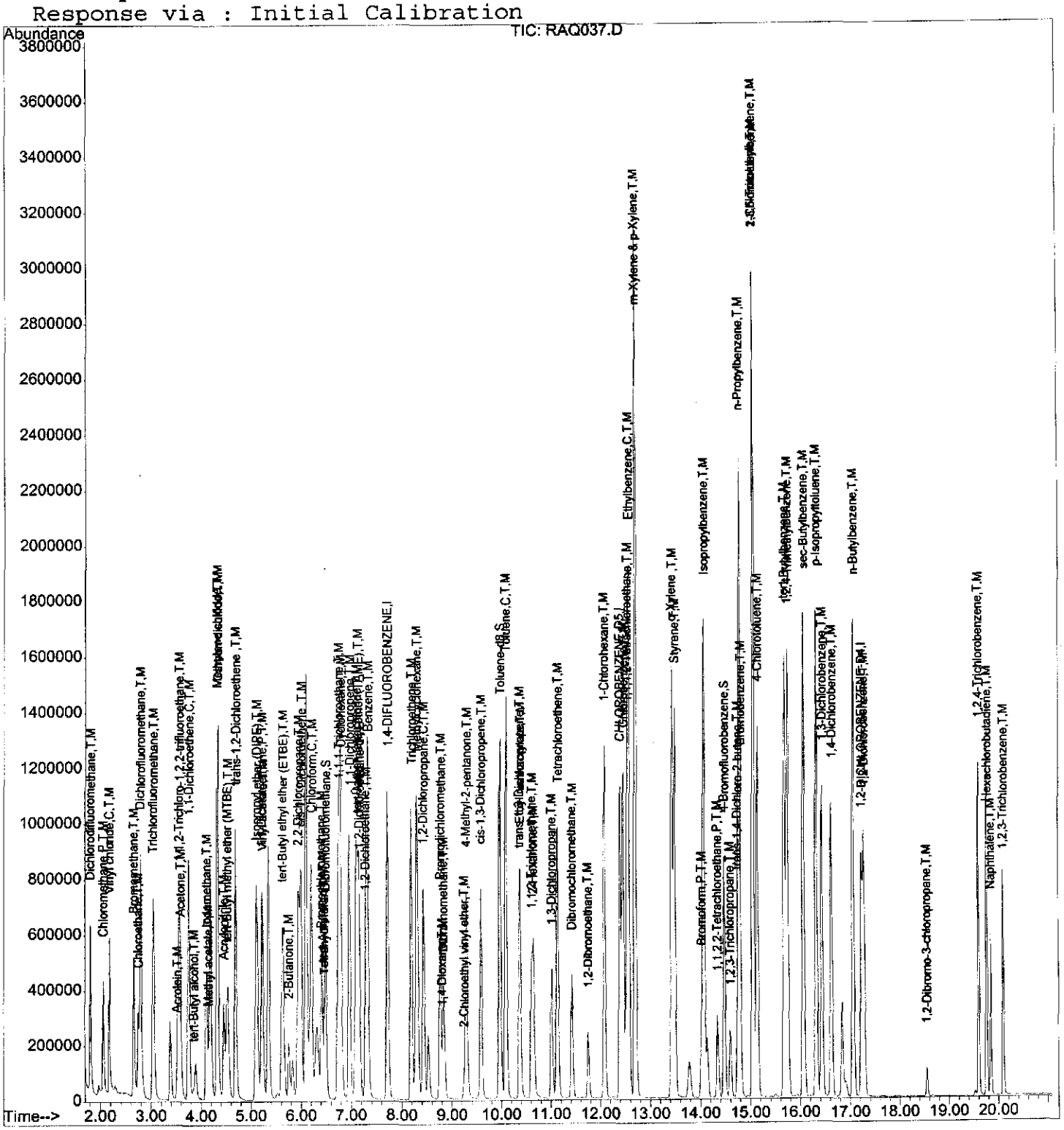
Quantitation Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ037.D
Acq On : 4 Jan 2012 9:23 am
Sample : VO05A02L
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P
Quant Time: Jan 4 9:44 2012

Vial: 3
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ038.D Vial: 4
Acq On : 4 Jan 2012 9:55 am Operator: SD
Sample : VO05A02C Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jan 4 10:16 2012 Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.72	114	1305916	10.00	ug/l	-0.02
41) CHLOROBENZENE-D5	12.39	117	1050477	10.00	ug/l	-0.02
73) 1,2-DICHLOROBENZENE-D4	17.23	152	369332	10.00	ug/l	-0.02
System Monitoring Compounds						
35) Dibromofluoromethane	6.50	111	517601	10.32	ug/l	0.00
Spiked Amount 10.000			Recovery	=	103.20%	
40) 1,2-Dichloroethane-d4	7.17	65	402103	10.30	ug/l	0.00
Spiked Amount 10.000			Recovery	=	103.00%	
55) Toluene-d8	9.98	98	1399014	10.25	ug/l	0.00
Spiked Amount 10.000			Recovery	=	102.50%	
77) 4-Bromofluorobenzene	14.47	95	507650	10.28	ug/l	-0.02
Spiked Amount 10.000			Recovery	=	102.80%	
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.81	85	562927	12.27	ug/l	98
4) Chloromethane	2.06	50	382341	8.85	ug/l	97
6) Vinyl chloride	2.18	62	484732	11.31	ug/l	98
7) Bromomethane	2.66	94	334806	8.22	ug/l	98
8) Chloroethane	2.75	64	297559	9.73	ug/l	92
9) Dichlorofluoromethane	2.80	67	1167364	10.35	ug/l	99
10) Trichlorofluoromethane	3.06	101	930666	12.50	ug/l	98
12) Acrolein	3.52	56	53378	21.33	ug/l	99
13) 1,1,2-Trichloro-1,2,2-trif	3.58	151	355939	11.35	ug/l	99
14) Acetone	3.59	43	252578	52.98	ug/l	99
15) 1,1-Dichloroethene	3.76	61	858615	10.97	ug/l	97
16) tert-Butyl alcohol	3.86	59	75477	49.18	ug/l	90
17) Iodomethane	4.11	142	687174	9.08	ug/l	94
18) Methyl acetate	4.14	43	178010	10.47	ug/l	95
19) Methylene chloride	4.32	49	560558	10.43	ug/l	95
20) Carbon disulfide	4.34	76	1701743	10.20	ug/l	99
21) Acrylonitrile	4.46	53	290562	52.09	ug/l	99
22) tert-Butyl methyl ether (M	4.53	73	760653	10.08	ug/l	99
23) trans-1,2-Dichloroethene	4.70	61	764028	10.05	ug/l	97
24) Isopropyl ether (DIPE)	5.11	45	1310337	10.48	ug/l	97
25) Vinyl acetate	5.23	43	353625	10.67	ug/l	98
26) 1,1-Dichloroethane	5.23	63	933752	10.89	ug/l	100
28) tert-Butyl ethyl ether (ET	5.63	59	1145107	10.59	ug/l	97
29) 2-Butanone	5.75	43	364797	54.95	ug/l	99
30) 2,2-Dichloropropane	5.95	77	826017	10.79	ug/l	99
31) cis-1,2-Dichloroethene	6.01	96	485392	9.39	ug/l	94
32) Chloroform	6.21	83	951547	10.95	ug/l	98

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ038.D Vial: 4
Acq On : 4 Jan 2012 9:55 am Operator: SD
Sample : VO05A02C Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jan 4 10:16 2012 Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.42	49	303863	10.58 ug/l	91
34)	tert-Amyl alcohol	6.44	59	56962	45.47 ug/l	91
36)	Tetrahydrofuran	6.47	42	45260	10.15 ug/l	86
37)	1,1,1-Trichloroethane	6.75	97	900672	10.97 ug/l	98
38)	Cyclohexane	6.79	56	796768	9.85 ug/l	98
39)	tert-Amyl methyl ether (TA	7.14	87	181407	10.08 ug/l	96
42)	1,1-Dichloropropene	6.97	110	238193	10.86 ug/l	99
43)	Carbon tetrachloride	7.11	119	783779	10.89 ug/l	99
44)	1,2-Dichloroethane	7.29	62	524470	11.24 ug/l	100
45)	Benzene	7.33	78	1630248	10.07 ug/l	99
46)	Trichloroethene	8.19	130	496993	10.31 ug/l	94
47)	Methylcyclohexane	8.31	83	749291	10.01 ug/l	97
48)	1,2-Dichloropropane	8.43	63	404120	10.88 ug/l	97
49)	Bromodichloromethane	8.77	83	629314	10.50 ug/l	100
50)	1,4-Dioxane	8.80	88	30328	204.55 ug/l	88
51)	Dibromomethane	8.83	93	214085	10.39 ug/l	95
52)	2-Chloroethyl vinyl ether	9.25	63	45324	4.94 ug/l	95
53)	4-Methyl-2-pentanone	9.29	43	904639	54.62 ug/l	99
54)	cis-1,3-Dichloropropene	9.59	75	637043	10.43 ug/l	98
56)	Toluene	10.10	91	1644723	9.88 ug/l	99
57)	Ethyl methacrylate	10.40	69	278717	9.02 ug/l	98
58)	trans-1,3-Dichloropropene	10.37	75	495933	10.30 ug/l	99
59)	1,1,2-Trichloroethane	10.62	97	241682	10.44 ug/l	99
60)	2-Hexanone	10.65	43	587811	57.81 ug/l	95
61)	1,3-Dichloropropane	11.02	76	425618	10.35 ug/l	99
62)	Tetrachloroethene	11.14	164	359589	9.80 ug/l	98
63)	Dibromochloromethane	11.42	129	366855	9.60 ug/l	99
65)	1,2-Dibromoethane	11.75	107	249993	9.14 ug/l	100
66)	1-Chlorohexane	12.09	91	724035	11.19 ug/l	97
67)	Chlorobenzene	12.46	112	1089677	10.38 ug/l	98
68)	1,1,1,2-Tetrachloroethane	12.54	131	392137	9.76 ug/l	98
69)	Ethylbenzene	12.57	91	2019528	10.45 ug/l	99
70)	m-Xylene & p-Xylene	12.70	91	3036616	20.33 ug/l	99
71)	o-Xylene	13.43	91	1498333	10.10 ug/l	98
72)	Styrene	13.49	104	1076081	9.37 ug/l	98
74)	Bromoform	14.03	173	172849	9.09 ug/l	100
75)	Isopropylbenzene	14.07	105	1975113	11.03 ug/l	99
76)	1,1,2,2-Tetrachloroethane	14.34	83	245419	10.09 ug/l	99
78)	1,2,3-Trichloropropane	14.59	110	67451	9.73 ug/l	95
79)	trans-1,4-Dichloro-2-buten	14.74	53	75912	9.97 ug/l	91
80)	n-Propylbenzene	14.77	91	2394790	10.86 ug/l	99

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ038.D
Acq On : 4 Jan 2012 9:55 am
Sample : VO05A02C
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P
Quant Time: Jan 4 10:16 2012

Vial: 4
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

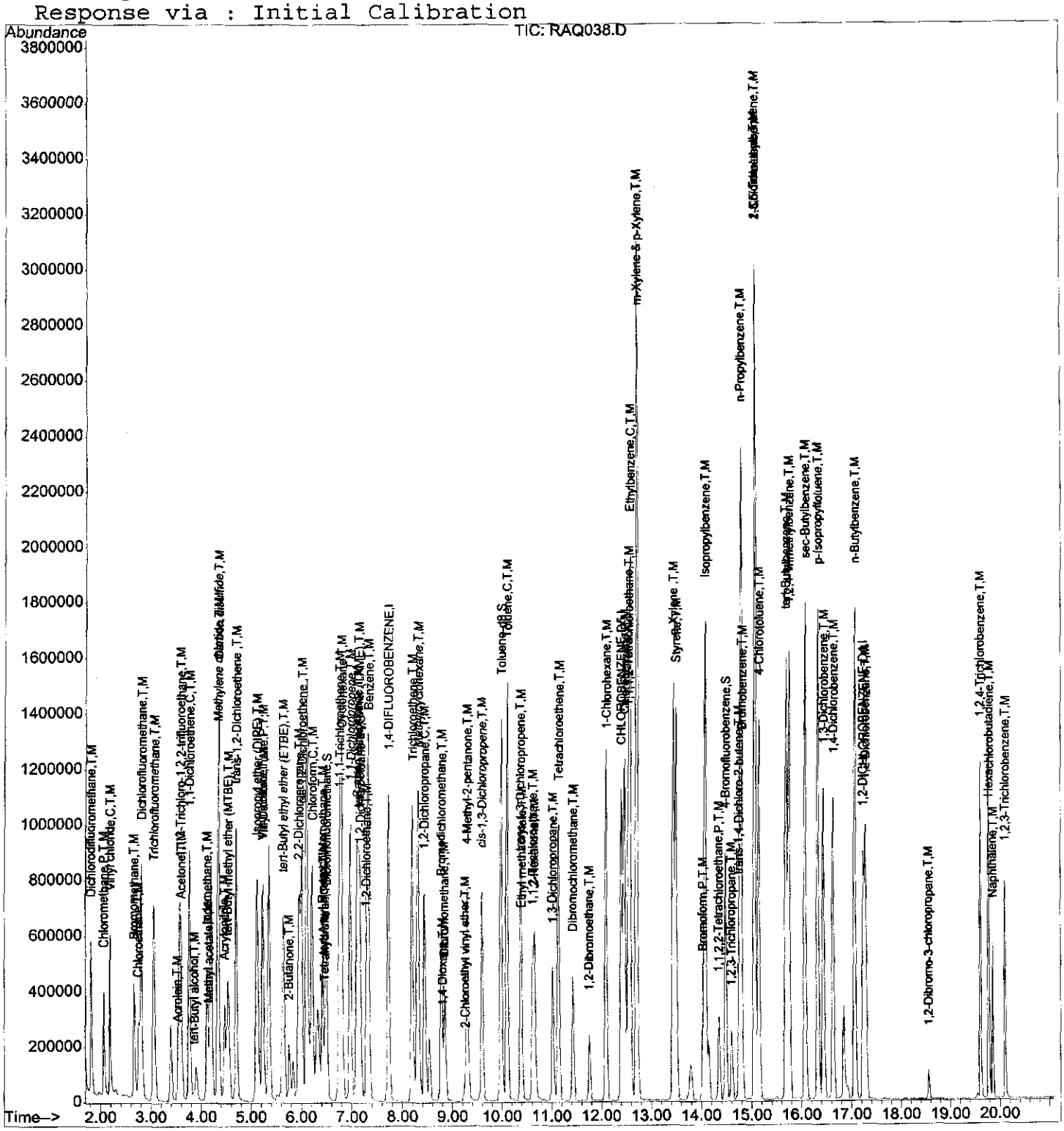
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
81)	Bromobenzene	14.80	156	384333	9.24 ug/l	92
82)	1,3,5-Trimethylbenzene	15.05	105	1513927	9.77 ug/l	98
83)	2-Chlorotoluene	15.05	91	1474673	10.07 ug/l	98
84)	4-Chlorotoluene	15.14	91	1319081	10.53 ug/l	98
85)	tert-Butylbenzene	15.68	134	304791	9.99 ug/l	93
86)	1,2,4-Trimethylbenzene	15.74	105	1525626	10.23 ug/l	98
87)	sec-Butylbenzene	16.07	105	2096740	11.05 ug/l	97
88)	p-Isopropyltoluene	16.32	119	1718769	10.56 ug/l	99
89)	1,3-Dichlorobenzene	16.44	146	741948	9.97 ug/l	98
90)	1,4-Dichlorobenzene	16.63	146	726739	10.18 ug/l	98
91)	n-Butylbenzene	17.06	91	1634087	11.13 ug/l	99
92)	1,2-Dichlorobenzene	17.27	146	612586	10.17 ug/l	98
93)	1,2-Dibromo-3-chloropropan	18.55	157	32399	8.01 ug/l	90
94)	1,2,4-Trichlorobenzene	19.59	180	387009	11.08 ug/l	99
95)	Hexachlorobutadiene	19.77	225	264515	10.60 ug/l	99
96)	Naphthalene	19.85	128	426905	8.75 ug/l	98
97)	1,2,3-Trichlorobenzene	20.10	180	283237	10.11 ug/l	99

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

Quantitation Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ038.D Vial: 4
Acq On : 4 Jan 2012 9:55 am Operator: SD
Sample : VO05A02C Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Jan 4 10:16 2012 Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



INITIAL CALIBRATION(S)

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RLQ170
Instrument ID: TO05
GC Column:RTX502.2ID:0.32mm (mm)

Contract: SEAL BEACH SITE 75
SAS No.: SDG No.: 11L209
BFB Injection Date : 12/09/11
BFB Injection Time : 11:33
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	18.39
75	30.0 - 60.0% of mass 95	48.71
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	7.18
173	Less than 2.0% of mass 174	0.46(0.6)1
174	Greater than 50% of mass 95	74.26
175	5.0 - 9.0% of mass 174	6.25(8.4)1
176	95.0 - 101.0% of mass 174	73.68(99.2)1
177	5.0 - 9.0% of mass 176	5.26(7.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD0.3	VO05L091	RLQ171	12/09/11	12:48
2	VSTD0.5	VO05L092	RLQ172	12/09/11	13:19
3	VSTD01	VO05L093	RLQ173	12/09/11	13:49
4	VSTD02	VO05L094	RLQ174	12/09/11	14:20
5	VSTD05	VO05L095	RLQ175	12/09/11	14:50
6	VSTD010	VO05L096	RLQ176	12/09/11	15:22
7	VSTD020	VO05L097	RLQ177	12/09/11	15:52
8	VSTD030	VO05L098	RLQ178	12/09/11	16:24
9	VSTD040	VO05L099	RLQ179	12/09/11	16:53
10	VSTD050	VO05L0910	RLQ180	12/09/11	17:25
11	VSTD100	VO05L0911	RLQ181	12/09/11	17:55
12	VSTD010	IVO05L0901	RLQ184	12/09/11	19:27

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :TO05
Beginning DateTime :12/09/11 12:48
Spike Units :PPB
IC File :RLQ176

Column Spec :RTX502.2 ID :0.32MM
Ending DateTime :12/09/11 17:55
HPChem Method :V005L09

M	IDX	Parameters	.3 12:48 RLQ171	.5 13:19 RLQ172	1 13:49 RLQ173	2 14:20 RLQ174	5 14:50 RLQ175	10 15:22 RLQ176	20 15:52 RLQ177	30 16:24 RLQ178	40 16:53 RLQ179	50 17:25 RLQ180	100 17:55 RLQ181	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	1	0	7.7421
	2	Chlorotrifluoroethylene	------	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	3	Dichlorodifluoromethane	0.279	0.290	0.323	0.339	0.338	0.350	0.363	0.373	0.384	0.402	0.423	0.351	12.56	1.8195
	4	Chloromethane	0.250	0.276	0.329	0.338	0.334	0.339	0.343	0.343	0.348	0.360	0.376	0.331	10.96	2.0712
	5	2-Chloro-1,1,1-trifluoroethane	------	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	6	Vinyl chloride	0.264	0.286	0.315	0.335	0.332	0.332	0.334	0.330	0.344	0.365	0.371	0.328	9.44	2.1903
	7	Bromomethane	0.306	0.324	0.309	0.301	0.268	0.289	0.308	0.313	0.332	0.333	0.347	0.312	7.09	2.6747
	8	Chloroethane	0.211	0.230	0.223	0.225	0.228	0.235	0.242	0.246	0.246	0.241	0.250	0.234	5.13	2.7654
	9	Dichlorofluoromethane	0.850	0.865	0.869	0.835	0.819	0.870	0.902	0.817	0.878	0.884	0.914	0.864	3.64	2.8141
	10	Trichlorofluoromethane	0.406	0.461	0.520	0.547	0.558	0.584	0.603	0.611	0.624	0.656	0.700	0.570	14.94	3.0671
	11	sec-Propyl alcohol	------	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
5	12	Acrolein	------	0.024	0.018	0.019	0.018	0.019	0.018	0.018	0.019	0.018	0.020	0.019	9.49	3.5373
	13	1,1,2-Trichloro-1,2,2-trifluoroethane	0.217	0.227	0.221	0.226	0.234	0.239	0.255	0.231	0.252	0.255	0.285	0.240	8.27	3.5880
5	14	Acetone	------	0.044	0.036	0.033	0.035	0.037	0.034	0.034	0.037	0.035	0.039	0.037	8.55	3.6102
	15	1,1-Dichloroethene	0.573	0.595	0.587	0.585	0.588	0.611	0.631	0.558	0.597	0.613	0.656	0.600	4.54	3.7694
5	16	tert-Butyl alcohol	------	------	0.012	0.010	0.012	0.013	0.012	0.011	0.013	0.011	0.013	0.012	7.87	3.8800
	17	Iodomethane	------	------	------	0.409	0.508	0.579	0.662	0.586	0.630	0.635	0.629	0.580	14.47	4.1269
	18	Methyl acetate	0.115	0.104	0.137	0.118	0.140	0.135	0.135	0.132	0.141	0.136	0.140	0.130	9.50	4.1658
	19	Methylene chloride	0.440	0.441	0.430	0.394	0.396	0.408	0.422	0.379	0.402	0.401	0.417	0.412	4.84	4.3404
	20	Carbon disulfide	1.009	1.101	1.067	1.293	1.296	1.314	1.335	1.326	1.425	1.441	1.451	1.278	11.97	4.3606
5	21	Acrylonitrile	0.041	0.036	0.043	0.042	0.041	0.045	0.042	0.042	0.046	0.043	0.048	0.043	7.26	4.4784
	22	tert-Butyl methyl ether (MTBE)	0.525	0.532	0.562	0.554	0.560	0.599	0.621	0.559	0.604	0.593	0.645	0.578	6.51	4.5487
	23	trans-1,2-Dichloroethene	0.546	0.571	0.571	0.565	0.571	0.600	0.619	0.553	0.580	0.601	0.630	0.582	4.62	4.7179
	24	Isopropyl ether (DIPE)	0.933	0.995	0.926	0.927	0.908	0.967	1.012	0.900	0.972	0.962	1.027	0.957	4.40	5.1292
	25	Vinyl acetate	------	0.204	0.203	0.240	0.228	0.257	0.274	0.272	0.287	0.283	0.290	0.254	13.06	5.2445
	26	1,1-Dichloroethane	0.593	0.629	0.651	0.666	0.649	0.671	0.701	0.623	0.662	0.673	0.708	0.657	5.11	5.2402
5	27	2-Butanol	------	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	28	tert-Butyl ethyl ether (ETBE)	0.712	0.789	0.781	0.818	0.803	0.858	0.883	0.800	0.878	0.857	0.928	0.828	7.25	5.6475
5	29	2-Butanone	0.045	0.041	0.048	0.050	0.050	0.054	0.051	0.052	0.056	0.053	0.058	0.051	9.73	5.7747
	30	2,2-Dichloropropane	0.572	0.625	0.606	0.573	0.578	0.585	0.606	0.538	0.569	0.580	0.617	0.586	4.29	5.9708
	31	cis-1,2-Dichloroethene	0.417	0.386	0.391	0.386	0.381	0.401	0.412	0.369	0.392	0.400	0.420	0.396	4.00	6.0209
	32	Chloroform	0.633	0.666	0.659	0.646	0.651	0.680	0.699	0.628	0.667	0.675	0.718	0.666	4.05	6.2252
	33	Bromochloromethane	0.191	0.213	0.218	0.216	0.221	0.227	0.243	0.213	0.223	0.223	0.227	0.220	5.75	6.4322
5	34	tert-Amyl alcohol	------	------	0.009	0.008	0.009	0.010	0.010	0.009	0.011	0.009	0.011	0.010	9.49	6.4582
	35	Dibromofluoromethane	------	------	------	0.366	0.369	0.368	0.389	0.389	0.399	0.397	0.396	0.384	3.75	6.5083
	36	Tetrahydrofuran	------	------	0.072	0.049	0.040	0.033	0.036	0.032	0.033	0.032	0.035	0.040	32.32	6.4913
	37	1,1,1-Trichloroethane	0.601	0.632	0.622	0.611	0.618	0.643	0.666	0.586	0.618	0.638	0.682	0.629	4.40	6.7732
	38	Cyclohexane	0.517	0.536	0.588	0.641	0.617	0.627	0.671	0.638	0.663	0.656	0.662	0.620	8.39	6.8071
	39	tert-Amyl methyl ether (TAME)	0.132	0.124	0.125	0.135	0.132	0.142	0.149	0.136	0.145	0.143	0.153	0.138	6.91	7.1616
	40	1,2-Dichloroethane-d4	------	------	------	0.298	0.282	0.288	0.301	0.300	0.311	0.305	0.307	0.299	3.16	7.1799
	41	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	1	0	12.4157
	42	1,1-Dichloropropene	0.186	0.208	0.208	0.200	0.208	0.210	0.218	0.194	0.211	0.217	0.237	0.209	6.38	6.9884
	43	Carbon tetrachloride	0.674	0.690	0.686	0.672	0.669	0.678	0.711	0.629	0.670	0.695	0.763	0.685	4.80	7.1210
	44	1,2-Dichloroethane	0.401	0.455	0.426	0.441	0.442	0.453	0.464	0.414	0.449	0.459	0.484	0.444	5.27	7.3104
	45	Benzene	1.490	1.553	1.511	1.527	1.528	1.526	1.616	1.420	1.520	1.591	1.677	1.542	4.39	7.3402
	46	Trichloroethene	0.409	0.429	0.447	0.450	0.452	0.465	0.489	0.433	0.467	0.481	0.528	0.459	7.08	8.2116
	47	Methylcyclohexane	0.522	0.608	0.677	0.708	0.714	0.718	0.776	0.751	0.779	0.781	0.805	0.713	11.89	8.3225
	48	1,2-Dichloropropane	0.335	0.330	0.352	0.337	0.352	0.361	0.373	0.333	0.360	0.366	0.392	0.354	5.43	8.4565
	49	Bromodichloromethane	0.529	0.560	0.562	0.555	0.562	0.572	0.603	0.536	0.575	0.586	0.634	0.570	5.16	8.7853
20	50	1,4-Dioxane	------	------	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001	5.68	8.8182
	51	Dibromomethane	0.188	0.183	0.183	0.193	0.188	0.203	0.207	0.189	0.199	0.202	0.224	0.196	6.31	8.8584
	52	2-Chloroethyl vinyl ether	------	------	------	0.070	0.079	0.092	0.101	0.094	------	------	------	0.087	14.13	9.2603
5	53	4-Methyl-2-pentanone	0.155	0.120	0.144	0.155	0.156	0.165	0.159	0.157	0.173	0.167	0.184	0.158	10.44	9.3130
	54	cis-1,3-Dichloropropene	0.529	0.555	0.570	0.563	0.575	0.587	0.614	0.555	0.592	0.595	0.659	0.581	5.99	9.6161
	55	Toluene-d8	------	------	------	1.274	1.250	1.211	1.296	1.296	1.331	1.355	1.385	1.300	4.37	9.9912
	56	Toluene	1.638	1.612	1.581	1.559	1.550	1.539	1.626	1.444	1.561	1.603	1.711	1.584	4.27	10.1154
	57	Ethyl methacrylate	0.308	0.313	0.287	0.287	0.281	0.295	0.296	0.273	0.293	0.291	0.311	0.294	4.27	10.4063
	58	trans-1,3-Dichloropropene	0.413	0.432	0.435	0.449	0.449	0.469	0.489	0.440	0.473	0.477	0.516	0.458	6.43	10.3914
	59	1,1,2-Trichloroethane	0.218	0.204	0.209	0.219	0.217	0.221	0.233	0.212	0.225	0.227	0.240	0.220	4.74	10.6296
5	60	2-Hexanone	0.086	0.072	0.087	0.108	0.093	0.103	0.098	0.097	0.108	0.101	0.112	0.097	12.28	10.6742
	61	1,3-Dichloropropane	0.356	0.357	0.370	0.385	0.388	0.403	0.416	0.376	0.401	0.415	0.440	0.392	6.73	11.0342
	62	Tetrachloroethene	0.313	0.350	0.345	0.337	0.346	0.349	0.371	0.325	0.350	0.363	0.392	0.349	6.14	11.1519
	63	Dibromochloromethane	0.328	0.359	0.340	0.350	0.354	0.370	0.386	0.352	0.377	0.383	0.402	0.364	6.03	11.4428

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64	2-Ethyl-1-butanol	------	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
65	1,2-Dibromoethane	0.225	0.241	0.250	0.252	0.256	0.265	0.276	0.253	0.276	0.276	0.292	0.260	7.35	11.7716
66	1-Chlorohexane	0.579	0.580	0.593	0.600	0.611	0.618	0.645	0.581	0.628	0.651	0.689	0.616	5.66	12.1045
67	Chlorobenzene	0.955	0.983	0.970	0.962	0.982	1.016	1.052	0.944	0.995	1.047	1.084	0.999	4.50	12.4779
68	1,1,1,2-Tetrachloroethane	0.346	0.401	0.378	0.370	0.370	0.384	0.402	0.364	0.383	0.399	0.412	0.383	5.11	12.5578
69	Ethylbenzene	1.781	1.803	1.797	1.817	1.816	1.854	1.934	1.744	1.847	1.926	1.919	1.840	3.42	12.5916
2 70	m-Xylene & p-Xylene	1.399	1.431	1.427	1.406	1.409	1.419	1.505	1.348	1.419	1.458	------	1.422	2.85	12.7205
71	o-Xylene	1.335	1.413	1.379	1.392	1.401	1.423	1.493	1.346	1.425	1.452	1.474	1.412	3.49	13.4565
72	Styrene	1.006	1.031	1.072	1.054	1.078	1.109	1.167	1.065	1.124	1.145	1.177	1.093	5.09	13.5107
73	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	1	0	17.2506
74	Bromoform	0.522	0.491	0.507	0.494	0.507	0.524	0.537	0.481	0.522	0.517	0.557	0.515	4.21	14.0424
75	Isopropylbenzene	4.867	4.923	4.920	4.742	4.942	4.887	5.091	4.430	4.766	4.865	4.911	4.849	3.44	14.0858
76	1,1,2,2-Tetrachloroethane	0.692	0.629	0.627	0.637	0.649	0.682	0.677	0.601	0.669	0.661	0.723	0.659	5.25	14.3631
77	4-Bromofluorobenzene	1.475	1.409	1.332	1.326	1.340	1.233	1.305	1.304	1.357	1.355	1.277	1.338	4.83	14.4971
78	1,2,3-Trichloropropane	0.156	0.204	0.177	0.195	0.186	0.193	0.196	0.173	0.194	0.188	0.205	0.188	7.77	14.6202
79	trans-1,4-Dichloro-2-butene	------	0.209	0.202	0.188	0.203	0.206	0.215	0.195	0.212	0.210	0.221	0.206	4.68	14.7529
80	n-Propylbenzene	5.854	5.893	5.998	5.894	6.187	6.092	6.367	5.629	6.042	6.028	5.715	5.973	3.49	14.7893
81	Bromobenzene	1.154	1.055	1.107	1.100	1.133	1.147	1.175	1.050	1.142	1.132	1.195	1.126	4.03	14.8137
82	1,3,5-Trimethylbenzene	4.257	4.191	4.141	4.125	4.271	4.271	4.454	3.840	4.105	4.248	4.255	4.196	3.62	15.0762
83	2-Chlorotoluene	4.138	4.111	4.065	3.857	4.005	3.943	4.109	3.573	3.916	4.013	3.903	3.967	4.05	15.0694
84	4-Chlorotoluene	3.324	3.480	3.179	3.389	3.439	3.480	3.643	3.193	3.310	3.391	3.492	3.393	4.03	15.1574
85	tert-Butylbenzene	0.786	0.813	0.808	0.810	0.854	0.829	0.869	0.776	0.833	0.852	0.861	0.826	3.72	15.7054
86	1,2,4-Trimethylbenzene	3.988	3.961	3.971	3.899	4.161	4.118	4.317	3.749	3.986	4.125	4.160	4.040	3.84	15.7650
87	sec-Butylbenzene	4.999	5.076	4.985	5.005	5.335	5.243	5.436	4.781	5.088	5.244	5.301	5.136	3.75	16.0856
88	p-Isopropyltoluene	4.205	4.249	4.321	4.240	4.453	4.556	4.673	4.092	4.482	4.476	4.736	4.408	4.61	16.3441
89	1,3-Dichlorobenzene	1.959	1.958	1.935	1.912	2.042	2.073	2.108	1.879	2.056	2.089	2.155	2.015	4.48	16.4537
90	1,4-Dichlorobenzene	1.779	1.841	1.849	1.863	1.953	1.966	2.064	1.823	1.991	2.031	2.108	1.933	5.64	16.6458
91	n-Butylbenzene	3.594	3.578	3.738	3.723	4.159	4.167	4.382	3.766	4.066	4.225	4.333	3.975	7.55	17.0761
92	1,2-Dichlorobenzene	1.597	1.629	1.555	1.555	1.606	1.645	1.721	1.527	1.670	1.681	1.758	1.631	4.44	17.2980
93	1,2-Dibromo-3-chloropropane	------	0.082	0.100	0.102	0.102	0.111	0.121	0.109	0.119	0.119	0.131	0.110	12.63	18.5662
94	1,2,4-Trichlorobenzene	------	------	0.723	0.783	0.956	1.014	1.086	0.983	1.073	------	------	0.946	14.84	19.6127
95	Hexachlorobutadiene	0.583	0.666	0.646	0.611	0.709	0.690	0.727	0.638	0.689	0.721	0.755	0.676	7.79	19.7769
96	Naphthalene	------	------	0.628	0.801	1.128	1.274	1.412	1.326	1.492	------	------	1.152	28.06	19.8572
97	1,2,3-Trichlorobenzene	------	------	0.597	0.620	0.730	0.767	0.824	0.738	0.785	0.875	0.892	0.759	13.45	20.1074

Spike Amount = Nominal Amount * M
Ave_%RSD : 7.2 Max_%RSD : 32.3

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
36	Tetrahydrofuran	0.00343	0.03289	0.9984
96	Naphthalene	-0.10665	1.44231	0.9982

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Compound List Report TO05

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
Total Cpnds : 97

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-DIFLUOROBENZENE	114	7.74	1.000	A	1	A	B
2	T	Chlorotrifluoroethylene	116	0.00	0.000	A	2	A	B
3	T	Dichlorodifluoromethane	85	1.82	0.235	A	1	A	B
4	T	Chloromethane	50	2.07	0.267	A	1	A	B
5	T	2-Chloro-1,1,1-trifluoroethane	118	0.00	0.000	A	2	A	B
6	T	Vinyl chloride	62	2.19	0.283	A	1	A	B
7	T	Bromomethane	94	2.68	0.346	A	1	A	B
8	T	Chloroethane	64	2.77	0.358	A	2	A	B
9	T	Dichlorofluoromethane	67	2.81	0.364	A	1	A	B
10	T	Trichlorofluoromethane	101	3.07	0.396	A	1	A	B
11	T	sec-Propyl alcohol	45	0.00	0.000	A	1	A	B
12	T	Acrolein	56	3.53	0.456	A	1	A	B
13	T	1,1,2-Trichloro-1,2,2-trifluor	151	3.59	0.464	A	1	A	B
14	T	Acetone	43	3.60	0.465	A	2	A	B
15	T	1,1-Dichloroethene	61	3.77	0.487	A	2	A	B
16	T	tert-Butyl alcohol	59	3.86	0.498	A	1	A	B
17	T	Iodomethane	142	4.12	0.533	A	1	A	B
18	T	Methyl acetate	43	4.15	0.537	A	1	A	B
19	T	Methylene chloride	49	4.33	0.560	A	2	A	B
20	T	Carbon disulfide	76	4.36	0.564	A	1	A	B
21	T	Acrylonitrile	53	4.47	0.577	A	2	A	B
22	T	tert-Butyl methyl ether (MTBE)	73	4.54	0.587	A	1	A	B
23	T	trans-1,2-Dichloroethene	61	4.72	0.610	A	2	A	B
24	T	Isopropyl ether (DIPE)	45	5.12	0.662	A	1	A	B
25	T	Vinyl acetate	43	5.24	0.677	A	1	A	B
26	T	1,1-Dichloroethane	63	5.24	0.677	A	2	A	B
27	T	2-Butanol	45	0.00	0.000	A	1	A	B
28	T	tert-Butyl ethyl ether (ETBE)	59	5.64	0.729	A	1	A	B
29	T	2-Butanone	43	5.76	0.744	A	1	A	B
30	T	2,2-Dichloropropane	77	5.97	0.771	A	2	A	B
31	T	cis-1,2-Dichloroethene	96	6.01	0.777	A	2	A	B
32	T	Chloroform	83	6.22	0.804	A	2	A	B
33	T	Bromochloromethane	49	6.43	0.831	A	2	A	B
34	T	tert-Amyl alcohol	59	6.45	0.833	A	2	A	B
35	S	Dibromofluoromethane	111	6.50	0.840	A	2	A	B
36	T	Tetrahydrofuran	42	6.49	0.838	L	2	A	B
37	T	1,1,1-Trichloroethane	97	6.77	0.875	A	2	A	B
38	T	Cyclohexane	56	6.80	0.879	A	2	A	B
39	T	tert-Amyl methyl ether (TAME)	87	7.16	0.925	A	2	A	B
40	S	1,2-Dichloroethane-d4	65	7.17	0.927	A	1	A	B
41	I	CHLOROBENZENE-D5	117	12.41	1.000	A	2	A	B
42	T	1,1-Dichloropropene	110	6.98	0.562	A	1	A	B
43	T	Carbon tetrachloride	119	7.12	0.573	A	1	A	B
44	T	1,2-Dichloroethane	62	7.31	0.589	A	1	A	B
45	T	Benzene	78	7.34	0.591	A	2	A	B
46	T	Trichloroethene	130	8.20	0.661	A	3	A	B
47	T	Methylcyclohexane	83	8.32	0.670	A	2	A	B
48	T	1,2-Dichloropropane	63	8.45	0.681	A	2	A	B
49	T	Bromodichloromethane	83	8.78	0.707	A	1	A	B
50	T	1,4-Dioxane	88	8.81	0.710	A	1	A	B
51	T	Dibromomethane	93	8.86	0.713	A	2	A	B
52	T	2-Chloroethyl vinyl ether	63	9.26	0.746	A	2	A	B

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53	T	4-Methyl-2-pentanone	43	9.30	0.749	A	3	A	B
54	T	cis-1,3-Dichloropropene	75	9.62	0.775	A	3	A	B
55	S	Toluene-d8	98	9.99	0.805	A	1	A	B
56	T	Toluene	91	10.11	0.814	A	1	A	B
57	T	Ethyl methacrylate	69	10.40	0.838	A	2	A	B
58	T	trans-1,3-Dichloropropene	75	10.39	0.837	A	2	A	B
59	T	1,1,2-Trichloroethane	97	10.63	0.856	A	3	A	B
60	T	2-Hexanone	43	10.67	0.860	A	2	A	B
61	T	1,3-Dichloropropane	76	11.03	0.888	A	1	A	B
62	T	Tetrachloroethene	164	11.15	0.898	A	3	A	B
63	T	Dibromochloromethane	129	11.45	0.922	A	1	A	B
64	T	2-Ethyl-1-butanol	43	0.00	0.000	A	3	A	B
65	T	1,2-Dibromoethane	107	11.77	0.948	A	1	A	B
66	T	1-Chlorohexane	91	12.10	0.975	A	3	A	B
67	P,M	Chlorobenzene	112	12.47	1.005	A	3	A	B
68	T	1,1,1,2-Tetrachloroethane	131	12.55	1.011	A	3	A	B
69	T	Ethylbenzene	91	12.59	1.014	A	1	A	B
70	T	m-Xylene & p-Xylene	91	12.71	1.024	A	1	A	B
71	T	o-Xylene	91	13.46	1.084	A	1	A	B
72	T	Styrene	104	13.52	1.089	A	2	A	B
73	I	1,2-DICHLOROBENZENE-D4	152	17.25	1.000	A	1	A	B
74	T	Bromoform	173	14.04	0.814	A	2	A	B
75	T	Isopropylbenzene	105	14.08	0.816	A	3	A	B
76	T	1,1,2,2-Tetrachloroethane	83	14.36	0.833	A	1	A	B
77	S	4-Bromofluorobenzene	95	14.50	0.840	A	2	A	B
78	T	1,2,3-Trichloropropane	110	14.62	0.847	A	2	A	B
79	T	trans-1,4-Dichloro-2-butene	53	14.75	0.855	A	1	A	B
80	T	n-Propylbenzene	91	14.78	0.857	A	2	A	B
81	T	Bromobenzene	156	14.81	0.859	A	2	A	B
82	T	1,3,5-Trimethylbenzene	105	15.08	0.874	A	2	A	B
83	T	2-Chlorotoluene	91	15.06	0.873	A	1	A	B
84	T	4-Chlorotoluene	91	15.15	0.878	A	1	A	B
85	T	tert-Butylbenzene	134	15.70	0.910	A	2	A	B
86	T	1,2,4-Trimethylbenzene	105	15.76	0.914	A	1	A	B
87	T	sec-Butylbenzene	105	16.09	0.933	A	1	A	B
88	T	p-Isopropyltoluene	119	16.34	0.947	A	2	A	B
89	T	1,3-Dichlorobenzene	146	16.45	0.953	A	2	A	B
90	T	1,4-Dichlorobenzene	146	16.64	0.965	A	2	A	B
91	T	n-Butylbenzene	91	17.07	0.990	A	2	A	B
92	T	1,2-Dichlorobenzene	146	17.30	1.003	A	2	A	B
93	T	1,2-Dibromo-3-chloropropane	157	18.56	1.076	A	2	A	B
94	T	1,2,4-Trichlorobenzene	180	19.62	1.137	A	2	A	B
95	T	Hexachlorobutadiene	225	19.78	1.147	A	2	A	B
96	T	Naphthalene	128	19.86	1.151	L	1	A	B
97	T	1,2,3-Trichlorobenzene	180	20.11	1.166	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

