



Final
Operable Unit Carbon Tetrachloride Plume
Evaluation Technical Memorandum, A-Aquifer
Former Fort Ord, California

Prepared for:
Department of the Army
U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California 95814-2924

Prepared by:
Ahtna Environmental Inc.
296 12th Street
Marina, California 93933-6001

USACE Contract No. W91238-14-C-0048

A handwritten signature in black ink, reading 'Derek S. Lieberman', written over a horizontal line.

Derek S. Lieberman, P.E. Certificate No. C 57417
Project Manager

A handwritten signature in black ink, reading 'Bruce Wilcer', written over a horizontal line.

Bruce Wilcer, P.G. Certificate No. 5751
Task Lead

January 2016

Final
Operable Unit Carbon Tetrachloride Plume
Evaluation Technical Memorandum, A-Aquifer
Former Fort Ord, California

Contract No. W91238-14-C-0048

This document was prepared by Ahtna Environmental Inc. (Ahtna) under the U.S. Army Corps of Engineers (USACE), Sacramento District, for the sole use of USACE, the only intended beneficiary of this work. No other party should rely on the information contained herein without the prior written consent of the USACE. This report and the interpretations, conclusions, and recommendations contained within are based in part on information presented in other documents that are cited in the text and listed in the references; therefore, this report is subject to the limitations and qualifications presented in the referenced documents.

TABLE OF CONTENTS

Acronyms and Abbreviations	iv
1.0 Introduction	1
2.0 Description of Field Activities	2
2.1 Safety and Quality	2
2.2 Habitat Checklist Implementation	2
2.3 Permitting and Utility Clearance	2
2.4 Monitoring Well Installations	3
2.5 Monitoring Well Development	3
2.6 Investigation Derived Waste	4
2.7 Surveying	4
2.8 Baseline Sampling	4
2.8.1 Passive Diffusion Bag Installation	4
2.8.2 Groundwater Sampling	4
2.8.3 Laboratory Analysis, Verification, and Validation	5
2.8.4 Sampling Analytical Results	5
2.9 Groundwater Elevation Survey	6
2.10 Deviations from the Work Plan	6
3.0 Environmental Protection	7
3.1 Pre-Construction Survey	7
3.2 Evaluation during Construction	7
3.3 Post-Construction Surveys	8
4.0 Deployment Area Model Simulations	9
5.0 Conclusions and Recommendations	11
5.1 Conclusions	11
5.1.1 Groundwater Divide Area	11
5.1.2 Downgradient Mid-Plume Area	11
5.2 Recommendations	12
5.2.1 Groundwater Divide Area	12
5.2.2 Downgradient Mid-Plume Area	13
6.0 References	14

Tables

- 1 Well Construction Details
- 2 Baseline Sampling Analytical Results

Figures

- 1 Location Map
- 2 CT Concentrations, 2nd Quarter 2015
- 3 CT Concentrations, Baseline and 2nd Quarter 2015
- 4 CT Concentrations, Baseline and 2nd Quarter 2015, Groundwater Divide Area
- 5 Revised Groundwater Elevations – July 2015
- 6 Groundwater Elevations, 2nd Quarter 2015
- 7 Modeled Substrate Distribution with Fort Ord Groundwater Model (MODFLOW)
- 8 Modeled Substrate Distribution with Analytical Element Method (Hydraulic Conductivity = 12 ft/day)
- 9 Modeled Substrate Distribution with Analytical Element Method (Hydraulic Conductivity = 1 ft/day)
- 10 Carbon Tetrachloride Analytical Results – MW-BW-57-A
- 11 Carbon Tetrachloride Analytical Results – MW-BW-16-A
- 12 Carbon Tetrachloride Analytical Results – MW-BW-32-A
- 13 Carbon Tetrachloride Analytical Results – MW-BW-36-A
- 14 Carbon Tetrachloride Migration in the Reservation Road Area
- 15 Proposed EISB Deployment Area

Appendices

- A Underground Clearance Records
- B Permits
- C Boring Logs and Well Construction Diagrams
- D Laboratory Analytical Reports
- E Validation Summary Reports
- F Biological Monitoring Completion Report
- G Responses to Comments on the Draft Operable Unit Carbon Tetrachloride Plume Evaluation
Technical Memorandum, A-Aquifer
- H Responses to Comments on the Draft Final Operable Unit Carbon Tetrachloride Plume Evaluation
Technical Memorandum, A-Aquifer

ACRONYMS AND ABBREVIATIONS

µg/L	micrograms per liter
AEM	analytical element method
Ahtna	Ahtna Environmental Inc.
APP	Accident Prevention Plan
AR#	Administrative Record number
bgs	below ground surface
BRAC	Base Realignment and Closure
COC	chemical of concern
CT	carbon tetrachloride
EISB	enhanced <i>in situ</i> bioremediation
ELAP	Environmental Laboratory Accreditation Program
IDW	investigation derived waste
FONR	Fort Ord Natural Reserve
ft	foot <i>or</i> feet
ft/day	feet per day
GWMP	groundwater monitoring program
GWTP	groundwater treatment plant
HHRA	human health risk assessment
MACTEC	MACTEC Engineering and Consulting, Inc.
OU1	Operable Unit 1
OU2	Operable Unit 2
OUCTP	Operable Unit Carbon Tetrachloride Plume
PDB	passive diffusion bag
PVC	polyvinyl chloride
QAPP	Quality Assurance Project Plan
QC	quality control
RI/FS	remedial investigation/feasibility study
Shaw	Shaw Environmental, Inc.
SVA	Salinas Valley Aquitard
UCSC	University of California Santa Cruz
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
VOA	volatile organic analysis
VOC	volatile organic compound

1.0 INTRODUCTION

On behalf of the U.S. Army Corps of Engineers (USACE) Sacramento District, per Contract W91238-14-C-0048, Ahtna Environmental Inc. (Ahtna) has prepared this Operable Unit Carbon Tetrachloride Plume (OUCTP) A-Aquifer Evaluation Technical Memorandum (Tech Memo). This Tech Memo reports the results of groundwater monitoring well installation, groundwater sampling activities, and an evaluation of constructing a new deployment area to enhance attenuation of the OUCTP in the A-Aquifer. This work was performed in accordance with the *Final OUCTP Evaluation Work Plan, A-Aquifer, Former Fort Ord, California* (Work Plan; Ahtna, 2015a).

Groundwater data from previous and ongoing monitoring activities indicated the extent of carbon tetrachloride (CT) in the A-Aquifer at concentrations above the Aquifer Cleanup Level may require further delineation to the north and northeast in the approximate area of the A-Aquifer groundwater divide. Concentrations of CT detected in samples collected during quarterly groundwater monitoring events are used to define the plume and its location (Figure 1). This Tech Memo describes the field activities conducted during the installation of eight A-Aquifer wells at OUCTP, presents the geologic logs, well completion diagrams, and the results of the baseline groundwater sampling event at these wells. Recommendations regarding construction of a new deployment area are presented in Section 5.0.

2.0 DESCRIPTION OF FIELD ACTIVITIES

Field activities were conducted in accordance with the following documents:

- *Final Accident Prevention Plan, Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume; and Soil Gas Remedy and Monitoring at Sites 2 and 12, Former Fort Ord, California* (APP; Ahtna, 2015b) and associated Activity Hazard Analysis.
- *Final Operable Unit Carbon Tetrachloride Plume Evaluation Work Plan, A-Aquifer, Former Fort Ord, California* (Work Plan; Ahtna, 2015a). Administrative Record No. (AR#) OUCTP-0063B.
- *Quality Assurance Project Plan, Former Fort Ord, California, Volume I, Appendix A, Final Revision 3, Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume* (QAPP; Ahtna, 2015d). AR# BW-2735A.

2.1 Safety and Quality

Fieldwork was conducted according to the three phase quality control (QC) inspection process as identified in the QAPP. A preparatory phase meeting was held on May 26, 2015 and the initial phase inspection was conducted on the first day of field work on June 1, 2015. Each day of field work, follow-up phase inspections and safety tailgate meetings with on-site personnel were conducted. Quality assurance activities were conducted by USACE personnel during field preparation to ensure work was completed as planned.

2.2 Habitat Checklist Implementation

To minimize impacts to protected species, a Habitat Checklist (Appendix A of the Work Plan) was prepared and implemented by the on-site biologist prior to initiation of field activities. Species protection measures are summarized in Section 3.0 of this Tech Memo.

2.3 Permitting and Utility Clearance

To avoid encountering underground utilities and other potential obstructions, a geophysical utility clearance was performed on May 18, 2015 at each proposed well location before well installation activities commenced. Clearance activities also included notification of utility agencies and/or utility protection organizations via Underground Service Alert. Underground clearance records are provided in Appendix A (on CD). Prior to initiating intrusive activities, utility location information was reviewed, including field markings and available drawings, and the borings were hand augured to a depth of 5 feet below ground surface (bgs). Permits for monitoring well installation were obtained from the Monterey County Department of Health. A permit from the University of California Santa Cruz (UCSC) Monterey Bay Education, Science and Technology Center was also obtained for the use of its property adjacent to the work area in the Fort Ord Natural Reserve (FONR) as a staging area for support equipment and facilities. Copies of the permits are in Appendix B (on CD).

2.4 Monitoring Well Installations

Eight A-Aquifer monitoring wells were constructed at the OUCTP site in accordance with ASTM D5092 – Standard Practice for Design and Installation of Groundwater Monitoring Wells, and Federal, State, and local regulations, and the approved Work Plan. The wells were drilled using a truck-mounted drill rig with 10-inch hollow stem auger. The borings were completed under the supervision of the project geologist. The well depths and locations of the screen intervals were determined by evaluating the geologic logs based on soil cutting samples collected from each boring, and comparison with logs from nearby monitoring well locations in accordance with the Work Plan. Each well was drilled and completed into the top of the Salinas Valley Aquitard (SVA), which is approximately 100 feet bgs in the OUCTP area.

Well construction materials consist of new 3-inch diameter Schedule 80 polyvinyl chloride (PVC) blank casing, and 30 feet of 0.020-inch slotted schedule 80 PVC screen. A 3-inch diameter PVC endcap was also installed at the bottom of each monitoring well. All wells were constructed with stainless steel centralizers placed at the bottom and top of the screen interval, and approximately every 20 feet of blank casing such that the well is positioned in the center of the borehole. The filter pack consists of #2/12 Monterey sand and was installed from the bottom of the borehole to approximately 3 feet above the top of the screen at each well location. Following the initial placement of the filter pack material, the well screens were surged to ensure uniform placement of the material and eliminate bridging. Following well screen surging, additional filter pack material was added to ensure the filter pack extended to at least 3 feet above the top of the screen. A 3-foot thick bentonite seal was installed between the sand pack and the sanitary seal. The sanitary seal is standard bentonite-cement grout mixed in the ratio of 5 pounds bentonite gel, one 94-pound bag of Type 1 Portland cement, and 7 gallons of clean, potable water mixed mechanically above ground. All eight monitoring wells were completed with an above-grade steel monument. Monitoring well construction details are provided in Table 1, and soil boring logs and monitoring well construction diagrams are in Appendix C (on CD).

2.5 Monitoring Well Development

The development of the groundwater monitoring wells was conducted no less than two days following the placement of the sanitary seal atop the bentonite seal. The monitoring wells were developed in accordance with the Work Plan and ASTM D5521 to assure inflow is physically and chemically representative of that portion of the aquifer adjacent to the screened interval. Development was accomplished by:

- Mechanical surging using a close-fitting surge block (swab) affixed to the end of a length of pipe operating like a piston in the well screen. The plunging action alternately forces water to flow into the well on the upstroke and out of the well on the downstroke. The downstroke causes a backwash action to loosen bridges in the formation or filter pack, and the upstroke pulls dislodged fine-grained material into the well.

- Bailing to remove fine-grained material from the well after surging.
- Pumping using a submersible pump to remove a minimum of 10 casing volumes of water from the well and until indicator parameters (temperature, specific conductance, pH and turbidity) stabilized, or removal of fifteen casing volumes, whichever came first, in accordance with Work Plan.

Additionally, water levels were recorded during development to gauge the drawdown of water within the monitoring well. All eight wells installed exhibited sufficient recharge of water in the casing for continuous well development (i.e., the wells did not go dry during development).

2.6 Investigation Derived Waste

Soil investigation derived waste (IDW) was contained in on-site bins and characterized to determine appropriate disposal in accordance with applicable laws and regulations. Soil IDW was determined to be uncontaminated and was disposed of at the Fort Ord Landfills. Liquid IDW used for the decontamination of equipment and well development was disposed of at the Operable Unit 2 (OU2) groundwater treatment plant (GWTP). Solid non-hazardous waste, such as disposable personal protective equipment and non-reusable sampling equipment, was disposed of in a waste receptacle located at the OU2 GWTP.

2.7 Surveying

Following monitoring well installation, each well was surveyed by a professional California-licensed land surveyor for northing and easting coordinates and elevation with respect to mean sea level in compliance with established protocol. Surveying was conducted using North American 1983 Datum; California State Plane Zone 4 horizontal and North American 1988 vertical datum. The top of each well casing was surveyed within 0.1 foot horizontal and 0.01 foot vertical accuracy. Existing monitoring wells at the former Fort Ord were previously surveyed using National Geodetic 1929 Vertical Datum; therefore, 1988 vertical data are adjusted by -2.77 feet. Survey results for monitoring wells are reported on Table 1.

2.8 Baseline Sampling

2.8.1 Passive Diffusion Bag Installation

Following well development activities, passive diffusion bags (PDBs) pre-filled with deionized water were placed at 5-foot intervals throughout the saturated screen interval within each well for sampling (Table 2). The PDBs were installed from the total depth of the well (which coincides with the top of the SVA), to the top of the saturated portion of the screen interval along a weighted string.

2.8.2 Groundwater Sampling

On July 9, 2015, approximately 2 weeks after placement, the PDBs were retrieved and groundwater in the PDBs was transferred to sample containers and sent to an off-site laboratory for volatile organic compound (VOC) analysis. Details regarding specific field and laboratory activities and requirements and standard operating procedures are included in the QAPP (Ahtna, 2015d).

The three volatile organic analysis (VOA) vials containing the sample from MW-BW-85-A Station #6 arrived at the laboratory damaged and the sample could not be salvaged. Additionally, a PDB was inadvertently not hung at MW-BW-85-A Station #3; therefore, new PDBs were placed at Stations #3 and #6 and the samples were collected for VOC analysis on July 30, 2015.

The eight new wells will be incorporated into the groundwater monitoring program (GWMP) beginning in the third quarter 2015 and monitored in accordance with the QAPP (Ahtna, 2015d). The GWMP includes quarterly and annual sample collection and analysis from specific monitoring wells located throughout the former Fort Ord. This program will continue as part of the long-term monitoring remedial action for the OUCTP in the A-Aquifer in accordance with the *Final Operable Unit Carbon Tetrachloride Plume Remedial Action Work Plan, Former Fort Ord, California* (Shaw, 2009).

2.8.3 Laboratory Analysis, Verification, and Validation

Groundwater samples were analyzed by Accutest Laboratories, a Department of Defense Environmental Laboratory Accreditation Program (ELAP) and California ELAP accredited laboratory, using U.S. Environmental Protection Agency Method 8260-SIM for the OUCTP A-Aquifer chemicals of concern (COCs) (CT, tetrachloroethene, chloroform, 1,1-dichloroethene, total-1,2- dichloroethene, methylene chloride, vinyl chloride, and trichloroethene). The QAPP (Ahtna, 2015d) describes the specific methods used to collect and analyze samples, and verify, validate and report analytical data for the evaluation program. Analytical results from the baseline sampling event were subjected to Level III review, which comprises an evaluation of QC summary results for sample holding times, initial and continuing calibrations, surrogates, laboratory duplicates, laboratory control samples, matrix spike and matrix spike duplicate samples, method blanks, calibration blanks, field blanks, and field duplicate samples, as applicable. Additionally, to confirm sample quantitation and identification, a Level IV evaluation of the QC summary forms and the raw data was performed on 10 percent of the sample results. A summary of the baseline sampling analytical results is presented in Table 2, completed laboratory analytical reports are in Appendix D (on CD) and laboratory data validation summary reports are in Appendix E (on CD).

2.8.4 Sampling Analytical Results

The baseline sampling results are summarized in Table 2. Generally, detected concentrations of CT were similar throughout the saturated zone in each well, with maximum detected CT concentrations at approximately the same elevation across the site. Figure 2 shows the OUCTP A-Aquifer CT plume with second quarter 2015 OUCTP groundwater monitoring results from June 2015 (Ahtna, 2015e), and Figure 3 shows OUCTP A-Aquifer CT plume with second quarter 2015 OUCTP groundwater monitoring results (June 2015) and baseline sampling results (July 2015). The baseline monitoring results for the eight newly installed monitoring wells, in combination with groundwater data collected during the second quarter 2015 groundwater monitoring event, indicate the CT plume has migrated further to the east of the groundwater divide and north into the FONR than previously defined (Figure 4). A detailed discussion of the sampling results is provided in Section 5.0.

2.9 Groundwater Elevation Survey

Water levels were measured in the eight new wells and the data used in combination with water level data collected during the second quarter 2015 OUCTP groundwater monitoring event to refine the interpretation of groundwater elevations in the area around the groundwater divide as shown on Figure 5, which shows groundwater elevations at 1-foot contour intervals. Compared to the groundwater elevations based on second quarter 2015 data only, as shown on Figure 6, the new contours indicate a modest westward shift of the groundwater divide and local groundwater flow may generally be more northerly in this area than previously interpreted.

2.10 Deviations from the Work Plan

A typographical error in the Work Plan indicated the well screen slot size would be 0.010-inch; however, this error was identified during the three phase QC inspection process and well screen with the correct slot size of 0.020-inch was used to construct all eight wells.

The Work Plan indicates that non-native cover would be recorded during baseline biological monitoring at the site; however, it is not specified in the Habitat Checklist or the *Final Biological Monitoring Work Plan for the Ahtna Well Installation and Development at the OUCTP* (DD&A, 2015), and therefore was not surveyed.

During field activities, vegetation clearance was necessary to access well location MW-BW-88-A. In coordination with the on-site biologist, UCSC, the Fort Ord Base Realignment and Closure (BRAC) Office biologist, and USACE, six live oak trees were cut to ground level as an alternative to removal or grinding to leave the root structure intact, and a core sample was collected, labeled and provided UCSC researchers at their request.

3.0 ENVIRONMENTAL PROTECTION

The environmental protection plan in the Work Plan (Ahtna, 2015a) was implemented to maintain the site, to the extent possible, in its natural state during fieldwork activities and return the site to conditions similar to those present prior to these activities. Environmental protection included measures that protect land and biological resources and are summarized below and fully described in the Biological Monitoring Completion Report in Appendix F (on CD).

3.1 Pre-Construction Survey

Prior to field activities, work within the FONR was coordinated with USACE, the BRAC Office biologist and UCSC, who manages the FONR, to minimize impact to natural resources and ongoing research projects. Coordination included:

- Scheduling of fieldwork for after June 1st, or after the beginning of the dry season (i.e., outside the primary growing season for rare plants), as determined by the on-site biologist and approved by UCSC and the BRAC Office biologist, to avoid the flowering periods of sensitive species.
- Maintaining site security.
- Defining acceptable and unacceptable work areas, access routes, and turnaround and stock pile locations in the Habitat Checklist (Appendix A of the Work Plan).
- Ensuring implementation of the mitigation measures identified in the Biological Opinions (USFWS, 1999, 2002, and 2005).

Prior to any intrusive activities within the open areas in FONR, the BRAC and the on-site biologists reviewed existing biological surveys to determine the quantity and specific location of any threatened or endangered plants and animals within the planned well construction areas. During baseline monitoring, the proposed work areas and access routes (including buffer areas) were surveyed for the presence of sand gilia (*Gilia tenuiflora ssp. arenaria*) and Monterey spineflower (*Chorizanthe pungens var. pungens*), and pre-work photos were taken as part of the field documentation. Figures showing the extent of the pre-construction survey and the locations of sand gilia and Monterey spineflower identified during the survey are presented in Attachment A of Appendix F (on CD). This biological survey data, and any additional information provided by UCSC, was used to minimize impact to the habitat and special status species within FONR. Where practicable, adjustments to monitoring well locations and access routes were made and coordinated with UCSC to minimize impact on natural resources.

3.2 Evaluation during Construction

The on-site biologist monitored work as necessary during the well installations to ensure mitigation measures were implemented, and HMP species identified in the baseline biological surveys were avoided. All on site field personnel received training to familiarize themselves with the site restrictions necessary to minimize impacts to the habitat and protected species on FONR lands, including instructions to remain on identified access roads for the entirety of the project. During each of these activities, a single staging area was used and specific access routes were established to minimize excess impact to the ground surface, such as rutting and erosion.

Flagging was used to create a visible 50-ft buffer area around each well location and around a single staging area during field work. The FONR is an active research facility subject to consistent activity by other entities; therefore, flagging was not installed along access routes that coincided with existing dirt roads. For well locations that required access routes outside of existing dirt roads, flagging and marking paint were used to delineate the extents of the baseline survey areas in order to avoid HMP species identified in those areas. The on-site biologist was present during equipment mobilization to and from each well location to ensure the existing access roads were used and HMP species occurring in or adjacent to these access routes (as identified in the baseline survey¹) were avoided to the greatest extent practicable during construction. High density polyethylene sand mats were used for the drill rig to drive over where necessary to protect vegetation and prevent damage to the ground surface. The on-site biologist was also available during field work to ensure mitigation measures were followed, including notification of field staff immediately if any corrective actions were required and documentation of all daily activities.

3.3 Post-Construction Surveys

In accordance with the Programmatic Biological Opinion (USFWS, 2015), annual follow up monitoring is planned for up to 3 years, unless otherwise determined in consultation with the U.S. Fish and Wildlife Service (USFWS), following monitoring well installation to determine whether special status species have been adversely impacted. A report will be provided for each annual survey summarizing survey activities and results, including photo documentation, survey results, mapping, and presenting recommendations for mitigation measures, if necessary.

¹ The results of the baseline survey are shown in Attachment A to Appendix F (on CD).

4.0 DEPLOYMENT AREA MODEL SIMULATIONS

The proposed configuration of enhanced in-situ bioremediation (EISB) extraction and injection wells was evaluated with a series of groundwater flow and particle-tracking simulations. The current version of the groundwater flow model, calibrated to December 2013 groundwater flow conditions as documented in the *Final Operable Unit 2 Fourth Quarter 2013 through Third Quarter 2014 Groundwater Monitoring and Treatment System Report* (Ahtna, 2015c), served as the basis for this analysis. For the purpose of evaluating a new EISB deployment area, eight simulated injection wells and twelve simulated extraction well locations were added to the model, with flowrates of 10.5 and 7 gallons per minute per injection and extraction well, respectively. These flow rates were developed using long term average flow rates observed in injection and extraction wells in EISB Deployment Areas 2A and 2B.² The simulated wells inject into or produce water from the A-Aquifer near the eastern extent of the OUCTP. No other model parameters or boundary conditions were altered for this analysis.

As the current groundwater model uses MODFLOW and the associated MODFLOW well package to simulate groundwater flow (Harbaugh et. al., 2000), the exact placement of wells is limited by the discretization of the model. Model cells containing active wells allocate the flow into or out of that well as occurring within the entire grid cell rather than a discrete point within the cell. This is equivalent to wells being located in the center of the grid cells they occupy under this methodology. The current groundwater flow model uses a uniform grid of cells approximately 160 feet in length and width; therefore, the exact placement of the proposed injection and extraction wells had to be approximated to the center of each cell given the constrained extent of the proposed EISB deployment area relative to the resolution of the model (Figure 7). Well locations were also adjusted such that more than one well did not fall within a single grid cell.

Forward-tracking particles were placed near the center of each model grid cell containing an injection well and their flow pathways were simulated using MODPATH (Pollack, 2012). These particle pathways (light green lines on Figure 7) are meant to simulate the path and coverage of injected substrate for the EISB remedy. Given the resolution challenges described above it is difficult to determine the coverage of simulated injected substrate, but it is apparent that a portion of the eastern lobe of the CT plume comes into contact with the injected material, and approximately 13% of flow out of the injection wells is intercepted by the extraction well network, with the rest flowing downgradient to the north-northeast. However, analyzing the degree of capture from this scenario is confounded by the close proximity of injection and extraction well cells in this model.

Given the challenges encountered in the MODFLOW model, a series of analytical element method (AEM) models were constructed to simulate the EISB injection and extraction network. AEM is a numerical modeling method that solves the partial differential equations of a groundwater flow system without the need for dividing the model into discrete areas, such as the model grid in a MODFLOW model. As such, the relatively compact scale of the EISB area does not limit particle tracking analysis in the same

² See the Final Deployment Area Data Summary Reports for Areas 2A and 2B (AR#s OUCTP-0059 and OUCTP-0061A, respectively).

way as the MODFLOW model. Although AEM models are relatively simple compared to more complex numerical models, this method was considered appropriate for this task.

The AEM models were constructed using Visual AEM (Jankovic et. al., 2009). Steady-state groundwater flow was simulated within the A-Aquifer and flow conditions were set up to emulate the calibrated flow conditions from the MODFLOW model in this area of the OUCTP (a uniform flow field with a gradient of approximately 0.004 feet per foot directed 5 degrees east of north). The A-Aquifer was considered uniformly thick in the AEM, which was appropriate because changes in A-Aquifer thickness across the simulated EISB deployment area are not significant. The nearest groundwater flow boundaries and pumping wells were considered far enough away from the relatively small-scale EISB deployment area that they were not explicitly simulated. The injection and extraction locations (Figures 8 and 9) and the simulated flow rates were the same as in the MODFLOW simulation described above. To show a range of possible results, two AEM simulations were constructed to simulate flow within the A-Aquifer using different horizontal hydraulic conductivities: 1.0 and 12 feet per day (ft/day), respectively. This conductivity range was cited in Appendix A of the *Final Operable Unit Carbon Tetrachloride Plume Remedial Action Work Plan* (Shaw, 2009), though the A-Aquifer conductivity in the MODFLOW model in the vicinity of the EISB deployment area is approximately 20 ft/day, which is the default hydraulic conductivity value for MODFLOW in the A-Aquifer based on the results of the OUCTP groundwater remedial investigation/feasibility study (RI/FS; MACTEC, 2006). This hydraulic conductivity is intended to apply to the A-Aquifer on a regional scale and not necessarily on the scale of a single EISB deployment area.

Forward-tracking particles were simulated in each AEM starting adjacent to the simulated injection wells. Figure 8 shows the particle paths under the 12 ft/day hydraulic conductivity simulation, as well as simulated groundwater elevation contours in 2-foot intervals and the CT 0.5 microgram per liter ($\mu\text{g/L}$) isoconcentration contour line. Figure 8 shows that a significant portion of the CT plume in this area comes in contact with the injected substrate, of which about 78% is captured by the simulated extraction wells. Figure 9 shows the same particle tracking scenario for the 1 ft/day A-Aquifer hydraulic conductivity AEM. The coverage of injected substrate is similar to Figure 8, but proportionally more (about 96%) is captured by the extraction wells due to the increased localized drawdown and mounding that occur in lower hydraulic conductivity material.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The baseline monitoring results for the eight newly installed monitoring wells, in combination with groundwater data collected during the second quarter 2015 groundwater monitoring event, indicate the CT plume has migrated further to the east of the groundwater divide and north into the FONR than previously defined (see Figures 3 and 4, and Ahtna, 2015e).

5.1.1 Groundwater Divide Area

Groundwater elevation contours in the area of the divide suggest the CT plume could continue to migrate to the north toward the Marina Municipal Airport and the Operable Unit 1 (OU1) area if left unabated (Figures 5 and 6). There is no evidence previous EISB deployments have affected or will affect CT concentrations in the divide area. The existing EISB deployment areas are all west of the divide and cross-gradient or downgradient of the divide area, and some of the highest concentrations of CT in the A-Aquifer were observed in the divide area during the baseline and second quarter 2015 groundwater monitoring events:

- 3.9 µg/L at MW-BW-91-A, which is east of the groundwater divide and upgradient of MW-BW-87-A (2.1 µg/L) and the Marina Municipal Airport (Figure 4).
- 5.0 µg/L at MW-BW-57-A, which is west of the groundwater divide and upgradient of MW-BW-89-A (2.1 µg/L) and the OU1 area (Figure 4).

Additionally, CT concentrations in MW-BW-57-A and nearby MW-BW-16-A have been on increasing trends in recent years (Figures 10 and 11).

5.1.2 Downgradient Mid-Plume Area

Two of the new monitoring wells (MW-BW-89-A and MW-BW-92-A) were installed in locations downgradient from the groundwater divide in the mid-plume area. CT concentrations at these two wells (2.1 µg/L and 2.8 µg/L, respectively) indicate the CT plume has migrated further to the north toward OU1 (Figure 4) than previously defined. Groundwater elevation contours in the area of MW-BW-89-A further suggest the northern plume extent is not well defined and there may be a data gap downgradient from this well; however, groundwater elevation contours in the area of MW-BW-92-A suggest the CT plume, though wider than previously defined, is continuing to migrate to the northwest parallel to Reservation Road and toward the northwest boundary of the former Fort Ord (Figure 3).

MW-BW-92-A is also located cross-gradient from MW-BW-32-A and upgradient of MW-BW-36-A. These two wells have exhibited significant increasing trends in CT concentrations recently (Figures 12 and 13), which appears to be the result of a relatively high concentration mass of CT moving downgradient from the area around Reservation Road east of the former Fort Ord boundary (Figure 4), as indicated by decreasing CT concentration trends in upgradient wells (EW-BW-124-A, MW-B-14-A and MW-BW-27-A) compared to increasing CT concentration trends in downgradient MW-BW-32-A (Figure 14); however,

MW-BW-32-A and MW-BW-36-A are also downgradient of EISB Deployment Areas 2A and 2B³. EISB in these deployment areas contributed to a reduction in CT concentrations in this part of the OUCTP as indicated by groundwater monitoring data from the Baseline and Second Quarter 2015 monitoring events (Figures 2 through 4) and the last few years⁴; therefore, it is expected CT concentrations in the area of these two wells will decline as the CT degrades and continues to move downgradient.

Though concentrations of CT have been increasing in MW-BW-32-A and MW-BW-36-A, there is no unacceptable human health risk because this part of OUCTP underlies the FONR and exposure pathways are absent. Additionally, a human health risk assessment (HHRA) was completed as part of the OUCTP RI/FS (MACTEC, 2006). The HHRA was conducted to evaluate potential human health risks based on exposure to VOCs detected in groundwater and soil gas at the site. Child and adult residents were evaluated assuming they could be exposed to VOCs in soil gas and groundwater due to vapor intrusion to indoor air; however, the HHRA concluded potential VOC concentrations in indoor air arising from groundwater were negligible relative to measured VOC concentrations in outdoor air.

5.2 Recommendations

The conditions in OUCTP in the A-Aquifer will continue to be evaluated with each quarterly groundwater monitoring event. Data from the eight new monitoring wells indicate additional actions in the groundwater divide and downgradient mid-plume areas would be appropriate as described below, though these recommendations may be modified as additional information becomes available.

5.2.1 Groundwater Divide Area

It is recommended an additional EISB deployment area be constructed in the area of the groundwater divide north of Reservation Road and west of Imjin Parkway using an extraction and injection well configuration similar to those used in previous EISB deployment areas and as shown on Figure 15, with extraction and injection wells screened across the entire saturated zone (i.e., groundwater from the top of the water table down to the SVA will receive EISB treatment). Based on existing monitoring wells and the configuration of the proposed deployment area, no additional monitoring wells are recommended for this area. The proposed deployment area would be wholly within the southeast corner of the FONR in a grassland area that is already considered to be degraded habitat; therefore, impacts to land and biological resources would be expected to be minimized.

The results from previous EISB deployments at OUCTP⁵ indicate EISB can be effectively implemented as a remedial technology using sodium lactate as a substrate distributed in the aquifer using separate sets of extraction and injection wells. The injected substrate provides a carbon and energy source to the indigenous bacteria and acts effectively as an electron donor to generate conditions reduced enough to

³ See the Final Deployment Area Data Summary Reports for Areas 2A and 2B (AR#s OUCTP-0059 and OUCTP-0061A, respectively).

⁴ See also annual reports of quarterly monitoring (AR#s OUCTP-0065A, BW-2693A, BW-2650A and BW-2626A).

⁵ See the Final EISB Pilot Study Completion Report (AR# OUCTP-0041G) and the Final Deployment Area Data Summary Reports (AR#s OUCTP-0049A, OUCTP-0051A, OUCTP-0053A, OUCTP-0059 and OUCTP-0061A).

support reductive dechlorination of CT in groundwater. Modeling of substrate distribution in the proposed deployment area, as described in Section 4.0, indicates EISB treatment of groundwater migrating through the groundwater divide area should minimize further migration of the CT plume under the FONR and toward the Marina Municipal Airport.

5.2.2 Downgradient Mid-Plume Area

Concentrations of CT will continue to be monitored at MW-BW-32-A, MW-BW-36-A, MW-BW-89-A and MW-BW-92-A, and downgradient in the pilot study area near the former Fort Ord boundary as part of the quarterly GWMP to evaluate concentration trends and plume migration.

Based on the available data, an additional A-Aquifer monitoring well is recommended downgradient of MW-BW-89-A to better define the plume extent to the north toward OU1. It is expected that the establishment of an EISB deployment area as recommended above will remove the upgradient source of CT in the area of MW-BW-89-A; therefore, EISB deployment is not necessary or recommended in the area of MW-BW-89-A at this time.

No additional A-Aquifer monitoring wells are recommended for the OUCTP between the mid-plume area near Reservation Road and the pilot study area. Based on groundwater elevation contours in this area, the existing monitoring well network adequately characterizes the CT plume. Additionally, with successful EISB in Deployment Areas 2A and 2B (see Shaw, 2012b and Shaw, 2013), continuing CT degradation, and CT mass moving downgradient, it is expected concentrations of CT in the mid-plume area will go into a declining trend. However, as the higher CT concentrations currently identified in MW-BW-32-A and MW-BW-36-A continue to migrate downgradient, wells in the pilot study area should be monitored for increases in CT concentrations similar to what has recently been observed in MW-BW-32-A and MW-BW-36-A. If monitoring data indicate such increasing CT concentration trends, additional remedial action in the pilot study area should be considered. This may include recommendations for another EISB deployment and/or a network of groundwater extraction wells at the former Fort Ord boundary. Groundwater extraction and treatment was proven effective at nearby OU1 and new groundwater extraction wells could be connected to the existing OU1 Northwest Treatment System facility.

6.0 REFERENCES⁶

Ahtna Environmental Inc. (Ahtna), 2015a. *Final Operable Unit Carbon Tetrachloride Plume Evaluation Work Plan, A-Aquifer, Former Fort Ord, California*. February 11. AR# OUCTP-0063B.

Ahtna, 2015b. *Accident Prevention Plan, Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume; and Soil Gas Remedy and Monitoring at Sites 2 and 12, Former Fort Ord, California*. March.

Ahtna, 2015c. *Final Operable Unit 2 Fourth Quarter 2013 through Third Quarter 2014 Groundwater Monitoring and Treatment System Report, Former Fort Ord, California*. March 20. AR# OU2-691A.

Ahtna, 2015d. *Quality Assurance Project Plan, Former Fort Ord, California, Volume I, Appendix A, Final Revision 3, Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume (Groundwater QAPP)*. June 26. AR# BW-2735A.

Ahtna, 2015e. *Operable Unit Carbon Tetrachloride Plume Second Quarter 2015 Groundwater Monitoring Report*. August. AR# OUCTP-0068.

Denise Duffy and Associates (DD&A), 2015. *Final Biological Monitoring Work Plan for the Ahtna Well Installation and Development at the Operable Unit Carbon Tetrachloride Plume (OUCTP)*. April.

Harbaugh, A.W., Banta, E.R., Hill, M.C., and McDonald, M.G., 2000. MODFLOW-2000, the U.S. Geological Survey modular ground-water model -- User guide to modularization concepts and the Ground-Water Flow Process: U.S. Geological Survey Open-File Report 00-92, 121 p

Jankovic, I., Bandilla, K., Suribhatla, R., Bakker, M., Zhu, P., Simms, R., and Heidlauf, T., 2009. A graphical user interface for analytical element modeling and AEM-based transport simulation with the object-oriented Codes Bluebird and Cardinal, the multi-layer code TimML and the public domain AEM code Split. Version 1.04.

MACTEC Engineering and Consulting (MACTEC), 2006. *Final Operable Unit Carbon Tetrachloride Plume Groundwater Remedial Investigation/Feasibility Study, Former Fort Ord, California, Volume II: Human Health Risk Assessment*. May 19. AR# OUCTP-0011P.

Pollock, David W. *User guide for MODPATH version 6: a particle tracking model for MODFLOW*. US Department of the Interior, US Geological Survey, 2012.

⁶ At the end of references included in the Fort Ord Administrative Record are the Administrative Record Numbers (AR#s) (e.g. BW-1234). To find the referenced document, this number may be typed into the Online Search tool at: <http://www.fortordcleanup.com/documents/search/>. Please note the referenced documents were available in the Fort Ord Administrative Record at the time this document was issued; however, some may have been superseded by more current versions and were subsequently withdrawn.

Shaw Environmental, Inc. (Shaw), 2009. *Final Operable Unit Carbon Tetrachloride Plume Remedial Action Work Plan, Former Fort Ord, California*. August. AR# OUCTP-0036K

Shaw, 2012a. *Final Operable Unit Carbon Tetrachloride Plume A-Aquifer Remedial Action Construction Completion Report*. August. AR# OUCTP-0041G.

Shaw, 2012b. *Final Operable Unit Carbon Tetrachloride Plume Deployment Area 2A Data Summary Report, Enhanced in situ Bioremediation Remedial Action, Former Fort Ord, California*. September. AR# OUCTP-0059.

Shaw, 2013. *Final Operable Unit Carbon Tetrachloride Plume Deployment Area 2B Data Summary Report, Enhanced in situ Bioremediation Remedial Action, Former Fort Ord, California*. July. AR# OUCTP-0061A.

U.S. Army Corps of Engineers (USACE), 1997. *Installation-Wide Multispecies Habitat Management Plan (HMP) for Former Fort Ord, California*. April. BW-1787.

U.S. Fish and Wildlife Service (USFWS), 1999. *Biological and Conference Opinion on the Closure and Reuse of Fort Ord, Monterey County, California (1-8-99-F/C-39R)*. March 30. BW-2232A.

USFWS, 2002. *Biological Opinion on the Closure and Reuse of Fort Ord, Monterey County, California, as it affects Monterey Spineflower Critical Habitat, (1-8-01-F-70R)*. October 22. BW-2233.

USFWS, 2005. *Biological Opinion on Cleanup and Reuse of Former Fort Ord, Monterey County, California, as it affects California Tiger Salamander and Critical Habitat for Contra Costa Goldfields, (1-8-04-F-25R)*. March 14. BW-2334.

USFWS, 2015. *Programmatic Biological Opinion for Cleanup and Property Transfer Actions Conducted at the Former Fort Ord, Monterey County, California (8-8-09-F-74)*. May 28. BW-2747.

TABLES

Table 1. Well Construction Details

Well ID MW-BW-	Date Installed	Northing (ft NAD 83 CA Zone 4)	Easting (ft NAD 83 CA Zone 4)	Top of Casing Elevation (ft MSL NGVD 29)	Total Depth of Borehole	Total Casing Depth	Approximate Groundwater Depth	Total Casing Depth	Screen Interval	Screen Elevation (ft MSL NGVD 29)	Sand Depth	Bentonite Seal Depth	Cement- Bentonite Grout Depth
					ft bgs			ft btoc			ft bgs		
MW-BW-85-A	6/5/2015	2140144.06	5749967.16	132.79	91	90	65.24	92.7	62.7 - 92.7	70.09 - 40.09	57 - 91	54 - 57	0 - 54
MW-BW-86-A	6/3/2015	2140877.70	5750110.02	135.79	98	96	71.99	98.9	68.9 - 98.9	66.89 - 36.89	61 - 98	58 - 61	0 - 58
MW-BW-87-A	6/2/2015	2140859.25	5749527.95	135.37	100	99	70.5	101.7	71.7 - 101.7	63.67 - 33.67	64.5 - 100	61.5 - 64.5	0 - 61.5
MW-BW-88-A	6/12/2015	2140988.42	5749316.99	148.06	104	103	83.48	105.3	75.3 - 105.3	72.76 - 42.76	70 - 104	67 - 70	0 - 67
MW-BW-89-A	6/11/2015	2142178.13	5748422.81	141.54	100	100	83.14	102.06	72.06 - 102.06	69.48 - 39.48	67 - 100	64 - 67	0 - 64
MW-BW-90-A	6/4/2015	2141177.80	5750013.25	118.15	83.5	80	52.26	82.6	52.6 - 82.6	65.55 - 35.55	47 - 83.5	44 - 47	0 - 44
MW-BW-91-A	6/8/2015	2140387.93	5749543.91	131.38	90	88	64.24	90.3	60.3 - 90.3	71.08 - 41.08	54 - 90	51 - 54	0 - 51
MW-BW-92-A	6/10/2015	2142267.82	5747656.74	121.81	91	91	71.65	92.5	62.5 - 92.5	59.31 - 29.31	57 - 91	54 - 57	0 - 54

Notes:

All boreholes drilled with a 10" diameter hollow stem auger

Wells are completed with a lockable yellow stickup steel monument

ft bgs = feet below ground surface

ft MSL = feet above mean sea level

ft btoc = feet below top of casing

NAD 83 = North American Datum of 1983

NGVD 29 = National Geodetic Vertical Datum of 1929

Elevations shown in NGVD 29 for consistency with existing monitoring well elevation datums, correction factor of -2.77 feet applied to 1988 datum to convert to 1929

All screens are 30' long 3" diameter 0.020" Slotted schedule 80 PVC

All blank casing constructed of 3" diameter schedule 80 PVC

Table 2. Baseline Sampling Analytical Results

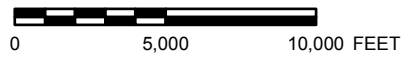
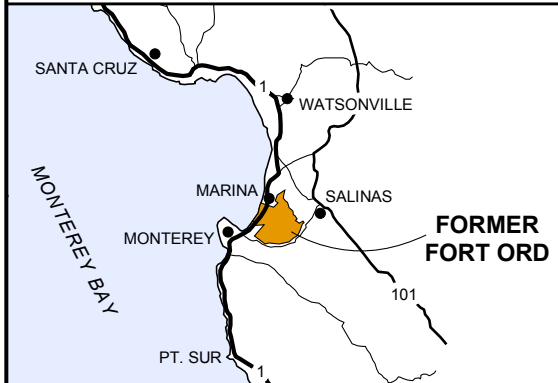
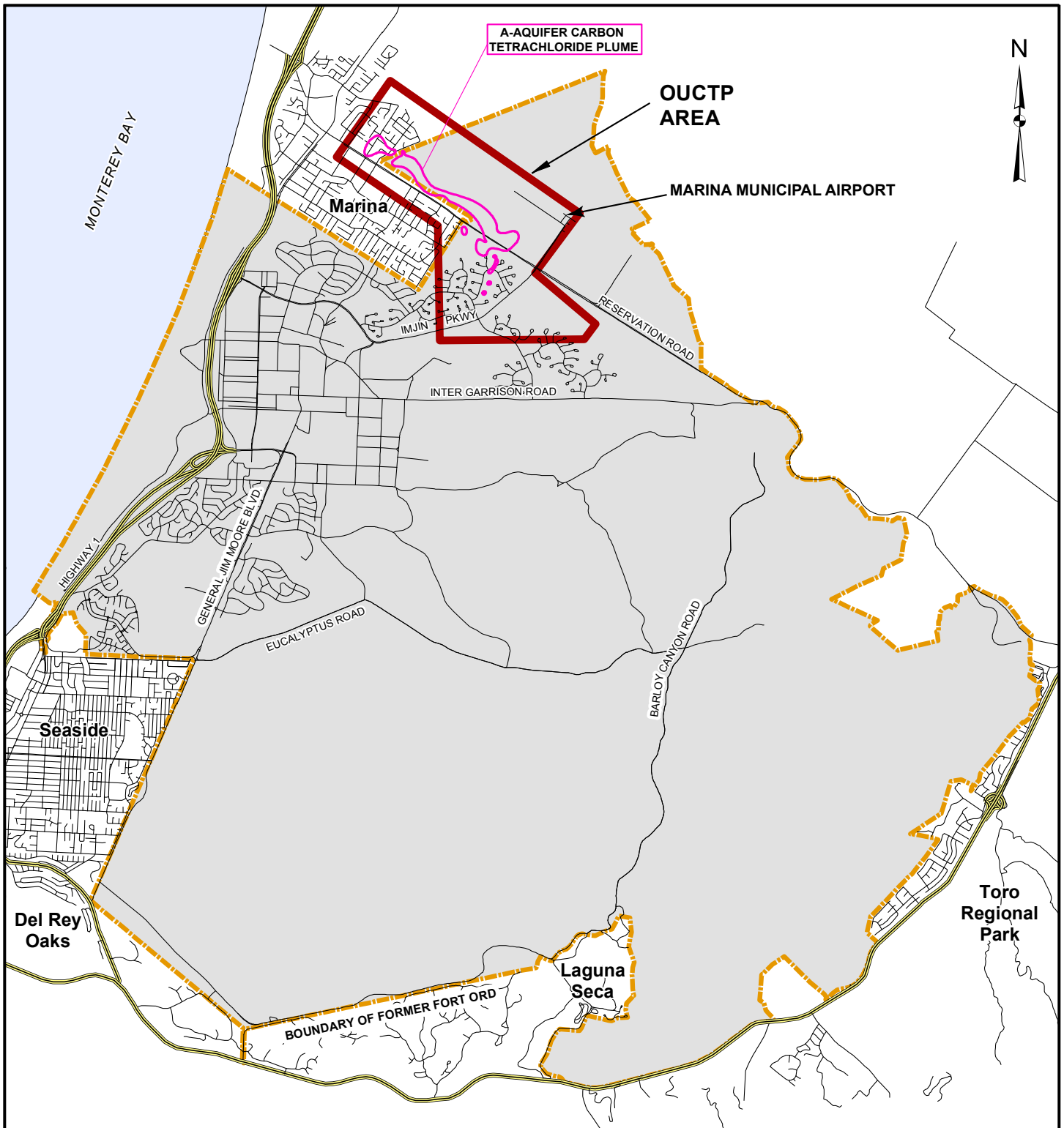
Well ID	Sample Number	Station Number [^]	Sample Depth (ft btoc)	Sample Elevation (ft MSL)	Analyte/ Units:	CT (µg/L)	CCl ₄ (µg/L)	1,1-DCE (µg/L)	1,2-DCE (total) (µg/L)	MeCl ₂ (µg/L)	PCE (µg/L)	TCE (µg/L)	VC (µg/L)
					ACL (µg/L):	0.50	2.0	6.0	6.0	5.0	5.0	5.0	0.10
					Date	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	Value Qual	
85-A	1531G0BW045F	3	72.7	60.09	7/30/2015	0.25 U	0.18 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW003F	4	77.7	55.09	7/9/2015	0.25 U	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW004F	5	82.7	50.09	7/9/2015	0.44 J	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1531G0BW046F	6	87.7	45.09	7/30/2015	0.52	0.11 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1531G0BW47D	6*	87.7	45.09	7/30/2015	0.46 J	0.10 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
86-A	1528G0BW014F	2	73.9	61.89	7/9/2015	0.25 U	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW015F	3	78.9	56.89	7/9/2015	0.25 U	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW016F	4	83.9	51.89	7/9/2015	0.25 U	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW017F	5	88.9	46.89	7/9/2015	0.25 J	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW018F	6	93.9	41.89	7/9/2015	0.34 J	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
87-A	1528G0BW025F	1	71.7	63.67	7/9/2015	0.25 U	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW026F	2	76.7	58.67	7/9/2015	0.25 U	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW027F	3	81.7	53.67	7/9/2015	0.25 U	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW028F	4	86.7	48.67	7/9/2015	0.59	0.19 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW029F	5	91.7	43.67	7/9/2015	2.1	0.57	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
1528G0BW030F	6	96.7	38.67	7/9/2015	0.19 J	0.14 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U	
88-A	1528G0BW031F	3	85.3	62.76	7/9/2015	0.29 J	0.30 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW032F	4	90.3	57.76	7/9/2015	0.29 J	0.31 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW033F	5	95.3	52.76	7/9/2015	0.60 J	0.52 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW034D	5*	95.3	52.76	7/9/2015	0.57	0.5	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW035F	6	100.3	47.76	7/9/2015	0.65	0.53	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
89-A	1528G0BW036F	4	87.06	54.48	7/9/2015	0.41 J	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW037F	5	92.06	49.48	7/9/2015	0.44 J	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW038F	6	97.06	44.48	7/9/2015	2.1	0.19 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW039D	6*	97.06	44.48	7/9/2015	2.1	0.19 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
90-A	1528G0BW019F	1	52.6	65.55	7/9/2015	0.25 U	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW020F	2	57.6	60.55	7/9/2015	0.20 J	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW021F	3	62.6	55.55	7/9/2015	0.22 J	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW022F	4	67.6	50.55	7/9/2015	0.34 J	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW023F	5	72.6	45.55	7/9/2015	0.40 J	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW024F	6	77.6	40.55	7/9/2015	0.16 J	0.25 U	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
91-A	1528G0BW007F	2	65.3	66.08	7/9/2015	1.9	0.33 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW008F	3	70.3	61.08	7/9/2015	2.7	0.44 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW009F	4	75.3	56.08	7/9/2015	3.6	0.56	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW010D	4*	75.3	56.08	7/9/2015	3.4	0.53	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW011F	5	80.3	51.08	7/9/2015	3.9	0.54	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW012F	6	85.3	46.08	7/9/2015	3.4	0.54	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
92-A	1528G0BW040F	3	72.5	49.31	7/9/2015	2.3	0.24 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW041D	3*	72.5	49.31	7/9/2015	2.3	0.24 J	0.25 U	0.50 U	0.50 U	0.25 U	0.25 U	0.050 U
	1528G0BW042F	4	77.5	44.31	7/9/2015	2.8	0.28 J	0.25 U	0.50 U	0.50 U	0.25 U	0.11 J	0.050 U
	1528G0BW043F	5	82.5	39.31	7/9/2015	2.7	0.27 J	0.25 U	0.50 U	0.50 U	0.25 U	0.11 J	0.050 U
	1528G0BW044F	6	87.5	34.31	7/9/2015	2.7	0.27 J	0.25 U	0.50 U	0.50 U	0.25 U	0.11 J	0.050 U

Notes:

1,1-DCE: 1,1-dichloroethene
 1,2-DCE (total): total 1,2-dichloroethene
 CCl₄: chloroform
 CT: carbon tetrachloride
 MeCl₂: methylene chloride
 PCE: tetrachloroethene
 TCE: trichloroethene
 VC: vinyl chloride
 µg/L: micrograms per liter
 ^: Groundwater samples are collected from PDB stations located in the saturated screen interval only

ACL: Aquifer Cleanup Level
 * Duplicate sample
 Qual: qualifier
 J: Laboratory qualifier, estimated result below the Limit of Quantification (LOQ)
 U: Validation qualifier, result not detected above the Limit of Detection (LOD)
 Results in **bold** are detected results at or above the ACL
 Results in *gray* are non detected results below the LOD
 Additional CT data from new and existing wells may be found in the OUCTP Second Quarter 2015 Groundwater Monitoring Report (AR# OUCTP-0068)

FIGURES



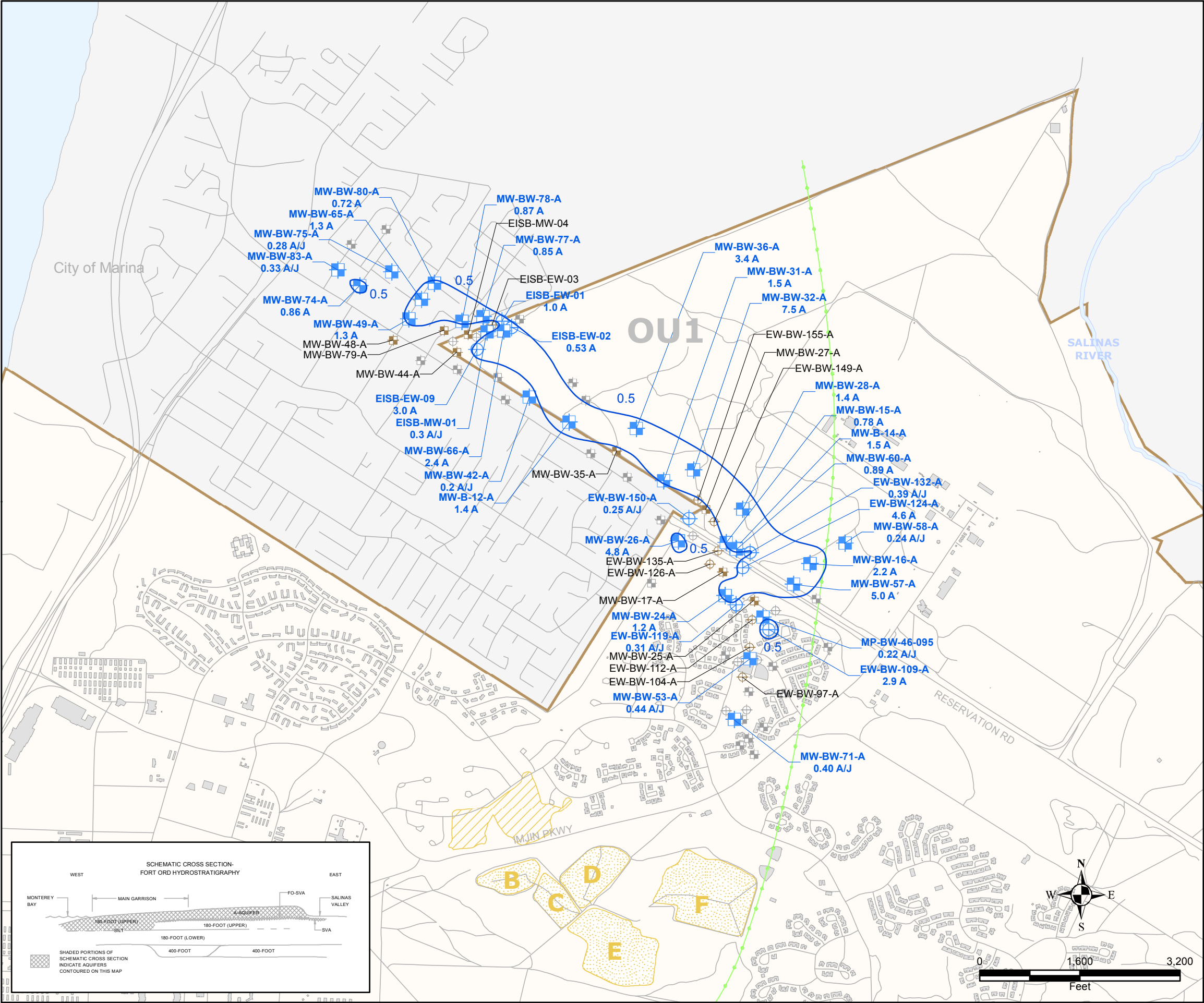
Location Map

Operable Unit Carbon Tetrachloride Plume
Evaluation Technical Memorandum, A-Aquifer
Former Fort Ord, California

Figure

1

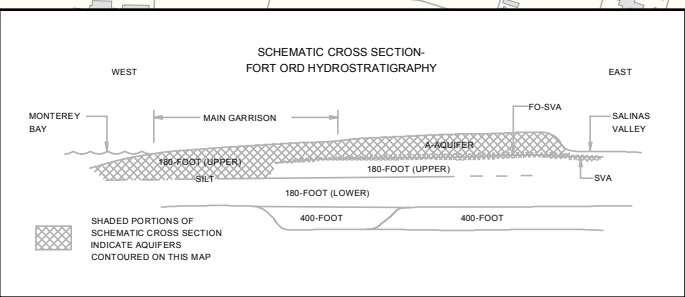
Tuesday, August 18, 2015 11:49:30 AM reuben.plisbury
 S:\FAR\Ford\OD14170870\Reporting_08\GWMR1502\OUCTP_GMR\Figure03_CT-COC_OUCTP-A_15Q2.mxd



EXPLANATION

- Monitoring Well with CT Detection
- Extraction Well with CT Detection
- Well ID
- Monitoring Well CT Not Detected
- Extraction Well CT Not Detected
- Monitoring Well Not Sampled This Quarter
- Extraction Well Not Sampled This Quarter
- Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L
- 0.5 Carbon tetrachloride (CT)
- Approximate extent of Fort Ord Landfill Cells
- OU2 Landfill Areas B through F
- Cell A (clean closed)
- Approximate Location of a Groundwater Divide
- Roads
- Facilities
- Former Fort Ord Boundary

- NOTES:
- (1) Samples were collected between June 22 and 25, 2015.
 - (2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.
 - (3) Contours based on highest value obtained from multiple bags where applicable.
 - (4) Contours near wells not sampled this quarter are inferred from previous analytical data.