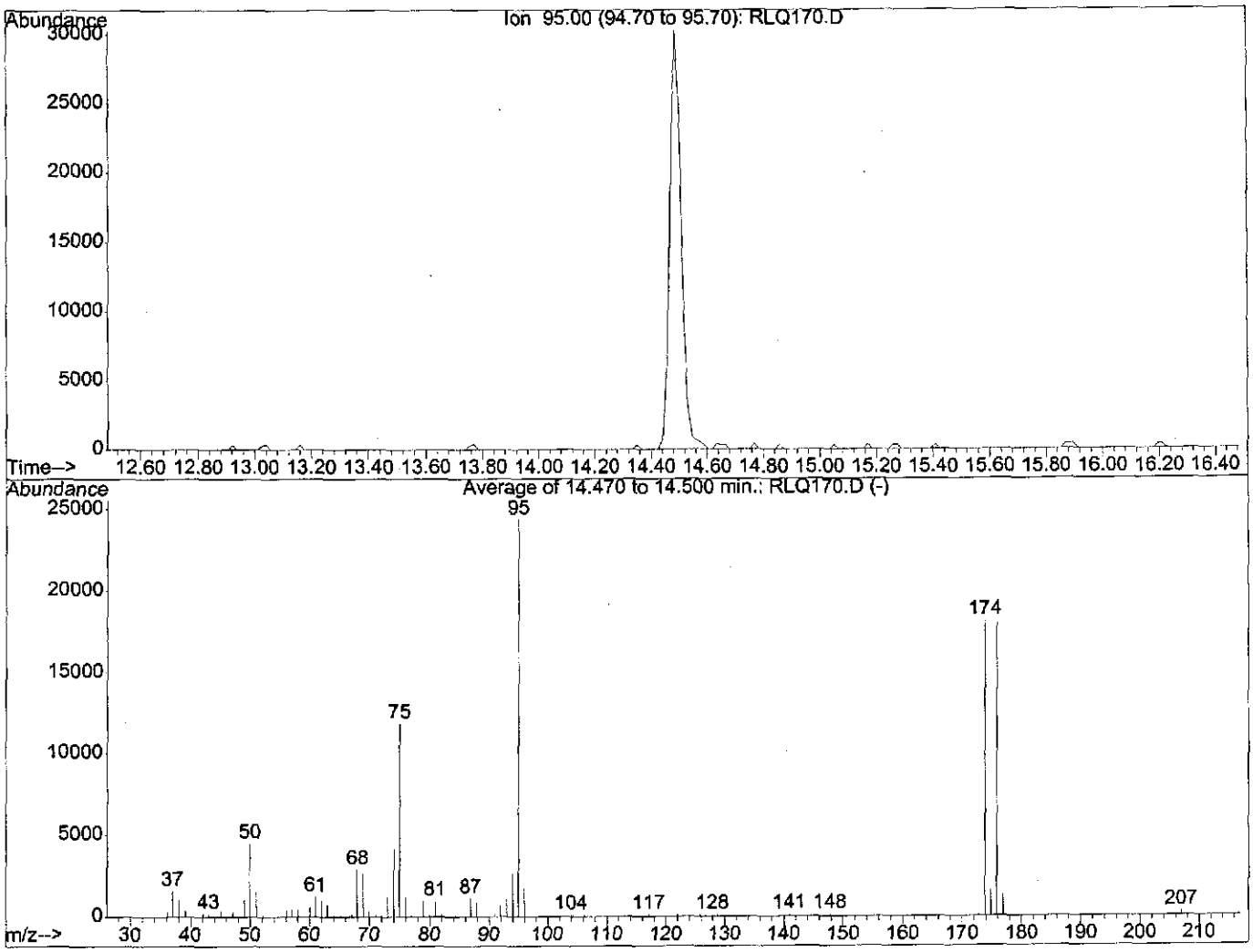
VO05L09.M Tue Dec 13 09:40:15 2011

SW 12/13/11

BFB

Data File : D:\HPCHEM\1\DATA\11L09\RLQ170.D
Acq On : 9 Dec 2011 11:33 am
Sample : BFB05L09
Misc : T/CHK
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260

Vial: 1
Operator: SD
Inst : TO05
Multiplr: 1.00



AutoFind: Scans 859, 860, 861; Background Corrected with Scan 854

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.4	4483	PASS
75	95	30	60	48.7	11871	PASS
95	95	100	100	100.0	24373	PASS
96	95	5	9	7.2	1751	PASS
173	174	0.00	2	0.6	111	PASS
174	95	50	100	74.3	18099	PASS
175	174	5	9	8.4	1523	PASS
176	174	95	101	99.2	17957	PASS
177	176	5	9	7.1	1283	PASS

RLQ170.D VO05L09.M Tue Dec 13 09:40:30 2011 SM 12/13/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ171.D
Acq On : 9 Dec 2011 12:48 pm
Sample : VO05L091
Misc : 0.3ppb 8260/1.5ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:38 2011

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.74	114	1329078	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	12.42	117	1056001	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.25	152	351461	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	0.00	111	0d	0.00 ug/l	
Spiked Amount 10.000			Recovery	= 0.00%	
40) 1,2-Dichloroethane-d4	0.00	65	0d	0.00 ug/l	
Spiked Amount 10.000			Recovery	= 0.00%	
55) Toluene-d8	0.00	98	0d	0.00 ug/l	
Spiked Amount 10.000			Recovery	= 0.00%	
77) 4-Bromofluorobenzene	14.50	95	15557	0.33 ug/l	0.00
Spiked Amount 10.000			Recovery	= 3.30%	
Target Compounds					Qvalue
3) Dichlorodifluoromethane	1.82	85	11122	0.24 ug/l	99
4) Chloromethane	2.07	50	9960	0.23 ug/l	94
6) Vinyl chloride	2.19	62	10535	0.24 ug/l	93
7) Bromomethane	2.68	94	12197	0.29 ug/l	95
8) Chloroethane	2.77	64	8399	0.27 ug/l	91
9) Dichlorofluoromethane	2.82	67	33882	0.30 ug/l	89
10) Trichlorofluoromethane	3.07	101	16169	0.21 ug/l	98
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	8660	0.27 ug/l	90
15) 1,1-Dichloroethene	3.77	61	22858	0.29 ug/l	94
18) Methyl acetate	4.18	43	4580	0.26 ug/l	70
19) Methylene chloride	4.35	49	17549	0.32 ug/l	97
20) Carbon disulfide	4.36	76	40223	0.24 ug/l	96
21) Acrylonitrile	4.48	53	8200	1.44 ug/l	79
22) tert-Butyl methyl ether (M	4.54	73	20935	0.27 ug/l	44
23) trans-1,2-Dichloroethene	4.72	61	21763	0.28 ug/l	96
24) Isopropyl ether (DIPE)	5.14	45	37210	0.29 ug/l	94
26) 1,1-Dichloroethane	5.24	63	23643	0.27 ug/l	95
28) tert-Butyl ethyl ether (ET	5.66	59	28391	0.26 ug/l	97
29) 2-Butanone	5.78	43	9042	1.34 ug/l	94
30) 2,2-Dichloropropane	5.97	77	22791	0.29 ug/l	97
31) cis-1,2-Dichloroethene	6.03	96	16630	0.32 ug/l	92
32) Chloroform	6.22	83	25254	0.29 ug/l	97
33) Bromochloromethane	6.43	49	7632	0.26 ug/l	95
37) 1,1,1-Trichloroethane	6.77	97	23970	0.29 ug/l	96
38) Cyclohexane	6.80	56	20615	0.25 ug/l	88
39) tert-Amyl methyl ether (TA	7.16	87	5277	0.29 ug/l #	59
42) 1,1-Dichloropropene	7.00	110	5901	0.27 ug/l	97

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

SU 12/13/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ171.D
Acq On : 9 Dec 2011 12:48 pm
Sample : VO05L091
Misc : 0.3ppb 8260/1.5ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:38 2011

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
43)	Carbon tetrachloride	7.12	119	21346	0.30 ug/l		96
44)	1,2-Dichloroethane	7.31	62	12699	0.27 ug/l		91
45)	Benzene	7.34	78	47212	0.29 ug/l		98
46)	Trichloroethene	8.22	130	12949	0.27 ug/l		90
47)	Methylcyclohexane	8.32	83	16532	0.22 ug/l		83
48)	1,2-Dichloropropane	8.46	63	10618	0.28 ug/l		85
49)	Bromodichloromethane	8.80	83	16772	0.28 ug/l		99
51)	Dibromomethane	8.86	93	5951	0.29 ug/l		90
53)	4-Methyl-2-pentanone	9.32	43	24502	1.47 ug/l		78
54)	cis-1,3-Dichloropropene	9.62	75	16757	0.27 ug/l		84
56)	Toluene	10.12	91	51900	0.31 ug/l		96
57)	Ethyl methacrylate	10.41	69	9754	0.31 ug/l		79
58)	trans-1,3-Dichloropropene	10.39	75	13091	0.27 ug/l		74
59)	1,1,2-Trichloroethane	10.63	97	6911	0.30 ug/l		95
60)	2-Hexanone	10.69	43	13588	1.33 ug/l		73
61)	1,3-Dichloropropane	11.05	76	11272	0.27 ug/l		87
62)	Tetrachloroethene	11.15	164	9913	0.27 ug/l		96
63)	Dibromochloromethane	11.45	129	10378	0.27 ug/l		100
65)	1,2-Dibromoethane	11.78	107	7127	0.26 ug/l		100
66)	1-Chlorohexane	12.12	91	18358	0.28 ug/l	#	74
67)	Chlorobenzene	12.49	112	30260	0.29 ug/l	#	90
68)	1,1,1,2-Tetrachloroethane	12.56	131	10972	0.27 ug/l	#	73
69)	Ethylbenzene	12.59	91	56434	0.29 ug/l		97
70)	m-Xylene & p-Xylene	12.73	91	88640	0.59 ug/l		99
71)	o-Xylene	13.46	91	42279	0.28 ug/l		98
72)	Styrene	13.52	104	31856	0.28 ug/l		97
74)	Bromoform	14.05	173	5505	0.30 ug/l		93
75)	Isopropylbenzene	14.10	105	51317	0.30 ug/l		96
76)	1,1,2,2-Tetrachloroethane	14.37	83	7292	0.31 ug/l		97
78)	1,2,3-Trichloropropane	14.63	110	1640	0.25 ug/l	#	45
80)	n-Propylbenzene	14.80	91	61728	0.29 ug/l		99
81)	Bromobenzene	14.83	156	12171	0.31 ug/l		99
82)	1,3,5-Trimethylbenzene	15.08	105	44880	0.30 ug/l		98
83)	2-Chlorotoluene	15.08	91	43633	0.31 ug/l		98
84)	4-Chlorotoluene	15.17	91	35049	0.29 ug/l		99
85)	tert-Butylbenzene	15.71	134	8287	0.29 ug/l	#	89
86)	1,2,4-Trimethylbenzene	15.76	105	42044	0.30 ug/l		100
87)	sec-Butylbenzene	16.09	105	52704	0.29 ug/l		98
88)	p-Isopropyltoluene	16.35	119	44339	0.29 ug/l		98
89)	1,3-Dichlorobenzene	16.46	146	20654	0.29 ug/l		97
90)	1,4-Dichlorobenzene	16.66	146	18753	0.28 ug/l		97

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

12/13/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ171.D
Acq On : 9 Dec 2011 12:48 pm
Sample : VO05L091
Misc : 0.3ppb 8260/1.5ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:38 2011

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
91) n-Butylbenzene	17.07	91	37894	0.27 ug/l	90
92) 1,2-Dichlorobenzene	17.30	146	16841	0.29 ug/l #	76
95) Hexachlorobutadiene	19.78	225	6143	0.26 ug/l	90

gu 12/13/11

(#) = qualifier out of range (m) = manual integration
RLQ171.D VO05L09.M Tue Dec 13 09:40:41 2011

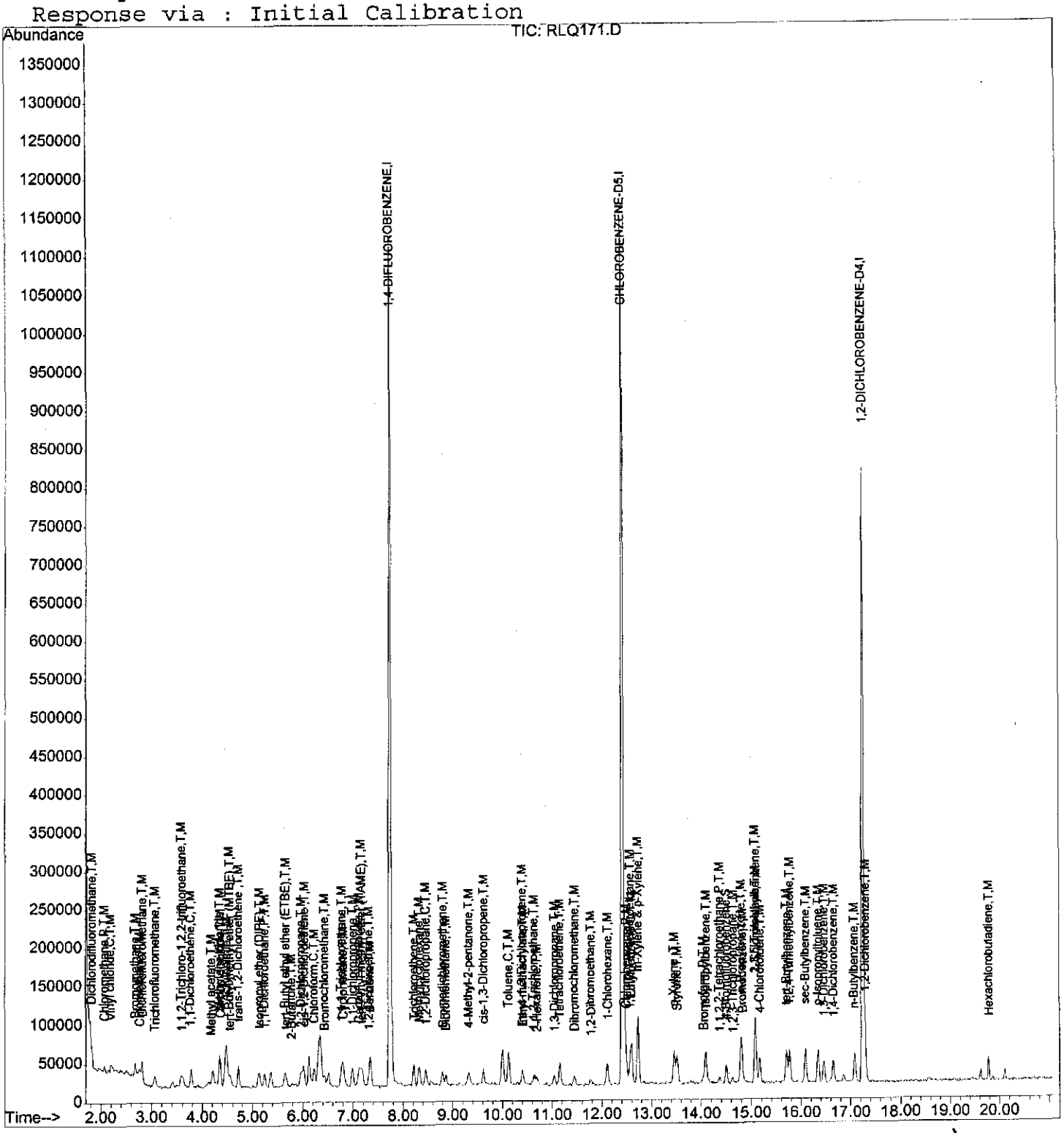
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ171.D
Acq On : 9 Dec 2011 12:48 pm
Sample : VO05L091
Misc : 0.3ppb 8260/1.5ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:38 2011

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



S 4/2/13/11

2065

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ172.D
Acq On : 9 Dec 2011 1:19 pm
Sample : VO05L092
Misc : 0.5ppb 8260/2.5ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 3
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.75	114	1284839	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	12.42	117	1023074	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.26	152	349588	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	0.00	111	0d	0.00 ug/l	
Spiked Amount 10.000			Recovery	= 0.00%	
40) 1,2-Dichloroethane-d4	0.00	65	0d	0.00 ug/l	
Spiked Amount 10.000			Recovery	= 0.00%	
55) Toluene-d8	0.00	98	0d	0.00 ug/l	
Spiked Amount 10.000			Recovery	= 0.00%	
77) 4-Bromofluorobenzene	14.50	95	24630	0.53 ug/l	0.00
Spiked Amount 10.000			Recovery	= 5.30%	

Target Compounds					Qvalue
3) Dichlorodifluoromethane	1.82	85	18653	0.41 ug/l	96
4) Chloromethane	2.08	50	17758	0.42 ug/l	94
6) Vinyl chloride	2.19	62	18399	0.44 ug/l	94
7) Bromomethane	2.69	94	20794	0.52 ug/l	94
8) Chloroethane	2.78	64	14800	0.49 ug/l	95
9) Dichlorofluoromethane	2.82	67	55569	0.50 ug/l	81
10) Trichlorofluoromethane	3.07	101	29590	0.40 ug/l	98
12) Acrolein	3.55	56	7680	3.12 ug/l	95
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	14613	0.47 ug/l	99
14) Acetone	3.62	43	14118	3.01 ug/l	57
15) 1,1-Dichloroethene	3.77	61	38235	0.50 ug/l	98
18) Methyl acetate	4.19	43	6663	0.40 ug/l	86
19) Methylene chloride	4.35	49	28307	0.54 ug/l	95
20) Carbon disulfide	4.37	76	70705	0.43 ug/l	100
21) Acrylonitrile	4.49	53	11582	2.11 ug/l	95
22) tert-Butyl methyl ether (M	4.56	73	34176	0.46 ug/l	83
23) trans-1,2-Dichloroethene	4.73	61	36678	0.49 ug/l	99
24) Isopropyl ether (DIPE)	5.14	45	63950	0.52 ug/l	91
25) Vinyl acetate	5.26	43	13136	0.40 ug/l	95
26) 1,1-Dichloroethane	5.25	63	40381	0.48 ug/l	95
28) tert-Butyl ethyl ether (ET	5.65	59	50708	0.48 ug/l	94
29) 2-Butanone	5.80	43	13063	2.00 ug/l	96
30) 2,2-Dichloropropane	5.98	77	40125	0.53 ug/l	97
31) cis-1,2-Dichloroethene	6.02	96	24804	0.49 ug/l	96
32) Chloroform	6.23	83	42788	0.50 ug/l	99
33) Bromochloromethane	6.44	49	13710	0.49 ug/l	99
37) 1,1,1-Trichloroethane	6.78	97	40579	0.50 ug/l	97

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

BA 12/13/11

2066

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ172.D
Acq On : 9 Dec 2011 1:19 pm
Sample : VO05L092
Misc : 0.5ppb 8260/2.5ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 3
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
38)	Cyclohexane	6.81	56	34412	0.43 ug/l		95
39)	tert-Amyl methyl ether (TA	7.17	87	7944	0.45 ug/l	#	76
42)	1,1-Dichloropropene	6.99	110	10636	0.50 ug/l		98
43)	Carbon tetrachloride	7.12	119	35291	0.50 ug/l		100
44)	1,2-Dichloroethane	7.31	62	23254	0.51 ug/l		88
45)	Benzene	7.34	78	79422	0.50 ug/l		99
46)	Trichloroethene	8.22	130	21955	0.47 ug/l		91
47)	Methylcyclohexane	8.33	83	31126	0.43 ug/l		86
48)	1,2-Dichloropropane	8.46	63	16864	0.47 ug/l		83
49)	Bromodichloromethane	8.79	83	28647	0.49 ug/l		99
51)	Dibromomethane	8.86	93	9336	0.47 ug/l		96
53)	4-Methyl-2-pentanone	9.32	43	30591	1.90 ug/l		77
54)	cis-1,3-Dichloropropene	9.62	75	28392	0.48 ug/l		90
56)	Toluene	10.11	91	82444	0.51 ug/l		98
57)	Ethyl methacrylate	10.41	69	16023	0.53 ug/l		98
58)	trans-1,3-Dichloropropene	10.40	75	22115	0.47 ug/l		81
59)	1,1,2-Trichloroethane	10.63	97	10411	0.46 ug/l		98
60)	2-Hexanone	10.68	43	18308	1.85 ug/l		64
61)	1,3-Dichloropropane	11.04	76	18281	0.46 ug/l		98
62)	Tetrachloroethene	11.15	164	17906	0.50 ug/l		98
63)	Dibromochloromethane	11.44	129	18382	0.49 ug/l		97
65)	1,2-Dibromoethane	11.78	107	12348	0.46 ug/l		100
66)	1-Chlorohexane	12.11	91	29694	0.47 ug/l		87
67)	Chlorobenzene	12.48	112	50289	0.49 ug/l		83
68)	1,1,1,2-Tetrachloroethane	12.55	131	20515	0.52 ug/l		92
69)	Ethylbenzene	12.60	91	92215	0.49 ug/l		99
70)	m-Xylene & p-Xylene	12.72	91	146416	1.01 ug/l		99
71)	o-Xylene	13.46	91	72275	0.50 ug/l		100
72)	Styrene	13.51	104	52718	0.47 ug/l		98
74)	Bromoform	14.04	173	8575	0.48 ug/l		93
75)	Isopropylbenzene	14.09	105	86051	0.51 ug/l		99
76)	1,1,2,2-Tetrachloroethane	14.36	83	10994	0.48 ug/l		99
78)	1,2,3-Trichloropropane	14.62	110	3559	0.54 ug/l		94
79)	trans-1,4-Dichloro-2-buten	14.76	53	3645	0.51 ug/l		71
80)	n-Propylbenzene	14.79	91	103012	0.49 ug/l		99
81)	Bromobenzene	14.82	156	18447	0.47 ug/l		91
82)	1,3,5-Trimethylbenzene	15.07	105	73255	0.50 ug/l		99
83)	2-Chlorotoluene	15.07	91	71852	0.52 ug/l		100
84)	4-Chlorotoluene	15.16	91	60827	0.51 ug/l		96
85)	tert-Butylbenzene	15.71	134	14208	0.49 ug/l		96
86)	1,2,4-Trimethylbenzene	15.77	105	69232	0.49 ug/l		99

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

SW 12/13/11

2067

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ172.D
Acq On : 9 Dec 2011 1:19 pm
Sample : VO05L092
Misc : 0.5ppb 8260/2.5ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 3
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
87)	sec-Butylbenzene	16.08	105	88730	0.49 ug/l		98
88)	p-Isopropyltoluene	16.35	119	74276	0.48 ug/l		99
89)	1,3-Dichlorobenzene	16.45	146	34222	0.49 ug/l		98
90)	1,4-Dichlorobenzene	16.65	146	32187	0.48 ug/l		97
91)	n-Butylbenzene	17.08	91	62535	0.45 ug/l		98
92)	1,2-Dichlorobenzene	17.30	146	28476	0.50 ug/l		85
93)	1,2-Dibromo-3-chloropropan	18.57	157	1442	0.38 ug/l	#	76
95)	Hexachlorobutadiene	19.77	225	11647	0.49 ug/l		98

SW 12/13/11

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

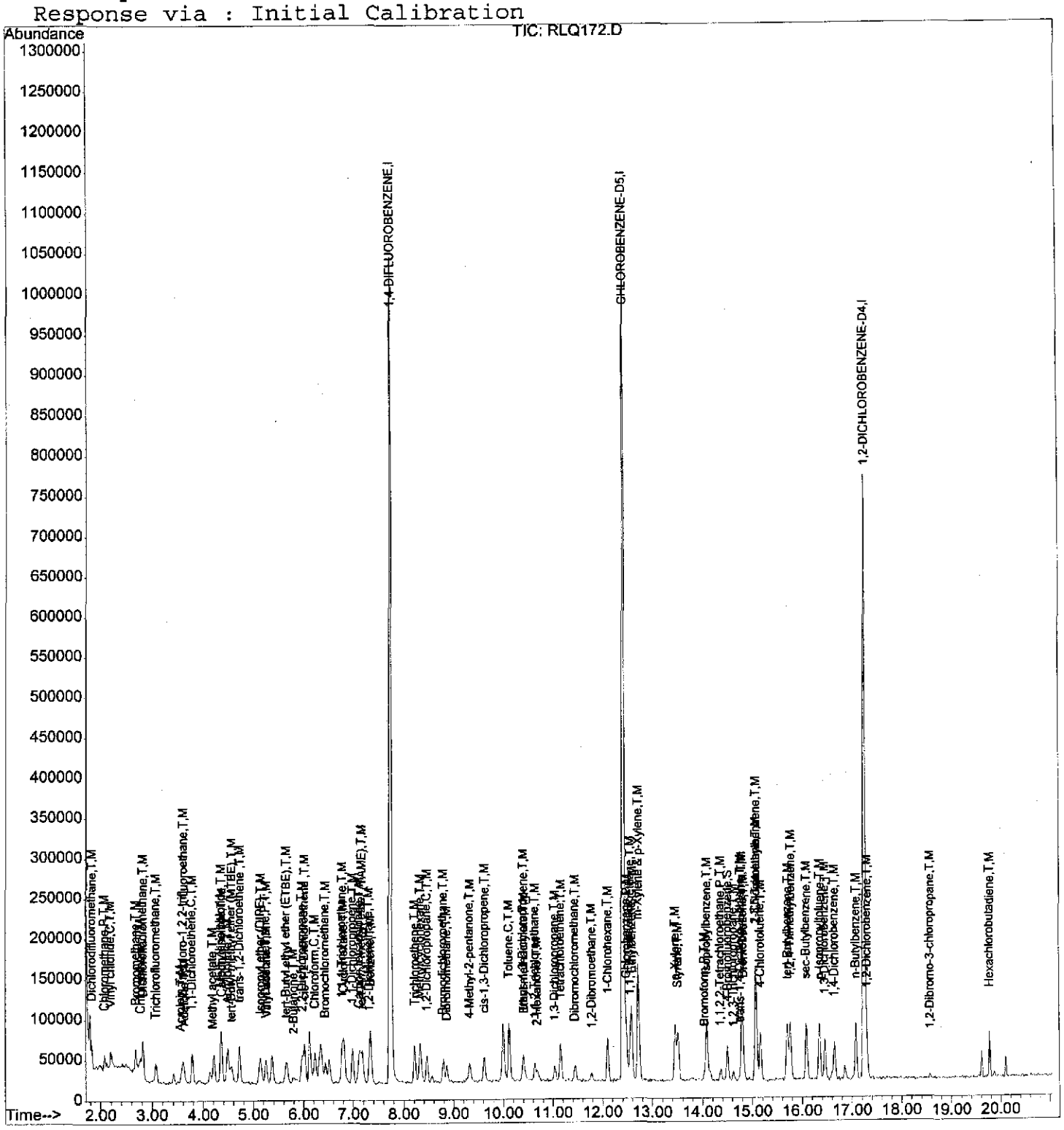
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ172.D
Acq On : 9 Dec 2011 1:19 pm
Sample : VO05L092
Misc : 0.5ppb 8260/2.5ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 3
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



Sm 12/13/11

2069

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ173.D
Acq On : 9 Dec 2011 1:49 pm
Sample : VO05L093
Misc : 1.0ppb 8260/5.0ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 4
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.74	114	1289642	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	12.41	117	1046265	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.25	152	359092	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	0.00	111	0d	0.00 ug/l	
Spiked Amount 10.000			Recovery	= 0.00%	
40) 1,2-Dichloroethane-d4	0.00	65	0d	0.00 ug/l	
Spiked Amount 10.000			Recovery	= 0.00%	
55) Toluene-d8	0.00	98	0d	0.00 ug/l	
Spiked Amount 10.000			Recovery	= 0.00%	
77) 4-Bromofluorobenzene	14.50	95	47834	1.00 ug/l	0.00
Spiked Amount 10.000			Recovery	= 10.00%	

Target Compounds					Qvalue
3) Dichlorodifluoromethane	1.83	85	41622	0.92 ug/l	97
4) Chloromethane	2.07	50	42486	1.00 ug/l	100
6) Vinyl chloride	2.20	62	40637	0.96 ug/l	98
7) Bromomethane	2.68	94	39796	0.99 ug/l	97
8) Chloroethane	2.77	64	28780	0.95 ug/l	92
9) Dichlorofluoromethane	2.81	67	112031	1.01 ug/l	97
10) Trichlorofluoromethane	3.07	101	67038	0.91 ug/l	99
12) Acrolein	3.54	56	11426	4.62 ug/l	71
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	28492	0.92 ug/l	96
14) Acetone	3.62	43	23211	4.93 ug/l	92
15) 1,1-Dichloroethene	3.78	61	75680	0.98 ug/l	98
16) tert-Butyl alcohol	3.87	59	7529	4.97 ug/l #	79
18) Methyl acetate	4.17	43	17693	1.05 ug/l	83
19) Methylene chloride	4.35	49	55495	1.05 ug/l	97
20) Carbon disulfide	4.36	76	137563	0.83 ug/l	97
21) Acrylonitrile	4.48	53	27936	5.07 ug/l	93
22) tert-Butyl methyl ether (M	4.55	73	72504	0.97 ug/l	93
23) trans-1,2-Dichloroethene	4.72	61	73616	0.98 ug/l	98
24) Isopropyl ether (DIPE)	5.13	45	119421	0.97 ug/l	100
25) Vinyl acetate	5.25	43	26211	0.80 ug/l	97
26) 1,1-Dichloroethane	5.24	63	83994	0.99 ug/l	99
28) tert-Butyl ethyl ether (ET	5.66	59	100769	0.94 ug/l	96
29) 2-Butanone	5.77	43	31204	4.76 ug/l	100
30) 2,2-Dichloropropane	5.97	77	78094	1.03 ug/l	100
31) cis-1,2-Dichloroethene	6.03	96	50425	0.99 ug/l	98
32) Chloroform	6.22	83	85026	0.99 ug/l	99
33) Bromochloromethane	6.43	49	28146	0.99 ug/l	99

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

SW 12/13/11

2070

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ173.D
Acq On : 9 Dec 2011 1:49 pm
Sample : VO05L093
Misc : 1.0ppb 8260/5.0ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 4
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
34)	tert-Amyl alcohol	6.47	59	5673	4.59 ug/l	#	27
36)	Tetrahydrofuran	6.50	42	9256	2.08 ug/l	#	62
37)	1,1,1-Trichloroethane	6.77	97	80240	0.99 ug/l		98
38)	Cyclohexane	6.80	56	75869	0.95 ug/l		98
39)	tert-Amyl methyl ether (TA	7.16	87	16118	0.91 ug/l	#	83
42)	1,1-Dichloropropene	6.98	110	21781	1.00 ug/l		100
43)	Carbon tetrachloride	7.11	119	71755	1.00 ug/l		99
44)	1,2-Dichloroethane	7.31	62	44598	0.96 ug/l		94
45)	Benzene	7.34	78	158078	0.98 ug/l		100
46)	Trichloroethene	8.22	130	46765	0.97 ug/l		95
47)	Methylcyclohexane	8.32	83	70783	0.95 ug/l		94
48)	1,2-Dichloropropane	8.45	63	36876	1.00 ug/l		99
49)	Bromodichloromethane	8.78	83	58828	0.99 ug/l		99
50)	1,4-Dioxane	8.83	88	2758	18.68 ug/l	#	1
51)	Dibromomethane	8.86	93	19171	0.93 ug/l		95
53)	4-Methyl-2-pentanone	9.32	43	75252	4.56 ug/l		91
54)	cis-1,3-Dichloropropene	9.61	75	59626	0.98 ug/l		95
56)	Toluene	10.12	91	165462	1.00 ug/l		100
57)	Ethyl methacrylate	10.40	69	29990	0.97 ug/l		96
58)	trans-1,3-Dichloropropene	10.39	75	45541	0.95 ug/l		95
59)	1,1,2-Trichloroethane	10.63	97	21908	0.95 ug/l		96
60)	2-Hexanone	10.67	43	45448	4.49 ug/l		93
61)	1,3-Dichloropropane	11.03	76	38720	0.94 ug/l		98
62)	Tetrachloroethene	11.15	164	36138	0.99 ug/l		99
63)	Dibromochloromethane	11.45	129	35625	0.94 ug/l		95
65)	1,2-Dibromoethane	11.77	107	26186	0.96 ug/l		97
66)	1-Chlorohexane	12.10	91	62086	0.96 ug/l		95
67)	Chlorobenzene	12.47	112	101539	0.97 ug/l		89
68)	1,1,1,2-Tetrachloroethane	12.56	131	39498	0.99 ug/l		96
69)	Ethylbenzene	12.59	91	188052	0.98 ug/l		99
70)	m-Xylene & p-Xylene	12.73	91	298654	2.01 ug/l		98
71)	o-Xylene	13.46	91	144263	0.98 ug/l		99
72)	Styrene	13.51	104	112122	0.98 ug/l		99
74)	Bromoform	14.05	173	18211	0.99 ug/l		96
75)	Isopropylbenzene	14.08	105	176687	1.01 ug/l		99
76)	1,1,2,2-Tetrachloroethane	14.36	83	22516	0.95 ug/l		99
78)	1,2,3-Trichloropropane	14.62	110	6342	0.94 ug/l		93
79)	trans-1,4-Dichloro-2-buten	14.75	53	7261	0.98 ug/l		99
80)	n-Propylbenzene	14.79	91	215376	1.00 ug/l		99
81)	Bromobenzene	14.81	156	39747	0.98 ug/l		96
82)	1,3,5-Trimethylbenzene	15.08	105	148688	0.99 ug/l		100

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

12/13/11

2071

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ173.D
Acq On : 9 Dec 2011 1:49 pm
Sample : VO05L093
Misc : 1.0ppb 8260/5.0ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 4
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
83)	2-Chlorotoluene	15.06	91	145986	1.02 ug/l	100
84)	4-Chlorotoluene	15.15	91	114165	0.94 ug/l	97
85)	tert-Butylbenzene	15.70	134	29006	0.98 ug/l	99
86)	1,2,4-Trimethylbenzene	15.76	105	142610	0.98 ug/l	99
87)	sec-Butylbenzene	16.09	105	179025	0.97 ug/l	99
88)	p-Isopropyltoluene	16.34	119	155165	0.98 ug/l	100
89)	1,3-Dichlorobenzene	16.45	146	69494	0.96 ug/l	99
90)	1,4-Dichlorobenzene	16.64	146	66393	0.96 ug/l	99
91)	n-Butylbenzene	17.07	91	134219	0.94 ug/l	99
92)	1,2-Dichlorobenzene	17.30	146	55844	0.95 ug/l	94
93)	1,2-Dibromo-3-chloropropan	18.58	157	3573	0.91 ug/l	87
94)	1,2,4-Trichlorobenzene	19.62	180	25973	0.76 ug/l	97
95)	Hexachlorobutadiene	19.78	225	23195	0.96 ug/l	98
96)	Naphthalene	19.86	128	22563	1.18 ug/l	95
97)	1,2,3-Trichlorobenzene	20.11	180	21422	0.79 ug/l	96

SC 12/13/11

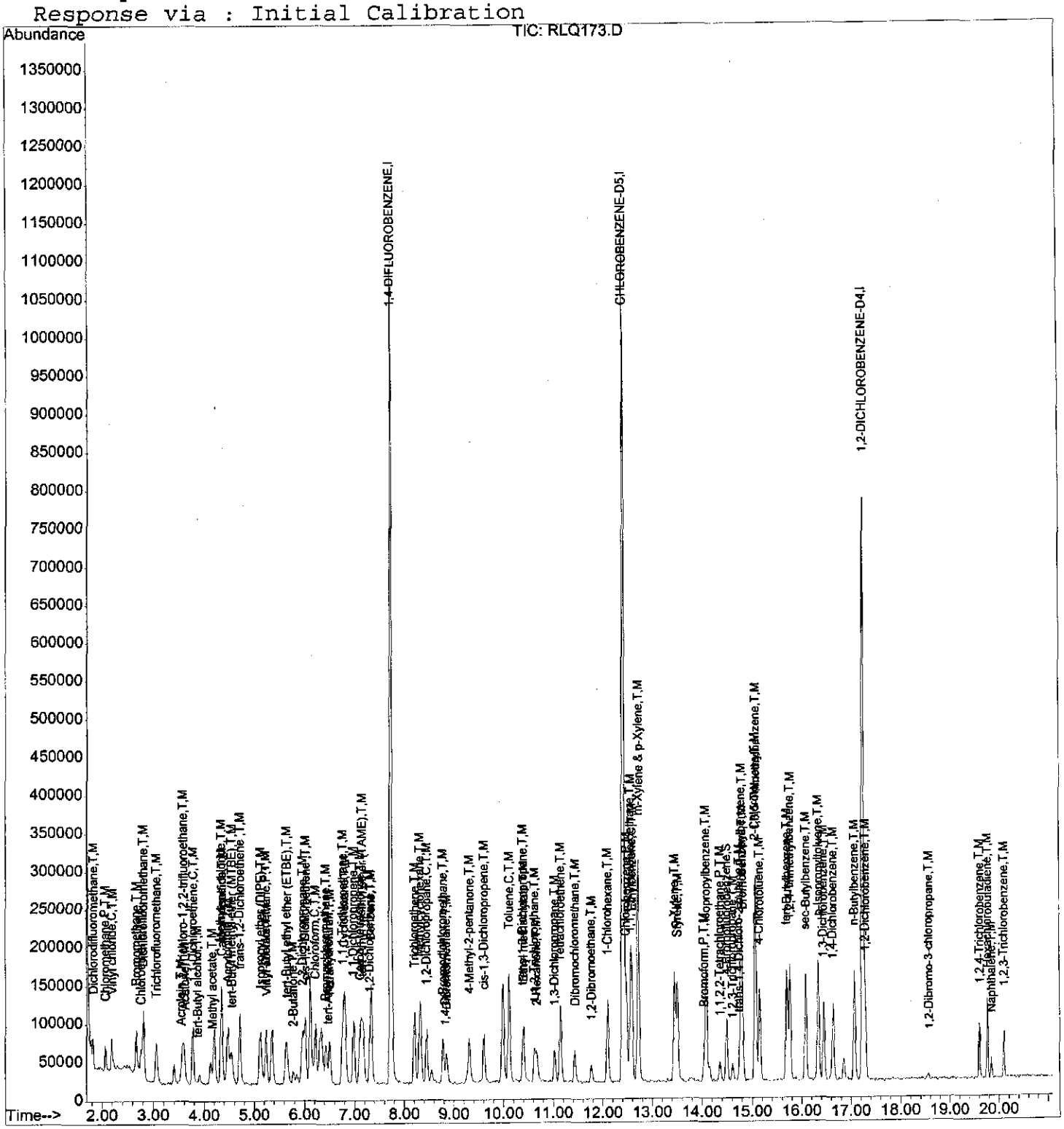
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ173.D
Acq On : 9 Dec 2011 1:49 pm
Sample : VO05L093
Misc : 1.0ppb 8260/5.0ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 4
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



SU 12/13/11

2073

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ174.D
Acq On : 9 Dec 2011 2:20 pm
Sample : VO05L094
Misc : 2.0ppb 8260/10ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 5
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.75	114	1291600	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	12.42	117	1040247	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.24	152	364731	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	6.51	111	94416	1.90 ug/l	0.00
Spiked Amount 10.000			Recovery	= 19.00%	
40) 1,2-Dichloroethane-d4	7.18	65	76913	1.99 ug/l	0.00
Spiked Amount 10.000			Recovery	= 19.90%	
55) Toluene-d8	9.99	98	265103	1.96 ug/l	0.00
Spiked Amount 10.000			Recovery	= 19.60%	
77) 4-Bromofluorobenzene	14.49	95	96728	1.98 ug/l	0.00
Spiked Amount 10.000			Recovery	= 19.80%	
Target Compounds					Qvalue
3) Dichlorodifluoromethane	1.82	85	87541	1.93 ug/l	97
4) Chloromethane	2.08	50	87417	2.05 ug/l	99
6) Vinyl chloride	2.19	62	86612	2.04 ug/l	99
7) Bromomethane	2.69	94	77776	1.93 ug/l	99
8) Chloroethane	2.78	64	58158	1.92 ug/l	95
9) Dichlorofluoromethane	2.82	67	215675	1.93 ug/l	98
10) Trichlorofluoromethane	3.07	101	141336	1.92 ug/l	100
12) Acrolein	3.55	56	24132	9.75 ug/l	68
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	58327	1.88 ug/l	99
14) Acetone	3.61	43	43184	9.16 ug/l	86
15) 1,1-Dichloroethene	3.77	61	151087	1.95 ug/l	98
16) tert-Butyl alcohol	3.88	59	12598	8.30 ug/l #	52
17) Iodomethane	4.13	142	105579	1.41 ug/l	98
18) Methyl acetate	4.17	43	30423	1.81 ug/l	96
19) Methylene chloride	4.34	49	101821	1.91 ug/l	99
20) Carbon disulfide	4.37	76	333947	2.02 ug/l	99
21) Acrylonitrile	4.49	53	53768	9.75 ug/l	95
22) tert-Butyl methyl ether (M	4.55	73	143098	1.92 ug/l	91
23) trans-1,2-Dichloroethene	4.72	61	145921	1.94 ug/l	98
24) Isopropyl ether (DIPE)	5.13	45	239539	1.94 ug/l	99
25) Vinyl acetate	5.25	43	62105	1.89 ug/l	98
26) 1,1-Dichloroethane	5.25	63	172067	2.03 ug/l	99
28) tert-Butyl ethyl ether (ET	5.65	59	211197	1.98 ug/l	97
29) 2-Butanone	5.78	43	64893	9.88 ug/l	98
30) 2,2-Dichloropropane	5.98	77	148098	1.96 ug/l	100
31) cis-1,2-Dichloroethene	6.02	96	99837	1.95 ug/l	100
32) Chloroform	6.23	83	166777	1.94 ug/l	98

(#) = qualifier out of range (m) = manual integration
RLQ174.D VO05L09.M Tue Dec 13 09:41:07 2011

2/13/11

2074

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ174.D
Acq On : 9 Dec 2011 2:20 pm
Sample : VO05L094
Misc : 2.0ppb 8260/10ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 5
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
33)	Bromochloromethane	6.44	49	55741	1.96 ug/l		97
34)	tert-Amyl alcohol	6.47	59	10376	8.37 ug/l	#	71
36)	Tetrahydrofuran	6.50	42	12709	2.86 ug/l		85
37)	1,1,1-Trichloroethane	6.78	97	157876	1.94 ug/l		99
38)	Cyclohexane	6.81	56	165552	2.07 ug/l		96
39)	tert-Amyl methyl ether (TA	7.17	87	34809	1.96 ug/l		96
42)	1,1-Dichloropropene	6.99	110	41573	1.91 ug/l		95
43)	Carbon tetrachloride	7.12	119	139791	1.96 ug/l		100
44)	1,2-Dichloroethane	7.31	62	91780	1.99 ug/l		99
45)	Benzene	7.34	78	317590	1.98 ug/l		99
46)	Trichloroethene	8.21	130	93707	1.96 ug/l		96
47)	Methylcyclohexane	8.33	83	147308	1.99 ug/l		96
48)	1,2-Dichloropropane	8.46	63	70133	1.91 ug/l		97
49)	Bromodichloromethane	8.79	83	115407	1.94 ug/l		99
50)	1,4-Dioxane	8.82	88	5799	39.50 ug/l	#	46
51)	Dibromomethane	8.86	93	40147	1.97 ug/l		98
52)	2-Chloroethyl vinyl ether	9.26	63	14662	1.61 ug/l		91
53)	4-Methyl-2-pentanone	9.31	43	161659	9.86 ug/l		98
54)	cis-1,3-Dichloropropene	9.61	75	117073	1.94 ug/l		96
56)	Toluene	10.11	91	324350	1.97 ug/l		99
57)	Ethyl methacrylate	10.41	69	59635	1.95 ug/l		89
58)	trans-1,3-Dichloropropene	10.40	75	93456	1.96 ug/l		98
59)	1,1,2-Trichloroethane	10.63	97	45610	1.99 ug/l		99
60)	2-Hexanone	10.68	43	112397	11.16 ug/l		92
61)	1,3-Dichloropropane	11.04	76	80154	1.97 ug/l		99
62)	Tetrachloroethene	11.15	164	70155	1.93 ug/l		98
63)	Dibromochloromethane	11.44	129	72745	1.92 ug/l		98
65)	1,2-Dibromoethane	11.77	107	52460	1.94 ug/l		96
66)	1-Chlorohexane	12.11	91	124773	1.95 ug/l		95
67)	Chlorobenzene	12.48	112	200224	1.93 ug/l		96
68)	1,1,1,2-Tetrachloroethane	12.55	131	77030	1.94 ug/l		94
69)	Ethylbenzene	12.58	91	377981	1.97 ug/l		99
70)	m-Xylene & p-Xylene	12.72	91	585191	3.96 ug/l		98
71)	o-Xylene	13.45	91	289627	1.97 ug/l		99
72)	Styrene	13.51	104	219248	1.93 ug/l		99
74)	Bromoform	14.04	173	36056	1.92 ug/l		99
75)	Isopropylbenzene	14.09	105	345928	1.96 ug/l		99
76)	1,1,2,2-Tetrachloroethane	14.35	83	46439	1.93 ug/l		98
78)	1,2,3-Trichloropropane	14.62	110	14231	2.08 ug/l		95
79)	trans-1,4-Dichloro-2-buten	14.76	53	13715	1.82 ug/l		98
80)	n-Propylbenzene	14.79	91	429943	1.97 ug/l		99

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

12/13/11

2075

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ174.D
Acq On : 9 Dec 2011 2:20 pm
Sample : VO05L094
Misc : 2.0ppb 8260/10ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 5
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
81) Bromobenzene	14.82	156	80233	1.95 ug/l	98
82) 1,3,5-Trimethylbenzene	15.07	105	300884	1.97 ug/l	100
83) 2-Chlorotoluene	15.07	91	281377	1.94 ug/l	99
84) 4-Chlorotoluene	15.16	91	247199	2.00 ug/l	100
85) tert-Butylbenzene	15.71	134	59077	1.96 ug/l	100
86) 1,2,4-Trimethylbenzene	15.77	105	284383	1.93 ug/l	100
87) sec-Butylbenzene	16.08	105	365091	1.95 ug/l	100
88) p-Isopropyltoluene	16.33	119	309323	1.92 ug/l	100
89) 1,3-Dichlorobenzene	16.45	146	139463	1.90 ug/l	99
90) 1,4-Dichlorobenzene	16.65	146	135902	1.93 ug/l	99
91) n-Butylbenzene	17.08	91	271578	1.87 ug/l	99
92) 1,2-Dichlorobenzene	17.30	146	113420	1.91 ug/l	96
93) 1,2-Dibromo-3-chloropropan	18.57	157	7463	1.87 ug/l	94
94) 1,2,4-Trichlorobenzene	19.61	180	57105	1.66 ug/l	99
95) Hexachlorobutadiene	19.77	225	44575	1.81 ug/l	97
96) Naphthalene	19.86	128	58396	1.85 ug/l	97
97) 1,2,3-Trichlorobenzene	20.10	180	45223	1.63 ug/l	99

12/13/11

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

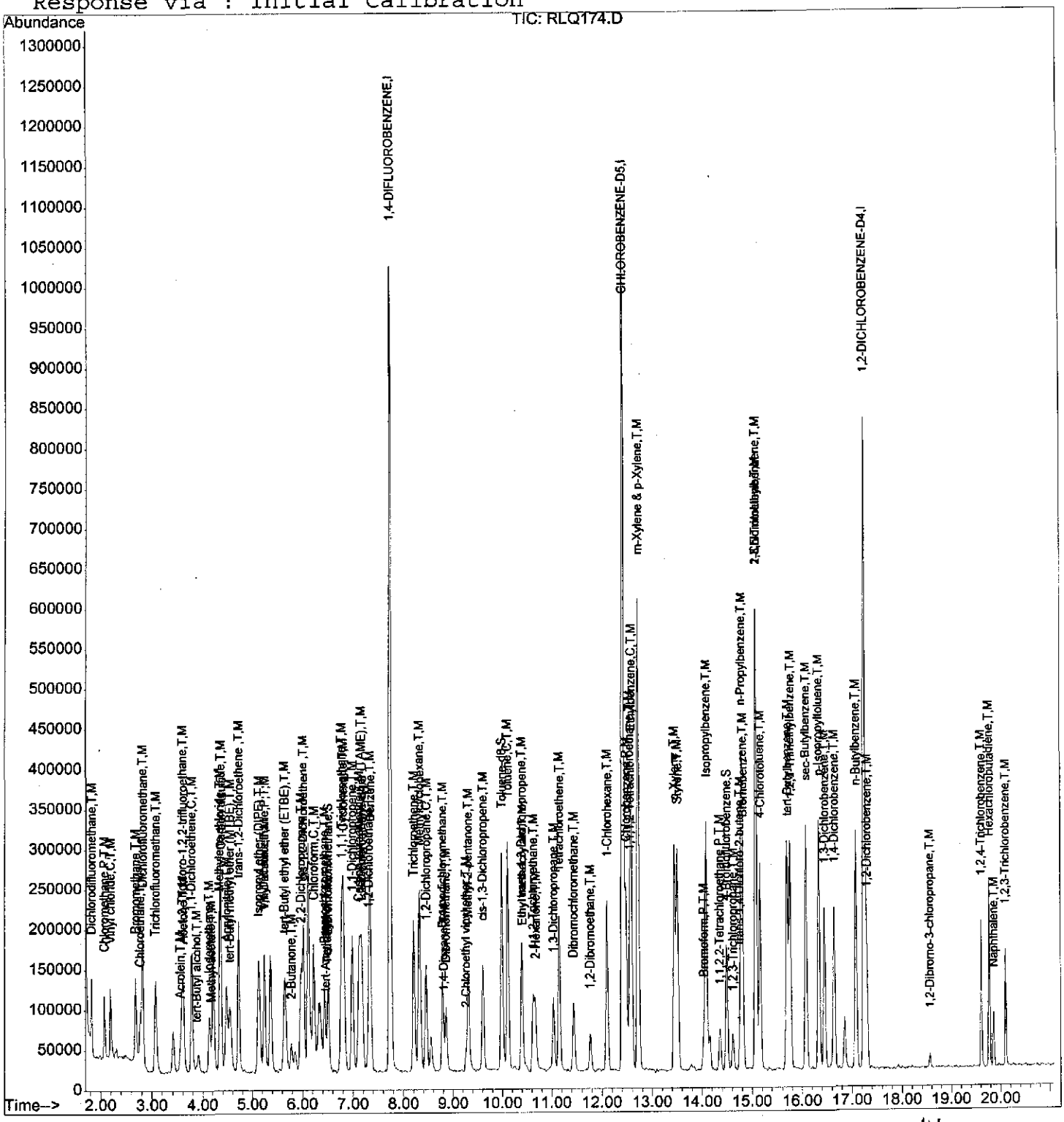
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ174.D
Acq On : 9 Dec 2011 2:20 pm
Sample : VO05L094
Misc : 2.0ppb 8260/10ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 5
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



SA 12/13/11

2077

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ175.D
Acq On : 9 Dec 2011 2:50 pm
Sample : VO05L095
Misc : 5.0ppb 8260/25ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 6
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.74	114	1348601	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	12.41	117	1081344	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.25	152	368670	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	6.51	111	248486	4.80 ug/l	0.00
Spiked Amount 10.000			Recovery	= 48.00%	
40) 1,2-Dichloroethane-d4	7.18	65	190302	4.72 ug/l	0.00
Spiked Amount 10.000			Recovery	= 47.20%	
55) Toluene-d8	9.99	98	675591	4.81 ug/l	0.00
Spiked Amount 10.000			Recovery	= 48.10%	
77) 4-Bromofluorobenzene	14.50	95	246993	5.01 ug/l	0.00
Spiked Amount 10.000			Recovery	= 50.10%	
Target Compounds					Qvalue
3) Dichlorodifluoromethane	1.82	85	227649	4.81 ug/l	100
4) Chloromethane	2.07	50	225204	5.05 ug/l	100
6) Vinyl chloride	2.19	62	223683	5.05 ug/l	100
7) Bromomethane	2.68	94	180556	4.29 ug/l	94
8) Chloroethane	2.77	64	153409	4.86 ug/l	99
9) Dichlorofluoromethane	2.81	67	551978	4.74 ug/l	98
10) Trichlorofluoromethane	3.07	101	376558	4.90 ug/l	100
12) Acrolein	3.53	56	60614	23.45 ug/l	96
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	157477	4.86 ug/l	98
14) Acetone	3.60	43	116428	23.65 ug/l	97
15) 1,1-Dichloroethene	3.77	61	396726	4.91 ug/l	100
16) tert-Butyl alcohol	3.87	59	39068	24.65 ug/l	99
17) Iodomethane	4.12	142	342527	4.38 ug/l	98
18) Methyl acetate	4.15	43	94360	5.37 ug/l	91
19) Methylene chloride	4.33	49	267066	4.81 ug/l	98
20) Carbon disulfide	4.36	76	874036	5.07 ug/l	99
21) Acrylonitrile	4.47	53	138585	24.06 ug/l	98
22) tert-Butyl methyl ether (M	4.54	73	377642	4.85 ug/l	99
23) trans-1,2-Dichloroethene	4.72	61	384728	4.90 ug/l	100
24) Isopropyl ether (DIPE)	5.12	45	612310	4.74 ug/l	99
25) Vinyl acetate	5.24	43	153488	4.48 ug/l	95
26) 1,1-Dichloroethane	5.24	63	437492	4.94 ug/l	99
28) tert-Butyl ethyl ether (ET	5.64	59	541160	4.85 ug/l	100
29) 2-Butanone	5.76	43	167834	24.48 ug/l	100
30) 2,2-Dichloropropane	5.97	77	389520	4.93 ug/l	99
31) cis-1,2-Dichloroethene	6.01	96	257016	4.81 ug/l	99
32) Chloroform	6.22	83	438988	4.89 ug/l	100

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ175.D
Acq On : 9 Dec 2011 2:50 pm
Sample : VO05L095
Misc : 5.0ppb 8260/25ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 6
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.43	49	149094	5.03 ug/l	98
34)	tert-Amyl alcohol	6.45	59	30942	23.92 ug/l	97
36)	Tetrahydrofuran	6.49	42	27032	5.86 ug/l	83
37)	1,1,1-Trichloroethane	6.77	97	416405	4.91 ug/l	100
38)	Cyclohexane	6.80	56	416080	4.98 ug/l	99
39)	tert-Amyl methyl ether (TA	7.16	87	88805	4.78 ug/l	99
42)	1,1-Dichloropropene	6.98	110	112394	4.98 ug/l	99
43)	Carbon tetrachloride	7.12	119	361620	4.88 ug/l	99
44)	1,2-Dichloroethane	7.31	62	239122	4.98 ug/l	99
45)	Benzene	7.34	78	826000	4.95 ug/l	99
46)	Trichloroethene	8.20	130	244533	4.93 ug/l	99
47)	Methylcyclohexane	8.32	83	386168	5.01 ug/l	99
48)	1,2-Dichloropropane	8.46	63	190199	4.97 ug/l	98
49)	Bromodichloromethane	8.78	83	304050	4.93 ug/l	98
50)	1,4-Dioxane	8.81	88	14515	95.10 ug/l	71
51)	Dibromomethane	8.86	93	101399	4.78 ug/l	99
52)	2-Chloroethyl vinyl ether	9.26	63	42796	4.53 ug/l	98
53)	4-Methyl-2-pentanone	9.30	43	421438	24.72 ug/l	99
54)	cis-1,3-Dichloropropene	9.62	75	311008	4.95 ug/l	99
56)	Toluene	10.11	91	838230	4.89 ug/l	99
57)	Ethyl methacrylate	10.40	69	152072	4.78 ug/l	99
58)	trans-1,3-Dichloropropene	10.39	75	242535	4.89 ug/l	100
59)	1,1,2-Trichloroethane	10.63	97	117375	4.92 ug/l	99
60)	2-Hexanone	10.67	43	252187	24.09 ug/l	98
61)	1,3-Dichloropropane	11.03	76	209959	4.96 ug/l	99
62)	Tetrachloroethene	11.15	164	186974	4.95 ug/l	99
63)	Dibromochloromethane	11.43	129	191192	4.86 ug/l	99
65)	1,2-Dibromoethane	11.76	107	138179	4.91 ug/l	98
66)	1-Chlorohexane	12.10	91	330339	4.96 ug/l	98
67)	Chlorobenzene	12.47	112	530999	4.91 ug/l	98
68)	1,1,1,2-Tetrachloroethane	12.55	131	199938	4.83 ug/l	98
69)	Ethylbenzene	12.58	91	982085	4.94 ug/l	100
70)	m-Xylene & p-Xylene	12.71	91	1523537	9.91 ug/l	100
71)	o-Xylene	13.46	91	757665	4.96 ug/l	99
72)	Styrene	13.50	104	582977	4.93 ug/l	99
74)	Bromoform	14.04	173	93549	4.93 ug/l	99
75)	Isopropylbenzene	14.08	105	910996	5.10 ug/l	100
76)	1,1,2,2-Tetrachloroethane	14.36	83	119638	4.93 ug/l	100
78)	1,2,3-Trichloropropane	14.62	110	34252	4.95 ug/l	96
79)	trans-1,4-Dichloro-2-buten	14.75	53	37479	4.93 ug/l	96
80)	n-Propylbenzene	14.78	91	1140469	5.18 ug/l	100

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

SA 12/13/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ175.D
Acq On : 9 Dec 2011 2:50 pm
Sample : VO05L095
Misc : 5.0ppb 8260/25ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 6
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
81)	Bromobenzene	14.81	156	208802	5.03 ug/l	98
82)	1,3,5-Trimethylbenzene	15.06	105	787347	5.09 ug/l	100
83)	2-Chlorotoluene	15.06	91	738314	5.05 ug/l	100
84)	4-Chlorotoluene	15.15	91	633881	5.07 ug/l	99
85)	tert-Butylbenzene	15.70	134	157330	5.16 ug/l	99
86)	1,2,4-Trimethylbenzene	15.76	105	767003	5.15 ug/l	100
87)	sec-Butylbenzene	16.08	105	983432	5.19 ug/l	99
88)	p-Isopropyltoluene	16.34	119	820808	5.05 ug/l	99
89)	1,3-Dichlorobenzene	16.45	146	376427	5.07 ug/l	100
90)	1,4-Dichlorobenzene	16.64	146	360044	5.05 ug/l	99
91)	n-Butylbenzene	17.07	91	766697	5.23 ug/l	100
92)	1,2-Dichlorobenzene	17.30	146	296055	4.92 ug/l	99
93)	1,2-Dibromo-3-chloropropan	18.56	157	18712	4.63 ug/l	97
94)	1,2,4-Trichlorobenzene	19.60	180	176274	5.06 ug/l	100
95)	Hexachlorobutadiene	19.77	225	130772	5.25 ug/l	99
96)	Naphthalene	19.86	128	207972	4.65 ug/l	99
97)	1,2,3-Trichlorobenzene	20.11	180	134582	4.81 ug/l	99

SA 12/13/11

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

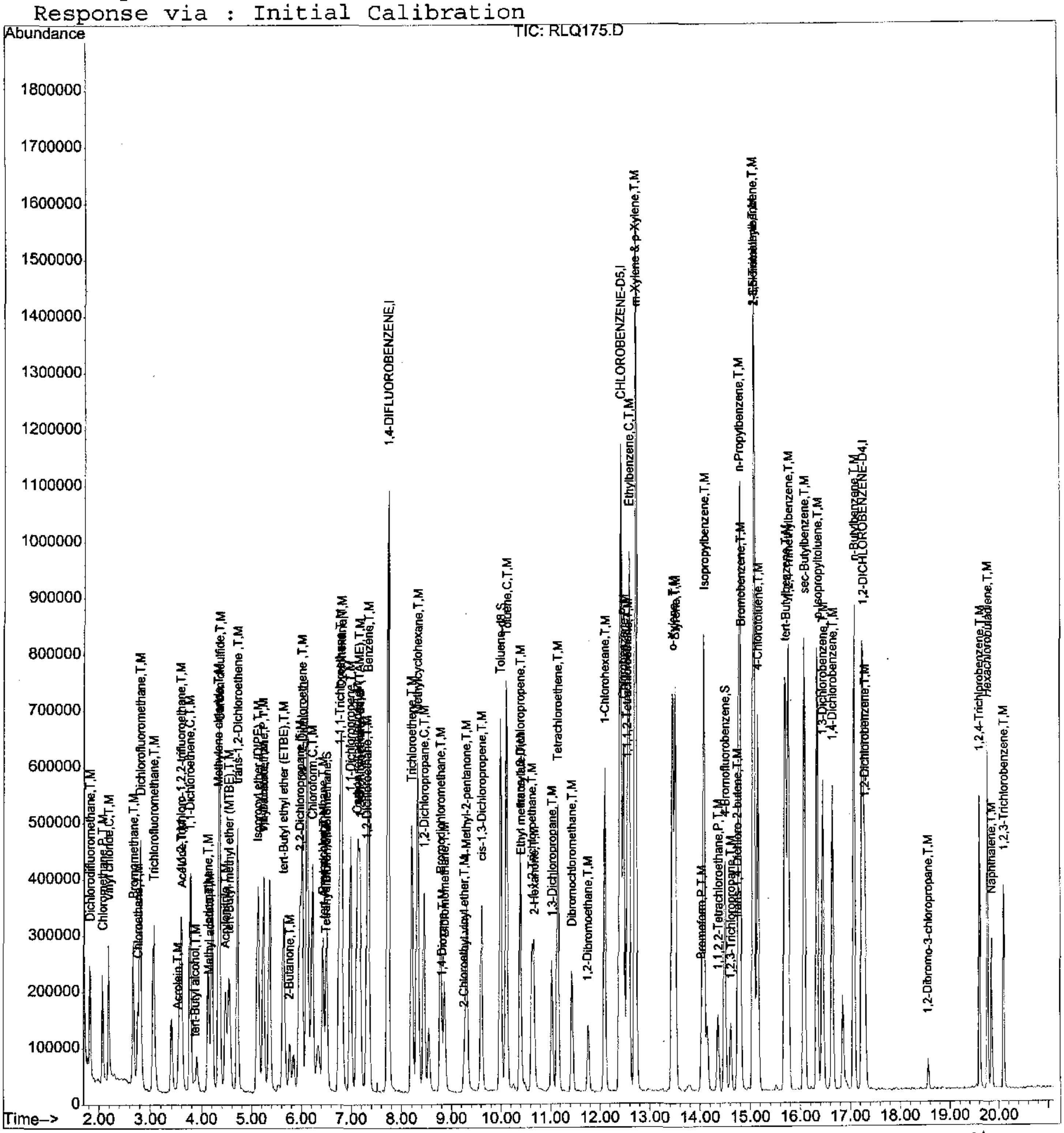
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ175.D
Acq On : 9 Dec 2011 2:50 pm
Sample : VO05L095
Misc : 5.0ppb 8260/25ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 6
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



SD 12/13/11

2081

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ176.D
Acq On : 9 Dec 2011 3:22 pm
Sample : VO05L096
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 7
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.74	114	1277844	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	12.41	117	1059766	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.25	152	374538	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.51	111	469674	9.57	ug/l	0.00
Spiked Amount 10.000			Recovery	=	95.70%	
40) 1,2-Dichloroethane-d4	7.17	65	368405	9.65	ug/l	0.00
Spiked Amount 10.000			Recovery	=	96.50%	
55) Toluene-d8	9.99	98	1282995	9.31	ug/l	0.00
Spiked Amount 10.000			Recovery	=	93.10%	
77) 4-Bromofluorobenzene	14.50	95	461934	9.22	ug/l	0.00
Spiked Amount 10.000			Recovery	=	92.20%	
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.82	85	447606	9.97	ug/l	100
4) Chloromethane	2.07	50	433484	10.26	ug/l	100
6) Vinyl chloride	2.19	62	424835	10.13	ug/l	100
7) Bromomethane	2.68	94	368841	9.26	ug/l	100
8) Chloroethane	2.77	64	300764	10.05	ug/l	100
9) Dichlorofluoromethane	2.81	67	1111559	10.07	ug/l	100
10) Trichlorofluoromethane	3.07	101	745821	10.24	ug/l	100
12) Acrolein	3.53	56	122314	49.95	ug/l	100
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	305780	9.96	ug/l	100
14) Acetone	3.60	43	239135	51.26	ug/l	100
15) 1,1-Dichloroethene	3.77	61	780274	10.19	ug/l	100
16) tert-Butyl alcohol	3.86	59	80293	53.46	ug/l	100
17) Iodomethane	4.12	142	739664	9.98	ug/l	100
18) Methyl acetate	4.15	43	173097	10.40	ug/l	100
19) Methylene chloride	4.33	49	520765	9.90	ug/l	100
20) Carbon disulfide	4.36	76	1678490	10.28	ug/l	100
21) Acrylonitrile	4.47	53	287869	52.74	ug/l	100
22) tert-Butyl methyl ether (M	4.54	73	765908	10.37	ug/l	100
23) trans-1,2-Dichloroethene	4.72	61	766883	10.30	ug/l	100
24) Isopropyl ether (DIPE)	5.12	45	1235092	10.10	ug/l	100
25) Vinyl acetate	5.24	43	328521	10.13	ug/l	100
26) 1,1-Dichloroethane	5.24	63	856848	10.21	ug/l	100
28) tert-Butyl ethyl ether (ET	5.64	59	1096966	10.37	ug/l	100
29) 2-Butanone	5.76	43	345260	53.15	ug/l	100
30) 2,2-Dichloropropane	5.97	77	747037	9.97	ug/l	100
31) cis-1,2-Dichloroethene	6.01	96	511880	10.12	ug/l	100
32) Chloroform	6.22	83	868958	10.22	ug/l	100

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ176.D
Acq On : 9 Dec 2011 3:22 pm
Sample : VO05L096
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 7
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.43	49	290346	10.34 ug/l	100
34)	tert-Amyl alcohol	6.45	59	66607	54.34 ug/l	100
36)	Tetrahydrofuran	6.49	42	42484	9.74 ug/l	100
37)	1,1,1-Trichloroethane	6.77	97	822261	10.23 ug/l	100
38)	Cyclohexane	6.80	56	800862	10.12 ug/l	100
39)	tert-Amyl methyl ether (TA	7.16	87	181458	10.31 ug/l	100
42)	1,1-Dichloropropene	6.98	110	222287	10.04 ug/l	100
43)	Carbon tetrachloride	7.12	119	718284	9.89 ug/l	100
44)	1,2-Dichloroethane	7.31	62	479990	10.19 ug/l	100
45)	Benzene	7.34	78	1617684	9.90 ug/l	100
46)	Trichloroethene	8.20	130	492308	10.12 ug/l	100
47)	Methylcyclohexane	8.32	83	761266	10.08 ug/l	100
48)	1,2-Dichloropropane	8.45	63	382752	10.21 ug/l	100
49)	Bromodichloromethane	8.78	83	606282	10.03 ug/l	100
50)	1,4-Dioxane	8.81	88	30358	202.95 ug/l	100
51)	Dibromomethane	8.86	93	214927	10.34 ug/l	100
52)	2-Chloroethyl vinyl ether	9.26	63	97148	10.50 ug/l	100
53)	4-Methyl-2-pentanone	9.30	43	875460	52.39 ug/l	100
54)	cis-1,3-Dichloropropene	9.62	75	621823	10.09 ug/l	100
56)	Toluene	10.11	91	1631052	9.72 ug/l	100
57)	Ethyl methacrylate	10.40	69	312535	10.02 ug/l	100
58)	trans-1,3-Dichloropropene	10.39	75	497446	10.24 ug/l	100
59)	1,1,2-Trichloroethane	10.63	97	234030	10.02 ug/l	100
60)	2-Hexanone	10.67	43	547224	53.35 ug/l	100
61)	1,3-Dichloropropane	11.03	76	426846	10.28 ug/l	100
62)	Tetrachloroethene	11.15	164	369731	9.99 ug/l	100
63)	Dibromochloromethane	11.45	129	392114	10.17 ug/l	100
65)	1,2-Dibromoethane	11.77	107	281316	10.20 ug/l	100
66)	1-Chlorohexane	12.10	91	654517	10.03 ug/l	100
67)	Chlorobenzene	12.47	112	1076921	10.17 ug/l	100
68)	1,1,1,2-Tetrachloroethane	12.55	131	407146	10.04 ug/l	100
69)	Ethylbenzene	12.59	91	1964624	10.08 ug/l	100
70)	m-Xylene & p-Xylene	12.71	91	3007668	19.95 ug/l	100
71)	o-Xylene	13.46	91	1508047	10.08 ug/l	100
72)	Styrene	13.52	104	1175801	10.15 ug/l	100
74)	Bromoform	14.04	173	196311	10.19 ug/l	100
75)	Isopropylbenzene	14.08	105	1830289	10.08 ug/l	100
76)	1,1,2,2-Tetrachloroethane	14.36	83	255547	10.36 ug/l	100
78)	1,2,3-Trichloropropane	14.62	110	72377	10.29 ug/l	100
79)	trans-1,4-Dichloro-2-buten	14.75	53	77278	10.01 ug/l	100
80)	n-Propylbenzene	14.78	91	2281772	10.20 ug/l	100

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ176.D
Acq On : 9 Dec 2011 3:22 pm
Sample : VO05L096
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 7
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
81)	Bromobenzene	14.81	156	429700	10.19 ug/l	100
82)	1,3,5-Trimethylbenzene	15.08	105	1599549	10.18 ug/l	100
83)	2-Chlorotoluene	15.06	91	1476988	9.94 ug/l	100
84)	4-Chlorotoluene	15.15	91	1303551	10.26 ug/l	100
85)	tert-Butylbenzene	15.70	134	310429	10.03 ug/l	100
86)	1,2,4-Trimethylbenzene	15.76	105	1542188	10.19 ug/l	100
87)	sec-Butylbenzene	16.09	105	1963630	10.21 ug/l	100
88)	p-Isopropyltoluene	16.34	119	1706258	10.34 ug/l	100
89)	1,3-Dichlorobenzene	16.45	146	776504	10.29 ug/l	100
90)	1,4-Dichlorobenzene	16.64	146	736297	10.17 ug/l	100
91)	n-Butylbenzene	17.07	91	1560571	10.48 ug/l	100
92)	1,2-Dichlorobenzene	17.30	146	616117	10.08 ug/l	100
93)	1,2-Dibromo-3-chloropropan	18.56	157	41719	10.16 ug/l	100
94)	1,2,4-Trichlorobenzene	19.62	180	379687	10.72 ug/l	100
95)	Hexachlorobutadiene	19.78	225	258527	10.21 ug/l	100
96)	Naphthalene	19.86	128	477106	9.57 ug/l	100
97)	1,2,3-Trichlorobenzene	20.11	180	287384	10.11 ug/l	100

SG 12/13/11

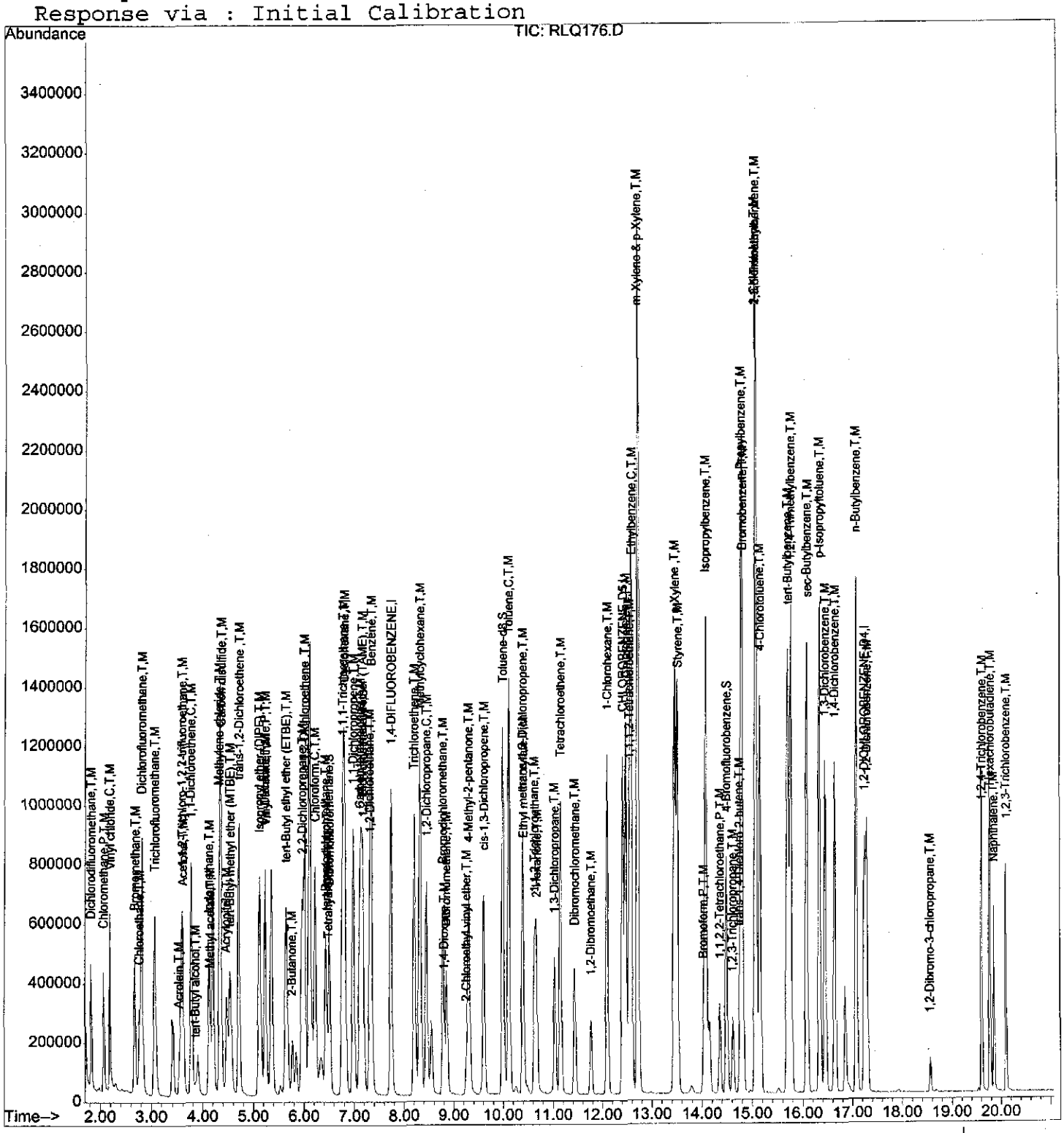
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ176.D
Acq On : 9 Dec 2011 3:22 pm
Sample : VO05L096
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 7
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



SU 12/13/11

2085

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ177.D
Acq On : 9 Dec 2011 3:52 pm
Sample : VO05L097
Misc : 20ppb 8260/100ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 8
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.74	114	1202053	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	12.41	117	983743	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.25	152	348743	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.50	111	934522	20.25	ug/l	0.00
Spiked Amount 10.000			Recovery	=	202.50%	
40) 1,2-Dichloroethane-d4	7.19	65	723691	20.14	ug/l	0.01
Spiked Amount 10.000			Recovery	=	201.40%	
55) Toluene-d8	9.99	98	2549826	19.94	ug/l	0.00
Spiked Amount 10.000			Recovery	=	199.40%	
77) 4-Bromofluorobenzene	14.50	95	909970	19.51	ug/l	0.00
Spiked Amount 10.000			Recovery	=	195.10%	
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.82	85	871694	20.65	ug/l	99
4) Chloromethane	2.07	50	825354	20.76	ug/l	100
6) Vinyl chloride	2.19	62	803987	20.38	ug/l	99
7) Bromomethane	2.68	94	741486	19.79	ug/l	98
8) Chloroethane	2.77	64	580768	20.62	ug/l	99
9) Dichlorofluoromethane	2.81	67	2168295	20.88	ug/l	100
10) Trichlorofluoromethane	3.07	101	1449464	21.16	ug/l	99
12) Acrolein	3.54	56	220735	95.82	ug/l	95
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	613089	21.24	ug/l	98
14) Acetone	3.60	43	413549	94.24	ug/l	98
15) 1,1-Dichloroethene	3.78	61	1517368	21.06	ug/l	100
16) tert-Butyl alcohol	3.87	59	144708	102.43	ug/l	95
17) Iodomethane	4.14	142	1592185	22.85	ug/l	99
18) Methyl acetate	4.17	43	324611	20.74	ug/l	99
19) Methylene chloride	4.35	49	1014302	20.49	ug/l	99
20) Carbon disulfide	4.36	76	3208465	20.89	ug/l	100
21) Acrylonitrile	4.48	53	509801	99.29	ug/l	99
22) tert-Butyl methyl ether (M	4.55	73	1493361	21.50	ug/l	100
23) trans-1,2-Dichloroethene	4.72	61	1488812	21.27	ug/l	99
24) Isopropyl ether (DIPE)	5.13	45	2433301	21.15	ug/l	100
25) Vinyl acetate	5.24	43	658473	21.58	ug/l	99
26) 1,1-Dichloroethane	5.24	63	1685696	21.35	ug/l	100
28) tert-Butyl ethyl ether (ET	5.64	59	2121745	21.32	ug/l	100
29) 2-Butanone	5.77	43	612674	100.26	ug/l	99
30) 2,2-Dichloropropane	5.97	77	1457489	20.69	ug/l	100
31) cis-1,2-Dichloroethene	6.03	96	990023	20.80	ug/l	99
32) Chloroform	6.22	83	1680330	21.00	ug/l	100

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

12/13/11

2086

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ177.D
Acq On : 9 Dec 2011 3:52 pm
Sample : VO05L097
Misc : 20ppb 8260/100ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 8
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.43	49	584953	22.14 ug/l	99
34)	tert-Amyl alcohol	6.44	59	117077	101.54 ug/l	89
36)	Tetrahydrofuran	6.49	42	87578	21.37 ug/l	92
37)	1,1,1-Trichloroethane	6.77	97	1600185	21.17 ug/l	100
38)	Cyclohexane	6.82	56	1612485	21.65 ug/l	98
39)	tert-Amyl methyl ether (TA	7.16	87	358394	21.64 ug/l	96
42)	1,1-Dichloropropene	7.00	110	429512	20.90 ug/l	98
43)	Carbon tetrachloride	7.13	119	1399755	20.77 ug/l	100
44)	1,2-Dichloroethane	7.31	62	912039	20.87 ug/l	99
45)	Benzene	7.34	78	3179278	20.96 ug/l	100
46)	Trichloroethene	8.22	130	961416	21.29 ug/l	99
47)	Methylcyclohexane	8.32	83	1526702	21.78 ug/l	99
48)	1,2-Dichloropropane	8.45	63	733463	21.08 ug/l	100
49)	Bromodichloromethane	8.78	83	1186702	21.15 ug/l	99
50)	1,4-Dioxane	8.81	88	58997	424.90 ug/l	92
51)	Dibromomethane	8.86	93	406648	21.07 ug/l	98
52)	2-Chloroethyl vinyl ether	9.26	63	199279	23.20 ug/l	99
53)	4-Methyl-2-pentanone	9.30	43	1562478	100.74 ug/l	99
54)	cis-1,3-Dichloropropene	9.61	75	1208612	21.14 ug/l	99
56)	Toluene	10.12	91	3199853	20.53 ug/l	100
57)	Ethyl methacrylate	10.40	69	582604	20.13 ug/l	98
58)	trans-1,3-Dichloropropene	10.39	75	962953	21.35 ug/l	99
59)	1,1,2-Trichloroethane	10.63	97	458893	21.16 ug/l	98
60)	2-Hexanone	10.67	43	961288	100.95 ug/l	100
61)	1,3-Dichloropropane	11.03	76	818501	21.25 ug/l	100
62)	Tetrachloroethene	11.15	164	729009	21.22 ug/l	99
63)	Dibromochloromethane	11.45	129	758628	21.20 ug/l	99
65)	1,2-Dibromoethane	11.77	107	543789	21.24 ug/l	99
66)	1-Chlorohexane	12.10	91	1268074	20.93 ug/l	100
67)	Chlorobenzene	12.47	112	2069856	21.06 ug/l	100
68)	1,1,1,2-Tetrachloroethane	12.56	131	790917	21.01 ug/l	100
69)	Ethylbenzene	12.59	91	3804869	21.02 ug/l	100
70)	m-Xylene & p-Xylene	12.73	91	5923088	42.33 ug/l	100
71)	o-Xylene	13.46	91	2937828	21.15 ug/l	99
72)	Styrene	13.51	104	2295344	21.34 ug/l	99
74)	Bromoform	14.04	173	374453	20.87 ug/l	100
75)	Isopropylbenzene	14.08	105	3550771	21.00 ug/l	100
76)	1,1,2,2-Tetrachloroethane	14.36	83	471885	20.54 ug/l	98
78)	1,2,3-Trichloropropane	14.62	110	136771	20.89 ug/l	99
79)	trans-1,4-Dichloro-2-buten	14.75	53	149856	20.84 ug/l	98
80)	n-Propylbenzene	14.79	91	4440547	21.32 ug/l	100

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

12/13/11

2087

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ177.D
Acq On : 9 Dec 2011 3:52 pm
Sample : VO05L097
Misc : 20ppb 8260/100ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 8
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
81)	Bromobenzene	14.81	156	819583	20.86 ug/l	100
82)	1,3,5-Trimethylbenzene	15.08	105	3106910	21.23 ug/l	100
83)	2-Chlorotoluene	15.06	91	2866145	20.72 ug/l	97
84)	4-Chlorotoluene	15.15	91	2540948	21.48 ug/l	98
85)	tert-Butylbenzene	15.70	134	605868	21.03 ug/l	99
86)	1,2,4-Trimethylbenzene	15.76	105	3010858	21.37 ug/l	100
87)	sec-Butylbenzene	16.09	105	3791599	21.17 ug/l	100
88)	p-Isopropyltoluene	16.34	119	3259357	21.20 ug/l	100
89)	1,3-Dichlorobenzene	16.45	146	1470324	20.92 ug/l	100
90)	1,4-Dichlorobenzene	16.64	146	1439754	21.35 ug/l	99
91)	n-Butylbenzene	17.07	91	3056670	22.05 ug/l	99
92)	1,2-Dichlorobenzene	17.30	146	1200115	21.10 ug/l	99
93)	1,2-Dibromo-3-chloropropan	18.56	157	84116	22.01 ug/l	97
94)	1,2,4-Trichlorobenzene	19.62	180	757587	22.98 ug/l	98
95)	Hexachlorobutadiene	19.78	225	506741	21.50 ug/l	100
96)	Naphthalene	19.86	128	984921	20.32 ug/l	99
97)	1,2,3-Trichlorobenzene	20.11	180	574848	21.72 ug/l	99

SK 12/13/11

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

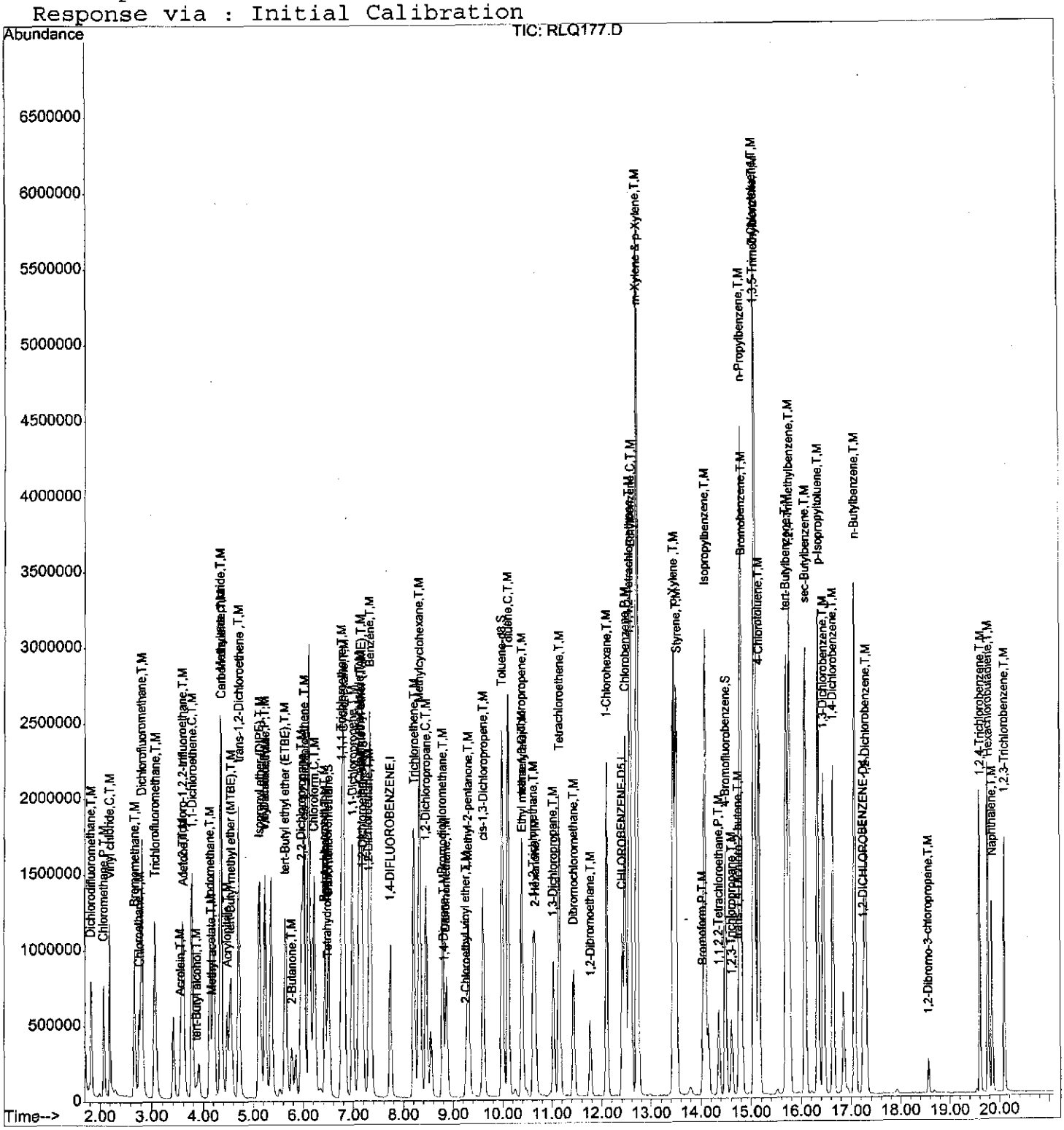
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ177.D
Acq On : 9 Dec 2011 3:52 pm
Sample : VO05L097
Misc : 20ppb 8260/100ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 8
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



2089

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ178.D
Acq On : 9 Dec 2011 4:24 pm
Sample : VO05L098
Misc : 30ppb 8260/150ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 9
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.74	114	1223827	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	12.42	117	1007577	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.25	152	369446	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.51	111	1427601	30.38	ug/l	0.00
Spiked Amount 10.000			Recovery	=	303.80%	
40) 1,2-Dichloroethane-d4	7.18	65	1102100	30.13	ug/l	0.00
Spiked Amount 10.000			Recovery	=	301.30%	
55) Toluene-d8	9.99	98	3918900	29.92	ug/l	0.00
Spiked Amount 10.000			Recovery	=	299.20%	
77) 4-Bromofluorobenzene	14.50	95	1445459	29.25	ug/l	0.00
Spiked Amount 10.000			Recovery	=	292.50%	
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.82	85	1370530	31.89	ug/l	98
4) Chloromethane	2.07	50	1260719	31.15	ug/l	99
6) Vinyl chloride	2.19	62	1210767	30.15	ug/l	100
7) Bromomethane	2.67	94	1149617	30.13	ug/l	98
8) Chloroethane	2.76	64	903490	31.51	ug/l	98
9) Dichlorofluoromethane	2.82	67	2998970	28.37	ug/l	100
10) Trichlorofluoromethane	3.07	101	2241960	32.14	ug/l	99
12) Acrolein	3.53	56	332342	141.70	ug/l	96
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	848097	28.86	ug/l	99
14) Acetone	3.61	43	633299	141.75	ug/l	99
15) 1,1-Dichloroethene	3.77	61	2049225	27.93	ug/l	99
16) tert-Butyl alcohol	3.87	59	209393	145.58	ug/l	95
17) Iodomethane	4.13	142	2152319	30.33	ug/l	98
18) Methyl acetate	4.16	43	484744	30.41	ug/l	100
19) Methylene chloride	4.34	49	1391699	27.62	ug/l	99
20) Carbon disulfide	4.35	76	4866591	31.12	ug/l	100
21) Acrylonitrile	4.47	53	770014	147.31	ug/l	99
22) tert-Butyl methyl ether (M	4.54	73	2051312	29.01	ug/l	99
23) trans-1,2-Dichloroethene	4.71	61	2028683	28.46	ug/l	99
24) Isopropyl ether (DIPE)	5.12	45	3304299	28.21	ug/l	100
25) Vinyl acetate	5.24	43	998063	32.12	ug/l	100
26) 1,1-Dichloroethane	5.24	63	2285676	28.44	ug/l	100
28) tert-Butyl ethyl ether (ET	5.64	59	2935629	28.97	ug/l	100
29) 2-Butanone	5.76	43	950256	152.74	ug/l	99
30) 2,2-Dichloropropane	5.97	77	1975205	27.54	ug/l	100
31) cis-1,2-Dichloroethene	6.02	96	1353126	27.93	ug/l	100
32) Chloroform	6.23	83	2304929	28.29	ug/l	99