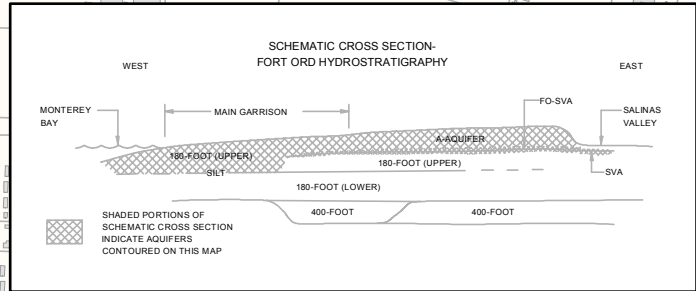
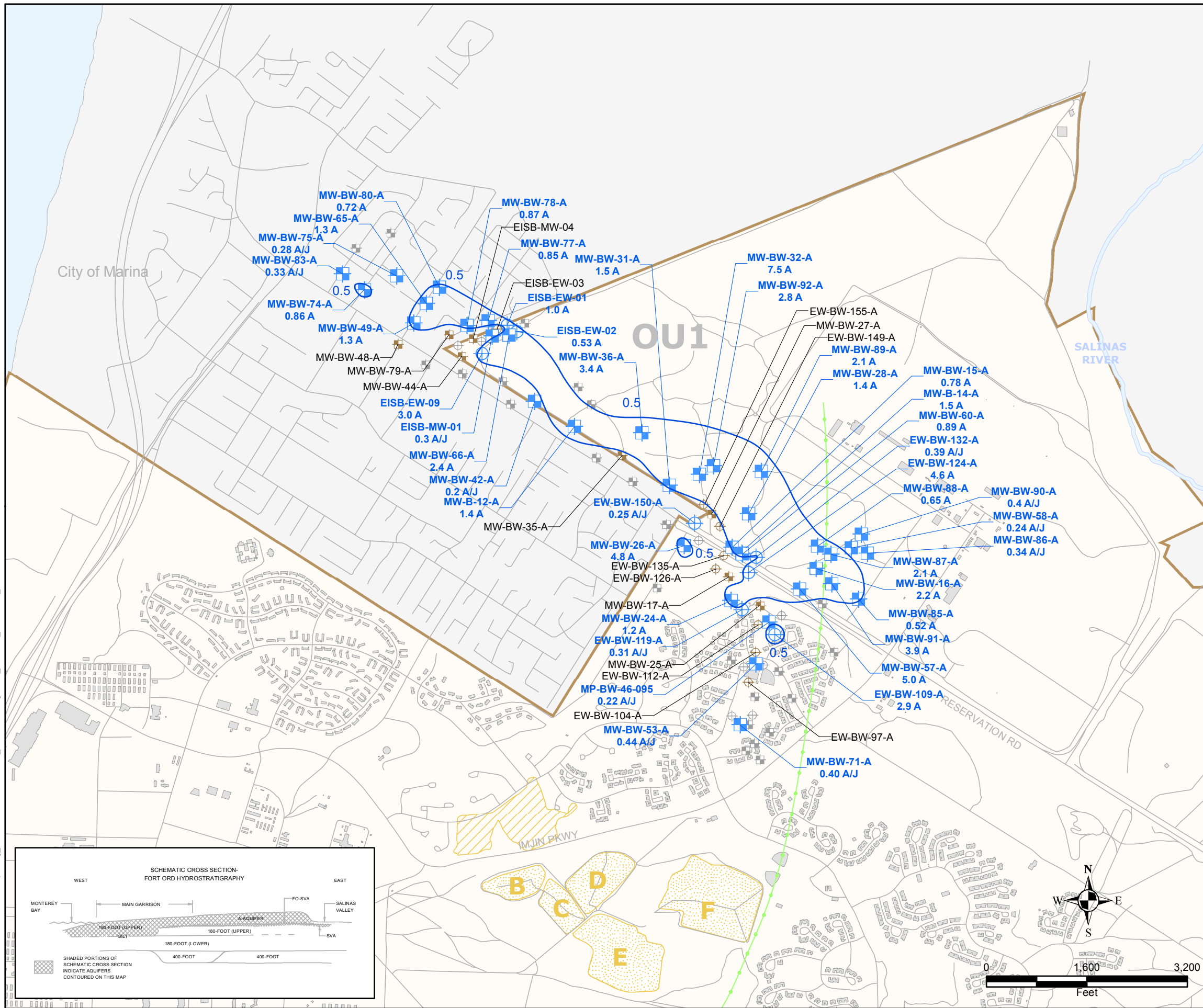
CT CONCENTRATIONS
 Second Quarter 2015
 OUCTP EVALUATION TECH MEMO
 A-AQUIFER
 Former Fort Ord, California



Date: 8/2015 Project No. OD14170870

Figure
 2

Wednesday, August 26, 2015 10:10:49 AM reuben.pillsbury
 S:\FAR\FOR\GW\OD14170870\Reporting_08\GWMR1502\OUCTP_TechMemo\Figure01_CT-COC_OUCTP-A_1502.mxd



EXPLANATION

- Monitoring Well with CT Detection
- Extraction Well with CT Detection
- Well ID
- CT Concentration (µg/L) and validation/lab qualifier
- Monitoring Well CT Not Detected
- Extraction Well CT Not Detected
- Monitoring Well Not Sampled This Quarter
- Extraction Well Not Sampled This Quarter

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L

0.5 Carbon tetrachloride (CT)

Approximate extent of Fort Ord Landfill Cells

- OU2 Landfill Areas B through F
- Cell A (clean closed)

Approximate Location of a Groundwater Divide

- Roads
- Facilities
- Former Fort Ord Boundary

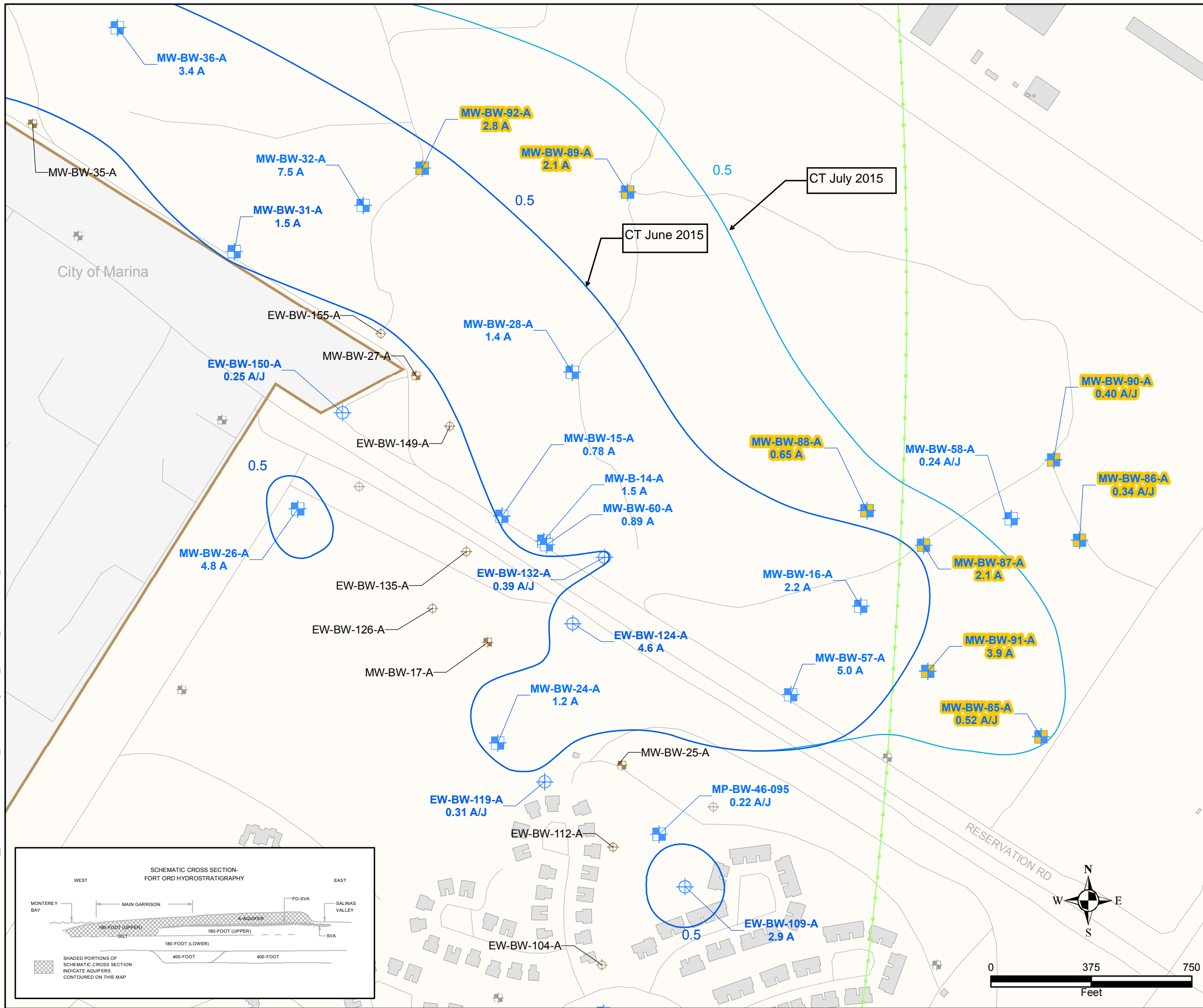
- NOTES:
- (1) All samples were collected between June 22 and 25, 2015, except for the baseline samples from new monitoring wells MW-BW-85-A through MW-BW-92-A, which were collected on July 9 and July 30, 2015.
 - (2) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.
 - (3) Contours based on highest value obtained from multiple bags where applicable.
 - (4) Contours near wells not sampled this quarter are inferred from previous analytical data.

CT CONCENTRATIONS
 Baseline and Second Quarter 2015
 OUCTP EVALUATION TECH MEMO
 A-AQUIFER
 Former Fort Ord, California

Date: 8/2015 Project No. OD14170870

Figure 3

Wednesday, September 30, 2015 4:01:40 PM reuben.plisbury
 S:\FAR\FortOrd\OD14170870\Reporting_08\GWMR\1502\OUCTP_TechMemo\Figure04_CT-COC_OUCTP-GwDiv_1502.mxd



EXPLANATION

- Baseline Monitoring Well with CT Detection
- Monitoring Well with CT Detection
- Extraction Well with CT Detection
- OUCTP Baseline Monitoring Well ID
- CT Concentration (µg/L) and validation/lab qualifier
- Well ID
- CT Concentration (µg/L) and validation/lab qualifier
- Monitoring Well CT Not Detected
- Extraction Well CT Not Detected
- Monitoring Well Not Sampled This Quarter
- Extraction Well Not Sampled This Quarter

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contour in µg/L

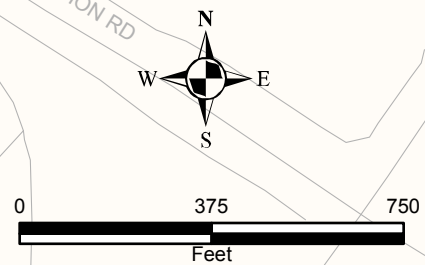
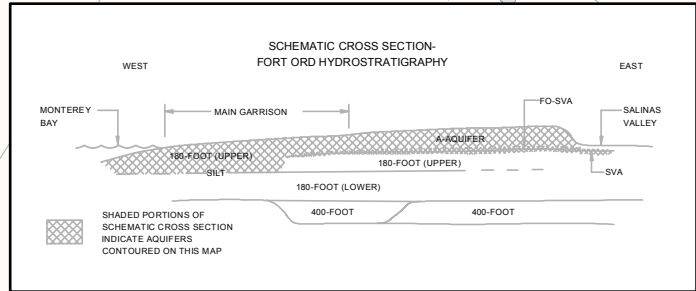
- 0.5 Carbon tetrachloride (CT) July 2015
- 0.5 CT June 2015

Approximate extent of Fort Ord Landfill Cells

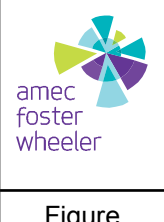
- OU2 Landfill Areas B through F
- Cell A (clean closed)
- Approximate Location of a Groundwater Divide
- Roads
- Facilities
- Former Fort Ord Boundary

NOTES:

- (1) Contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.
- (2) Contours based on highest value obtained from multiple bags where applicable.
- (3) Contours near wells not sampled this quarter are inferred from previous analytical data.



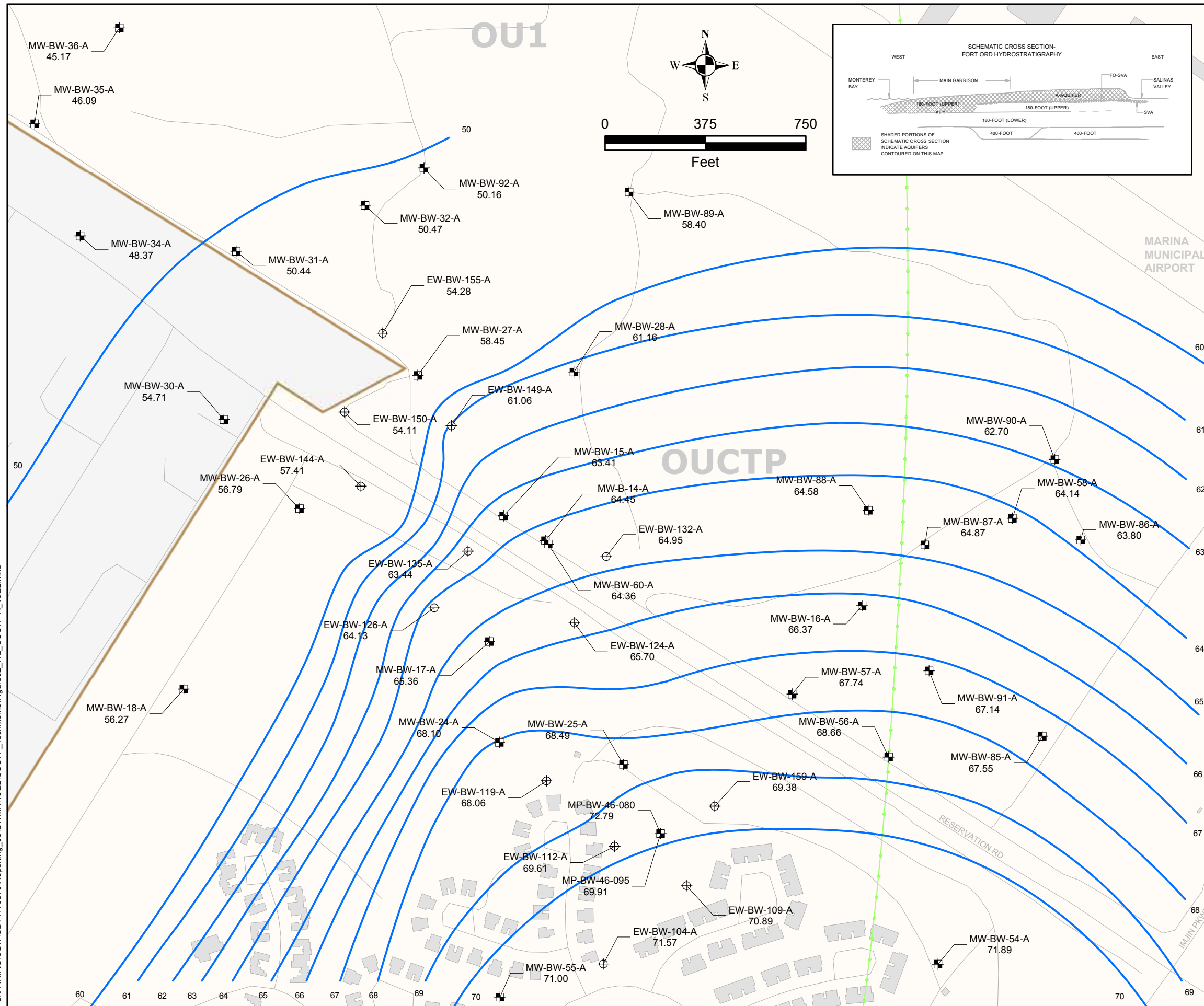
CT CONCENTRATIONS BASELINE AND SECOND QUARTER 2015 GROUNDWATER DIVIDE AREA OUCTP EVALUATION TECH MEMO A-AQUIFER
 Groundwater Monitoring Report
 Former Fort Ord, California



Date: 9/2015 Project No. OD14170870

Figure 4

Prepared by: reuben.plisbury Wednesday, August 26, 2015 10:28:46 AM
 S:\FAR\Ford\GW\OD14170870\Reporting_08\GWMR1502\OUCTP_TechMemo\Figure02_WL_OUCTP-A_15Q2.mxd



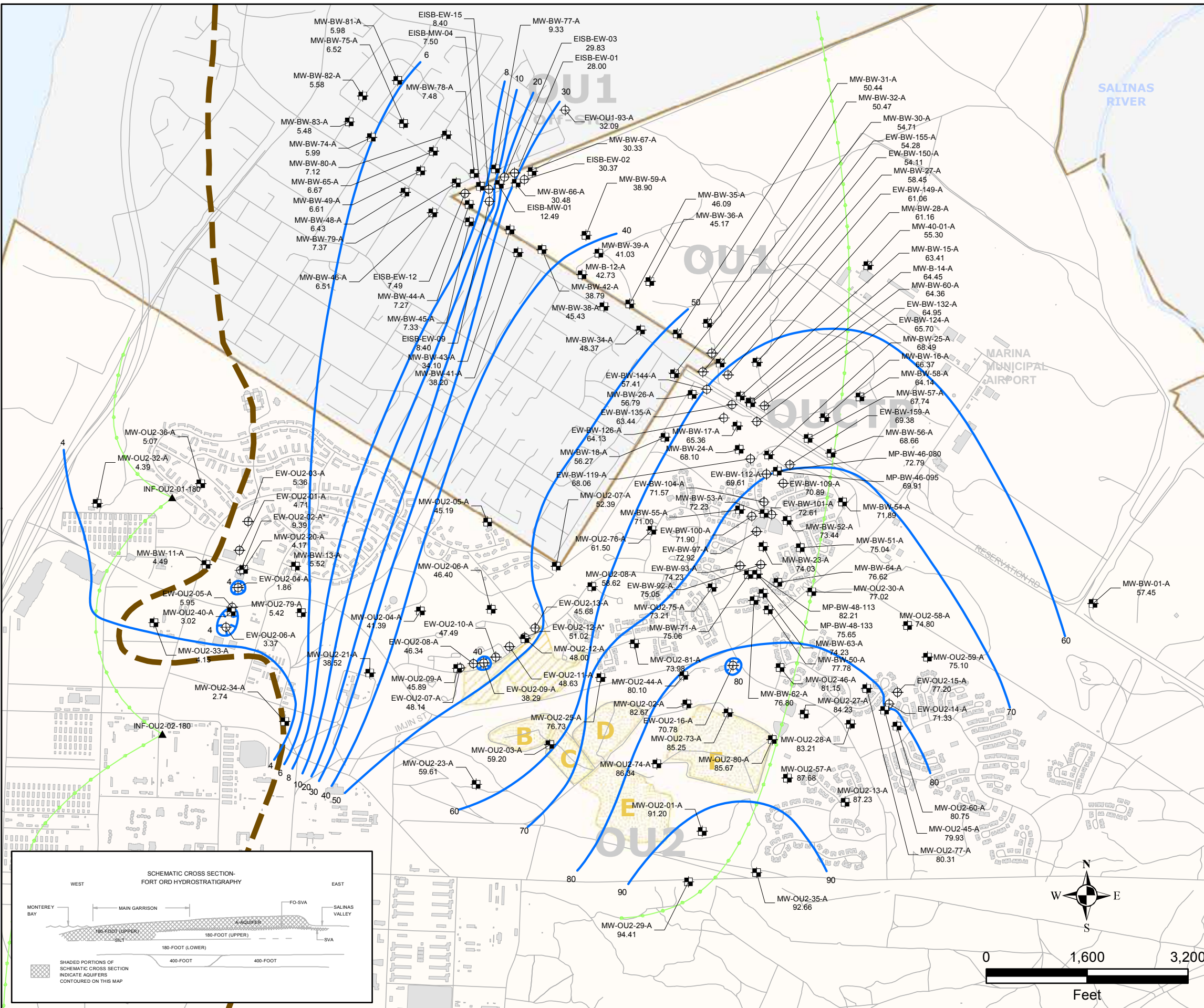
EXPLANATION

- Monitoring Well
- Piezometer
- Extraction Well
- Injection Well
- MW-BW-58-A**
64.34
Station ID and Groundwater Elevation
(in feet above or below mean sea level)
- NM**
Water level not measured this quarter
- .**
Water level not used for contouring
- 60
Groundwater Elevation Contour
(in feet above or below mean sea level,
contour interval 1 foot)
- Approximate location of a Groundwater Divide
- Roads
- Facilities

- NOTES:**
- (1) Water levels were measured between June 15 and 25, 2015 and on August 25, 2015.
 - (2) Groundwater elevation contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.
 - (3) Groundwater elevations are relative to NGVD 1929.

<p>REVISED GROUNDWATER ELEVATIONS - JULY 2015 OUCTP EVALUATION TECH MEMO A-AQUIFER Former Fort Ord, California</p>		 Figure 5
Date: 8/2015	Project No. OD14170870	

Prepared by: reuben.plisbury Tuesday, August 18, 2015 11:32:28 AM
 S:\FAR\Ford\GW\OD14170870\Reporting_08\GWMR1502\OUCTP_GMR\Figure02_WL_OUCTP-A_1502.mxd

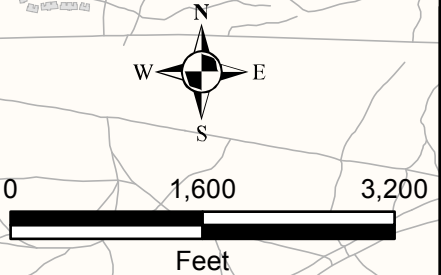
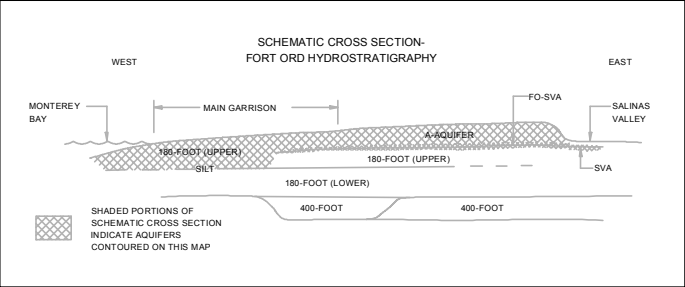


EXPLANATION

- Monitoring Well
- Piezometer
- Extraction Well
- Injection Well
- MW-BW-58-A**
64.34
Station ID and Groundwater Elevation (in feet above or below mean sea level)
- NM**
Water level not measured this quarter
- .**
Water level not used for contouring
- 60
Groundwater Elevation Contour (in feet above or below mean sea level, contour interval 2 or 10 feet)
- Approximate location of a Groundwater Divide
- Approximate edge of Fort Ord-Salinas Valley Aquitard Boundary
- Roads
- Facilities
- Approximate outline of former Fort Ord Landfill Cell A (clean closed)
- Approximate extent of Fort Ord Landfill Cells
- Former Fort Ord Boundary

NOTES:

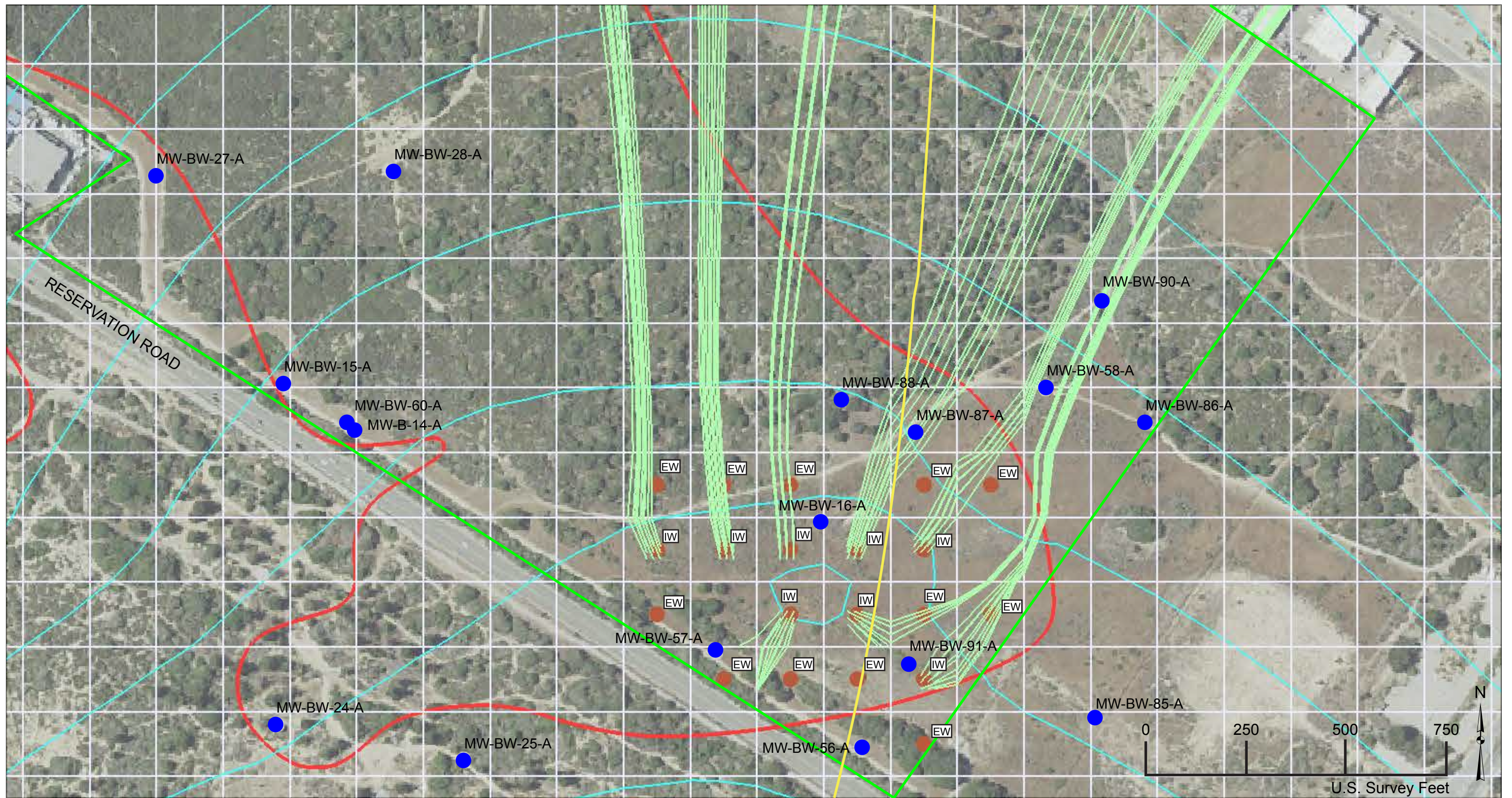
- (1) Water levels were measured between June 22 and 25, 2015.
- (2) Groundwater elevation contours are based on one interpretation of the data that were available at the time this report was prepared; other interpretations may be possible.
- (3) Groundwater elevations are relative to NGVD 1929.



GROUNDWATER ELEVATIONS
 2nd Quarter 2015
OUCTP EVALUATION TECH MEMO
 A-AQUIFER
 Former Fort Ord, California

Date: 8/2015 Project No. OD14170870

Figure 6

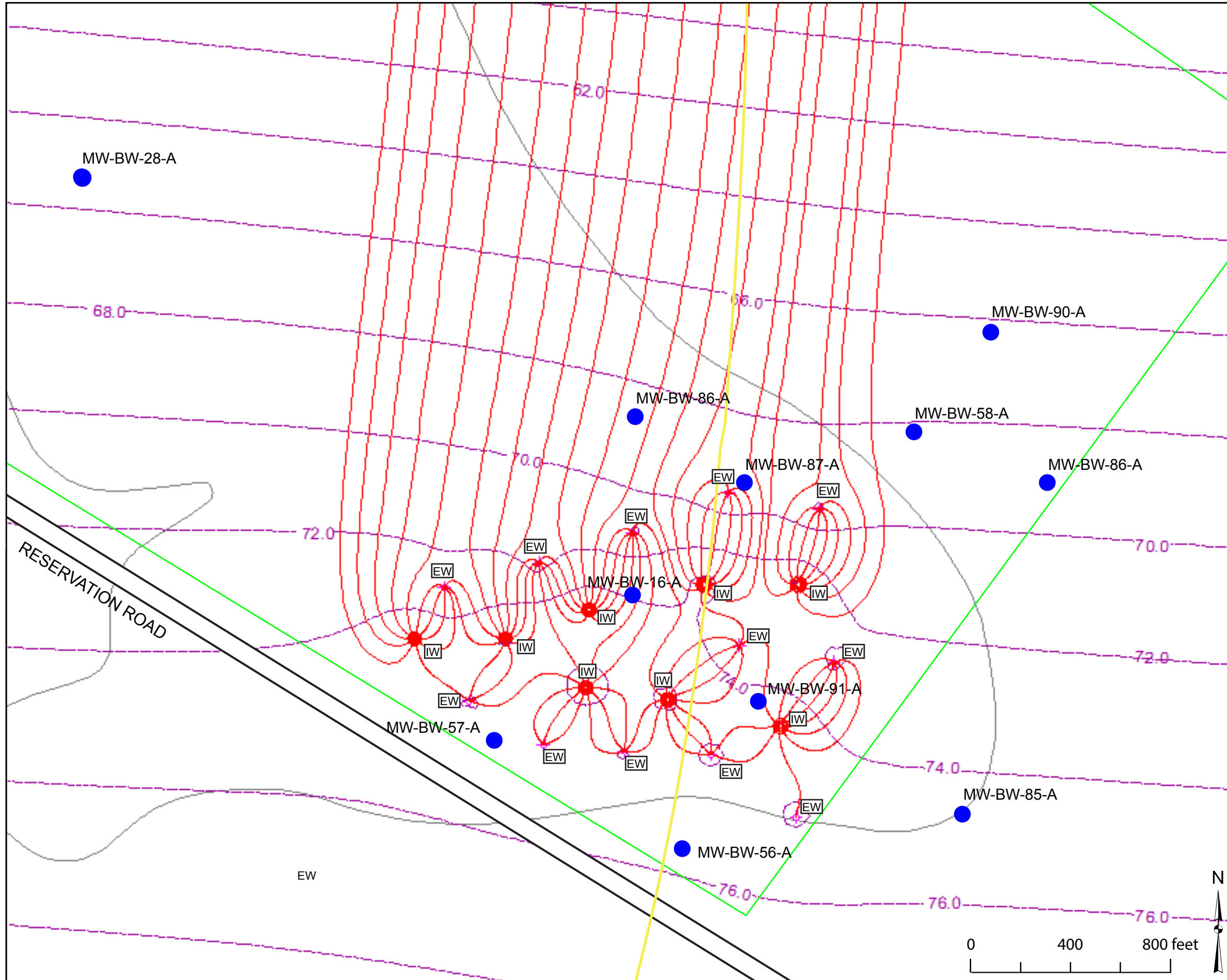


- EW Modeled Extraction Wells (EW)
- IW Modeled Injection Wells (IW)
- Existing Monitoring Wells

- FONR Boundary
- CT Plume
- Forward Tracking Particle Pathlines
- Groundwater Elevation Contour
- Groundwater Divide

Modeled Substrate Distribution with Fort Ord Groundwater Model (MODFLOW)
 OUCTP Evaluation Tech Memo, A-Aquifer
 Former Fort Ord, California

Figure
7



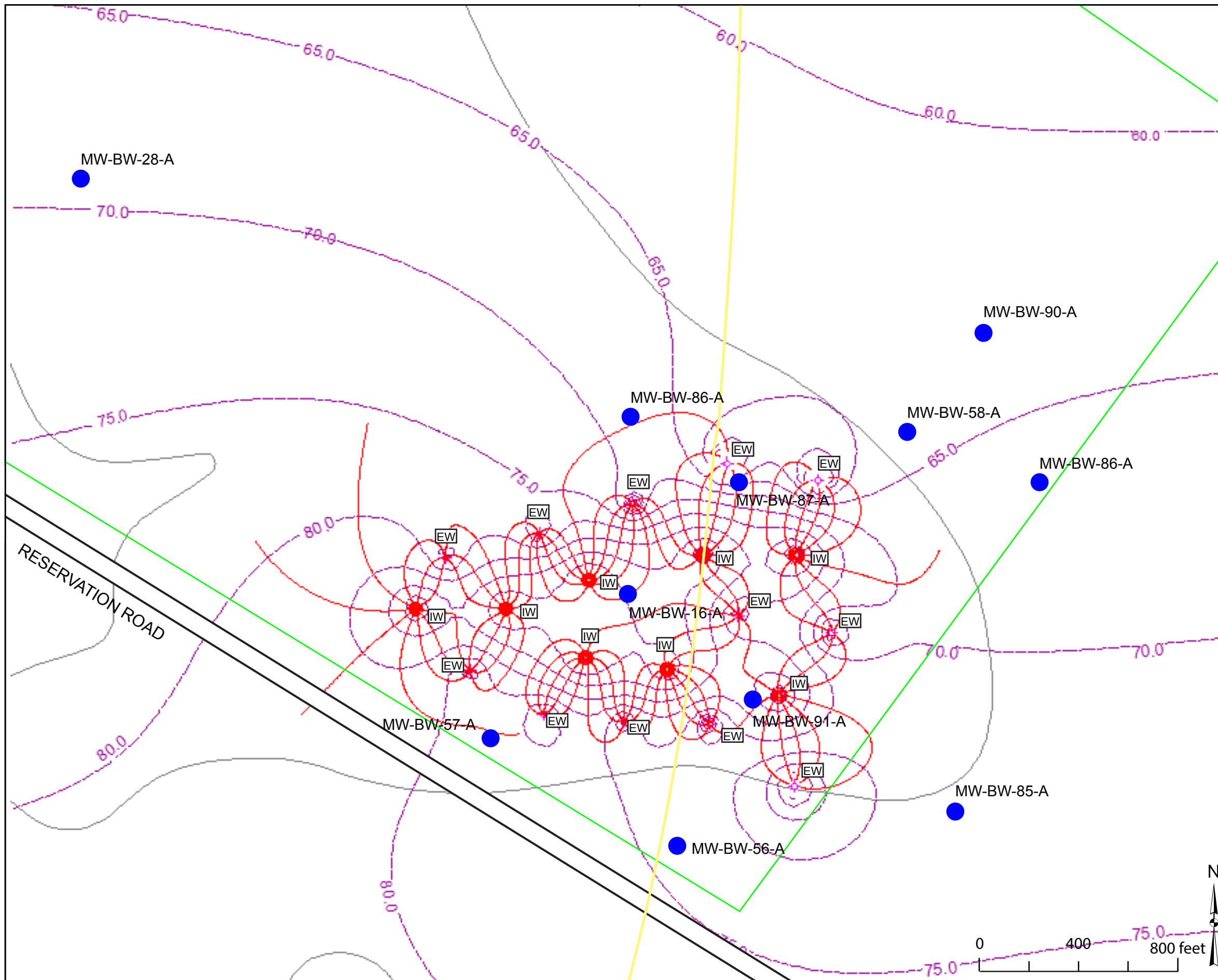
LEGEND

- Modeled Injection Wells (IW)
- ◻ Modeled Extraction Wells (EW)
- Existing Monitoring Wells
- FONR Boundary
- CT Plume
- Forward Tracking Particle Pathlines
- - - Groundwater Elevation Contour
- Groundwater Divide

Modeled Substrate Distribution with Analytical Element Method (Hydraulic Conductivity = 12 ft/day)
 OUCTP Evaluation Tech Memo, A-Aquifer
 Former Fort Ord, California



Figure **8**



LEGEND

- Modeled Injection Wells (IW)
- ◻ Modeled Extraction Wells (EW)
- Existing Monitoring Wells
- FONR Boundary
- CT Plume
- Forward Tracking Particle Pathlines
- Groundwater Elevation Contour
- Groundwater Divide

**Modeled Substrate Distribution
with Analytical Element Method
(Hydraulic Conductivity = 1 ft/day)**

OUCTP Evaluation Tech Memo, A-Aquifer
Former Fort Ord, California



Figure

9

Figure 10. Carbon Tetrachloride Analytical Results
MW-BW-57-A

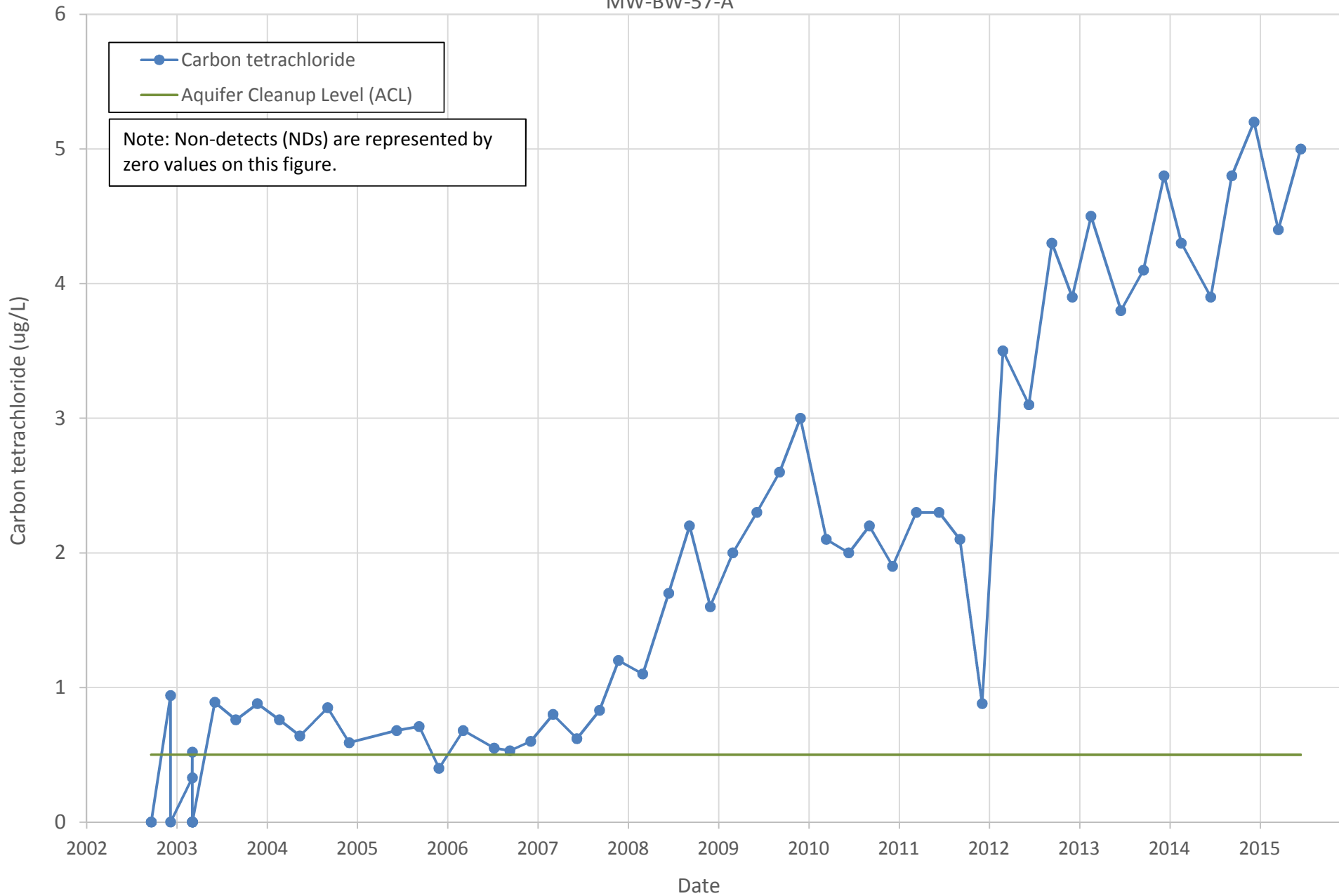


Figure 11. Carbon Tetrachloride Analytical Results
MW-BW-16-A

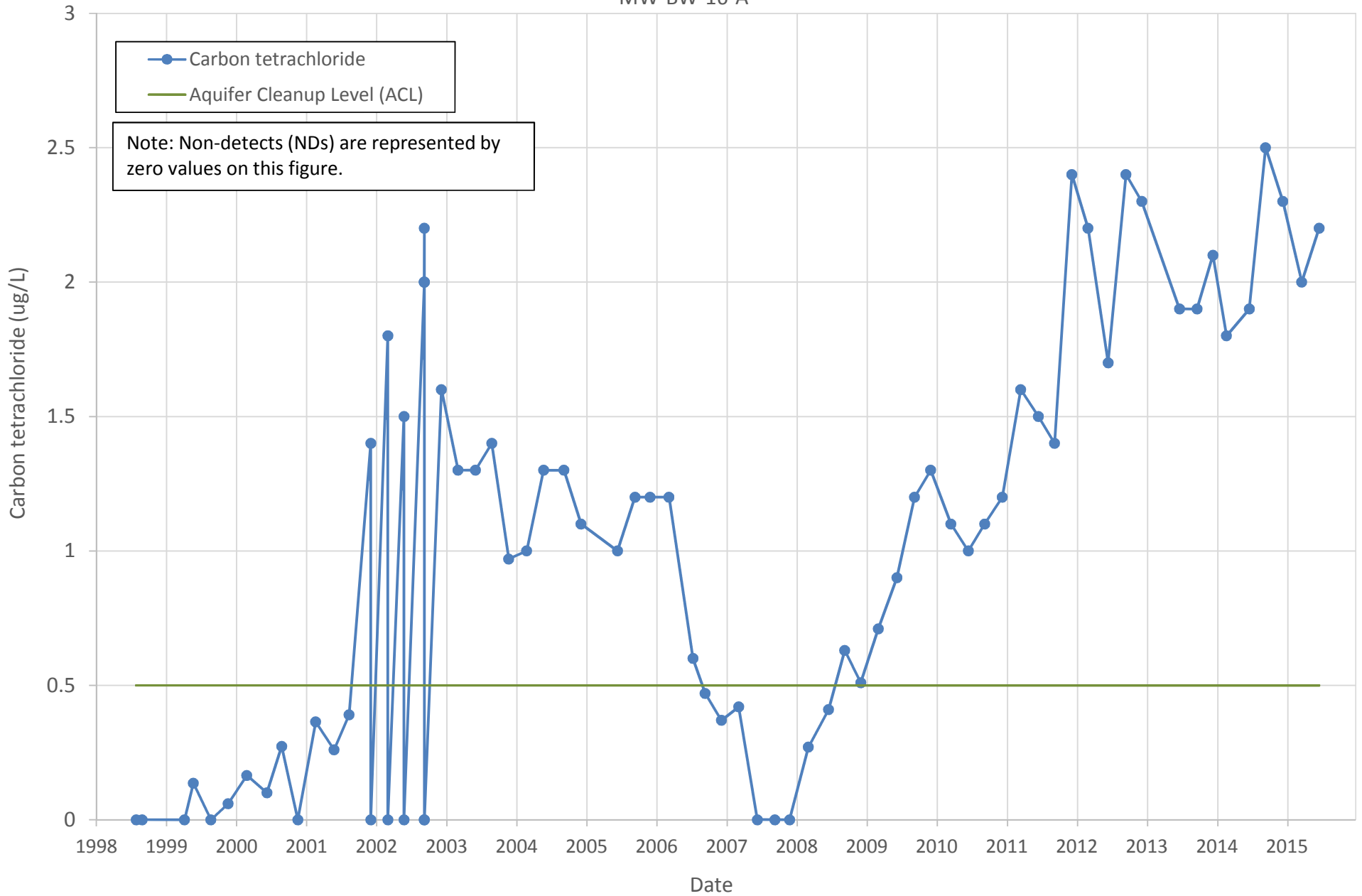


Figure 12. Carbon Tetrachloride Analytical Results
MW-BW-32-A

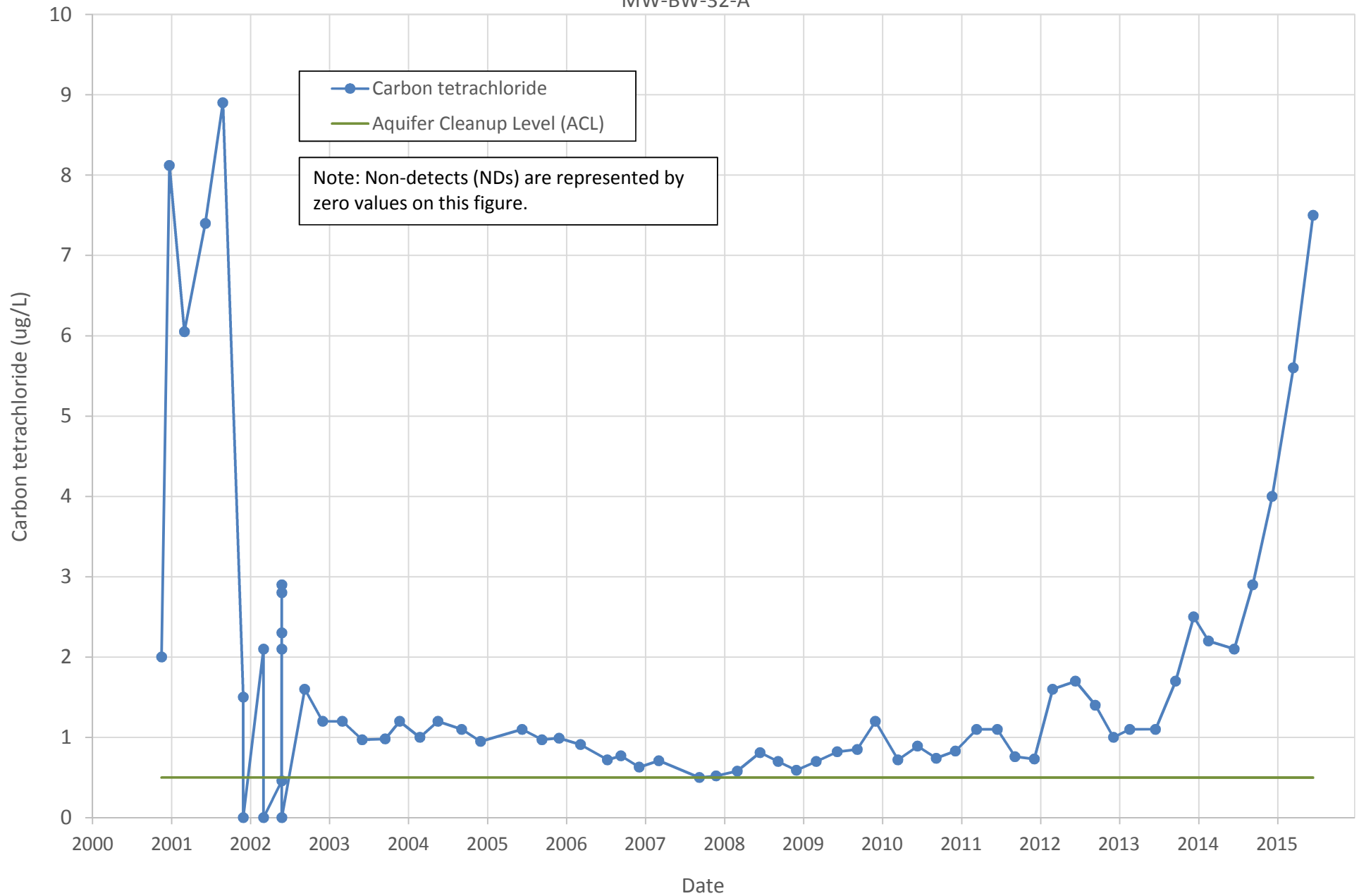


Figure 13. Carbon Tetrachloride Analytical Results
MW-BW-36-A

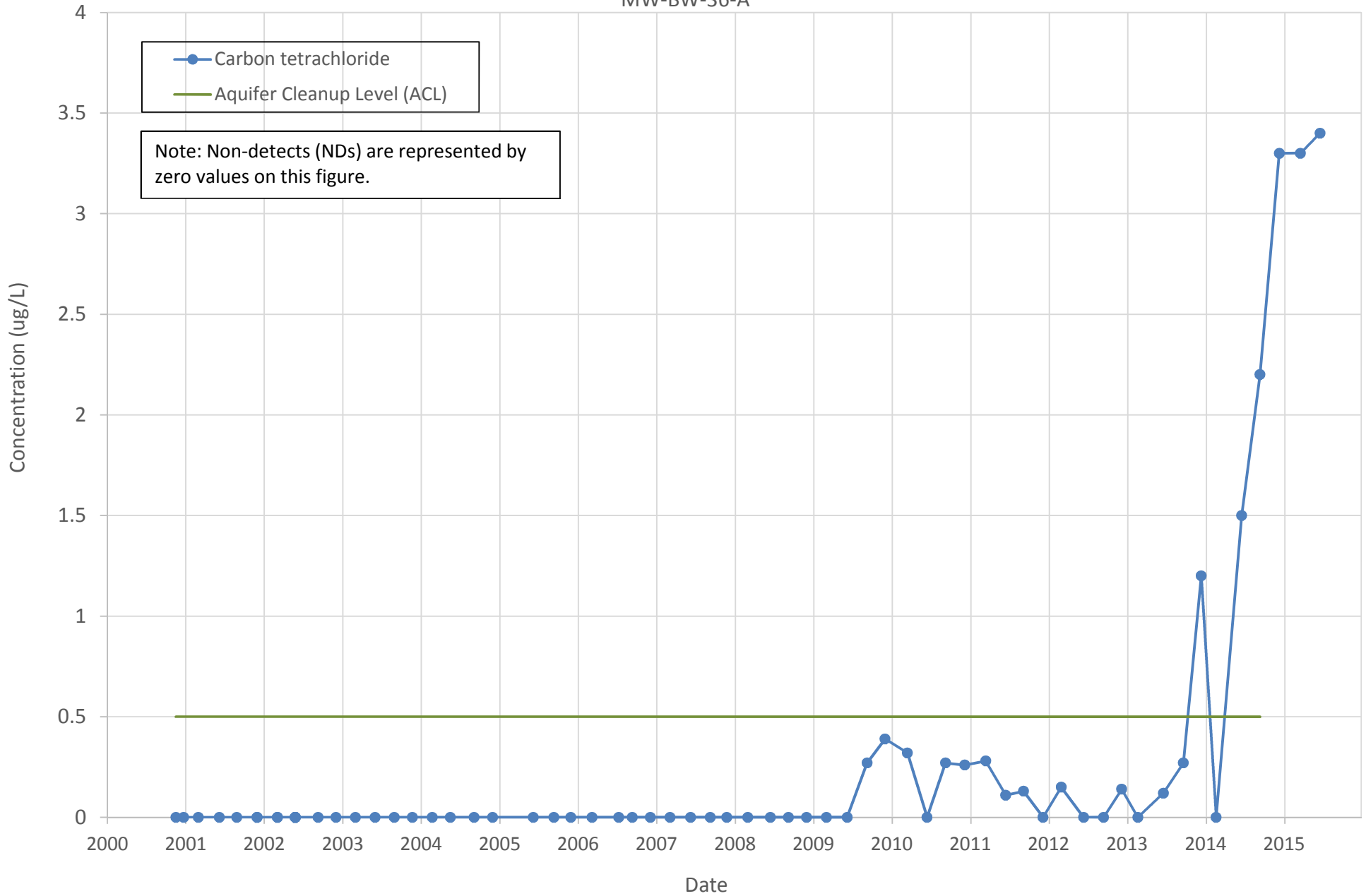
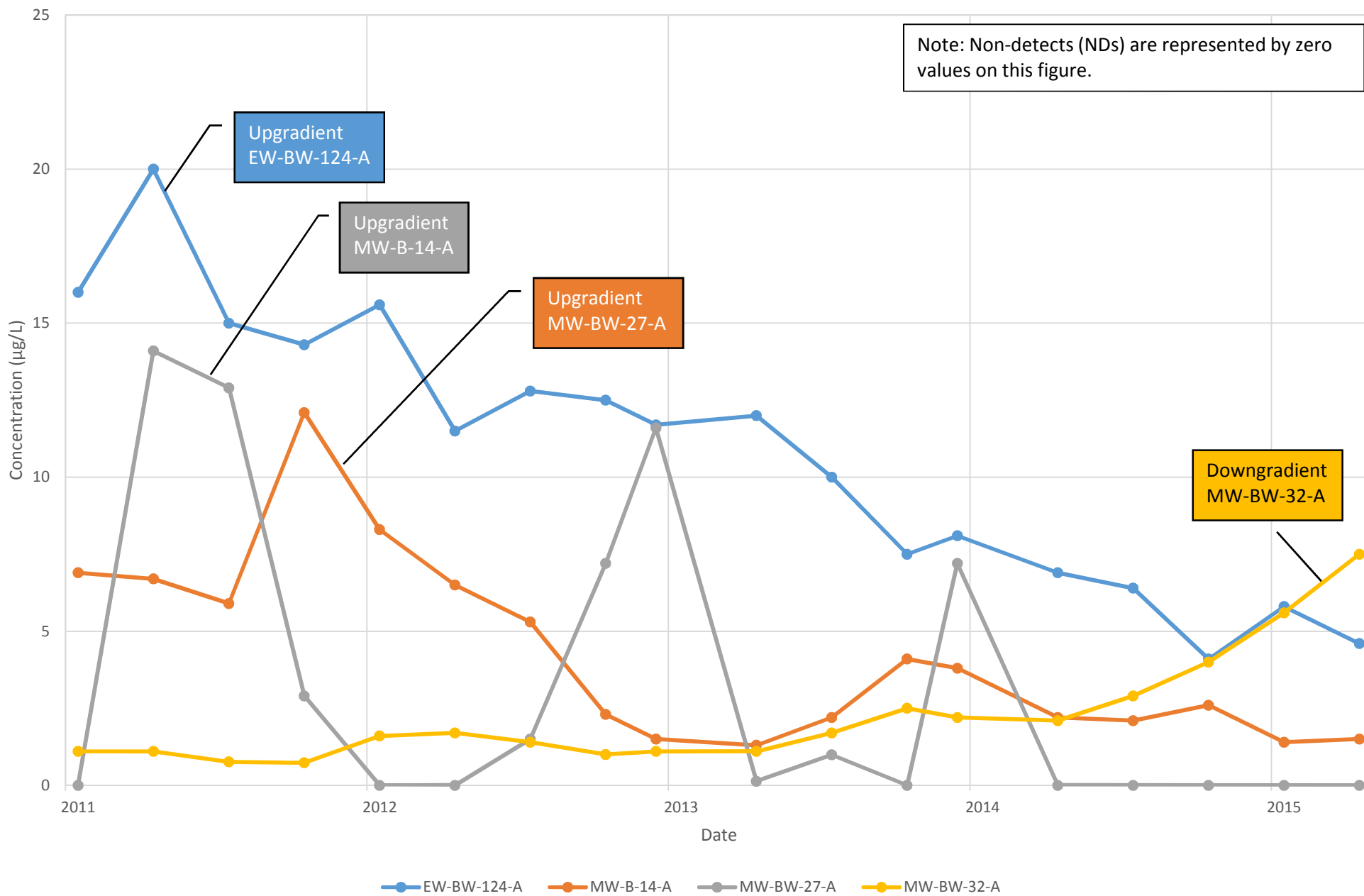


Figure 14. Carbon Tetrachloride Migration in the Reservation Road Area





Proposed EISB Deployment Area
 OUCTP Evaluation Tech Memo, A-Aquifer
 Former Fort Ord, California

- FONR boundary
- OUCTP A-Aq MWs
- CT plume contour
- Proposed injection well
- Proposed extraction well
- New monitoring well



Figure
15

APPENDICES

APPENDIX A
Underground Clearance Records

UTILITY CLEARANCE RECORD

(Note: not all underground utilities can be detected by geophysical methods)

Client Ahtna

Project No. 15-0371GA

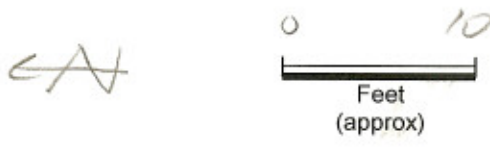
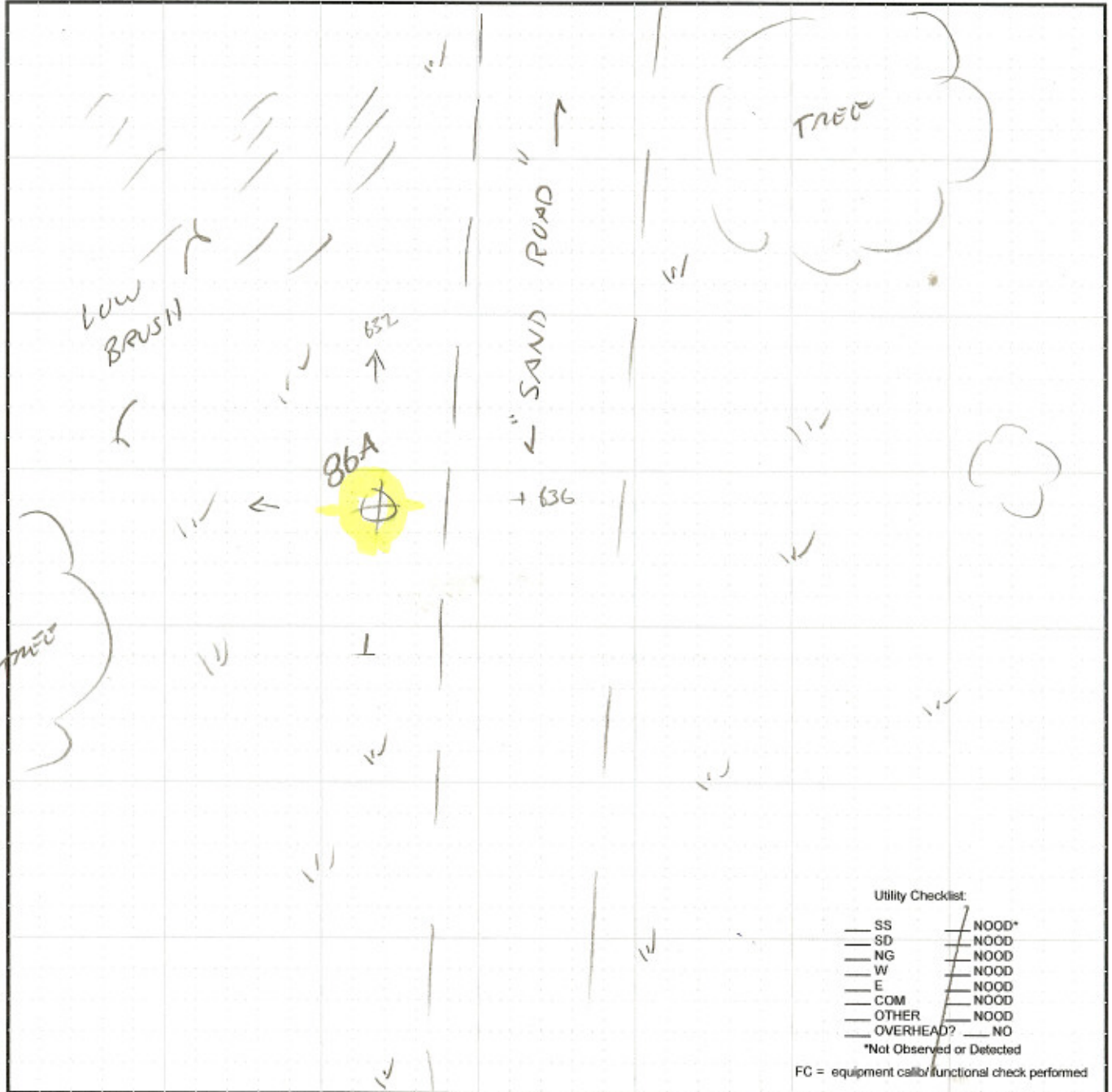
Location FFORD / FONR

Date 5/18/15 Time 1415

Point I.D. 86A

Operator RMS

Sketch Map





RESULTS AND INSTRUMENTATION

GROUND PENETRATING RADAR (GPR): SIR-3000 Other _____

Antenna 400 MHz Other _____

Range 60 ns Other _____ ns

File Name(s) 036-637

Results *Buried objects imaged?* Y N *Other anomalous reflections?* Y N

No Buried objects imaged at final marked location

Estimated Signal Penetration Depth (ft): 4

RF PIPE & CABLE LOCATAOR: RD-8000 Other _____

Applied Signal, Direct Connect _____ No Surface Utility Features for Connection

Other Scanning Modes: P R Applied Signal, Induced

Results *Underground utilities detected near boring/trench location?* Y N

No underground utilities detected at final marked location(s)

EM PIPE & CABLE LOCATAOR: Fisher TW-6 M-Scope

Results *Buried metal detected?* Y N *Sensitivity Setting* 7 1/2

Underground utilities detected near boring/trench location? Y N

No anomalous response observed at final marked location(s)

MAGNETOMETER (for use in Military Training Areas) Schonstedt _____ Other _____

Results *Buried metal detected?* Y N

ELECTROMAGNETIC TERRAIN CONDUCTIVITY (EM31)

Not used due to proximity of surface metal objects (e.g., vehicles)

Background Conductivity: _____ mS/m (mmhos/m)

Results *Buried metal detected?* Y N *Other anomalous readings?* Y N

UTILITY CLEARANCE RECORD

(Note: not all underground utilities can be detected by geophysical methods)

Client Ahtwa

Project No. 15-037-10A

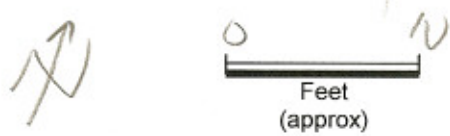
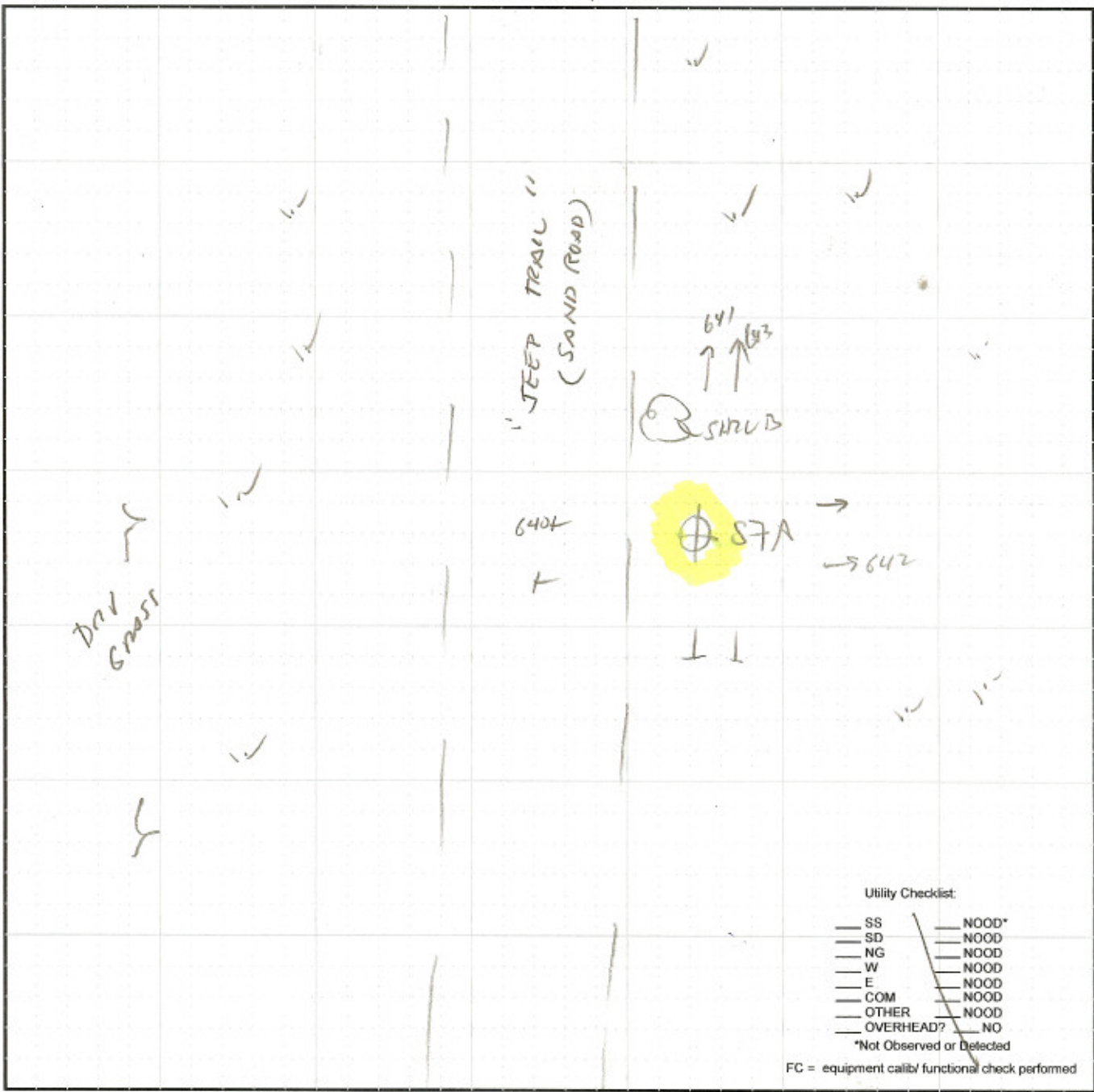
Location FT ORD FOND

Date 5/18/15 Time 1430

Point I.D. 87A

Operator RMS

Sketch Map





RESULTS AND INSTRUMENTATION

GROUND PENETRATING RADAR (GPR): SIR-3000 Other _____

Antenna 400 MHz Other _____

Range 60 ns Other _____ ns

File Name(s) 640-643

Results *Buried objects imaged?* Y N *Other anomalous reflections?* Y N

No Buried objects imaged at final marked location

Estimated Signal Penetration Depth (ft): 4

RF PIPE & CABLE LOCATAOR: RD-8000 _____ Other _____

Applied Signal, Direct Connect _____ No Surface Utility Features for Connection

Other Scanning Modes: P R Applied Signal, Induced

Results *Underground utilities detected near boring/trench location?* Y N

No underground utilities detected at final marked location(s)

EM PIPE & CABLE LOCATAOR: Fisher TW-6 M-Scope

Results *Buried metal detected?* Y N *Sensitivity Setting* 1 1/2

Underground utilities detected near boring/trench location? Y N

No anomalous response observed at final marked location(s)

MAGNETOMETER (for use in Military Training Areas) Schonstedt _____ Other _____

Results *Buried metal detected?* Y N

ELECTROMAGNETIC TERRAIN CONDUCTIVITY (EM31)

____ Not used due to proximity of surface metal objects (e.g., vehicles)

Background Conductivity: _____ mS/m (mmhos/m)

Results *Buried metal detected?* Y N *Other anomalous readings?* Y N

UTILITY CLEARANCE RECORD

(Note: not all underground utilities can be detected by geophysical methods)

Client Ahtna

Project No. 15-037-1CA

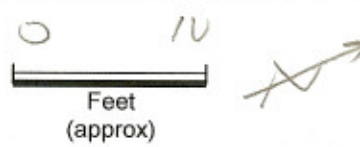
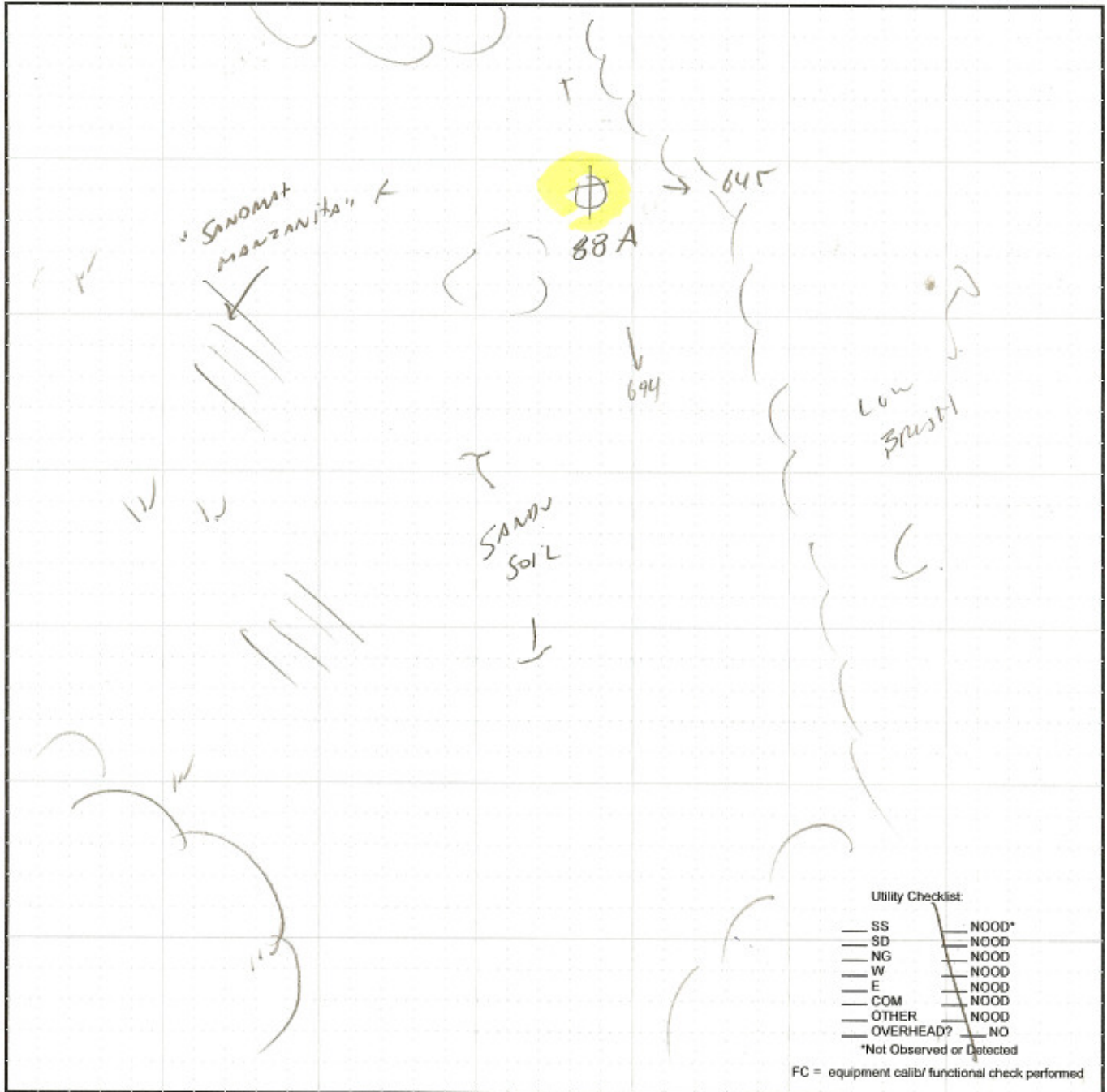
Location FORD / FOR

Date 5/15/15 Time 1500

Point I.D. 88A

Operator PLS

Sketch Map





RESULTS AND INSTRUMENTATION

GROUND PENETRATING RADAR (GPR): SIR-3000 Other _____

Antenna 400 MHz Other _____

Range 60 ns Other _____ ns

File Name(s) 644 645

Results *Buried objects imaged?* Y N *Other anomalous reflections?* Y N

No Buried objects imaged at final marked location

Estimated Signal Penetration Depth (ft): 4

RF PIPE & CABLE LOCATAOR: RD-8000 Other _____

Applied Signal, Direct Connect _____ No Surface Utility Features for Connection

Other Scanning Modes: P R Applied Signal, Induced

Results *Underground utilities detected near boring/trench location?* Y N

No underground utilities detected at final marked location(s)

EM PIPE & CABLE LOCATAOR: Fisher TW-6 M-Scope

Results *Buried metal detected?* Y N *Sensitivity Setting* 7/4

Underground utilities detected near boring/trench location? Y N

No anomalous response observed at final marked location(s)

MAGNETOMETER (for use in Military Training Areas) Schonstedt _____ Other _____

Results *Buried metal detected?* Y N

ELECTROMAGNETIC TERRAIN CONDUCTIVITY (EM31)

____ Not used due to proximity of surface metal objects (e.g., vehicles)

Background Conductivity: _____ mS/m (mmhos/m)

Results *Buried metal detected?* Y N *Other anomalous readings?* Y N



UTILITY CLEARANCE RECORD

(Note: not all underground utilities can be detected by geophysical methods)

Client Ahtna

Project No. 15-037-10A

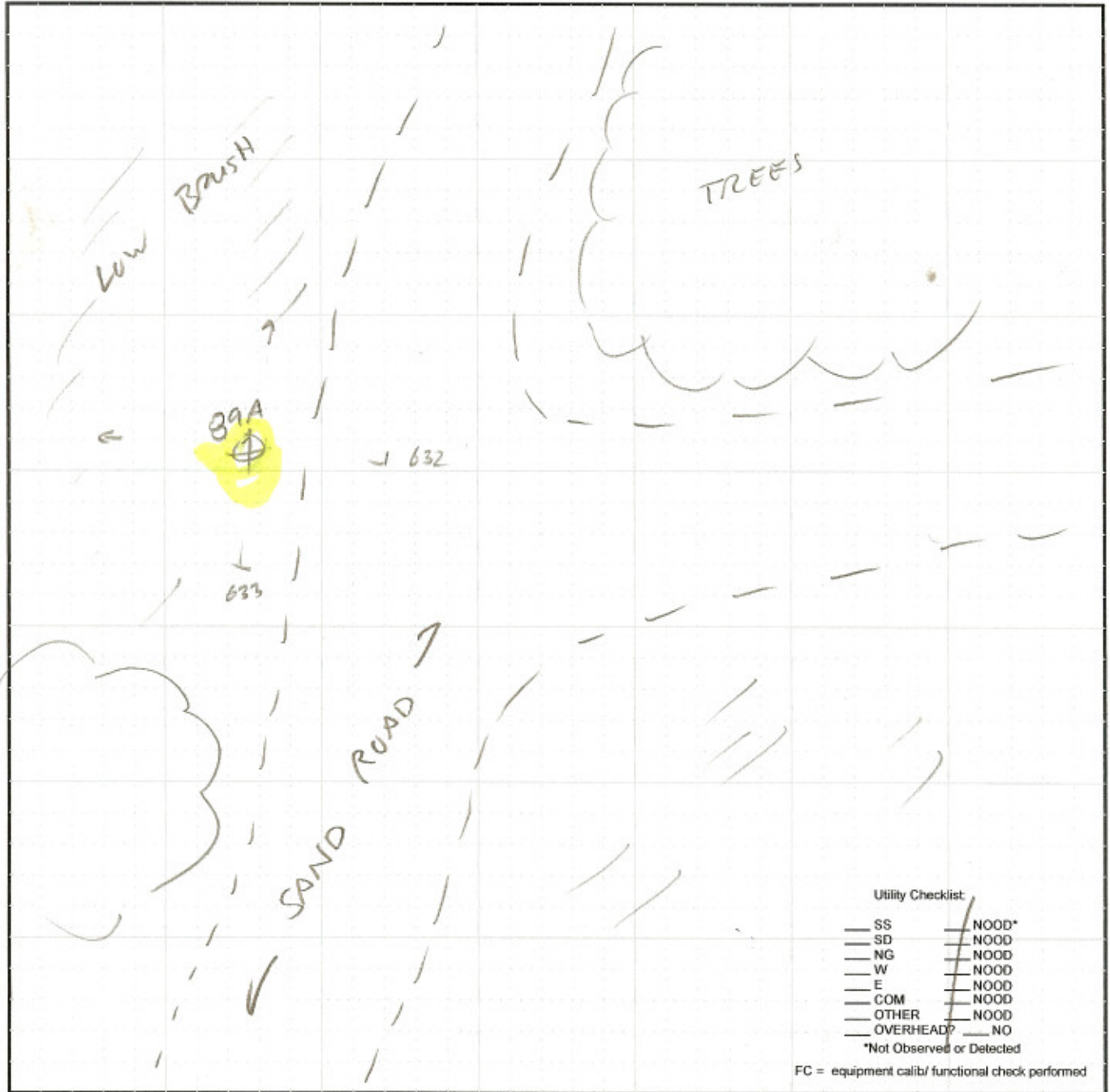
Location FFORD / FOUR

Date 5/18/15 Time 1200

Point I.D. 89A

Operator RMS

Sketch Map





RESULTS AND INSTRUMENTATION

GROUND PENETRATING RADAR (GPR): SIR-3000 Other _____

Antenna 400 MHz Other _____

Range 60 ns Other _____ ns

File Name(s) 632-633

Results *Buried objects imaged?* Y N *Other anomalous reflections?* Y N

No Buried objects imaged at final marked location

Estimated Signal Penetration Depth (ft): 4

RF PIPE & CABLE LOCATAOR: RD-8000 _____ Other _____

Applied Signal, Direct Connect _____ No Surface Utility Features for Connection

Other Scanning Modes: P R Applied Signal, Induced

Results *Underground utilities detected near boring/trench location?* Y N

No underground utilities detected at final marked location(s)

EM PIPE & CABLE LOCATAOR: Fisher TW-6 M-Scope

Results *Buried metal detected?* Y N *Sensitivity Setting* 7/4

Underground utilities detected near boring/trench location? Y N

No anomalous response observed at final marked location(s)

MAGNETOMETER (for use in Military Training Areas) Schonstedt _____ Other _____

Results *Buried metal detected?* Y N

ELECTROMAGNETIC TERRAIN CONDUCTIVITY (EM31)

____ Not used due to proximity of surface metal objects (e.g., vehicles)

Background Conductivity: _____ mS/m (mmhos/m)

Results *Buried metal detected?* Y N *Other anomalous readings?* Y N



UTILITY CLEARANCE RECORD

(Note: not all underground utilities can be detected by geophysical methods)

Client Ahtna

Project No. 15-037-1CA

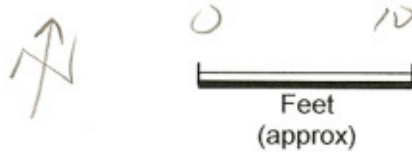
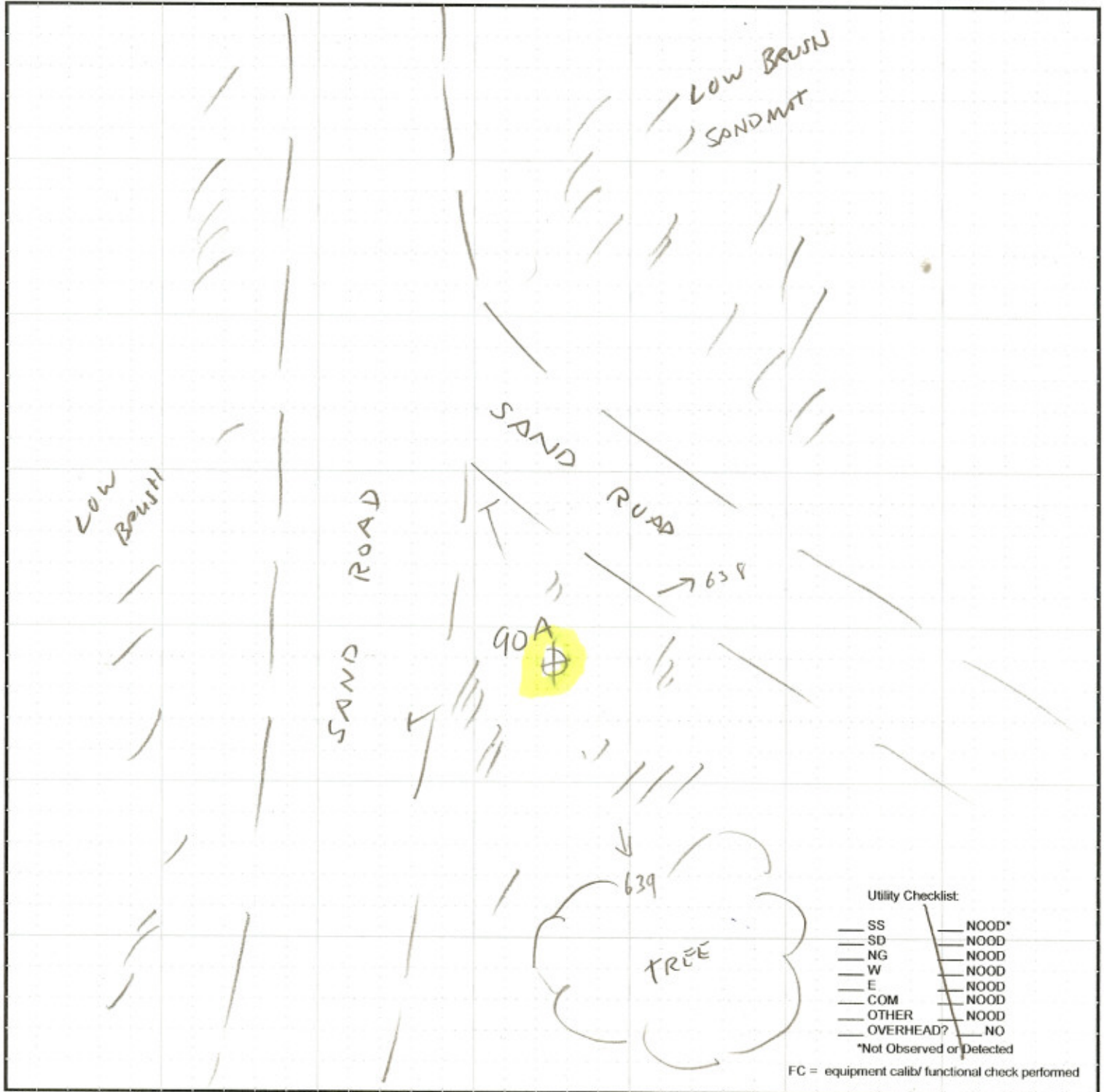
Location FT ORD / FONR

Date 5/18/15 Time 1430

Point I.D. 90A

Operator RMS

Sketch Map





RESULTS AND INSTRUMENTATION

GROUND PENETRATING RADAR (GPR): SIR-3000 Other _____

Antenna 400 MHz Other _____

Range 60 ns Other _____ ns

File Name(s) 038 039

Results Buried objects imaged? Y N Other anomalous reflections? Y N

No Buried objects imaged at final marked location

Estimated Signal Penetration Depth (ft): _____

RF PIPE & CABLE LOCATAOR: RD-8000 Other _____

Applied Signal, Direct Connect _____ No Surface Utility Features for Connection

Other Scanning Modes: P R Applied Signal, Induced

Results Underground utilities detected near boring/trench location? Y N

No underground utilities detected at final marked location(s)

EM PIPE & CABLE LOCATAOR: Fisher TW-6 M-Scope

Results Buried metal detected? Y N Sensitivity Setting 7 1/2

Underground utilities detected near boring/trench location? Y N

No anomalous response observed at final marked location(s)

MAGNETOMETER (for use in Military Training Areas) Schonstedt _____ Other _____

Results Buried metal detected? Y N

ELECTROMAGNETIC TERRAIN CONDUCTIVITY (EM31)

Not used due to proximity of surface metal objects (e.g., vehicles)

Background Conductivity: _____ mS/m (mmhos/m)

Results Buried metal detected? Y N Other anomalous readings? Y N

UTILITY CLEARANCE RECORD

(Note: not all underground utilities can be detected by geophysical methods)

Client Ahtna

Project No. 15-037-10A

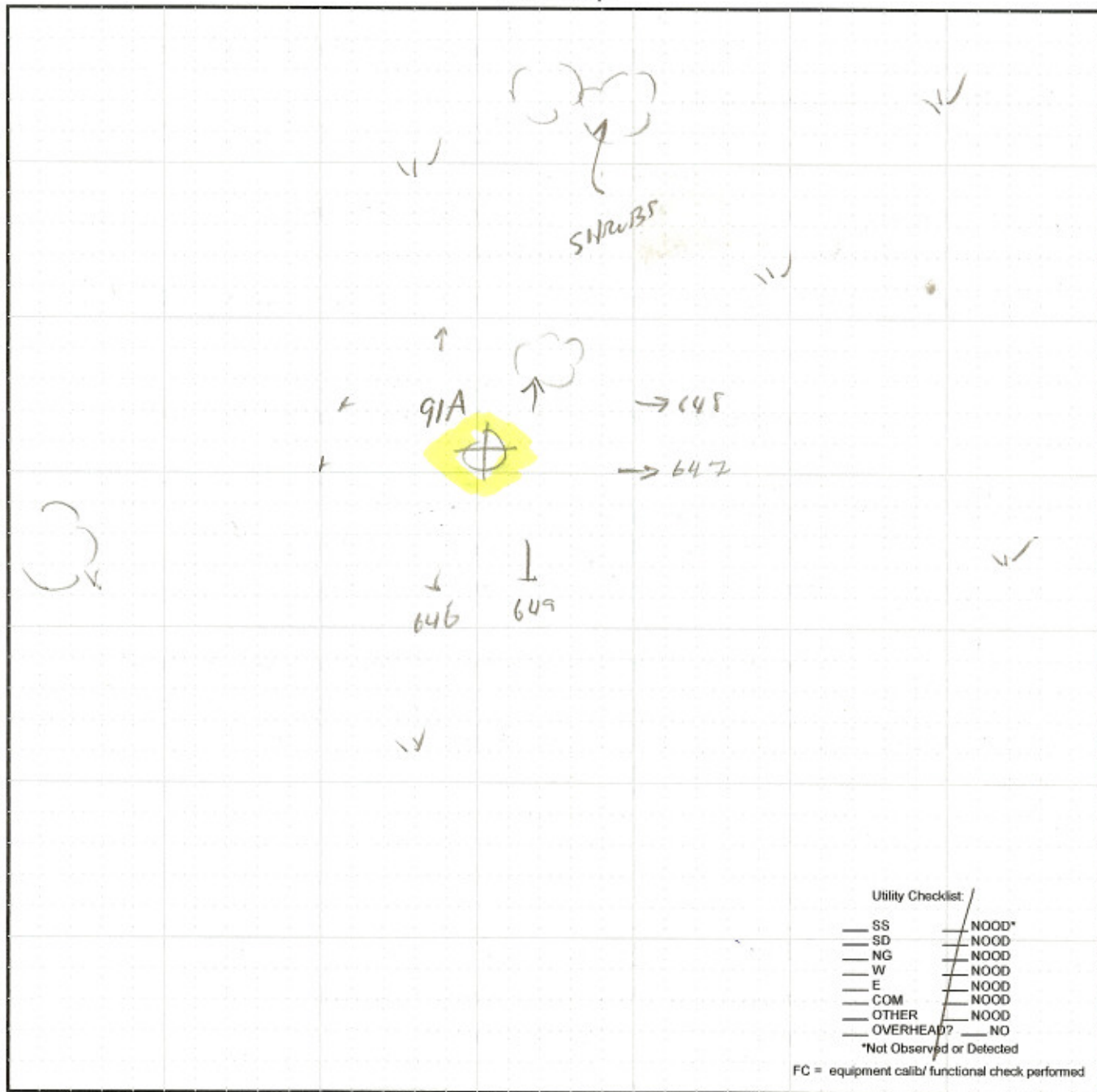
Location FTT ORD FONR

Date 5/18/15 Time 1530

Point I.D. 91A

Operator RWS

Sketch Map

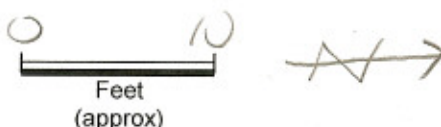


Utility Checklist:

<input type="checkbox"/> SS	<input checked="" type="checkbox"/> NOOD*
<input type="checkbox"/> SD	<input checked="" type="checkbox"/> NOOD
<input type="checkbox"/> NG	<input checked="" type="checkbox"/> NOOD
<input type="checkbox"/> W	<input checked="" type="checkbox"/> NOOD
<input type="checkbox"/> E	<input checked="" type="checkbox"/> NOOD
<input type="checkbox"/> COM	<input checked="" type="checkbox"/> NOOD
<input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> NOOD
<input type="checkbox"/> OVERHEAD?	<input type="checkbox"/> NO

*Not Observed or Detected

FC = equipment calib/ functional check performed





RESULTS AND INSTRUMENTATION

GROUND PENETRATING RADAR (GPR): SIR-3000 Other _____

Antenna 400 MHz Other _____

Range 60 ns Other _____ ns

File Name(s) 646 → 649

Results *Buried objects imaged?* Y *Other anomalous reflections?* Y

No Buried objects imaged at final marked location

Estimated Signal Penetration Depth (ft): 4

RF PIPE & CABLE LOCATAOR: RD-8000 Other _____

Applied Signal, Direct Connect _____ No Surface Utility Features for Connection

Other Scanning Modes: P R Applied Signal, Induced

Results *Underground utilities detected near boring/trench location?* Y

No underground utilities detected at final marked location(s)

EM PIPE & CABLE LOCATAOR: Fisher TW-6 M-Scope

Results *Buried metal detected?* Y Sensitivity Setting 7/2

Underground utilities detected near boring/trench location? Y

No anomalous response observed at final marked location(s)

MAGNETOMETER (for use in Military Training Areas) Schonstedt _____ Other _____

Results *Buried metal detected?* Y N

ELECTROMAGNETIC TERRAIN CONDUCTIVITY (EM31)

_____ Not used due to proximity of surface metal objects (e.g., vehicles)

Background Conductivity: _____ mS/m (mmhos/m)

Results *Buried metal detected?* Y N *Other anomalous readings?* Y N

UTILITY CLEARANCE RECORD

(Note: not all underground utilities can be detected by geophysical methods)

Client AHTVA

Project No. 15-037-1CA

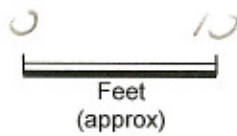
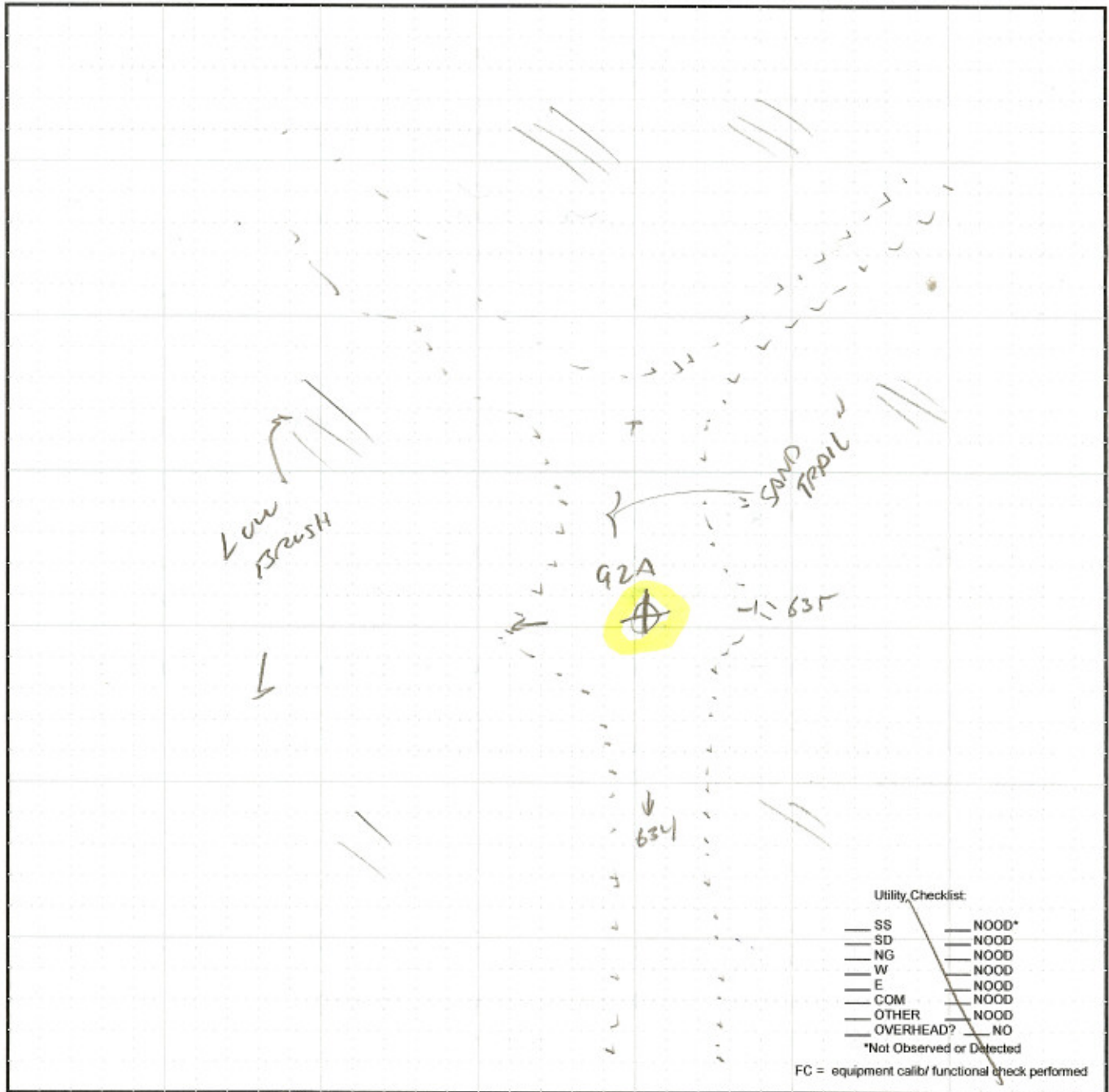
Location FORD / FONR

Date 5/18/15 Time 1330

Point I.D. 92A

Operator JWS

Sketch Map





RESULTS AND INSTRUMENTATION

GROUND PENETRATING RADAR (GPR): SIR-3000 Other _____

Antenna 400 MHz Other _____

Range 60 ns Other _____ ns

File Name(s) 634-635

Results *Buried objects imaged?* Y *Other anomalous reflections?* Y

No Buried objects imaged at final marked location

Estimated Signal Penetration Depth (ft): 4

RF PIPE & CABLE LOCATOR: RD-8000 Other _____

Applied Signal, Direct Connect _____ No Surface Utility Features for Connection

Other Scanning Modes: P R Applied Signal, Induced

Results *Underground utilities detected near boring/trench location?* Y *N*

No underground utilities detected at final marked location(s)

EM PIPE & CABLE LOCATOR: Fisher TW-6 M-Scope

Results *Buried metal detected?* Y *Sensitivity Setting* 7 1/2

Underground utilities detected near boring/trench location? Y *N*

No anomalous response observed at final marked location(s)

MAGNETOMETER (for use in Military Training Areas) Schonstedt _____ Other _____

Results *Buried metal detected?* Y *N*

ELECTROMAGNETIC TERRAIN CONDUCTIVITY (EM31)

____ Not used due to proximity of surface metal objects (e.g., vehicles)

Background Conductivity: _____ mS/m (mmhos/m)

Results *Buried metal detected?* Y *N* *Other anomalous readings?* Y *N*

UTILITY CLEARANCE RECORD

(Note: not all underground utilities can be detected by geophysical methods)

Client Ahtna

Project No. 15 037 1CA

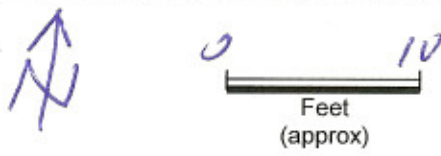
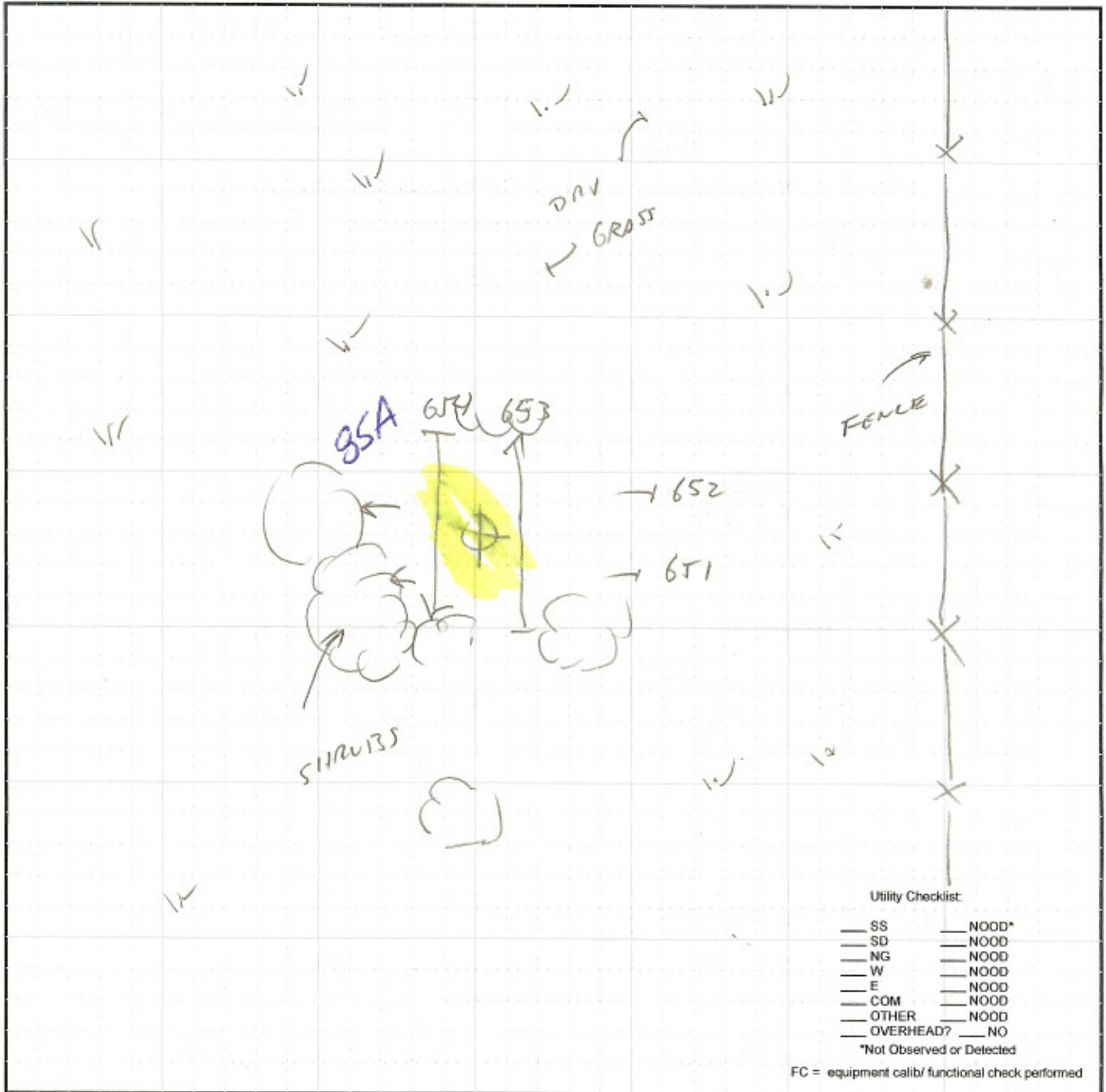
Location FFT ORP/FUNE

Date 5/18/15 Time 1545

Point I.D. 85A

Operator RMJ

Sketch Map





RESULTS AND INSTRUMENTATION

GROUND PENETRATING RADAR (GPR): SIR-3000 Other _____

Antenna 400 MHz Other _____

Range 60 ns Other _____ ns

File Name(s) 651 - 654

Results *Buried objects imaged?* Y *Other anomalous reflections?* Y

No Buried objects imaged at final marked location

Estimated Signal Penetration Depth (ft): 4

RF PIPE & CABLE LOCATAOR: RD-8000 Other _____

Applied Signal, Direct Connect _____ No Surface Utility Features for Connection

Other Scanning Modes: P R Applied Signal, Induced

Results *Underground utilities detected near boring/trench location?* Y *N*

No underground utilities detected at final marked location(s)

EM PIPE & CABLE LOCATAOR: Fisher TW-6 M-Scope

Results *Buried metal detected?* Y *Sensitivity Setting* 7 1/2

Underground utilities detected near boring/trench location? Y *N*

No anomalous response observed at final marked location(s)

MAGNETOMETER (for use in Military Training Areas) Schonstedt _____ Other _____

Results *Buried metal detected?* Y *N*

ELECTROMAGNETIC TERRAIN CONDUCTIVITY (EM31)

____ Not used due to proximity of surface metal objects (e.g., vehicles)

Background Conductivity: _____ mS/m (mmhos/m)

Results *Buried metal detected?* Y *N* *Other anomalous readings?* Y *N*

APPENDIX B
Permits

MONTEREY COUNTY HEALTH DEPARTMENT
 DIVISION OF ENVIRONMENTAL HEALTH
 A CERTIFIED UNIFIED PROGRAM AGENCY
 • 1270 Natividad Rd., Salinas, CA 93906
 Office (831) 755-4511 * Fax (831)796-8698



MONITORING WELL PERMIT

PERMIT NO: HZ-4800 MW-BW-85-A
 (MCEH use only: SR0011138, IN-NO FEE)

- | | |
|--|---|
| <input checked="" type="checkbox"/> -MONITORING WELL | <input checked="" type="checkbox"/> -CONSTRUCTION |
| <input type="checkbox"/> -VAPOR EXTRACTION WELL | <input type="checkbox"/> -DESTRUCTION |

SITE LOCATION: RESERVATION RD, MARINA
APN #: 031-111-032-000

SITE CONTACT PERSON: BRUCE WILCER PHONE: (831)384-3735	OWNER: U.S. ARMY CORPS OF ENGINEERS 1325 J STREET SACRAMENTO, CA 95814 PHONE: (831)393-9692
CONSULTANT: AHTNA ENVIRONMENTAL, INC 296 12 TH ST MARINA, CA 93933 PHONE: (831)384-3735	DRILLER: NATIONAL EXPLORATION WELLS & PUMPS 2086 E MAIN ST WOODLAND, CA 95776 LICENSE #: C-57 953646 PHONE: (530)662-2829

CONDITIONS:

SITE PLAN SHALL BE TO SCALE.

NOTIFY THE HEALTH DEPARTMENT 48 HOURS PRIOR TO THE TIME YOU EXPECT TO START WORK ON CONSTRUCTION OR DESTRUCTION OF ANY TYPE OF WELL.

COMPLETE DESTRUCTION IS REQUIRED FOR ALL WELLS INCLUDING SOIL BORING, SPARGING AND EXTRACTION WELLS (PER CA WATER WELL BULLETIN 74-81 SUPPLEMENT 74-90 AND THE MONTEREY COUNTY HEALTH DEPARTMENT REQUIREMENTS FOR THE DESTRUCTION OF MONITORING WELLS AND EXPLORATORY BORINGS).

DATE ISSUED: 5/12/15

EXPIRATION DATE: 5/12/16

ISSUED BY: *Cory Weld for ST*
 Sandra Tauriac, REHS
 Supervising Hazardous Materials Specialist

MONTEREY COUNTY HEALTH DEPARTMENT
 DIVISION OF ENVIRONMENTAL HEALTH
 A CERTIFIED UNIFIED PROGRAM AGENCY
 • 1270 Natividad Rd., Salinas, CA 93906
 Office (831) 755-4511 * Fax (831)796-8698



MONITORING WELL PERMIT

PERMIT NO: HZ-4801 MW-BW-86-A
 (MCEH use only: SR0011138, IN-NO FEE)

- | | |
|--|---|
| <input checked="" type="checkbox"/> -MONITORING WELL | <input checked="" type="checkbox"/> -CONSTRUCTION |
| <input type="checkbox"/> -VAPOR EXTRACTION WELL | <input type="checkbox"/> -DESTRUCTION |

SITE LOCATION: RESERVATION RD, MARINA
APN #: 031-111-032-000

SITE CONTACT PERSON: BRUCE WILCER PHONE: (831)384-3735	OWNER: U.S. ARMY CORPS OF ENGINEERS 1325 J STREET SACRAMENTO, CA 95814 PHONE: (831)393-9692
CONSULTANT: AHTNA ENVIRONMENTAL, INC 296 12 TH ST MARINA, CA 93933 PHONE: (831)384-3735	DRILLER: NATIONAL EXPLORATION WELLS & PUMPS 2086 E MAIN ST WOODLAND, CA 95776 LICENSE #: C-57 953646 PHONE: (530)662-2829

CONDITIONS:

SITE PLAN SHALL BE TO SCALE.

NOTIFY THE HEALTH DEPARTMENT 48 HOURS PRIOR TO THE TIME YOU EXPECT TO START WORK ON CONSTRUCTION OR DESTRUCTION OF ANY TYPE OF WELL.

COMPLETE DESTRUCTION IS REQUIRED FOR ALL WELLS INCLUDING SOIL BORING, SPARGING AND EXTRACTION WELLS (PER CA WATER WELL BULLETIN 74-81 SUPPLEMENT 74-90 AND THE MONTEREY COUNTY HEALTH DEPARTMENT REQUIREMENTS FOR THE DESTRUCTION OF MONITORING WELLS AND EXPLORATORY BORINGS).

DATE ISSUED: 5/12/15

EXPIRATION DATE: 5/12/16

ISSUED BY: *Sandra Tauriac*
 Sandra Tauriac, REHS
 Supervising Hazardous Materials Specialist

MONTEREY COUNTY HEALTH DEPARTMENT
 DIVISION OF ENVIRONMENTAL HEALTH
 A CERTIFIED UNIFIED PROGRAM AGENCY
 • 1270 Natividad Rd., Salinas, CA 93906
 Office (831) 755-4511 * Fax (831)796-8698



MONITORING WELL PERMIT

PERMIT NO: HZ-4802 MW-BW-87-A
 (MCEH use only: SR0011138, IN-NO FEE)

<input checked="" type="checkbox"/> -MONITORING WELL	<input checked="" type="checkbox"/> -CONSTRUCTION
<input type="checkbox"/> -VAPOR EXTRACTION WELL	<input type="checkbox"/> -DESTRUCTION

SITE LOCATION: RESERVATION RD, MARINA
APN #: 031-111-032-000

SITE CONTACT PERSON: BRUCE WILCER PHONE: (831)384-3735	OWNER: U.S. ARMY CORPS OF ENGINEERS 1325 J STREET SACRAMENTO, CA 95814 PHONE: (831)393-9692
CONSULTANT: AHTNA ENVIRONMENTAL, INC 296 12 TH ST MARINA, CA 93933 PHONE: (831)384-3735	DRILLER: NATIONAL EXPLORATION WELLS & PUMPS 2086 E MAIN ST WOODLAND, CA 95776 LICENSE #: C-57 953646 PHONE: (530)662-2829

CONDITIONS:

SITE PLAN SHALL BE TO SCALE.

NOTIFY THE HEALTH DEPARTMENT 48 HOURS PRIOR TO THE TIME YOU EXPECT TO START WORK ON CONSTRUCTION OR DESTRUCTION OF ANY TYPE OF WELL.

COMPLETE DESTRUCTION IS REQUIRED FOR ALL WELLS INCLUDING SOIL BORING, SPARGING AND EXTRACTION WELLS (PER CA WATER WELL BULLETIN 74-81 SUPPLEMENT 74-90 AND THE MONTEREY COUNTY HEALTH DEPARTMENT REQUIREMENTS FOR THE DESTRUCTION OF MONITORING WELLS AND EXPLORATORY BORINGS).

DATE ISSUED: 5/12/15

EXPIRATION DATE: 5/12/16

ISSUED BY:

 Sandra Tauriac, REHS
 Supervising Hazardous Materials Specialist

MONTEREY COUNTY HEALTH DEPARTMENT
 DIVISION OF ENVIRONMENTAL HEALTH
 A CERTIFIED UNIFIED PROGRAM AGENCY
 • 1270 Natividad Rd., Salinas, CA 93906
 Office (831) 755-4511 * Fax (831)796-8698



MONITORING WELL PERMIT

PERMIT NO: HZ-4803 MW-BW-88-A
 (MCEH use only: SR0011138, IN-NO FEE)

-MONITORING WELL -CONSTRUCTION
-VAPOR EXTRACTION WELL -DESTRUCTION

SITE LOCATION: RESERVATION RD, MARINA
APN #: 031-111-032-000

SITE CONTACT PERSON: BRUCE WILCER PHONE: (831)384-3735	OWNER: U.S. ARMY CORPS OF ENGINEERS 1325 J STREET SACRAMENTO, CA 95814 PHONE: (831)393-9692
CONSULTANT: AHTNA ENVIRONMENTAL, INC 296 12 TH ST MARINA, CA 93933 PHONE: (831)384-3735	DRILLER: NATIONAL EXPLORATION WELLS & PUMPS 2086 E MAIN ST WOODLAND, CA 95776 LICENSE #: C-57 953646 PHONE: (530)662-2829

CONDITIONS:

SITE PLAN SHALL BE TO SCALE.

NOTIFY THE HEALTH DEPARTMENT 48 HOURS PRIOR TO THE TIME YOU EXPECT TO START WORK ON CONSTRUCTION OR DESTRUCTION OF ANY TYPE OF WELL.

COMPLETE DESTRUCTION IS REQUIRED FOR ALL WELLS INCLUDING SOIL BORING, SPARGING AND EXTRACTION WELLS (PER CA WATER WELL BULLETIN 74-81 SUPPLEMENT 74-90 AND THE MONTEREY COUNTY HEALTH DEPARTMENT REQUIREMENTS FOR THE DESTRUCTION OF MONITORING WELLS AND EXPLORATORY BORINGS).

DATE ISSUED: 5/12/15

EXPIRATION DATE: 5/12/16

ISSUED BY: *Sandra Tauriac*
 Sandra Tauriac, REHS
 Supervising Hazardous Materials Specialist

MONTEREY COUNTY HEALTH DEPARTMENT
 DIVISION OF ENVIRONMENTAL HEALTH
 A CERTIFIED UNIFIED PROGRAM AGENCY
 • 1270 Natividad Rd., Salinas, CA 93906
 Office (831) 755-4511 * Fax (831)796-8698



MONITORING WELL PERMIT

PERMIT NO: HZ-4804 MW-BW-89-A
 (MCEH use only: SR0011138, IN-NO FEE)

-MONITORING WELL -CONSTRUCTION
-VAPOR EXTRACTION WELL -DESTRUCTION

SITE LOCATION: RESERVATION RD, MARINA
APN #: 031-111-032-000

SITE CONTACT PERSON: BRUCE WILCER PHONE: (831)384-3735	OWNER: U.S. ARMY CORPS OF ENGINEERS 1325 J STREET SACRAMENTO, CA 95814 PHONE: (831)393-9692
CONSULTANT: AHTNA ENVIRONMENTAL, INC 296 12 TH ST MARINA, CA 93933 PHONE: (831)384-3735	DRILLER: NATIONAL EXPLORATION WELLS & PUMPS 2086 E MAIN ST WOODLAND, CA 95776 LICENSE #: C-57 953646 PHONE: (530)662-2829

CONDITIONS:

SITE PLAN SHALL BE TO SCALE.