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ178.D
Acq On : 9 Dec 2011 4:24 pm
Sample : VO05L098
Misc : 30ppb 8260/150ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 9
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.43	49	783424	29.12 ug/l	100
34)	tert-Amyl alcohol	6.45	59	170139	144.93 ug/l	96
36)	Tetrahydrofuran	6.48	42	117361	28.13 ug/l	92
37)	1,1,1-Trichloroethane	6.78	97	2150612	27.95 ug/l	100
38)	Cyclohexane	6.81	56	2341679	30.88 ug/l	99
39)	tert-Amyl methyl ether (TA	7.16	87	499539	29.62 ug/l	95
42)	1,1-Dichloropropene	6.98	110	587797	27.93 ug/l	99
43)	Carbon tetrachloride	7.12	119	1902305	27.56 ug/l	100
44)	1,2-Dichloroethane	7.31	62	1252276	27.97 ug/l	99
45)	Benzene	7.34	78	4293350	27.64 ug/l	100
46)	Trichloroethene	8.20	130	1307769	28.28 ug/l	99
47)	Methylcyclohexane	8.32	83	2269067	31.60 ug/l	100
48)	1,2-Dichloropropane	8.46	63	1007727	28.27 ug/l	100
49)	Bromodichloromethane	8.79	83	1621432	28.21 ug/l	99
50)	1,4-Dioxane	8.82	88	79505	559.05 ug/l	93
51)	Dibromomethane	8.86	93	571392	28.90 ug/l	100
52)	2-Chloroethyl vinyl ether	9.26	63	284184	32.30 ug/l	99
53)	4-Methyl-2-pentanone	9.31	43	2379147	149.76 ug/l	99
54)	cis-1,3-Dichloropropene	9.62	75	1678482	28.66 ug/l	98
56)	Toluene	10.11	91	4365780	27.35 ug/l	100
57)	Ethyl methacrylate	10.41	69	826334	27.88 ug/l	100
58)	trans-1,3-Dichloropropene	10.39	75	1331084	28.81 ug/l	100
59)	1,1,2-Trichloroethane	10.63	97	640733	28.85 ug/l	99
60)	2-Hexanone	10.66	43	1471307	150.86 ug/l	99
61)	1,3-Dichloropropane	11.03	76	1135336	28.77 ug/l	100
62)	Tetrachloroethene	11.15	164	982700	27.92 ug/l	100
63)	Dibromochloromethane	11.43	129	1065052	29.07 ug/l	100
65)	1,2-Dibromoethane	11.76	107	763857	29.13 ug/l	100
66)	1-Chlorohexane	12.10	91	1755501	28.29 ug/l	100
67)	Chlorobenzene	12.48	112	2854916	28.36 ug/l	99
68)	1,1,1,2-Tetrachloroethane	12.55	131	1100826	28.55 ug/l	99
69)	Ethylbenzene	12.60	91	5273107	28.44 ug/l	100
70)	m-Xylene & p-Xylene	12.71	91	8150462	56.88 ug/l	99
71)	o-Xylene	13.46	91	4068608	28.60 ug/l	99
72)	Styrene	13.50	104	3219484	29.22 ug/l	100
74)	Bromoform	14.04	173	533562	28.07 ug/l	100
75)	Isopropylbenzene	14.08	105	4909502	27.40 ug/l	100
76)	1,1,2,2-Tetrachloroethane	14.37	83	665969	27.37 ug/l	98
78)	1,2,3-Trichloropropane	14.62	110	191370	27.59 ug/l	97
79)	trans-1,4-Dichloro-2-buten	14.75	53	216159	28.38 ug/l	97
80)	n-Propylbenzene	14.78	91	6238834	28.27 ug/l	100

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

SA 12/13/11

2091

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ178.D
Acq On : 9 Dec 2011 4:24 pm
Sample : VO05L098
Misc : 30ppb 8260/150ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 9
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
81)	Bromobenzene	14.81	156	1163912	27.97 ug/l	99
82)	1,3,5-Trimethylbenzene	15.08	105	4255989	27.45 ug/l	100
83)	2-Chlorotoluene	15.07	91	3959566	27.02 ug/l	100
84)	4-Chlorotoluene	15.16	91	3538887	28.23 ug/l	100
85)	tert-Butylbenzene	15.71	134	859649	28.16 ug/l	97
86)	1,2,4-Trimethylbenzene	15.77	105	4155461	27.84 ug/l	99
87)	sec-Butylbenzene	16.08	105	5299228	27.93 ug/l	100
88)	p-Isopropyltoluene	16.35	119	4535254	27.85 ug/l	99
89)	1,3-Dichlorobenzene	16.45	146	2082404	27.97 ug/l	99
90)	1,4-Dichlorobenzene	16.64	146	2020104	28.28 ug/l	99
91)	n-Butylbenzene	17.08	91	4173774	28.42 ug/l	100
92)	1,2-Dichlorobenzene	17.30	146	1692385	28.08 ug/l	100
93)	1,2-Dibromo-3-chloropropan	18.56	157	120398	29.74 ug/l	97
94)	1,2,4-Trichlorobenzene	19.61	180	1089773	31.20 ug/l	99
95)	Hexachlorobutadiene	19.77	225	707020	28.31 ug/l	99
96)	Naphthalene	19.86	128	1469776	28.32 ug/l	100
97)	1,2,3-Trichlorobenzene	20.11	180	818405	29.19 ug/l	99

SV 12/13/11

(#) = qualifier out of range (m) = manual integration
RLQ178.D VO05L09.M Tue Dec 13 09:41:47 2011

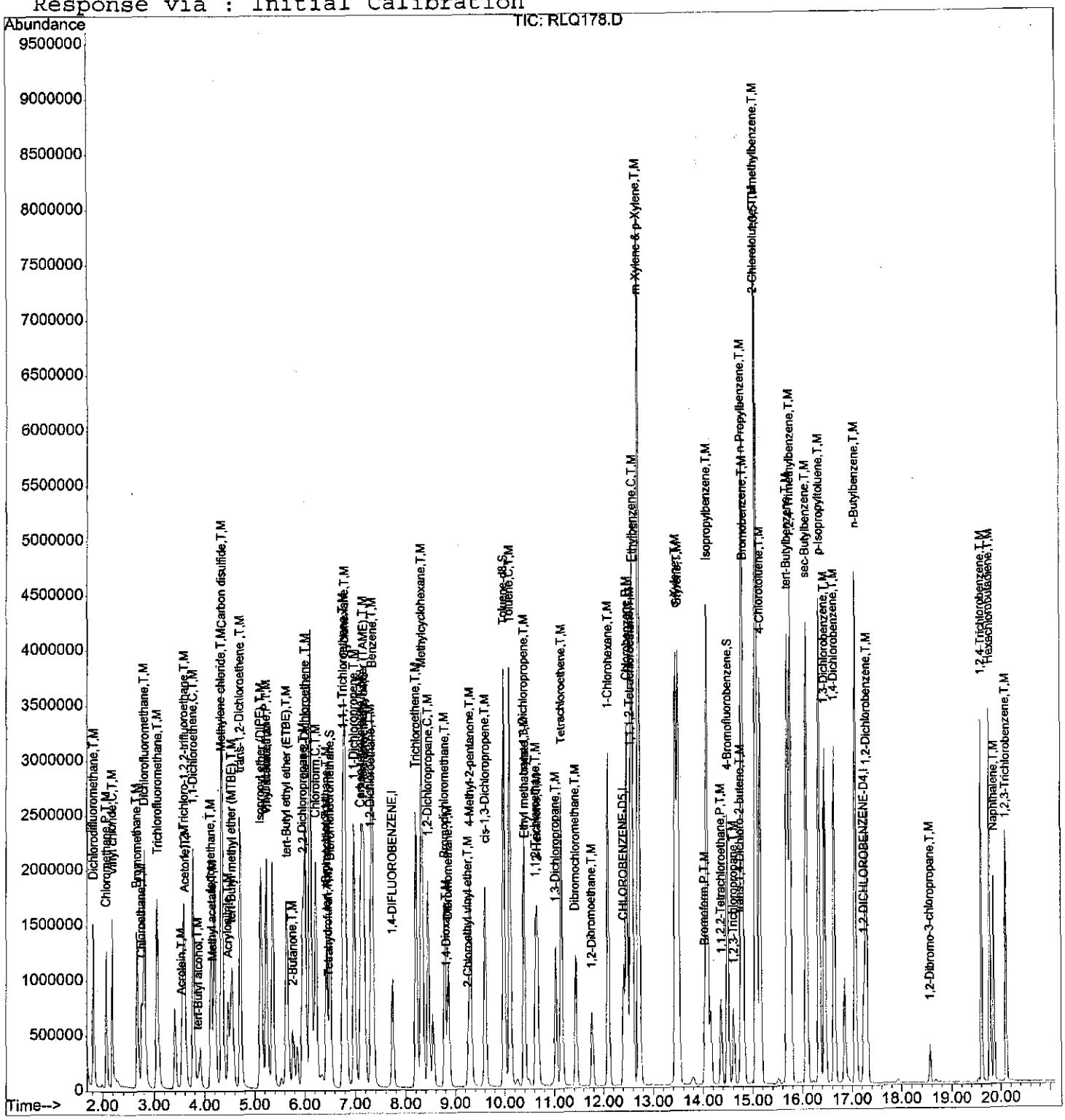
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ178.D
Acq On : 9 Dec 2011 4:24 pm
Sample : VO05L098
Misc : 30ppb 8260/150ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:36 2011

Vial: 9
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



2093

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ179.D
Acq On : 9 Dec 2011 4:53 pm
Sample : VO05L099
Misc : 40ppb 8260/200ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 9
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.74	114	1180995	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	12.41	117	966078	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.25	152	349576	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.50	111	1885697	41.58	ug/l	0.00
Spiked Amount 10.000			Recovery	=	415.80%	
40) 1,2-Dichloroethane-d4	7.17	65	1467006	41.56	ug/l	0.00
Spiked Amount 10.000			Recovery	=	415.60%	
55) Toluene-d8	9.99	98	5144775	40.97	ug/l	0.00
Spiked Amount 10.000			Recovery	=	409.70%	
77) 4-Bromofluorobenzene	14.50	95	1897601	40.58	ug/l	0.00
Spiked Amount 10.000			Recovery	=	405.80%	

Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.82	85	1813302	43.72	ug/l	99
4) Chloromethane	2.07	50	1645876	42.14	ug/l	99
6) Vinyl chloride	2.19	62	1627292	41.99	ug/l	100
7) Bromomethane	2.66	94	1566631	42.55	ug/l	99
8) Chloroethane	2.77	64	1160735	41.96	ug/l	93
9) Dichlorofluoromethane	2.81	67	4149117	40.67	ug/l	99
10) Trichlorofluoromethane	3.07	101	2947967	43.79	ug/l	99
12) Acrolein	3.53	56	458728	202.68	ug/l	94
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	1188555	41.91	ug/l	99
14) Acetone	3.60	43	875962	203.17	ug/l	99
15) 1,1-Dichloroethene	3.77	61	2821627	39.85	ug/l	100
16) tert-Butyl alcohol	3.89	59	296293	213.47	ug/l	95
17) Iodomethane	4.12	142	2975862	43.46	ug/l	99
18) Methyl acetate	4.15	43	665123	43.24	ug/l	99
19) Methylene chloride	4.33	49	1897723	39.03	ug/l	100
20) Carbon disulfide	4.36	76	6731797	44.61	ug/l	100
21) Acrylonitrile	4.48	53	1076044	213.32	ug/l	99
22) tert-Butyl methyl ether (M	4.55	73	2853361	41.82	ug/l	99
23) trans-1,2-Dichloroethene	4.72	61	2739643	39.83	ug/l	99
24) Isopropyl ether (DIPE)	5.12	45	4589553	40.60	ug/l	99
25) Vinyl acetate	5.24	43	1357611	45.28	ug/l	100
26) 1,1-Dichloroethane	5.24	63	3126767	40.31	ug/l	100
28) tert-Butyl ethyl ether (ET	5.64	59	4148135	42.43	ug/l	99
29) 2-Butanone	5.78	43	1326513	220.95	ug/l	100
30) 2,2-Dichloropropane	5.97	77	2687662	38.83	ug/l	100
31) cis-1,2-Dichloroethene	6.01	96	1852408	39.62	ug/l	99
32) Chloroform	6.22	83	3150972	40.08	ug/l	100

(#) = qualifier out of range (m) = manual integration
RLQ179.D VO05L09.M Tue Dec 13 09:41:55 2011

SU 12/13/11

2094

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ179.D
Acq On : 9 Dec 2011 4:53 pm
Sample : VO05L099
Misc : 40ppb 8260/200ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 9
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.43	49	1055022	40.64 ug/l	99
34)	tert-Amyl alcohol	6.46	59	255843	225.84 ug/l	98
36)	Tetrahydrofuran	6.49	42	157062	39.03 ug/l	98
37)	1,1,1-Trichloroethane	6.77	97	2921403	39.34 ug/l	100
38)	Cyclohexane	6.80	56	3132874	42.82 ug/l	99
39)	tert-Amyl methyl ether (TA	7.16	87	684374	42.05 ug/l	98
42)	1,1-Dichloropropene	7.00	110	814214	40.35 ug/l	99
43)	Carbon tetrachloride	7.13	119	2590392	39.13 ug/l	100
44)	1,2-Dichloroethane	7.31	62	1733550	40.39 ug/l	99
45)	Benzene	7.34	78	5872136	39.43 ug/l	99
46)	Trichloroethene	8.22	130	1803526	40.67 ug/l	100
47)	Methylcyclohexane	8.32	83	3011040	43.73 ug/l	99
48)	1,2-Dichloropropane	8.45	63	1390641	40.69 ug/l	99
49)	Bromodichloromethane	8.78	83	2221059	40.30 ug/l	100
50)	1,4-Dioxane	8.81	88	111304	816.27 ug/l	92
51)	Dibromomethane	8.86	93	770280	40.64 ug/l	97
53)	4-Methyl-2-pentanone	9.32	43	3338860	219.20 ug/l	99
54)	cis-1,3-Dichloropropene	9.62	75	2286949	40.72 ug/l	98
56)	Toluene	10.12	91	6030803	39.41 ug/l	100
57)	Ethyl methacrylate	10.40	69	1133103	39.87 ug/l	99
58)	trans-1,3-Dichloropropene	10.39	75	1826479	41.24 ug/l	99
59)	1,1,2-Trichloroethane	10.63	97	869140	40.82 ug/l	99
60)	2-Hexanone	10.67	43	2084729	222.94 ug/l	99
61)	1,3-Dichloropropane	11.03	76	1551399	41.01 ug/l	100
62)	Tetrachloroethene	11.15	164	1354315	40.13 ug/l	100
63)	Dibromochloromethane	11.45	129	1455632	41.43 ug/l	100
65)	1,2-Dibromoethane	11.77	107	1065523	42.37 ug/l	100
66)	1-Chlorohexane	12.10	91	2426078	40.77 ug/l	100
67)	Chlorobenzene	12.47	112	3843969	39.82 ug/l	99
68)	1,1,1,2-Tetrachloroethane	12.56	131	1481059	40.07 ug/l	99
69)	Ethylbenzene	12.59	91	7136283	40.15 ug/l	100
70)	m-Xylene & p-Xylene	12.73	91	10967297	79.82 ug/l	100
71)	o-Xylene	13.46	91	5506011	40.36 ug/l	99
72)	Styrene	13.52	104	4344758	41.13 ug/l	99
74)	Bromoform	14.04	173	730539	40.61 ug/l	99
75)	Isopropylbenzene	14.08	105	6664162	39.31 ug/l	100
76)	1,1,2,2-Tetrachloroethane	14.36	83	935663	40.63 ug/l	99
78)	1,2,3-Trichloropropane	14.62	110	271029	41.29 ug/l	98
79)	trans-1,4-Dichloro-2-buten	14.75	53	296399	41.13 ug/l	99
80)	n-Propylbenzene	14.80	91	8448072	40.46 ug/l	100
81)	Bromobenzene	14.81	156	1596417	40.54 ug/l	99

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ179.D
Acq On : 9 Dec 2011 4:53 pm
Sample : VO05L099
Misc : 40ppb 8260/200ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 9
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
82)	1,3,5-Trimethylbenzene	15.08	105	5739510	39.13 ug/l	100
83)	2-Chlorotoluene	15.08	91	5475456	39.49 ug/l	100
84)	4-Chlorotoluene	15.15	91	4628834	39.03 ug/l	100
85)	tert-Butylbenzene	15.70	134	1164958	40.33 ug/l	98
86)	1,2,4-Trimethylbenzene	15.76	105	5574339	39.48 ug/l	99
87)	sec-Butylbenzene	16.09	105	7114204	39.63 ug/l	100
88)	p-Isopropyltoluene	16.34	119	6267249	40.68 ug/l	99
89)	1,3-Dichlorobenzene	16.46	146	2875462	40.82 ug/l	100
90)	1,4-Dichlorobenzene	16.64	146	2783833	41.19 ug/l	99
91)	n-Butylbenzene	17.07	91	5684968	40.91 ug/l	99
92)	1,2-Dichlorobenzene	17.30	146	2334710	40.94 ug/l	99
93)	1,2-Dibromo-3-chloropropan	18.56	157	166880	43.56 ug/l	98
94)	1,2,4-Trichlorobenzene	19.62	180	1500330	45.39 ug/l	99
95)	Hexachlorobutadiene	19.78	225	963806	40.79 ug/l	100
96)	Naphthalene	19.86	128	2085889	42.11 ug/l	100
97)	1,2,3-Trichlorobenzene	20.11	180	1097093	41.36 ug/l	98

SW 12/13/11

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

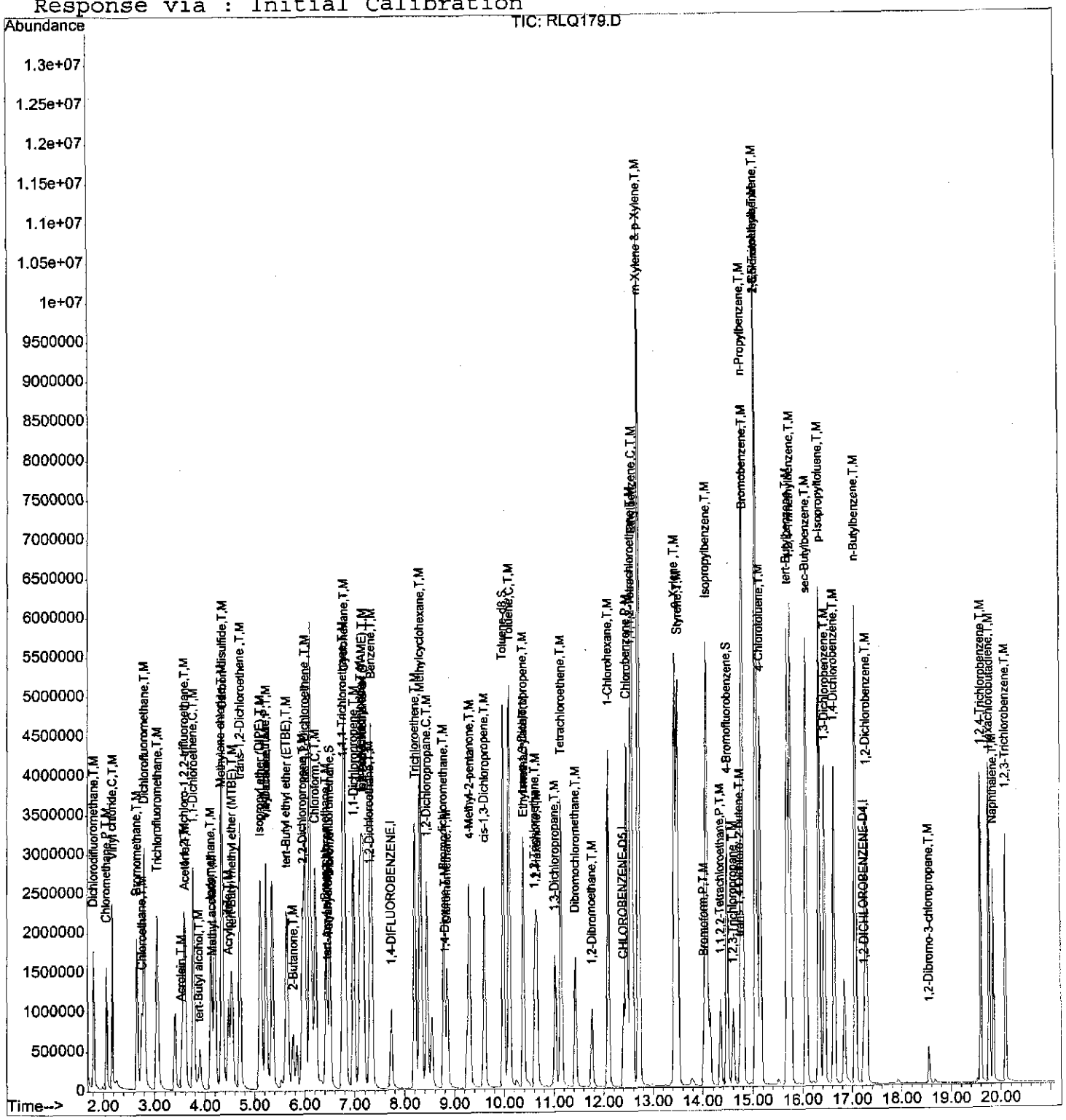
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ179.D
Acq On : 9 Dec 2011 4:53 pm
Sample : VO05L099
Misc : 40ppb 8260/200ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 9
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



12/13/11

2097

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ180.D
Acq On : 9 Dec 2011 5:25 pm
Sample : VO05L0910
Misc : 50ppb 8260/250ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 10
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.74	114	1156174	10.00	ug/l	0.00
41) CHLOROBENZENE-D5	12.41	117	936174	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.25	152	340762	10.00	ug/l	0.00
System Monitoring Compounds						
35) Dibromofluoromethane	6.52	111	2295684	51.71	ug/l	0.01
Spiked Amount 10.000			Recovery	=	517.10%	
40) 1,2-Dichloroethane-d4	7.19	65	1761013	50.96	ug/l	0.01
Spiked Amount 10.000			Recovery	=	509.60%	
55) Toluene-d8	10.00	98	6342518	52.12	ug/l	0.01
Spiked Amount 10.000			Recovery	=	521.20%	
77) 4-Bromofluorobenzene	14.50	95	2307949	50.63	ug/l	0.00
Spiked Amount 10.000			Recovery	=	506.30%	

Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.82	85	2322450	57.20	ug/l	99
4) Chloromethane	2.07	50	2082330	54.46	ug/l	99
6) Vinyl chloride	2.19	62	2107703	55.55	ug/l	100
7) Bromomethane	2.66	94	1927690	53.48	ug/l	99
8) Chloroethane	2.75	64	1395329	51.52	ug/l	89
9) Dichlorofluoromethane	2.81	67	5110834	51.18	ug/l	100
10) Trichlorofluoromethane	3.07	101	3794789	57.59	ug/l	99
12) Acrolein	3.54	56	527304	237.99	ug/l	95
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	1476411	53.17	ug/l	100
14) Acetone	3.62	43	1005254	238.17	ug/l	99
15) 1,1-Dichloroethene	3.77	61	3542289	51.11	ug/l	99
16) tert-Butyl alcohol	3.88	59	328425	241.70	ug/l	85
17) Iodomethane	4.12	142	3671135	54.77	ug/l	98
18) Methyl acetate	4.17	43	784450	52.10	ug/l	99
19) Methylene chloride	4.35	49	2318489	48.70	ug/l	100
20) Carbon disulfide	4.36	76	8329853	56.38	ug/l	100
21) Acrylonitrile	4.48	53	1253911	253.91	ug/l	99
22) tert-Butyl methyl ether (M	4.55	73	3430153	51.35	ug/l	99
23) trans-1,2-Dichloroethene	4.72	61	3475901	51.62	ug/l	100
24) Isopropyl ether (DIPE)	5.13	45	5563821	50.27	ug/l	98
25) Vinyl acetate	5.24	43	1634646	55.68	ug/l	99
26) 1,1-Dichloroethane	5.24	63	3888755	51.21	ug/l	100
28) tert-Butyl ethyl ether (ET	5.66	59	4954040	51.76	ug/l	99
29) 2-Butanone	5.77	43	1543156	262.56	ug/l	99
30) 2,2-Dichloropropane	5.97	77	3350869	49.45	ug/l	99
31) cis-1,2-Dichloroethene	6.03	96	2310478	50.48	ug/l	100
32) Chloroform	6.24	83	3903572	50.72	ug/l	100

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

12/13/11

2098

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ180.D
Acq On : 9 Dec 2011 5:25 pm
Sample : VO05L0910
Misc : 50ppb 8260/250ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 10
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.43	49	1291876	50.83 ug/l	99
34) tert-Amyl alcohol	6.46	59	273390	246.51 ug/l	99
36) Tetrahydrofuran	6.49	42	183618	46.61 ug/l	97
37) 1,1,1-Trichloroethane	6.77	97	3689054	50.74 ug/l	100
38) Cyclohexane	6.82	56	3791462	52.93 ug/l	99
39) tert-Amyl methyl ether (TA	7.16	87	826135	51.86 ug/l	95
42) 1,1-Dichloropropene	7.00	110	1014629	51.89 ug/l	99
43) Carbon tetrachloride	7.13	119	3252200	50.70 ug/l	100
44) 1,2-Dichloroethane	7.31	62	2149209	51.67 ug/l	99
45) Benzene	7.34	78	7445912	51.59 ug/l	100
46) Trichloroethene	8.22	130	2251306	52.39 ug/l	99
47) Methylcyclohexane	8.32	83	3655224	54.78 ug/l	99
48) 1,2-Dichloropropane	8.45	63	1711388	51.68 ug/l	99
49) Bromodichloromethane	8.78	83	2741160	51.33 ug/l	99
50) 1,4-Dioxane	8.83	88	132126	999.93 ug/l	91
51) Dibromomethane	8.86	93	947139	51.56 ug/l	98
53) 4-Methyl-2-pentanone	9.32	43	3905987	264.62 ug/l	98
54) cis-1,3-Dichloropropene	9.61	75	2784219	51.16 ug/l	98
56) Toluene	10.12	91	7504693	50.61 ug/l	100
57) Ethyl methacrylate	10.40	69	1363222	49.50 ug/l	99
58) trans-1,3-Dichloropropene	10.39	75	2233696	52.04 ug/l	99
59) 1,1,2-Trichloroethane	10.63	97	1060538	51.40 ug/l	99
60) 2-Hexanone	10.67	43	2358317	260.25 ug/l	98
61) 1,3-Dichloropropane	11.04	76	1941911	52.97 ug/l	100
62) Tetrachloroethene	11.16	164	1700940	52.02 ug/l	100
63) Dibromochloromethane	11.45	129	1794491	52.71 ug/l	99
65) 1,2-Dibromoethane	11.77	107	1292785	53.05 ug/l	99
66) 1-Chlorohexane	12.10	91	3046625	52.84 ug/l	99
67) Chlorobenzene	12.49	112	4899797	52.38 ug/l	98
68) 1,1,1,2-Tetrachloroethane	12.56	131	1866466	52.10 ug/l	99
69) Ethylbenzene	12.59	91	9016888	52.35 ug/l	100
70) m-Xylene & p-Xylene	12.73	91	13650586	102.52 ug/l	100
71) o-Xylene	13.45	91	6796576	51.41 ug/l	100
72) Styrene	13.51	104	5358736	52.35 ug/l	99
74) Bromoform	14.05	173	881125	50.25 ug/l	99
75) Isopropylbenzene	14.09	105	8289602	50.16 ug/l	100
76) 1,1,2,2-Tetrachloroethane	14.36	83	1125886	50.16 ug/l	99
78) 1,2,3-Trichloropropane	14.62	110	320187	50.05 ug/l	99
79) trans-1,4-Dichloro-2-buten	14.75	53	357615	50.91 ug/l	99
80) n-Propylbenzene	14.79	91	10270655	50.46 ug/l	100
81) Bromobenzene	14.81	156	1928147	50.23 ug/l	98

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

RLQ180.D VO05L09.M Tue Dec 13 09:42:06 2011

12/13/11

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ180.D
Acq On : 9 Dec 2011 5:25 pm
Sample : VO05L0910
Misc : 50ppb 8260/250ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 10
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
82) 1,3,5-Trimethylbenzene	15.08	105	7238322	50.62 ug/l	100
83) 2-Chlorotoluene	15.08	91	6837884	50.59 ug/l	100
84) 4-Chlorotoluene	15.17	91	5777768	49.97 ug/l	100
85) tert-Butylbenzene	15.70	134	1451823	51.56 ug/l	97
86) 1,2,4-Trimethylbenzene	15.76	105	7028272	51.06 ug/l	99
87) sec-Butylbenzene	16.09	105	8934016	51.05 ug/l	100
88) p-Isopropyltoluene	16.34	119	7626863	50.78 ug/l	99
89) 1,3-Dichlorobenzene	16.46	146	3558711	51.83 ug/l	100
90) 1,4-Dichlorobenzene	16.65	146	3461144	52.53 ug/l	99
91) n-Butylbenzene	17.09	91	7198600	53.14 ug/l	100
92) 1,2-Dichlorobenzene	17.29	146	2864614	51.53 ug/l	99
93) 1,2-Dibromo-3-chloropropan	18.57	157	202683	54.28 ug/l	98
95) Hexachlorobutadiene	19.78	225	1229139	53.36 ug/l	99
97) 1,2,3-Trichlorobenzene	20.11	180	1491684	57.69 ug/l	100

SY 1/13/11

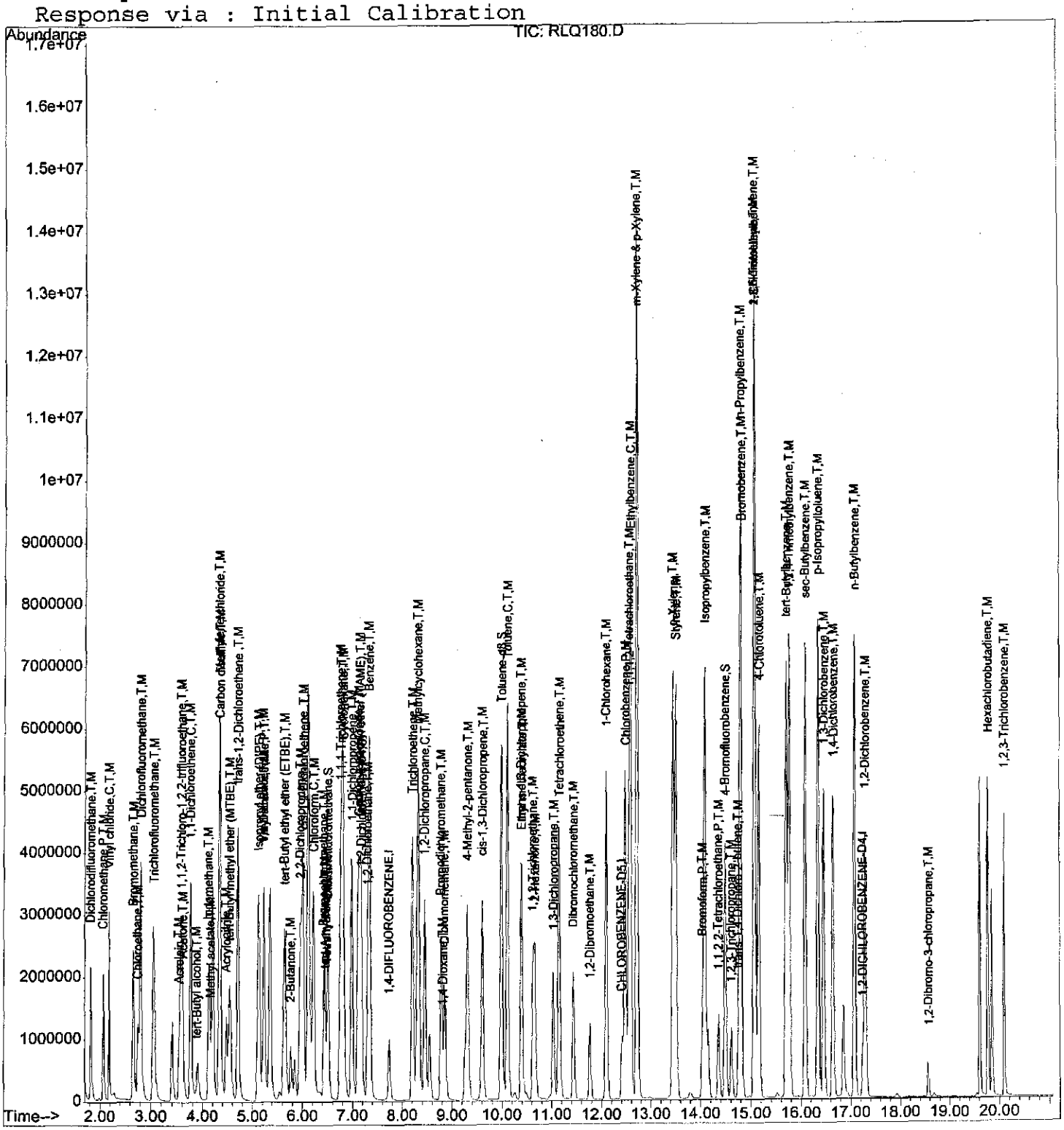
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ180.D
Acq On : 9 Dec 2011 5:25 pm
Sample : VO05L0910
Misc : 50ppb 8260/250ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:39 2011

Vial: 10
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



SU 12/13/11

2101

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ181.D Vial: 11
Acq On : 9 Dec 2011 5:55 pm Operator: SD
Sample : VO05L0911 Inst : TO05
Misc : 100ppb 8260/500ppb KET-TBA-TAA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Dec 13 9:40 2011 Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.74	114	1156994	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	12.42	117	915790	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.24	152	337565	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	6.51	111	4585695	103.22 ug/l	0.00
Spiked Amount 10.000			Recovery	= 1032.20%	
40) 1,2-Dichloroethane-d4	7.18	65	3546391	102.55 ug/l	0.00
Spiked Amount 10.000			Recovery	= 1025.50%	
55) Toluene-d8	9.99	98	12688241	106.59 ug/l	0.00
Spiked Amount 10.000			Recovery	= 1065.90%	
77) 4-Bromofluorobenzene	14.49	95	4311662	95.49 ug/l	0.00
Spiked Amount 10.000			Recovery	= 954.90%	
Target Compounds					Qvalue
3) Dichlorodifluoromethane	1.82	85	4893666	120.43 ug/l	99
4) Chloromethane	2.07	50	4344570	113.54 ug/l	99
6) Vinyl chloride	2.18	62	4297663	113.19 ug/l	99
7) Bromomethane	2.65	94	4013703	111.28 ug/l	99
8) Chloroethane	2.74	64	2891322	106.68 ug/l	89
9) Dichlorofluoromethane	2.80	67	10571270	105.78 ug/l	99
10) Trichlorofluoromethane	3.06	101	8104192	122.89 ug/l	99
12) Acrolein	3.53	56	1161274	523.74 ug/l	94
13) 1,1,2-Trichloro-1,2,2-trif	3.58	151	3292224	118.48 ug/l	99
14) Acetone	3.62	43	2253421	533.51 ug/l	98
15) 1,1-Dichloroethene	3.76	61	7590169	109.43 ug/l	99
16) tert-Butyl alcohol	3.93	59	742647	546.16 ug/l	95
17) Iodomethane	4.13	142	7281200	108.54 ug/l	98
18) Methyl acetate	4.16	43	1620824	107.57 ug/l	98
19) Methylene chloride	4.34	49	4820154	101.18 ug/l	99
20) Carbon disulfide	4.35	76	16791013	113.57 ug/l	100
21) Acrylonitrile	4.49	53	2791039	564.77 ug/l	99
22) tert-Butyl methyl ether (M	4.54	73	7462304	111.64 ug/l	98
23) trans-1,2-Dichloroethene	4.71	61	7288810	108.17 ug/l	99
24) Isopropyl ether (DIPE)	5.13	45	11879134	107.26 ug/l	98
25) Vinyl acetate	5.24	43	3358222	114.32 ug/l	100
26) 1,1-Dichloroethane	5.23	63	8187809	107.75 ug/l	100
28) tert-Butyl ethyl ether (ET	5.65	59	10742071	112.14 ug/l	99
29) 2-Butanone	5.78	43	3379919	574.66 ug/l	99
30) 2,2-Dichloropropane	5.97	77	7137991	105.26 ug/l	99
31) cis-1,2-Dichloroethene	6.02	96	4860086	106.11 ug/l	99
32) Chloroform	6.23	83	8305268	107.84 ug/l	99

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

GA 12/13/11

2102

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ181.D
Acq On : 9 Dec 2011 5:55 pm
Sample : VO05L0911
Misc : 100ppb 8260/500ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:40 2011

Vial: 11
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.43	49	2630869	103.44 ug/l	99
34)	tert-Amyl alcohol	6.48	59	613234	552.54 ug/l	99
36)	Tetrahydrofuran	6.49	42	403251	102.33 ug/l	96
37)	1,1,1-Trichloroethane	6.76	97	7886578	108.40 ug/l	99
38)	Cyclohexane	6.81	56	7660067	106.86 ug/l	99
39)	tert-Amyl methyl ether (TA	7.16	87	1774579	111.31 ug/l	96
42)	1,1-Dichloropropene	6.99	110	2174256	113.67 ug/l	99
43)	Carbon tetrachloride	7.12	119	6987018	111.35 ug/l	100
44)	1,2-Dichloroethane	7.31	62	4430657	108.89 ug/l	100
45)	Benzene	7.34	78	15357726	108.78 ug/l	99
46)	Trichloroethene	8.21	130	4833632	114.99 ug/l	99
47)	Methylcyclohexane	8.33	83	7375795	113.01 ug/l	99
48)	1,2-Dichloropropane	8.46	63	3590454	110.84 ug/l	100
49)	Bromodichloromethane	8.79	83	5804101	111.11 ug/l	100
50)	1,4-Dioxane	8.83	88	284044	2197.48 ug/l	88
51)	Dibromomethane	8.86	93	2050998	114.15 ug/l	100
53)	4-Methyl-2-pentanone	9.32	43	8413930	582.72 ug/l	98
54)	cis-1,3-Dichloropropene	9.62	75	6038182	113.43 ug/l	98
56)	Toluene	10.11	91	15665927	107.99 ug/l	100
57)	Ethyl methacrylate	10.41	69	2852075	105.87 ug/l	99
58)	trans-1,3-Dichloropropene	10.39	75	4722471	112.47 ug/l	99
59)	1,1,2-Trichloroethane	10.63	97	2195128	108.75 ug/l	99
60)	2-Hexanone	10.68	43	5136584	579.46 ug/l	98
61)	1,3-Dichloropropane	11.03	76	4031578	112.41 ug/l	100
62)	Tetrachloroethene	11.15	164	3594036	112.36 ug/l	100
63)	Dibromochloromethane	11.45	129	3678990	110.46 ug/l	100
65)	1,2-Dibromoethane	11.78	107	2677471	112.32 ug/l	99
66)	1-Chlorohexane	12.11	91	6311189	111.90 ug/l	99
67)	Chlorobenzene	12.48	112	9924947	108.46 ug/l	98
68)	1,1,1,2-Tetrachloroethane	12.57	131	3770250	107.59 ug/l	99
69)	Ethylbenzene	12.60	91	17576345	104.31 ug/l	99
71)	o-Xylene	13.46	91	13498147	104.38 ug/l	100
72)	Styrene	13.51	104	10782009	107.68 ug/l	99
74)	Bromoform	14.04	173	1879320	108.19 ug/l	100
75)	Isopropylbenzene	14.09	105	16578953	101.28 ug/l	100
76)	1,1,2,2-Tetrachloroethane	14.37	83	2439450	109.71 ug/l	100
78)	1,2,3-Trichloropropane	14.62	110	691476	109.10 ug/l	99
79)	trans-1,4-Dichloro-2-buten	14.76	53	747515	107.41 ug/l	100
80)	n-Propylbenzene	14.79	91	19291797	95.69 ug/l	97
81)	Bromobenzene	14.82	156	4034965	106.12 ug/l	96
82)	1,3,5-Trimethylbenzene	15.09	105	14363895	101.41 ug/l	99

(#) = qualifier out of range (m) = manual integration
RLQ181.D VO05L09.M Tue Dec 13 09:42:15 2011

SK

12/13/11

2103

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ181.D
Acq On : 9 Dec 2011 5:55 pm
Sample : VO05L0911
Misc : 100ppb 8260/500ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:40 2011

Vial: 11
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
83)	2-Chlorotoluene	15.07	91	13173491	98.38 ug/l	98
84)	4-Chlorotoluene	15.16	91	11787725	102.92 ug/l	99
85)	tert-Butylbenzene	15.71	134	2905453	104.17 ug/l	97
86)	1,2,4-Trimethylbenzene	15.77	105	14043833	102.99 ug/l	99
87)	sec-Butylbenzene	16.08	105	17893081	103.21 ug/l	99
88)	p-Isopropyltoluene	16.35	119	15985866	107.44 ug/l	98
89)	1,3-Dichlorobenzene	16.46	146	7274947	106.95 ug/l	100
90)	1,4-Dichlorobenzene	16.65	146	7116893	109.04 ug/l	99
91)	n-Butylbenzene	17.08	91	14625857	108.99 ug/l	99
92)	1,2-Dichlorobenzene	17.30	146	5934608	107.77 ug/l	98
93)	1,2-Dibromo-3-chloropropan	18.57	157	442450	119.61 ug/l	97
95)	Hexachlorobutadiene	19.77	225	2547695	111.65 ug/l	99
97)	1,2,3-Trichlorobenzene	20.10	180	3012603	117.62 ug/l	100