NOTIFY THE HEALTH DEPARTMENT 48 HOURS PRIOR TO THE TIME YOU EXPECT TO START WORK ON CONSTRUCTION OR DESTRUCTION OF ANY TYPE OF WELL.

COMPLETE DESTRUCTION IS REQUIRED FOR ALL WELLS INCLUDING SOIL BORING, SPARGING AND EXTRACTION WELLS (PER CA WATER WELL BULLETIN 74-81 SUPPLEMENT 74-90 AND THE MONTEREY COUNTY HEALTH DEPARTMENT REQUIREMENTS FOR THE DESTRUCTION OF MONITORING WELLS AND EXPLORATORY BORINGS).

DATE ISSUED: 5/12/15

EXPIRATION DATE: 5/12/16

ISSUED BY: *Sandra Tauriac for ST*
 Sandra Tauriac, REHS
 Supervising Hazardous Materials Specialist

MONTEREY COUNTY HEALTH DEPARTMENT
 DIVISION OF ENVIRONMENTAL HEALTH
 A CERTIFIED UNIFIED PROGRAM AGENCY
 • 1270 Natividad Rd., Salinas, CA 93906
 Office (831) 755-4511 * Fax (831)796-8698



MONITORING WELL PERMIT

PERMIT NO: HZ-4805 MW-BW-90-A

(MCEH use only: SR0011138, IN-NO FEE)

<input checked="" type="checkbox"/> -MONITORING WELL	<input checked="" type="checkbox"/> -CONSTRUCTION
<input type="checkbox"/> -VAPOR EXTRACTION WELL	<input type="checkbox"/> -DESTRUCTION

SITE LOCATION: RESERVATION RD, MARINA

APN #: 031-111-032-000

SITE CONTACT PERSON: BRUCE WILCER PHONE: (831)384-3735	OWNER: U.S. ARMY CORPS OF ENGINEERS 1325 J STREET SACRAMENTO, CA 95814 PHONE: (831)393-9692
CONSULTANT: AHTNA ENVIRONMENTAL, INC 296 12 TH ST MARINA, CA 93933 PHONE: (831)384-3735	DRILLER: NATIONAL EXPLORATION WELLS & PUMPS 2086 E MAIN ST WOODLAND, CA 95776 LICENSE #: C-57 953646 PHONE: (530)662-2829

CONDITIONS:

SITE PLAN SHALL BE TO SCALE.

NOTIFY THE HEALTH DEPARTMENT 48 HOURS PRIOR TO THE TIME YOU EXPECT TO START WORK ON CONSTRUCTION OR DESTRUCTION OF ANY TYPE OF WELL.

COMPLETE DESTRUCTION IS REQUIRED FOR ALL WELLS INCLUDING SOIL BORING, SPARGING AND EXTRACTION WELLS (PER CA WATER WELL BULLETIN 74-81 SUPPLEMENT 74-90 AND THE MONTEREY COUNTY HEALTH DEPARTMENT REQUIREMENTS FOR THE DESTRUCTION OF MONITORING WELLS AND EXPLORATORY BORINGS).

DATE ISSUED: 5/12/15

EXPIRATION DATE: 5/12/16

ISSUED BY:

 Sandra Tauriac, REHS
 Supervising Hazardous Materials Specialist

MONTEREY COUNTY HEALTH DEPARTMENT
 DIVISION OF ENVIRONMENTAL HEALTH
 A CERTIFIED UNIFIED PROGRAM AGENCY
 • 1270 Natividad Rd., Salinas, CA 93906
 Office (831) 755-4511 * Fax (831)796-8698



MONITORING WELL PERMIT

PERMIT NO: HZ-4806 MW-BW-91-A
 (MCEH use only: SR0011138, IN-NO FEE)

- | | |
|--|---|
| <input checked="" type="checkbox"/> -MONITORING WELL | <input checked="" type="checkbox"/> -CONSTRUCTION |
| <input type="checkbox"/> -VAPOR EXTRACTION WELL | <input type="checkbox"/> -DESTRUCTION |

SITE LOCATION: RESERVATION RD, MARINA
APN #: 031-111-032-000

SITE CONTACT PERSON: BRUCE WILCER PHONE: (831)384-3735	OWNER: U.S. ARMY CORPS OF ENGINEERS 1325 J STREET SACRAMENTO, CA 95814 PHONE: (831)393-9692
CONSULTANT: AHTNA ENVIRONMENTAL, INC 296 12 TH ST MARINA, CA 93933 PHONE: (831)384-3735	DRILLER: NATIONAL EXPLORATION WELLS & PUMPS 2086 E MAIN ST WOODLAND, CA 95776 LICENSE #: C-57 953646 PHONE: (530)662-2829

CONDITIONS:

SITE PLAN SHALL BE TO SCALE.

NOTIFY THE HEALTH DEPARTMENT 48 HOURS PRIOR TO THE TIME YOU EXPECT TO START WORK ON CONSTRUCTION OR DESTRUCTION OF ANY TYPE OF WELL.

COMPLETE DESTRUCTION IS REQUIRED FOR ALL WELLS INCLUDING SOIL BORING, SPARGING AND EXTRACTION WELLS (PER CA WATER WELL BULLETIN 74-81 SUPPLEMENT 74-90 AND THE MONTEREY COUNTY HEALTH DEPARTMENT REQUIREMENTS FOR THE DESTRUCTION OF MONITORING WELLS AND EXPLORATORY BORINGS).

DATE ISSUED: 5/12/15

EXPIRATION DATE: 5/12/16

ISSUED BY: *Sandra Tauriac* for ST
 Sandra Tauriac, REHS
 Supervising Hazardous Materials Specialist

MONTEREY COUNTY HEALTH DEPARTMENT
DIVISION OF ENVIRONMENTAL HEALTH
A CERTIFIED UNIFIED PROGRAM AGENCY
• 1270 Natividad Rd., Salinas, CA 93906
Office (831) 755-4511 * Fax (831)796-8698



MONITORING WELL PERMIT

PERMIT NO: HZ-4807 MW-BW-92-A
(MCEH use only: SR0011138, IN-NO FEE)

-MONITORING WELL -CONSTRUCTION
-VAPOR EXTRACTION WELL -DESTRUCTION

SITE LOCATION: RESERVATION RD, MARINA
APN #: 031-111-032-000

SITE CONTACT PERSON: BRUCE WILCER PHONE: (831)384-3735	OWNER: U.S. ARMY CORPS OF ENGINEERS 1325 J STREET SACRAMENTO, CA 95814 PHONE: (831)393-9692
CONSULTANT: AHTNA ENVIRONMENTAL, INC 296 12 TH ST MARINA, CA 93933 PHONE: (831)384-3735	DRILLER: NATIONAL EXPLORATION WELLS & PUMPS 2086 E MAIN ST WOODLAND, CA 95776 LICENSE #: C-57 953646 PHONE: (530)662-2829

CONDITIONS:

SITE PLAN SHALL BE TO SCALE.

NOTIFY THE HEALTH DEPARTMENT 48 HOURS PRIOR TO THE TIME YOU EXPECT TO START WORK ON CONSTRUCTION OR DESTRUCTION OF ANY TYPE OF WELL.

COMPLETE DESTRUCTION IS REQUIRED FOR ALL WELLS INCLUDING SOIL BORING, SPARGING AND EXTRACTION WELLS (PER CA WATER WELL BULLETIN 74-81 SUPPLEMENT 74-90 AND THE MONTEREY COUNTY HEALTH DEPARTMENT REQUIREMENTS FOR THE DESTRUCTION OF MONITORING WELLS AND EXPLORATORY BORINGS).

DATE ISSUED: 5/12/15

EXPIRATION DATE: 5/12/16

ISSUED BY:


Sandra Taufiac, REHS
Supervising Hazardous Materials Specialist

UCSC USE PERMIT APPLICATION: EVENT SUMMARY
FOR USE OF UCSC FACILITIES BY OUTSIDE ORGANIZATIONS/GROUPS

To be provided by Outside Organization to sponsoring UCSC department

Name of Outside Organization/Group: AHTNA
Name of Outside Organization/Group Contact: BRUCE WILCER
Outside Organization/Group Contact Phone & Email: 831-402-5551 bwilcer@ahtna.com
Outside Organization/Group Contact Address: 2255 CONTRA COSTA BLVD., STE 312
PLEASANT HILLS, CA 94523
Name of Activity/Event: OUCTP Well Installation
Date(s) of Activity: 6/1/15 - 7/15/15
Sponsoring UCSC Dept.: UCMBEST
Sponsoring Dept. Contact Name: BARBARA MOORE
Sponsoring Dept. Contact Phone: 831-402-2165
UCSC Facilities or Campus Area to be used: AREA OFF OF IMJIN RD /SEE ATTACHED MAP

DESCRIPTION OF INTENDED ACTIVITIES

- Please provide a description of the event: NEED TO PLACE BIN TO STORE DRILL CUTTINGS WHILE INSTALLING MONITORING WELLS ON FOUR LAND.
- Number of anticipated participants: WHILE INSTALLING MONITORING WELLS ON FOUR LAND.
 - Hours of set-up and take-down: Set up: ~ 10AM 6/1/15
Take down: ~ 10AM 7/15/15 (removal of bin & restroom station)
 - Hours of event: Full time
 - Transportation arrangements: N/A
 - Convenience arrangements (porta-potties, other): ONE SANITATION/RESTROOM STATION
 - Nature of activities at the event: Equipment staging area use
 - Will alcohol be served at this event: N/A
 - Facilities requirements: N/A
 - Route map, if applicable: PLACEMENT MAP ATTACHED

UCSC FACILITY USE PERMIT
FOR USE OF CAMPUS FACILITIES BY OUTSIDE ORGANIZATIONS/GROUPS

INDEMNIFICATION AND HOLD HARMLESS

For and in consideration of the granting of permission by the Regents of the University of California, herein referred to as UCSC or University, to the above named outside organization or group, hereinafter referred to as ORGANIZATION, to allow ORGANIZATION to enter onto UCSC property and/or use the above referenced UCSC facilities for the purpose stated above on the above stated date(s), ORGANIZATION does hereby agree to defend, release, indemnify and hold harmless UCSC, its officers, agents, and employees from and against any and all claims, demands, judgments damages, expenses (including reasonable attorneys' fees and court costs) and awards whatsoever which may result from the use of UCSC facilities, the above captioned activity/event, except for such claims, demands, judgments, and awards as may result from the sole negligence of UCSC, its officers, agents and/or employees.

INSURANCE

In connection with the use of the above referenced UCSC facilities by ORGANIZATION, ORGANIZATION hereby agrees to comply with the insurance requirements contained in the attached "University of California, Santa Cruz Insurance Requirements for Use of Campus Facilities by Outside Organizations and Groups," and incorporated herein as if fully set out, including, but not limited to, the requirements to provide UCSC with a Certificate of Insurance and an Additional Insured Endorsement naming the Regents of the University of California, its officers, agents, and employees as additional insureds.

OTHER APPLICABLE PROVISIONS

- No Transfer or Assignment. This Permit is personal to ORGANIZATION. Any attempt to transfer or assign this Permit shall terminate it.
- Permits and Regulations. ORGANIZATION shall be responsible for securing any required approvals, permits and authorizations from any federal, state or local agencies to conduct the above-described event, and shall comply with all applicable laws, regulations University policies, and OPERS Facility Use Rules (See Addendum 1).
- No Interference. ORGANIZATION shall not interfere with the normal operation and activities of University, and ORGANIZATION shall conduct its activities at the above-described UCSC Facilities to minimize damage to the UCSC Facilities and inconvenience to the University, its agents, employees and invitees.
- Repair and Restoration. If ORGANIZATION, its agents or contractors cause any damage to UCSC Facilities, or to the University's, infrastructure or other property and improvements (collectively "Property") in connection with the exercise of this Permit, ORGANIZATION shall repair and restore the UCSC Facilities and Property to their original condition prior to ORGANIZATION's use of the UCSC Facilities pursuant to this Permit. ORGANIZATION shall perform the repair and restoration required hereunder within twenty-four (24) hours of the expiration of this Permit. [IF NO SECURITY DEPOSIT, RETAIN THE FOLLOWING LANGUAGE. OTHERWISE DELETE:]Should ORGANIZATION fail to perform any necessary repair and restoration as required herein, University reserves the right to perform such repair and restoration as University deems necessary in its sole and absolute judgment, and ORGANIZATION shall reimburse University in full for any and all expenses associated with such repair and restoration within five (5) business days of receipt of a written statement of such expenses from University. In the event that repair and restoration is performed following the termination of this Permit, the ORGANIZATION's indemnity and insurance obligations described on the previous page shall continue until repair and restoration is completed as provided herein.

- Breach and Cure. In the event that ORGANIZATION breaches any of its obligations under this Permit, University shall provide ORGANIZATION written or verbal notice specifying the nature of such breach, as soon as is practicable after the time of such breach. ORGANIZATION shall commence to cure such breach immediately upon such written or verbal notice. If ORGANIZATION fails to cure such breach within a reasonable time, as solely determined by University, then University shall have the right to terminate this Permit immediately by written or verbal notice of termination. University shall have all rights and remedies available under California law including, but not limited to, actions for damages and specific performance, for any breach of ORGANIZATION's obligations hereunder.
- Security Deposit [OPTIONAL]. ORGANIZATION shall deposit with University upon execution hereof \$ _____ as security for ORGANIZATION's faithful performance of ORGANIZATION'S obligations hereunder. If ORGANIZATION fails to repair and restore University's property, or otherwise defaults with respect to any provision of this Permit, University may use, apply or retain all or any portion of said deposit for the payment of any sum to which University may become entitled by reason of ORGANIZATION's default, or to compensate University for any loss or damage which University may suffer thereby. University shall not be required to keep said deposit separate from its general accounts. If ORGANIZATION performs all of ORGANIZATION's obligations hereunder, said deposit, or so much thereof as has not theretofore been applied by University, shall be returned, without payment of interest or other increment for its use, to ORGANIZATION within ten (10) business days after the date of the event. No trust relationship is created herein between University and ORGANIZATION with respect to said Security Deposit.
- Cancellations. No refunds will be given if University doesn't receive a minimum of five (5) working days advance notice of cancellation. If advance notice is given, a full refund will be given less any costs already incurred (e.g., publicity, signs made, etc.)
- Other Provisions: No parking in the landscaping or off paved surfaces.

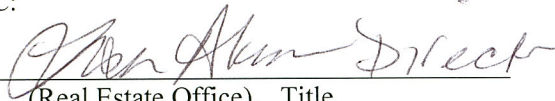
ACCEPTED BY:

ORGANIZATION/GROUP

By:  Sr. Project Mgr
 (Authorized Signature), Title

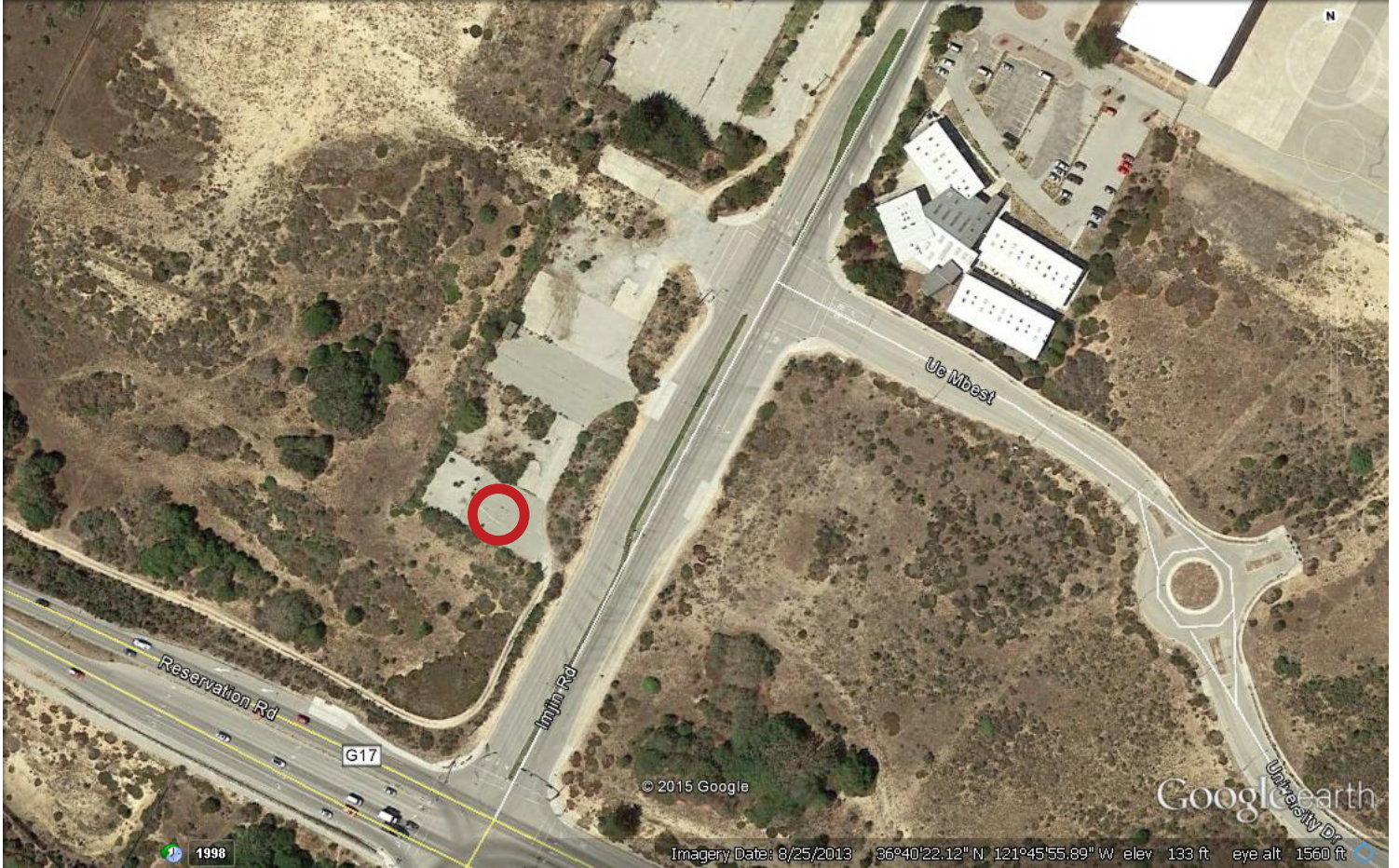
Date: 5/27/2015

UCSC:

By: 
 (Real Estate Office), Title

Date: 5/29/2015

PERMIT AREA



Location of permit area

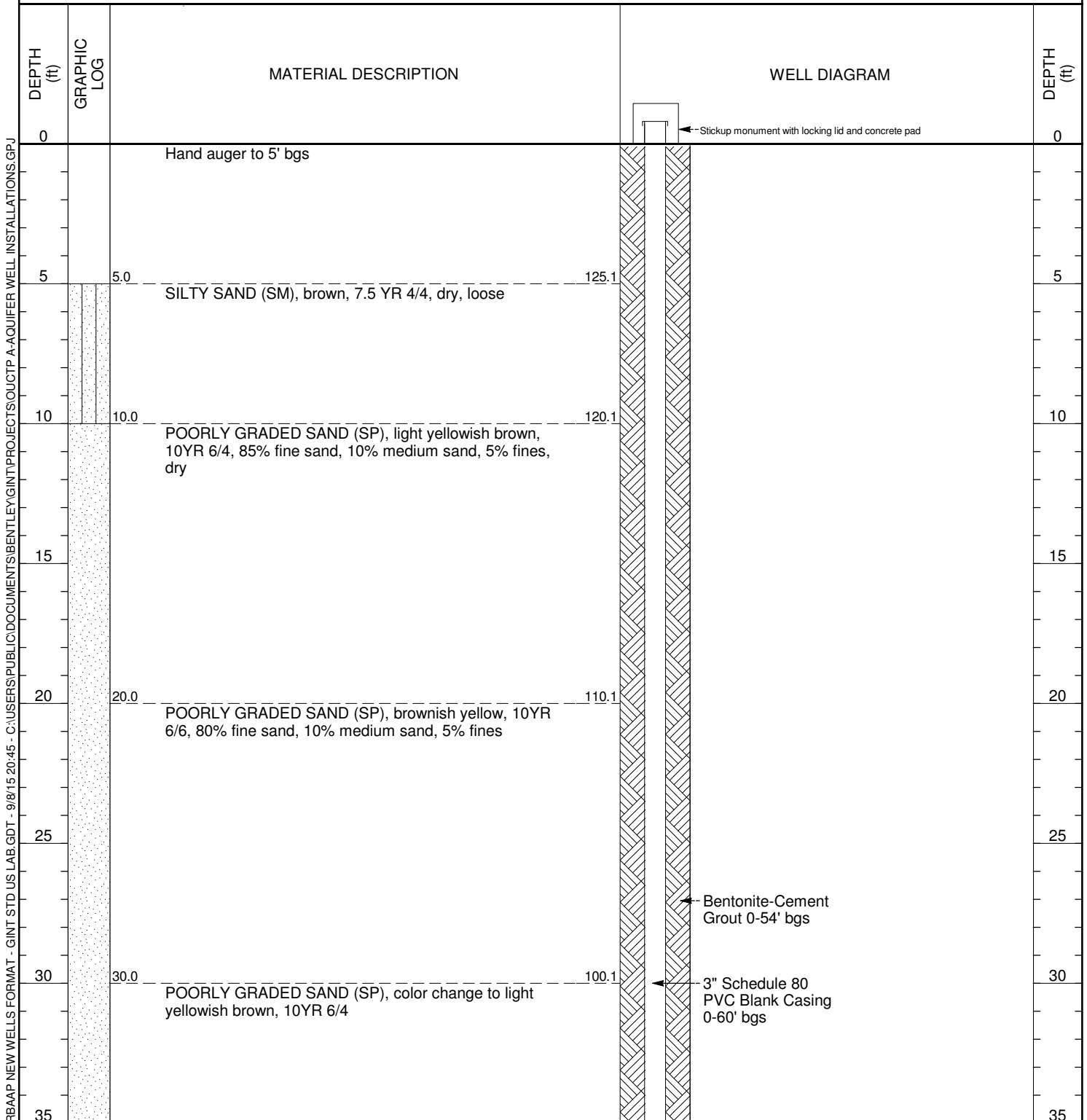


APPENDIX C
Boring Logs and Well Construction Diagrams



CLIENT United States Army Corps of Engineers
PROJECT NUMBER W91238-14-C-0048
DATE STARTED 6/5/15 **COMPLETED** 6/5/15
DRILLING CONTRACTOR National EWP
DRILLING METHOD HSA CME 75
LOGGED BY B. Carlson **CHECKED BY** B. Wilcer
NOTES Log from cuttings, drive sample at bottom

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer
PROJECT LOCATION Former Fort Ord, California
GROUND ELEVATION 130.13 ft **HOLE SIZE** 10 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
AFTER DRILLING ---



(Continued Next Page)

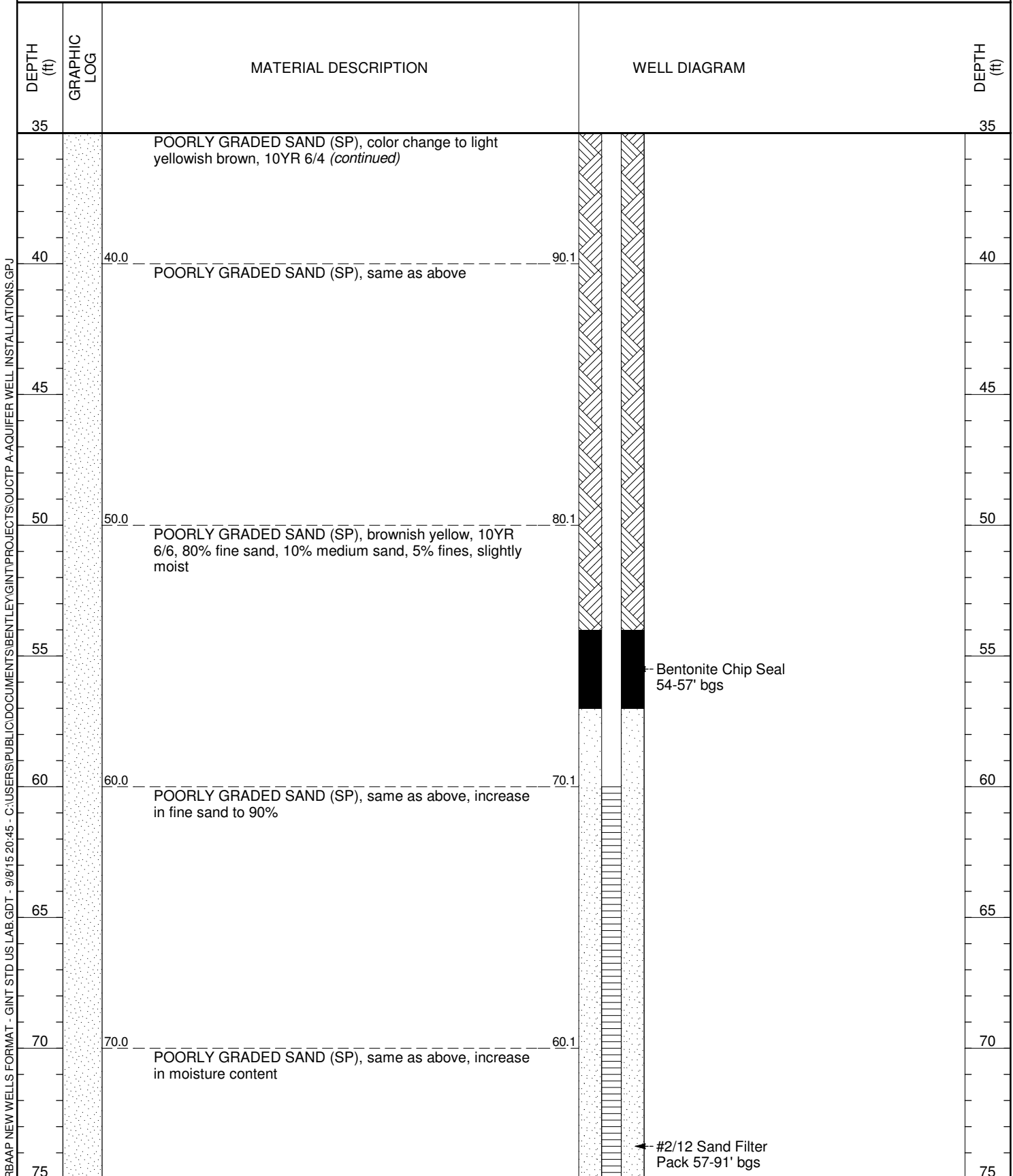


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California

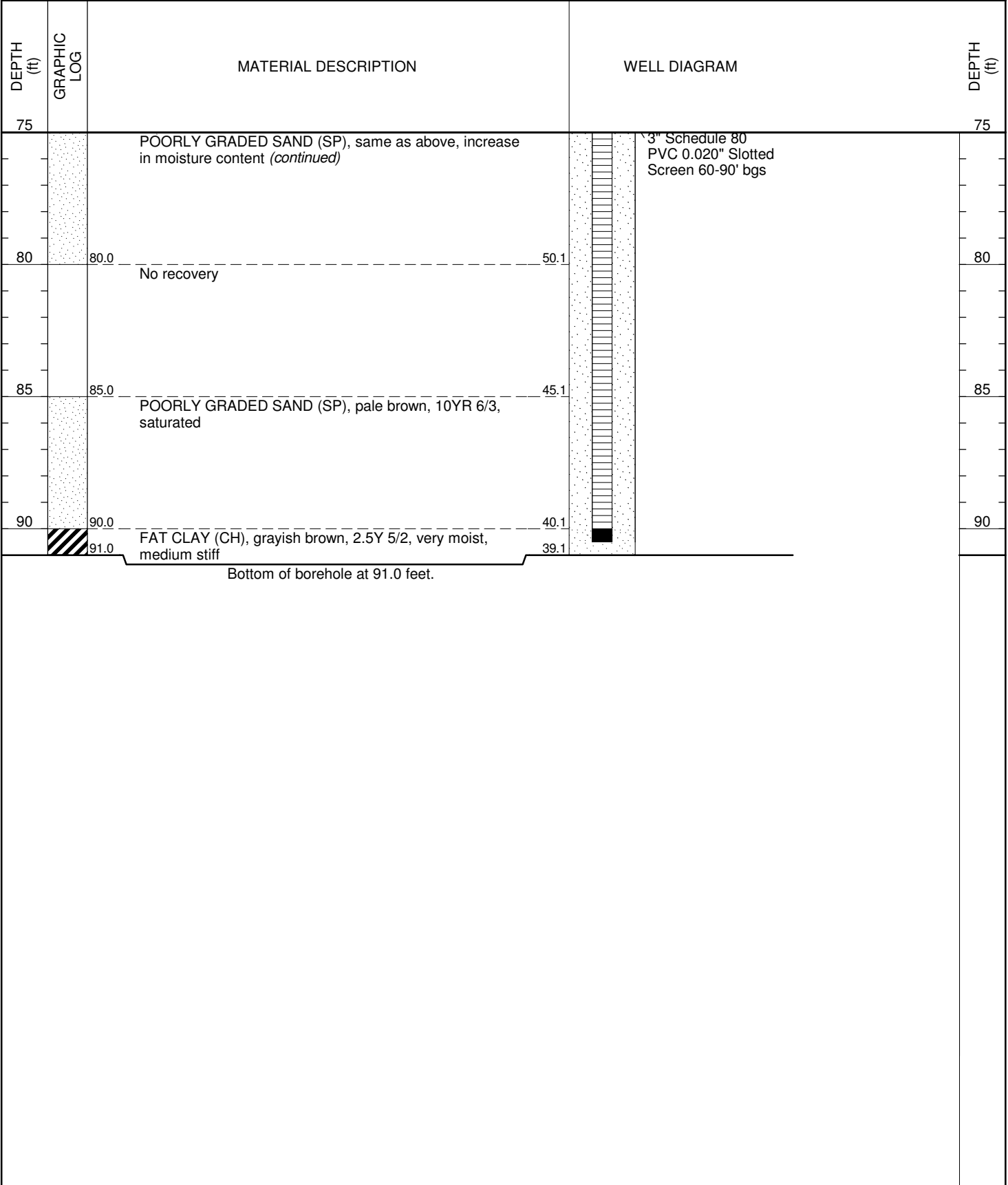


(Continued Next Page)



CLIENT United States Army Corps of Engineers **PROJECT NAME** OUCTP Evaluation Tech Memo, A-Aquifer
PROJECT NUMBER W91238-14-C-0048 **PROJECT LOCATION** Former Fort Ord, California

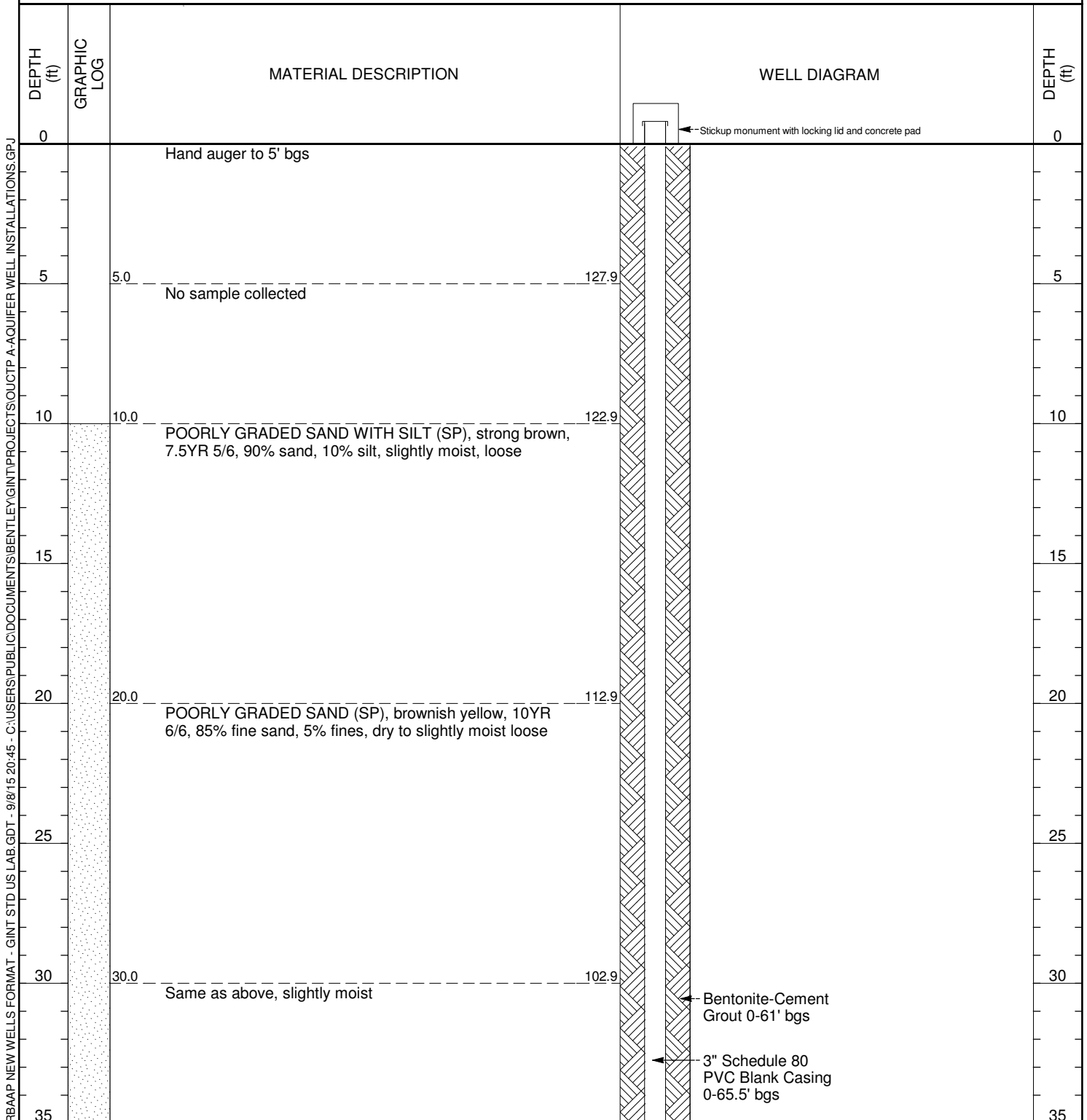
RBAAP NEW WELLS FORMAT - GINT STD US LAB.GDT - 9/8/15 20:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\OUCTP A-AQUIFER WELL INSTALLATIONS.GPJ





CLIENT United States Army Corps of Engineers
PROJECT NUMBER W91238-14-C-0048
DATE STARTED 6/2/15 **COMPLETED** 6/3/15
DRILLING CONTRACTOR National EWP
DRILLING METHOD HSA CME 75
LOGGED BY B. Carlson **CHECKED BY** B. Wilcer
NOTES Log from cuttings, drive sample at bottom

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer
PROJECT LOCATION Former Fort Ord, California
GROUND ELEVATION 132.88 ft **HOLE SIZE** 10 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING 70' bgs
AT END OF DRILLING ---
AFTER DRILLING ---



(Continued Next Page)

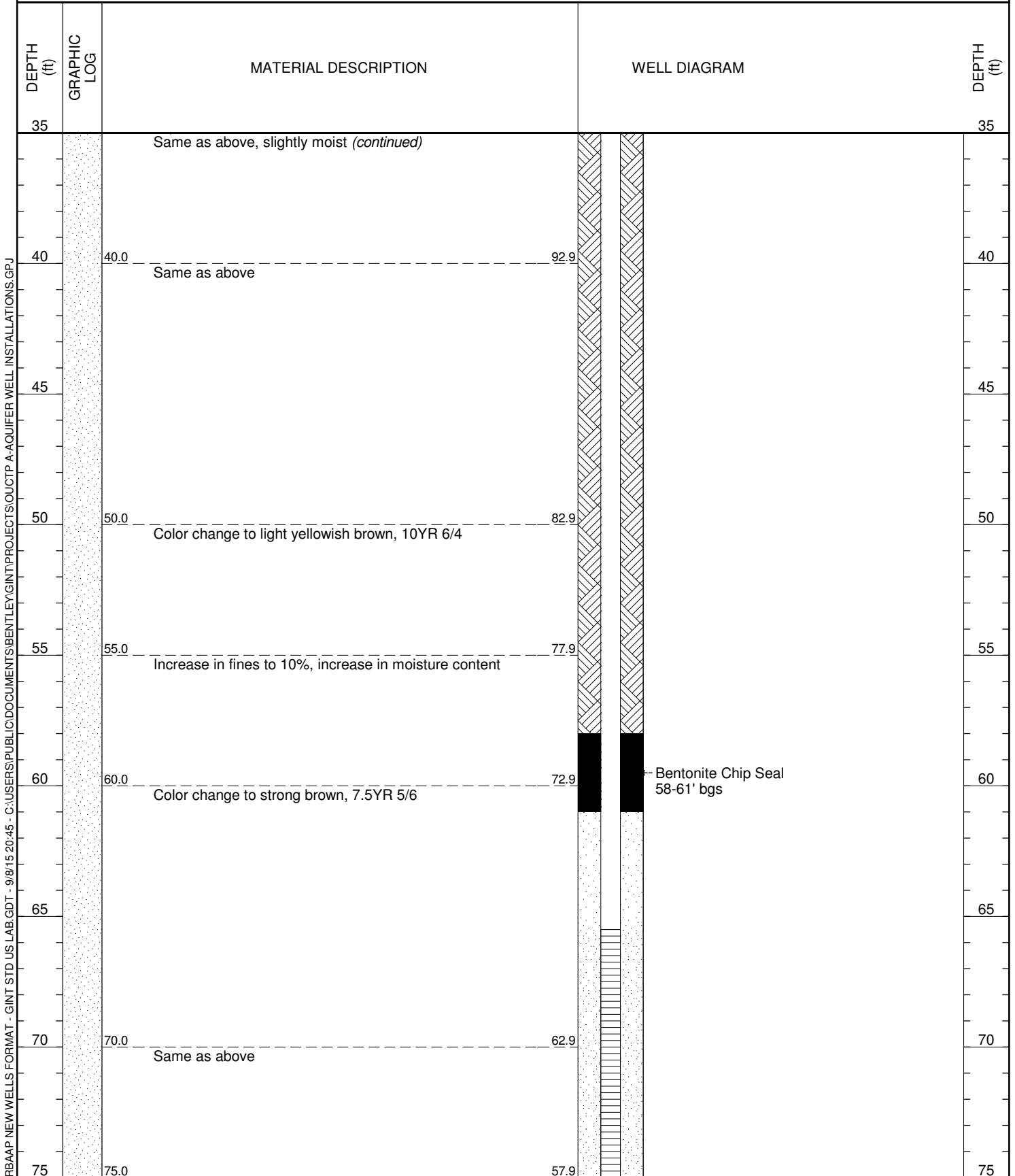


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California



(Continued Next Page)

RBAAP NEW WELLS FORMAT - GINT STD US LAB.GDT - 9/8/15 20:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\OUCTP A-AQUIFER WELL INSTALLATIONS.GPJ

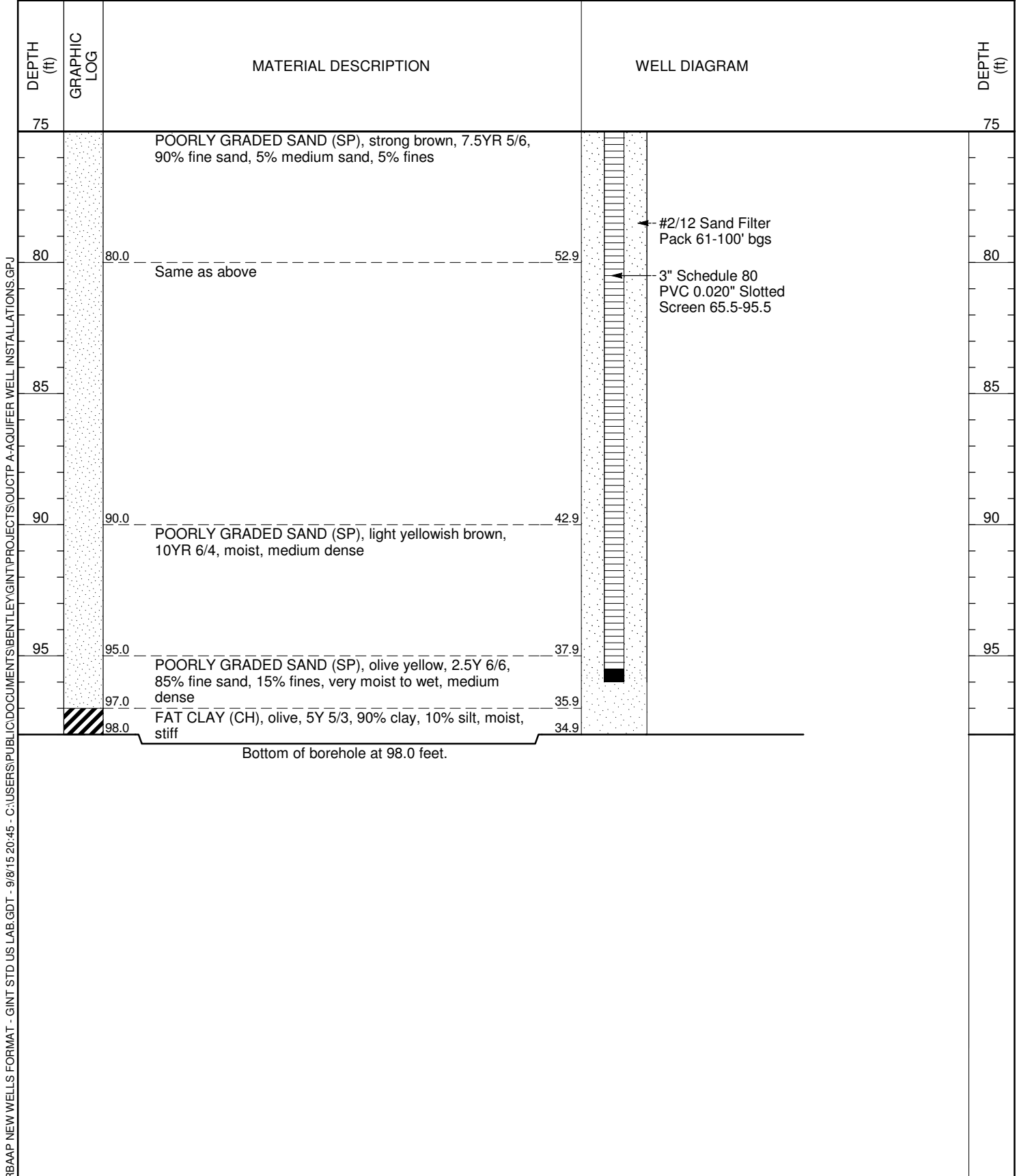


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California

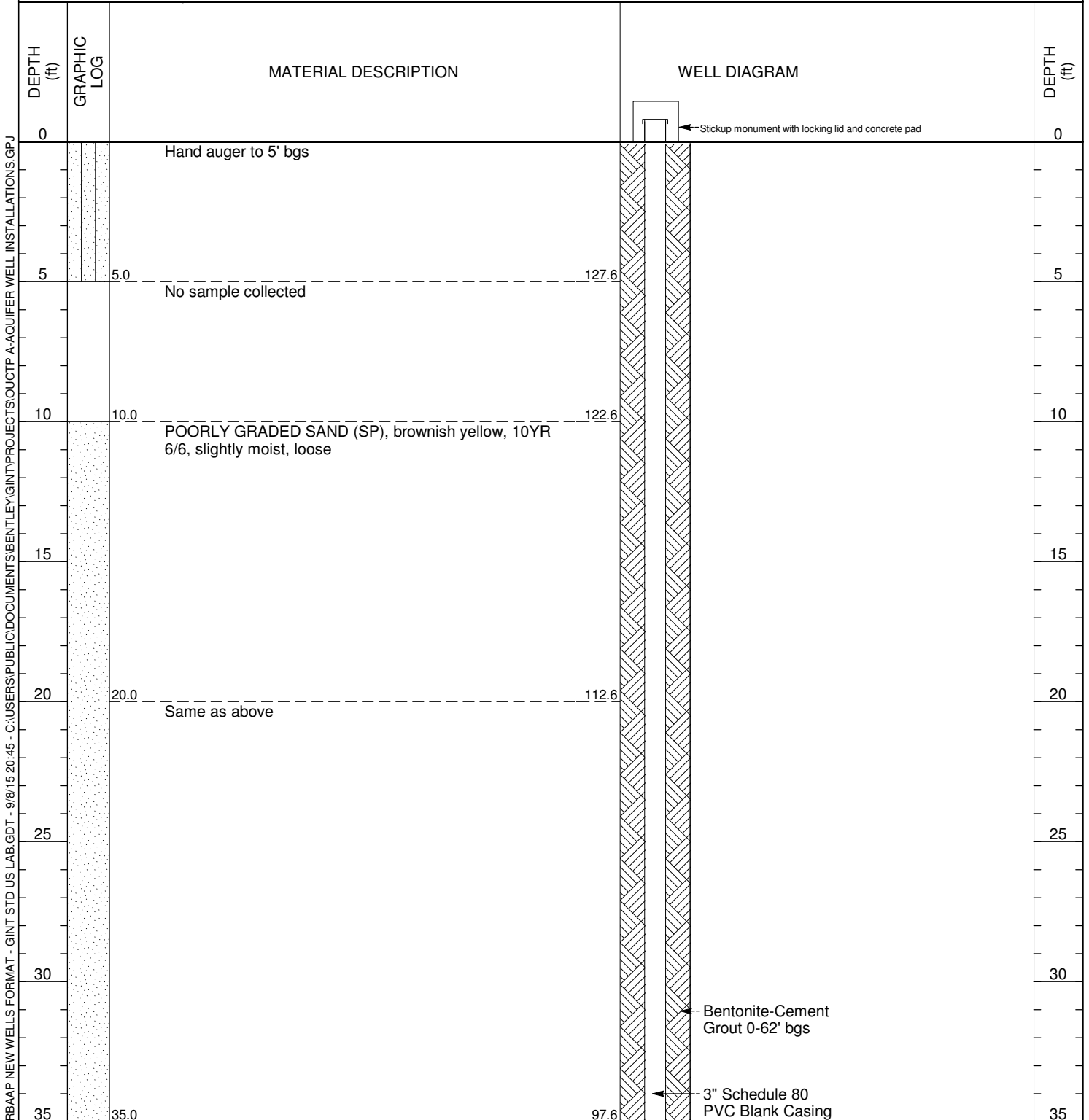


RBAAP NEW WELLS FORMAT - GINT STD US LAB.GDT - 9/8/15 20:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\OUCTP A-AQUIFER WELL INSTALLATIONS.GPJ



CLIENT United States Army Corps of Engineers
PROJECT NUMBER W91238-14-C-0048
DATE STARTED 6/1/15 **COMPLETED** 6/2/15
DRILLING CONTRACTOR National EWP
DRILLING METHOD HSA CME 75
LOGGED BY B. Carlson **CHECKED BY** B. Wilcer
NOTES Log from cuttings, drive sample at bottom

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer
PROJECT LOCATION Former Fort Ord, California
GROUND ELEVATION 132.61 ft **HOLE SIZE** 10 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING 70' bgs
AT END OF DRILLING ---
AFTER DRILLING ---



(Continued Next Page)

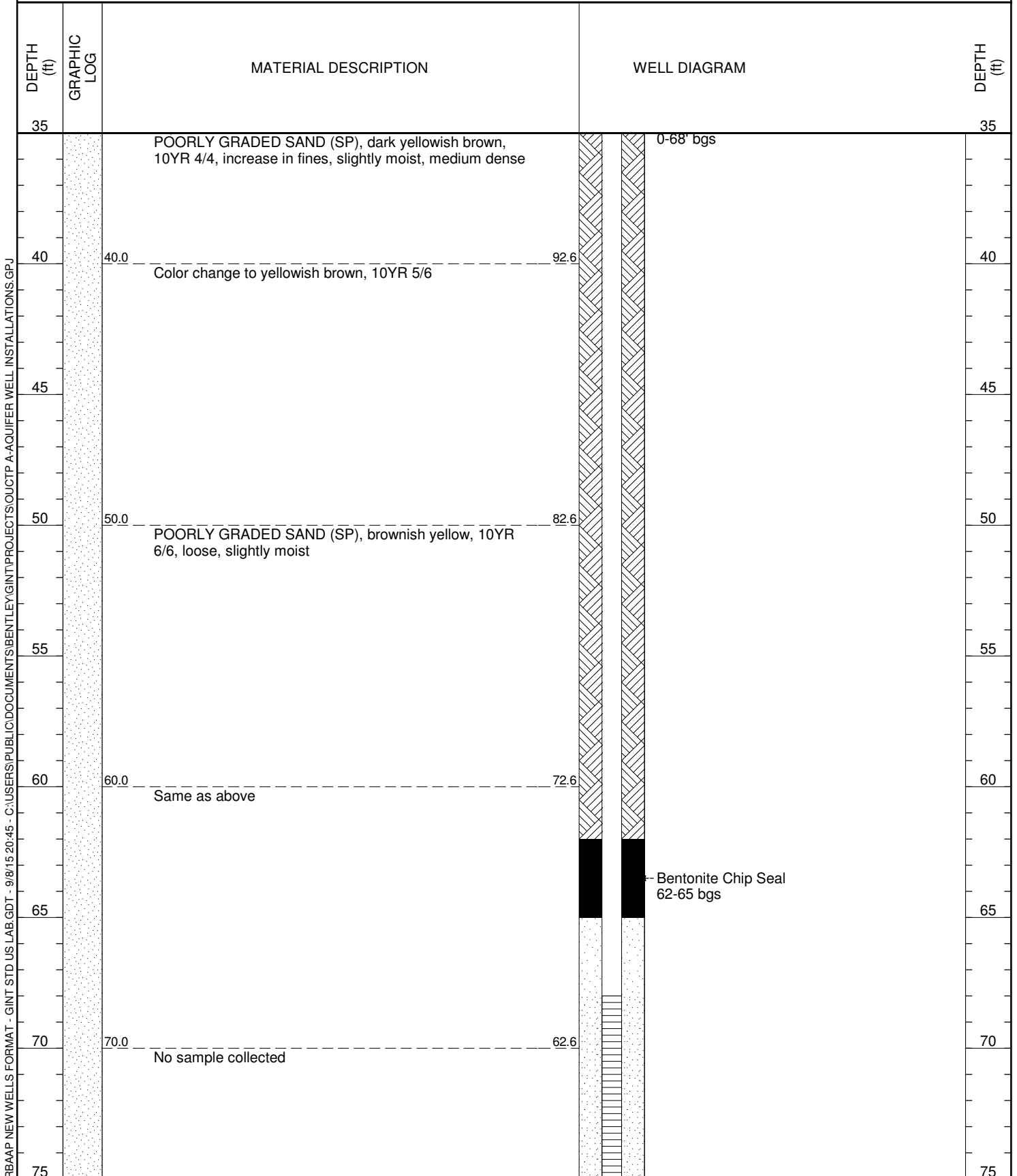


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California



(Continued Next Page)

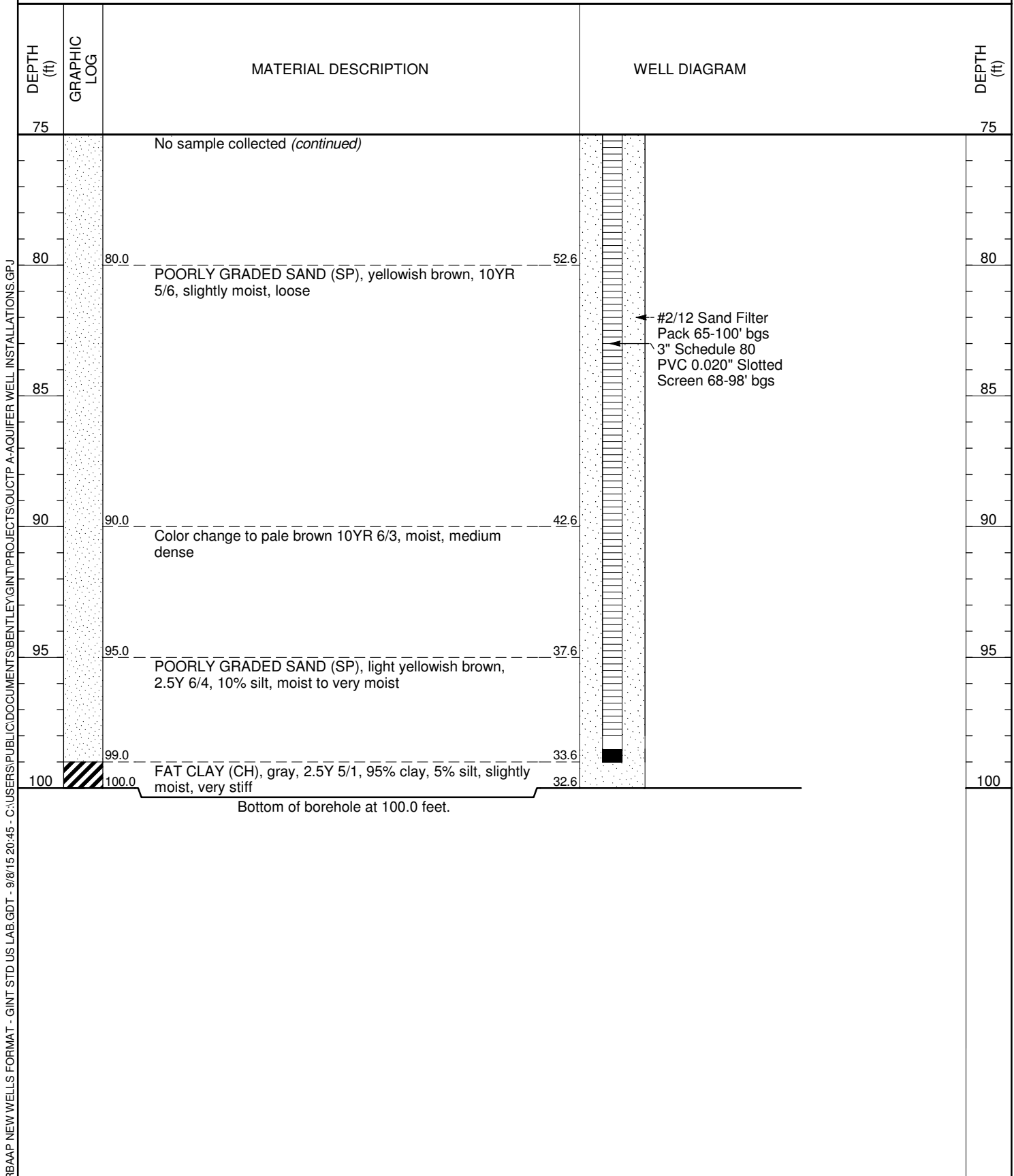


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California

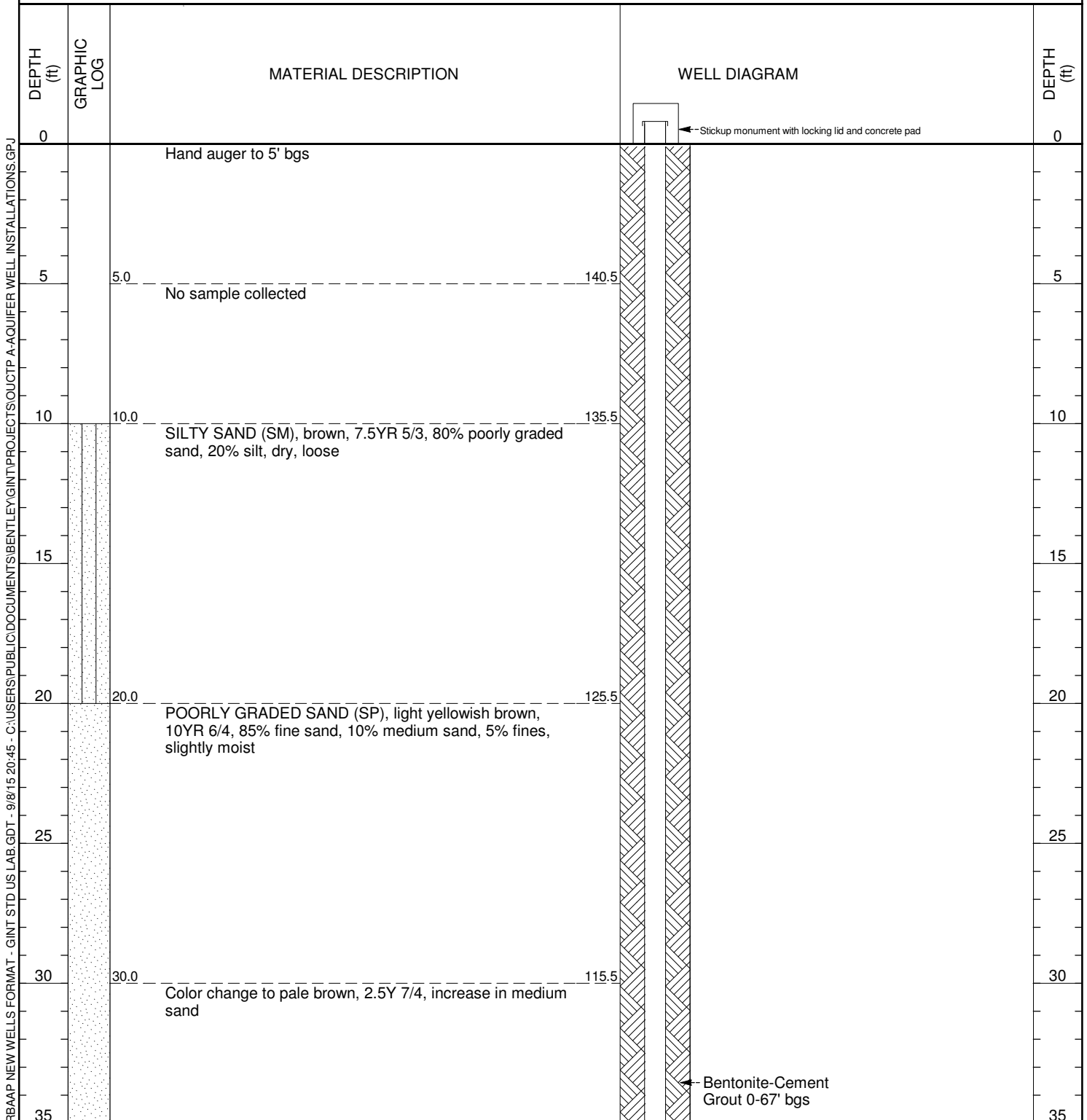


RBAAP NEW WELLS FORMAT - GINT STD US LAB.GDT - 9/8/15 20:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\OUCTP A-AQUIFER WELL INSTALLATIONS.GPJ



CLIENT United States Army Corps of Engineers
PROJECT NUMBER W91238-14-C-0048
DATE STARTED 6/12/15 **COMPLETED** 6/12/15
DRILLING CONTRACTOR National EWP
DRILLING METHOD HSA CME 75
LOGGED BY B. Carlson **CHECKED BY** B. Wilcer
NOTES Log from cuttings, drive sample at bottom

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer
PROJECT LOCATION Former Fort Ord, California
GROUND ELEVATION 145.52 ft **HOLE SIZE** 10 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING 77' bgs
AT END OF DRILLING ---
AFTER DRILLING ---



(Continued Next Page)

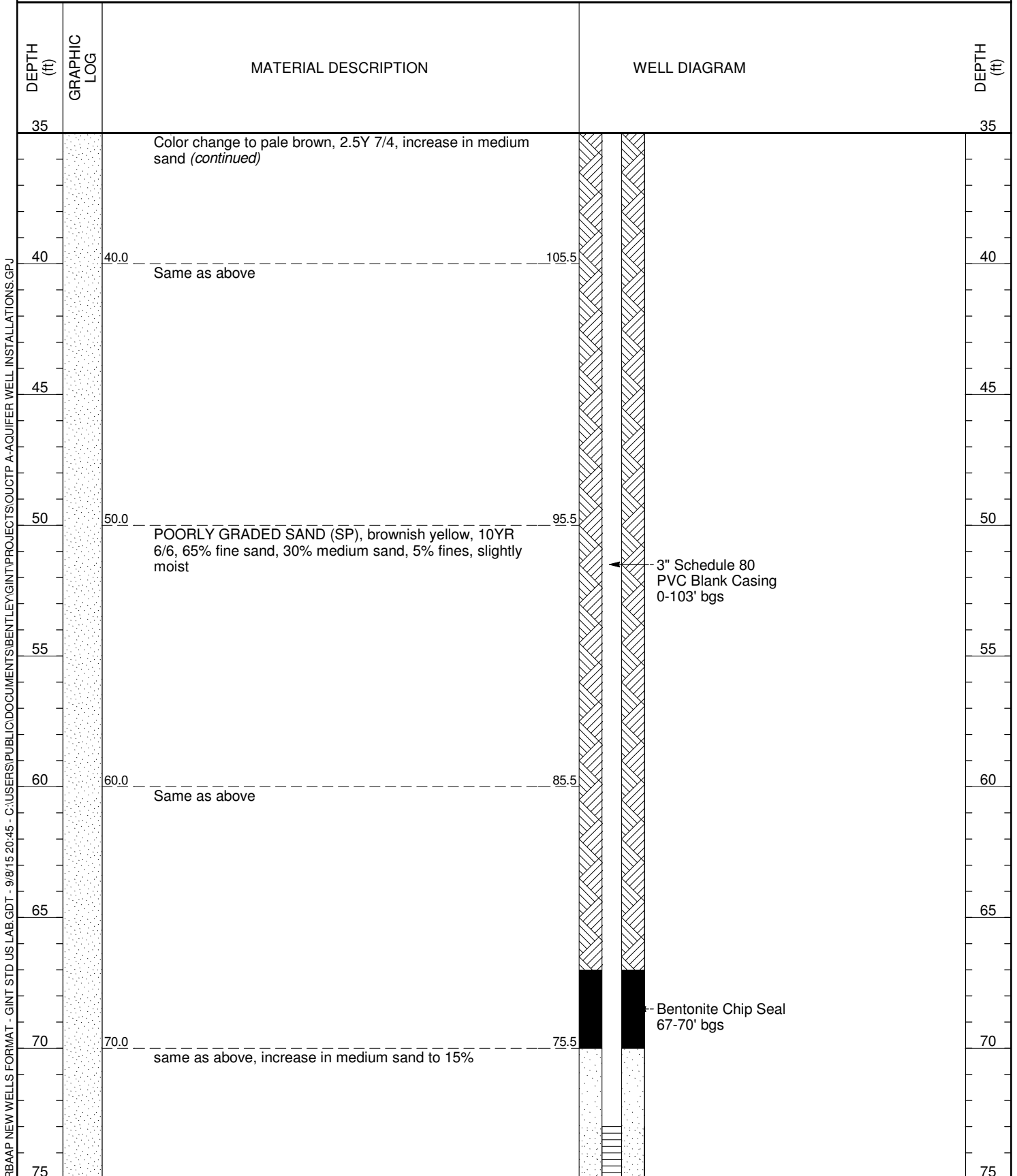


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California



(Continued Next Page)

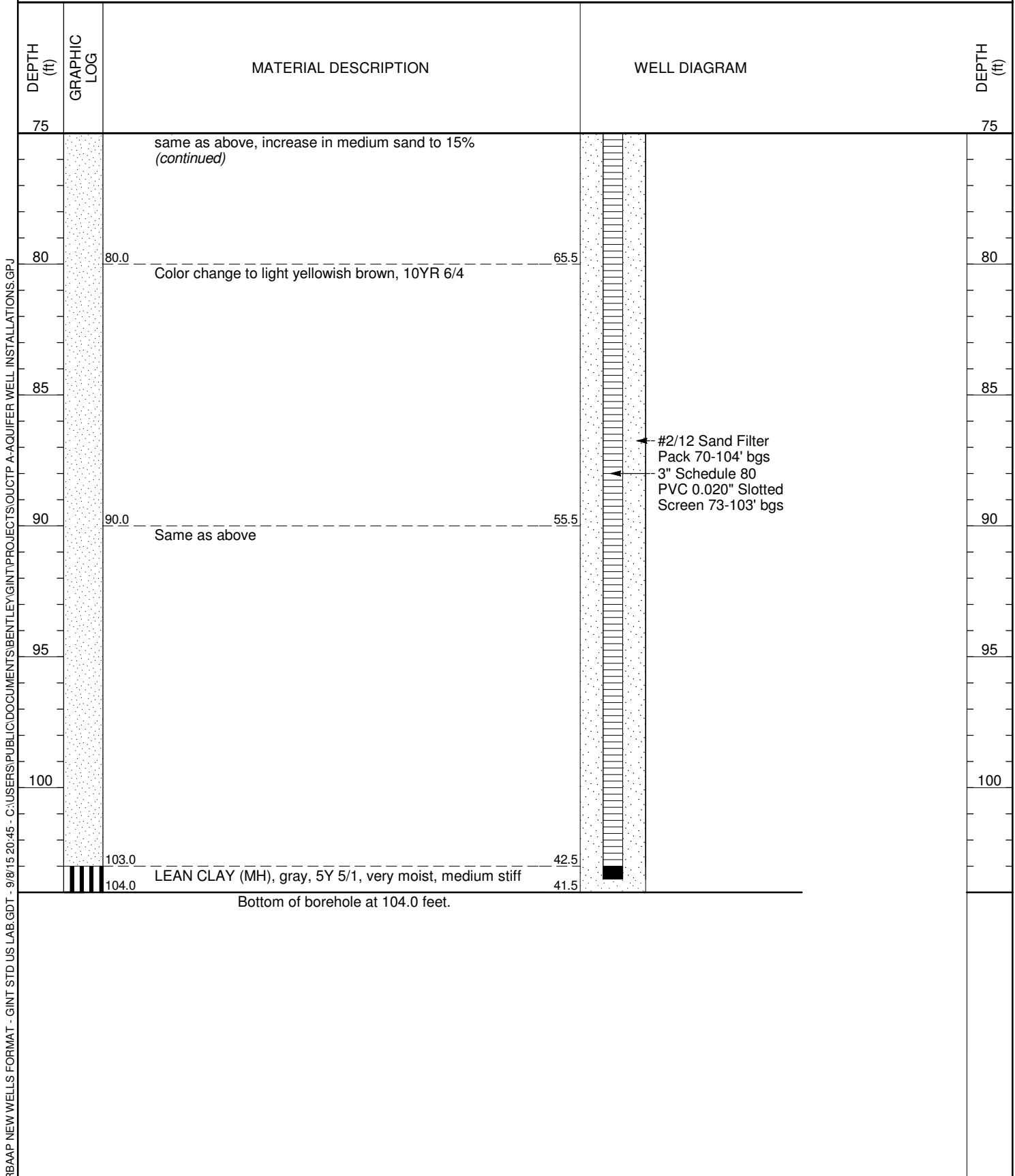


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California

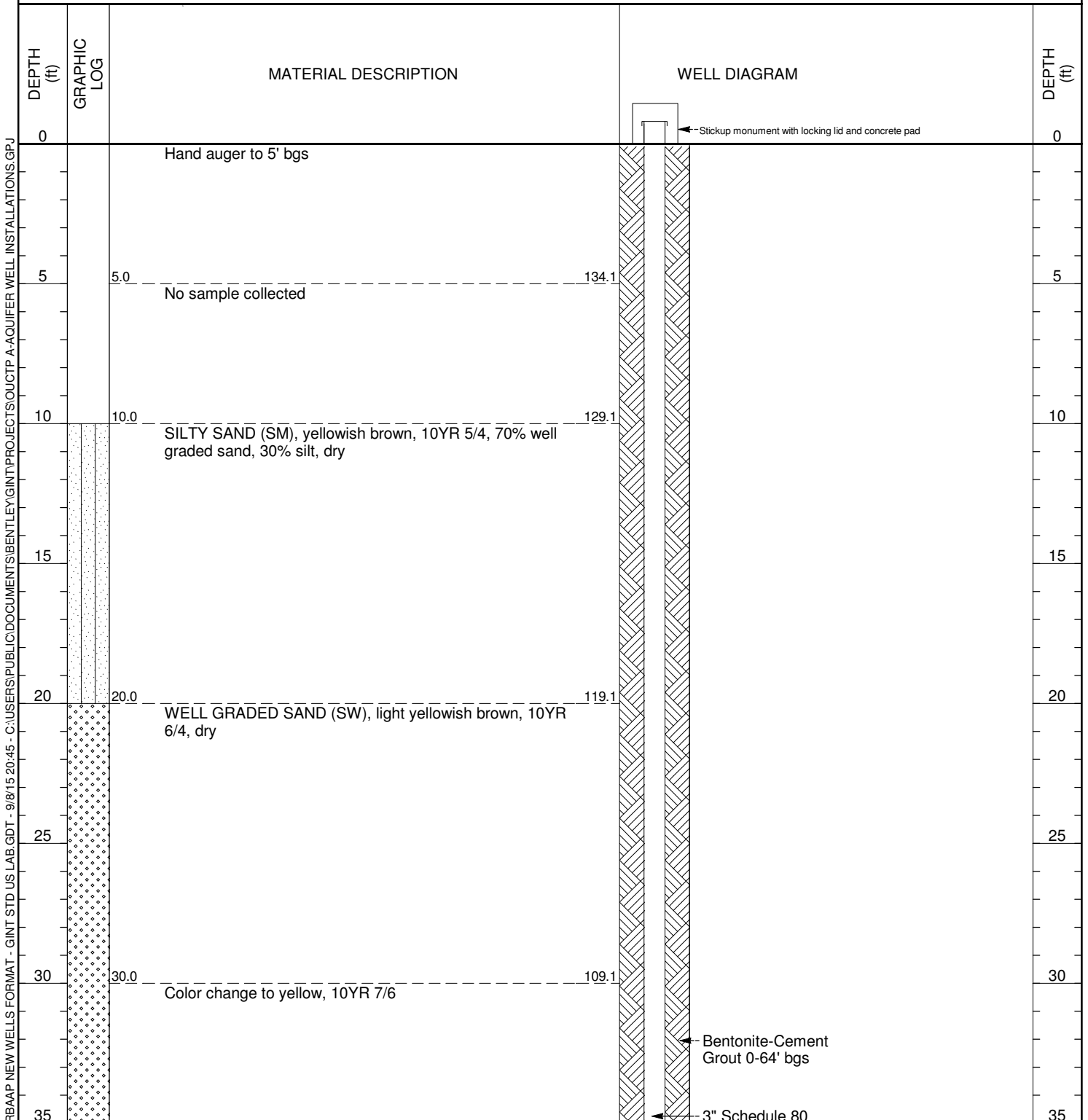


RBAAP NEW WELLS FORMAT - GINT STD US LAB.GDT - 9/8/15 20:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\OUCTP A-AQUIFER WELL INSTALLATIONS.GPJ



CLIENT United States Army Corps of Engineers
PROJECT NUMBER W91238-14-C-0048
DATE STARTED 6/10/15 **COMPLETED** 6/11/15
DRILLING CONTRACTOR National EWP
DRILLING METHOD HSA CME 75
LOGGED BY B. Carlson **CHECKED BY** B. Wilcer
NOTES Log from cuttings, drive sample at bottom

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer
PROJECT LOCATION Former Fort Ord, California
GROUND ELEVATION 139.12 ft **HOLE SIZE** 10 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING 77' bgs
AT END OF DRILLING ---
AFTER DRILLING ---



(Continued Next Page)

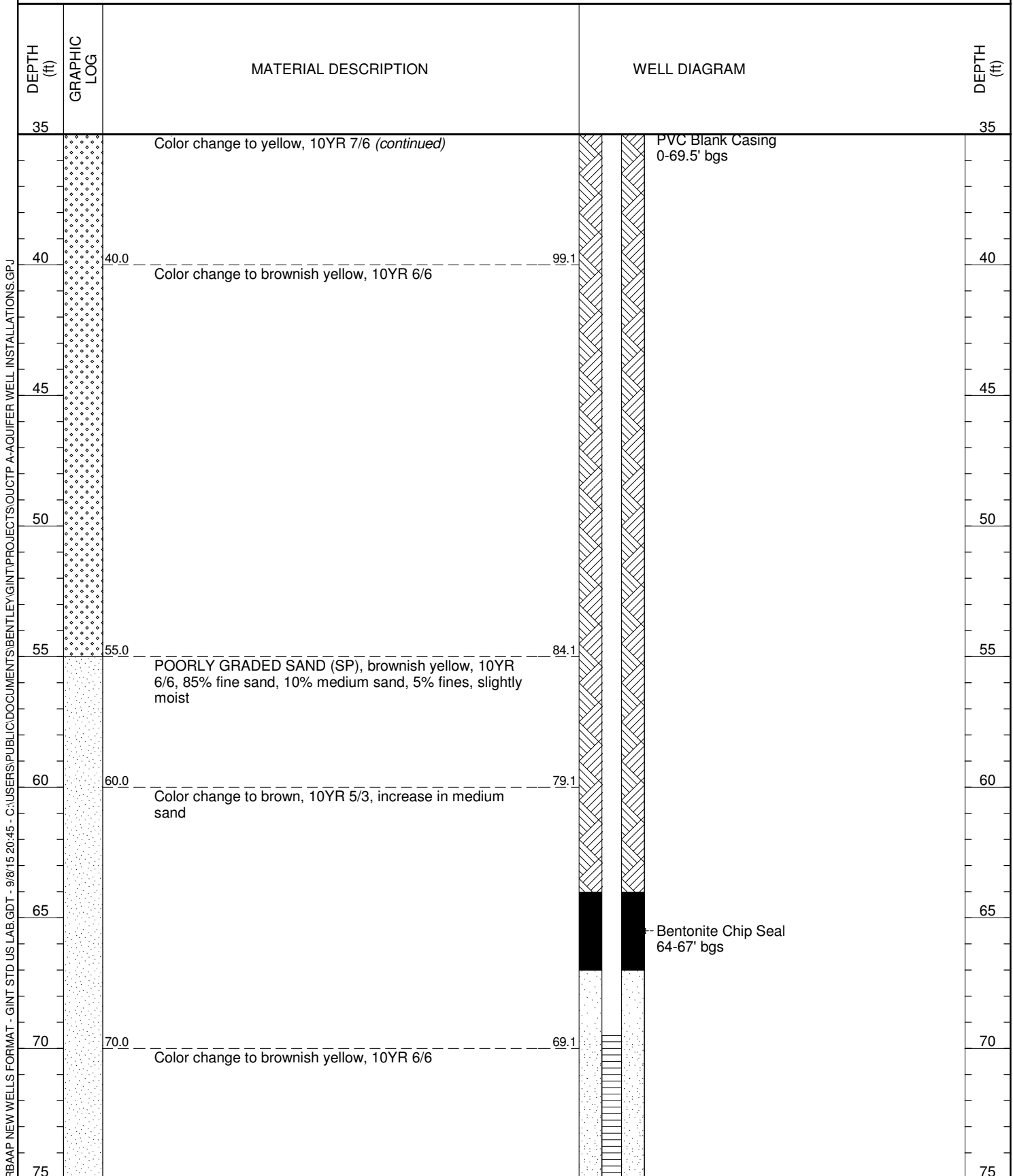


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California



(Continued Next Page)

RBAAP NEW WELLS FORMAT - GINT STD US LAB.GDT - 9/8/15 20:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\OUCTP A-AQUIFER WELL INSTALLATIONS.GPJ

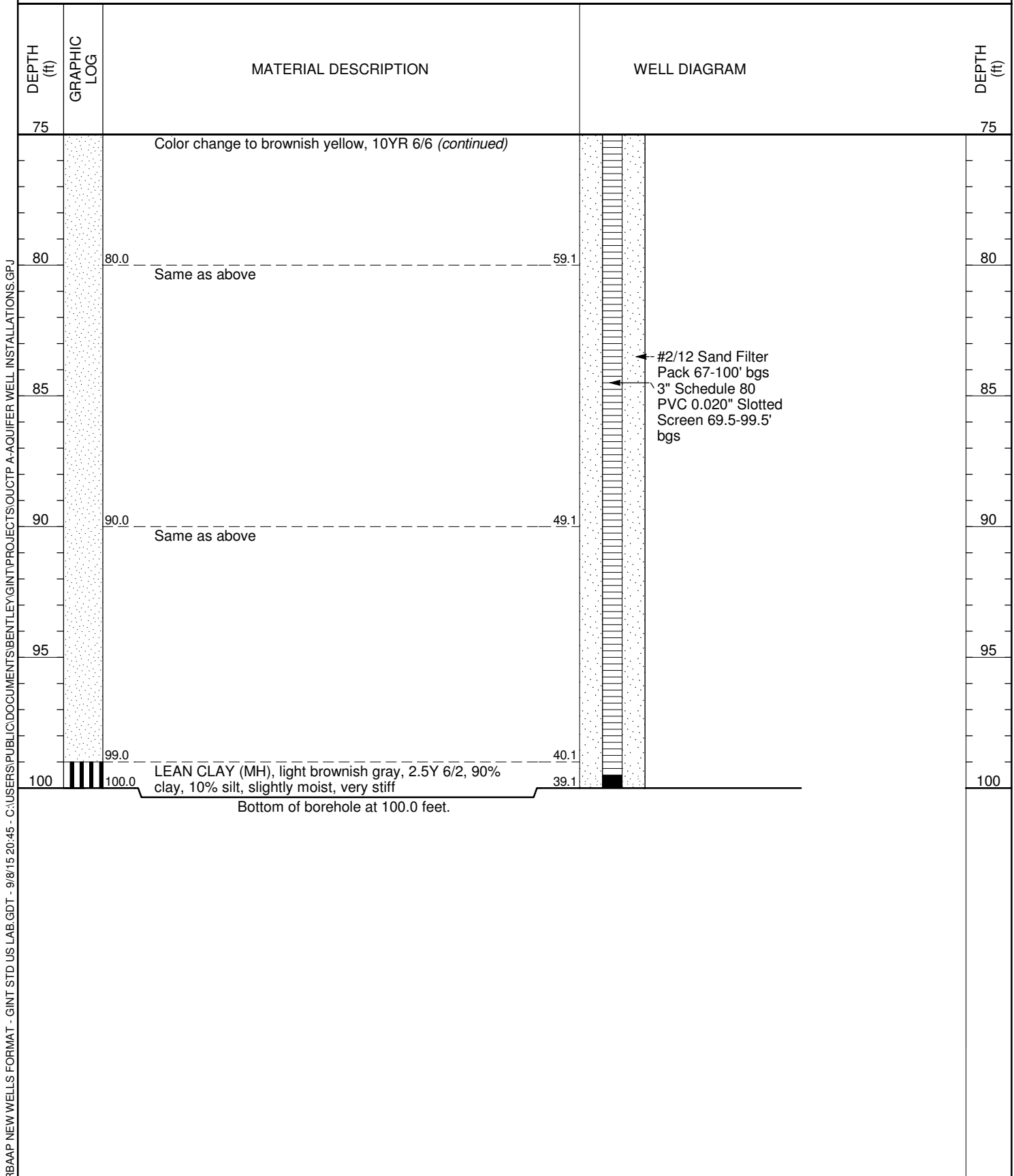


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California

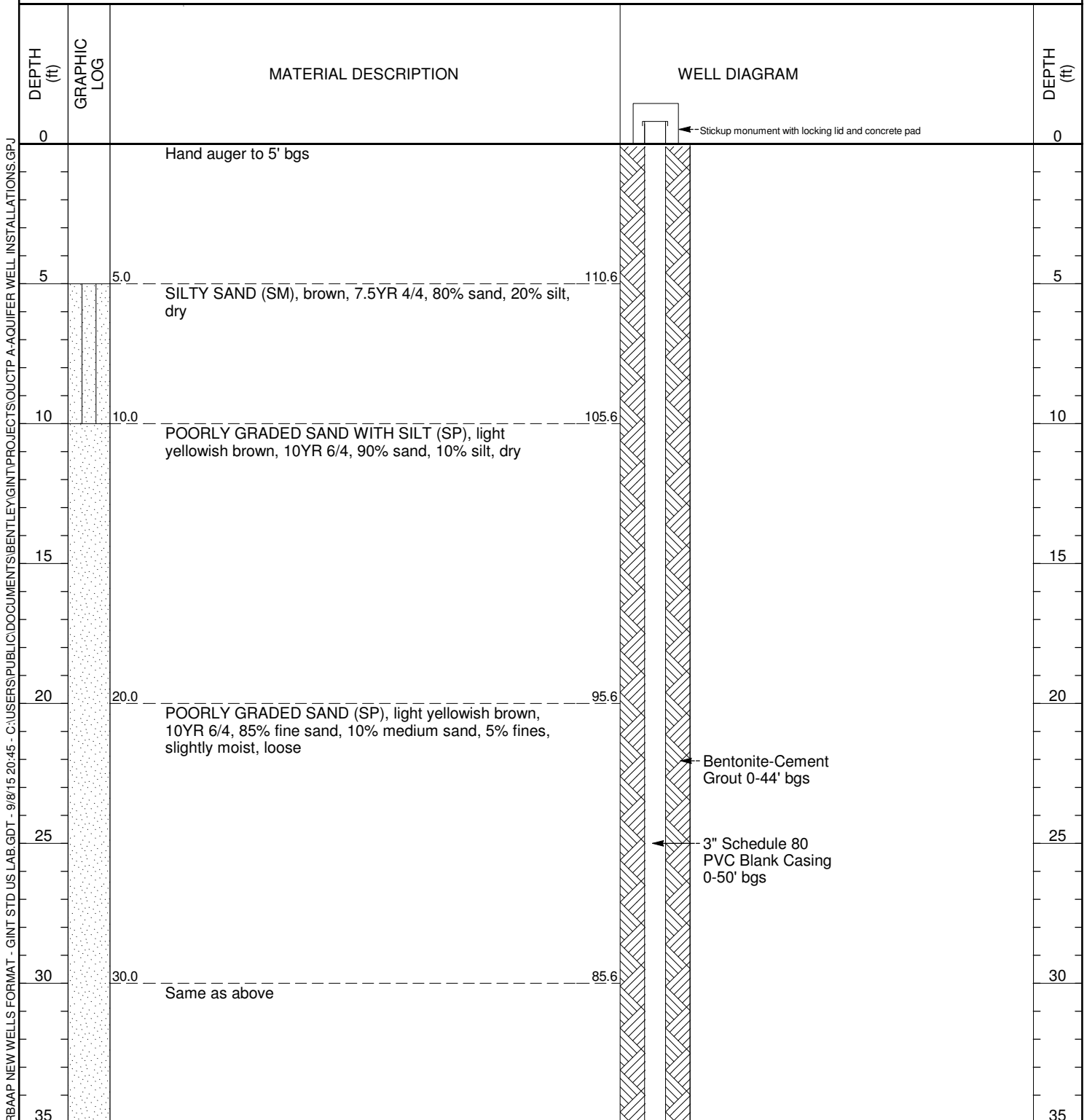


RBAAP NEW WELLS FORMAT - GINT STD US LAB.GDT - 9/8/15 20:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\OUCTP A-AQUIFER WELL INSTALLATIONS.GPJ



CLIENT United States Army Corps of Engineers
PROJECT NUMBER W91238-14-C-0048
DATE STARTED 6/4/15 **COMPLETED** 6/4/15
DRILLING CONTRACTOR National EWP
DRILLING METHOD HSA CME 75
LOGGED BY B. Carlson **CHECKED BY** B. Wilcer
NOTES Log from cuttings, drive sample at bottom

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer
PROJECT LOCATION Former Fort Ord, California
GROUND ELEVATION 115.57 ft **HOLE SIZE** 10 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING 53' bgs
AT END OF DRILLING ---
AFTER DRILLING ---



(Continued Next Page)

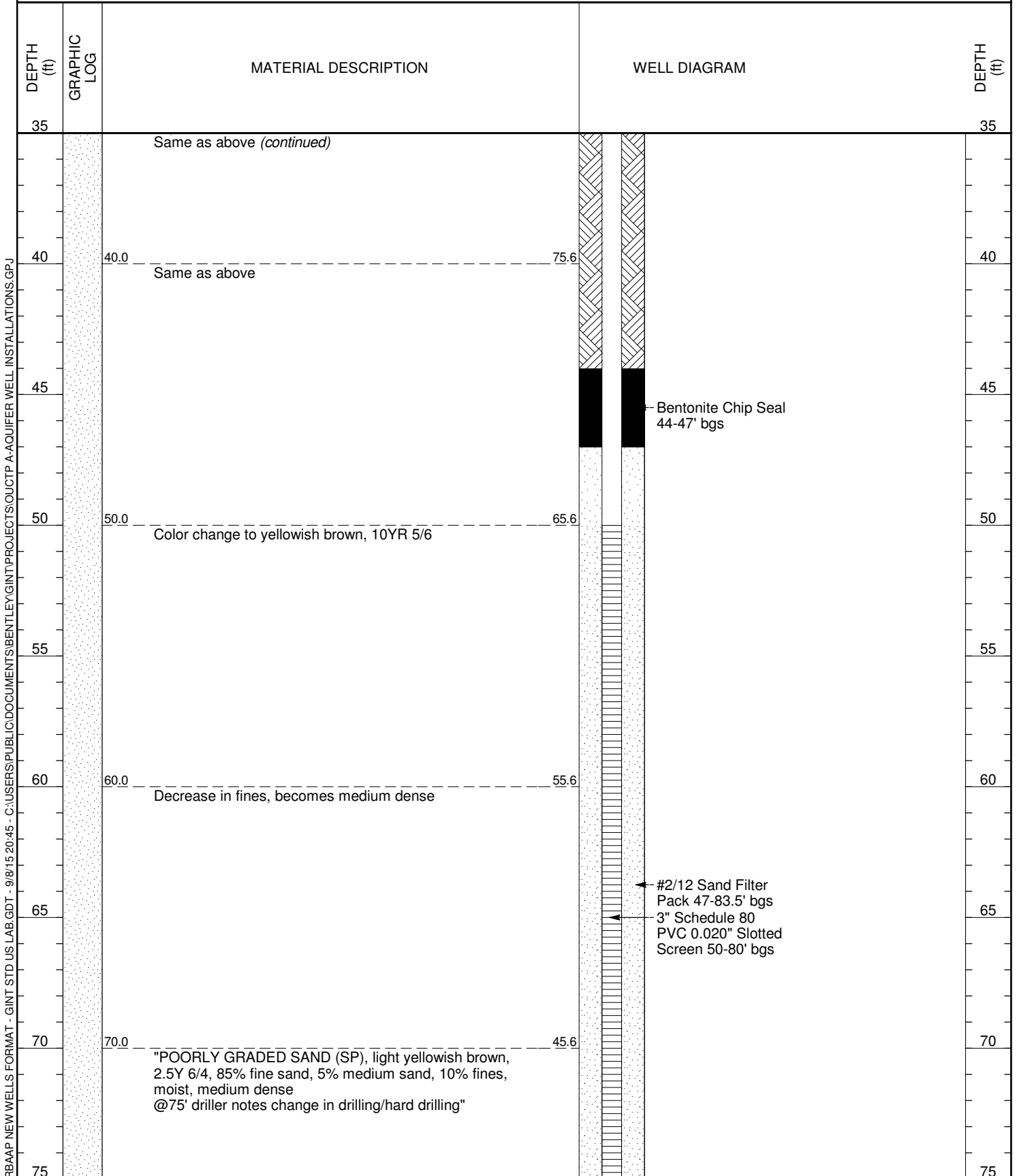


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California



(Continued Next Page)



CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California

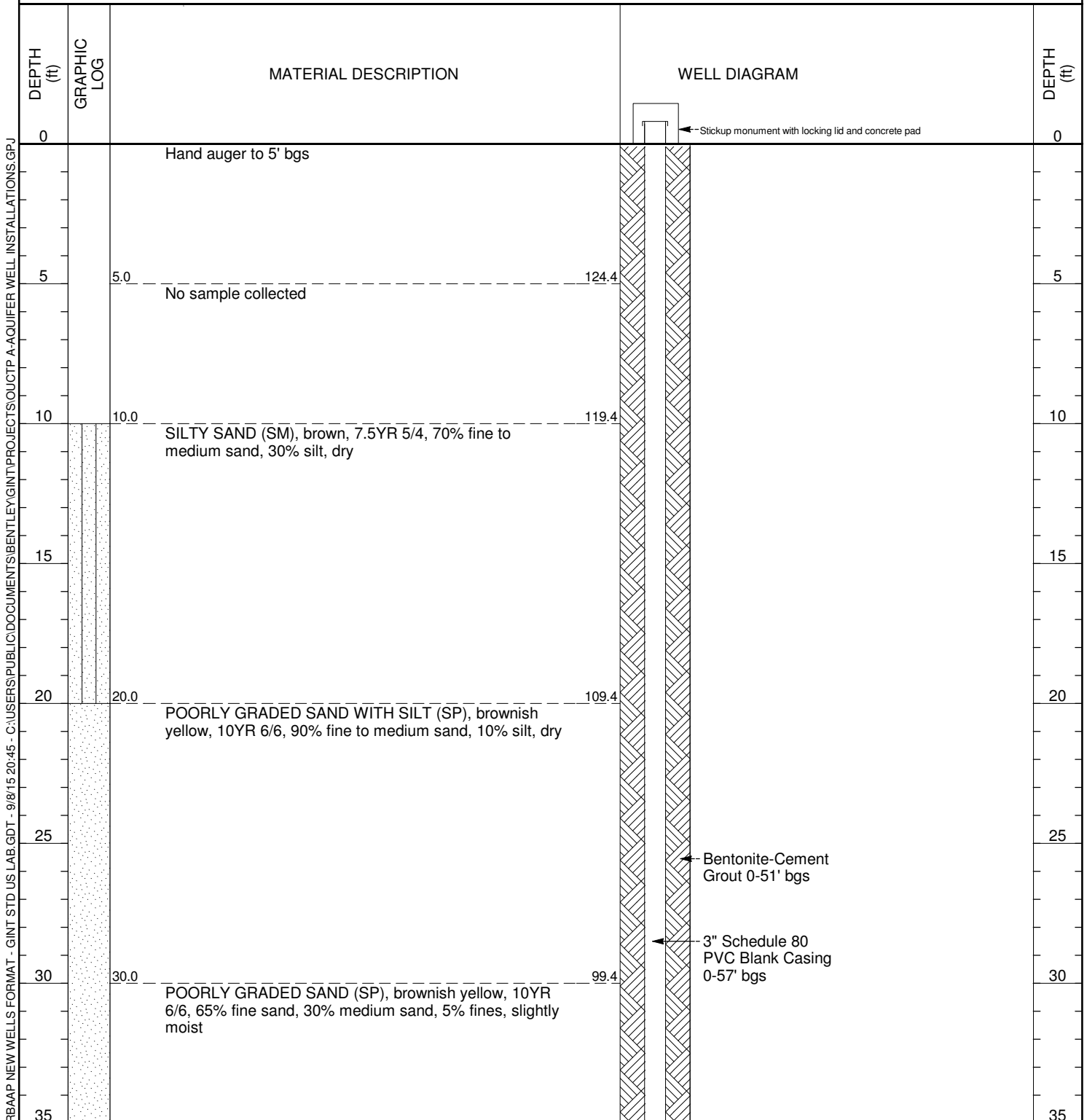
RBAAP NEW WELLS FORMAT - GINT STD US LAB.GDT - 9/8/15 20:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\OUCTP A-AQUIFER WELL INSTALLATIONS.GPJ

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM	DEPTH (ft)
75				75
		"POORLY GRADED SAND (SP), light yellowish brown, 2.5Y 6/4, 85% fine sand, 5% medium sand, 10% fines, moist, medium dense @75' driller notes change in drilling/hard drilling" (continued)		
80	80.0	Color change to light olive brown, 2.5Y 5/4	35.6	80
	83.0		32.6	
	83.5	FAT CLAY (CH), olive gray, 5Y 4/2, moist, medium stiff	32.1	
		Bottom of borehole at 83.5 feet.		



CLIENT United States Army Corps of Engineers
PROJECT NUMBER W91238-14-C-0048
DATE STARTED 6/8/15 **COMPLETED** 6/8/15
DRILLING CONTRACTOR National EWP
DRILLING METHOD HSA CME 75
LOGGED BY B. Carlson **CHECKED BY** B. Wilcer
NOTES Log from cuttings, drive sample at bottom

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer
PROJECT LOCATION Former Fort Ord, California
GROUND ELEVATION 129.39 ft **HOLE SIZE** 10 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING ---
AT END OF DRILLING ---
AFTER DRILLING ---



(Continued Next Page)

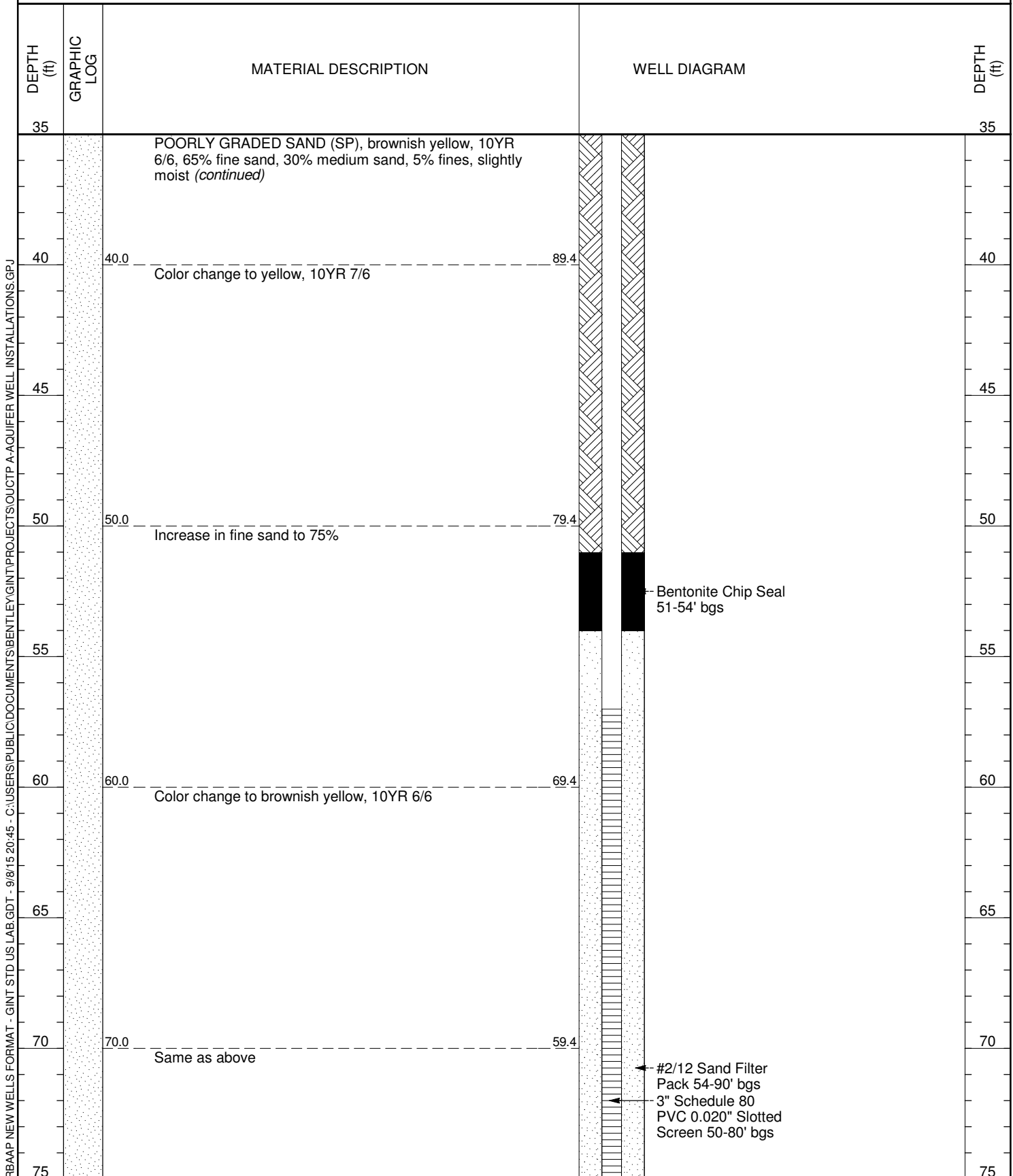


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California

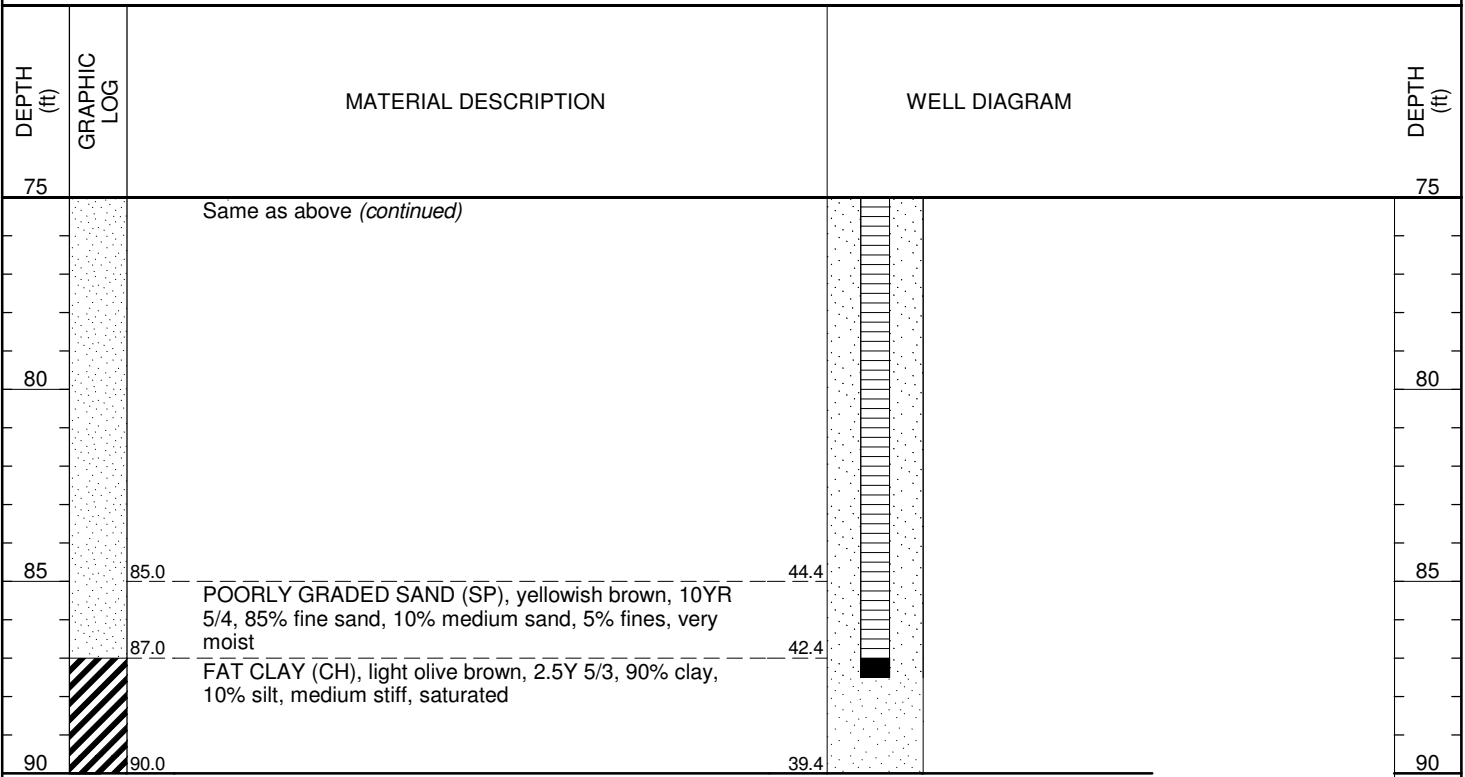


(Continued Next Page)



CLIENT United States Army Corps of Engineers **PROJECT NAME** OUCTP Evaluation Tech Memo, A-Aquifer
PROJECT NUMBER W91238-14-C-0048 **PROJECT LOCATION** Former Fort Ord, California

RBAAP NEW WELLS FORMAT - GINT STD US LAB.GDT - 9/8/15 20:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\OUCTP A-AQUIFER WELL INSTALLATIONS.GPJ

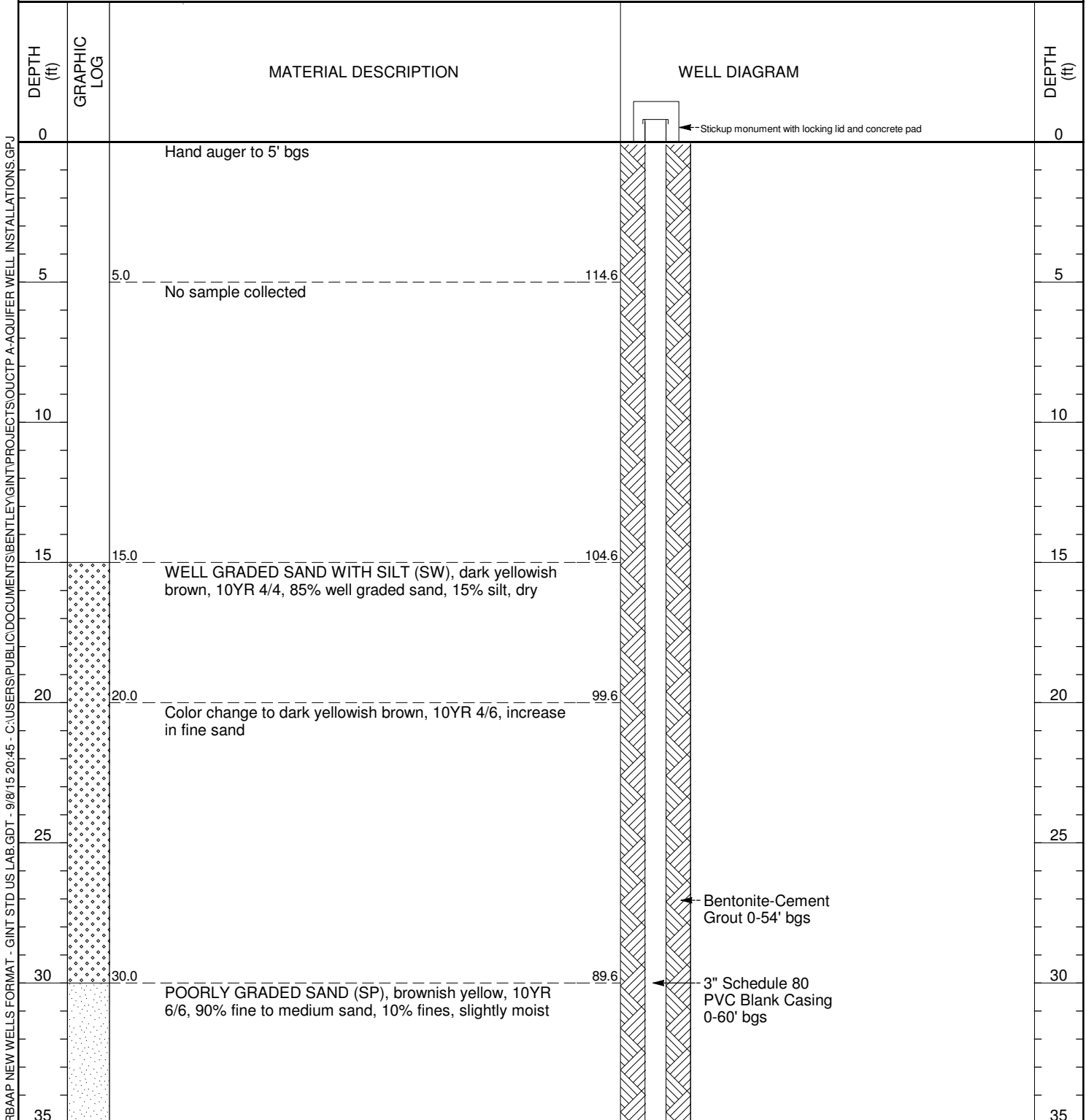


Bottom of borehole at 90.0 feet.