SG 12/13/11

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

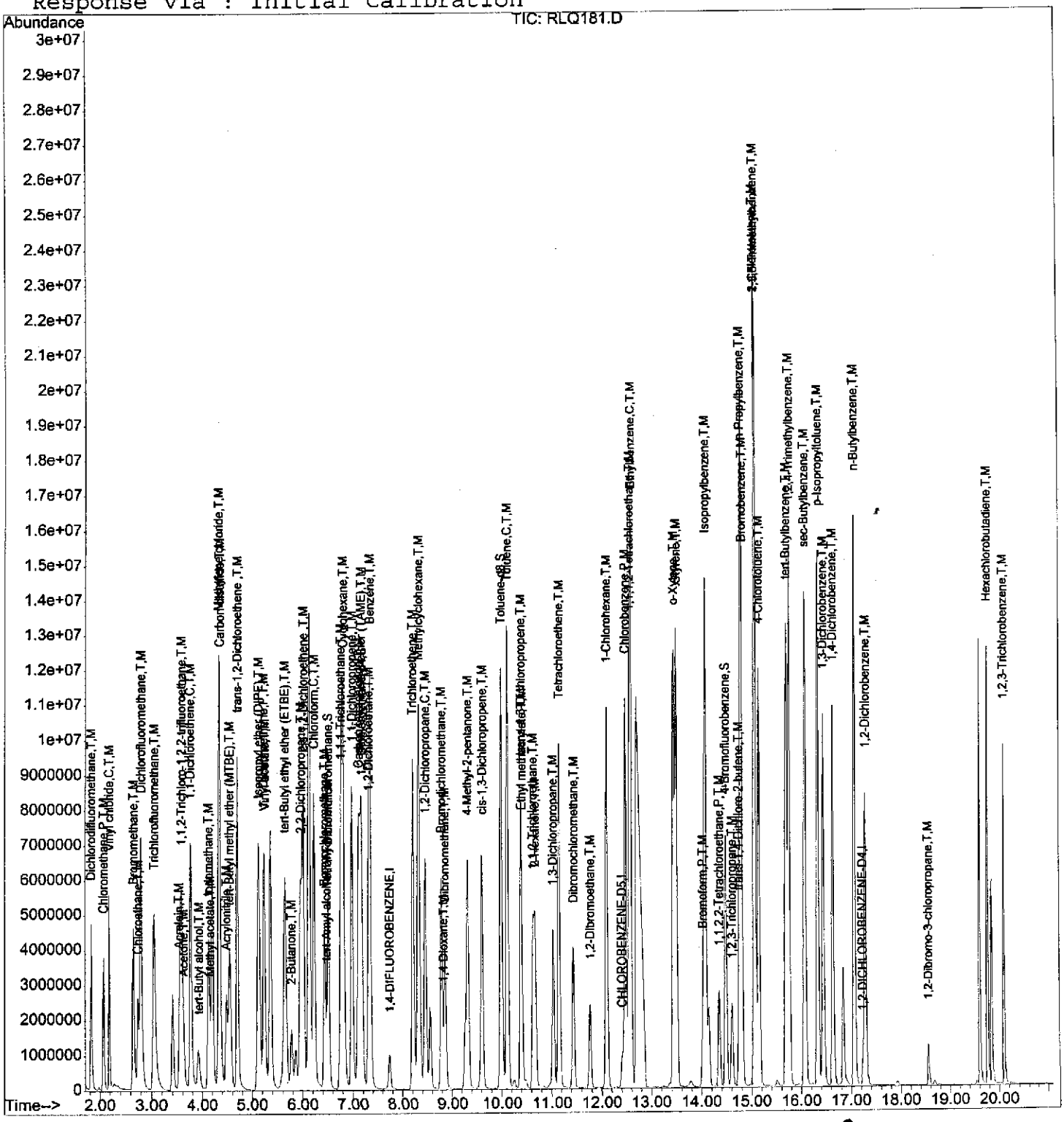
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ181.D
Acq On : 9 Dec 2011 5:55 pm
Sample : VO05L0911
Misc : 100ppb 8260/500ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:40 2011

Vial: 11
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



SU 12/13/11

2105

SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :T005
IC_Beginning DateTime :12/09/11 12:48
Spike Amount :10 PPB
CC/CV File :RLQ184
IC File :RLQ176

Column Spec :RTX502.2 ID :0.32MM
IC_Ending DateTime :12/09/11 17:55
HPChem Method :V005L09
Date_Time :12/09/11 19:27

M	IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AvRRF	CC_Rtm	AvRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	10.000	0	1327699	1	1	7.740	7.742	0				
	2	Chlorotrifluoroethylene												
	3	Dichlorodifluoromethane	9.293	-7.1	433361	0.326	0.351	1.831	1.819	12.56				
	4	Chloromethane	10.678	6.8	468929	0.353	0.331	2.069	2.071	10.96				
	5	2-Chloro-1,1,1-trifluoroethane												
	6	Vinyl chloride	9.875	-1.3	430274	0.324	0.328	2.188	2.190	9.44				
	7	Bromomethane	10.255	2.6	424493	0.320	0.312	2.679	2.675	7.09				
	8	Chloroethane	9.480	-5.2	294877	0.222	0.234	2.768	2.765	5.13				
	9	Dichlorofluoromethane	9.823	-1.8	1126545	0.848	0.864	2.813	2.814	3.64				
	10	Trichlorofluoromethane	9.779	-2.2	740020	0.557	0.570	3.066	3.067	14.94				
	11	sec-Propyl alcohol												
5	12	Acrolein	44.956	-10.1	114388	0.017	0.019	3.527	3.537	9.49				
	13	1,1,2-Trichloro-1,2,2-trifluoroethane	9.494	-5.1	302730	0.228	0.240	3.587	3.588	8.27				
5	14	Acetone	45.825	-8.3	222113	0.033	0.037	3.602	3.610	8.55				
	15	1,1-Dichloroethene	9.702	-3.0	772238	0.582	0.600	3.780	3.769	4.54				
5	16	tert-Butyl alcohol	49.539	-0.9	77301	0.012	0.012	3.870	3.880	7.87				
	17	Iodomethane	7.999	-20.0	615786	0.464	0.580	4.138	4.127	14.47				
	18	Methyl acetate	9.691	-3.1	167579	0.126	0.130	4.167	4.166	9.50				
	19	Methylene chloride	9.828	-1.7	537277	0.405	0.412	4.346	4.340	4.84				
	20	Carbon disulfide	10.159	1.6	1723681	1.298	1.278	4.361	4.361	11.97				
5	21	Acrylonitrile	48.985	-2.0	277799	0.042	0.043	4.480	4.478	7.26				
	22	tert-Butyl methyl ether (MTBE)	10.020	0.2	768577	0.579	0.578	4.554	4.549	6.51				
	23	trans-1,2-Dichloroethene	10.058	0.6	777739	0.586	0.582	4.718	4.718	4.62				
	24	Isopropyl ether (DIPE)	9.998	-0.0	1270705	0.957	0.957	5.120	5.129	4.40				
	25	Vinyl acetate	9.438	-5.6	318188	0.240	0.254	5.239	5.245	13.06				
	26	1,1-Dichloroethane	10.110	1.1	881561	0.664	0.657	5.239	5.240	5.11				
5	27	2-Butanol												
	28	tert-Butyl ethyl ether (ETBE)	10.060	0.6	1105857	0.833	0.828	5.641	5.648	7.25				
5	29	2-Butanone	49.316	-1.4	332854	0.050	0.051	5.775	5.775	9.73				
	30	2,2-Dichloropropane	9.002	-10.0	700540	0.528	0.586	5.968	5.971	4.29				
	31	cis-1,2-Dichloroethene	9.895	-1.0	520093	0.392	0.396	6.013	6.021	4.00				
	32	Chloroform	10.005	0.1	884264	0.666	0.666	6.221	6.225	4.05				
	33	Bromochloromethane	10.395	4.0	303395	0.229	0.220	6.430	6.432	5.75				
5	34	tert-Amyl alcohol	47.597	-4.8	60620	0.009	0.010	6.445	6.458	9.49				
	35	Dibromofluoromethane	9.616	-3.8	490226	0.369	0.384	6.504	6.508	3.75				
	36	Tetrahydrofuran	10.188	1.9	46190	0.035	0.040	6.489	6.491	32.32	0.0034	0.0329		0.9984
	37	1,1,1-Trichloroethane	9.685	-3.1	808561	0.609	0.629	6.772	6.773	4.40				
	38	Cyclohexane	10.086	0.9	829714	0.625	0.620	6.802	6.807	8.39				
	39	tert-Amyl methyl ether (TAME)	10.268	2.7	187860	0.141	0.138	7.159	7.162	6.91				
	40	1,2-Dichloroethane-d4	9.538	-4.6	378522	0.285	0.299	7.174	7.180	3.16				
	41	CHLOROBENZENE-D5	10.000	0	1082466	1	1	12.413	12.416	0				
	42	1,1-Dichloropropene	9.856	-1.4	222837	0.206	0.209	6.980	6.988	6.38				
	43	Carbon tetrachloride	9.487	-5.1	703692	0.650	0.685	7.114	7.121	4.80				
	44	1,2-Dichloroethane	9.941	-0.6	478132	0.442	0.444	7.308	7.310	5.27				
	45	Benzene	10.013	0.1	1670986	1.544	1.542	7.338	7.340	4.39				
	46	Trichloroethene	10.276	2.8	510603	0.472	0.459	8.201	8.212	7.08				
	47	Methylcyclohexane	10.057	0.6	775890	0.717	0.713	8.320	8.323	11.89				
	48	1,2-Dichloropropane	10.126	1.3	387726	0.358	0.354	8.454	8.457	5.43				
	49	Bromodichloromethane	10.031	0.3	619392	0.572	0.570	8.781	8.785	5.16				
20	50	1,4-Dioxane	197.540	-1.2	30181	0.001	0.001	8.811	8.818	5.68				
	51	Dibromomethane	9.758	-2.4	207261	0.191	0.196	8.856	8.858	6.31				
	52	2-Chloroethyl vinyl ether	9.825	-1.8	92874	0.086	0.087	9.258	9.260	14.13				
5	53	4-Methyl-2-pentanone	49.307	-1.4	841532	0.155	0.158	9.302	9.313	10.44				
	54	cis-1,3-Dichloropropene	9.893	-1.1	622544	0.575	0.581	9.615	9.616	5.99				
	55	Toluene-d8	9.685	-3.1	1362788	1.259	1.300	9.987	9.991	4.37				
	56	Toluene	9.695	-3.1	1662516	1.536	1.584	10.106	10.115	4.27				
	57	Ethyl methacrylate	9.488	-5.1	302148	0.279	0.294	10.404	10.406	4.27				
	58	trans-1,3-Dichloropropene	9.688	-3.1	480813	0.444	0.458	10.389	10.391	6.43				
	59	1,1,2-Trichloroethane	10.003	0.0	238688	0.221	0.220	10.627	10.630	4.74				
5	60	2-Hexanone	49.743	-0.5	521199	0.096	0.097	10.672	10.674	12.28				
	61	1,3-Dichloropropane	10.041	0.4	425658	0.393	0.392	11.029	11.034	6.73				
	62	Tetrachloroethene	9.695	-3.1	366570	0.339	0.349	11.148	11.152	6.14				
	63	Dibromochloromethane	9.847	-1.5	387656	0.358	0.364	11.431	11.443	6.03				
	64	2-Ethyl-1-butanol												

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65	1,2-Dibromoethane	10.007	0.1	281951	0.260	0.260	11.758	11.772	7.35				
66	1-Chlorohexane	9.804	-2.0	653618	0.604	0.616	12.101	12.104	5.66				
67	Chlorobenzene	9.957	-0.4	1077052	0.995	0.999	12.473	12.478	4.50				
68	1,1,1,2-Tetrachloroethane	9.732	-2.7	403109	0.372	0.383	12.547	12.558	5.11				
69	Ethylbenzene	10.041	0.4	1999823	1.847	1.840	12.577	12.592	3.42				
2 70	m-Xylene & p-Xylene	19.900	-0.5	3063721	1.415	1.422	12.711	12.720	2.85				
71	o-Xylene	9.948	-0.5	1520688	1.405	1.412	13.440	13.457	3.49				
72	Styrene	10.138	1.4	1199994	1.109	1.093	13.500	13.511	5.09				
73	1,2-DICHLOROBENZENE-D4	10.000	0	365791	1	1	17.250	17.251	0				
74	Bromoform	9.955	-0.5	187394	0.512	0.515	14.035	14.042	4.21				
75	Isopropylbenzene	10.376	3.8	1840596	5.032	4.849	14.080	14.086	3.44				
76	1,1,2,2-Tetrachloroethane	10.279	2.8	247667	0.677	0.659	14.363	14.363	5.25				
77	4-Bromofluorobenzene	9.871	-1.3	482980	1.320	1.338	14.482	14.497	4.83				
78	1,2,3-Trichloropropane	10.166	1.7	69824	0.191	0.188	14.616	14.620	7.77				
79	trans-1,4-Dichloro-2-butene	10.054	0.5	75819	0.207	0.206	14.750	14.753	4.68				
80	n-Propylbenzene	10.566	5.7	2308496	6.311	5.973	14.780	14.789	3.49				
81	Bromobenzene	10.532	5.3	433942	1.186	1.126	14.809	14.814	4.03				
82	1,3,5-Trimethylbenzene	10.480	4.8	1608693	4.398	4.196	15.077	15.076	3.62				
83	2-Chlorotoluene	10.375	3.8	1505465	4.116	3.967	15.063	15.069	4.05				
84	4-Chlorotoluene	10.508	5.1	1304136	3.565	3.393	15.152	15.157	4.03				
85	tert-Butylbenzene	10.503	5.0	317458	0.868	0.826	15.703	15.705	3.72				
86	1,2,4-Trimethylbenzene	10.523	5.2	1554954	4.251	4.040	15.762	15.765	3.84				
87	sec-Butylbenzene	10.411	4.1	1955811	5.347	5.136	16.075	16.086	3.75				
88	p-Isopropyltoluene	10.476	4.8	1689055	4.618	4.408	16.328	16.344	4.61				
89	1,3-Dichlorobenzene	10.457	4.6	770864	2.107	2.015	16.447	16.454	4.48				
90	1,4-Dichlorobenzene	10.555	5.6	746540	2.041	1.933	16.640	16.646	5.64				
91	n-Butylbenzene	10.707	7.1	1557108	4.257	3.975	17.072	17.076	7.55				
92	1,2-Dichlorobenzene	10.115	1.1	603597	1.650	1.631	17.295	17.298	4.44				
93	1,2-Dibromo-3-chloropropane	9.641	-3.6	38647	0.106	0.110	18.560	18.566	12.63				
94	1,2,4-Trichlorobenzene	10.694	6.9	369865	1.011	0.946	19.602	19.613	14.84				
95	Hexachlorobutadiene	9.999	-0.0	247241	0.676	0.676	19.766	19.777	7.79				
96	Naphthalene	9.837	-1.6	479980	1.312	1.152	19.855	19.857	28.06	-0.1067	1.4423		0.9982
97	1,2,3-Trichlorobenzene	10.232	2.3	283993	0.776	0.759	20.108	20.107	13.45				

Spike Amount = Nominal Amount * M

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Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ184.D
Acq On : 9 Dec 2011 7:27 pm
Sample : IVO05L0901
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	104	0.00
2	T,M	Chlorotrifluoroethylene	-1.000	0.000	0.0	0	0.00
3	T,M	Dichlorodifluoromethane	10.000	9.294	7.1	97	0.01
4	P,T,M	Chloromethane	10.000	10.679	-6.8	108	0.00
5	T,M	2-Chloro-1,1,1-trifluoroeth	-1.000	0.000	0.0	0	0.00
6	C,T,M	Vinyl chloride	10.000	9.875	1.3	101	0.00
7	T,M	Bromomethane	10.000	10.256	-2.6	115	0.00
8	T,M	Chloroethane	10.000	9.481	5.2	98	0.00
9	T,M	Dichlorofluoromethane	10.000	9.823	1.8	101	0.00
10	T,M	Trichlorofluoromethane	10.000	9.779	2.2	99	0.00
11	T,M	sec-Propyl alcohol	-1.000	0.000	0.0	0	0.00
12	T,M	Acrolein	50.000	44.957	10.1	94	0.00
13	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	9.494	5.1	99	0.00
14	T,M	Acetone	50.000	45.825	8.3	93	0.00
15	C,T,M	1,1-Dichloroethene	10.000	9.702	3.0	99	0.01
16	T,M	tert-Butyl alcohol	50.000	49.539	0.9	96	0.01
17	T,M	Iodomethane	10.000	7.999	20.0#	83	0.01
18	T,M	Methyl acetate	10.000	9.692	3.1	97	0.01
19	T,M	Methylene chloride	10.000	9.828	1.7	103	0.01
20	T,M	Carbon disulfide	10.000	10.160	-1.6	103	0.00
21	T,M	Acrylonitrile	50.000	48.986	2.0	97	0.01
22	T,M	tert-Butyl methyl ether (MT	10.000	10.020	-0.2	100	0.01
23	T,M	trans-1,2-Dichloroethene	10.000	10.058	-0.6	101	0.00
24	T,M	Isopropyl ether (DIPE)	10.000	9.998	0.0	103	0.00
25	T,M	Vinyl acetate	10.000	9.439	5.6	97	0.00
26	P,T,M	1,1-Dichloroethane	10.000	10.110	-1.1	103	0.00
27	T,M	2-Butanol	-1.000	0.000	0.0	0	0.00
28	T,M	tert-Butyl ethyl ether (ETB	10.000	10.060	-0.6	101	0.00
29	T,M	2-Butanone	50.000	49.317	1.4	96	0.01
30	T,M	2,2-Dichloropropane	10.000	9.002	10.0	94	0.00
31	T,M	cis-1,2-Dichloroethene	10.000	9.895	1.1	102	0.00
32	C,T,M	Chloroform	10.000	10.005	-0.1	102	0.00
33	T,M	Bromochloromethane	10.000	10.395	-3.9	104	0.00
34	T,M	tert-Amyl alcohol	50.000	47.598	4.8	91	0.00
35	S	Dibromofluoromethane	10.000	9.616	3.8	104	0.00
36	T,M	Tetrahydrofuran	10.000	10.188	-1.9	109	0.00
37	T,M	1,1,1-Trichloroethane	10.000	9.685	3.1	98	0.00
38	T,M	Cyclohexane	10.000	10.086	-0.9	104	0.00
39	T,M	tert-Amyl methyl ether (TAM	10.000	10.268	-2.7	104	0.00
40	S	1,2-Dichloroethane-d4	10.000	9.538	4.6	103	0.00
41	I	CHLOROBENZENE-D5	10.000	10.000	0.0	102	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ184.D
Acq On : 9 Dec 2011 7:27 pm
Sample : IVO05L0901
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	10.000	9.856	1.4	100	0.00
43	T,M	Carbon tetrachloride	10.000	9.488	5.1	98	0.00
44	T,M	1,2-Dichloroethane	10.000	9.941	0.6	100	0.00
45	T,M	Benzene	10.000	10.013	-0.1	103	0.00
46	T,M	Trichloroethene	10.000	10.277	-2.8	104	0.00
47	T,M	Methylcyclohexane	10.000	10.057	-0.6	102	0.00
48	C,T,M	1,2-Dichloropropane	10.000	10.126	-1.3	101	0.00
49	T,M	Bromodichloromethane	10.000	10.031	-0.3	102	0.00
50	T,M	1,4-Dioxane	200.000	197.540	1.2	99	0.00
51	T,M	Dibromomethane	10.000	9.759	2.4	96	0.00
52	T,M	2-Chloroethyl vinyl ether	10.000	9.826	1.7	96	0.00
53	T,M	4-Methyl-2-pentanone	50.000	49.307	1.4	96	0.00
54	T,M	cis-1,3-Dichloropropene	10.000	9.894	1.1	100	0.00
55	S	Toluene-d8	10.000	9.686	3.1	106	0.00
56	C,T,M	Toluene	10.000	9.695	3.0	102	0.00
57	T,M	Ethyl methacrylate	10.000	9.488	5.1	97	0.00
58	T,M	trans-1,3-Dichloropropene	10.000	9.688	3.1	97	0.00
59	T,M	1,1,2-Trichloroethane	10.000	10.004	-0.0	102	0.00
60	T,M	2-Hexanone	50.000	49.743	0.5	95	0.00
61	T,M	1,3-Dichloropropane	10.000	10.041	-0.4	100	0.00
62	T,M	Tetrachloroethene	10.000	9.695	3.0	99	0.00
63	T,M	Dibromochloromethane	10.000	9.847	1.5	99	-0.02
64	T,M	2-Ethyl-1-butanol	-1.000	0.000	0.0	0	0.00
65	T,M	1,2-Dibromoethane	10.000	10.007	-0.1	100	-0.02
66	T,M	1-Chlorohexane	10.000	9.804	2.0	100	0.00
67	P,M	Chlorobenzene	10.000	9.958	0.4	100	0.00
68	T,M	1,1,1,2-Tetrachloroethane	10.000	9.732	2.7	99	0.00
69	C,T,M	Ethylbenzene	10.000	10.041	-0.4	102	-0.02
70	T,M	m-Xylene & p-Xylene	20.000	19.901	0.5	102	0.00
71	T,M	o-Xylene	10.000	9.949	0.5	101	-0.02
72	T,M	Styrene	10.000	10.139	-1.4	102	-0.02
73	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	98	0.00
74	P,T,M	Bromoform	10.000	9.956	0.4	95	0.00
75	T,M	Isopropylbenzene	10.000	10.376	-3.8	101	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	10.000	10.279	-2.8	97	0.00
77	S	4-Bromofluorobenzene	10.000	9.871	1.3	105	-0.02
78	T,M	1,2,3-Trichloropropane	10.000	10.167	-1.7	96	0.00
79	T,M	trans-1,4-Dichloro-2-butene	10.000	10.054	-0.5	98	0.00
80	T,M	n-Propylbenzene	10.000	10.566	-5.7	101	0.00
81	T,M	Bromobenzene	10.000	10.532	-5.3	101	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ184.D
Acq On : 9 Dec 2011 7:27 pm
Sample : IVO05L0901
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
82	T,M	1,3,5-Trimethylbenzene	10.000	10.481	-4.8	101	0.00
83	T,M	2-Chlorotoluene	10.000	10.375	-3.8	102	0.00
84	T,M	4-Chlorotoluene	10.000	10.508	-5.1	100	0.00
85	T,M	tert-Butylbenzene	10.000	10.503	-5.0	102	0.00
86	T,M	1,2,4-Trimethylbenzene	10.000	10.523	-5.2	101	0.00
87	T,M	sec-Butylbenzene	10.000	10.411	-4.1	100	-0.02
88	T,M	p-Isopropyltoluene	10.000	10.476	-4.8	99	-0.02
89	T,M	1,3-Dichlorobenzene	10.000	10.458	-4.6	99	0.00
90	T,M	1,4-Dichlorobenzene	10.000	10.555	-5.5	101	0.00
91	T,M	n-Butylbenzene	10.000	10.708	-7.1	100	0.00
92	T,M	1,2-Dichlorobenzene	10.000	10.115	-1.2	98	0.00
93	T,M	1,2-Dibromo-3-chloropropane	10.000	9.642	3.6	93	0.00
94	T,M	1,2,4-Trichlorobenzene	10.000	10.694	-6.9	97	-0.02
95	T,M	Hexachlorobutadiene	10.000	9.999	0.0	96	-0.02
96	T,M	Naphthalene	10.000	9.837	1.6	101	0.00
97	T,M	1,2,3-Trichlorobenzene	10.000	10.232	-2.3	99	0.00

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Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ184.D
Acq On : 9 Dec 2011 7:27 pm
Sample : IVO05L0901
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	104	0.00
2	T,M	Chlorotrifluoroethylene	0.000	0.000	0.0	0#	0.00
3	T,M	Dichlorodifluoromethane	0.351	0.326	7.1	97	0.01
4	P,T,M	Chloromethane	0.331	0.353	-6.6	108	0.00
5	T,M	2-Chloro-1,1,1-trifluoroeth	0.000	0.000	0.0	0#	0.00
6	C,T,M	Vinyl chloride	0.328	0.324	1.2	101	0.00
7	T,M	Bromomethane	0.312	0.320	-2.6	115	0.00
8	T,M	Chloroethane	0.234	0.222	5.1	98	0.00
9	T,M	Dichlorofluoromethane	0.864	0.848	1.9	101	0.00
10	T,M	Trichlorofluoromethane	0.570	0.557	2.3	99	0.00
11	T,M	sec-Propyl alcohol	0.000	0.000	0.0	0#	0.00
12	T,M	Acrolein	0.019	0.017	10.5	94	0.00
13	T,M	1,1,2-Trichloro-1,2,2-trifl	0.240	0.228	5.0	99	0.00
14	T,M	Acetone	0.037	0.033	10.8	93	0.00
15	C,T,M	1,1-Dichloroethene	0.600	0.582	3.0	99	0.01
16	T,M	tert-Butyl alcohol	0.012	0.012	0.0	96	0.01
17	T,M	Iodomethane	0.580	0.464	20.0	83	0.01
18	T,M	Methyl acetate	0.130	0.126	3.1	97	0.01
19	T,M	Methylene chloride	0.412	0.405	1.7	103	0.01
20	T,M	Carbon disulfide	1.278	1.298	-1.6	103	0.00
21	T,M	Acrylonitrile	0.043	0.042	2.3	97	0.01
22	T,M	tert-Butyl methyl ether (MT	0.578	0.579	-0.2	100	0.01
23	T,M	trans-1,2-Dichloroethene	0.582	0.586	-0.7	101	0.00
24	T,M	Isopropyl ether (DIPE)	0.957	0.957	0.0	103	0.00
25	T,M	Vinyl acetate	0.254	0.240	5.5	97	0.00
26	P,T,M	1,1-Dichloroethane	0.657	0.664	-1.1	103	0.00
27	T,M	2-Butanol	0.000	0.000	0.0	0#	0.00
28	T,M	tert-Butyl ethyl ether (ETB	0.828	0.833	-0.6	101	0.00
29	T,M	2-Butanone	0.051	0.050	2.0	96	0.01
30	T,M	2,2-Dichloropropane	0.586	0.528	9.9	94	0.00
31	T,M	cis-1,2-Dichloroethene	0.396	0.392	1.0	102	0.00
32	C,T,M	Chloroform	0.666	0.666	0.0	102	0.00
33	T,M	Bromochloromethane	0.220	0.229	-4.1	104	0.00
34	T,M	tert-Amyl alcohol	0.010	0.009	10.0	91	0.00
35	S	Dibromofluoromethane	0.384	0.369	3.9	104	0.00
36	T,M	Tetrahydrofuran	0.040	0.035	12.5	109	0.00
37	T,M	1,1,1-Trichloroethane	0.629	0.609	3.2	98	0.00
38	T,M	Cyclohexane	0.620	0.625	-0.8	104	0.00
39	T,M	tert-Amyl methyl ether (TAM	0.138	0.141	-2.2	104	0.00
40	S	1,2-Dichloroethane-d4	0.299	0.285	4.7	103	0.00
41	I	CHLOROBENZENE-D5	1.000	1.000	0.0	102	0.00

(#) = Out of Range

SU 12/13/11

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ184.D
Acq On : 9 Dec 2011 7:27 pm
Sample : IV005L0901
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	0.209	0.206	1.4	100	0.00
43	T,M	Carbon tetrachloride	0.685	0.650	5.1	98	0.00
44	T,M	1,2-Dichloroethane	0.444	0.442	0.5	100	0.00
45	T,M	Benzene	1.542	1.544	-0.1	103	0.00
46	T,M	Trichloroethene	0.459	0.472	-2.8	104	0.00
47	T,M	Methylcyclohexane	0.713	0.717	-0.6	102	0.00
48	C,T,M	1,2-Dichloropropane	0.354	0.358	-1.1	101	0.00
49	T,M	Bromodichloromethane	0.570	0.572	-0.4	102	0.00
50	T,M	1,4-Dioxane	0.001	0.001	0.0	99	0.00
51	T,M	Dibromomethane	0.196	0.191	2.6	96	0.00
52	T,M	2-Chloroethyl vinyl ether	0.087	0.086	1.1	96	0.00
53	T,M	4-Methyl-2-pentanone	0.158	0.155	1.9	96	0.00
54	T,M	cis-1,3-Dichloropropene	0.581	0.575	1.0	100	0.00
55	S	Toluene-d8	1.300	1.259	3.2	106	0.00
56	C,T,M	Toluene	1.584	1.536	3.0	102	0.00
57	T,M	Ethyl methacrylate	0.294	0.279	5.1	97	0.00
58	T,M	trans-1,3-Dichloropropene	0.458	0.444	3.1	97	0.00
59	T,M	1,1,2-Trichloroethane	0.220	0.221	-0.5	102	0.00
60	T,M	2-Hexanone	0.097	0.096	1.0	95	0.00
61	T,M	1,3-Dichloropropane	0.392	0.393	-0.3	100	0.00
62	T,M	Tetrachloroethene	0.349	0.339	2.9	99	0.00
63	T,M	Dibromochloromethane	0.364	0.358	1.6	99	-0.02
64	T,M	2-Ethyl-1-butanol	0.000	0.000	0.0	0#	0.00
65	T,M	1,2-Dibromoethane	0.260	0.260	0.0	100	-0.02
66	T,M	1-Chlorohexane	0.616	0.604	1.9	100	0.00
67	P,M	Chlorobenzene	0.999	0.995	0.4	100	0.00
68	T,M	1,1,1,2-Tetrachloroethane	0.383	0.372	2.9	99	0.00
69	C,T,M	Ethylbenzene	1.840	1.847	-0.4	102	-0.02
70	T,M	m-Xylene & p-Xylene	1.422	1.415	0.5	102	0.00
71	T,M	o-Xylene	1.412	1.405	0.5	101	-0.02
72	T,M	Styrene	1.093	1.109	-1.5	102	-0.02
73	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	98	0.00
74	P,T,M	Bromoform	0.515	0.512	0.6	95	0.00
75	T,M	Isopropylbenzene	4.849	5.032	-3.8	101	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	0.659	0.677	-2.7	97	0.00
77	S	4-Bromofluorobenzene	1.338	1.320	1.3	105	-0.02
78	T,M	1,2,3-Trichloropropane	0.188	0.191	-1.6	96	0.00
79	T,M	trans-1,4-Dichloro-2-butene	0.206	0.207	-0.5	98	0.00
80	T,M	n-Propylbenzene	5.973	6.311	-5.7	101	0.00
81	T,M	Bromobenzene	1.126	1.186	-5.3	101	0.00

(#) = Out of Range

SN 12/13/11

2113

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ184.D
Acq On : 9 Dec 2011 7:27 pm
Sample : IVO05L0901
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
82	T,M	1,3,5-Trimethylbenzene	4.196	4.398	-4.8	101	0.00
83	T,M	2-Chlorotoluene	3.967	4.116	-3.8	102	0.00
84	T,M	4-Chlorotoluene	3.393	3.565	-5.1	100	0.00
85	T,M	tert-Butylbenzene	0.826	0.868	-5.1	102	0.00
86	T,M	1,2,4-Trimethylbenzene	4.040	4.251	-5.2	101	0.00
87	T,M	sec-Butylbenzene	5.136	5.347	-4.1	100	-0.02
88	T,M	p-Isopropyltoluene	4.408	4.618	-4.8	99	-0.02
89	T,M	1,3-Dichlorobenzene	2.015	2.107	-4.6	99	0.00
90	T,M	1,4-Dichlorobenzene	1.933	2.041	-5.6	101	0.00
91	T,M	n-Butylbenzene	3.975	4.257	-7.1	100	0.00
92	T,M	1,2-Dichlorobenzene	1.631	1.650	-1.2	98	0.00
93	T,M	1,2-Dibromo-3-chloropropane	0.110	0.106	3.6	93	0.00
94	T,M	1,2,4-Trichlorobenzene	0.946	1.011	-6.9	97	-0.02
95	T,M	Hexachlorobutadiene	0.676	0.676	0.0	96	-0.02
96	T,M	Naphthalene	1.152	1.312	-13.9	101	0.00
97	T,M	1,2,3-Trichlorobenzene	0.759	0.776	-2.2	99	0.00

SU 12/13/11

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ184.D
Acq On : 9 Dec 2011 7:27 pm
Sample : IV005L0901
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:26 2011

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.74	114	1327699	10.00 ug/l	0.00
41) CHLOROBENZENE-D5	12.41	117	1082466	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	17.25	152	365791	10.00 ug/l	0.00
System Monitoring Compounds					
35) Dibromofluoromethane	6.50	111	490226	9.62 ug/l	0.00
Spiked Amount 10.000			Recovery	= 96.20%	
40) 1,2-Dichloroethane-d4	7.17	65	378522	9.54 ug/l	0.00
Spiked Amount 10.000			Recovery	= 95.40%	
55) Toluene-d8	9.99	98	1362788	9.69 ug/l	0.00
Spiked Amount 10.000			Recovery	= 96.90%	
77) 4-Bromofluorobenzene	14.48	95	482980	9.87 ug/l	-0.02
Spiked Amount 10.000			Recovery	= 98.70%	
Target Compounds					Qvalue
3) Dichlorodifluoromethane	1.83	85	433361	9.29 ug/l	99
4) Chloromethane	2.07	50	468929	10.68 ug/l	98
6) Vinyl chloride	2.19	62	430274	9.88 ug/l	100
7) Bromomethane	2.68	94	424493	10.26 ug/l	99
8) Chloroethane	2.77	64	294877	9.48 ug/l	98
9) Dichlorofluoromethane	2.81	67	1126545	9.82 ug/l	100
10) Trichlorofluoromethane	3.07	101	740020	9.78 ug/l	98
12) Acrolein	3.53	56	114388	44.96 ug/l	98
13) 1,1,2-Trichloro-1,2,2-trif	3.59	151	302730	9.49 ug/l	98
14) Acetone	3.60	43	222113	45.83 ug/l	96
15) 1,1-Dichloroethene	3.78	61	772238	9.70 ug/l	99
16) tert-Butyl alcohol	3.87	59	77301	49.54 ug/l	94
17) Iodomethane	4.14	142	615786	8.00 ug/l	98
18) Methyl acetate	4.17	43	167579	9.69 ug/l	98
19) Methylene chloride	4.35	49	537277	9.83 ug/l	98
20) Carbon disulfide	4.36	76	1723681	10.16 ug/l	99
21) Acrylonitrile	4.48	53	277799	48.99 ug/l	99
22) tert-Butyl methyl ether (M	4.55	73	768577	10.02 ug/l	99
23) trans-1,2-Dichloroethene	4.72	61	777739	10.06 ug/l	99
24) Isopropyl ether (DIPE)	5.12	45	1270705	10.00 ug/l	99
25) Vinyl acetate	5.24	43	318188	9.44 ug/l	100
26) 1,1-Dichloroethane	5.24	63	881561	10.11 ug/l	100
28) tert-Butyl ethyl ether (ET	5.64	59	1105857	10.06 ug/l	99
29) 2-Butanone	5.77	43	332854	49.32 ug/l	99
30) 2,2-Dichloropropane	5.97	77	700540	9.00 ug/l	99
31) cis-1,2-Dichloroethene	6.01	96	520093	9.90 ug/l	99
32) Chloroform	6.22	83	884264	10.01 ug/l	100

(#) = qualifier out of range (m) = manual integration
RLQ184.D VO05L09.M Tue Dec 13 09:27:06 2011

2115

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ184.D
Acq On : 9 Dec 2011 7:27 pm
Sample : IVO05L0901
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:26 2011

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Bromochloromethane	6.43	49	303395	10.40 ug/l	98
34) tert-Amyl alcohol	6.44	59	60620	47.60 ug/l	91
36) Tetrahydrofuran	6.49	42	46190	10.19 ug/l	91
37) 1,1,1-Trichloroethane	6.77	97	808561	9.69 ug/l	99
38) Cyclohexane	6.80	56	829714	10.09 ug/l	99
39) tert-Amyl methyl ether (TA	7.16	87	187860	10.27 ug/l	96
42) 1,1-Dichloropropene	6.98	110	222837	9.86 ug/l	98
43) Carbon tetrachloride	7.11	119	703692	9.49 ug/l	100
44) 1,2-Dichloroethane	7.31	62	478132	9.94 ug/l	99
45) Benzene	7.34	78	1670986	10.01 ug/l	100
46) Trichloroethene	8.20	130	510603	10.28 ug/l	99
47) Methylcyclohexane	8.32	83	775890	10.06 ug/l	98
48) 1,2-Dichloropropane	8.45	63	387726	10.13 ug/l	99
49) Bromodichloromethane	8.78	83	619392	10.03 ug/l	100
50) 1,4-Dioxane	8.81	88	30181	197.54 ug/l	98
51) Dibromomethane	8.86	93	207261	9.76 ug/l	98
52) 2-Chloroethyl vinyl ether	9.26	63	92874	9.83 ug/l	99
53) 4-Methyl-2-pentanone	9.30	43	841532	49.31 ug/l	100
54) cis-1,3-Dichloropropene	9.61	75	622544	9.89 ug/l	99
56) Toluene	10.11	91	1662516	9.70 ug/l	100
57) Ethyl methacrylate	10.40	69	302148	9.49 ug/l	98
58) trans-1,3-Dichloropropene	10.39	75	480813	9.69 ug/l	100
59) 1,1,2-Trichloroethane	10.63	97	238688	10.00 ug/l	99
60) 2-Hexanone	10.67	43	521199	49.74 ug/l	100
61) 1,3-Dichloropropane	11.03	76	425658	10.04 ug/l	100
62) Tetrachloroethene	11.15	164	366570	9.70 ug/l	100
63) Dibromochloromethane	11.43	129	387656	9.85 ug/l	99
65) 1,2-Dibromoethane	11.76	107	281951	10.01 ug/l	100
66) 1-Chlorohexane	12.10	91	653618	9.80 ug/l	100
67) Chlorobenzene	12.47	112	1077052	9.96 ug/l	100
68) 1,1,1,2-Tetrachloroethane	12.55	131	403109	9.73 ug/l	100
69) Ethylbenzene	12.58	91	1999823	10.04 ug/l	100
70) m-Xylene & p-Xylene	12.71	91	3063721	19.90 ug/l	100
71) o-Xylene	13.44	91	1520688	9.95 ug/l	100
72) Styrene	13.50	104	1199994	10.14 ug/l	99
74) Bromoform	14.04	173	187394	9.96 ug/l	98
75) Isopropylbenzene	14.08	105	1840596	10.38 ug/l	100
76) 1,1,2,2-Tetrachloroethane	14.36	83	247667	10.28 ug/l	99
78) 1,2,3-Trichloropropane	14.62	110	69824	10.17 ug/l	97
79) trans-1,4-Dichloro-2-buten	14.75	53	75819	10.05 ug/l	96
80) n-Propylbenzene	14.78	91	2308496	10.57 ug/l	100

(#) = qualifier out of range (m) = manual integration
RLQ184.D VO05L09.M Tue Dec 13 09:27:07 2011

2116

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\11L09\RLQ184.D
Acq On : 9 Dec 2011 7:27 pm
Sample : IVO05L0901
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:26 2011

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
81)	Bromobenzene	14.81	156	433942	10.53 ug/l	99
82)	1,3,5-Trimethylbenzene	15.08	105	1608693	10.48 ug/l	100
83)	2-Chlorotoluene	15.06	91	1505465	10.38 ug/l	100
84)	4-Chlorotoluene	15.15	91	1304136	10.51 ug/l	100
85)	tert-Butylbenzene	15.70	134	317458	10.50 ug/l	98
86)	1,2,4-Trimethylbenzene	15.76	105	1554954	10.52 ug/l	99
87)	sec-Butylbenzene	16.07	105	1955811	10.41 ug/l	100
88)	p-Isopropyltoluene	16.33	119	1689055	10.48 ug/l	100
89)	1,3-Dichlorobenzene	16.45	146	770864	10.46 ug/l	100
90)	1,4-Dichlorobenzene	16.64	146	746540	10.56 ug/l	99
91)	n-Butylbenzene	17.07	91	1557108	10.71 ug/l	99
92)	1,2-Dichlorobenzene	17.30	146	603597	10.12 ug/l	100
93)	1,2-Dibromo-3-chloropropan	18.56	157	38647	9.64 ug/l	99
94)	1,2,4-Trichlorobenzene	19.60	180	369865	10.69 ug/l	99
95)	Hexachlorobutadiene	19.77	225	247241	10.00 ug/l	99
96)	Naphthalene	19.86	128	479980	9.84 ug/l	100
97)	1,2,3-Trichlorobenzene	20.11	180	283993	10.23 ug/l	99

SU 12/13/11

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

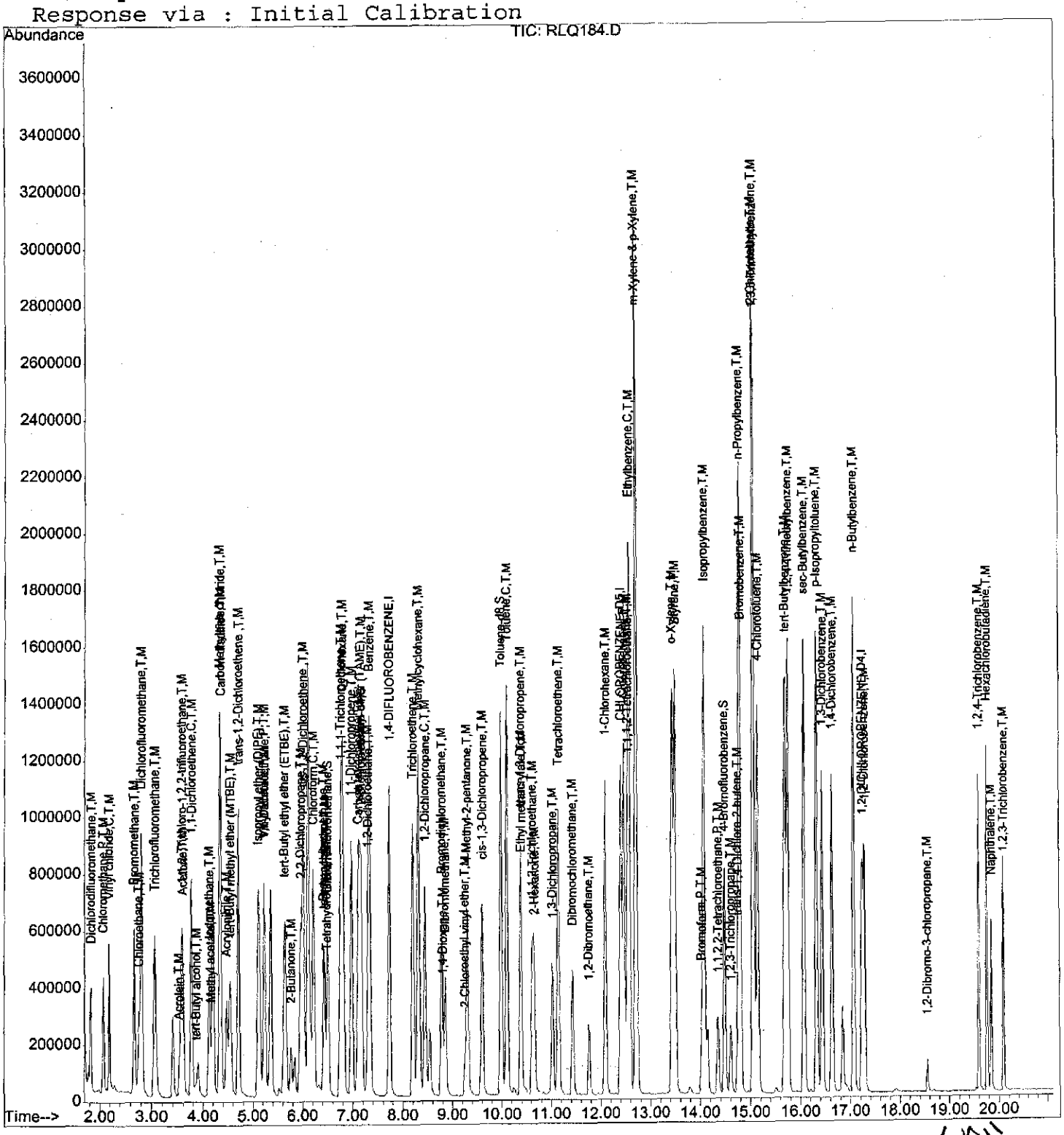
Quantitation Report

Data File : D:\HPCHEM\1\DATA\11L09\RLQ184.D
Acq On : 9 Dec 2011 7:27 pm
Sample : IVO05L0901
Misc : 10ppb 8260/50ppb KET-TBA-TAA-A-AN
MS Integration Params: RTE.P
Quant Time: Dec 13 9:26 2011

Vial: 14
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



2118

DAILY CALIBRATION(S)

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc — Contract: SEAL BEACH SITE 75

Lab Code: EMXT — Case No.: — SAS No.: — SDG No.: 11L209

Lab File ID: RAQ001 — BFB Injection Date : 01/03/12

Instrument ID: TO05 — BFB Injection Time : 07:18

GC Column:RTX502.2ID:0.32mm (mm) — Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	25.73
75	30.0 - 60.0% of mass 95	56.03
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.76
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	67.35
175	5.0 - 9.0% of mass 174	5.22(7.7)1
176	95.0 - 101.0% of mass 174	64.39(95.6)1
177	5.0 - 9.0% of mass 176	4.32(6.7)2

1-Value is % mass 174 — 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CV005L0914	RAQ002	01/03/12	08:23
2	MBLK1W	V005A01B	RAQ006	01/03/12	10:41
3	LCS1W	V005A01L	RAQ003	01/03/12	09:09
4	LCD1W	V005A01C	RAQ004	01/03/12	09:39
5	SB75MW01A-Q411-02	L209-03	RAQ016	01/03/12	16:06
6	SB75MW01A-Q411-01	L209-02	RAQ017	01/03/12	16:37
7	SB75MW01A-Q411-01MS	L209-02M	RAQ018	01/03/12	17:08
8	SB75MW01A-Q411-01MSD	L209-02S	RAQ019	01/03/12	17:39
9	SB75MW01B-Q411-01	L209-04	RAQ020	01/03/12	18:09
10	SB75MW04B-Q411-01	L209-06	RAQ022	01/03/12	19:11

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RLQ176
Instrument ID: T005
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: SEAL BEACH SITE 75
SDG No.: 11L209
Date Analyzed: 12/09/11
Time Analyzed: 15:22
Heated Purge: (Y/N) N

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1277844	7.74	1059766	12.41	374538	17.25
	UPPER LIMIT	2555688	8.24	2119532	12.91	749076	17.75
	LOWER LIMIT	638922	7.24	529883	11.91	187269	16.75
	SAMPLE ID						
1	VSTD010	1312360	7.73	1078538	12.40	383522	17.24
2	MBLK1W	1687508	7.73	1369611	12.40	462862	17.24
3	LCS1W	1373555	7.73	1090995	12.40	392692	17.24
4	LCD1W	1482118	7.73	1207204	12.41	432252	17.24
5	SB75MW01A-Q411-02	1634165	7.73	1265318	12.40	398928	17.24
6	SB75MW01A-Q411-01	1577396	7.73	1245638	12.41	397694	17.24
7	SB75MW01A-Q411-01MS	1549238	7.73	1240712	12.41	416041	17.24
8	SB75MW01A-Q411-01MSD	1657164	7.73	1329677	12.41	451658	17.24
9	SB75MW01B-Q411-01	1735117	7.73	1352961	12.41	427458	17.24
10	SB75MW04B-Q411-01	1609014	7.73	1255722	12.40	391781	17.24

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A03\RAQ002.D Vial: 2
Acq On : 3 Jan 2012 8:23 am Operator: SD
Sample : CVO05L0914 Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	103	-0.01
2	T,M	Chlorotrifluoroethylene	-1.000	0.000	0.0	0	0.00
3	T,M	Dichlorodifluoromethane	10.000	11.685	-16.9	120	0.00
4	P,T,M	Chloromethane	10.000	9.247	7.5	93	-0.01
5	T,M	2-Chloro-1,1,1-trifluoroeth	-1.000	0.000	0.0	0	0.00
6	C,T,M	Vinyl chloride	10.000	10.550	-5.5	107	-0.01
7	T,M	Bromomethane	10.000	9.178	8.2	102	-0.01
8	T,M	Chloroethane	10.000	9.414	5.9	96	-0.01
9	T,M	Dichlorofluoromethane	10.000	10.355	-3.6	106	-0.01
10	T,M	Trichlorofluoromethane	10.000	12.296	-23.0#	123	-0.01
11	T,M	sec-Propyl alcohol	-1.000	0.000	0.0	0	0.00
12	T,M	Acrolein	50.000	27.620	44.8#	57	0.00
13	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	10.888	-8.9	112	-0.01
14	T,M	Acetone	50.000	52.205	-4.4	105	0.00
15	C,T,M	1,1-Dichloroethene	10.000	10.718	-7.2	108	-0.01
16	T,M	tert-Butyl alcohol	50.000	55.251	-10.5	106	0.00
17	T,M	Iodomethane	10.000	9.228	7.7	95	-0.01
18	T,M	Methyl acetate	10.000	10.063	-0.6	99	0.00
19	T,M	Methylene chloride	10.000	9.998	0.0	104	0.00
20	T,M	Carbon disulfide	10.000	9.968	0.3	100	-0.01
21	T,M	Acrylonitrile	50.000	48.334	3.3	94	0.00
22	T,M	tert-Butyl methyl ether (MT	10.000	10.299	-3.0	102	0.00
23	T,M	trans-1,2-Dichloroethene	10.000	10.429	-4.3	104	-0.01
24	T,M	Isopropyl ether (DIPE)	10.000	10.250	-2.5	104	0.00
25	T,M	Vinyl acetate	10.000	10.689	-6.9	108	-0.01
26	P,T,M	1,1-Dichloroethane	10.000	10.437	-4.4	105	-0.01
27	T,M	2-Butanol	-1.000	0.000	0.0	0	0.00
28	T,M	tert-Butyl ethyl ether (ETB	10.000	10.763	-7.6	107	0.00
29	T,M	2-Butanone	50.000	52.870	-5.7	102	0.00
30	T,M	2,2-Dichloropropane	10.000	11.891	-18.9	122	-0.01
31	T,M	cis-1,2-Dichloroethene	10.000	9.951	0.5	101	-0.01
32	C,T,M	Chloroform	10.000	10.721	-7.2	108	-0.01
33	T,M	Bromochloromethane	10.000	10.758	-7.6	107	-0.01
34	T,M	tert-Amyl alcohol	50.000	50.679	-1.4	96	0.00
35	S	Dibromofluoromethane	10.000	10.372	-3.7	111	-0.01
36	T,M	Tetrahydrofuran	10.000	10.186	-1.9	107	-0.01
37	T,M	1,1,1-Trichloroethane	10.000	11.116	-11.2	112	-0.01
38	T,M	Cyclohexane	10.000	9.046	9.5	92	-0.01
39	T,M	tert-Amyl methyl ether (TAM	10.000	10.365	-3.7	103	-0.01
40	S	1,2-Dichloroethane-d4	10.000	11.110	-11.1	118	-0.01
41	I	CHLOROBENZENE-D5	10.000	10.000	0.0	102	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A03\RAQ002.D
Acq On : 3 Jan 2012 8:23 am
Sample : CVO05L0914
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	10.000	10.166	-1.7	103	-0.01
43	T,M	Carbon tetrachloride	10.000	10.947	-9.5	113	-0.01
44	T,M	1,2-Dichloroethane	10.000	11.153	-11.5	111	-0.01
45	T,M	Benzene	10.000	9.780	2.2	101	-0.01
46	T,M	Trichloroethene	10.000	9.573	4.3	96	0.00
47	T,M	Methylcyclohexane	10.000	9.133	8.7	92	-0.01
48	C,T,M	1,2-Dichloropropane	10.000	10.279	-2.8	102	-0.01
49	T,M	Bromodichloromethane	10.000	10.620	-6.2	108	-0.01
50	T,M	1,4-Dioxane	200.000	189.877	5.1	95	0.00
51	T,M	Dibromomethane	10.000	10.141	-1.4	100	-0.01
52	T,M	2-Chloroethyl vinyl ether	10.000	6.841	31.6#	66	-0.01
53	T,M	4-Methyl-2-pentanone	50.000	52.259	-4.5	102	0.00
54	T,M	cis-1,3-Dichloropropene	10.000	10.224	-2.2	103	-0.01
55	S	Toluene-d8	10.000	10.169	-1.7	111	-0.01
56	C,T,M	Toluene	10.000	9.691	3.1	102	0.00
57	T,M	Ethyl methacrylate	10.000	9.957	0.4	101	-0.01
58	T,M	trans-1,3-Dichloropropene	10.000	10.564	-5.6	105	-0.01
59	T,M	1,1,2-Trichloroethane	10.000	10.123	-1.2	103	-0.01
60	T,M	2-Hexanone	50.000	55.084	-10.2	105	-0.01
61	T,M	1,3-Dichloropropane	10.000	10.328	-3.3	102	-0.01
62	T,M	Tetrachloroethene	10.000	9.760	2.4	99	-0.01
63	T,M	Dibromochloromethane	10.000	9.932	0.7	99	-0.01
64	T,M	2-Ethyl-1-butanol	-1.000	0.000	0.0	0	0.00
65	T,M	1,2-Dibromoethane	10.000	10.160	-1.6	101	-0.01
66	T,M	1-Chlorohexane	10.000	10.671	-6.7	108	-0.01
67	P,M	Chlorobenzene	10.000	10.210	-2.1	102	-0.01
68	T,M	1,1,1,2-Tetrachloroethane	10.000	9.892	1.1	100	0.00
69	C,T,M	Ethylbenzene	10.000	10.306	-3.1	104	-0.01
70	T,M	m-Xylene & p-Xylene	20.000	20.868	-4.3	106	0.00
71	T,M	o-Xylene	10.000	10.371	-3.7	105	-0.01
72	T,M	Styrene	10.000	10.107	-1.1	101	-0.01
73	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	102	-0.01
74	P,T,M	Bromoform	10.000	9.361	6.4	94	0.00
75	T,M	Isopropylbenzene	10.000	10.430	-4.3	106	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	10.000	10.259	-2.6	101	-0.01
77	S	4-Bromofluorobenzene	10.000	10.233	-2.3	114	-0.01
78	T,M	1,2,3-Trichloropropane	10.000	9.972	0.3	99	-0.01
79	T,M	trans-1,4-Dichloro-2-butene	10.000	10.603	-6.0	108	-0.01
80	T,M	n-Propylbenzene	10.000	10.669	-6.7	107	0.00
81	T,M	Bromobenzene	10.000	9.660	3.4	97	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A03\RAQ002.D
Acq On : 3 Jan 2012 8:23 am
Sample : CVO05L0914
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
82	T,M	1,3,5-Trimethylbenzene	10.000	10.445	-4.5	105	-0.01
83	T,M	2-Chlorotoluene	10.000	10.706	-7.1	110	0.00
84	T,M	4-Chlorotoluene	10.000	10.381	-3.8	104	-0.01
85	T,M	tert-Butylbenzene	10.000	10.320	-3.2	105	-0.01
86	T,M	1,2,4-Trimethylbenzene	10.000	10.548	-5.5	106	-0.01
87	T,M	sec-Butylbenzene	10.000	11.029	-10.3	111	-0.01
88	T,M	p-Isopropyltoluene	10.000	10.533	-5.3	104	-0.01
89	T,M	1,3-Dichlorobenzene	10.000	9.909	0.9	99	0.00
90	T,M	1,4-Dichlorobenzene	10.000	9.996	0.0	101	0.00
91	T,M	n-Butylbenzene	10.000	11.552	-15.5	113	-0.01
92	T,M	1,2-Dichlorobenzene	10.000	9.951	0.5	101	-0.01
93	T,M	1,2-Dibromo-3-chloropropane	10.000	9.912	0.9	100	0.00
94	T,M	1,2,4-Trichlorobenzene	10.000	11.667	-16.7	111	-0.01
95	T,M	Hexachlorobutadiene	10.000	11.666	-16.7	117	-0.01
96	T,M	Naphthalene	10.000	10.256	-2.6	110	0.00
97	T,M	1,2,3-Trichlorobenzene	10.000	11.270	-12.7	114	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A03\RAQ002.D
Acq On : 3 Jan 2012 8:23 am
Sample : CVO05L0914
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	103	-0.01
2	T,M	Chlorotrifluoroethylene	0.000	0.000	0.0	0#	0.00
3	T,M	Dichlorodifluoromethane	0.351	0.410	-16.8	120	0.00
4	P,T,M	Chloromethane	0.331	0.306	7.6	93	-0.01
5	T,M	2-Chloro-1,1,1-trifluoroeth	0.000	0.000	0.0	0#	0.00
6	C,T,M	Vinyl chloride	0.328	0.346	-5.5	107	-0.01
7	T,M	Bromomethane	0.312	0.286	8.3	102	-0.01
8	T,M	Chloroethane	0.234	0.221	5.6	96	-0.01
9	T,M	Dichlorofluoromethane	0.864	0.894	-3.5	106	-0.01
10	T,M	Trichlorofluoromethane	0.570	0.701	-23.0#	123	-0.01
11	T,M	sec-Propyl alcohol	0.000	0.000	0.0	0#	0.00
12	T,M	Acrolein	0.019	0.011	42.1#	57	0.00
13	T,M	1,1,2-Trichloro-1,2,2-trifl	0.240	0.261	-8.8	112	-0.01
14	T,M	Acetone	0.037	0.038	-2.7	105	0.00
15	C,T,M	1,1-Dichloroethene	0.600	0.643	-7.2	108	-0.01
16	T,M	tert-Butyl alcohol	0.012	0.013	-8.3	106	0.00
17	T,M	Iodomethane	0.580	0.535	7.8	95	-0.01
18	T,M	Methyl acetate	0.130	0.131	-0.8	99	0.00
19	T,M	Methylene chloride	0.412	0.412	0.0	104	0.00
20	T,M	Carbon disulfide	1.278	1.274	0.3	100	-0.01
21	T,M	Acrylonitrile	0.043	0.041	4.7	94	0.00
22	T,M	tert-Butyl methyl ether (MT	0.578	0.595	-2.9	102	0.00
23	T,M	trans-1,2-Dichloroethene	0.582	0.607	-4.3	104	-0.01
24	T,M	Isopropyl ether (DIPE)	0.957	0.981	-2.5	104	0.00
25	T,M	Vinyl acetate	0.254	0.271	-6.7	108	-0.01
26	P,T,M	1,1-Dichloroethane	0.657	0.685	-4.3	105	-0.01
27	T,M	2-Butanol	0.000	0.000	0.0	0#	0.00
28	T,M	tert-Butyl ethyl ether (ETB	0.828	0.891	-7.6	107	0.00
29	T,M	2-Butanone	0.051	0.054	-5.9	102	0.00
30	T,M	2,2-Dichloropropane	0.586	0.697	-18.9	122	-0.01
31	T,M	cis-1,2-Dichloroethene	0.396	0.394	0.5	101	-0.01
32	C,T,M	Chloroform	0.666	0.714	-7.2	108	-0.01
33	T,M	Bromochloromethane	0.220	0.236	-7.3	107	-0.01
34	T,M	tert-Amyl alcohol	0.010	0.010	0.0	96	0.00
35	S	Dibromofluoromethane	0.384	0.398	-3.6	111	-0.01
36	T,M	Tetrahydrofuran	0.040	0.035	12.5	107	-0.01
37	T,M	1,1,1-Trichloroethane	0.629	0.699	-11.1	112	-0.01
38	T,M	Cyclohexane	0.620	0.560	9.7	92	-0.01
39	T,M	tert-Amyl methyl ether (TAM	0.138	0.143	-3.6	103	-0.01
40	S	1,2-Dichloroethane-d4	0.299	0.332	-11.0	118	-0.01
41	I	CHLOROBENZENE-D5	1.000	1.000	0.0	102	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A03\RAQ002.D Vial: 2
Acq On : 3 Jan 2012 8:23 am Operator: SD
Sample : CVO05L0914 Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	0.209	0.212	-1.4	103	-0.01
43	T,M	Carbon tetrachloride	0.685	0.750	-9.5	113	-0.01
44	T,M	1,2-Dichloroethane	0.444	0.496	-11.7	111	-0.01
45	T,M	Benzene	1.542	1.508	2.2	101	-0.01
46	T,M	Trichloroethene	0.459	0.439	4.4	96	0.00
47	T,M	Methylcyclohexane	0.713	0.651	8.7	92	-0.01
48	C,T,M	1,2-Dichloropropane	0.354	0.364	-2.8	102	-0.01
49	T,M	Bromodichloromethane	0.570	0.606	-6.3	108	-0.01
50	T,M	1,4-Dioxane	0.001	0.001	0.0	95	0.00
51	T,M	Dibromomethane	0.196	0.199	-1.5	100	-0.01
52	T,M	2-Chloroethyl vinyl ether	0.087	0.060	31.0#	66	-0.01
53	T,M	4-Methyl-2-pentanone	0.158	0.165	-4.4	102	0.00
54	T,M	cis-1,3-Dichloropropene	0.581	0.594	-2.2	103	-0.01
55	S	Toluene-d8	1.300	1.322	-1.7	111	-0.01
56	C,T,M	Toluene	1.584	1.535	3.1	102	0.00
57	T,M	Ethyl methacrylate	0.294	0.293	0.3	101	-0.01
58	T,M	trans-1,3-Dichloropropene	0.458	0.484	-5.7	105	-0.01
59	T,M	1,1,2-Trichloroethane	0.220	0.223	-1.4	103	-0.01
60	T,M	2-Hexanone	0.097	0.107	-10.3	105	-0.01
61	T,M	1,3-Dichloropropane	0.392	0.404	-3.1	102	-0.01
62	T,M	Tetrachloroethene	0.349	0.341	2.3	99	-0.01
63	T,M	Dibromochloromethane	0.364	0.361	0.8	99	-0.01
64	T,M	2-Ethyl-1-butanol	0.000	0.000	0.0	0#	0.00
65	T,M	1,2-Dibromoethane	0.260	0.264	-1.5	101	-0.01
66	T,M	1-Chlorohexane	0.616	0.657	-6.7	108	-0.01
67	P,M	Chlorobenzene	0.999	1.020	-2.1	102	-0.01
68	T,M	1,1,1,2-Tetrachloroethane	0.383	0.379	1.0	100	0.00
69	C,T,M	Ethylbenzene	1.840	1.896	-3.0	104	-0.01
70	T,M	m-Xylene & p-Xylene	1.422	1.484	-4.4	106	0.00
71	T,M	o-Xylene	1.412	1.464	-3.7	105	-0.01
72	T,M	Styrene	1.093	1.105	-1.1	101	-0.01
73	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	102	-0.01
74	P,T,M	Bromoform	0.515	0.482	6.4	94	0.00
75	T,M	Isopropylbenzene	4.849	5.058	-4.3	106	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	0.659	0.676	-2.6	101	-0.01
77	S	4-Bromofluorobenzene	1.338	1.369	-2.3	114	-0.01
78	T,M	1,2,3-Trichloropropane	0.188	0.187	0.5	99	-0.01
79	T,M	trans-1,4-Dichloro-2-butene	0.206	0.219	-6.3	108	-0.01
80	T,M	n-Propylbenzene	5.973	6.372	-6.7	107	0.00
81	T,M	Bromobenzene	1.126	1.088	3.4	97	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A03\RAQ002.D Vial: 2
Acq On : 3 Jan 2012 8:23 am Operator: SD
Sample : CVO05L0914 Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
82	T,M	1,3,5-Trimethylbenzene	4.196	4.383	-4.5	105	-0.01
83	T,M	2-Chlorotoluene	3.967	4.247	-7.1	110	0.00
84	T,M	4-Chlorotoluene	3.393	3.522	-3.8	104	-0.01
85	T,M	tert-Butylbenzene	0.826	0.853	-3.3	105	-0.01
86	T,M	1,2,4-Trimethylbenzene	4.040	4.261	-5.5	106	-0.01
87	T,M	sec-Butylbenzene	5.136	5.664	-10.3	111	-0.01
88	T,M	p-Isopropyltoluene	4.408	4.642	-5.3	104	-0.01
89	T,M	1,3-Dichlorobenzene	2.015	1.997	0.9	99	0.00
90	T,M	1,4-Dichlorobenzene	1.933	1.933	0.0	101	0.00
91	T,M	n-Butylbenzene	3.975	4.592	-15.5	113	-0.01
92	T,M	1,2-Dichlorobenzene	1.631	1.623	0.5	101	-0.01
93	T,M	1,2-Dibromo-3-chloropropane	0.110	0.109	0.9	100	0.00
94	T,M	1,2,4-Trichlorobenzene	0.946	1.103	-16.6	111	-0.01
95	T,M	Hexachlorobutadiene	0.676	0.789	-16.7	117	-0.01
96	T,M	Naphthalene	1.152	1.373	-19.2	110	0.00
97	T,M	1,2,3-Trichlorobenzene	0.759	0.855	-12.6	114	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc — Contract: SEAL BEACH SITE 75

Lab Code: EMXT — Case No.: — SAS No.: — SDG No.: 11L209

Lab File ID: RAQ035 — BFB Injection Date : 01/04/12

Instrument ID: T005 — BFB Injection Time : 08:12

GC Column:RTX502.2ID:0.32mm (mm) — Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.63
75	30.0 - 60.0% of mass 95	51.42
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.54
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	69.31
175	5.0 - 9.0% of mass 174	4.97(7.2)1
176	95.0 - 101.0% of mass 174	69.33(100.0)1
177	5.0 - 9.0% of mass 176	4.43(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:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CV005L0915	RAQ036	01/04/12	08:43
2	MBLK2W	V005A02B	RAQ040	01/04/12	10:54
3	LCS2W	V005A02L	RAQ037	01/04/12	09:23
4	LCD2W	V005A02C	RAQ038	01/04/12	09:55
5	SB75MW01A-Q411-01DL	L209-02T	RAQ045	01/04/12	13:23
6	SB75MW04A-Q411-01	L209-05R	RAQ046	01/04/12	13:52
7	SB75MW01B-Q411-01DL	L209-04T	RAQ047	01/04/12	14:25
8	SB75MW05A-Q411-01	L209-07R	RAQ048	01/04/12	14:57
9	SB75MW05A-Q411-01DL	L209-07T	RAQ051	01/04/12	16:28
10	SB75MW05A-Q411-02	L209-08	RAQ052	01/04/12	16:58
11	SB75MW05A-Q411-03	L209-10	RAQ054	01/04/12	17:59
12	SB75MW05A-Q411-04	L209-11	RAQ055	01/04/12	18:31
13	SB75MW02C-Q411-01	L209-01	RAQ057	01/04/12	19:32

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RLQ176
Instrument ID: T005
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: SEAL BEACH SITE 75
SDG No.: 11L209
Date Analyzed: 12/09/11
Time Analyzed: 15:22
Heated Purge: (Y/N) N

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1277844	7.74	1059766	12.41	374538	17.25
	UPPER LIMIT	2555688	8.24	2119532	12.91	749076	17.75
	LOWER LIMIT	638922	7.24	529883	11.91	187269	16.75
	SAMPLE ID						
1	VSTD010	1285732	7.73	1026455	12.40	391452	17.24
2	MBLK2W	1414529	7.73	1109573	12.41	351334	17.24
3	LCS2W	1282040	7.72	1017102	12.39	356582	17.23
4	LCD2W	1305916	7.72	1050477	12.39	369332	17.23
5	SB75MW01A-Q411-01DL	1291021	7.74	1014790	12.43	324931	17.25
6	SB75MW04A-Q411-01	1238784	7.74	951999	12.43	283197	17.25
7	SB75MW01B-Q411-01DL	1221231	7.74	929612	12.41	283938	17.25
8	SB75MW05A-Q411-01	1260858	7.73	986979	12.41	301783	17.24
9	SB75MW05A-Q411-01DL	1278603	7.73	1026232	12.42	324574	17.24
10	SB75MW05A-Q411-02	1280549	7.73	995807	12.41	322585	17.24
11	SB75MW05A-Q411-03	1261169	7.73	979575	12.40	307282	17.24
12	SB75MW05A-Q411-04	1179655	7.73	919790	12.40	280022	17.24
13	SB75MW02C-Q411-01	1228838	7.73	979585	12.41	301318	17.24

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

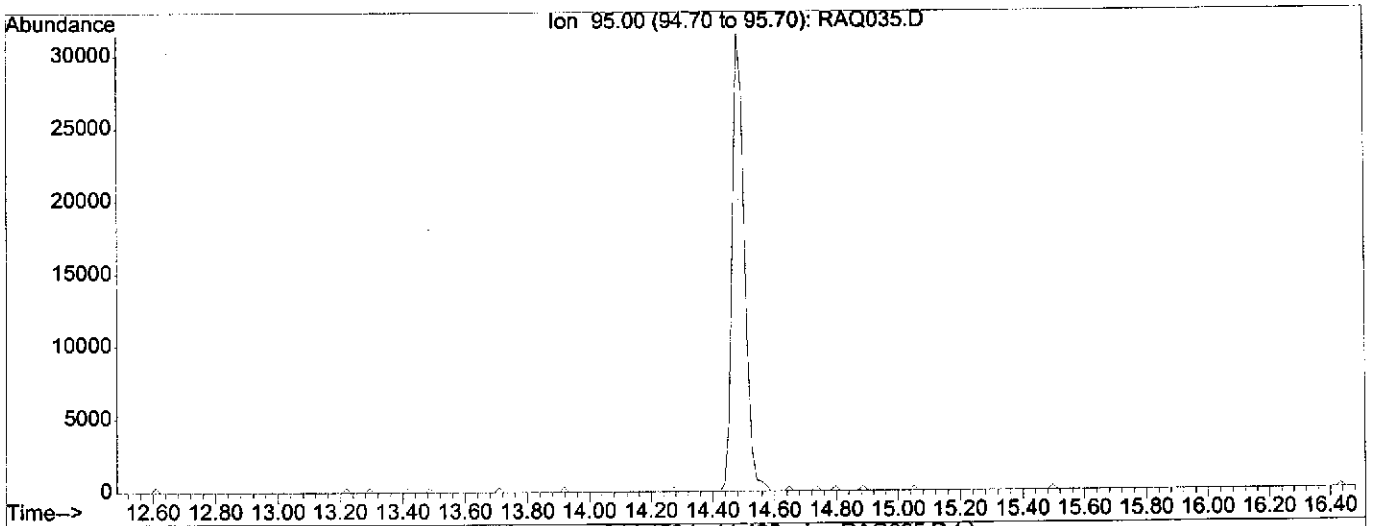
Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

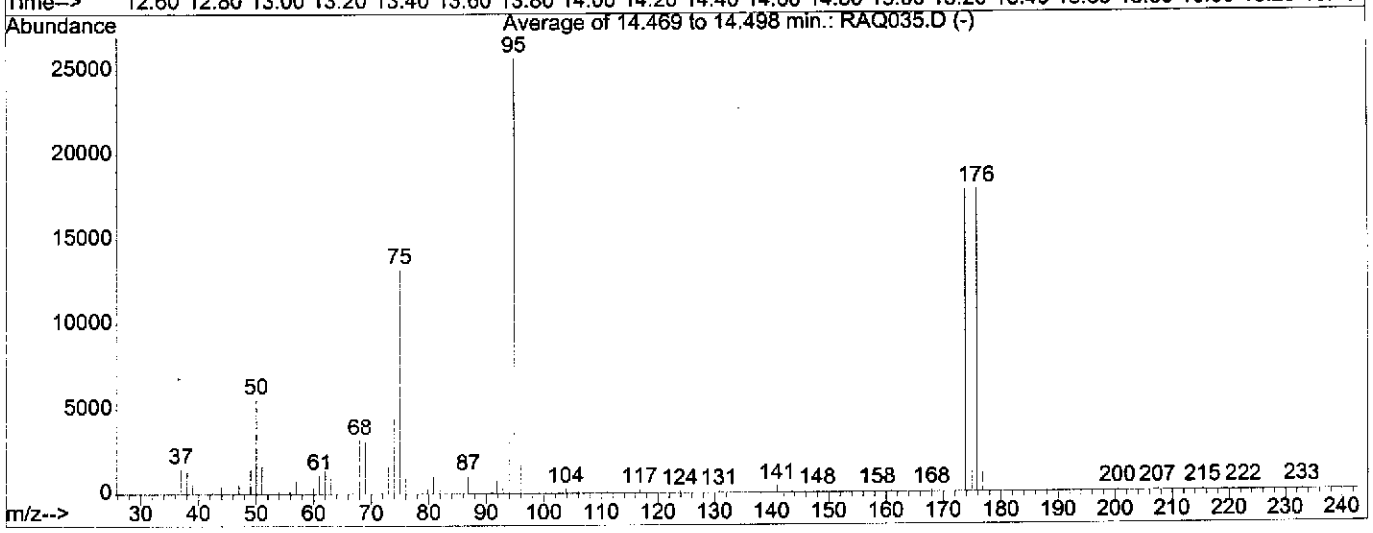
FORM VIII VOA-8260 1/2000

BFB

Data File : D:\HPCHEM\1\DATA\12A04\RAQ035.D
Acq On : 4 Jan 2012 8:12 am
Sample : BFB05A02
Misc : T/CHK
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260

Vial: 1
Operator: SD
Inst : TO05
Multiplr: 1.00





AutoFind: Scans 859, 860, 861; Background Corrected with Scan 854

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.6	5557	PASS
75	95	30	60	51.4	13212	PASS
95	95	100	100	100.0	25696	PASS
96	95	5	9	6.5	1680	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	69.3	17810	PASS
175	174	5	9	7.2	1278	PASS
176	174	95	101	100.0	17816	PASS
177	176	5	9	6.4	1137	PASS

RAQ035.D VO05L09.M Wed Jan 04 15:15:18 2012

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ036.D
Acq On : 4 Jan 2012 8:43 am
Sample : CVO05L0915
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	101	-0.01
2	T,M	Chlorotrifluoroethylene	-1.000	0.000	0.0	0	0.00
3	T,M	Dichlorodifluoromethane	10.000	11.943	-19.4	120	0.00
4	P,T,M	Chloromethane	10.000	9.226	7.7	91	0.00
5	T,M	2-Chloro-1,1,1-trifluoroeth	-1.000	0.000	0.0	0	0.00
6	C,T,M	Vinyl chloride	10.000	10.492	-4.9	104	-0.01
7	T,M	Bromomethane	10.000	8.214	17.9	89	-0.01
8	T,M	Chloroethane	10.000	9.091	9.1	91	-0.01
9	T,M	Dichlorofluoromethane	10.000	9.901	1.0	99	-0.01
10	T,M	Trichlorofluoromethane	10.000	11.826	-18.3	116	-0.01
11	T,M	sec-Propyl alcohol	-1.000	0.000	0.0	0	0.00
12	T,M	Acrolein	50.000	36.531	26.9#	74	0.00
13	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	10.054	-0.5	102	-0.01
14	T,M	Acetone	50.000	53.657	-7.3	105	0.00
15	C,T,M	1,1-Dichloroethene	10.000	10.290	-2.9	102	0.00
16	T,M	tert-Butyl alcohol	50.000	44.463	11.1	84	0.00
17	T,M	Iodomethane	10.000	7.269	27.3#	73	0.00
18	T,M	Methyl acetate	10.000	9.245	7.6	89	0.00
19	T,M	Methylene chloride	10.000	9.288	7.1	94	0.00
20	T,M	Carbon disulfide	10.000	8.896	11.0	87	-0.01
21	T,M	Acrylonitrile	50.000	50.263	-0.5	96	0.00
22	T,M	tert-Butyl methyl ether (MT	10.000	9.205	7.9	89	0.00
23	T,M	trans-1,2-Dichloroethene	10.000	9.650	3.5	94	-0.01
24	T,M	Isopropyl ether (DIPE)	10.000	9.271	7.3	92	0.00
25	T,M	Vinyl acetate	10.000	10.649	-6.5	106	-0.01
26	P,T,M	1,1-Dichloroethane	10.000	9.498	5.0	94	-0.01
27	T,M	2-Butanol	-1.000	0.000	0.0	0	0.00
28	T,M	tert-Butyl ethyl ether (ETB	10.000	9.625	3.8	93	0.00
29	T,M	2-Butanone	50.000	54.835	-9.7	104	0.00
30	T,M	2,2-Dichloropropane	10.000	10.674	-6.7	108	-0.01
31	T,M	cis-1,2-Dichloroethene	10.000	9.263	7.4	92	0.00
32	C,T,M	Chloroform	10.000	10.371	-3.7	102	-0.01
33	T,M	Bromochloromethane	10.000	10.026	-0.3	98	-0.01
34	T,M	tert-Amyl alcohol	50.000	44.389	11.2	82	0.00
35	S	Dibromofluoromethane	10.000	10.383	-3.8	109	0.00
36	T,M	Tetrahydrofuran	10.000	8.687	13.1	90	-0.01
37	T,M	1,1,1-Trichloroethane	10.000	10.657	-6.6	105	-0.01
38	T,M	Cyclohexane	10.000	8.914	10.9	89	-0.01
39	T,M	tert-Amyl methyl ether (TAM	10.000	9.114	8.9	89	-0.01
40	S	1,2-Dichloroethane-d4	10.000	11.092	-10.9	116	-0.01
41	I	CHLOROBENZENE-D5	10.000	10.000	0.0	97	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ036.D
Acq On : 4 Jan 2012 8:43 am
Sample : CVO05L0915
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	10.000	9.539	4.6	92	0.00
43	T,M	Carbon tetrachloride	10.000	10.546	-5.5	103	-0.01
44	T,M	1,2-Dichloroethane	10.000	10.869	-8.7	103	-0.01
45	T,M	Benzene	10.000	9.359	6.4	92	-0.01
46	T,M	Trichloroethene	10.000	9.128	8.7	87	0.00
47	T,M	Methylcyclohexane	10.000	9.165	8.4	88	-0.01
48	C,T,M	1,2-Dichloropropane	10.000	9.863	1.4	94	-0.01
49	T,M	Bromodichloromethane	10.000	10.336	-3.4	100	-0.01
50	T,M	1,4-Dioxane	200.000	178.336	10.8	85	-0.01
51	T,M	Dibromomethane	10.000	10.067	-0.7	94	-0.01
52	T,M	2-Chloroethyl vinyl ether	10.000	6.355	36.4#	59	-0.01
53	T,M	4-Methyl-2-pentanone	50.000	55.998	-12.0	104	0.00
54	T,M	cis-1,3-Dichloropropene	10.000	9.743	2.6	93	-0.01
55	S	Toluene-d8	10.000	10.288	-2.9	107	-0.01
56	C,T,M	Toluene	10.000	9.388	6.1	94	0.00
57	T,M	Ethyl methacrylate	10.000	9.269	7.3	90	-0.01
58	T,M	trans-1,3-Dichloropropene	10.000	9.986	0.1	94	-0.01
59	T,M	1,1,2-Trichloroethane	10.000	9.767	2.3	94	-0.01
60	T,M	2-Hexanone	50.000	58.546	-17.1	106	-0.01
61	T,M	1,3-Dichloropropane	10.000	10.198	-2.0	96	-0.01
62	T,M	Tetrachloroethene	10.000	9.443	5.6	92	-0.01
63	T,M	Dibromochloromethane	10.000	9.575	4.3	91	-0.01
64	T,M	2-Ethyl-1-butanol	-1.000	0.000	0.0	0	0.00
65	T,M	1,2-Dibromoethane	10.000	9.620	3.8	91	-0.01
66	T,M	1-Chlorohexane	10.000	10.065	-0.6	97	-0.01
67	P,M	Chlorobenzene	10.000	9.813	1.9	93	-0.01
68	T,M	1,1,1,2-Tetrachloroethane	10.000	9.604	4.0	93	0.00
69	C,T,M	Ethylbenzene	10.000	10.042	-0.4	97	-0.01
70	T,M	m-Xylene & p-Xylene	20.000	20.014	-0.1	97	0.00
71	T,M	o-Xylene	10.000	10.005	-0.1	96	-0.01
72	T,M	Styrene	10.000	9.812	1.9	94	-0.01
73	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	105	-0.01
74	P,T,M	Bromoform	10.000	8.468	15.3	87	-0.01
75	T,M	Isopropylbenzene	10.000	9.435	5.6	98	-0.01
76	P,T,M	1,1,2,2-Tetrachloroethane	10.000	9.363	6.4	94	-0.01
77	S	4-Bromofluorobenzene	10.000	10.087	-0.9	114	-0.01
78	T,M	1,2,3-Trichloropropane	10.000	9.560	4.4	97	-0.01
79	T,M	trans-1,4-Dichloro-2-butene	10.000	9.592	4.1	100	-0.01
80	T,M	n-Propylbenzene	10.000	10.005	-0.1	103	-0.01
81	T,M	Bromobenzene	10.000	8.944	10.6	92	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ036.D
Acq On : 4 Jan 2012 8:43 am
Sample : CVO05L0915
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
82	T,M	1,3,5-Trimethylbenzene	10.000	9.693	3.1	100	-0.01
83	T,M	2-Chlorotoluene	10.000	9.690	3.1	102	-0.01
84	T,M	4-Chlorotoluene	10.000	9.880	1.2	101	-0.01
85	T,M	tert-Butylbenzene	10.000	9.168	8.3	96	-0.01
86	T,M	1,2,4-Trimethylbenzene	10.000	9.724	2.8	100	-0.01
87	T,M	sec-Butylbenzene	10.000	10.086	-0.9	103	-0.01
88	T,M	p-Isopropyltoluene	10.000	9.915	0.9	100	-0.01
89	T,M	1,3-Dichlorobenzene	10.000	9.330	6.7	95	-0.01
90	T,M	1,4-Dichlorobenzene	10.000	9.337	6.6	96	-0.01
91	T,M	n-Butylbenzene	10.000	10.779	-7.8	107	-0.01
92	T,M	1,2-Dichlorobenzene	10.000	9.408	5.9	98	-0.01
93	T,M	1,2-Dibromo-3-chloropropane	10.000	8.322	16.8	86	0.00
94	T,M	1,2,4-Trichlorobenzene	10.000	10.556	-5.6	103	-0.01
95	T,M	Hexachlorobutadiene	10.000	10.688	-6.9	109	-0.01
96	T,M	Naphthalene	10.000	8.940	10.6	97	-0.01
97	T,M	1,2,3-Trichlorobenzene	10.000	10.265	-2.7	106	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ036.D Vial: 2
Acq On : 4 Jan 2012 8:43 am Operator: SD
Sample : CVO05L0915 Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	101	-0.01
2	T,M	Chlorotrifluoroethylene	0.000	0.000	0.0	0#	0.00
3	T,M	Dichlorodifluoromethane	0.351	0.419	-19.4	120	0.00
4	P,T,M	Chloromethane	0.331	0.305	7.9	91	0.00
5	T,M	2-Chloro-1,1,1-trifluoroeth	0.000	0.000	0.0	0#	0.00
6	C,T,M	Vinyl chloride	0.328	0.344	-4.9	104	-0.01
7	T,M	Bromomethane	0.312	0.256	17.9	89	-0.01
8	T,M	Chloroethane	0.234	0.213	9.0	91	-0.01
9	T,M	Dichlorofluoromethane	0.864	0.855	1.0	99	-0.01
10	T,M	Trichlorofluoromethane	0.570	0.674	-18.2	116	-0.01
11	T,M	sec-Propyl alcohol	0.000	0.000	0.0	0#	0.00
12	T,M	Acrolein	0.019	0.014	26.3#	74	0.00
13	T,M	1,1,2-Trichloro-1,2,2-trifl	0.240	0.241	-0.4	102	-0.01
14	T,M	Acetone	0.037	0.039	-5.4	105	0.00
15	C,T,M	1,1-Dichloroethene	0.600	0.617	-2.8	102	0.00
16	T,M	tert-Butyl alcohol	0.012	0.010	16.7	84	0.00
17	T,M	Iodomethane	0.580	0.421	27.4#	73	0.00
18	T,M	Methyl acetate	0.130	0.120	7.7	89	0.00
19	T,M	Methylene chloride	0.412	0.382	7.3	94	0.00
20	T,M	Carbon disulfide	1.278	1.137	11.0	87	-0.01
21	T,M	Acrylonitrile	0.043	0.043	0.0	96	0.00
22	T,M	tert-Butyl methyl ether (MT	0.578	0.532	8.0	89	0.00
23	T,M	trans-1,2-Dichloroethene	0.582	0.562	3.4	94	-0.01
24	T,M	Isopropyl ether (DIPE)	0.957	0.887	7.3	92	0.00
25	T,M	Vinyl acetate	0.254	0.270	-6.3	106	-0.01
26	P,T,M	1,1-Dichloroethane	0.657	0.624	5.0	94	-0.01
27	T,M	2-Butanol	0.000	0.000	0.0	0#	0.00
28	T,M	tert-Butyl ethyl ether (ETB	0.828	0.797	3.7	93	0.00
29	T,M	2-Butanone	0.051	0.056	-9.8	104	0.00
30	T,M	2,2-Dichloropropane	0.586	0.626	-6.8	108	-0.01
31	T,M	cis-1,2-Dichloroethene	0.396	0.367	7.3	92	0.00
32	C,T,M	Chloroform	0.666	0.690	-3.6	102	-0.01
33	T,M	Bromochloromethane	0.220	0.220	0.0	98	-0.01
34	T,M	tert-Amyl alcohol	0.010	0.009	10.0	82	0.00
35	S	Dibromofluoromethane	0.384	0.399	-3.9	109	0.00
36	T,M	Tetrahydrofuran	0.040	0.030	25.0#	90	-0.01
37	T,M	1,1,1-Trichloroethane	0.629	0.670	-6.5	105	-0.01
38	T,M	Cyclohexane	0.620	0.552	11.0	89	-0.01
39	T,M	tert-Amyl methyl ether (TAM	0.138	0.126	8.7	89	-0.01
40	S	1,2-Dichloroethane-d4	0.299	0.332	-11.0	116	-0.01
41	I	CHLOROBENZENE-D5	1.000	1.000	0.0	97	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ036.D Vial: 2
Acq On : 4 Jan 2012 8:43 am Operator: SD
Sample : CVO05L0915 Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	0.209	0.199	4.8	92	0.00
43	T,M	Carbon tetrachloride	0.685	0.723	-5.5	103	-0.01
44	T,M	1,2-Dichloroethane	0.444	0.483	-8.8	103	-0.01
45	T,M	Benzene	1.542	1.443	6.4	92	-0.01
46	T,M	Trichloroethene	0.459	0.419	8.7	87	0.00
47	T,M	Methylcyclohexane	0.713	0.653	8.4	88	-0.01
48	C,T,M	1,2-Dichloropropane	0.354	0.349	1.4	94	-0.01
49	T,M	Bromodichloromethane	0.570	0.590	-3.5	100	-0.01
50	T,M	1,4-Dioxane	0.001	0.001	0.0	85	-0.01
51	T,M	Dibromomethane	0.196	0.198	-1.0	94	-0.01
52	T,M	2-Chloroethyl vinyl ether	0.087	0.055	36.8#	59	-0.01
53	T,M	4-Methyl-2-pentanone	0.158	0.177	-12.0	104	0.00
54	T,M	cis-1,3-Dichloropropene	0.581	0.566	2.6	93	-0.01
55	S	Toluene-d8	1.300	1.337	-2.8	107	-0.01
56	C,T,M	Toluene	1.584	1.487	6.1	94	0.00
57	T,M	Ethyl methacrylate	0.294	0.273	7.1	90	-0.01
58	T,M	trans-1,3-Dichloropropene	0.458	0.458	0.0	94	-0.01
59	T,M	1,1,2-Trichloroethane	0.220	0.215	2.3	94	-0.01
60	T,M	2-Hexanone	0.097	0.113	-16.5	106	-0.01
61	T,M	1,3-Dichloropropane	0.392	0.399	-1.8	96	-0.01
62	T,M	Tetrachloroethene	0.349	0.330	5.4	92	-0.01
63	T,M	Dibromochloromethane	0.364	0.348	4.4	91	-0.01
64	T,M	2-Ethyl-1-butanol	0.000	0.000	0.0	0#	0.00
65	T,M	1,2-Dibromoethane	0.260	0.250	3.8	91	-0.01
66	T,M	1-Chlorohexane	0.616	0.620	-0.6	97	-0.01
67	P,M	Chlorobenzene	0.999	0.980	1.9	93	-0.01
68	T,M	1,1,1,2-Tetrachloroethane	0.383	0.367	4.2	93	0.00
69	C,T,M	Ethylbenzene	1.840	1.848	-0.4	97	-0.01
70	T,M	m-Xylene & p-Xylene	1.422	1.423	-0.1	97	0.00
71	T,M	o-Xylene	1.412	1.413	-0.1	96	-0.01
72	T,M	Styrene	1.093	1.073	1.8	94	-0.01
73	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	105	-0.01
74	P,T,M	Bromoform	0.515	0.436	15.3	87	-0.01
75	T,M	Isopropylbenzene	4.849	4.575	5.7	98	-0.01
76	P,T,M	1,1,2,2-Tetrachloroethane	0.659	0.617	6.4	94	-0.01
77	S	4-Bromofluorobenzene	1.338	1.349	-0.8	114	-0.01
78	T,M	1,2,3-Trichloropropane	0.188	0.179	4.8	97	-0.01
79	T,M	trans-1,4-Dichloro-2-butene	0.206	0.198	3.9	100	-0.01
80	T,M	n-Propylbenzene	5.973	5.975	-0.0	103	-0.01
81	T,M	Bromobenzene	1.126	1.007	10.6	92	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ036.D
Acq On : 4 Jan 2012 8:43 am
Sample : CVO05L0915
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
82	T,M	1,3,5-Trimethylbenzene	4.196	4.067	3.1	100	-0.01
83	T,M	2-Chlorotoluene	3.967	3.844	3.1	102	-0.01
84	T,M	4-Chlorotoluene	3.393	3.352	1.2	101	-0.01
85	T,M	tert-Butylbenzene	0.826	0.758	8.2	96	-0.01
86	T,M	1,2,4-Trimethylbenzene	4.040	3.928	2.8	100	-0.01
87	T,M	sec-Butylbenzene	5.136	5.180	-0.9	103	-0.01
88	T,M	p-Isopropyltoluene	4.408	4.370	0.9	100	-0.01
89	T,M	1,3-Dichlorobenzene	2.015	1.880	6.7	95	-0.01
90	T,M	1,4-Dichlorobenzene	1.933	1.805	6.6	96	-0.01
91	T,M	n-Butylbenzene	3.975	4.285	-7.8	107	-0.01
92	T,M	1,2-Dichlorobenzene	1.631	1.535	5.9	98	-0.01
93	T,M	1,2-Dibromo-3-chloropropane	0.110	0.091	17.3	86	0.00
94	T,M	1,2,4-Trichlorobenzene	0.946	0.998	-5.5	103	-0.01
95	T,M	Hexachlorobutadiene	0.676	0.722	-6.8	109	-0.01
96	T,M	Naphthalene	1.152	1.183	-2.7	97	-0.01
97	T,M	1,2,3-Trichlorobenzene	0.759	0.779	-2.6	106	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ036.D
Acq On : 4 Jan 2012 8:43 am
Sample : CVO05L0915
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P
Quant Time: Jan 4 9:04 2012