CLIENT United States Army Corps of Engineers
PROJECT NUMBER W91238-14-C-0048
DATE STARTED 6/9/15 **COMPLETED** 6/10/15
DRILLING CONTRACTOR National EWP
DRILLING METHOD HSA CME 75
LOGGED BY B. Carlson **CHECKED BY** B. Wilcer
NOTES Log from cuttings, drive sample at bottom

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer
PROJECT LOCATION Former Fort Ord, California
GROUND ELEVATION 119.58 ft **HOLE SIZE** 10 inches
GROUND WATER LEVELS:
AT TIME OF DRILLING 59.5' bgs
AT END OF DRILLING ---
AFTER DRILLING ---



(Continued Next Page)

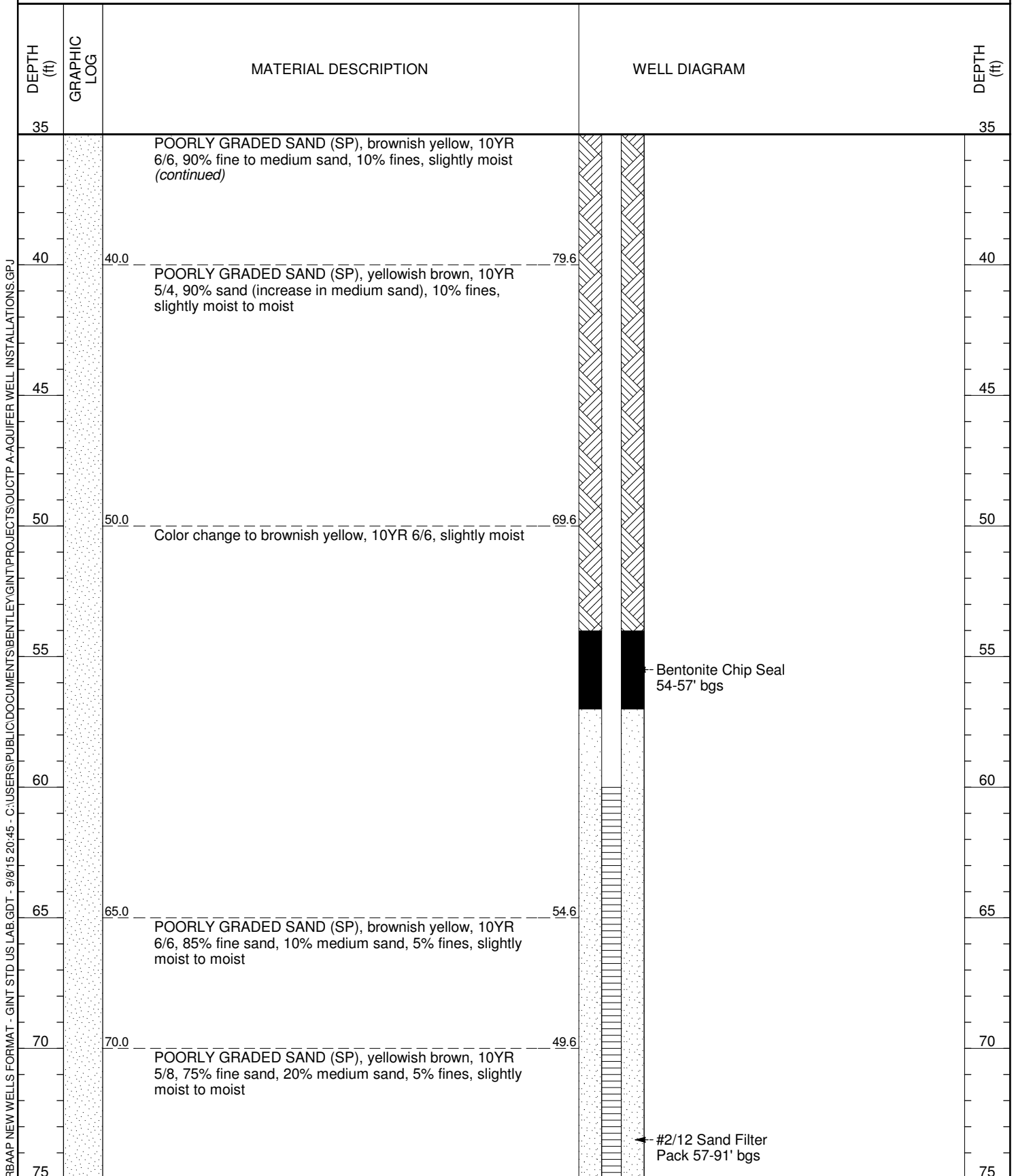


CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California



(Continued Next Page)



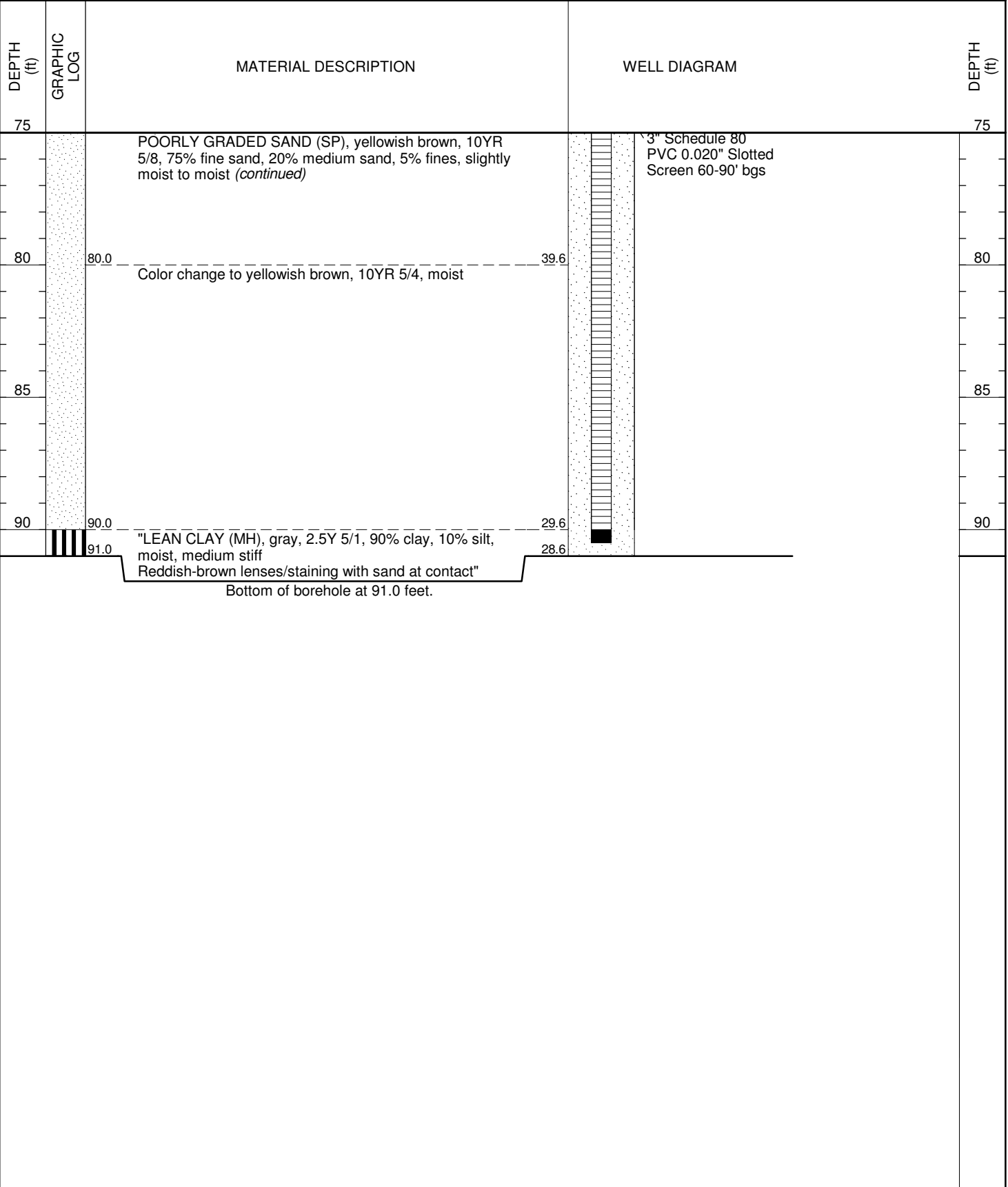
CLIENT United States Army Corps of Engineers

PROJECT NAME OUCTP Evaluation Tech Memo, A-Aquifer

PROJECT NUMBER W91238-14-C-0048

PROJECT LOCATION Former Fort Ord, California

RBAAP NEW WELLS FORMAT - GINT STD US LAB.GDT - 9/8/15 20:45 - C:\USERS\PUBLIC\DOCUMENTS\BENTLEY\GINT\PROJECTS\OUCTP A-AQUIFER WELL INSTALLATIONS.GPJ



APPENDIX D
Laboratory Analytical Reports

Technical Report for

Ahtna Environmental Inc

Evaluation Baseline FORT ORD

05055.01

Accutest Job Number: C40680

Sampling Date: 07/09/15

Report to:

**Ahtna Environmental Inc
3100 Beacon Boulevard
West Sacramento, CA 95691
hdillon@ahtna.net; jeffery.fenton@amecfw.com;
zachary.carroll@amecfw.com; mfisler@ahtna.net;
ATTN: Derek Lieberman**

Total number of pages in report: 326



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



**James J. Rhudy
Lab Director**

Client Service contact: Maureen Coloma 408-588-0200

Certifications: CA (ELAP 2910) AK (UST-092) AZ (AZ0762) NV (CA00150) OR (CA300006) WA (C925)
DoD ELAP (L-A-B L2242)

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

Table of Contents

-1-

Section 1: Sample Summary	4
Section 2: Case Narrative/Conformance Summary	8
Section 3: Summary of Hits	9
Section 4: Sample Results	14
4.1: C40680-1: 1528G0BW001F	15
4.2: C40680-2: 1528G0BW002F	16
4.3: C40680-3: 1528G0BW003F	17
4.4: C40680-4: 1528G0BW004F	18
4.5: C40680-5: 1528G0BW006C	19
4.6: C40680-6: 1528G0BW007F	20
4.7: C40680-7: 1528G0BW008F	21
4.8: C40680-8: 1528G0BW009F	22
4.9: C40680-9: 1528G0BW010D	23
4.10: C40680-10: 1528G0BW011F	24
4.11: C40680-11: 1528G0BW012F	25
4.12: C40680-12: 1528G0BW013A	26
4.13: C40680-13: 1528G0BW014F	27
4.14: C40680-14: 1528G0BW015F	28
4.15: C40680-15: 1528G0BW016F	29
4.16: C40680-16: 1528G0BW017F	30
4.17: C40680-17: 1528G0BW018F	31
4.18: C40680-19: 1528G0BW020F	32
4.19: C40680-20: 1528G0BW021F	33
4.20: C40680-21: 1528G0BW022F	34
4.21: C40680-22: 1528G0BW023F	35
4.22: C40680-23: 1528G0BW024F	36
4.23: C40680-24: 1528G0BW025F	37
4.24: C40680-25: 1528G0BW026F	38
4.25: C40680-26: 1528G0BW027F	39
4.26: C40680-27: 1528G0BW028F	40
4.27: C40680-28: 1528G0BW029F	41
4.28: C40680-29: 1528G0BW030F	42
4.29: C40680-30: 1528G0BW031F	43
4.30: C40680-31: 1528G0BW032F	44
4.31: C40680-32: 1528G0BW033F	45
4.32: C40680-33: 1528G0BW034D	46
4.33: C40680-34: 1528G0BW035F	47
4.34: C40680-35: 1528G0BW036F	48
4.35: C40680-36: 1528G0BW037F	49
4.36: C40680-37: 1528G0BW038F	50
4.37: C40680-38: 1528G0BW039D	51
4.38: C40680-39: 1528G0BW040F	52

Table of Contents

-2-

4.39: C40680-40: 1528G0BW041D	53
4.40: C40680-41: 1528G0BW042F	54
4.41: C40680-42: 1528G0BW043F	55
4.42: C40680-43: 1528G0BW044F	56
Section 5: Misc. Forms	57
5.1: Chain of Custody	58
5.2: QC Evaluation: DOD QSM5 Limits	63
Section 6: GC/MS Volatiles - QC Data Summaries	64
6.1: Method Blank Summary	65
6.2: Blank Spike Summary	68
6.3: Matrix Spike/Matrix Spike Duplicate Summary	71
6.4: Instrument Performance Checks (BFB)	74
6.5: Internal Standard Area Summaries	78
6.6: Surrogate Recovery Summaries	81
6.7: Initial and Continuing Calibration Summaries	83
Section 7: GC/MS Volatiles - Raw Data	88
7.1: Samples	89
7.2: Method Blanks	227
7.3: Blank Spikes	235
7.4: Matrix Spike/Matrix Spike Duplicates	249
7.5: Instrument Performance Checks (BFB)	277
7.6: Initial and Continuing Calibrations	285
7.7: Instrument Run Logs	323



Sample Summary

Ahtna Environmental Inc

Job No: C40680

Evaluation Baseline FORT ORD
Project No: 05055.01

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C40680-1	07/09/15	07:45 MG	07/10/15	AQ	Ground Water	1528G0BW001F
C40680-2	07/09/15	07:46 MG	07/10/15	AQ	Ground Water	1528G0BW002F
C40680-3	07/09/15	07:47 MG	07/10/15	AQ	Ground Water	1528G0BW003F
C40680-4	07/09/15	07:48 MG	07/10/15	AQ	Ground Water	1528G0BW004F
C40680-5	07/09/15	07:51 MG	07/10/15	AQ	Ground Water	1528G0BW006C
C40680-6	07/09/15	08:12 MG	07/10/15	AQ	Ground Water	1528G0BW007F
C40680-7	07/09/15	08:13 MG	07/10/15	AQ	Ground Water	1528G0BW008F
C40680-8	07/09/15	08:14 MG	07/10/15	AQ	Ground Water	1528G0BW009F
C40680-9	07/09/15	08:15 MG	07/10/15	AQ	Ground Water	1528G0BW010D
C40680-10	07/09/15	08:16 MG	07/10/15	AQ	Ground Water	1528G0BW011F
C40680-11	07/09/15	08:18 MG	07/10/15	AQ	Ground Water	1528G0BW012F
C40680-12	07/09/15	08:50 MG	07/10/15	AQ	Trip Blank Water	1528G0BW013A
C40680-13	07/09/15	09:15 MG	07/10/15	AQ	Ground Water	1528G0BW014F



Sample Summary

(continued)

Ahtna Environmental Inc

Job No: C40680

Evaluation Baseline FORT ORD
Project No: 05055.01

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C40680-14	07/09/15	09:16 MG	07/10/15	AQ	Ground Water	1528G0BW015F
C40680-15	07/09/15	09:17 MG	07/10/15	AQ	Ground Water	1528G0BW016F
C40680-16	07/09/15	09:18 MG	07/10/15	AQ	Ground Water	1528G0BW017F
C40680-17	07/09/15	09:19 MG	07/10/15	AQ	Ground Water	1528G0BW018F
C40680-19	07/09/15	09:41 MG	07/10/15	AQ	Ground Water	1528G0BW020F
C40680-20	07/09/15	09:42 MG	07/10/15	AQ	Ground Water	1528G0BW021F
C40680-21	07/09/15	09:43 MG	07/10/15	AQ	Ground Water	1528G0BW022F
C40680-22	07/09/15	09:44 MG	07/10/15	AQ	Ground Water	1528G0BW023F
C40680-23	07/09/15	09:45 MG	07/10/15	AQ	Ground Water	1528G0BW024F
C40680-24	07/09/15	10:00 MG	07/10/15	AQ	Ground Water	1528G0BW025F
C40680-25	07/09/15	10:01 MG	07/10/15	AQ	Ground Water	1528G0BW026F
C40680-26	07/09/15	10:02 MG	07/10/15	AQ	Ground Water	1528G0BW027F
C40680-27	07/09/15	10:03 MG	07/10/15	AQ	Ground Water	1528G0BW028F



Sample Summary

(continued)

Ahtna Environmental Inc

Job No: C40680

Evaluation Baseline FORT ORD
Project No: 05055.01

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C40680-28	07/09/15	10:04 MG	07/10/15	AQ	Ground Water	1528G0BW029F
C40680-29	07/09/15	10:05 MG	07/10/15	AQ	Ground Water	1528G0BW030F
C40680-30	07/09/15	10:30 MG	07/10/15	AQ	Ground Water	1528G0BW031F
C40680-31	07/09/15	10:31 MG	07/10/15	AQ	Ground Water	1528G0BW032F
C40680-32	07/09/15	10:32 MG	07/10/15	AQ	Ground Water	1528G0BW033F
C40680-33	07/09/15	10:33 MG	07/10/15	AQ	Ground Water	1528G0BW034D
C40680-34	07/09/15	10:34 MG	07/10/15	AQ	Ground Water	1528G0BW035F
C40680-35	07/09/15	10:55 MG	07/10/15	AQ	Ground Water	1528G0BW036F
C40680-36	07/09/15	10:56 MG	07/10/15	AQ	Ground Water	1528G0BW037F
C40680-37	07/09/15	10:58 MG	07/10/15	AQ	Ground Water	1528G0BW038F
C40680-38	07/09/15	10:59 MG	07/10/15	AQ	Ground Water	1528G0BW039D
C40680-39	07/09/15	11:20 MG	07/10/15	AQ	Ground Water	1528G0BW040F
C40680-40	07/09/15	11:21 MG	07/10/15	AQ	Ground Water	1528G0BW041D



Sample Summary (continued)

Ahtna Environmental Inc

Job No: C40680

Evaluation Baseline FORT ORD
Project No: 05055.01

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
C40680-41	07/09/15	11:22 MG	07/10/15	AQ	Ground Water	1528G0BW042F
C40680-42	07/09/15	11:23 MG	07/10/15	AQ	Ground Water	1528G0BW043F
C40680-43	07/09/15	11:24 MG	07/10/15	AQ	Ground Water	1528G0BW044F

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Ahtna Environmental Inc

Job No C40680

Site: Evaluation Baseline FORT ORD

Report Date 8/5/2015 4:36:26 PM

41 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 07/09/2015 and were received at Accutest on 07/10/2015 properly preserved, at 3.6 Deg. C and intact. These Samples received an Accutest job number of C40680. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report. Analysis of sample C40680-18 (1528G0BW019F) was cancelled as per client request.

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

Volatiles by GCMS By Method SW846 8260B BY SIM

Matrix: AQ

Batch ID: VQ1319

- Sample(s) C40680-1MS, C40680-1MSD were used as the QC samples indicated.

Matrix: AQ

Batch ID: VQ1320

- Sample(s) C40680-18MS, C40680-18MSD were used as the QC samples indicated.
- Sample(s) C40680-31, C40680-32 have surrogate (Toluene-D8) outside laboratory control limits.

Matrix: AQ

Batch ID: VQ1321

- Sample(s) C40680-35MS, C40680-35MSD were used as the QC samples indicated.

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

Summary of Hits

Job Number: C40680
Account: Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD
Collected: 07/09/15



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
---------------	------------------	-----------------	-----	-----	-------	--------

C40680-1 **1528G0BW001F**

No hits reported in this sample.

C40680-2 **1528G0BW002F**

No hits reported in this sample.

C40680-3 **1528G0BW003F**

No hits reported in this sample.

C40680-4 **1528G0BW004F**

Carbon tetrachloride	0.44 J	0.50	0.25	ug/l	SW846 8260B BY SIM
----------------------	--------	------	------	------	--------------------

C40680-5 **1528G0BW006C**

No hits reported in this sample.

C40680-6 **1528G0BW007F**

Chloroform	0.33 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride	1.9	0.50	0.25	ug/l	SW846 8260B BY SIM

C40680-7 **1528G0BW008F**

Chloroform	0.44 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride	2.7	0.50	0.25	ug/l	SW846 8260B BY SIM

C40680-8 **1528G0BW009F**

Chloroform	0.56	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride	3.6	0.50	0.25	ug/l	SW846 8260B BY SIM

C40680-9 **1528G0BW010D**

Chloroform	0.53	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride	3.4	0.50	0.25	ug/l	SW846 8260B BY SIM

C40680-10 **1528G0BW011F**

Chloroform	0.54	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride	3.9	0.50	0.25	ug/l	SW846 8260B BY SIM

Summary of Hits

Job Number: C40680
Account: Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD
Collected: 07/09/15



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
---------------	------------------	-----------------	-----	-----	-------	--------

C40680-11 1528G0BW012F

Chloroform	0.54	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride	3.4	0.50	0.25	ug/l	SW846 8260B BY SIM

C40680-12 1528G0BW013A

No hits reported in this sample.

C40680-13 1528G0BW014F

No hits reported in this sample.

C40680-14 1528G0BW015F

No hits reported in this sample.

C40680-15 1528G0BW016F

No hits reported in this sample.

C40680-16 1528G0BW017F

Carbon tetrachloride	0.25 J	0.50	0.25	ug/l	SW846 8260B BY SIM
----------------------	--------	------	------	------	--------------------

C40680-17 1528G0BW018F

Carbon tetrachloride	0.34 J	0.50	0.25	ug/l	SW846 8260B BY SIM
----------------------	--------	------	------	------	--------------------

C40680-19 1528G0BW020F

Carbon tetrachloride	0.20 J	0.50	0.25	ug/l	SW846 8260B BY SIM
----------------------	--------	------	------	------	--------------------

C40680-20 1528G0BW021F

Carbon tetrachloride	0.22 J	0.50	0.25	ug/l	SW846 8260B BY SIM
----------------------	--------	------	------	------	--------------------

C40680-21 1528G0BW022F

Carbon tetrachloride	0.34 J	0.50	0.25	ug/l	SW846 8260B BY SIM
----------------------	--------	------	------	------	--------------------

C40680-22 1528G0BW023F

Carbon tetrachloride	0.40 J	0.50	0.25	ug/l	SW846 8260B BY SIM
----------------------	--------	------	------	------	--------------------

Summary of Hits

Job Number: C40680
Account: Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD
Collected: 07/09/15



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
C40680-23	1528G0BW024F					
Carbon tetrachloride		0.16 J	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-24	1528G0BW025F					
No hits reported in this sample.						
C40680-25	1528G0BW026F					
No hits reported in this sample.						
C40680-26	1528G0BW027F					
No hits reported in this sample.						
C40680-27	1528G0BW028F					
Chloroform		0.19 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		0.59	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-28	1528G0BW029F					
Chloroform		0.57	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		2.1	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-29	1528G0BW030F					
Chloroform		0.14 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		0.19 J	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-30	1528G0BW031F					
Chloroform		0.30 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		0.29 J	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-31	1528G0BW032F					
Chloroform		0.31 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		0.29 J	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-32	1528G0BW033F					
Chloroform		0.52	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		0.60	0.50	0.25	ug/l	SW846 8260B BY SIM

Summary of Hits

Job Number: C40680
Account: Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD
Collected: 07/09/15



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
C40680-33	1528G0BW034D					
Chloroform		0.50	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		0.57	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-34	1528G0BW035F					
Chloroform		0.53	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		0.65	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-35	1528G0BW036F					
Carbon tetrachloride		0.41 J	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-36	1528G0BW037F					
Carbon tetrachloride		0.44 J	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-37	1528G0BW038F					
Chloroform		0.19 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		2.1	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-38	1528G0BW039D					
Chloroform		0.19 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		2.1	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-39	1528G0BW040F					
Chloroform		0.24 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		2.3	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-40	1528G0BW041D					
Chloroform		0.24 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		2.3	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-41	1528G0BW042F					
Chloroform		0.28 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		2.8	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		0.11 J	0.50	0.25	ug/l	SW846 8260B BY SIM

Summary of Hits

Job Number: C40680
Account: Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD
Collected: 07/09/15



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
C40680-42	1528G0BW043F					
Chloroform		0.27 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		2.7	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		0.11 J	0.50	0.25	ug/l	SW846 8260B BY SIM
C40680-43	1528G0BW044F					
Chloroform		0.27 J	0.50	0.25	ug/l	SW846 8260B BY SIM
Carbon tetrachloride		2.7	0.50	0.25	ug/l	SW846 8260B BY SIM
Trichloroethylene		0.11 J	0.50	0.25	ug/l	SW846 8260B BY SIM

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	1528G0BW001F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-1	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30344.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	102%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW002F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-2	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30345.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	102%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW003F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-3	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30346.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	102%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW004F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-4	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30347.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.44	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	101%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW006C	Date Sampled:	07/09/15
Lab Sample ID:	C40680-5	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30350.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	101%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW007F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-6	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30351.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.33	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	1.9	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-119%
2037-26-5	Toluene-D8	98%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW008F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-7	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30352.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.44	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	2.7	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	97%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW009F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-8	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30353.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.56	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	3.6	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	99%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW010D	Date Sampled:	07/09/15
Lab Sample ID:	C40680-9	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30354.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.53	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	3.4	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	99%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW011F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-10	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30355.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.54	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	3.9	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-119%
2037-26-5	Toluene-D8	97%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW012F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-11	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30356.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.54	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	3.4	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-119%
2037-26-5	Toluene-D8	97%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW013A	Date Sampled:	07/09/15
Lab Sample ID:	C40680-12	Date Received:	07/10/15
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30343.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		76-119%
2037-26-5	Toluene-D8	103%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW014F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-13	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30357.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		76-119%
2037-26-5	Toluene-D8	99%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW015F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-14	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30358.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		76-119%
2037-26-5	Toluene-D8	95%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW016F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-15	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30359.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-119%
2037-26-5	Toluene-D8	91%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW017F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-16	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30360.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	93%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW018F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-17	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30361.D	1	07/20/15	EA	n/a	n/a	VQ1319
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.34	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	94%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW020F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-19	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30370.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.20	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-119%
2037-26-5	Toluene-D8	100%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW021F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-20	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30371.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.22	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		76-119%
2037-26-5	Toluene-D8	100%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW022F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-21	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30372.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.34	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	97%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW023F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-22	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30373.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.40	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		76-119%
2037-26-5	Toluene-D8	98%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW024F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-23	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30376.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.16	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	96%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW025F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-24	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30377.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-119%
2037-26-5	Toluene-D8	95%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW026F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-25	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30378.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	95%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW027F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-26	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30379.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-119%
2037-26-5	Toluene-D8	92%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW028F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-27	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30380.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.19	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	0.59	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		76-119%
2037-26-5	Toluene-D8	92%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW029F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-28	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30381.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.57	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	2.1	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	91%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW030F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-29	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30368.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.14	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	0.19	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	100%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW031F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-30	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30382.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.30	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	0.29	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	91%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW032F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-31	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30383.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.31	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	0.29	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	87% ^a		89-112%

(a) Outside laboratory control limits.

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW033F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-32	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30384.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.52	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.60	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		76-119%
2037-26-5	Toluene-D8	87% ^a		89-112%

(a) Outside laboratory control limits.

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW034D	Date Sampled:	07/09/15
Lab Sample ID:	C40680-33	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30385.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.50	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.57	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		76-119%
2037-26-5	Toluene-D8	89%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW035F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-34	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30386.D	1	07/21/15	EA	n/a	n/a	VQ1320
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.53	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.65	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	89%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW036F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-35	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30394.D	1	07/22/15	TN	n/a	n/a	VQ1321
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.41	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		76-119%
2037-26-5	Toluene-D8	98%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW037F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-36	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30395.D	1	07/22/15	TN	n/a	n/a	VQ1321
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.44	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	99%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW038F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-37	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30396.D	1	07/22/15	TN	n/a	n/a	VQ1321
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.19	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	2.1	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	98%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW039D	Date Sampled:	07/09/15
Lab Sample ID:	C40680-38	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30397.D	1	07/22/15	TN	n/a	n/a	VQ1321
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.19	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	2.1	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	95%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW040F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-39	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30398.D	1	07/22/15	TN	n/a	n/a	VQ1321
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.24	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	2.3	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	96%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW041D	Date Sampled:	07/09/15
Lab Sample ID:	C40680-40	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30399.D	1	07/22/15	TN	n/a	n/a	VQ1321
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.24	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	2.3	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	98%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW042F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-41	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30400.D	1	07/22/15	TN	n/a	n/a	VQ1321
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.28	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	2.8	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.11	0.50	0.25	0.10	ug/l	J
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	96%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW043F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-42	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30401.D	1	07/22/15	TN	n/a	n/a	VQ1321
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.27	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	2.7	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.11	0.50	0.25	0.10	ug/l	J
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		76-119%
2037-26-5	Toluene-D8	96%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1528G0BW044F	Date Sampled:	07/09/15
Lab Sample ID:	C40680-43	Date Received:	07/10/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30402.D	1	07/22/15	TN	n/a	n/a	VQ1321
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.27	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	2.7	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.11	0.50	0.25	0.10	ug/l	J
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	94%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits

FedEx # 807455843333

C40680

Ahtna

296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

WATER / SOIL

Chain of Custody #: 2125
Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:										Analysis Requested										Lab Sample Receipt	
Project Location: <u>Fort Ord</u>					Sampler/s: <u>M. Gehrke, I.A. Mauck</u>															Laboratory Sample Delivery	
Project Name: <u>DUCIP A-Aquifer</u>					Report To: <u>Derek Lieberman</u>															Group #:	
Project Number: <u>OSOSS_01</u>					E-Mail: <u>dlieberman@ahтна.net</u>															Custody Seal: <u>Yes</u>	
Sampling Event: <u>Evaluation Baseline</u>					Laboratory: <u>ACCUTEST</u>															Temp (°C): <u>3.7-0.1=3.7</u>	
Lab Number	Sample Collection		Matrix			Number of Preserved Bottles										Notes					
	Sample Number/Description	Date	Time	Water	Soil	Other	Total # of Bottles	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	NaFSG*	None	Other						
1	1528G08W001F	7/1/15	0745	X			3									X					
2	1528G08W002F		0746	X			3									X					
3	1528G08W003F		0747	X			3									X					
4	1528G08W004F		0748	X			3									X					
	1528G08W005F		0749	X			3									X	All vials broken upon receipt.				
5	1528G08W006C		0751	X			3									X					
6	1528G08W007F		0812	X			3									X					
7	1528G08W008F		0813	X			3									X					
8	1528G08W009F		0814	X			3									X					
9	1528G08W010D		0815	X			3									X					
10	1528G08W011F		0816	X			3									X					
11	1528G08W012F		0818	X			3									X					
12	1528G08W013A		0850	X			3									X					
13	1528G08W014F		0915	X			3									X					
14	1528G08W015F		0916	X			3									X					

8000 SIMS
DUCIP List

Turnaround Time: Standard : 3-5 Day Rush : 48 Hour Rush : 24 Hour Rush

Shipment: Method: Tracking ID:

Comments:

Chain of Custody Tracking:

Relinquished By Sampler: <u>[Signature]</u>	Date/Time: <u>7/1/15 1245</u>	Received By: <u>FedEx</u>	Date/Time:
Relinquished By: <u>FedEx</u>	Date/Time:	Received By: <u>[Signature]</u>	Date/Time: <u>7/16/15 9:45</u>
Relinquished By:	Date/Time:	Received By Laboratory:	Date/Time:

TEMP: 3.7

C40680: Chain of Custody

Page 1 of 5

5.1
5

FedEx# 80795584333

C40680

Ahtna

296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

WATER / SOIL

Chain of Custody #: 2126
Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:													Analysis Requested						Lab Sample Receipt		
Project Location: <u>FORT ORD</u>						Sampler/s: <u>M. Getzke, A. Mauck</u>												Laboratory Sample Delivery			
Project Name: <u>OUCTP A- Aguijes</u>						Report To: <u>Deack Lieberman</u>												Group #:			
Project Number: <u>05055.01</u>						E-Mail: <u>dlieberman@ahntna.net</u>												Custody Seal:			
Sampling Event: <u>Evaluation Baseline</u>						Laboratory: <u>Accutest</u>												Temp (°C):			
Lab Number	Sample Collection		Matrix			Number of Preserved Bottles											Notes				
	Sample Number/Description	Date	Time	Water	Soil	Other	Total # of Bottles	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	HexACO	None	Other						
15	1528 G08W016F	7/9/15	0917	X			3									X					
16	1528 G08W017F		0918	X			3									X					
17	1528 G08W018F		0919	X			3									X					
18	1528 G08W019F		0940	X			3									X					
19	1528 G08W020F		0941	X			3									X					
20	1528 G08W021F		0942	X			3									X					
21	1528 G08W022F		0943	X			3									X					
22	1528 G08W023F		0944	X			3									X					
23	1528 G08W024F		0945	X			3									X					
24	1528 G08W025F		1000	X			3									X					
25	1528 G08W026F		1001	X			3									X					
26	1528 G08W027F		1002	X			3									X					
27	1528 G08W028F		1003	X			3									X					
28	1528 G08W029F		1004	X			3									X					
29	1528 G08W030F		1005	X			2									X					

8260 SIM
OUCTP-A-List

2 vials broken upon receipt

Turnaround Time: Standard : 3-5 Day Rush : 48 Hour Rush : 24 Hour Rush Shipment: Method: Tracking ID:

Comments:

Chain of Custody Tracking:

Relinquished By: <u>MJ AMW</u>	Date/Time: <u>7/9/15 1245</u>	Received By: <u>FedEx</u>	Date/Time:
Relinquished By: <u>FedEx</u>	Date/Time: <u>7/10/15 9:45</u>	Received By: <u>Milke/Handford</u>	Date/Time: <u>7/10/15 9:45</u>
Relinquished By:	Date/Time:	Received By Laboratory:	Date/Time:

5.1
5

C40680: Chain of Custody

Page 2 of 5

FedEx # 807955893333

C40680



296 12th St
Marina, CA 93933
(831) 384-3735

CHAIN OF CUSTODY

WATER / SOIL

Chain of Custody #: 2127

Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:				Analysis Requested								Lab Sample Receipt	
Project Location: <u>FORT ORD</u>		Sampler/s: <u>M. Gehrke / A. Mauck</u>										Laboratory Sample Delivery	
Project Name: <u>OUCIP A - Aquifer</u>		Report To: <u>Derek Lieberman</u>										Group #: _____	
Project Number: <u>05055.01</u>		E-Mail: <u>dliberman@ahntna.net</u>										Custody Seal: _____	
Sampling Event: <u>Evaluation Baseline</u>		Laboratory: <u>Accutest</u>										Temp (°C): _____	

8260 SIMS
OUCIP-A LIST

Lab Number	Sample Number/Description	Sample Collection		Matrix			Total # of Bottles	Number of Preserved Bottles										Notes	
		Date	Time	Water	Soil	Other		HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	HexISO*	None	Other				
30	1528G ØBW Ø31F	7/9/15	1030	X			3											X	
31	1528G ØBW Ø32F		1031	X			3											X	
32	1528G ØBW Ø33F		1032	X			3											X	
33	1528G ØBW Ø34D		1033	X			3											X	
34	1528G ØBW Ø35F		1034	X			3											X	
35	1528G ØBW Ø36F		1055	X			3											X	
36	1528G ØBW Ø37F		1056	X			3											X	
37	1528G ØBW Ø38F		1058	X			3											X	
38	1528G ØBW Ø39D		1059	X			3											X	
39	1528G ØBW Ø40F		1120	X			3											X	
40	1528G ØBW Ø41D		1121	X			3											X	
41	1528G ØBW Ø42F		1122	X			3											X	
42	1528G ØBW Ø43F		1123	X			3											X	
43	1528G ØBW Ø44F		1124	X			3											X	

Turnaround Times: Standard : 3-5 Day Rush : 48 Hour Rush : 24 Hour Rush Shipment Method: _____ Tracking ID: _____

Comments: _____

Chain of Custody Tracking:			
Relinquished By Sampler: <u>[Signature]</u>	Date/Time: <u>7/9/15 1245</u>	Received By: <u>FedEx</u>	Date/Time: _____
Relinquished By: <u>[Signature]</u>	Date/Time: _____	Received By: <u>[Signature]</u>	Date/Time: <u>7/10/15 9:45</u>
Relinquished By: _____	Date/Time: _____	Received By Laboratory: _____	Date/Time: _____

5.1
5



Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C40680 **Client:** AHTNA **Project:** FORT ORD
Date / Time Received: 7/10/2015 9:45:00 AM **Delivery Method:** FedEx **Airbill #'s:** 807955843333

Cooler Temps (Initial/Adjusted): #1: (3.7/3.6):

<u>Cooler Security</u>		<u>Y</u>	<u>or</u>	<u>N</u>			<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>		3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>		4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>	

<u>Cooler Temperature</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Cooler temp verification:	IR Gun			
3. Cooler media:	Ice (Bag)			
4. No. Coolers	1			

<u>Quality Control Preservation</u>	<u>Y</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. VOCs headspace free:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Documentation</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	

<u>Sample Integrity - Condition</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
3. Condition of sample:	Broken / Leaking			

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments 1528G0BW005F all 3 vials were broken upon receipt.
 1528G0BW030F 2 vials were broken upon receipt.

5.1
5



Sample Receipt Summary - Problem Resolution

Accutest Job Number: C40680

CSR: Elvin Kumar

Response Date: 7/10/2015

Response: Client will re-sample sample 1528G0BW005F
**Ok to proceed with Sample 1528G0BW030F with Limited Volume (1-Vial w/HCL Only)

QC Evaluation: DOD QSM5 Limits

Job Number: C40680
Account: Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD
Collected: 07/09/15

QC Sample ID	CAS#	Analyte	Sample Result Type	Result Type	Units	Limits
--------------	------	---------	--------------------	-------------	-------	--------

No Exceptions found.

* Sample used for QC is not from job C40680

5.2
5

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ1319-MB	Q30342.D	1	07/20/15	EA	n/a	n/a	VQ1319

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C40680-1, C40680-2, C40680-3, C40680-4, C40680-5, C40680-6, C40680-7, C40680-8, C40680-9, C40680-10, C40680-11, C40680-12, C40680-13, C40680-14, C40680-15, C40680-16, C40680-17

CAS No.	Compound	Result	RL	MDL	Units	Q
67-66-3	Chloroform	ND	0.50	0.10	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.10	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.10	ug/l	
75-01-4	Vinyl chloride	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	98%	76-119%
2037-26-5	Toluene-D8	104%	89-112%

Method Blank Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ1320-MB	Q30367.D	1	07/21/15	EA	n/a	n/a	VQ1320

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C40680-19, C40680-20, C40680-21, C40680-22, C40680-23, C40680-24, C40680-25, C40680-26, C40680-27, C40680-28, C40680-29, C40680-30, C40680-31, C40680-32, C40680-33, C40680-34

CAS No.	Compound	Result	RL	MDL	Units	Q
67-66-3	Chloroform	ND	0.50	0.10	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.10	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.10	ug/l	
75-01-4	Vinyl chloride	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	98%	76-119%
2037-26-5	Toluene-D8	104%	89-112%

Method Blank Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ1321-MB	Q30391.D	1	07/22/15	TN	n/a	n/a	VQ1321

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C40680-35, C40680-36, C40680-37, C40680-38, C40680-39, C40680-40, C40680-41, C40680-42, C40680-43

CAS No.	Compound	Result	RL	MDL	Units	Q
67-66-3	Chloroform	ND	0.50	0.10	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.10	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.10	ug/l	
75-01-4	Vinyl chloride	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	98%	76-119%
2037-26-5	Toluene-D8	103%	89-112%

Blank Spike Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ1319-BS	Q30341.D	1	07/20/15	EA	n/a	n/a	VQ1319

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C40680-1, C40680-2, C40680-3, C40680-4, C40680-5, C40680-6, C40680-7, C40680-8, C40680-9, C40680-10, C40680-11, C40680-12, C40680-13, C40680-14, C40680-15, C40680-16, C40680-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-66-3	Chloroform	10	8.3	83	71-128
56-23-5	Carbon tetrachloride	10	8.6	86	69-131
75-35-4	1,1-Dichloroethylene	10	7.9	79	67-114
540-59-0	1,2-Dichloroethene (total)	20	16.1	81	72-120
75-09-2	Methylene chloride	10	8.3	83	67-130
127-18-4	Tetrachloroethylene	10	8.6	86	66-126
79-01-6	Trichloroethylene	10	8.2	82	66-126
75-01-4	Vinyl chloride	0.25	0.21	84	61-164

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	76-119%
2037-26-5	Toluene-D8	103%	89-112%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ1320-BS	Q30366.D	1	07/21/15	EA	n/a	n/a	VQ1320

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C40680-19, C40680-20, C40680-21, C40680-22, C40680-23, C40680-24, C40680-25, C40680-26, C40680-27, C40680-28, C40680-29, C40680-30, C40680-31, C40680-32, C40680-33, C40680-34

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-66-3	Chloroform	10	8.1	81	71-128
56-23-5	Carbon tetrachloride	10	8.6	86	69-131
75-35-4	1,1-Dichloroethylene	10	7.8	78	67-114
540-59-0	1,2-Dichloroethene (total)	20	16.3	82	72-120
75-09-2	Methylene chloride	10	8.7	87	67-130
127-18-4	Tetrachloroethylene	10	8.5	85	66-126
79-01-6	Trichloroethylene	10	8.0	80	66-126
75-01-4	Vinyl chloride	0.25	0.23	92	61-164

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	76-119%
2037-26-5	Toluene-D8	103%	89-112%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ1321-BS	Q30392.D	1	07/22/15	TN	n/a	n/a	VQ1321

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C40680-35, C40680-36, C40680-37, C40680-38, C40680-39, C40680-40, C40680-41, C40680-42, C40680-43

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-66-3	Chloroform	10	8.4	84	71-128
56-23-5	Carbon tetrachloride	10	8.9	89	69-131
75-35-4	1,1-Dichloroethylene	10	8.2	82	67-114
540-59-0	1,2-Dichloroethene (total)	20	16.8	84	72-120
75-09-2	Methylene chloride	10	8.8	88	67-130
127-18-4	Tetrachloroethylene	10	8.9	89	66-126
79-01-6	Trichloroethylene	10	8.4	84	66-126
75-01-4	Vinyl chloride	0.25	0.18	72	61-164

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	76-119%
2037-26-5	Toluene-D8	103%	89-112%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C40680-1MS	Q30348.D	1	07/20/15	EA	n/a	n/a	VQ1319
C40680-1MSD	Q30349.D	1	07/20/15	EA	n/a	n/a	VQ1319
C40680-1	Q30344.D	1	07/20/15	EA	n/a	n/a	VQ1319

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C40680-1, C40680-2, C40680-3, C40680-4, C40680-5, C40680-6, C40680-7, C40680-8, C40680-9, C40680-10, C40680-11, C40680-12, C40680-13, C40680-14, C40680-15, C40680-16, C40680-17

CAS No.	Compound	C40680-1 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-66-3	Chloroform	0.50 U	10	8.8	88	10	8.9	89	1	71-128/20
56-23-5	Carbon tetrachloride	0.50 U	10	9.8	98	10	9.7	97	1	69-131/20
75-35-4	1,1-Dichloroethylene	0.50 U	10	9.1	91	10	9.2	92	1	67-114/20
540-59-0	1,2-Dichloroethene (total)	1.0 U	20	17.9	90	20	17.9	90	0	72-120/20
75-09-2	Methylene chloride	2.0 U	10	8.7	87	10	8.7	87	0	67-130/20
127-18-4	Tetrachloroethylene	0.50 U	10	9.7	97	10	9.6	96	1	66-126/20
79-01-6	Trichloroethylene	0.50 U	10	9.0	90	10	9.0	90	0	66-126/20
75-01-4	Vinyl chloride	0.10 U	0.25	0.21	84	0.25	0.20	80	5	61-164/20

CAS No.	Surrogate Recoveries	MS	MSD	C40680-1	Limits
1868-53-7	Dibromofluoromethane	98%	99%	97%	76-119%
2037-26-5	Toluene-D8	102%	102%	102%	89-112%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C40680-18MS	Q30374.D	1	07/21/15	EA	n/a	n/a	VQ1320
C40680-18MSD	Q30375.D	1	07/21/15	EA	n/a	n/a	VQ1320
C40680-18 ^a	Q30369.D	1	07/21/15	EA	n/a	n/a	VQ1320

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C40680-19, C40680-20, C40680-21, C40680-22, C40680-23, C40680-24, C40680-25, C40680-26, C40680-27, C40680-28, C40680-29, C40680-30, C40680-31, C40680-32, C40680-33, C40680-34

CAS No.	Compound	C40680-18 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-66-3	Chloroform	0.50 U	10	8.6	86	10	8.8	88	2	71-128/20
56-23-5	Carbon tetrachloride	0.50 U	10	9.6	96	10	9.8	98	2	69-131/20
75-35-4	1,1-Dichloroethylene	0.50 U	10	8.9	89	10	9.0	90	1	67-114/20
540-59-0	1,2-Dichloroethene (total)	1.0 U	20	17.5	88	20	17.9	90	2	72-120/20
75-09-2	Methylene chloride	2.0 U	10	8.5	85	10	8.7	87	2	67-130/20
127-18-4	Tetrachloroethylene	0.50 U	10	9.6	96	10	9.8	98	2	66-126/20
79-01-6	Trichloroethylene	0.50 U	10	8.8	88	10	8.9	89	1	66-126/20
75-01-4	Vinyl chloride	0.10 U	0.25	0.20	80	0.25	0.19	76	5	61-164/20

CAS No.	Surrogate Recoveries	MS	MSD	C40680-18	Limits
1868-53-7	Dibromofluoromethane	98%	97%		76-119%
2037-26-5	Toluene-D8	100%	100%		89-112%

(a) Sample used for QC purposes only.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C40680-35MS	Q30410.D	1	07/22/15	TN	n/a	n/a	VQ1321
C40680-35MSD	Q30411.D	1	07/22/15	TN	n/a	n/a	VQ1321
C40680-35	Q30394.D	1	07/22/15	TN	n/a	n/a	VQ1321

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C40680-35, C40680-36, C40680-37, C40680-38, C40680-39, C40680-40, C40680-41, C40680-42, C40680-43

CAS No.	Compound	C40680-35 ug/l	Spike Q ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-66-3	Chloroform	0.50 U	10	9.6	96	10	9.7	97	1	71-128/20
56-23-5	Carbon tetrachloride	0.41	J 10	11.1	107	10	11.0	106	1	69-131/20
75-35-4	1,1-Dichloroethylene	0.50 U	10	10.2	102	10	10.3	103	1	67-114/20
540-59-0	1,2-Dichloroethene (total)	1.0 U	20	19.7	99	20	20.0	100	2	72-120/20
75-09-2	Methylene chloride	2.0 U	10	9.6	96	10	9.8	98	2	67-130/20
127-18-4	Tetrachloroethylene	0.50 U	10	10.6	106	10	10.5	105	1	66-126/20
79-01-6	Trichloroethylene	0.50 U	10	9.7	97	10	9.9	99	2	66-126/20
75-01-4	Vinyl chloride	0.10 U	10	10.3	103	10	10.3	103	0	61-164/20

CAS No.	Surrogate Recoveries	MS	MSD	C40680-35	Limits
1868-53-7	Dibromofluoromethane	98%	99%	96%	76-119%
2037-26-5	Toluene-D8	99%	100%	98%	89-112%

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample: VQ1318-BFB	Injection Date: 07/19/15
Lab File ID: Q30326.D	Injection Time: 10:57
Instrument ID: GCMSQ	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	445415	19.6	Pass
75	30.0 - 60.0% of mass 95	1116513	49.0	Pass
95	Base peak, 100% relative abundance	2276693	100.0	Pass
96	5.0 - 9.0% of mass 95	152469	6.70	Pass
173	Less than 2.0% of mass 174	10595	0.47 (0.64) ^a	Pass
174	50.0 - 100.0% of mass 95	1667584	73.2	Pass
175	5.0 - 9.0% of mass 174	121088	5.32 (7.26) ^a	Pass
176	95.0 - 101.0% of mass 174	1613824	70.9 (96.8) ^a	Pass
177	5.0 - 9.0% of mass 176	106597	4.68 (6.61) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VQ1318-IC1318	Q30328.D	07/19/15	11:43	00:46	Initial cal 0.1
VQ1318-IC1318	Q30329.D	07/19/15	12:13	01:16	Initial cal 0.25
VQ1318-IC1318	Q30330.D	07/19/15	12:44	01:47	Initial cal 0.5
VQ1318-IC1318	Q30331.D	07/19/15	13:15	02:18	Initial cal 1
VQ1318-IC1318	Q30332.D	07/19/15	13:45	02:48	Initial cal 2
VQ1318-IC1318	Q30333.D	07/19/15	14:16	03:19	Initial cal 5
VQ1318-ICC1318	Q30334.D	07/19/15	14:47	03:50	Initial cal 10
VQ1318-IC1318	Q30335.D	07/19/15	15:18	04:21	Initial cal 15
VQ1318-ICV1318	Q30337.D	07/19/15	16:20	05:23	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample: VQ1319-BFB	Injection Date: 07/20/15
Lab File ID: Q30339.D	Injection Time: 10:41
Instrument ID: GCMSQ	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	374860	19.7	Pass
75	30.0 - 60.0% of mass 95	933288	49.0	Pass
95	Base peak, 100% relative abundance	1905152	100.0	Pass
96	5.0 - 9.0% of mass 95	126936	6.66	Pass
173	Less than 2.0% of mass 174	8880	0.47 (0.63) ^a	Pass
174	50.0 - 100.0% of mass 95	1409024	74.0	Pass
175	5.0 - 9.0% of mass 174	101979	5.35 (7.24) ^a	Pass
176	95.0 - 101.0% of mass 174	1363797	71.6 (96.8) ^a	Pass
177	5.0 - 9.0% of mass 176	90383	4.74 (6.63) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VQ1319-CC1318	Q30340.D	07/20/15	10:59	00:18	Continuing cal 10
VQ1319-BS	Q30341.D	07/20/15	11:30	00:49	Blank Spike
VQ1319-MB	Q30342.D	07/20/15	12:01	01:20	Method Blank
C40680-12	Q30343.D	07/20/15	12:31	01:50	1528G0BW013A
C40680-1	Q30344.D	07/20/15	13:01	02:20	1528G0BW001F
C40680-2	Q30345.D	07/20/15	13:32	02:51	1528G0BW002F
C40680-3	Q30346.D	07/20/15	14:03	03:22	1528G0BW003F
C40680-4	Q30347.D	07/20/15	14:33	03:52	1528G0BW004F
C40680-1MS	Q30348.D	07/20/15	15:04	04:23	Matrix Spike
C40680-1MSD	Q30349.D	07/20/15	15:34	04:53	Matrix Spike Duplicate
C40680-5	Q30350.D	07/20/15	16:05	05:24	1528G0BW006C
C40680-6	Q30351.D	07/20/15	16:35	05:54	1528G0BW007F
C40680-7	Q30352.D	07/20/15	17:05	06:24	1528G0BW008F
C40680-8	Q30353.D	07/20/15	17:36	06:55	1528G0BW009F
C40680-9	Q30354.D	07/20/15	18:07	07:26	1528G0BW010D
C40680-10	Q30355.D	07/20/15	18:37	07:56	1528G0BW011F
C40680-11	Q30356.D	07/20/15	19:08	08:27	1528G0BW012F
C40680-13	Q30357.D	07/20/15	19:39	08:58	1528G0BW014F
C40680-14	Q30358.D	07/20/15	20:09	09:28	1528G0BW015F
C40680-15	Q30359.D	07/20/15	20:40	09:59	1528G0BW016F
C40680-16	Q30360.D	07/20/15	21:10	10:29	1528G0BW017F
C40680-17	Q30361.D	07/20/15	21:41	11:00	1528G0BW018F
VQ1319-CC1318	Q30362.D	07/20/15	22:12	11:31	Continuing cal 10

Instrument Performance Check (BFB)

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample: VQ1320-BFB	Injection Date: 07/21/15
Lab File ID: Q30364.D	Injection Time: 09:45
Instrument ID: GCMSQ	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	355248	19.3	Pass
75	30.0 - 60.0% of mass 95	888906	48.3	Pass
95	Base peak, 100% relative abundance	1838763	100.0	Pass
96	5.0 - 9.0% of mass 95	124603	6.78	Pass
173	Less than 2.0% of mass 174	8661	0.47 (0.63) ^a	Pass
174	50.0 - 100.0% of mass 95	1372160	74.6	Pass
175	5.0 - 9.0% of mass 174	98416	5.35 (7.17) ^a	Pass
176	95.0 - 101.0% of mass 174	1320789	71.8 (96.3) ^a	Pass
177	5.0 - 9.0% of mass 176	87333	4.75 (6.61) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VQ1320-CC1318	Q30365.D	07/21/15	10:04	00:19	Continuing cal 10
VQ1320-BS	Q30366.D	07/21/15	10:35	00:50	Blank Spike
VQ1320-MB	Q30367.D	07/21/15	11:05	01:20	Method Blank
C40680-29	Q30368.D	07/21/15	11:36	01:51	1528G0BW030F
C40680-18	Q30369.D	07/21/15	12:07	02:22	1528G0BW019F
C40680-19	Q30370.D	07/21/15	12:38	02:53	1528G0BW020F
C40680-20	Q30371.D	07/21/15	13:09	03:24	1528G0BW021F
C40680-21	Q30372.D	07/21/15	13:39	03:54	1528G0BW022F
C40680-22	Q30373.D	07/21/15	14:10	04:25	1528G0BW023F
C40680-18MS	Q30374.D	07/21/15	14:41	04:56	Matrix Spike
C40680-18MSD	Q30375.D	07/21/15	15:12	05:27	Matrix Spike Duplicate
C40680-23	Q30376.D	07/21/15	15:42	05:57	1528G0BW024F
C40680-24	Q30377.D	07/21/15	16:13	06:28	1528G0BW025F
C40680-25	Q30378.D	07/21/15	16:44	06:59	1528G0BW026F
C40680-26	Q30379.D	07/21/15	17:15	07:30	1528G0BW027F
C40680-27	Q30380.D	07/21/15	17:46	08:01	1528G0BW028F
C40680-28	Q30381.D	07/21/15	18:16	08:31	1528G0BW029F
C40680-30	Q30382.D	07/21/15	18:46	09:01	1528G0BW031F
C40680-31	Q30383.D	07/21/15	19:17	09:32	1528G0BW032F
C40680-32	Q30384.D	07/21/15	19:48	10:03	1528G0BW033F
C40680-33	Q30385.D	07/21/15	20:18	10:33	1528G0BW034D
C40680-34	Q30386.D	07/21/15	20:49	11:04	1528G0BW035F
VQ1320-CC1318	Q30387.D	07/21/15	21:20	11:35	Continuing cal 10

Instrument Performance Check (BFB)

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample: VQ1321-BFB	Injection Date: 07/22/15
Lab File ID: Q30389.D	Injection Time: 09:26
Instrument ID: GCMSQ	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	377024	18.6	Pass
75	30.0 - 60.0% of mass 95	962133	47.6	Pass
95	Base peak, 100% relative abundance	2022741	100.0	Pass
96	5.0 - 9.0% of mass 95	135453	6.70	Pass
173	Less than 2.0% of mass 174	9502	0.47 (0.60) ^a	Pass
174	50.0 - 100.0% of mass 95	1588907	78.6	Pass
175	5.0 - 9.0% of mass 174	113067	5.59 (7.12) ^a	Pass
176	95.0 - 101.0% of mass 174	1538901	76.1 (96.9) ^a	Pass
177	5.0 - 9.0% of mass 176	101024	4.99 (6.56) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VQ1321-CC1318	Q30390.D	07/22/15	09:40	00:14	Continuing cal 10
VQ1321-MB	Q30391.D	07/22/15	10:23	00:57	Method Blank
VQ1321-BS	Q30392.D	07/22/15	10:54	01:28	Blank Spike
ZZZZZZ	Q30393.D	07/22/15	11:25	01:59	(unrelated sample)
C40680-35	Q30394.D	07/22/15	11:56	02:30	1528G0BW036F
C40680-36	Q30395.D	07/22/15	12:26	03:00	1528G0BW037F
C40680-37	Q30396.D	07/22/15	12:57	03:31	1528G0BW038F
C40680-38	Q30397.D	07/22/15	13:27	04:01	1528G0BW039D
C40680-39	Q30398.D	07/22/15	13:59	04:33	1528G0BW040F
C40680-40	Q30399.D	07/22/15	14:29	05:03	1528G0BW041D
C40680-41	Q30400.D	07/22/15	15:00	05:34	1528G0BW042F
C40680-42	Q30401.D	07/22/15	15:31	06:05	1528G0BW043F
C40680-43	Q30402.D	07/22/15	16:01	06:35	1528G0BW044F
ZZZZZZ	Q30403.D	07/22/15	16:32	07:06	(unrelated sample)
ZZZZZZ	Q30404.D	07/22/15	17:03	07:37	(unrelated sample)
ZZZZZZ	Q30405.D	07/22/15	17:34	08:08	(unrelated sample)
ZZZZZZ	Q30406.D	07/22/15	18:04	08:38	(unrelated sample)
ZZZZZZ	Q30407.D	07/22/15	18:35	09:09	(unrelated sample)
C40680-35MS	Q30410.D	07/22/15	20:08	10:42	Matrix Spike
C40680-35MSD	Q30411.D	07/22/15	20:39	11:13	Matrix Spike Duplicate
VQ1321-CC1318	Q30412.D	07/22/15	21:10	11:44	Continuing cal 10

Volatile Internal Standard Area Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Check Std: VQ1319-CC1318	Injection Date: 07/20/15
Lab File ID: Q30340.D	Injection Time: 10:59
Instrument ID: GCMSQ	Method: SW846 8260B BY SIM

	IS 1		IS 2	
	AREA	RT	AREA	RT
Check Std	1252820	10.80	1765267	15.80
Upper Limit ^a	2505640	11.30	3530534	16.30
Lower Limit ^b	626410	10.30	882634	15.30

Lab Sample ID	IS 1		IS 2	
	AREA	RT	AREA	RT
VQ1319-BS	1283114	10.80	1787279	15.80
VQ1319-MB	1295834	10.80	1786696	15.80
C40680-12	1194105	10.80	1679827	15.80
C40680-1	1243140	10.80	1680747	15.80
C40680-2	1235410	10.80	1692177	15.80
C40680-3	1207458	10.80	1651342	15.80
C40680-4	1214693	10.80	1659839	15.80
C40680-1MS	1219728	10.80	1686662	15.80
C40680-1MSD	1213206	10.80	1690623	15.80
C40680-5	1238206	10.80	1681739	15.80
C40680-6	1183549	10.80	1631550	15.80
C40680-7	1205080	10.80	1647263	15.80
C40680-8	1202947	10.80	1670285	15.80
C40680-9	1191639	10.80	1624490	15.80
C40680-10	1180348	10.80	1623214	15.80
C40680-11	1173090	10.80	1611008	15.80
C40680-13	1246686	10.80	1652864	15.80
C40680-14	1242235	10.80	1640387	15.80
C40680-15	1169289	10.80	1624263	15.80
C40680-16	1185028	10.80	1623559	15.80
C40680-17	1190339	10.80	1613465	15.80

IS 1 = Pentafluorobenzene
IS 2 = Chlorobenzene-D5

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

Volatile Internal Standard Area Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Check Std: VQ1320-CC1318	Injection Date: 07/21/15
Lab File ID: Q30365.D	Injection Time: 10:04
Instrument ID: GCMSQ	Method: SW846 8260B BY SIM

	IS 1		IS 2	
	AREA	RT	AREA	RT
Check Std	1255389	10.80	1760629	15.80
Upper Limit ^a	2510778	11.30	3521258	16.30
Lower Limit ^b	627695	10.30	880315	15.30

Lab Sample ID	IS 1		IS 2	
	AREA	RT	AREA	RT
VQ1320-BS	1260017	10.80	1748465	15.80
VQ1320-MB	1221476	10.80	1652992	15.80
C40680-29	1223706	10.80	1664052	15.80
C40680-18 ^c	1223947	10.80	1656628	15.80
C40680-19	1207229	10.80	1652771	15.80
C40680-20	1219950	10.80	1649142	15.80
C40680-21	1158424	10.80	1591369	15.80
C40680-22	1244184	10.80	1640082	15.80
C40680-18MS	1202057	10.80	1642033	15.80
C40680-18MSD	1219670	10.80	1661741	15.80
C40680-23	1195100	10.80	1632626	15.80
C40680-24	1166364	10.80	1627053	15.80
C40680-25	1189568	10.80	1612979	15.80
C40680-26	1174950	10.80	1614353	15.80
C40680-27	1248662	10.80	1631465	15.80
C40680-28	1192693	10.80	1618846	15.80
C40680-30	1181352	10.80	1596354	15.80
C40680-31	1177129	10.80	1604982	15.80
C40680-32	1199627	10.80	1594122	15.80
C40680-33	1239706	10.80	1622788	15.80
C40680-34	1170195	10.80	1589454	15.80

IS 1 = Pentafluorobenzene
IS 2 = Chlorobenzene-D5

- (a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
- (b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
- (c) Sample used for QC purposes only.

Volatile Internal Standard Area Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Check Std: VQ1321-CC1318	Injection Date: 07/22/15
Lab File ID: Q30390.D	Injection Time: 09:40
Instrument ID: GCMSQ	Method: SW846 8260B BY SIM

	IS 1 AREA	RT	IS 2 AREA	RT
Check Std	1273929	10.80	1749739	15.80
Upper Limit ^a	2547858	11.30	3499478	16.30
Lower Limit ^b	636965	10.30	874870	15.30

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
VQ1321-MB	1236413	10.80	1695860	15.80
VQ1321-BS	1277676	10.80	1767222	15.80
ZZZZZZ	1226311	10.80	1660193	15.80
C40680-35	1241882	10.80	1677921	15.80
C40680-36	1195705	10.80	1642302	15.80
C40680-37	1204955	10.80	1637676	15.80
C40680-38	1210159	10.80	1641148	15.80
C40680-39	1192995	10.80	1620760	15.80
C40680-40	1182818	10.80	1612937	15.80
C40680-41	1152143	10.80	1571838	15.80
C40680-42	1158024	10.80	1599151	15.80
C40680-43	1164012	10.80	1601557	15.80
ZZZZZZ	1140948	10.80	1576795	15.80
ZZZZZZ	1119743	10.80	1549096	15.80
ZZZZZZ	1118544	10.80	1550346	15.80
ZZZZZZ	1169286	10.80	1569671	15.80
ZZZZZZ	1107791	10.80	1550152	15.80
C40680-35MS	1174950	10.80	1594495	15.80
C40680-35MSD	1177011	10.80	1620676	15.80

IS 1 = Pentafluorobenzene
IS 2 = Chlorobenzene-D5

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

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

Volatile Surrogate Recovery Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

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

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
C40680-1	Q30344.D	97	102
C40680-2	Q30345.D	98	102
C40680-3	Q30346.D	97	102
C40680-4	Q30347.D	98	101
C40680-5	Q30350.D	97	101
C40680-6	Q30351.D	99	98
C40680-7	Q30352.D	98	97
C40680-8	Q30353.D	98	99
C40680-9	Q30354.D	98	99
C40680-10	Q30355.D	99	97
C40680-11	Q30356.D	99	97
C40680-12	Q30343.D	100	103
C40680-13	Q30357.D	95	99
C40680-14	Q30358.D	95	95
C40680-15	Q30359.D	99	91
C40680-16	Q30360.D	98	93
C40680-17	Q30361.D	97	94
C40680-18	Q30369.D		
C40680-19	Q30370.D	99	100
C40680-20	Q30371.D	96	100
C40680-21	Q30372.D	98	97
C40680-22	Q30373.D	94	98
C40680-23	Q30376.D	98	96
C40680-24	Q30377.D	99	95
C40680-25	Q30378.D	97	95
C40680-26	Q30379.D	99	92
C40680-27	Q30380.D	94	92
C40680-28	Q30381.D	97	91
C40680-29	Q30368.D	97	100
C40680-30	Q30382.D	97	91
C40680-31	Q30383.D	98	87* a
C40680-32	Q30384.D	96	87* a
C40680-33	Q30385.D	95	89
C40680-34	Q30386.D	98	89
C40680-35	Q30394.D	96	98
C40680-36	Q30395.D	97	99
C40680-37	Q30396.D	98	98
C40680-38	Q30397.D	97	95
C40680-39	Q30398.D	97	96
C40680-40	Q30399.D	98	98

Volatile Surrogate Recovery Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Method: SW846 8260B BY SIM	Matrix: AQ
-----------------------------------	-------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
C40680-41	Q30400.D	98	96
C40680-42	Q30401.D	99	96
C40680-43	Q30402.D	98	94
C40680-18MS	Q30374.D	98	100
C40680-18MSD	Q30375.D	97	100
C40680-1MS	Q30348.D	98	102
C40680-1MSD	Q30349.D	99	102
C40680-35MS	Q30410.D	98	99
C40680-35MSD	Q30411.D	99	100
VQ1319-BS	Q30341.D	98	103
VQ1319-MB	Q30342.D	98	104
VQ1320-BS	Q30366.D	98	103
VQ1320-MB	Q30367.D	98	104
VQ1321-BS	Q30392.D	99	103
VQ1321-MB	Q30391.D	98	103

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	76-119%
S2 = Toluene-D8	89-112%

(a) Outside laboratory control limits.