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	7.73	114	1285732	10.00	ug/l	-0.01
41) CHLOROBENZENE-D5	12.40	117	1026455	10.00	ug/l	-0.01
73) 1,2-DICHLOROBENZENE-D4	17.24	152	391452	10.00	ug/l	-0.01
System Monitoring Compounds						
35) Dibromofluoromethane	6.51	111	512580	10.38	ug/l	0.00
Spiked Amount 10.000			Recovery	=	103.80%	
40) 1,2-Dichloroethane-d4	7.16	65	426265	11.09	ug/l	-0.01
Spiked Amount 10.000			Recovery	=	110.90%	
55) Toluene-d8	9.97	98	1372702	10.29	ug/l	-0.01
Spiked Amount 10.000			Recovery	=	102.90%	
77) 4-Bromofluorobenzene	14.48	95	528182	10.09	ug/l	-0.01
Spiked Amount 10.000			Recovery	=	100.90%	
Target Compounds						Qvalue
3) Dichlorodifluoromethane	1.82	85	539287	11.94	ug/l	98
4) Chloromethane	2.07	50	392320	9.23	ug/l	100
6) Vinyl chloride	2.18	62	442697	10.49	ug/l	97
7) Bromomethane	2.67	94	329229	8.21	ug/l	100
8) Chloroethane	2.76	64	273804	9.09	ug/l	94
9) Dichlorofluoromethane	2.80	67	1099594	9.90	ug/l	99
10) Trichlorofluoromethane	3.05	101	866625	11.83	ug/l	98
12) Acrolein	3.53	56	90011	36.53	ug/l	98
13) 1,1,2-Trichloro-1,2,2-trif	3.57	151	310461	10.05	ug/l	98
14) Acetone	3.60	43	251851	53.66	ug/l	96
15) 1,1-Dichloroethene	3.77	61	793144	10.29	ug/l	95
16) tert-Butyl alcohol	3.86	59	67187	44.46	ug/l	97
17) Iodomethane	4.13	142	541863	7.27	ug/l	89
18) Methyl acetate	4.15	43	154809	9.25	ug/l	97
19) Methylene chloride	4.33	49	491699	9.29	ug/l	94
20) Carbon disulfide	4.35	76	1461516	8.90	ug/l	100
21) Acrylonitrile	4.47	53	276031	50.26	ug/l	96
22) tert-Butyl methyl ether (M	4.54	73	683710	9.20	ug/l	98
23) trans-1,2-Dichloroethene	4.71	61	722542	9.65	ug/l	95
24) Isopropyl ether (DIPE)	5.12	45	1141019	9.27	ug/l	97
25) Vinyl acetate	5.23	43	347628	10.65	ug/l	96
26) 1,1-Dichloroethane	5.23	63	802018	9.50	ug/l	99
28) tert-Butyl ethyl ether (ET	5.64	59	1024596	9.63	ug/l	97
29) 2-Butanone	5.76	43	358401	54.83	ug/l	97
30) 2,2-Dichloropropane	5.96	77	804339	10.67	ug/l	98
31) cis-1,2-Dichloroethene	6.02	96	471470	9.26	ug/l	92
32) Chloroform	6.21	83	887604	10.37	ug/l	97

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ036.D
Acq On : 4 Jan 2012 8:43 am
Sample : CVO05L0915
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P
Quant Time: Jan 4 9:04 2012

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Bromochloromethane	6.42	49	283363	10.03 ug/l	92
34)	tert-Amyl alcohol	6.45	59	54747	44.39 ug/l	94
36)	Tetrahydrofuran	6.48	42	38155	8.69 ug/l	91
37)	1,1,1-Trichloroethane	6.76	97	861607	10.66 ug/l	98
38)	Cyclohexane	6.79	56	710110	8.91 ug/l	99
39)	tert-Amyl methyl ether (TA	7.15	87	161466	9.11 ug/l	97
42)	1,1-Dichloropropene	6.98	110	204499	9.54 ug/l	99
43)	Carbon tetrachloride	7.10	119	741692	10.55 ug/l	98
44)	1,2-Dichloroethane	7.30	62	495679	10.87 ug/l	100
45)	Benzene	7.33	78	1480941	9.36 ug/l	98
46)	Trichloroethene	8.20	130	430052	9.13 ug/l	93
47)	Methylcyclohexane	8.31	83	670492	9.17 ug/l	94
48)	1,2-Dichloropropane	8.44	63	358133	9.86 ug/l	91
49)	Bromodichloromethane	8.77	83	605196	10.34 ug/l	98
50)	1,4-Dioxane	8.80	88	25837	178.34 ug/l	95
51)	Dibromomethane	8.84	93	202743	10.07 ug/l	94
52)	2-Chloroethyl vinyl ether	9.25	63	56960	6.36 ug/l	97
53)	4-Methyl-2-pentanone	9.30	43	906261	56.00 ug/l	97
54)	cis-1,3-Dichloropropene	9.60	75	581310	9.74 ug/l	97
56)	Toluene	10.11	91	1526502	9.39 ug/l	99
57)	Ethyl methacrylate	10.39	69	279900	9.27 ug/l	96
58)	trans-1,3-Dichloropropene	10.38	75	469961	9.99 ug/l	94
59)	1,1,2-Trichloroethane	10.61	97	220989	9.77 ug/l	99
60)	2-Hexanone	10.66	43	581689	58.55 ug/l	95
61)	1,3-Dichloropropane	11.02	76	409951	10.20 ug/l	100
62)	Tetrachloroethene	11.14	164	338560	9.44 ug/l	99
63)	Dibromochloromethane	11.43	129	357430	9.57 ug/l	99
65)	1,2-Dibromoethane	11.76	107	257028	9.62 ug/l	99
66)	1-Chlorohexane	12.09	91	636281	10.06 ug/l	96
67)	Chlorobenzene	12.46	112	1006408	9.81 ug/l	97
68)	1,1,1,2-Tetrachloroethane	12.55	131	377217	9.60 ug/l	99
69)	Ethylbenzene	12.58	91	1896494	10.04 ug/l	99
70)	m-Xylene & p-Xylene	12.71	91	2921710	20.01 ug/l	97
71)	o-Xylene	13.44	91	1450078	10.00 ug/l	98
72)	Styrene	13.50	104	1101280	9.81 ug/l	97
74)	Bromoform	14.02	173	170570	8.47 ug/l	99
75)	Isopropylbenzene	14.07	105	1791017	9.43 ug/l	99
76)	1,1,2,2-Tetrachloroethane	14.35	83	241420	9.36 ug/l	100
78)	1,2,3-Trichloropropane	14.60	110	70261	9.56 ug/l	94
79)	trans-1,4-Dichloro-2-buten	14.74	53	77407	9.59 ug/l	100
80)	n-Propylbenzene	14.77	91	2339067	10.00 ug/l	98

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\12A04\RAQ036.D
Acq On : 4 Jan 2012 8:43 am
Sample : CVO05L0915
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P
Quant Time: Jan 4 9:04 2012

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Quant Results File: VO05L09.RES

Quant Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration
DataAcq Meth : VO05L09

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
81)	Bromobenzene	14.80	156	394355	8.94 ug/l		93
82)	1,3,5-Trimethylbenzene	15.06	105	1592206	9.69 ug/l		97
83)	2-Chlorotoluene	15.05	91	1504575	9.69 ug/l		97
84)	4-Chlorotoluene	15.14	91	1312138	9.88 ug/l		97
85)	tert-Butylbenzene	15.69	134	296533	9.17 ug/l	#	89
86)	1,2,4-Trimethylbenzene	15.75	105	1537558	9.72 ug/l		98
87)	sec-Butylbenzene	16.08	105	2027727	10.09 ug/l		97
88)	p-Isopropyltoluene	16.33	119	1710729	9.92 ug/l		99
89)	1,3-Dichlorobenzene	16.43	146	735984	9.33 ug/l		97
90)	1,4-Dichlorobenzene	16.63	146	706676	9.34 ug/l		98
91)	n-Butylbenzene	17.06	91	1677353	10.78 ug/l		98
92)	1,2-Dichlorobenzene	17.28	146	600780	9.41 ug/l		98
93)	1,2-Dibromo-3-chloropropan	18.56	157	35696	8.32 ug/l		93
94)	1,2,4-Trichlorobenzene	19.60	180	390709	10.56 ug/l		98
95)	Hexachlorobutadiene	19.77	225	282810	10.69 ug/l		99
96)	Naphthalene	19.84	128	462995	8.94 ug/l		99
97)	1,2,3-Trichlorobenzene	20.10	180	304900	10.27 ug/l		99

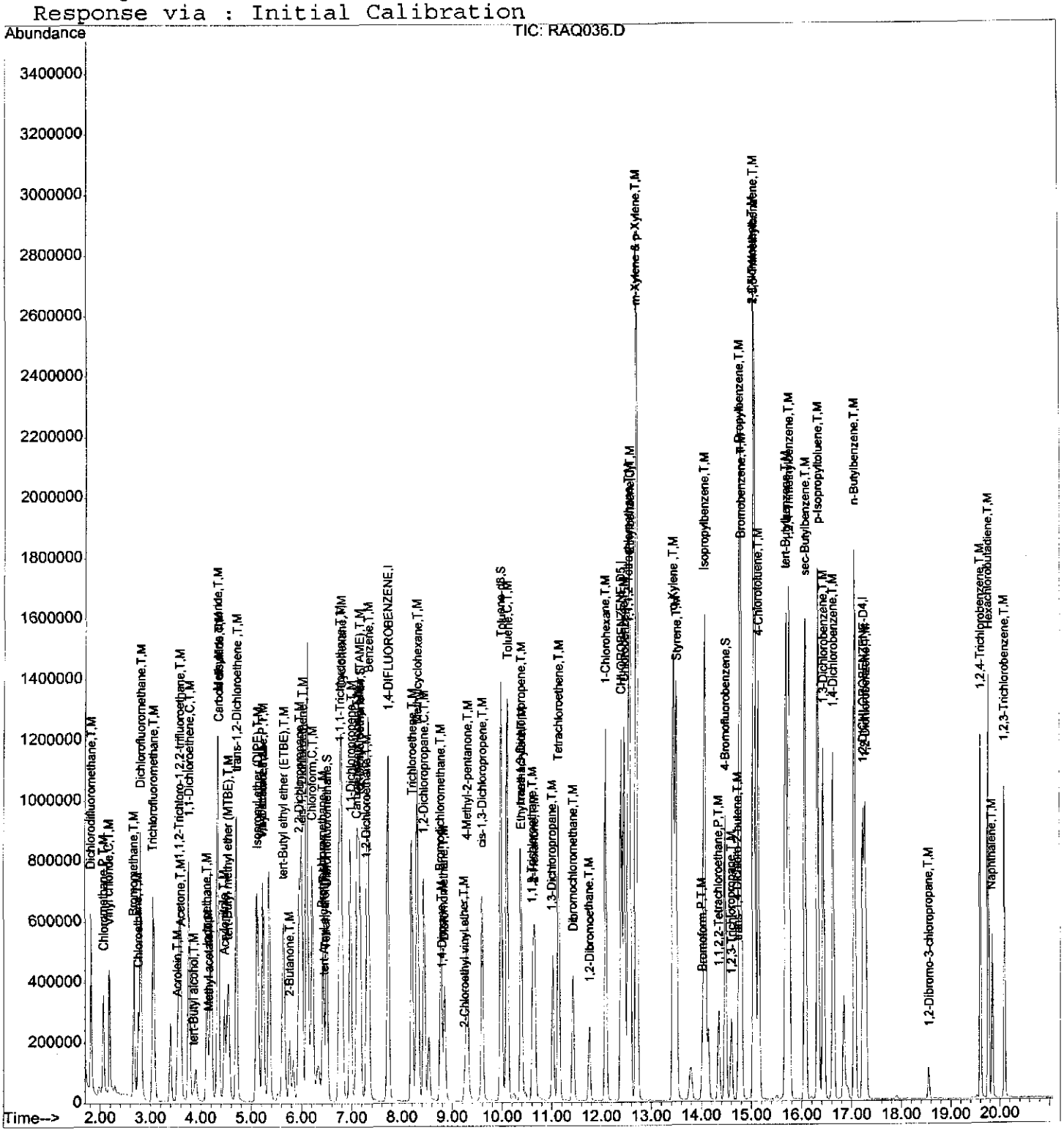
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\12A04\RAQ036.D
Acq On : 4 Jan 2012 8:43 am
Sample : CVO05L0915
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P
Quant Time: Jan 4 9:04 2012

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00
Quant Results File: VO05L09.RES

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Initial Calibration



5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RAQ069
Instrument ID: T005
GC Column:RTX502.2ID:0.32mm (mm)

Contract: SEAL BEACH SITE 75
SAS No.: SDG No.: 11L209
BFB Injection Date : 01/05/12
BFB Injection Time : 08:07
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	21.25
75	30.0 - 60.0% of mass 95	50.89
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.28
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	68.34
175	5.0 - 9.0% of mass 174	4.52(6.6)1
176	95.0 - 101.0% of mass 174	68.96(100.9)1
177	5.0 - 9.0% of mass 176	3.55(5.1)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD,BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CV005L0916	RAQ070	01/05/12	09:14
2	MBLK3W	V005A03B	RAQ074	01/05/12	11:24
3	LCS3W	V005A03L	RAQ071	01/05/12	09:51
4	LCD3W	V005A03C	RAQ072	01/05/12	10:22
5	SB75MW05A-Q411-02DL	L209-08T	RAQ077	01/05/12	12:57
6	SB75MW05B-Q411-01	L209-09R	RAQ078	01/05/12	13:27

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RLQ176
Instrument ID: TOO5
GC Column: RTX502.2 ID: 0.32mm (mm)

Project: SEAL BEACH SITE 75
SDG No.: 11L209
Date Analyzed: 12/09/11
Time Analyzed: 15:22
Heated Purge: (Y/N) N

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1277844	7.74	1059766	12.41	374538	17.25
	UPPER LIMIT	2555688	8.24	2119532	12.91	749076	17.75
	LOWER LIMIT	638922	7.24	529883	11.91	187269	16.75
	SAMPLE ID						
1	VSTD010	1307683	7.73	1032473	12.40	368786	17.24
2	MBLK3W	1478542	7.74	1147912	12.42	365762	17.25
3	LCS3W	1386669	7.73	1100409	12.41	390689	17.24
4	LCD3W	1454379	7.73	1175894	12.42	425357	17.24
5	SB75MW05A-Q411-02DL	1325201	7.74	1025203	12.43	317855	17.25
6	SB75MW05B-Q411-01	1330184	7.74	1044450	12.43	339376	17.27

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

FORM VIII VOA-8260 1/2000

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A05\RAQ070.D
Acq On : 5 Jan 2012 9:14 am
Sample : CVO05L0916
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	102	-0.01
2	T,M	Chlorotrifluoroethylene	-1.000	0.000	0.0	0	0.00
3	T,M	Dichlorodifluoromethane	10.000	12.093	-20.9#	124	0.00
4	P,T,M	Chloromethane	10.000	9.975	0.3	100	0.00
5	T,M	2-Chloro-1,1,1-trifluoroeth	-1.000	0.000	0.0	0	0.00
6	C,T,M	Vinyl chloride	10.000	11.024	-10.2	111	-0.01
7	T,M	Bromomethane	10.000	8.419	15.8	93	-0.01
8	T,M	Chloroethane	10.000	9.925	0.7	101	-0.01
9	T,M	Dichlorofluoromethane	10.000	10.343	-3.4	105	-0.01
10	T,M	Trichlorofluoromethane	10.000	12.628	-26.3#	126	-0.01
11	T,M	sec-Propyl alcohol	-1.000	0.000	0.0	0	0.00
12	T,M	Acrolein	50.000	39.918	20.2#	82	0.00
13	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	10.593	-5.9	109	-0.01
14	T,M	Acetone	50.000	55.562	-11.1	111	0.00
15	C,T,M	1,1-Dichloroethene	10.000	10.471	-4.7	105	0.00
16	T,M	tert-Butyl alcohol	50.000	51.548	-3.1	99	0.00
17	T,M	Iodomethane	10.000	8.096	19.0	83	-0.01
18	T,M	Methyl acetate	10.000	0.000	100.0#	0	-4.15#
19	T,M	Methylene chloride	10.000	9.978	0.2	103	0.00
20	T,M	Carbon disulfide	10.000	9.635	3.7	96	-0.01
21	T,M	Acrylonitrile	50.000	56.872	-13.7	110	0.00
22	T,M	tert-Butyl methyl ether (MT	10.000	10.081	-0.8	99	0.00
23	T,M	trans-1,2-Dichloroethene	10.000	10.157	-1.6	101	-0.01
24	T,M	Isopropyl ether (DIPE)	10.000	10.508	-5.1	107	-0.01
25	T,M	Vinyl acetate	10.000	11.340	-13.4	115	0.00
26	P,T,M	1,1-Dichloroethane	10.000	10.381	-3.8	104	-0.01
27	T,M	2-Butanol	-1.000	0.000	0.0	0	0.00
28	T,M	tert-Butyl ethyl ether (ETB	10.000	10.474	-4.7	103	-0.01
29	T,M	2-Butanone	50.000	60.735	-21.5#	117	0.00
30	T,M	2,2-Dichloropropane	10.000	11.115	-11.2	114	-0.01
31	T,M	cis-1,2-Dichloroethene	10.000	9.913	0.9	100	-0.01
32	C,T,M	Chloroform	10.000	10.605	-6.1	106	-0.01
33	T,M	Bromochloromethane	10.000	10.672	-6.7	106	-0.01
34	T,M	tert-Amyl alcohol	50.000	0.000	100.0#	0	-6.45#
35	S	Dibromofluoromethane	10.000	10.267	-2.7	110	-0.01
36	T,M	Tetrahydrofuran	10.000	8.890	11.1	93	-0.01
37	T,M	1,1,1-Trichloroethane	10.000	10.797	-8.0	108	-0.01
38	T,M	Cyclohexane	10.000	0.000	100.0#	0	-6.80#
39	T,M	tert-Amyl methyl ether (TAM	10.000	9.978	0.2	99	-0.01
40	S	1,2-Dichloroethane-d4	10.000	10.915	-9.1	116	-0.01
41	I	CHLOROBENZENE-D5	10.000	10.000	0.0	97	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A05\RAQ070.D Vial: 2
Acq On : 5 Jan 2012 9:14 am Operator: SD
Sample : CVO05L0916 Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	10.000	10.472	-4.7	102	-0.01
43	T,M	Carbon tetrachloride	10.000	10.768	-7.7	106	-0.01
44	T,M	1,2-Dichloroethane	10.000	11.200	-12.0	107	-0.01
45	T,M	Benzene	10.000	10.051	-0.5	99	-0.01
46	T,M	Trichloroethene	10.000	9.577	4.2	92	0.00
47	T,M	Methylcyclohexane	10.000	0.000	100.0#	0	-8.32#
48	C,T,M	1,2-Dichloropropane	10.000	10.800	-8.0	103	-0.01
49	T,M	Bromodichloromethane	10.000	10.803	-8.0	105	-0.01
50	T,M	1,4-Dioxane	200.000	212.403	-6.2	102	0.00
51	T,M	Dibromomethane	10.000	10.499	-5.0	99	-0.01
52	T,M	2-Chloroethyl vinyl ether	10.000	6.702	33.0#	62	-0.01
53	T,M	4-Methyl-2-pentanone	50.000	60.062	-20.1#	112	0.00
54	T,M	cis-1,3-Dichloropropene	10.000	10.353	-3.5	100	-0.01
55	S	Toluene-d8	10.000	10.364	-3.6	108	-0.01
56	C,T,M	Toluene	10.000	10.059	-0.6	101	0.00
57	T,M	Ethyl methacrylate	10.000	10.231	-2.3	99	-0.01
58	T,M	trans-1,3-Dichloropropene	10.000	10.784	-7.8	103	-0.01
59	T,M	1,1,2-Trichloroethane	10.000	10.612	-6.1	103	-0.01
60	T,M	2-Hexanone	50.000	63.166	-26.3#	115	-0.01
61	T,M	1,3-Dichloropropane	10.000	10.747	-7.5	102	-0.01
62	T,M	Tetrachloroethene	10.000	9.843	1.6	96	-0.01
63	T,M	Dibromochloromethane	10.000	10.154	-1.5	97	-0.01
64	T,M	2-Ethyl-1-butanol	-1.000	0.000	0.0	0	0.00
65	T,M	1,2-Dibromoethane	10.000	10.351	-3.5	99	-0.01
66	T,M	1-Chlorohexane	10.000	10.682	-6.8	104	-0.01
67	P,M	Chlorobenzene	10.000	10.256	-2.6	98	-0.01
68	T,M	1,1,1,2-Tetrachloroethane	10.000	10.046	-0.5	97	0.00
69	C,T,M	Ethylbenzene	10.000	10.421	-4.2	101	-0.01
70	T,M	m-Xylene & p-Xylene	20.000	20.896	-4.5	102	0.00
71	T,M	o-Xylene	10.000	10.269	-2.7	99	-0.01
72	T,M	Styrene	10.000	10.407	-4.1	100	-0.01
73	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	98	-0.01
74	P,T,M	Bromoform	10.000	9.315	6.9	90	0.00
75	T,M	Isopropylbenzene	10.000	10.458	-4.6	102	-0.01
76	P,T,M	1,1,2,2-Tetrachloroethane	10.000	10.823	-8.2	103	-0.01
77	S	4-Bromofluorobenzene	10.000	10.385	-3.8	111	-0.01
78	T,M	1,2,3-Trichloropropane	10.000	10.803	-8.0	103	-0.01
79	T,M	trans-1,4-Dichloro-2-butene	10.000	10.974	-9.7	108	0.00
80	T,M	n-Propylbenzene	10.000	10.978	-9.8	106	0.00
81	T,M	Bromobenzene	10.000	9.814	1.9	95	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A05\RAQ070.D Vial: 2
Acq On : 5 Jan 2012 9:14 am Operator: SD
Sample : CVO05L0916 Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
82	T,M	1,3,5-Trimethylbenzene	10.000	10.334	-3.3	100	-0.01
83	T,M	2-Chlorotoluene	10.000	10.831	-8.3	107	-0.01
84	T,M	4-Chlorotoluene	10.000	10.393	-3.9	100	-0.01
85	T,M	tert-Butylbenzene	10.000	10.191	-1.9	100	-0.01
86	T,M	1,2,4-Trimethylbenzene	10.000	10.627	-6.3	103	-0.01
87	T,M	sec-Butylbenzene	10.000	11.178	-11.8	108	-0.01
88	T,M	p-Isopropyltoluene	10.000	10.812	-8.1	103	-0.01
89	T,M	1,3-Dichlorobenzene	10.000	10.102	-1.0	97	0.00
90	T,M	1,4-Dichlorobenzene	10.000	10.152	-1.5	98	-0.01
91	T,M	n-Butylbenzene	10.000	11.762	-17.6	110	-0.01
92	T,M	1,2-Dichlorobenzene	10.000	10.125	-1.3	99	-0.01
93	T,M	1,2-Dibromo-3-chloropropane	10.000	9.607	3.9	93	0.00
94	T,M	1,2,4-Trichlorobenzene	10.000	11.318	-13.2	104	-0.01
95	T,M	Hexachlorobutadiene	10.000	10.843	-8.4	105	-0.01
96	T,M	Naphthalene	10.000	9.330	6.7	96	-0.01
97	T,M	1,2,3-Trichlorobenzene	10.000	10.743	-7.4	105	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A05\RAQ070.D Vial: 2
Acq On : 5 Jan 2012 9:14 am Operator: SD
Sample : CVO05L0916 Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	102	-0.01
2	T,M	Chlorotrifluoroethylene	0.000	0.000	0.0	0#	0.00
3	T,M	Dichlorodifluoromethane	0.351	0.425	-21.1#	124	0.00
4	P,T,M	Chloromethane	0.331	0.330	0.3	100	0.00
5	T,M	2-Chloro-1,1,1-trifluoroeth	0.000	0.000	0.0	0#	0.00
6	C,T,M	Vinyl chloride	0.328	0.362	-10.4	111	-0.01
7	T,M	Bromomethane	0.312	0.262	16.0	93	-0.01
8	T,M	Chloroethane	0.234	0.232	0.9	101	-0.01
9	T,M	Dichlorofluoromethane	0.864	0.893	-3.4	105	-0.01
10	T,M	Trichlorofluoromethane	0.570	0.720	-26.3#	126	-0.01
11	T,M	sec-Propyl alcohol	0.000	0.000	0.0	0#	0.00
12	T,M	Acrolein	0.019	0.015	21.1#	82	0.00
13	T,M	1,1,2-Trichloro-1,2,2-trifl	0.240	0.254	-5.8	109	-0.01
14	T,M	Acetone	0.037	0.041	-10.8	111	0.00
15	C,T,M	1,1-Dichloroethene	0.600	0.628	-4.7	105	0.00
16	T,M	tert-Butyl alcohol	0.012	0.012	0.0	99	0.00
17	T,M	Iodomethane	0.580	0.469	19.1	83	-0.01
18	T,M	Methyl acetate	0.130	0.000	100.0#	0#	-4.15#
19	T,M	Methylene chloride	0.412	0.411	0.2	103	0.00
20	T,M	Carbon disulfide	1.278	1.231	3.7	96	-0.01
21	T,M	Acrylonitrile	0.043	0.049	-14.0	110	0.00
22	T,M	tert-Butyl methyl ether (MT	0.578	0.582	-0.7	99	0.00
23	T,M	trans-1,2-Dichloroethene	0.582	0.592	-1.7	101	-0.01
24	T,M	Isopropyl ether (DIPE)	0.957	1.006	-5.1	107	-0.01
25	T,M	Vinyl acetate	0.254	0.288	-13.4	115	0.00
26	P,T,M	1,1-Dichloroethane	0.657	0.682	-3.8	104	-0.01
27	T,M	2-Butanol	0.000	0.000	0.0	0#	0.00
28	T,M	tert-Butyl ethyl ether (ETB	0.828	0.867	-4.7	103	-0.01
29	T,M	2-Butanone	0.051	0.062	-21.6#	117	0.00
30	T,M	2,2-Dichloropropane	0.586	0.651	-11.1	114	-0.01
31	T,M	cis-1,2-Dichloroethene	0.396	0.392	1.0	100	-0.01
32	C,T,M	Chloroform	0.666	0.706	-6.0	106	-0.01
33	T,M	Bromochloromethane	0.220	0.235	-6.8	106	-0.01
34	T,M	tert-Amyl alcohol	0.010	0.000	100.0#	0#	-6.45#
35	S	Dibromofluoromethane	0.384	0.394	-2.6	110	-0.01
36	T,M	Tetrahydrofuran	0.040	0.030	25.0#	93	-0.01
37	T,M	1,1,1-Trichloroethane	0.629	0.679	-7.9	108	-0.01
38	T,M	Cyclohexane	0.620	0.000	100.0#	0#	-6.80#
39	T,M	tert-Amyl methyl ether (TAM	0.138	0.137	0.7	99	-0.01
40	S	1,2-Dichloroethane-d4	0.299	0.326	-9.0	116	-0.01
41	I	CHLOROBENZENE-D5	1.000	1.000	0.0	97	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A05\RAQ070.D Vial: 2
Acq On : 5 Jan 2012 9:14 am Operator: SD
Sample : CVO05L0916 Inst : TO05
Misc : 10ppb 8260/50ppb KET-TBA-A-AN Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,1-Dichloropropene	0.209	0.219	-4.8	102	-0.01
43	T,M	Carbon tetrachloride	0.685	0.738	-7.7	106	-0.01
44	T,M	1,2-Dichloroethane	0.444	0.498	-12.2	107	-0.01
45	T,M	Benzene	1.542	1.549	-0.5	99	-0.01
46	T,M	Trichloroethene	0.459	0.440	4.1	92	0.00
47	T,M	Methylcyclohexane	0.713	0.000	100.0#	0#	-8.32#
48	C,T,M	1,2-Dichloropropane	0.354	0.382	-7.9	103	-0.01
49	T,M	Bromodichloromethane	0.570	0.616	-8.1	105	-0.01
50	T,M	1,4-Dioxane	0.001	0.001	0.0	102	0.00
51	T,M	Dibromomethane	0.196	0.206	-5.1	99	-0.01
52	T,M	2-Chloroethyl vinyl ether	0.087	0.059	32.2#	62	-0.01
53	T,M	4-Methyl-2-pentanone	0.158	0.189	-19.6	112	0.00
54	T,M	cis-1,3-Dichloropropene	0.581	0.602	-3.6	100	-0.01
55	S	Toluene-d8	1.300	1.347	-3.6	108	-0.01
56	C,T,M	Toluene	1.584	1.593	-0.6	101	0.00
57	T,M	Ethyl methacrylate	0.294	0.301	-2.4	99	-0.01
58	T,M	trans-1,3-Dichloropropene	0.458	0.494	-7.9	103	-0.01
59	T,M	1,1,2-Trichloroethane	0.220	0.234	-6.4	103	-0.01
60	T,M	2-Hexanone	0.097	0.122	-25.8#	115	-0.01
61	T,M	1,3-Dichloropropane	0.392	0.421	-7.4	102	-0.01
62	T,M	Tetrachloroethene	0.349	0.344	1.4	96	-0.01
63	T,M	Dibromochloromethane	0.364	0.369	-1.4	97	-0.01
64	T,M	2-Ethyl-1-butanol	0.000	0.000	0.0	0#	0.00
65	T,M	1,2-Dibromoethane	0.260	0.269	-3.5	99	-0.01
66	T,M	1-Chlorohexane	0.616	0.658	-6.8	104	-0.01
67	P,M	Chlorobenzene	0.999	1.025	-2.6	98	-0.01
68	T,M	1,1,1,2-Tetrachloroethane	0.383	0.384	-0.3	97	0.00
69	C,T,M	Ethylbenzene	1.840	1.917	-4.2	101	-0.01
70	T,M	m-Xylene & p-Xylene	1.422	1.486	-4.5	102	0.00
71	T,M	o-Xylene	1.412	1.450	-2.7	99	-0.01
72	T,M	Styrene	1.093	1.138	-4.1	100	-0.01
73	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	98	-0.01
74	P,T,M	Bromoform	0.515	0.479	7.0	90	0.00
75	T,M	Isopropylbenzene	4.849	5.072	-4.6	102	-0.01
76	P,T,M	1,1,2,2-Tetrachloroethane	0.659	0.713	-8.2	103	-0.01
77	S	4-Bromofluorobenzene	1.338	1.389	-3.8	111	-0.01
78	T,M	1,2,3-Trichloropropane	0.188	0.203	-8.0	103	-0.01
79	T,M	trans-1,4-Dichloro-2-butene	0.206	0.226	-9.7	108	0.00
80	T,M	n-Propylbenzene	5.973	6.557	-9.8	106	0.00
81	T,M	Bromobenzene	1.126	1.105	1.9	95	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\12A05\RAQ070.D
Acq On : 5 Jan 2012 9:14 am
Sample : CVO05L0916
Misc : 10ppb 8260/50ppb KET-TBA-A-AN
MS Integration Params: RTE.P

Vial: 2
Operator: SD
Inst : TO05
Multiplr: 1.00

Method : D:\HPCHEM\1\METHODS\VO05L09.M (RTE Integrator)
Title : METHOD 8260
Last Update : Tue Dec 13 09:22:23 2011
Response via : Multiple Level Calibration

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

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
82	T,M	1,3,5-Trimethylbenzene	4.196	4.336	-3.3	100	-0.01
83	T,M	2-Chlorotoluene	3.967	4.296	-8.3	107	-0.01
84	T,M	4-Chlorotoluene	3.393	3.526	-3.9	100	-0.01
85	T,M	tert-Butylbenzene	0.826	0.842	-1.9	100	-0.01
86	T,M	1,2,4-Trimethylbenzene	4.040	4.293	-6.3	103	-0.01
87	T,M	sec-Butylbenzene	5.136	5.740	-11.8	108	-0.01
88	T,M	p-Isopropyltoluene	4.408	4.766	-8.1	103	-0.01
89	T,M	1,3-Dichlorobenzene	2.015	2.036	-1.0	97	0.00
90	T,M	1,4-Dichlorobenzene	1.933	1.963	-1.6	98	-0.01
91	T,M	n-Butylbenzene	3.975	4.676	-17.6	110	-0.01
92	T,M	1,2-Dichlorobenzene	1.631	1.652	-1.3	99	-0.01
93	T,M	1,2-Dibromo-3-chloropropane	0.110	0.105	4.5	93	0.00
94	T,M	1,2,4-Trichlorobenzene	0.946	1.070	-13.1	104	-0.01
95	T,M	Hexachlorobutadiene	0.676	0.733	-8.4	105	-0.01
96	T,M	Naphthalene	1.152	1.239	-7.6	96	-0.01
97	T,M	1,2,3-Trichlorobenzene	0.759	0.815	-7.4	105	-0.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 8 ☐ EMAX-524.2 Rev.No. 7 ☐ EMAX-624 Rev.No. 4 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-M8260SIM Rev.No. 0 ☐

Start Date: 12/9/11 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge

Book # A05 -058

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01	RLQ170	RB05L09	1mL 4/1/5/1/c 1/1/2	N/A	N/A	N/A		11:33am
02	171	V005L091	1/5/.5/.25/ .25/.25/.05/.25/2.5mL					0.3 / 1.5 ppb
03	172	2	.25/.25/.05/ .05/.25/.05/2.5mL					0.5 / 2.5
04	173	3	.5/.5/.1/ .1/.5/.1/2.5mL					1.0 / 5.0
05	174	4	1/1/.2/.2/1/.2/2.5mL					2.0 / 10
06	175	5	2.5/2.5/.5/.5/ 2.5/.5/.5/2.5mL					5.0 / 25
07	176	6	5/5/1/1/5/1/1mL					10 / 50
08	177	7	10/10/2/2/ 10/2/2mL					20 / 100
09	178	8	15/15/3/3/ 15/3/3mL					30 / 150
10	179	9	20/20/4/4/ 20/4/4mL					40 / 200
11	180	10	25/25/5/5/ 25/5/5mL					50 / 250
12	181	11	50/50/10/10/ 50/10/10mL					100 / 500
13	182	15ks						
14	183	V005L09B						
15	184	V005L091	5/5/1/1/.25/1mL					10 / 50 ppb
16	185	RIN 85						7:57pm
17								
18								
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25								
26								
27								
28								
29								
30								sd 12/12/11

BATCH V005L096

Instrument No.	05
INITIAL CALIBRATION REFERENCE	
DATE	12/9/11
ICAL ID	V005L09

STANDARDS

NAME	ID	Amount (uL)	Conc. (mg/L)
(a) DCC A-AN	SVI-19-07-03	*	200
(b) DCC 82/8D	-08-02	*	50/200
DCC (c) GASES	-06-02	*	200
(d) CS2	-06-03	*	200
DCC (e) TAA	SVI-19-02-02	*	200
(f) 4 acid 1	-90-02	*	200/1000
BFB	SVI-19-03-02	1	50
IS/SURR (g) IS	-05-02	1	200
(h) SS	-05-03	*	200
	-10-02	*	200
ICV/LCS A-AN	-09-02	5	200
ICV/LCS 82/8D	SVI-17-99-03	5	50/200
ICV/LCS CS2	SVI-19-10-03	1	200
	SVI-17-97-03	1	200
ICV/LCS TAA	SVI-12-379	.25	1000
3 acid	SVI-17-55-01	1	200

Date File Folder	1209
Electronic Data Archival	
Location	Date
HPCHEM_VOA/TO05	

Comments: *: varies: see individual calibration level

Analyzed By: sd

Date Disposed: 12/12/11

Disposed By: sd

2150

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 8 ☐ EMAX-524.2 Rev.No. 7 ☐ EMAX-624 Rev.No. 4 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-M8260SIM Rev.No. 0 ☐

Start Date: 1/3/12 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge Book # A05 -058

BATCH cv005L09/14

	Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01		RAQ001	RFB05A01	5mL					7:18pm
02		002	cv005L09/14	5/5/1/1/1/5mL					
03		003	V005A01L	5/5/1/1/1/1/25mL					
04		004	↓ C						
05		005	RINSE						
06		006	V005A01R	25mL					
07		007	0.2/4.0	.5/1/1/.02 .02mL					
08		008	0.3/5.0	.5/1/1/5/.03 .03mL					
09		009	0.5/5.0	.5/1/25/.05 .05mL					
10		010	1.0/5.0	.5/1/5/1 .1mL					
11		011	20/10	~~[illegible]~~ .2mL					
12		012	112208-01R	25mL	1.0	✓	✓		
13		013	-01M			✓	✓		
14		014	-01S			✓	✓		
15		015	4.0/20	2/2/1/4/mL					
16		016	112209-03	25mL	1.0	✓	✓		
17		017	-02			✓	✓		
18		018	-02M			✓	✓		
19		019	-02S			✓	✓		
20		020	-04			✓	✓		
21		021	-05			✓	✓		
22		022	-06			✓	✓		7:11pm
23		023	-07			✓	✓		out of [illegible], RR 7:42pm
24		024-034	RINSE						
25									
26									
27									
28									
29									
30									sol 1/4/12

Instrument No.	05
INITIAL CALIBRATION REFERENCE	
DATE	12/9/11
ICAL ID	V005L09

STANDARDS

NAME	ID	Amount (µL)	Conc. (mg/L)
DCC	SVI-19-07-03	5	200
DCC	↓ -08-02	5	50/200
DCC	↓ -17-03 -06-03	1 1	200 200
DCC	SVI-17-90-03 -62-03	1 5	200 200
BFB	SVI-19-03-02	1	50
IS/SURR.	↓ -10-02	1	200
ICV/LCS	↓ -13-01	5	200
ICV/LCS	SVI-17-89-03	5	50/200
ICV/LCS	SVI-19-10-03 SVI-17-87-03	1 1	200 200
ICV/LCS	SVI-19-25-01 SVI-12-979	1 .25	200 1000

Date File Folder	125A013
Electronic Data Archival	
Location	Date
HPCHEM_VOA/TO05	

Comments:

Analyzed By: GO

Date Disposed: 1/4/12

Disposed By: GO

2131

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 8 ☐ EMAX-524.2 Rev.No. 7 ☐ EMAX-624 Rev.No. 4 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-M8260SIM Rev.No. 0 ☐

Start Date: 1/4/12 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge Book # A05 -058

BATCH cv005L09/5

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01	RAQ035	RFB05A02	lab					5:12am
02	036	CV005L09/5	5/5/1/1/1/5mL					
03	037	V005A02L	5/5/1/1/1/.25mL					
04	038	↓ C	↓					
05	039	RINSE						
06	040	V005A02B	25mL					
07	041	12A007-02		1.0	✓	✓		
08	042	↓ -01		↓	✓	✓		
09	043	12A006-01	↓	↓	✓	✓		
10	044	12A007-01T	0.5mL	10	✓	✓		
11	045	11L209-02T	0.50mL	50	✓	✓		
12	046	-05R	25mL	1.0	✓	✓		
13	047	-04T	1.0mL	25	✓	✓		
14	048	↓ -07R	25mL	1.0	✓	✓		
15	049	RINSE						
16	050	0.5/5.0ppb	5/.25/.05/.05mL					
17	051	11L209-~~08~~07T	1.0mL ~~25mL~~	~~25~~ ~~1.0~~	✓	✓		
18	052	-~~07~~08	25mL	1.0	✓	✓		50X
19	053	-~~10~~09	X	↓	✓	✓		RR vs contam only c/o
20	054	↓ -~~11~~10	↓	↓	✓	✓		
21	055	~~RINSE~~ 11L209-11	25mL	1.0	✓	✓	sd 1/5/12	
22	056	~~11L209-01~~ RINSE	~~25mL~~	~~1.0~~	✓	✓	sd 1/5/12	7:01pm
23	↓ 057 ~~055~~	RINSE 11L209-01	25mL	1.0	✓	✓		
24		sd 1/5/12						
25								
26								
27								
28								
29								
30								sd 1/5/12

Instrument No.	05
INITIAL CALIBRATION REFERENCE	
DATE	12/9/11
ICAL ID	V005L09

STANDARDS

NAME	ID	Amount (uL)	Conc. (mg/L)
DCC	SV1-19-18-02	5	250
DCC	↓ -08-02	5	50/250
DCC	↓ -17-03	1	200
	-06-03	1	200
DCC	SV1-17-90-02	1	200
	-62-03	5	250
BFB	SV1-19-03-02	1	50
IS/SURR.	↓ -10-02	1	200
ICV/LCS	↓ -10-01	5	250
ICV/LCS	SV1-17-99-03	5	5/250
ICV/LCS	SV1-19-10-03	1	250
	SV1-17-97-03	1	250
ICV/LCS	SV1-19-25-01	1	250
	SV1-12-1979	.25	250

Date File Folder 12A04

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO05	

Comments: ~~Data files~~ RAQ058-068 are Rinses.