6.6.1
6

Initial Calibration Summary

Job Number: C40680
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample: VQ1318-ICC1318
Lab FileID: Q30334.D

Response Factor Report MSVOA-Q

Method : C:\msdchem\1\MET...1318_150718SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B
 Last Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Calibration Files

1 =Q30328.D 2 =Q30329.D 3 =Q30330.D 4 =Q30331.D
 5 =Q30332.D 6 =Q30333.D 7 =Q30334.D 8 =Q30335.D

Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1) I Pentafluorobenzene	-----ISTD-----									
2) Vinyl Chlori	1.271	1.157	1.096	1.100	1.084	1.124	1.159	1.048	1.130	6.02
3) 1,1-Dichloro	0.753	0.628	0.605	0.597	0.585	0.607	0.635	0.599	0.626	8.57
4) Methylene Ch	4.632	2.237	1.503	1.151	0.981	0.846	0.827	0.797	1.622	80.75
	---- Linear regr., Force(0,0) ---- Coefficient = 0.9998									
	Response Ratio = 0.00000 + 0.81240 *A									
5) trans-1,2-Di	0.828	0.745	0.697	0.695	0.686	0.683	0.703	0.674	0.714	7.14
6) 1,1-Dichloro	1.771	1.654	1.584	1.603	1.627	1.587	1.615	1.578	1.627	3.88
7) cis-1,2-Dich	0.975	0.877	0.850	0.842	0.866	0.839	0.853	0.838	0.868	5.22
8) Chloroform	1.714	1.553	1.505	1.490	1.559	1.500	1.585	1.493	1.550	4.85
9) Dibromofluor	0.649	0.632	0.646	0.653	0.646	0.647	0.655	0.649	0.647	1.08
10) 1,1,1-Trichl	1.312	1.185	1.157	1.149	1.157	1.175	1.213	1.165	1.189	4.50
11) Carbon Tetra	1.120	0.988	0.968	0.947	0.933	0.977	1.023	0.969	0.991	5.93
12) 1,2-Dichloro	1.421	1.279	1.281	1.275	1.334	1.287	1.368	1.266	1.314	4.24
13) Benzene	3.230	2.968	2.835	2.875	2.896	2.845	2.834	2.813	2.912	4.72
14) Trichloroeth	0.836	0.719	0.689	0.671	0.681	0.670	0.708	0.670	0.705	7.91
15) 1,2-Dichloro	1.072	0.972	0.954	0.946	0.991	0.965	0.991	0.963	0.982	4.06
16) cis-1,3-Dich	1.295	1.280	1.623	1.550	1.562	1.499	1.547	1.517	1.484	8.53
17) I Chlorobenzene-d5	-----ISTD-----									
18) Toluene-d8	1.154	1.144	1.127	1.093	1.141	1.102	1.148	1.146	1.132	2.00
19) trans-1,3-Di	0.880	0.853	0.801	0.791	0.866	0.836	0.885	0.885	0.850	4.38
20) Tetrachloroe	0.409	0.379	0.356	0.339	0.357	0.351	0.372	0.365	0.366	5.75

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

VQ1318_150718SIM.M Mon Jul 20 09:24:20 2015

6.7.1
6

Initial Calibration Verification

Job Number: C40680
 Account: AHTNACAS Ahtna Environmental Inc
 Project: Evaluation Baseline FORT ORD

Sample: VQ1318-ICV1318
 Lab FileID: Q30337.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\150718\Q30337.D Vial: 11
 Acq On : 19 Jul 2015 4:20 pm Operator: thuy
 Sample : ICV1318-10 Inst : MSVOA-Q
 Misc : MS1855,VQ1318,50,,,,,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\msdchem\1\MET...1318_150718SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B
 Last Update : Mon Jul 20 09:13:48 2015
 Response via : Multiple Level Calibration

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

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I Pentafluorobenzene	1.000	1.000	0.0	104	0.00	10.80
2 C Vinyl Chloride	1.130	0.921	18.5	83	0.00	4.55
3 M,C 1,1-Dichloroethene	0.626	0.533	14.9	88	0.00	7.41
----- Amount Calc. %Drift -----						
4 T Methylene Chloride	10.000	9.093	9.1	93	0.00	8.21
----- AvgRF CCRF %Dev -----						
5 T trans-1,2-Dichloroethene	0.714	0.581	18.6	86	0.04	8.82
6 P 1,1-Dichloroethane	1.627	1.416	13.0	91	0.00	9.44
7 T cis-1,2-Dichloroethene	0.868	0.815	6.1	99	0.00	10.36
8 C Chloroform	1.550	1.351	12.8	89	0.00	10.58
9 S,M Dibromofluoromethane	0.647	0.644	0.5	102	0.00	10.89
10 T 1,1,1-Trichloroethane	1.189	1.086	8.7	93	0.00	11.24
11 T Carbon Tetrachloride	0.991	0.900	9.2	92	0.00	11.64
12 T 1,2-Dichloroethane	1.314	1.139	13.3	87	0.00	11.64
13 M Benzene	2.912	2.615	10.2	96	0.00	11.77
14 M Trichloroethene	0.705	0.612	13.2	90	0.00	12.57
15 C 1,2-Dichloropropane	0.982	0.883	10.1	93	0.00	12.74
16 T cis-1,3-Dichloropropene	1.484	1.400	5.7	94	0.00	13.69
17 I Chlorobenzene-d5	1.000	1.000	0.0	99	0.00	15.80
18 S,M Toluene-d8	1.132	1.165	-2.9	101	0.00	14.05
19 T trans-1,3-Dichloropropene	0.850	0.782	8.0	88	0.00	14.25
20 T Tetrachloroethene	0.366	0.330	9.8	88	0.00	14.96

(#) = Out of Range
 Q30334.D VQ1318_150718SIM.M

SPCC's out = 0 CCC's out = 0
 Mon Jul 20 09:24:05 2015

Continuing Calibration Summary

Job Number: C40680
 Account: AHTNACAS Ahtna Environmental Inc
 Project: Evaluation Baseline FORT ORD

Sample: VQ1319-CC1318
 Lab FileID: Q30340.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\150720\Q30340.D Vial: 1
 Acq On : 20 Jul 2015 10:59 am Operator: emilya
 Sample : CC1318-10 Inst : MSVOA-Q
 Misc : MS1855,VQ1319,50,,,,,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\msdchem\1\MET...1318_150718SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B
 Last Update : Mon Jul 20 09:13:48 2015
 Response via : Multiple Level Calibration

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

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I Pentafluorobenzene	1.000	1.000	0.0	108	0.00	10.80
2 C Vinyl Chloride	1.130	0.959	15.1	89	0.00	4.55
3 M,C 1,1-Dichloroethene	0.626	0.558	10.9	95	0.00	7.41
----- Amount Calc. %Drift -----						
4 T Methylene Chloride	10.000	9.248	7.5	98	0.00	8.21
----- AvgRF CCRF %Dev -----						
5 T trans-1,2-Dichloroethene	0.714	0.625	12.5	96	0.04	8.82
6 P 1,1-Dichloroethane	1.627	1.460	10.3	98	0.00	9.44
7 T cis-1,2-Dichloroethene	0.868	0.776	10.6	98	0.00	10.36
8 C Chloroform	1.550	1.378	11.1	94	0.00	10.58
9 S,M Dibromofluoromethane	0.647	0.649	-0.3	107	0.00	10.89
10 T 1,1,1-Trichloroethane	1.189	1.082	9.0	96	0.00	11.24
11 T Carbon Tetrachloride	0.991	0.914	7.8	96	0.00	11.64
12 T 1,2-Dichloroethane	1.314	1.194	9.1	94	0.00	11.64
13 M Benzene	2.912	2.593	11.0	99	0.00	11.77
14 M Trichloroethene	0.705	0.616	12.6	94	0.00	12.57
15 C 1,2-Dichloropropane	0.982	0.904	7.9	98	0.00	12.74
16 T cis-1,3-Dichloropropene	1.484	1.444	2.7	101	0.00	13.69
17 I Chlorobenzene-d5	1.000	1.000	0.0	105	0.00	15.80
18 S,M Toluene-d8	1.132	1.156	-2.1	105	0.00	14.05
19 T trans-1,3-Dichloropropene	0.850	0.862	-1.4	102	0.00	14.25
20 T Tetrachloroethene	0.366	0.339	7.4	95	0.00	14.96

(#) = Out of Range
 Q30334.D VQ1318_150718SIM.M

SPCC's out = 0 CCC's out = 0
 Tue Jul 21 14:04:53 2015

Continuing Calibration Summary

Job Number: C40680
 Account: AHTNACAS Ahtna Environmental Inc
 Project: Evaluation Baseline FORT ORD

Sample: VQ1320-CC1318
 Lab FileID: Q30365.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\150721\Q30365.D Vial: 1
 Acq On : 21 Jul 2015 10:04 am Operator: emilya
 Sample : CC1318-10 Inst : MSVOA-Q
 Misc : MS1855,VQ1320,50,,,,,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\msdchem\1\MET...1318_150718SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B
 Last Update : Mon Jul 20 09:13:48 2015
 Response via : Multiple Level Calibration

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

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I Pentafluorobenzene	1.000	1.000	0.0	108	0.00	10.80
2 C Vinyl Chloride	1.130	0.945	16.4	88	0.00	4.55
3 M,C 1,1-Dichloroethene	0.626	0.548	12.5	93	0.00	7.41
----- Amount Calc. %Drift -----						
4 T Methylene Chloride	10.000	9.454	5.5	100	0.00	8.21
----- AvgRF CCRF %Dev -----						
5 T trans-1,2-Dichloroethene	0.714	0.625	12.5	96	0.04	8.82
6 P 1,1-Dichloroethane	1.627	1.462	10.1	98	0.00	9.44
7 T cis-1,2-Dichloroethene	0.868	0.778	10.4	99	0.00	10.36
8 C Chloroform	1.550	1.374	11.4	94	0.00	10.58
9 S,M Dibromofluoromethane	0.647	0.645	0.3	106	0.00	10.89
10 T 1,1,1-Trichloroethane	1.189	1.066	10.3	95	0.00	11.24
11 T Carbon Tetrachloride	0.991	0.892	10.0	94	0.00	11.64
12 T 1,2-Dichloroethane	1.314	1.200	8.7	95	0.00	11.64
13 M Benzene	2.912	2.612	10.3	100	0.00	11.77
14 M Trichloroethene	0.705	0.608	13.8	93	0.00	12.57
15 C 1,2-Dichloropropane	0.982	0.901	8.2	98	0.00	12.74
16 T cis-1,3-Dichloropropene	1.484	1.441	2.9	101	0.00	13.69
17 I Chlorobenzene-d5	1.000	1.000	0.0	104	0.00	15.80
18 S,M Toluene-d8	1.132	1.160	-2.5	105	0.00	14.05
19 T trans-1,3-Dichloropropene	0.850	0.871	-2.5	103	0.00	14.25
20 T Tetrachloroethene	0.366	0.331	9.6	93	0.00	14.96

(#) = Out of Range
 Q30334.D VQ1318_150718SIM.M

SPCC's out = 0 CCC's out = 0
 Wed Jul 22 08:10:43 2015

Continuing Calibration Summary

Job Number: C40680
 Account: AHTNACAS Ahtna Environmental Inc
 Project: Evaluation Baseline FORT ORD

Sample: VQ1321-CC1318
 Lab FileID: Q30390.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\150722\Q30390.D Vial: 1
 Acq On : 22 Jul 2015 9:40 am Operator: thuy
 Sample : CC1318-10 Inst : MSVOA-Q
 Misc : MS1855,VQ1321,50,,,,,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\msdchem\1\MET...1318_150718SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B
 Last Update : Mon Jul 20 09:13:48 2015
 Response via : Multiple Level Calibration

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

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I Pentafluorobenzene	1.000	1.000	0.0	110	0.00	10.80
2 C Vinyl Chloride	1.130	1.015	10.2	96	0.00	4.55
3 M,C 1,1-Dichloroethene	0.626	0.587	6.2	101	0.00	7.41
----- Amount Calc. %Drift -----						
4 T Methylene Chloride	10.000	9.569	4.3	103	0.00	8.21
----- AvgRF CCRF %Dev -----						
5 T trans-1,2-Dichloroethene	0.714	0.666	6.7	104	0.04	8.82
6 P 1,1-Dichloroethane	1.627	1.504	7.6	102	0.00	9.44
7 T cis-1,2-Dichloroethene	0.868	0.788	9.2	101	0.00	10.36
8 C Chloroform	1.550	1.371	11.5	95	0.00	10.58
9 S,M Dibromofluoromethane	0.647	0.631	2.5	106	0.00	10.89
10 T 1,1,1-Trichloroethane	1.189	1.134	4.6	103	0.00	11.24
11 T Carbon Tetrachloride	0.991	0.970	2.1	104	0.00	11.64
12 T 1,2-Dichloroethane	1.314	1.156	12.0	93	0.00	11.64
13 M Benzene	2.912	2.737	6.0	106	0.00	11.77
14 M Trichloroethene	0.705	0.639	9.4	99	0.04	12.61
15 C 1,2-Dichloropropane	0.982	0.884	10.0	98	0.00	12.74
16 T cis-1,3-Dichloropropene	1.484	1.422	4.2	101	0.00	13.69

17 I Chlorobenzene-d5	1.000	1.000	0.0	104	0.00	15.80
18 S,M Toluene-d8	1.132	1.168	-3.2	106	0.00	14.05
19 T trans-1,3-Dichloropropene	0.850	0.870	-2.4	102	0.00	14.25
20 T Tetrachloroethene	0.366	0.356	2.7	99	0.00	14.96

(#) = Out of Range
 Q30334.D VQ1318_150718SIM.M

SPCC's out = 0 CCC's out = 0
 Fri Jul 24 13:41:51 2015

GC/MS Volatiles

Raw Data

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30344.D
Acq On : 20 Jul 2015 1:01 pm
Operator : emilya
Sample : C40680-1
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 20 13:50:23 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1243140	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1680747	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	777833	4.84	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	96.80%	
18) Toluene-d8	14.048	98	1940560	5.10	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	102.00%	
Target Compounds						
8) Chloroform	10.584	83	12048	0.03	ppb	Qvalue # 14

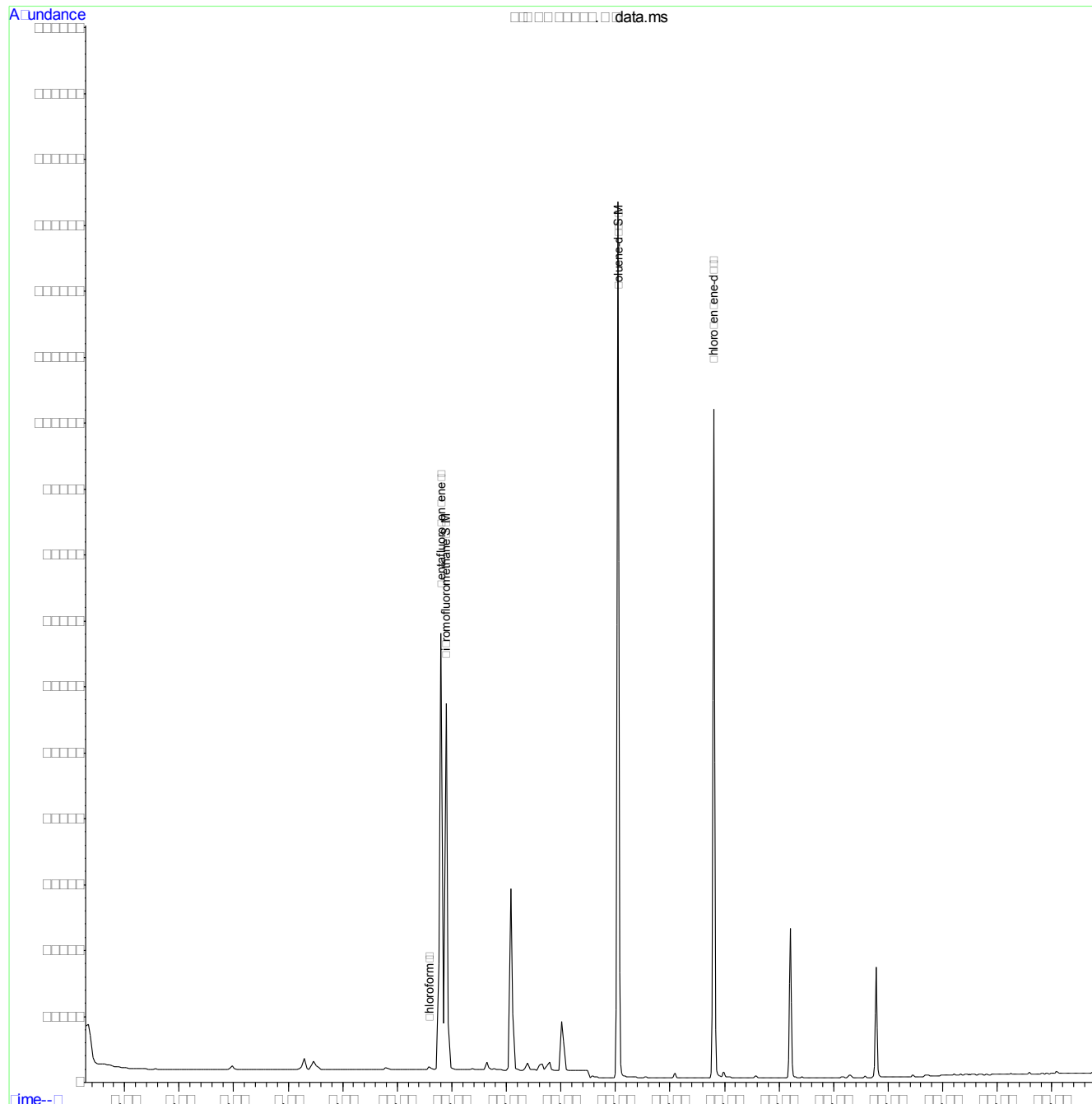
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.1
7

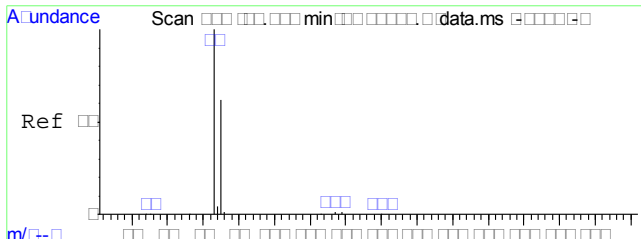
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30344.D
Acq On : 20 Jul 2015 1:01 pm
Operator : emilya
Sample : C40680-1
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 20 13:50:23 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

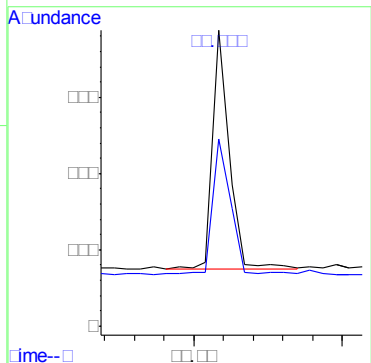
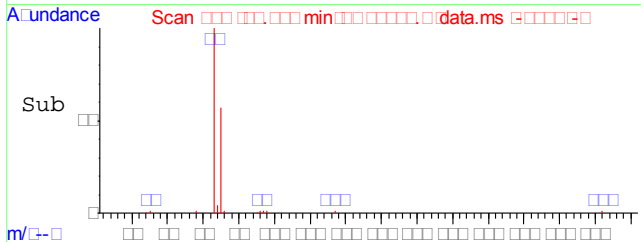
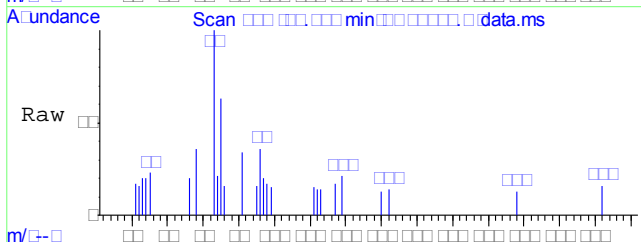


7.1.1
7



#8
Chloroform
Concen: 0.03 ppb
RT: 10.584 min Scan# 144
Delta R.T. -0.000 min
Lab File: Q30344.D
Acq: 20 Jul 2015 1:01 pm

Tgt Ion: 83 Resp: 12048
Ion Ratio Lower Upper
83 100
85 0.0 51.3 91.3#



7.1.1
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30345.D
Acq On : 20 Jul 2015 1:32 pm
Operator : emilya
Sample : C40680-2
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 20 14:12:02 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1235410	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1692177	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	785732	4.92	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	98.40%
18) Toluene-d8	14.048	98	1949058	5.09	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	101.80%
Target Compounds						
8) Chloroform	10.584	83	22588	0.06	ppb	Qvalue 91

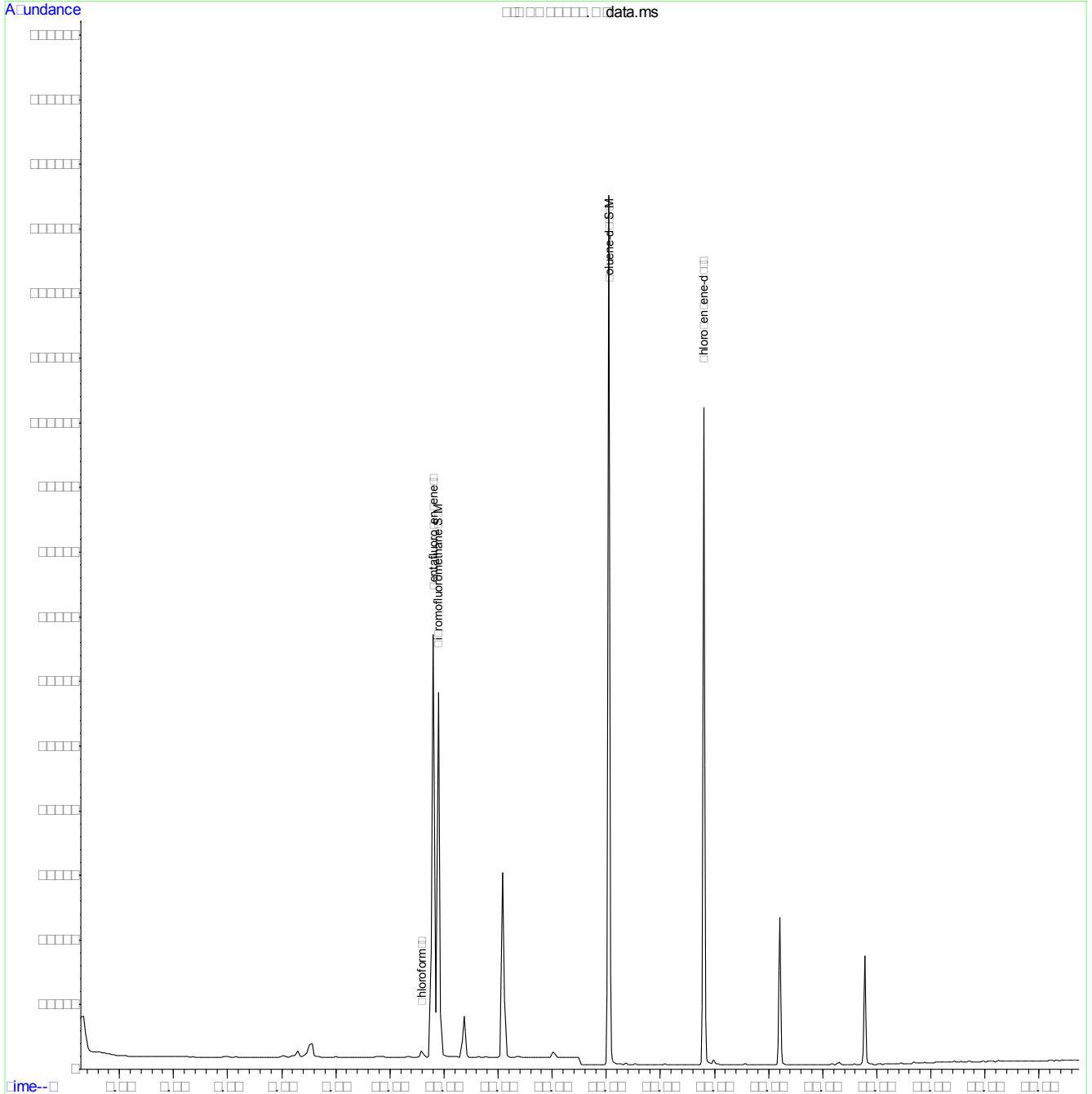
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.12
7

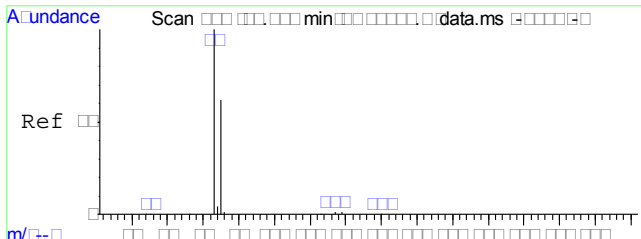
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30345.D
Acq On : 20 Jul 2015 1:32 pm
Operator : emilya
Sample : C40680-2
Misc : MS1855,VQ1319,50,,,1
ALS Vial : 6 Sample Multiplier: 1

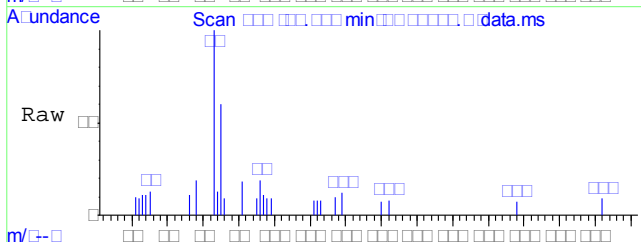
Quant Time: Jul 20 14:12:02 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



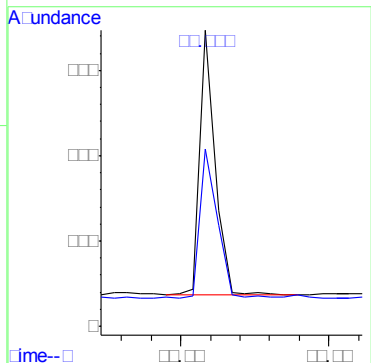
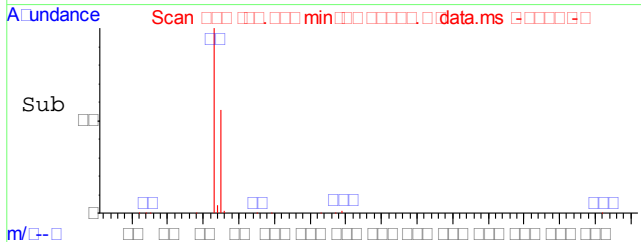
7.1.2
7



#8
Chloroform
Concen: 0.06 ppb
RT: 10.584 min Scan# 144
Delta R.T. -0.000 min
Lab File: Q30345.D
Acq: 20 Jul 2015 1:32 pm



Tgt Ion: 83 Resp: 22588
Ion Ratio Lower Upper
83 100
85 63.7 51.3 91.3



7.1.2
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30346.D
Acq On : 20 Jul 2015 2:03 pm
Operator : emilya
Sample : C40680-3
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 20 14:57:10 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1207458	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1651342	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	757305	4.85	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.00%	
18) Toluene-d8	14.048	98	1900656	5.08	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	101.60%	
Target Compounds						
8) Chloroform	10.584	83	30989	0.08	ppb	Qvalue 93

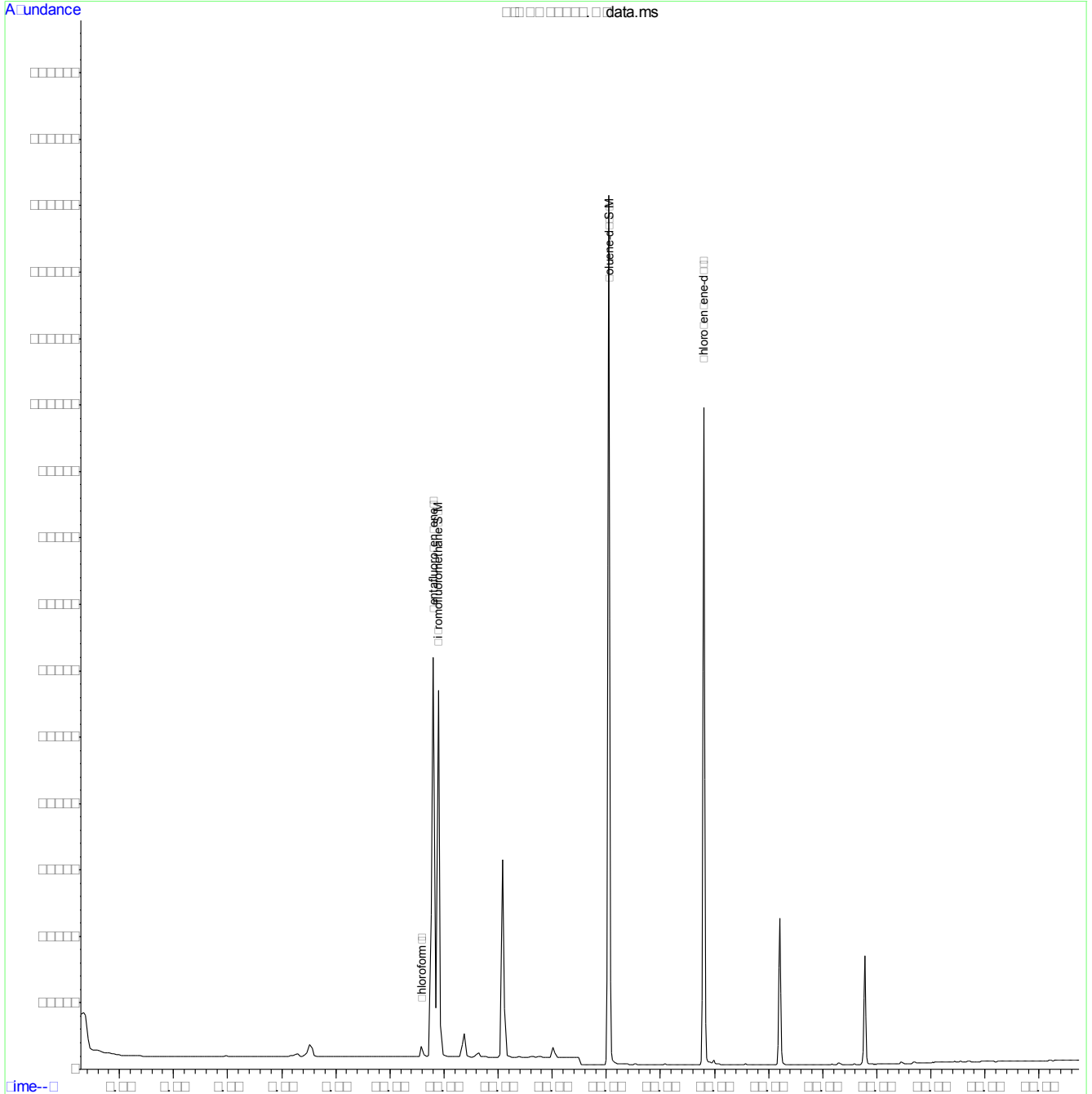
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.3
7

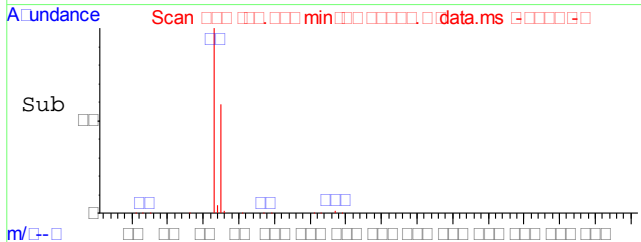
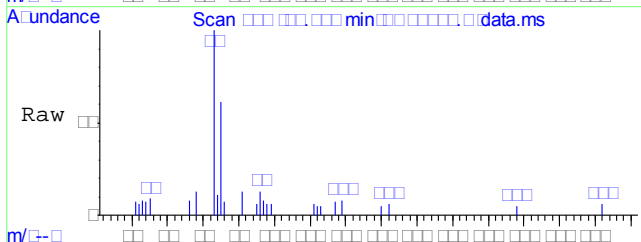
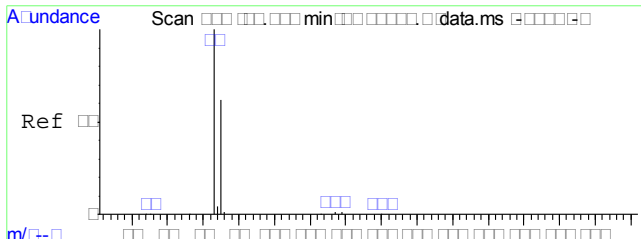
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30346.D
Acq On : 20 Jul 2015 2:03 pm
Operator : emilya
Sample : C40680-3
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 20 14:57:10 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

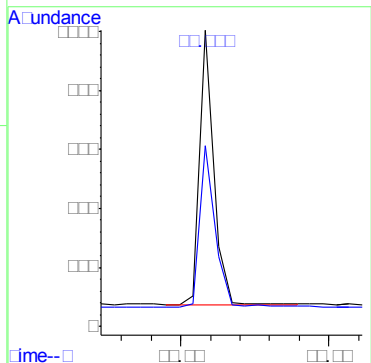


7.1.3
7



#8
Chloroform
Concen: 0.08 ppb
RT: 10.584 min Scan# 144
Delta R.T. -0.000 min
Lab File: Q30346.D
Acq: 20 Jul 2015 2:03 pm

Tgt Ion	Resp	Lower	Upper
83	100		
85	65.7	51.3	91.3



7.1.3
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30347.D
Acq On : 20 Jul 2015 2:33 pm
Operator : emilya
Sample : C40680-4
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 20 14:57:36 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1214693	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1659839	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	771894	4.91	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.20%	
18) Toluene-d8	14.048	98	1897188	5.05	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	101.00%	
Target Compounds						
8) Chloroform	10.584	83	34794	0.09	ppb	Qvalue 88
11) Carbon Tetrachloride	11.641	117	105337	0.44	ppb	100

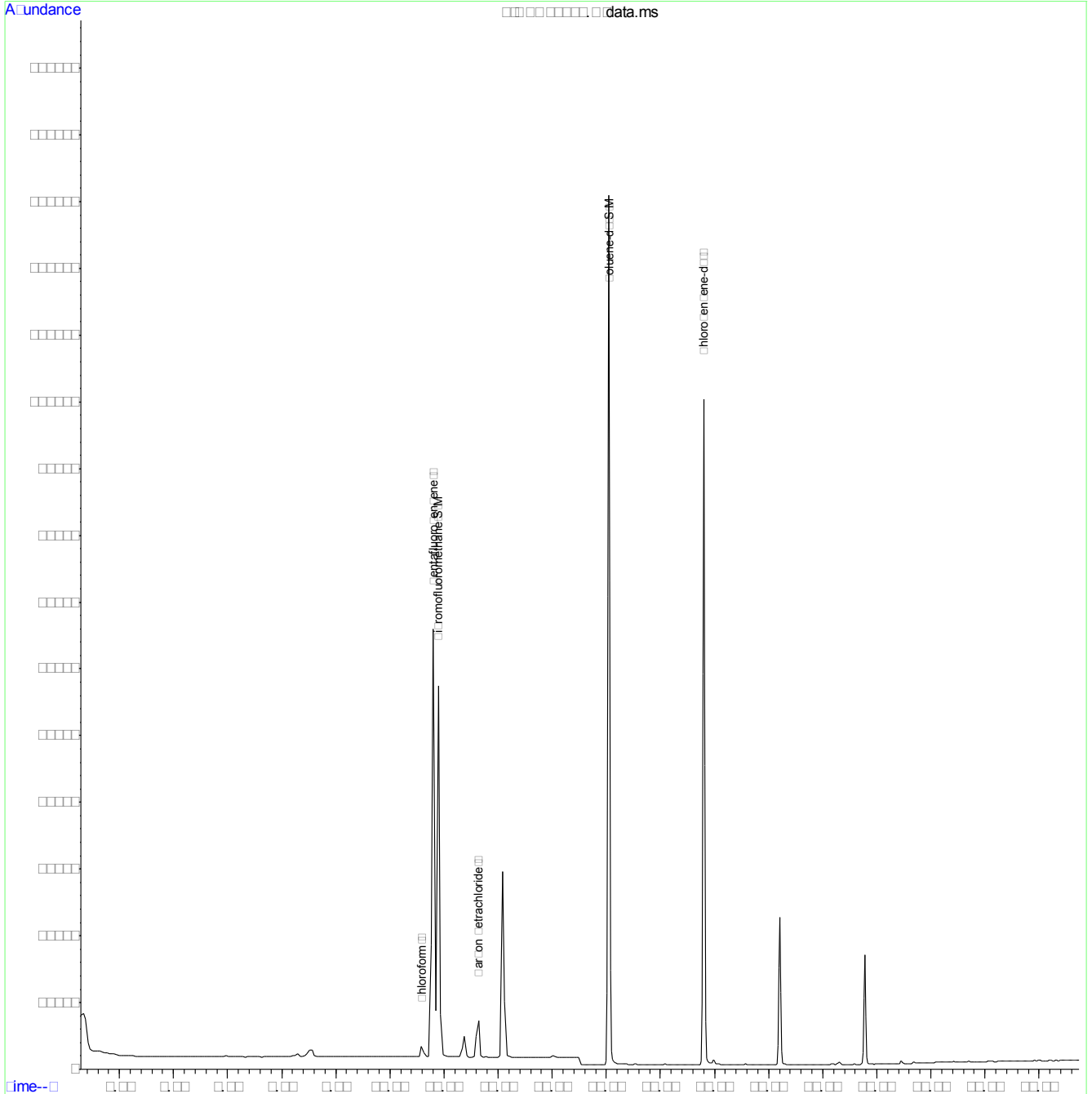
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.4
7

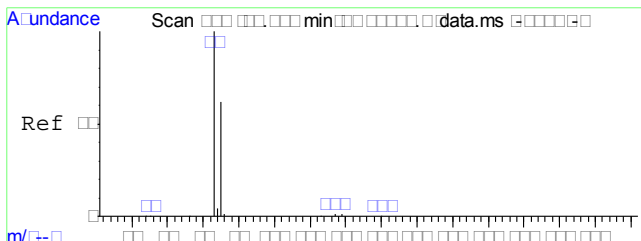
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30347.D
Acq On : 20 Jul 2015 2:33 pm
Operator : emilya
Sample : C40680-4
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 20 14:57:36 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

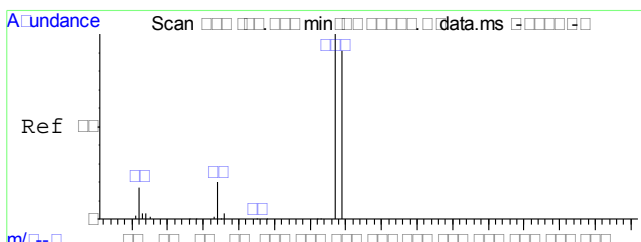
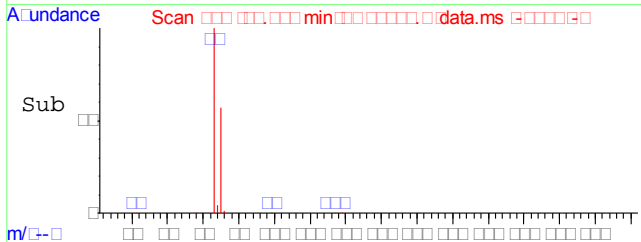
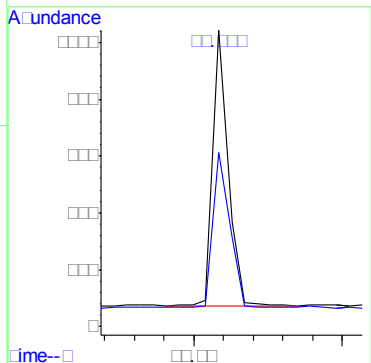
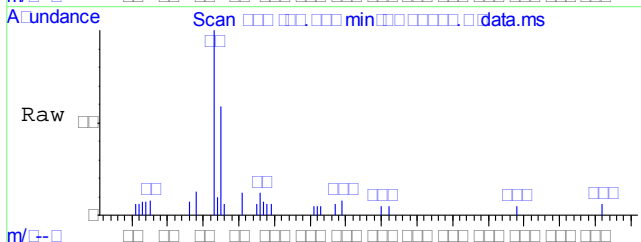


7.1.4
7



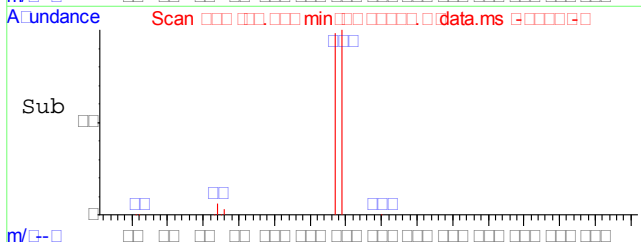
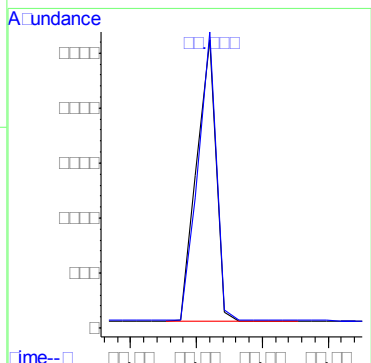
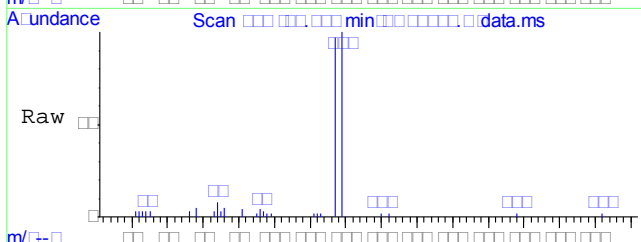
#8
 Chloroform
 Concen: 0.09 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30347.D
 Acq: 20 Jul 2015 2:33 pm

Tgt Ion: 83 Resp: 34794
 Ion Ratio Lower Upper
 83 100
 85 61.7 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 0.44 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30347.D
 Acq: 20 Jul 2015 2:33 pm

Tgt Ion: 117 Resp: 105337
 Ion Ratio Lower Upper
 117 100
 119 96.6 76.1 116.1



7.1.4
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30350.D
Acq On : 20 Jul 2015 4:05 pm
Operator : emilya
Sample : C40680-5
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 21 14:02:59 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1238206	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1681739	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	775270	4.84	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	96.80%	
18) Toluene-d8	14.048	98	1917622	5.04	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.80%	
Target Compounds						Qvalue

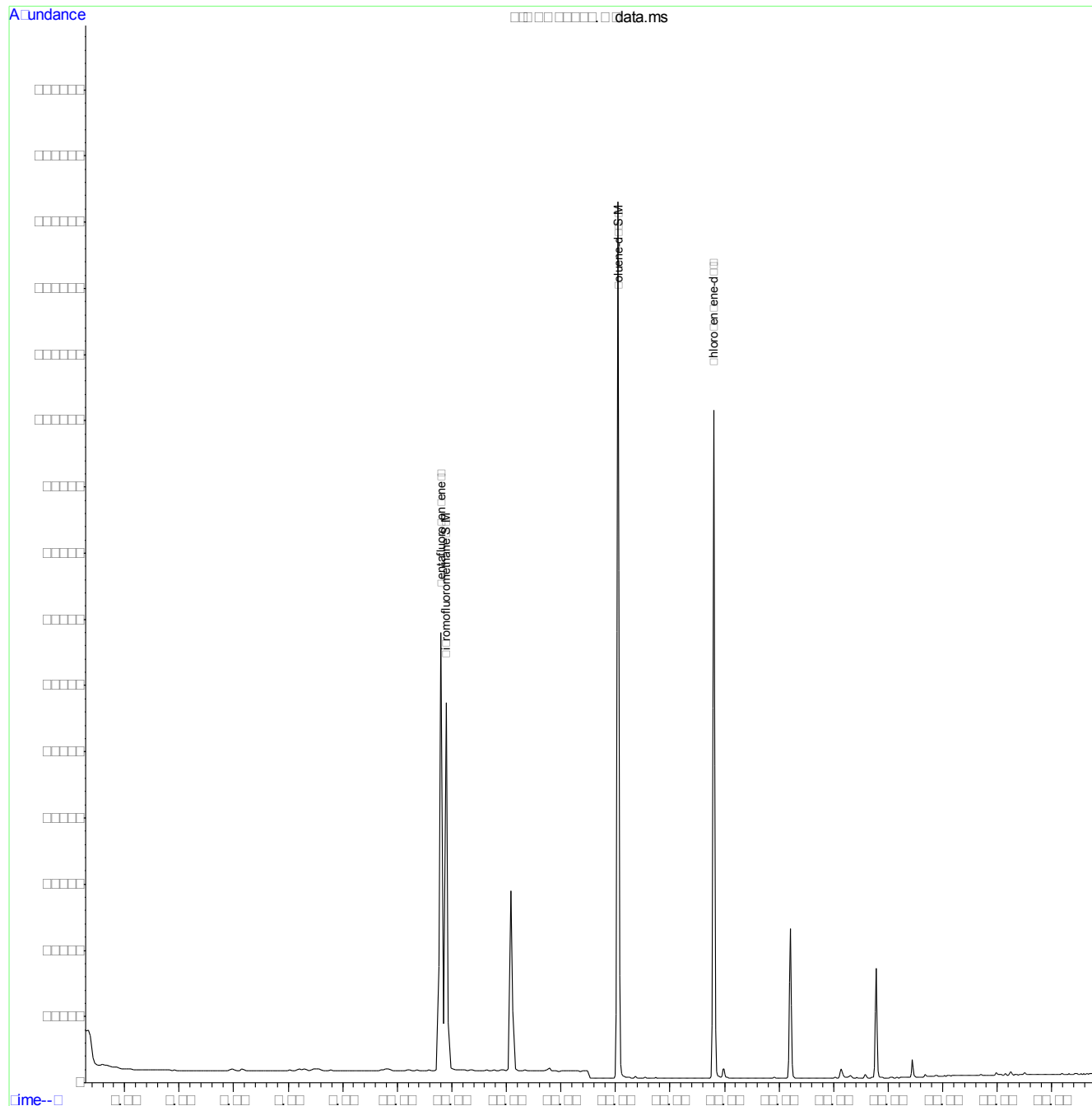
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.15
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30350.D
Acq On : 20 Jul 2015 4:05 pm
Operator : emilya
Sample : C40680-5
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 21 14:02:59 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



7.1.5
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30351.D
Acq On : 20 Jul 2015 4:35 pm
Operator : emilya
Sample : C40680-6
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 21 14:03:08 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1183549	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1631550	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	755038	4.93	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.60%	
18) Toluene-d8	14.048	98	1812460	4.91	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.20%	
Target Compounds						
8) Chloroform	10.584	83	119678	0.33	ppb	91
11) Carbon Tetrachloride	11.640	117	448860	1.91	ppb	99

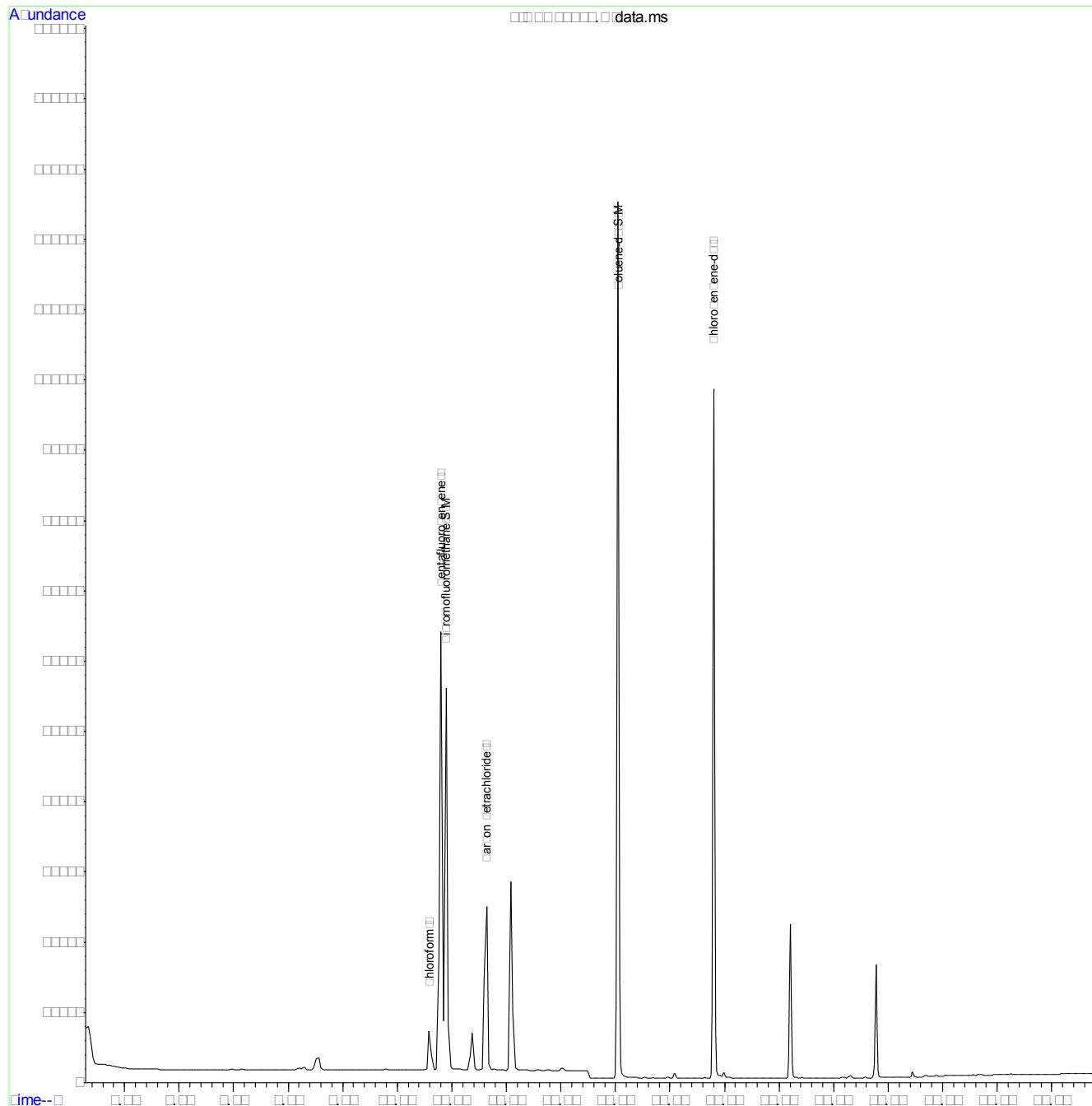
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.6
7

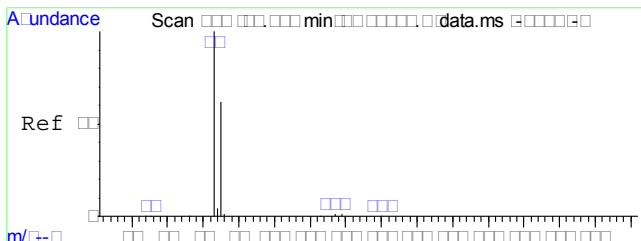
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30351.D
 Acq On : 20 Jul 2015 4:35 pm
 Operator : emilya
 Sample : C40680-6
 Misc : MS1855,VQ1319,50,,,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 21 14:03:08 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

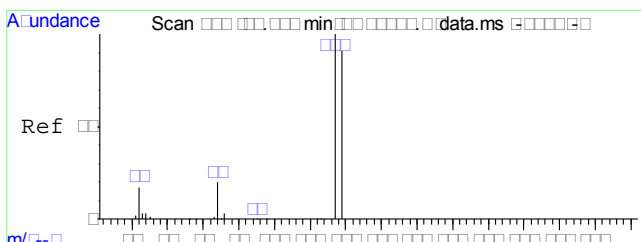
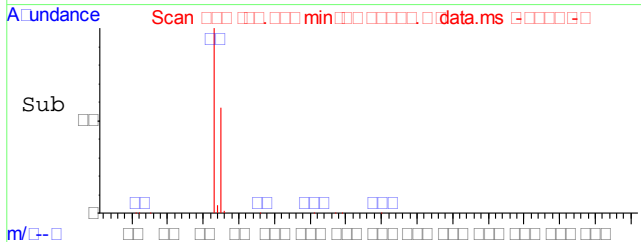
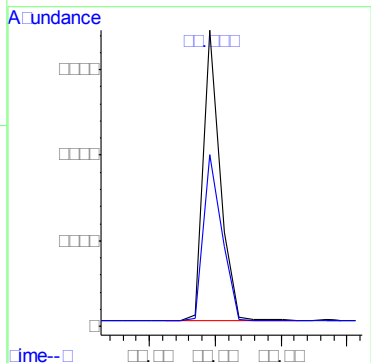
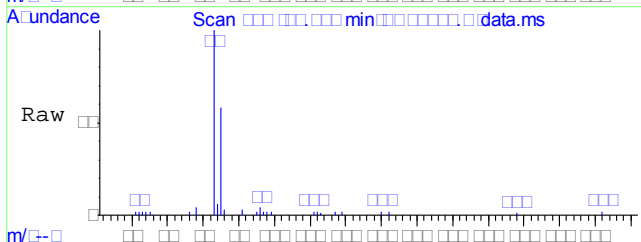


7.1.6
7



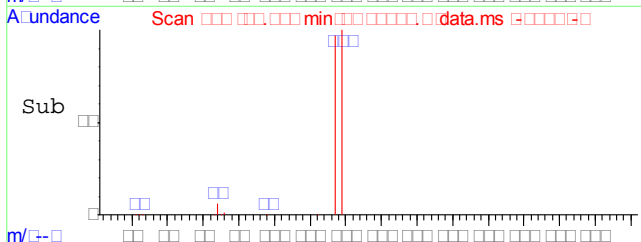
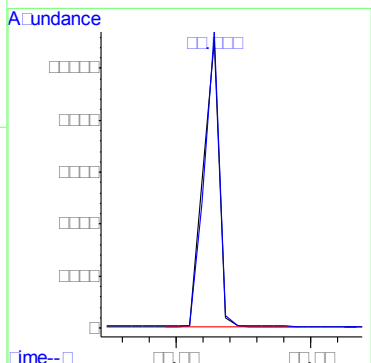
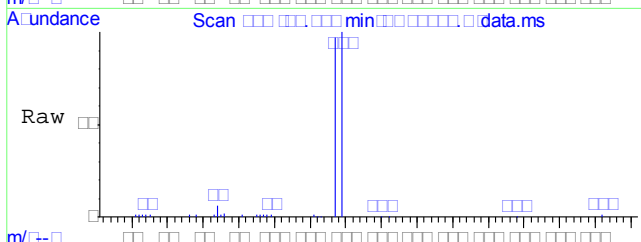
#8
 Chloroform
 Concen: 0.33 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30351.D
 Acq: 20 Jul 2015 4:35 pm