Analyzed By: SD

Date Disposed: 1/5/12

Disposed By: SD

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 8 ☐ EMAX-524.2 Rev.No. 7 ☐ EMAX-624 Rev.No. 4 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-M8260SIM Rev.No. 0 ☐

Start Date: 1/5/12 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge

Book # A05 -058

BATCH CV005L0916

Sample Prep. ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl <5ppm	Matrix S	Notes
01	RAQ069	QFB05A03	Lab					8:07am
02	070	CV005L0916	5/5/11/mL					
03	071	V005A03 L	↓					
04	072	↓ C	↓					
05	073	RINSE						
06	074	V005A03B	25mL					
07	075	11L209-10R	↓	1.0	✓	✓		not used
08	076	-09T	0.50mL	50	✓	✓		↓
09	077	-08T	↓	↓	✓	✓		
10	078	↓ -09R	25mL	1.0	✓	✓		
11	079	12A011-03			✓	✓		
12	080	-02			✓	✓		
13	081	↓ -01			✓	✓		
14	082	12A010-03			✓	✓		
15	083	-02			✓	✓		
16	084	↓ -01	↓	↓	✓	✓		50X
17	085	RINSE						
18	086	12A011-04	25mL	1.0	✓	✓		5:26pm
19	↓ 087-099	RINSE						
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								gd 1/6/12

Instrument No.	05
INITIAL CALIBRATION REFERENCE	
DATE	12/9/11
ICAL ID	V005L09

STANDARDS

NAME	ID	Amount (uL)	Conc. (mg/L)
DCC	SV1-19-10-02	5	200
DCC	-08-02	5	50/200
DCC	-17-09 ~~-06-03~~ 04	1	200
DCC	-06-03 1/6/12	1	200
BFB	-03-02	1	50
IS/SURR.	-10-02	1	200
ICV/LCS	↓ -10-01	5	200
ICV/LCS	SV1-17-99-03	5	50/200
ICV/LCS	SV1-19-10-03	1	200
ICV/LCS	SV1-17-87-03	1	200

Date File Folder: 12A05

Electronic Data Archival

Location	Date
HPCHEM_VOA/TO05	

Comments:

Analyzed By: gd

Date Disposed: 1/6/12

Disposed By: gd

Appendix M (Included in CD-ROM)

Data Validation

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Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

Accord Engineering, Inc.
6050 Santo Road, Suite 175
San Diego, CA 92124
ATTN: Mr. Qihai Chen

November 9, 2011

SUBJECT: Seal Beach Site 75, Data Validation

Dear Mr. Chen,

Enclosed are the final validation reports for the fraction listed below. These SDGs were received on October 27, 2011. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 26478:

SDG #	**Fraction**
11I265, 11I284	Volatiles

The data validation was performed under EPA Level III/IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Sampling & Analysis Plan, Preliminary Assessment/Site Inspection Installation Restoration Program Site 75 Agricultural Well Kayo-SB Naval Weapons Station Seal Beach Seal Beach, California, June 2011, addendum 01, September 2011
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

E Rauto

Erlinda T. Rauto
Operations Manager/Senior Chemist

Attachment 1

III/IV EDD

LDC #26478 (Accord Engineering - San Diego, CA / NWS Seal Beach, Site 75)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)																																	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	11I265	10/27/11	11/17/11	8	0																																
B	11I284	10/27/11	11/17/11	8	0																																
B	11I284	10/27/11	11/17/11	2	0																																
Total	LS/AK			18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS, MSD, or DUP's.

26478ST.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Seal Beach Site 75
Collection Date:	September 27 through September 28, 2011
LDC Report Date:	November 4, 2011
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level III
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	11I265

Sample Identification

SB75MW02C-Q311-02
SB75MW02C-Q311-01
SB75MW02A-Q311-01
SB75MW03A-Q311-01
SB75MW03A-Q311-02
SB75MW03B-Q311-01
SB75MW01B-Q311-01
SB75MW01B-Q311-01DL

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Final Sampling & Analysis Plan, Preliminary Assessment/Site Inspection Installation Restoration Program Site 75 Agricultural Well Kayo-SB Naval Weapons Station Seal Beach Seal Beach, California (June 2011) addendum 01 (September 2011) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 25.0% for all compounds

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample SB75MW02C-Q311-02 was identified as a field blank. No volatile contaminants were found.

Sample SB75MW03A-Q311-02 was identified as a trip blank. No volatile contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
SB75MW01B-Q311-01	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects) J (all detects) J (all detects)	A

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

The overall assessment of data was acceptable. In the case where more than one result was reported for an individual sample, the least technically acceptable results were rejected as follows:

Sample	Compound	Flag	A or P
SB75MW01B-Q311-01	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	R	A
SB75MW01B-Q311-01DL	All TCL compounds except 1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	R	A

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Seal Beach Site 75
Volatiles - Data Qualification Summary - SDG 11I265

SDG	Sample	Compound	Flag	A or P	Reason
11I265	SB75MW01B-Q311-01	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	J (all detects) J (all detects) J (all detects)	A	Sample result exceeded calibration range.
11I265	SB75MW01B-Q311-01	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	R	A	Overall assessment of data
11I265	SB75MW01B-Q311-01DL	All TCL compounds except 1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	R	A	Overall assessment of data

Seal Beach Site 75
Volatiles - Laboratory Blank Data Qualification Summary - SDG 11I265

No Sample Data Qualified in this SDG

Seal Beach Site 75
Volatiles - Field Blank Data Qualification Summary - SDG 11I265

No Sample Data Qualified in this SDG

LDC #: 26478A1

SDG #: 11I265

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

~~ADR~~ 111

Date: 11-2-11

Page: 1 of 1

Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 9/27-28/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	% RSD ≤ 30
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ 25%
V.	Blanks	A N	
VI.	Surrogate spikes	A N	
VII.	Matrix spike/Matrix spike duplicates	N	Client Specified
VIII.	Laboratory control samples	A N	LCS/D
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A N	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	SW N	
XIII.	Tentitatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	SW N	
XVI.	Field duplicates	N ~~ND~~	~~FD=4/5~~
XVII.	Field blanks	ND	FB=1 TB=5

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: All but 6

1	SB75MW02C-Q311-02	11		21		31	100Jul-Blk
2	SB75MW02C-Q311-01	12		22		32	
3	SB75MW02A-Q311-01	13		23		33	
4	SB75MW03A-Q311-01	14		24		34	
5	SB75MW03A-Q311-02	15		25		35	
6	SB75MW03B-Q311-01	16		26		36	
7	SB75MW01B-Q311-01	17		27		37	
8	SB75MW01B-Q311-01DL	18		28		38	
9		19		29		39	
10		20		30		40	

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 26478A1

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and CRQLs

Page: 1 of 1
Reviewer: W
2nd Reviewer: 2

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y N N/A Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?

Y N N/A Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?

#	Date	Compound	Finding	Associated Samples	Qualifications
		H, I, S	Exceeded Calib Range	7	J detects/A

Comments: See sample calculation verification worksheet for recalculations

COMQUA.1S

LDC #: 26478A1
SDG #: See Cover

VALIDATION FINDINGS WORKSHEET
Overall Assessment of Data

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

Y N N/A Was the overall quality and usability of the data acceptable?

#	Date	Compound	Finding	Associated Samples	Qualifications
		A, I, S	Exceeded calib. Range	7	R/A
		All except A, I, S	Dilution	8	R/A

Comments:

OVR 1S

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Seal Beach Site 75
Collection Date:	September 28 through September 29, 2011
LDC Report Date:	March 21, 2012
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level III & IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	11I284

Sample Identification

SB75MW01A-Q311-01
SB75MW01A-Q311-01DL
SB75MW01A-Q311-02
SB75MW04B-Q311-01
SB75MW04A-Q311-01
SB75MW05B-Q311-01
SB75MW05A-Q311-01**
SB75MW05A-Q311-01DL**
SB75MW05A-Q311-02
SB75MW05A-Q311-02DL
SB75MW01A-Q311-01MS
SB75MW01A-Q311-01MSD

**Indicates sample underwent EPA Level IV review

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Final Sampling & Analysis Plan, Preliminary Assessment/Site Inspection Installation Restoration Program Site 75 Agricultural Well Kayo-SB Naval Weapons Station Seal Beach Seal Beach, California (June 2011) addendum 01 (September 2011) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Samples indicated by a double asterisk on the front cover underwent an EPA Level IV review. An EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds.

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs) and 25.0% for all other compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample SB75MW01A-Q311-02 was identified as a trip blank. No volatile contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within the QC limits. Since the samples were diluted out, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which an EPA Level IV review was performed.

Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria for samples on which an EPA Level IV review was performed with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
SB75MW01A-Q311-01	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects) J (all detects) J (all detects)	A
SB75MW05A-Q311-01** SB75MW05A-Q311-01DL**	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene Tetrachloroethene	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects) J (all detects) J (all detects) J (all detects)	A

Raw data were not evaluated for the samples reviewed by Level III criteria.

*Indicates change as the result of report review. SDG 11I284

XIII. Tentatively Identified Compounds (TICs)

All tentatively identified compounds were within validation criteria for samples on which an EPA Level IV review was performed.
Raw data were not evaluated for the samples reviewed by Level III criteria.

XIV. System Performance

The system performance was acceptable for samples on which an EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

*XV. Overall Assessment of Data

The overall assessment of data was acceptable. In the case where more than one result was reported for an individual sample, the least technically acceptable results were rejected as follows:

Sample	Compound	Flag	A or P
SB75MW01A-Q311-01	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	R R R	A
SB75MW01A-Q311-01DL	All TCL compounds except 1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	R	A
SB75MW05A-Q311-01** SB75MW05A-Q311-02	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene Tetrachloroethene	R R R R	A
SB75MW05A-Q311-01DL** SB75MW05A-Q311-02DL	All TCL compounds except 1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene Tetrachloroethene	R	A

*Corrected flags in table above

*XVI. Field Duplicates

Samples SB75MW05A-Q311-01** and SB75MW05A-Q311-02, and samples SB75MW05A-Q311-01DL** and SB75MW05A-Q311-02DL were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

*Indicates change as the result of report review. SDG 11I284
V:\LOGIN\ACCORD\SEAL BEACH\26478B1_SB34_RV1.DOC

Compound	Concentration (ug/L)		RPD
	SB75MW05A-Q311-01**	SB75MW05A-Q311-02	
1,1,1-Trichloroethane	17	17	0
1,1-Dichloroethane	240	230	4
1,1-Dichloroethene	420	400	5
1,2-Dichloroethane	2.2	2.1	5
cis-1,2-Dichloroethene	5.3	5.0	6
Tetrachloroethene	170	160	6
Trichloroethene	480	460	4
Vinyl chloride	1.3	1.3	0

Compound	Concentration (ug/L)		RPD
	SB75MW05A-Q311-01DL**	SB75MW05A-Q311-02DL	
1,1,1-Trichloroethane	18	18	0
1,1-Dichloroethane	320	310	3
1,1-Dichloroethene	1400	1400	0
cis-1,2-Dichloroethene	5.4	5.5	2
Tetrachloroethene	160	160	0
Trichloroethene	690	680	1

*Corrected compounds inable above.

*Seal Beach Site 75
Volatiles - Data Qualification Summary - SDG 11I284

SDG	Sample	Compound	Flag	A or P	Reason
11I284	SB75MW01A-Q311-01	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	J (all detects) J (all detects) J (all detects)	A	Sample result exceeded calibration range.
11I284	SB75MW05A-Q311-01** SB75MW05A-Q311-01DL**	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene Tetrachloroethene	J (all detects) J (all detects) J (all detects) J (all detects)	A	Sample result exceeded calibration range.
*11I284	SB75MW01A-Q311-01	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	R R R	A	Overall assessment of data
11I284	SB75MW01A-Q311-01DL	All TCL compounds except 1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene	R	A	Overall assessment of data
*11I284	SB75MW05A-Q311-01** SB75MW05A-Q311-02	1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene Tetrachloroethene	R R R R	A	Overall assessment of data
11I284	SB75MW05A-Q311-01DL** SB75MW05A-Q311-02DL	All TCL compounds except 1,1-Dichloroethene 1,1-Dichloroethane Trichloroethene Tetrachloroethene	R	A	Overall assessment of data

Seal Beach Site 75
Volatiles - Laboratory Blank Data Qualification Summary - SDG 11I284

No Sample Data Qualified in this SDG

Seal Beach Site 75
Volatiles - Field Blank Data Qualification Summary - SDG 11I284

No Sample Data Qualified in this SDG

*Indicates change as the result of report review. SDG 11I284

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Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

Accord Engineering, Inc.
6050 Santo Road, Suite 175
San Diego, CA 92124
ATTN: Mr. Qihai Chen

February 1, 2012

SUBJECT: NWS Seal Beach, Site 75, Data Validation

Dear Mr. Chen,

Enclosed is the final validation report for the fraction listed below. This SDG was received on January 24, 2012. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 27029:

SDG #	Fraction
11L202	Volatiles

The data validation was performed under EPA Level III guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Sampling & Analysis Plan, Preliminary Assessment/Site Inspection Installation Restoration Program Site 75 Agricultural Well Kayo-SB Naval Weapons Station Seal Beach Seal Beach, California, June 2011, addendum 01, September 2011
- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment 1

III/IV EDD

LDC #27029 (Accord Engineering - San Diego, CA / NWS Seal Beach, Site 75)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)																																	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	11L202	01/24/12	02/14/12	4	0																																
Total	T/AK			4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS, MSD, or DUP's.

27029ST.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Seal Beach Site 75
Collection Date:	December 27, 2011
LDC Report Date:	January 30, 2012
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level III
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	11L202

Sample Identification

SB75MW03B-Q411-01
SB75MW03A-Q411-01
SB75MW03A-Q411-02
SB75MW02A-Q411-01

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Final Sampling & Analysis Plan, Preliminary Assessment/Site Inspection Installation Restoration Program Site 75 Agricultural Well Kayo-SB Naval Weapons Station Seal Beach Seal Beach, California (June 2011) addendum 01 (September 2011) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for all compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample SB75MW03A-Q411-02 was identified as a trip blank. No volatile contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and RLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

Seal Beach Site 75
Volatiles - Data Qualification Summary - SDG 11L202

No Sample Data Qualified in this SDG

Seal Beach Site 75
Volatiles - Laboratory Blank Data Qualification Summary - SDG 11L202

No Sample Data Qualified in this SDG

Seal Beach Site 75
Volatiles - Field Blank Data Qualification Summary - SDG 11L202

No Sample Data Qualified in this SDG

LDC #: 27029A1

SDG #: 11L202

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

III

Date: 1/26/12

Page: 1 of 1

Reviewer: BR

2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 12/27/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	≤ ~~30~~ 15/30
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ ~~25~~ 20%
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	N	Client specified
VIII.	Laboratory control samples	A	LCS/LCSD
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	N	
XII.	Compound quantitation/CRQLs	N	
XIII.	Tentitatively identified compounds (TICs)	N	
XIV.	System performance	N	
XV.	Overall assessment of data	A	
XVI.	Field duplicates	N	
XVII.	Field blanks	ND	TB = 3

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: Water

1	SB75MW03B-Q411-01	11	V067L23-MB	21		31	
2	SB75MW03A-Q411-01	12		22		32	
3	SB75MW03A-Q411-02	13		23		33	
4	SB75MW02A-Q411-01	14		24		34	
5		15		25		35	
6		16		26		36	
7		17		27		37	
8		18		28		38	
9		19		29		39	
10		20		30		40	

Laboratory Data Consultants, Inc.

7750 El Camino Real, Ste. 2L Carlsbad, CA 92009

Phone 760.634.0437 **Web** www.lab-data.com **Fax** 760.634.0439

Accord Engineering, Inc.
6050 Santo Road, Suite 175
San Diego, CA 92124
ATTN: Mr. Qihai Chen

February 7, 2012

SUBJECT: Seal Beach Site 75, Data Validation

Dear Mr. Chen,

Enclosed is the final validation report for the fraction listed below. This SDG was received on January 20, 2012. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 27019:

SDG #	**Fraction**
11L209	Volatiles

The data validation was performed under EPA Level III/IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Sampling & Analysis Plan, Preliminary Assessment/Site Inspection Installation Restoration Program Site 75 Agricultural Well Kayo-SB Naval Weapons Station Seal Beach Seal Beach, California, June 2011, addendum 01, September 2011

- USEPA, Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, June 2008

- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996; update IIIA, April 1998; IIIB, November 2004; Update IV, February 2007

Please feel free to contact us if you have any questions.

Sincerely,

Andrew Kong
Project Manager/Chemist

Attachment 1

III/IV EDD

LDC #27019 (Accord Engineering - San Diego, CA / NWS Seal Beach, Site 75)

LDC	SDG#	DATE REC'D	(3) DATE DUE	VOA (8260B)																																	
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	11L209	01/20/12	02/10/12	13	0																																
A	11L209	01/20/12	02/10/12	2	0																																
Total	T/AK			15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15

Shaded cells indicate Level IV validation (all other cells are Level III validation). These sample counts do not include MS, MSD, or DUP's.

27019ST.wpd

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name:	Seal Beach Site 75
Collection Date:	September 27 through September 28, 2011
LDC Report Date:	February 1, 2012
Matrix:	Water
Parameters:	Volatiles
Validation Level:	EPA Level III & IV
Laboratory:	EMAX Laboratories, Inc.
Sample Delivery Group (SDG):	11L209

Sample Identification

SB75MW02C-Q411-01
SB75MW01A-Q411-01
SB75MW01A-Q411-01DL
SB75MW01A-Q411-02
SB75MW01B-Q411-01
SB75MW01B-Q411-01DL
SB75MW04A-Q411-01
SB75MW04B-Q411-01
SB75MW05A-Q411-01**
SB75MW05A-Q411-01DL**
SB75MW05A-Q411-02
SB75MW05A-Q411-02DL
SB75MW05B-Q411-01
SB75MW05A-Q411-03
SB75MW05A-Q411-04
SB75MW01A-Q411-01MS
SB75MW01A-Q411-01MSD

**Indicates sample underwent EPA Level IV review

Introduction

This data review covers 17 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows the Final Sampling & Analysis Plan, Preliminary Assessment/Site Inspection Installation Restoration Program Site 75 Agricultural Well Kayo-SB Naval Weapons Station Seal Beach Seal Beach, California (June 2011) addendum 01 (September 2011) and a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (June 2008).

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Samples indicated by a double asterisk on the front cover underwent an EPA Level IV review. An EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

NJ Presumptive evidence of presence of the compound at an estimated quantity.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

Average relative response factors (RRF) for all compounds were within method and validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% all compounds.

The percent differences (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

All of the continuing calibration relative response factors (RRF) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

Sample SB75MW01A-Q411-02 was identified as a trip blank. No volatile contaminants were found.

Sample SB75MW05A-Q411-04 was identified as an equipment blank. No volatile contaminants were found.

Sample SB75MW05A-Q411-03 was identified as a source blank. No volatile contaminants were found.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were not within QC limits. Since the sample concentration was greater than the spiked concentration, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which an EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and RLs

All compound quantitation and RLs were within validation criteria for samples on which an EPA Level IV review was performed with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
SB75MW01A-Q411-01 SB75MW05A-Q411-01** SB75MW05A-Q411-02	1,1-Dichloroethane 1,1-Dichloroethene Tetrachloroethene Trichloroethene	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects) J (all detects) J (all detects) J (all detects)	A
SB75MW01B-Q411-01	1,1-Dichloroethane 1,1-Dichloroethene Trichloroethene	Sample result exceeded calibration range.	Reported result should be within calibration range.	J (all detects) J (all detects) J (all detects)	A

Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was acceptable for samples on which an EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment of Data

The overall assessment of data was acceptable. In the case where more than one result was reported for an individual sample, the least technically acceptable results were rejected as follows:

Sample	Compound	Flag	A or P
SB75MW01A-Q411-01 SB75MW05A-Q411-01** SB75MW05A-Q411-02	1,1-Dichloroethane 1,1-Dichloroethene Tetrachloroethene Trichloroethene	R R R R	A
SB75MW01A-Q411-01DL SB75MW05A-Q411-01DL** SB75MW05A-Q411-02DL	All TCL compounds except 1,1-Dichloroethane 1,1-Dichloroethene Tetrachloroethene Trichloroethene	R	A
SB75MW01B-Q411-01	1,1-Dichloroethane 1,1-Dichloroethene Trichloroethene	R R R	A
SB75MW01B-Q411-01DL	All TCL compounds except 1,1-Dichloroethane 1,1-Dichloroethene Trichloroethene	R	A

XVI. Field Duplicates

Samples SB75MW05A-Q411-01** and SB75MW05A-Q411-02 and samples SB75MW05A-Q411-01DL** and SB75MW05A-Q411-02DL were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	SB75MW05A-Q411-01**	SB75MW05A-Q411-02	
1,1,1-Trichloroethane	19	19	0
1,1-Dichloroethane	310	210	38
1,1-Dichloroethene	98	76	25
1,2-Dichloroethane	2.3	2.3	0
cis-1,2-Dichloroethene	5.3	5.5	4
Tetrachloroethene	180	180	0
Trichloroethene	320	110	98
Vinyl chloride	1.5	1.5	0

Compound	Concentration (ug/L)		RPD
	SB75MW05A-Q411-01DL**	SB75MW05A-Q411-02DL	
1,1,1-Trichloroethane	18	18	0
1,1-Dichloroethane	300	300	0
1,1-Dichloroethene	1500	1500	0
cis-1,2-Dichloroethene	5.1	50U	200
Tetrachloroethene	170	170	0
Trichloroethene	750	770	3

Seal Beach Site 75
Volatiles - Data Qualification Summary - SDG 11L209

SDG	Sample	Compound	Flag	A or P	Reason
11L209	SB75MW01A-Q411-01 SB75MW05A-Q411-01** SB75MW05A-Q411-02	1,1-Dichloroethane 1,1-Dichloroethene Tetrachloroethene Trichloroethene	J (all detects) J (all detects) J (all detects) J (all detects)	A	Compound quantitation and RLs (exceeded range)
11L209	SB75MW01B-Q411-01	1,1-Dichloroethane 1,1-Dichloroethene Trichloroethene	J (all detects) J (all detects) J (all detects)	A	Compound quantitation and RLs (exceeded range)
11L209	SB75MW01A-Q411-01 SB75MW05A-Q411-01** SB75MW05A-Q411-02	1,1-Dichloroethane 1,1-Dichloroethene Tetrachloroethene Trichloroethene	R R R R	A	Overall assessment of data
11L209	SB75MW01A-Q411-01DL SB75MW05A-Q411-01DL** SB75MW05A-Q411-02DL	All TCL compounds except 1,1-Dichloroethane 1,1-Dichloroethene Tetrachloroethene Trichloroethene	R	A	Overall assessment of data
11L209	SB75MW01B-Q411-01	1,1-Dichloroethane 1,1-Dichloroethene Trichloroethene	R R R	A	Overall assessment of data
11L209	SB75MW01B-Q411-01DL	All TCL compounds except 1,1-Dichloroethane 1,1-Dichloroethene Trichloroethene	R	A	Overall assessment of data

Seal Beach Site 75
Volatiles - Laboratory Blank Data Qualification Summary - SDG 11L209

No Sample Data Qualified in this SDG

Seal Beach Site 75
Volatiles - Field Blank Data Qualification Summary - SDG 11L209

No Sample Data Qualified in this SDG

LDC #: 27019A1

SDG #: 11L209

Laboratory: EMAX Laboratories, Inc.

VALIDATION COMPLETENESS WORKSHEET

III/IV

Date: 1/26/12

Page: 1 of 1

Reviewer: BR

2nd Reviewer: [illegible]

METHOD: GC/MS Volatiles (EPA SW 846 Method 8260B)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Technical holding times	A	Sampling dates: 12/27/11 - 12/28/11
II.	GC/MS Instrument performance check	A	
III.	Initial calibration	A	≤ ~~30~~ 15/30
IV.	Continuing calibration/ICV	A	ICV/CCV ≤ ~~25~~ 20
V.	Blanks	A	
VI.	Surrogate spikes	A	
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS/LCSD
IX.	Regional Quality Assurance and Quality Control	N	
X.	Internal standards	A	
XI.	Target compound identification	A	Not reviewed for Level III validation.
XII.	Compound quantitation/CRQLs	SW	Not reviewed for Level III validation.
XIII.	Tentitatively identified compounds (TICs)	N	Not reviewed for Level III validation.
XIV.	System performance	A	Not reviewed for Level III validation.
XV.	Overall assessment of data	SW ~~A~~	
XVI.	Field duplicates	SW	FD = 9 + 11, 10 + 12
XVII.	Field blanks	ND	SB = 14 EB = 15 TB = 4

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank

Validated Samples: ** Indicates sample underwent Level IV validation

Water

1	2	SB75MW02C-Q411-01	11	2	SB75MW05A-Q411-02	21	V005A01-MB	31	
2	1	SB75MW01A-Q411-01	12	3	SB75MW05A-Q411-02DL	22	V005A02-MB	32	
3	2	SB75MW01A-Q411-01DL	13	3	SB75MW05B-Q411-01	23	V005A03-MB	33	
4	1	SB75MW01A-Q411-02	14	2	SB75MW05A-Q411-03	24		34	
5	1	SB75MW01B-Q411-01	15	2	SB75MW05A-Q411-04	25		35	
6	2	SB75MW01B-Q411-01DL	16	1	SB75MW01A-Q411-01MS	26		36	
7	2	SB75MW04A-Q411-01	17	1	SB75MW01A-Q411-01MSD	27		37	
8	1	SB75MW04B-Q411-01	18			28		38	
9	2	SB75MW05A-Q411-01**	19			29		39	
10	2	SB75MW05A-Q411-01DL**	20			30		40	

LDC #: 27019A1

VALIDATION FINDINGS CHECKLIST

Reviewer BR
2nd Reviewer: [illegible]

Method: Volatiles (EPA SW 846 Method 8260B)

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
All technical holding times were met.	✓			
Cooler temperature criteria was met.	✓			
II. GC/MS instrument performance check				
Were the BFB performance results reviewed and found to be within the specified criteria?	✓			
Were all samples analyzed within the 12 hour clock criteria?	✓			
III. Initial calibration				
Did the laboratory perform a 5 point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Was a curve fit used for evaluation?		✓		
Did the initial calibration meet the curve fit acceptance criteria of > 0.990?			✓	
Were all percent relative standard deviations (%RSD) ≤ 30% and relative response factors (RRF) > 0.05?	✓			
IV. Continuing calibration				
Was a continuing calibration standard analyzed at least once every 12 hours for each instrument?	✓			
Were all percent differences (%D) and relative response factors (RRF) within method criteria for all CCCs and SPCCs?	✓			
Were all percent differences (%D) < 25% and relative response factors (RRF) > 0.05?	✓			
V. Blanks				
Was a method blank associated with every sample in this SDG?	✓			
Was a method blank analyzed at least once every 12 hours for each matrix and concentration?	✓			
Was there contamination in the method blanks? If yes, please see the Blanks validation completeness worksheet.		✓		
VI. Surrogate spikes				
Were all surrogate %R within QC limits?	✓			
If the percent recovery (%R) for one or more surrogates was out of QC limits, was a reanalysis performed to confirm samples with %R outside of criteria?			✓	
VII. Matrix spike/Matrix spike duplicates				
Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.	✓			
Was a MS/MSD analyzed every 20 samples of each matrix?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
VIII. Laboratory control samples				
Was an LCS analyzed for this SDG?	✓			

LDC #: 27619A1

VALIDATION FINDINGS CHECKLIST

Reviewer: BR
2nd Reviewer: FT

Validation Area	Yes	No	NA	Findings/Comments
Was an LCS analyzed per analytical batch?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Regional Quality Assurance and Quality Control				
Were performance evaluation (PE) samples performed?		✓		
Were the performance evaluation (PE) samples within the acceptance limits?			✓	
X. Internal standards				
Were internal standard area counts within -50% or +100% of the associated calibration standard?	✓			
Were retention times within + 30 seconds of the associated calibration standard?	✓			
XI. Target compound identification				
Were relative retention times (RRT's) within + 0.06 RRT units of the standard?	✓			
Did compound spectra meet specified EPA "Functional Guidelines" criteria?	✓			
Were chromatogram peaks verified and accounted for?	✓			
XII. Compound quantitation/CRQLs				
Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?	✓			
XIII. Tentatively identified compounds (TICs)				
Were the major ions (> 10 percent relative intensity) in the reference spectrum evaluated in sample spectrum?			✓	
Were relative intensities of the major ions within ± 20% between the sample and the reference spectra?			✓	
Did the raw data indicate that the laboratory performed a library search for all required peaks in the chromatograms (samples and blanks)?			✓	
XIV. System performance				
System performance was found to be acceptable.	✓			
XV. Overall assessment of data				
Overall assessment of data was found to be acceptable.	✓			
XVI. Field duplicates				
Field duplicate pairs were identified in this SDG.	✓			
Target compounds were detected in the field duplicates.	✓			
XVII. Field blanks				
Field blanks were identified in this SDG.	✓			
Target compounds were detected in the field blanks.		✓		

TARGET COMPOUND WORKSHEET

METHOD: VOA (EPA SW 846 Method 8260B)

A. Chloromethane*	U. 1,1,2-Trichloroethane	OO. 2,2-Dichloropropane	III. n-Butylbenzene	CCCC.1-Chlorohexane
B. Bromomethane	V. Benzene	PP. Bromochloromethane	JJJ. 1,2-Dichlorobenzene	DDDD. Isopropyl alcohol
C. Vinyl choride**	W. trans-1,3-Dichloropropene	QQ. 1,1-Dichloropropene	KKK. 1,2,4-Trichlorobenzene	EEEE. Acetonitrile
D. Chloroethane	X. Bromoform*	RR. Dibromomethane	LLL. Hexachlorobutadiene	FFFF. Acrolein
E. Methylene chloride	Y. 4-Methyl-2-pentanone	SS. 1,3-Dichloropropane	MMM. Naphthalene	GGGG. Acrylonitrile
F. Acetone	Z. 2-Hexanone	TT. 1,2-Dibromoethane	NNN. 1,2,3-Trichlorobenzene	HHHH. 1,4-Dioxane
G. Carbon disulfide	AA. Tetrachloroethene	UU. 1,1,1,2-Tetrachloroethane	OOO. 1,3,5-Trichlorobenzene	IIII. Isobutyl alcohol
H. 1,1-Dichloroethene**	BB. 1,1,2,2-Tetrachloroethane*	VV. Isopropylbenzene	PPP. trans-1,2-Dichloroethene	JJJJ. Methacrylonitrile
I. 1,1-Dichloroethane*	CC. Toluene**	WW. Bromobenzene	QQQ. cis-1,2-Dichloroethene	KKKK. Propionitrile
J. 1,2-Dichloroethene, total	DD. Chlorobenzene*	XX. 1,2,3-Trichloropropane	RRR. m,p-Xylenes	LLLL. Ethyl ether
K. Chloroform**	EE. Ethylbenzene**	YY. n-Propylbenzene	SSS. o-Xylene	MMMM. Benzyl chloride
L. 1,2-Dichloroethane	FF. Styrene	ZZ. 2-Chlorotoluene	TTT. 1,1,2-Trichloro-1,2,2-trifluoroethane	NNNN.
M. 2-Butanone	GG. Xylenes, total	AAA. 1,3,5-Trimethylbenzene	UUU. 1,2-Dichlorotetrafluoroethane	OOOO.
N. 1,1,1-Trichloroethane	HH. Vinyl acetate	BBB. 4-Chlorotoluene	VVV. 4-Ethyltoluene	PPPP.
O. Carbon tetrachloride	II. 2-Chloroethylvinyl ether	CCC. tert-Butylbenzene	WWW. Ethanol	QQQQ.
P. Bromodichloromethane	JJ. Dichlorodifluoromethane	DDD. 1,2,4-Trimethylbenzene	XXX. Di-isopropyl ether	RRRR.
Q. 1,2-Dichloropropane**	KK. Trichlorofluoromethane	EEE. sec-Butylbenzene	YYY. tert-Butanol	SSSS.
R. cis-1,3-Dichloropropene	LL. Methyl-tert-butyl ether	FFF. 1,3-Dichlorobenzene	ZZZ. tert-Butyl alcohol	TTTT.
S. Trichloroethene	MM. 1,2-Dibromo-3-chloropropane	GGG. p-Isopropyltoluene	AAAA. Ethyl tert-butyl ether	UUUU.
T. Dibromochloromethane	NN. Methyl ethyl ketone	HHH. 1,4-Dichlorobenzene	BBBB. tert-Amyl methyl ether	VVVV.

* = System performance check compounds (SPCC) for RRF ; ** = Calibration check compounds (CCC) for %RSD.

LDC #: 27019A1
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates

Page: 1 of 1
Reviewer: BR
2nd Reviewer: A

METHOD : GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) analyzed for each matrix in this SDG? If no, indicate which matrix does not have an associated MS/MSD. Soil / Water.

(Y) N N/A Was a MS/MSD analyzed every 20 samples of each matrix?

Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		16/17	I	494 (70-130)	409 (70-130)	( )	2	No qual
			H	181 ( )	398 ( )	( )		Parent 7 4x
			AA	64 ( )	( )	( )		spike conc.
			U	-45 ( )	-58 ( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		
				( )	( )	( )		

	Compound	QC Limits (Soil)	RPD (Soil)	QC Limits (Water)	RPD (Water)
H.	1,1-Dichloroethene	59-172%	≤ 22%	61-145%	≤ 14%
S.	Trichloroethene	62-137%	≤ 24%	71-120%	≤ 14%
V.	Benzene	66-142%	≤ 21%	76-127%	≤ 11%
CC.	Toluene	59-139%	≤ 21%	76-125%	≤ 13%
DD.	Chlorobenzene	60-133%	≤ 21%	75-130%	≤ 13%

LDC #: 27019A1
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Compound Quantitation and CRQLs

Page: 1 of 1
Reviewer: BR
2nd Reviewer: TT

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y N N/A Were the correct internal standard (IS), quantitation ion and relative response factor (RRF) used to quantitate the compound?
Y N N/A Were compound quantitation and CRQLs adjusted to reflect all sample dilutions and dry weight factors applicable to level IV validation?

#	Date	Compound ~~Sample ID~~	Finding	Associated Samples	Qualifications
		I, H, AA, S	Exceeded calibration range	~~all~~ 2, 9, 11	J dets / A
		I, H, S	Exceeded calibration range	5	J dets / A
		~~I, H, AA, S~~	~~Exceeded calibration range~~	~~9, 11~~	~~J dets / A~~

Comments: See sample calculation verification worksheet for recalculations

COMQUA.1SB

LDC #: 27019A1
SDG #: see cover

VALIDATION FINDINGS WORKSHEET
Overall Assessment of Data

Page: 1 of 1
Reviewer: BR
2nd Reviewer: TD

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

All available information pertaining to the data were reviewed using professional judgement to compliment the determination of the overall quality of the data.

(Y) N N/A Was the overall quality and usability of the data acceptable?

#	Date	Compound ~~Sample ID~~	Finding	Associated Samples	Qualifications
		I, H, AA, S	x'd calibration range	2, 9, 11	R/A
		All except I, H, AA, S	dilution	3, 10, 12	R/A
		I, H, S	x'd calibration range	5	R/A
		All except I, H, S	dilution	6	R/A
		~~I, H, AA, S~~	~~x'd calibration range~~	~~9, 11~~	~~R/A~~
		~~All except I, H, AA, S~~	~~dilution~~	~~10, 12~~	~~R/A~~

Comments:

OVR.1SB

LDC#:27019A1

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: BR
2nd Reviewer: [illegible]

METHOD: GC MS Volatiles (EPA SW 846 Method 8260B)

Y N NA Were field duplicate pairs identified in this SDG?
Y N NA Were target analytes detected in the field duplicate pairs?

Compound	Concentration (ug/L)		RPD	Qualifications
	9	11		
N	19	19	0	
I	310	210	38	
H	98	76	25	
L	2.3	2.3	0	
QQQ	5.3	5.5	4	
AA	180	180	0	
S	320	110	98	
C	1.5	1.5	0	

Compound	Concentration (ug/L)		RPD	Qualifications
	10	12		
N	18	18	0	
I	300	300	0	
H	1500	1500	0	
QQQ	5.1	50U	200	
AA	170	170	0	
S	750	770	3	

LDC # 27019A1

VALIDATION FINDINGS WORKSHEET
Initial Calibration Results Verification

Reviewer: BR
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The Relative Response Factor (RRF), average RRF, and percent relative standard deviation (%RSD) were recalculated for the compounds identified below using the following calculations:

$RRF = (A_x)(C_{is})/(A_{is})(C_x)$ — A_x = Area of Compound — A_{is} = Area of associated internal standard

average RRF = sum of the RRFs/number of standards — C_x = Concentration of compound, — C_{is} = Concentration of internal standard

%RSD = 100 * (S/X) — S= Standard deviation of the RRFs, — X = Mean of the RRFs

#	Standard ID	Calibration Date	Compound (IS)	Reported RRF (10 std)	Recalculated RRF (10 std)	Reported Average RRF (Initial)	Recalculated Average RRF (Initial)	Reported %RSD	Recalculated %RSD
1	ICAL	12/9/2011	H (IS1)	0.611	0.611	0.600	0.599	4.54	4.55
	TO05		S (IS2)	0.465	0.465	0.459	0.459	7.08	7.09

Cis	Cx	Ax	Ais
10	10	780274	1277844
10	10	492308	1059766

Conc	H	S		
0.3	0.573	0.409		
0.5	0.595	0.429		
1	0.587	0.447		
2	0.585	0.450		
5	0.588	0.452		
10	0.611	0.465		
20	0.631	0.489		
30	0.558	0.433		
40	0.597	0.467		
50	0.613	0.481		
100	0.656	0.528		
X	0.599	0.4591		
S	0.0273	0.0325		

Comments: Refer to Initial Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC # 27019A1

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Results Verification

Page: 1 of 1
Reviewer: BR
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (ave. RRF - RRF)/ave. RRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where: ave. RRF = initial calibration average RRF
RRF = continuing calibration RRF
Ax = Area of compound,
Ais = Area of associated internal standard
Cx = Concentration of compound,
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	(Reference Internal Standard)	Average RRF (initial)	Reported RRF (CC)	Recalculated RRF (CC)	Reported %D	Recalculated %D
1	CVO5L0915		H	(1st internal standard)	0.600	0.617	0.617	3	3
	TO05		S	(2nd internal standard)	0.459	0.419	0.419	9	9
		01/04/12		(3rd internal standard)					
				(4th internal standard					
				(5th internal standard)					
2				(1st internal standard)					
				(2nd internal standard)					
				(3rd internal standard)					
				(4th internal standard					
				(5th internal standard)					
3				(1st internal standard)					
				(2nd internal standard)					
				(3rd internal standard)					
				(4th internal standard					
				(5th internal standard)					

Comments: Refer to Continuing Calibration findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 27019A1

VALIDATION FINDINGS WORKSHEET
Surrogate Results Verification

Reviewer: BR
2nd reviewer: M

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) of surrogates were recalculated for the compounds identified below using the following calculation:

% Recovery: SF/SS * 100

Where: SF = Surrogate Found
SS = Surrogate Spiked

Sample ID: 9

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4	10	11.19	112	112	0
Toluene-d8	↓	10.17	102	102	0
Bromofluorobenzene		11.34	113	113	0

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

Sample ID:

	Surrogate Spiked	Surrogate Found	Percent Recovery Reported	Percent Recovery Recalculated	Percent Difference
Dibromofluoromethane					
1,2-Dichloroethane-d4					
Toluene-d8					
Bromofluorobenzene					

LDC #: 27019A1
SDG #: See cover

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Page: 1 of 1
Reviewer: RR
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked sample concentration; SA = Spike added; SC = Sample concentration

RPD = I MSC - MSDC I * 2/(MSC + MSDC)

MSC = Matrix spike percent recovery; MSDC = Matrix spike duplicate percent recovery

MS/MSD sample: 16/17

Compound	Spike Added (µg/L)		Sample Concentration (µg/L)	Spiked Sample Concentration (µg/L)		Matrix Spike Percent Recovery		Matrix Spike Duplicate Percent Recovery		MS/MSD RPD	
	MS	MSD	-----	MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	10	10	81.4	99.4	121	181	180	398	396	20	20
Trichloroethene	10	10	108	104	102	-45	-40	-58	-60	1	2
Benzene											
Toluene											
Chlorobenzene											

Comments: Refer to Matrix Spike/Matrix Spike Duplicates findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

MSDCLC.1SB

LDC #: 27019A1

VALIDATION FINDINGS WORKSHEET
Laboratory Control Sample Results Verification

Page: 1 of 1
Reviewer: BK
2nd Reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

The percent recoveries (%R) and Relative Percent Difference (RPD) of the laboratoy control sample and laboratory control sample duplicate (if applicable) were recalculated for the compounds identified below using the following calculation:

% Recovery = 100 * SSC/SA Where: SSC = Spiked sample concentration
SA = Spike added

RPD = I LCSC - LCSDC I * 2/(LCSC + LCSDC) LCSC = Laboraotry control sample concentration LCSDC = Laboratory control sample duplicate concentration

LCS ID: 11L209 LCS/D

Compound	Spike Added (µg/L)		Spiked Sample Concentration (µg/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalculated
1,1-Dichloroethene	10	10	10.9	11	109	109	110	110	1	1
Trichloroethene	10	10	10.4	10.3	104	104	103	103	1	1
Benzene										
Toluene										
Chlorobenzene										

Comments: Refer to Laboratory Control Sample findings worksheet for list of qualifications and associated samples when reported results do not agree within 10.0% of the recalculated results.

LDC #: 27019A1

VALIDATION FINDINGS WORKSHEET
Sample Calculation Verification

Reviewer: BR
2nd reviewer: [illegible]

METHOD: GC/MS VOA (EPA SW 846 Method 8260B)

Y N N/A Were all reported results recalculated and verified for all level IV samples?

Y N N/A Were all recalculated results for detected target compounds agree within 10.0% of the reported results?

$$\text{Concentration} = \frac{(A_x)(I_s)(DF)}{(A_{is})(RRF)(V_o)(\%S)}$$

A_x	=	Area of the characteristic ion (EICP) for the compound to be measured
A_{is}	=	Area of the characteristic ion (EICP) for the specific internal standard
I_s	=	Amount of internal standard added in nanograms (ng)
RRF	=	Relative response factor of the calibration standard.
V_o	=	Volume or weight of sample pruged in milliliters (ml) or grams (g).
Df	=	Dilution factor.
%S	=	Percent solids, applicable to soils and solid matrices only.

Example:

Sample I.D. 10 , H :

$$\text{Conc.} = \frac{(4617798)(10)(25)}{(1278603)(0.608)(\quad)(\quad)}$$

= 1505 ug/L

#	Sample ID	Compound	Reported Concentration ( )	Calculated Concentration ( )	Qualification

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