Tgt Ion: 83 Resp: 119678
 Ion Ratio Lower Upper
 83 100
 85 63.5 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 1.91 ppb
 RT: 11.640 min Scan# 168
 Delta R.T. -0.001 min
 Lab File: Q30351.D
 Acq: 20 Jul 2015 4:35 pm

Tgt Ion: 117 Resp: 448860
 Ion Ratio Lower Upper
 117 100
 119 97.5 76.1 116.1



7.1.6
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30352.D
Acq On : 20 Jul 2015 5:05 pm
Operator : emilya
Sample : C40680-7
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 21 14:03:17 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1205080	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1647263	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	765578	4.91	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.20%	
18) Toluene-d8	14.048	98	1801753	4.83	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	96.60%	
Target Compounds						
8) Chloroform	10.584	83	162747	0.44	ppb	90
11) Carbon Tetrachloride	11.641	117	646713	2.71	ppb	99

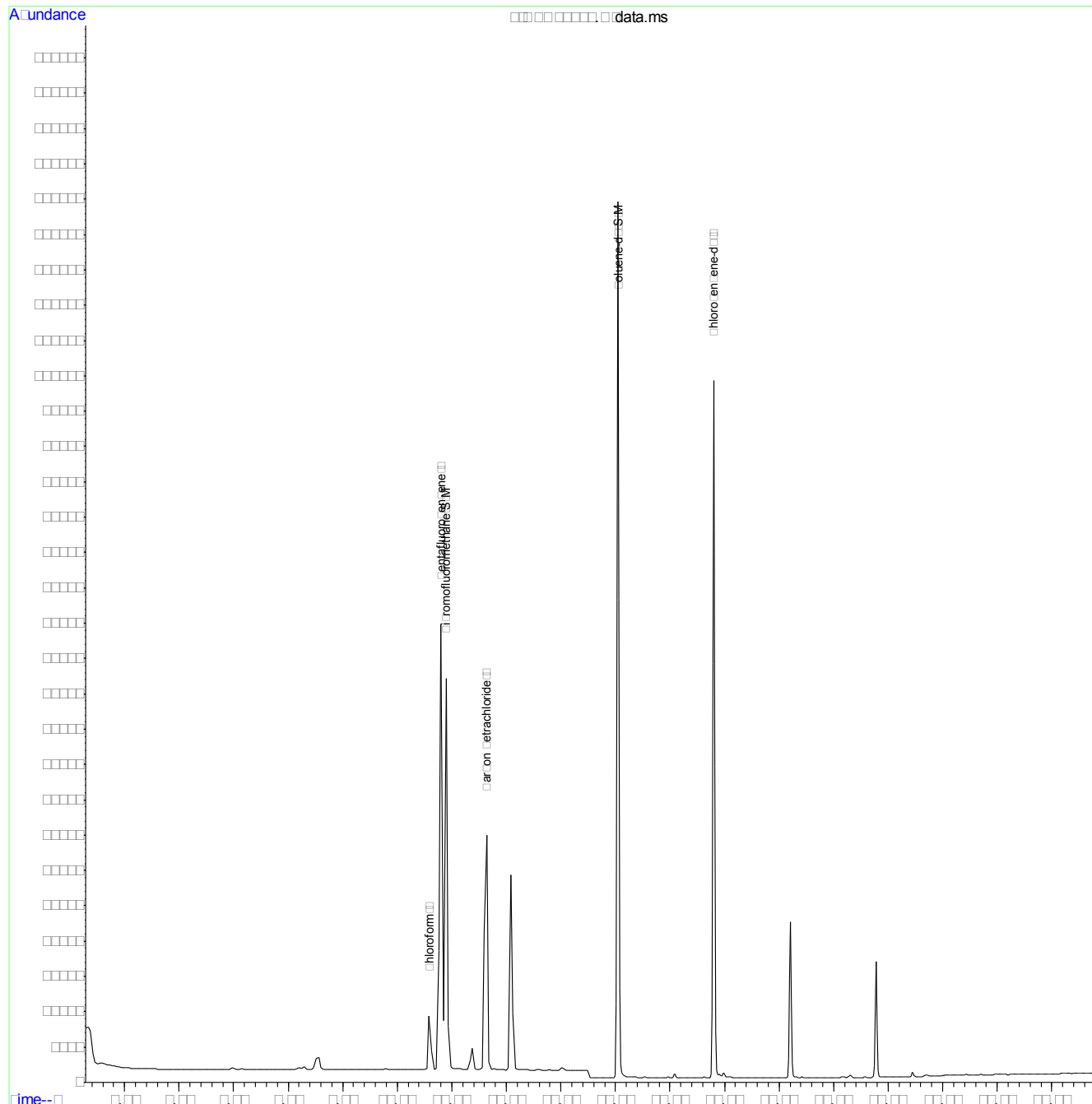
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.17
7

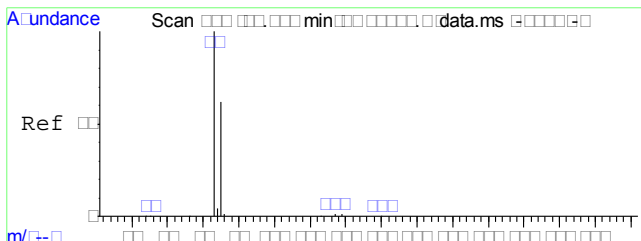
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30352.D
Acq On : 20 Jul 2015 5:05 pm
Operator : emilya
Sample : C40680-7
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 21 14:03:17 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

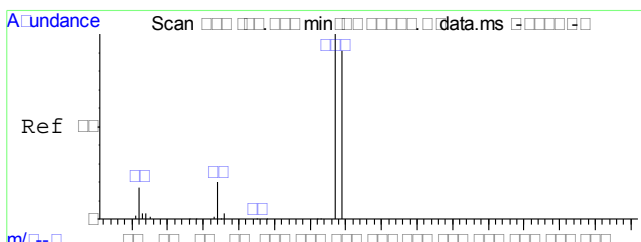
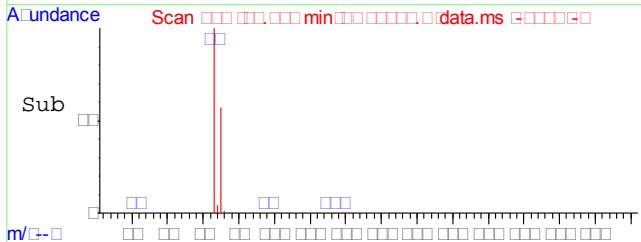
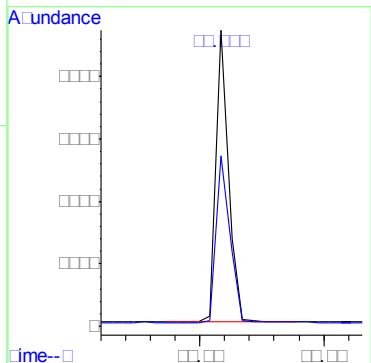
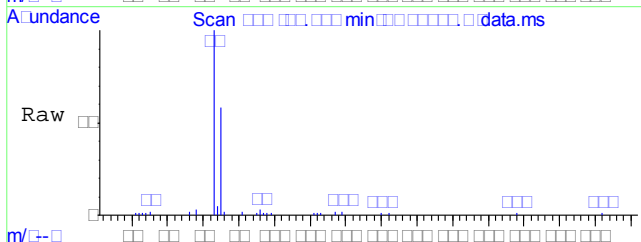


7.1.7
7



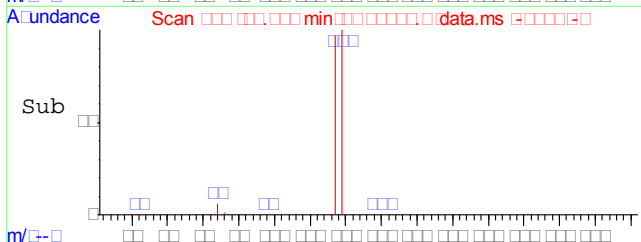
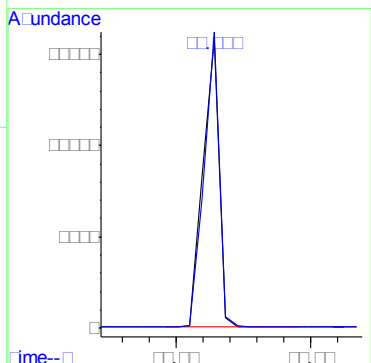
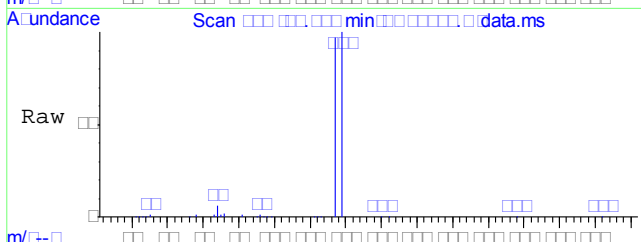
#8
 Chloroform
 Concen: 0.44 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30352.D
 Acq: 20 Jul 2015 5:05 pm

Tgt Ion: 83 Resp: 162747
 Ion Ratio Lower Upper
 83 100
 85 63.1 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 2.71 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30352.D
 Acq: 20 Jul 2015 5:05 pm

Tgt Ion: 117 Resp: 646713
 Ion Ratio Lower Upper
 117 100
 119 97.1 76.1 116.1



7.17
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30353.D
Acq On : 20 Jul 2015 5:36 pm
Operator : emilya
Sample : C40680-8
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 21 14:03:25 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1202947	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1670285	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	766103	4.92	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	98.40%
18) Toluene-d8	14.048	98	1876691	4.96	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	99.20%
Target Compounds						
8) Chloroform	10.584	83	208005	0.56	ppb	90
11) Carbon Tetrachloride	11.640	117	860232	3.61	ppb	99

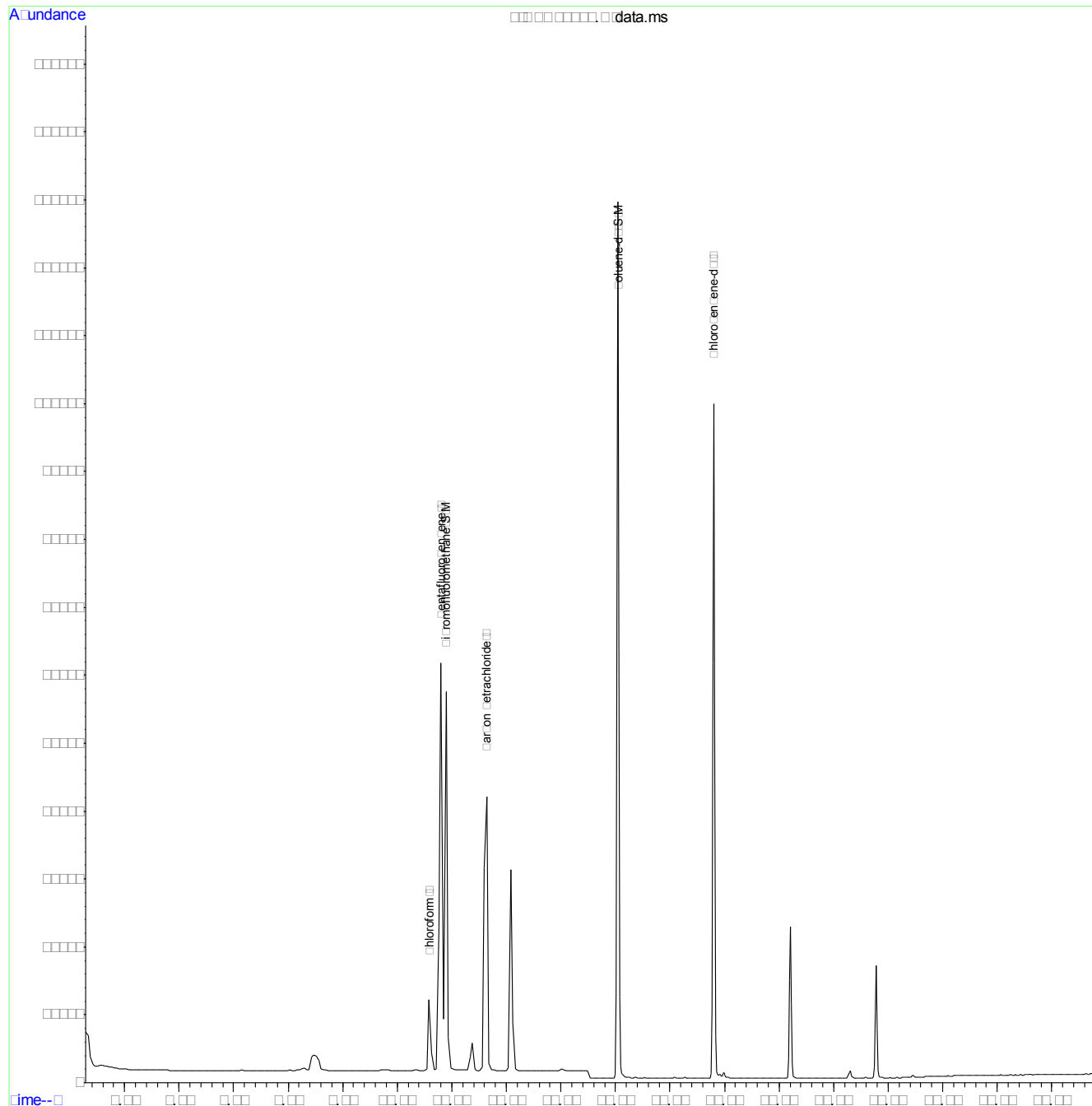
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.8
7

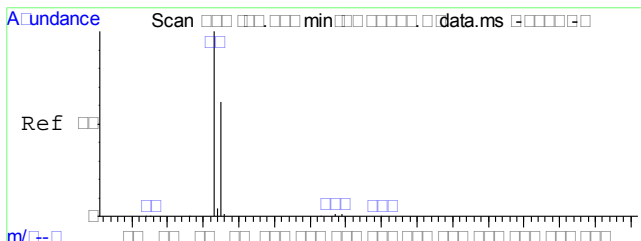
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30353.D
 Acq On : 20 Jul 2015 5:36 pm
 Operator : emilya
 Sample : C40680-8
 Misc : MS1855,VQ1319,50,,,,,1
 ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 21 14:03:25 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

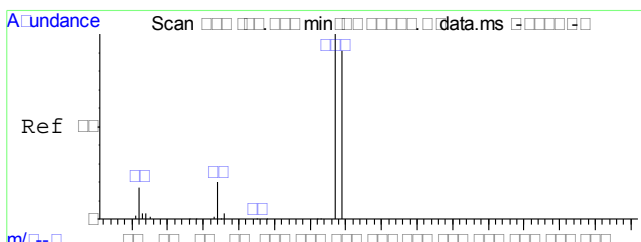
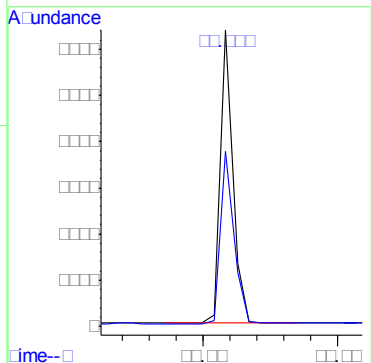
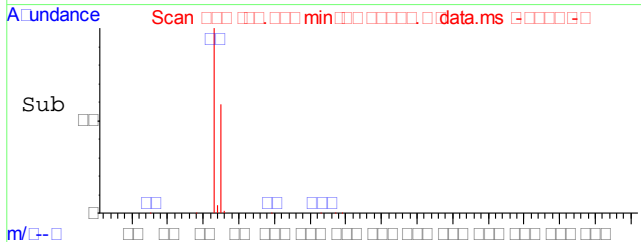
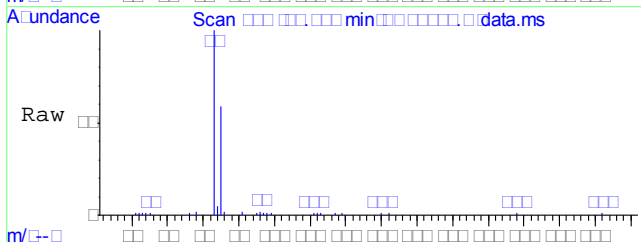


7.1.8
7



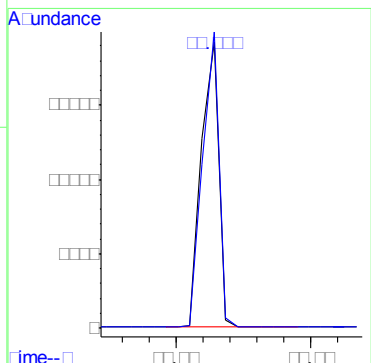
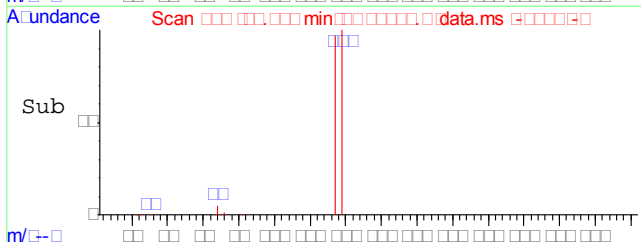
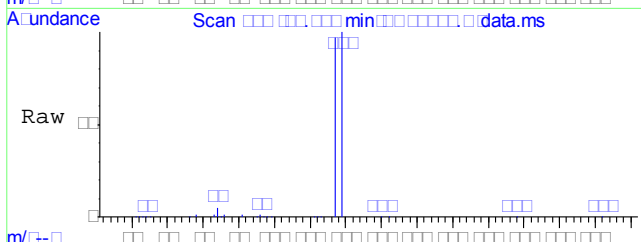
#8
 Chloroform
 Concen: 0.56 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30353.D
 Acq: 20 Jul 2015 5:36 pm

Tgt Ion: 83 Resp: 208005
 Ion Ratio Lower Upper
 83 100
 85 63.0 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 3.61 ppb
 RT: 11.640 min Scan# 168
 Delta R.T. -0.001 min
 Lab File: Q30353.D
 Acq: 20 Jul 2015 5:36 pm

Tgt Ion: 117 Resp: 860232
 Ion Ratio Lower Upper
 117 100
 119 96.8 76.1 116.1



7.1.8
 7

Quantitation Report (QT Reviewed)

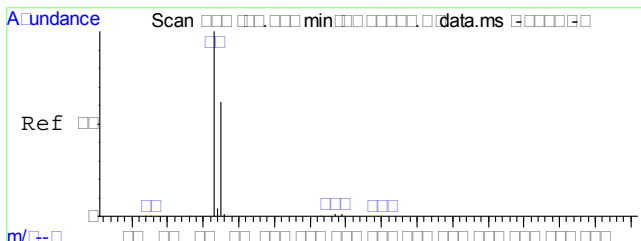
Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30354.D
Acq On : 20 Jul 2015 6:07 pm
Operator : emilya
Sample : C40680-9
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 21 14:03:33 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1191639	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1624490	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	752706	4.88	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	97.60%
18) Toluene-d8	14.048	98	1813573	4.93	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	98.60%
Target Compounds						
8) Chloroform	10.584	83	194129	0.53	ppb	90
11) Carbon Tetrachloride	11.641	117	807976	3.42	ppb	99

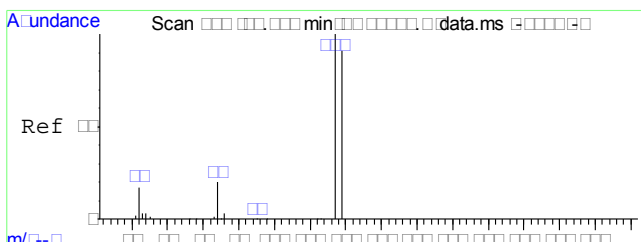
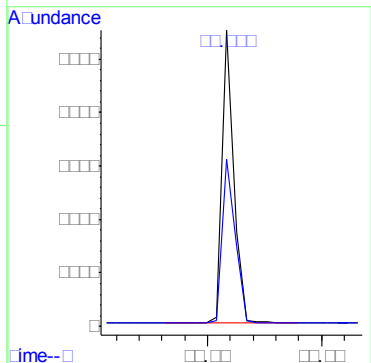
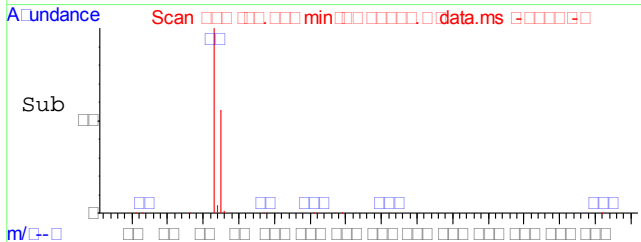
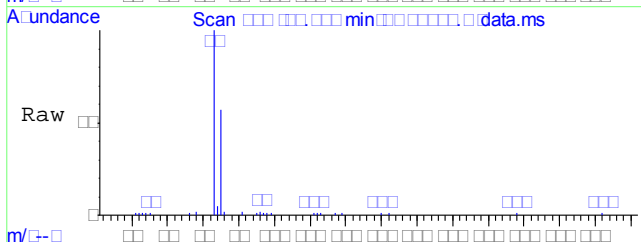
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.9
7



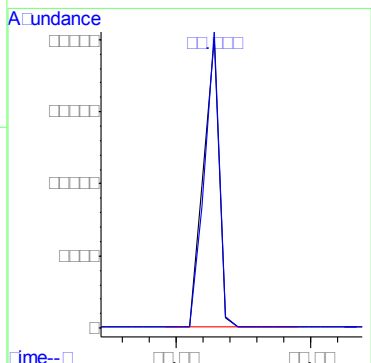
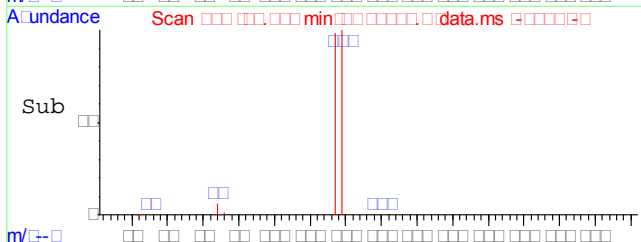
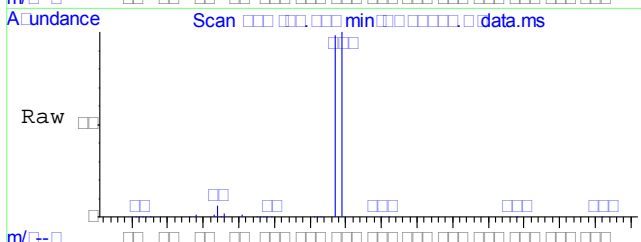
#8
 Chloroform
 Concen: 0.53 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30354.D
 Acq: 20 Jul 2015 6:07 pm

Tgt Ion: 83 Resp: 194129
 Ion Ratio Lower Upper
 83 100
 85 62.6 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 3.42 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30354.D
 Acq: 20 Jul 2015 6:07 pm

Tgt Ion: 117 Resp: 807976
 Ion Ratio Lower Upper
 117 100
 119 96.9 76.1 116.1



7.1.9
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30355.D
Acq On : 20 Jul 2015 6:37 pm
Operator : emilya
Sample : C40680-10
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 21 14:03:42 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1180348	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1623214	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	752238	4.93	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	98.60%
18) Toluene-d8	14.048	98	1773670	4.83	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	96.60%
Target Compounds						
8) Chloroform	10.584	83	198090	0.54	ppb	90
11) Carbon Tetrachloride	11.641	117	907681	3.88	ppb	99

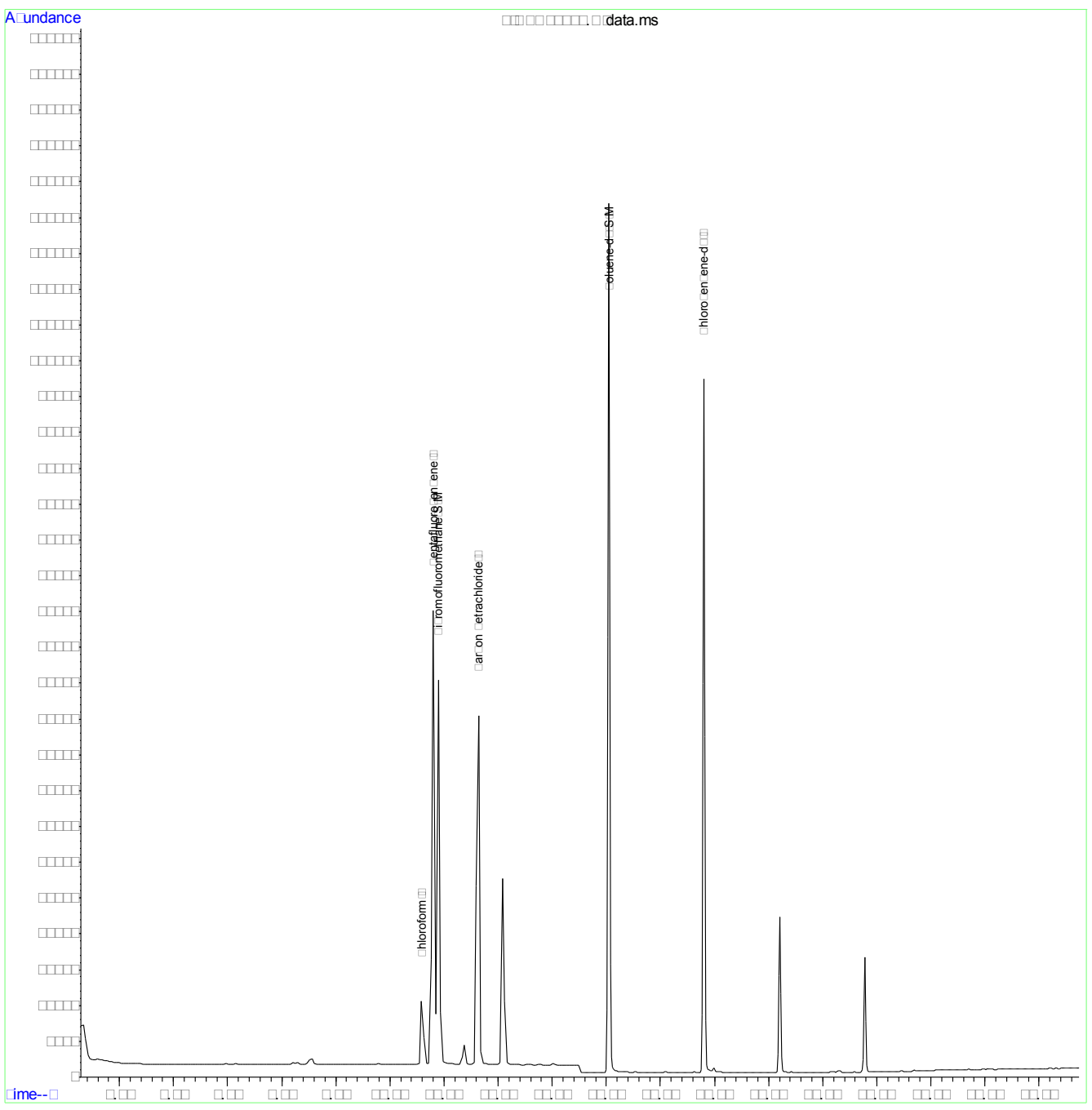
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.10
7

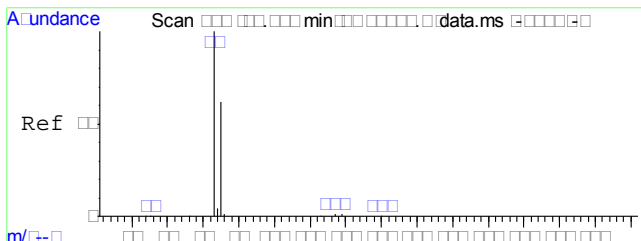
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30355.D
Acq On : 20 Jul 2015 6:37 pm
Operator : emilya
Sample : C40680-10
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 21 14:03:42 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

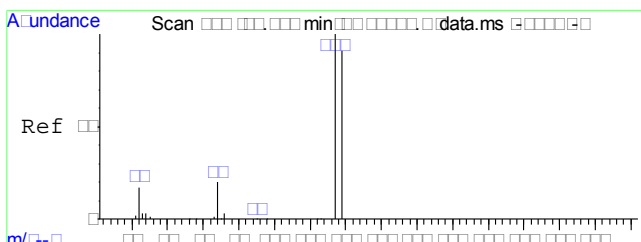
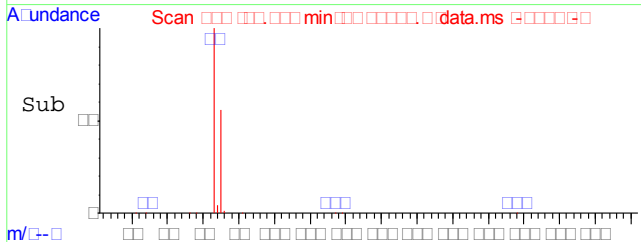
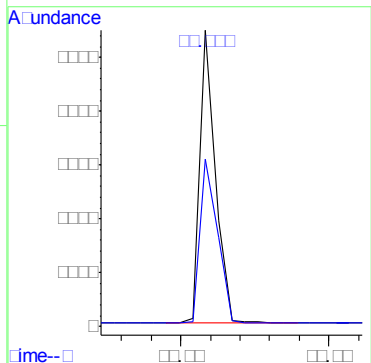
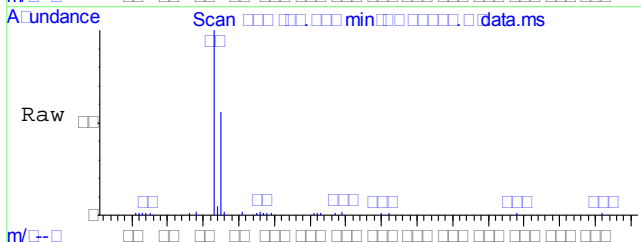


7.1.10
7



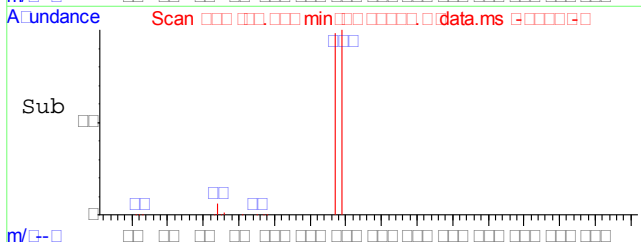
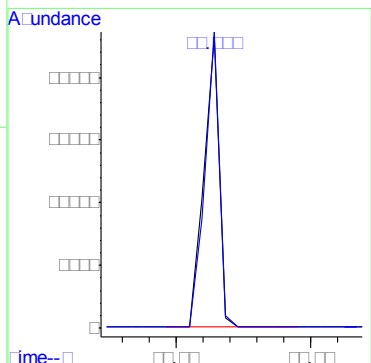
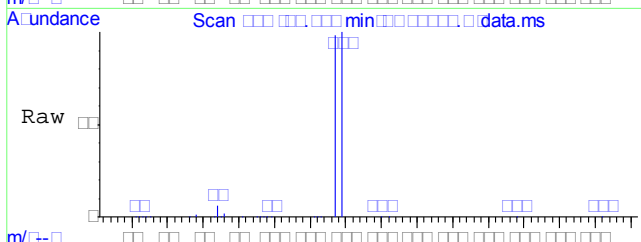
#8
 Chloroform
 Concen: 0.54 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30355.D
 Acq: 20 Jul 2015 6:37 pm

Tgt Ion: 83 Resp: 198090
 Ion Ratio Lower Upper
 83 100
 85 63.0 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 3.88 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30355.D
 Acq: 20 Jul 2015 6:37 pm

Tgt Ion: 117 Resp: 907681
 Ion Ratio Lower Upper
 117 100
 119 96.7 76.1 116.1



7.1.10
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30356.D
Acq On : 20 Jul 2015 7:08 pm
Operator : emilya
Sample : C40680-11
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jul 21 14:03:49 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1173090	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1611008	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	748379	4.93	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	98.60%
18) Toluene-d8	14.048	98	1772240	4.86	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	97.20%
Target Compounds						
8) Chloroform	10.584	83	195772	0.54	ppb	90
11) Carbon Tetrachloride	11.641	117	795664	3.42	ppb	99

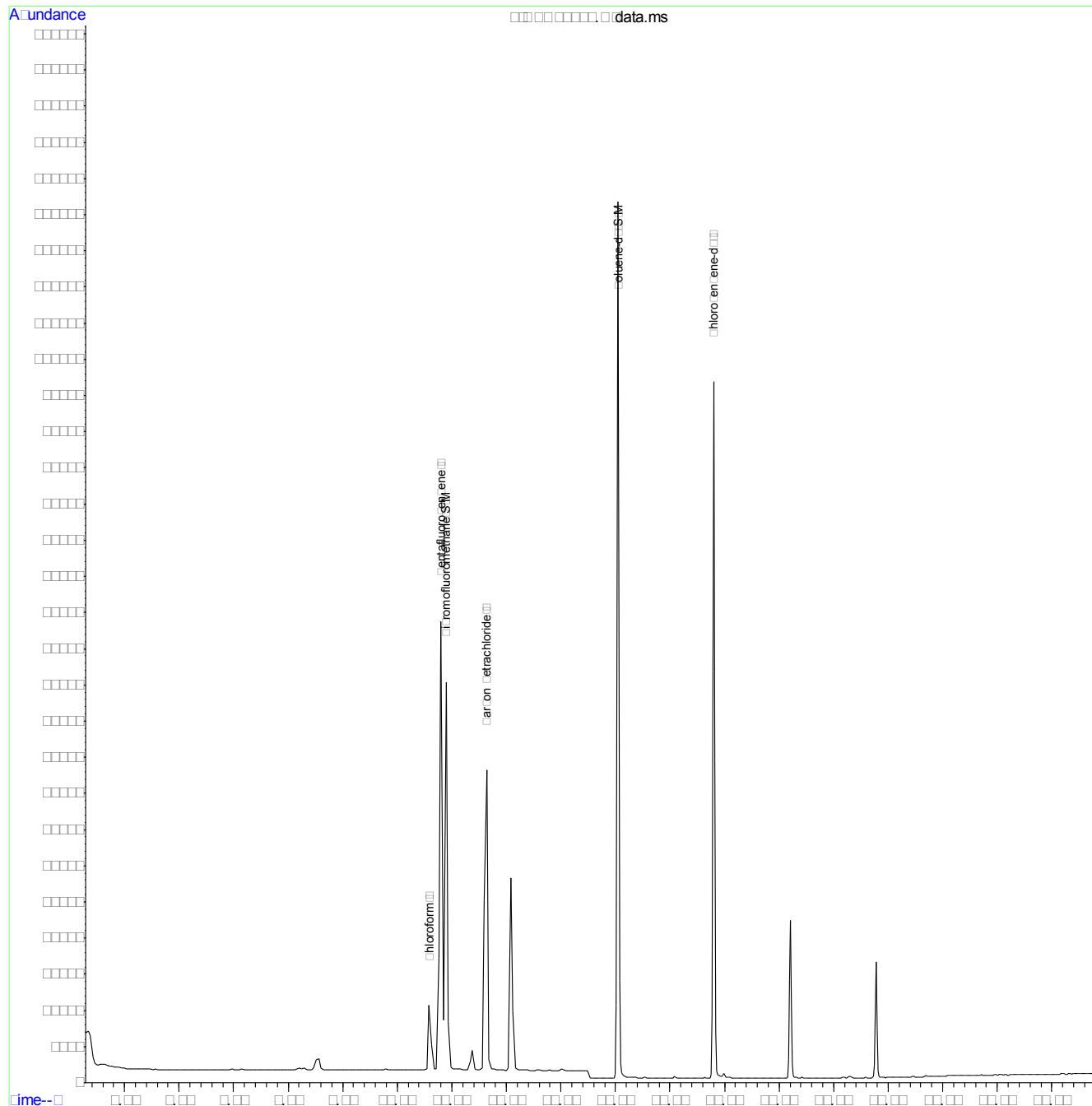
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.11
7

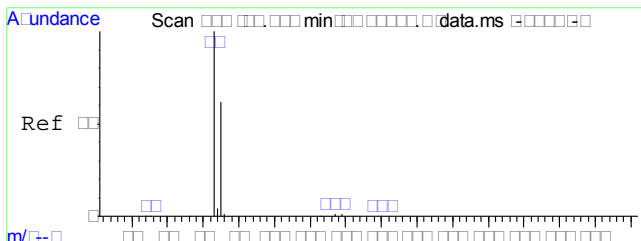
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30356.D
 Acq On : 20 Jul 2015 7:08 pm
 Operator : emilya
 Sample : C40680-11
 Misc : MS1855,VQ1319,50,,,,,1
 ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jul 21 14:03:49 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

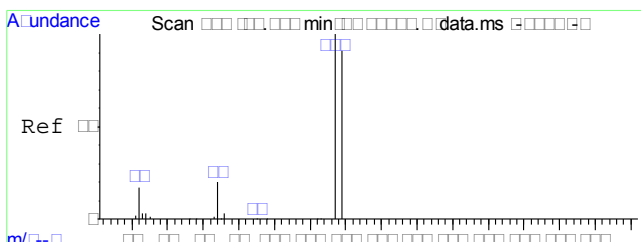
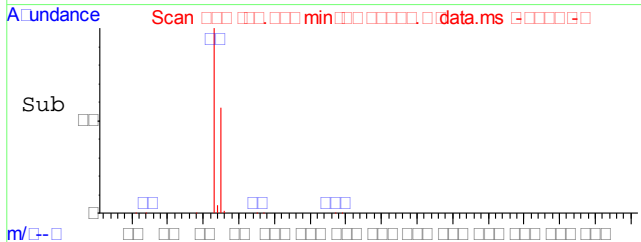
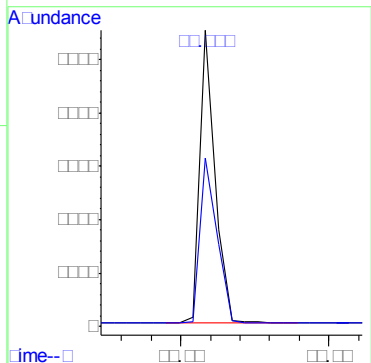
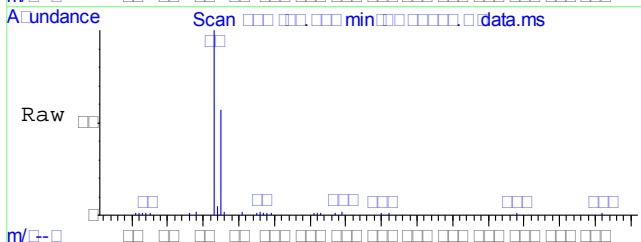


7.1.11
7



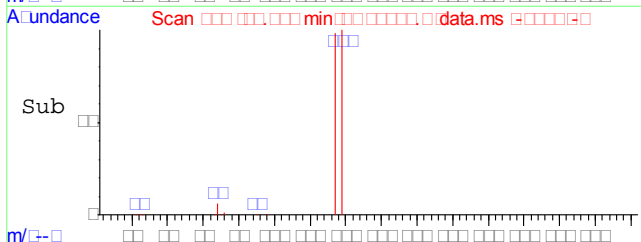
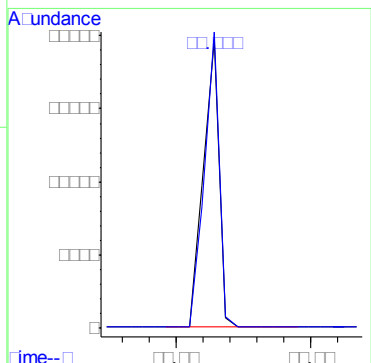
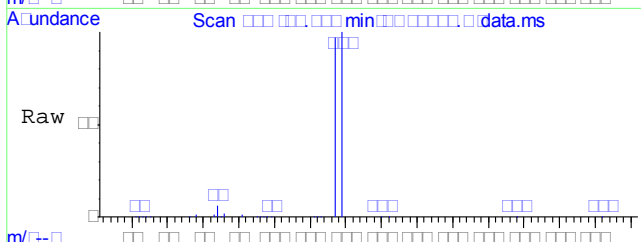
#8
 Chloroform
 Concen: 0.54 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30356.D
 Acq: 20 Jul 2015 7:08 pm

Tgt Ion: 83 Resp: 195772
 Ion Ratio Lower Upper
 83 100
 85 63.1 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 3.42 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30356.D
 Acq: 20 Jul 2015 7:08 pm

Tgt Ion: 117 Resp: 795664
 Ion Ratio Lower Upper
 117 100
 119 97.1 76.1 116.1



7.1.11
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30343.D
Acq On : 20 Jul 2015 12:31 pm
Operator : emilya
Sample : C40680-12
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 20 13:09:23 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1194105	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1679827	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	774767	5.01	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	100.20%
18) Toluene-d8	14.048	98	1955828	5.14	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	102.80%
Target Compounds						
4) Methylene Chloride	8.206	84	19180	0.10	ppb	Qvalue # 100

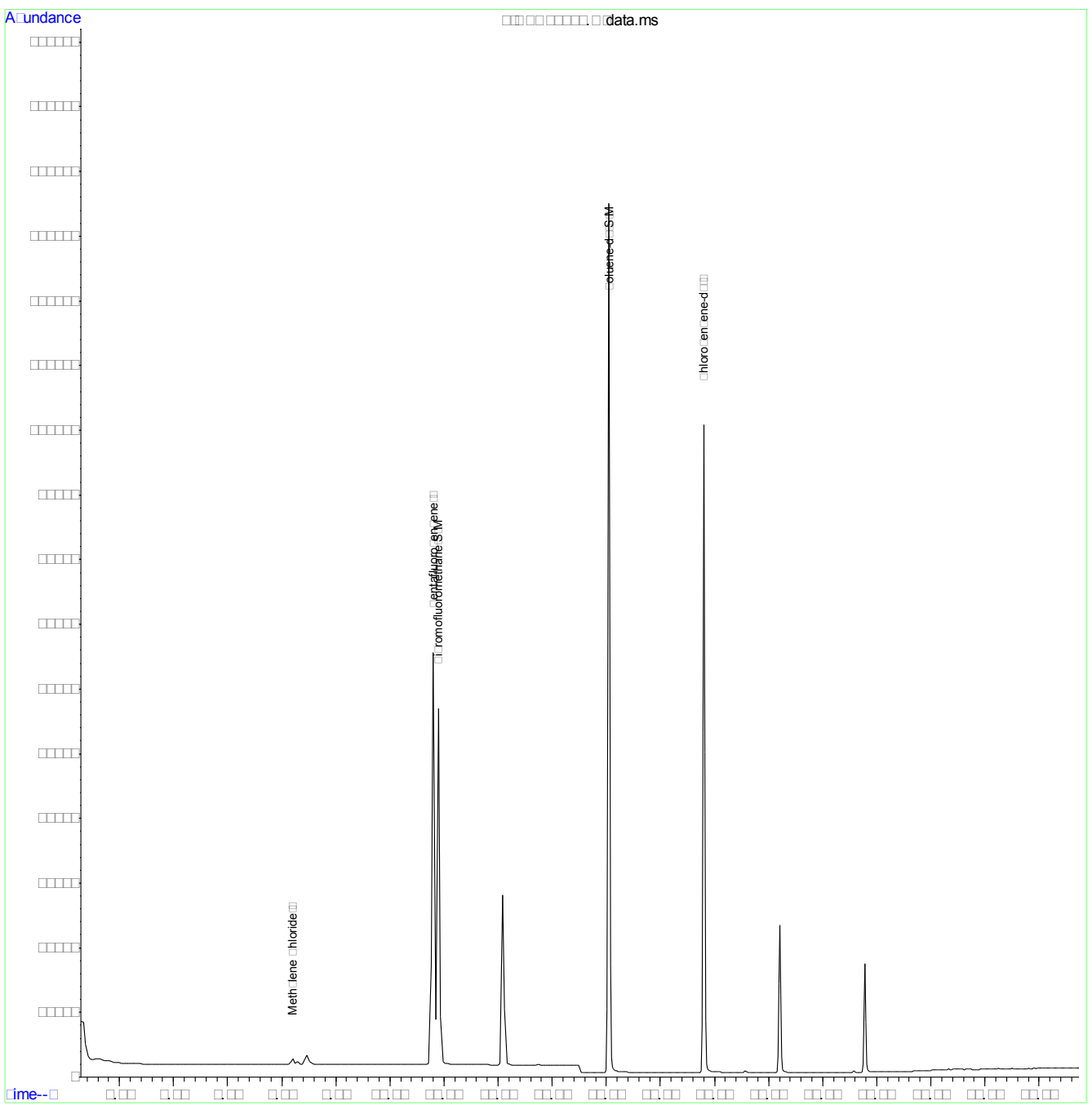
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.12
7

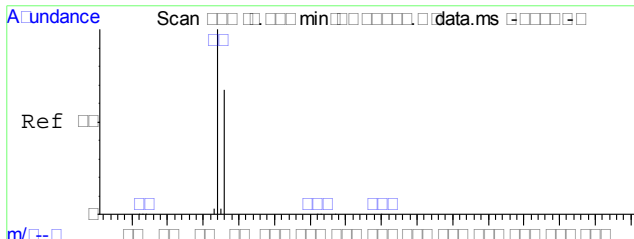
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30343.D
Acq On : 20 Jul 2015 12:31 pm
Operator : emilya
Sample : C40680-12
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 4 Sample Multiplier: 1

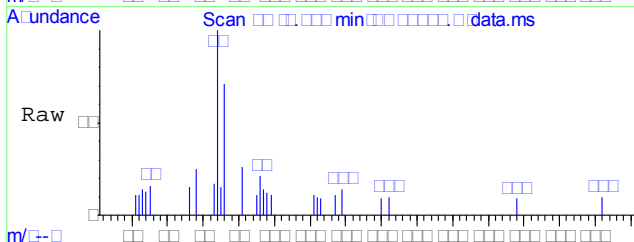
Quant Time: Jul 20 13:09:23 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



7.1.12
7

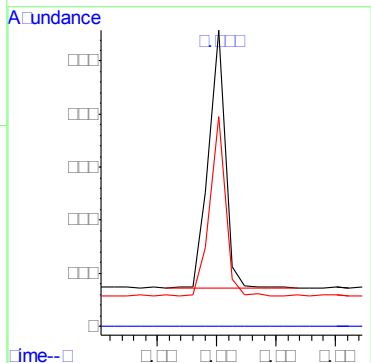
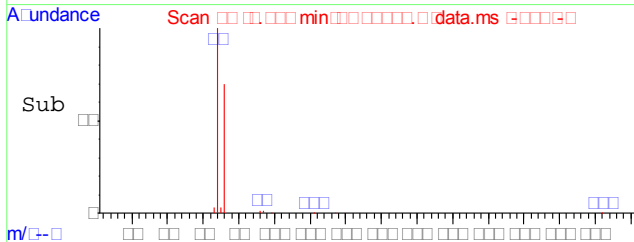


#4
 Methylene Chloride
 Concen: 0.10 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. 0.000 min
 Lab File: Q30343.D
 Acq: 20 Jul 2015 12:31 pm



Tgt Ion: 84 Resp: 19180

Ion	Ratio	Lower	Upper
84	100		
49	0.0	0.0	20.0
86	63.9	43.8	83.8



7.1.12
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30357.D
Acq On : 20 Jul 2015 7:39 pm
Operator : emilya
Sample : C40680-13
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 21 14:03:55 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1246686	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1652864	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	769090	4.77	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	95.40%
18) Toluene-d8	14.048	98	1851363	4.95	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	99.00%

Target Compounds Qvalue

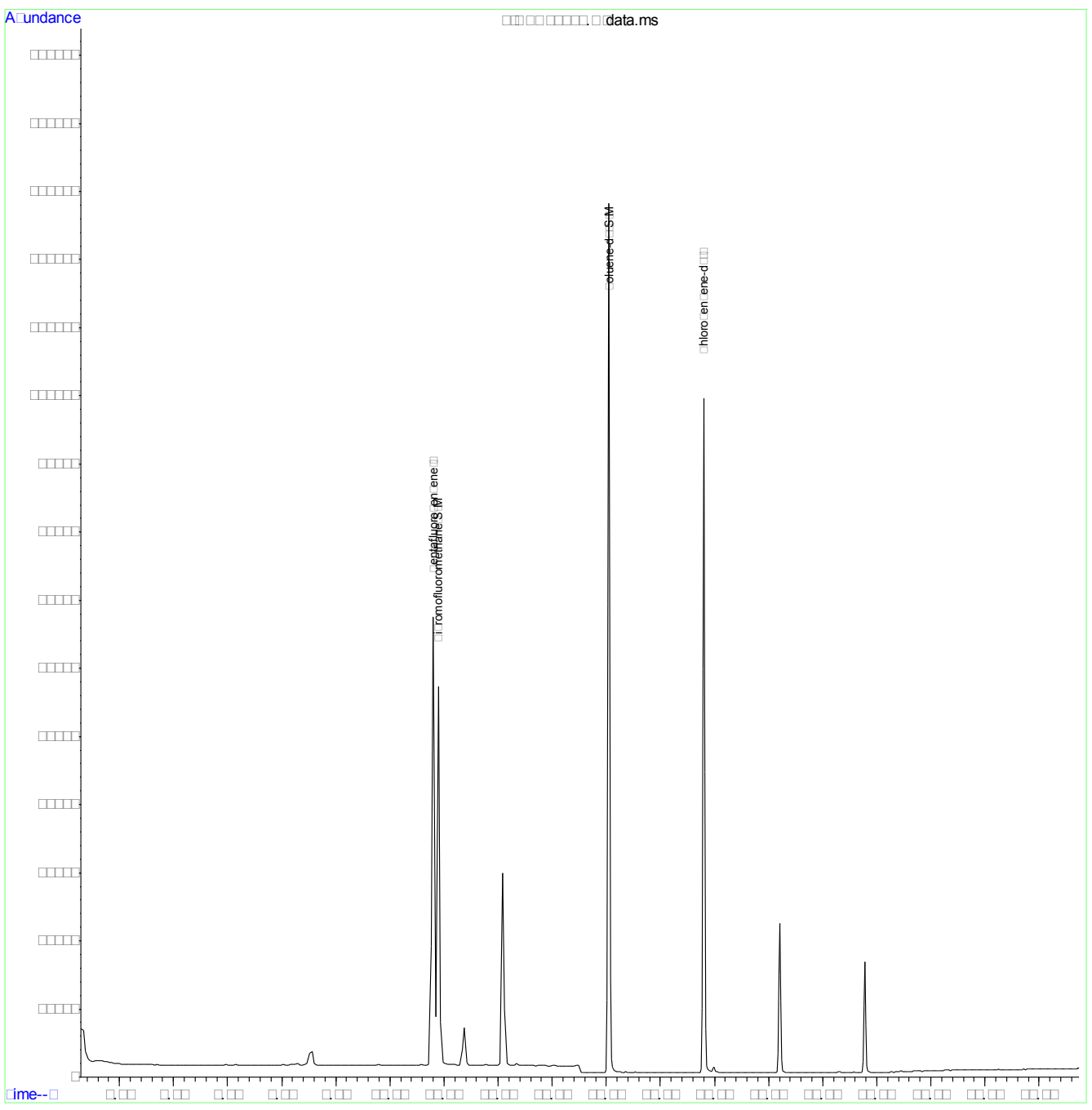
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.13
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30357.D
Acq On : 20 Jul 2015 7:39 pm
Operator : emilya
Sample : C40680-13
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 21 14:03:55 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



7.1.13
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30358.D
Acq On : 20 Jul 2015 8:09 pm
Operator : emilya
Sample : C40680-14
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 21 14:04:01 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1242235	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1640387	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	763332	4.75	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	95.00%	
18) Toluene-d8	14.048	98	1764861	4.75	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	95.00%	
Target Compounds						Qvalue

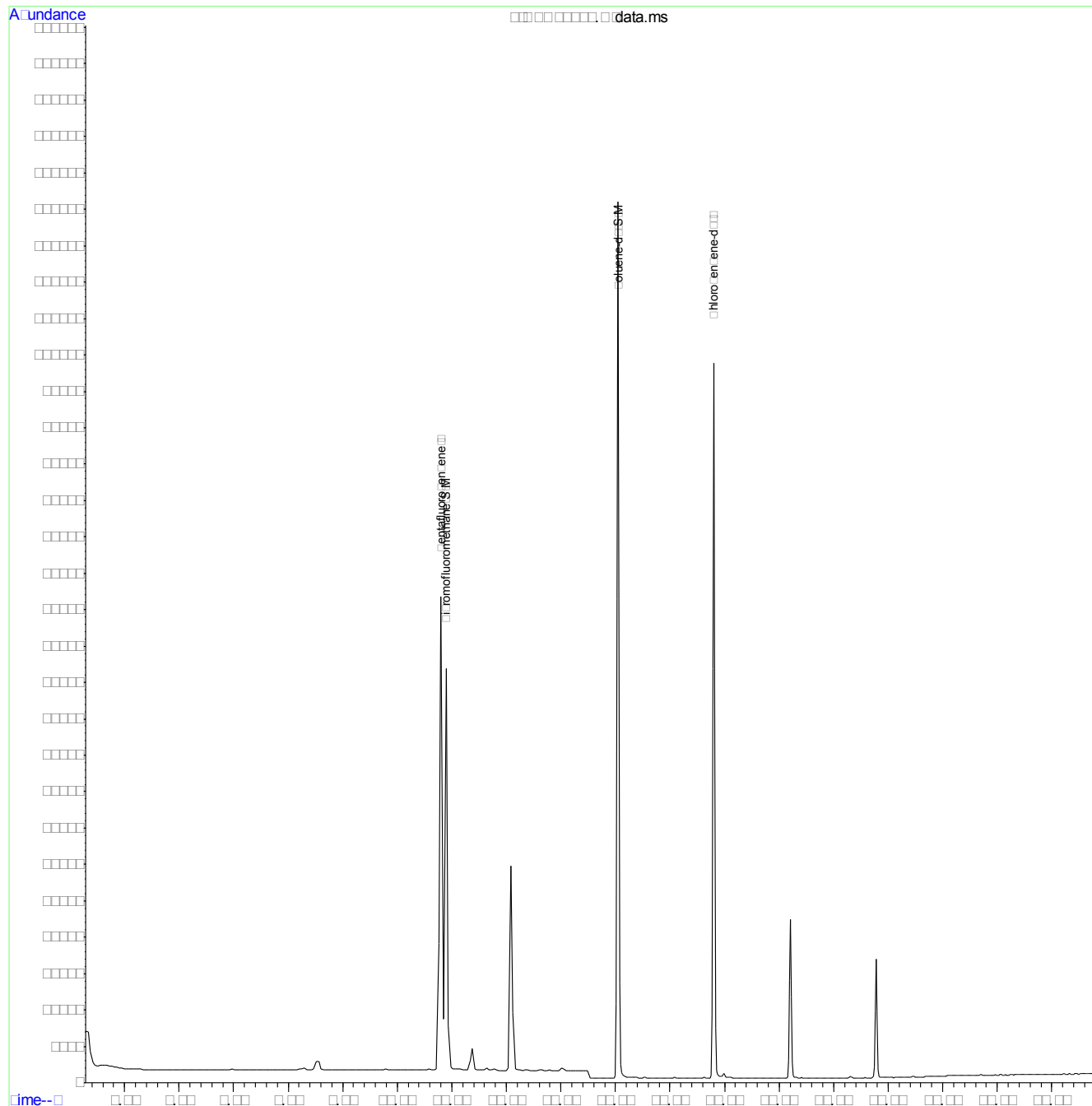
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.14
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30358.D
Acq On : 20 Jul 2015 8:09 pm
Operator : emilya
Sample : C40680-14
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 21 14:04:01 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



7.1.14
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30359.D
Acq On : 20 Jul 2015 8:40 pm
Operator : emilya
Sample : C40680-15
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jul 21 14:04:08 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1169289	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1624263	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	746503	4.93	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	98.60%
18) Toluene-d8	14.048	98	1675492	4.56	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	91.20%
Target Compounds						
11) Carbon Tetrachloride	11.641	117	9590	0.04	ppb	Qvalue 95

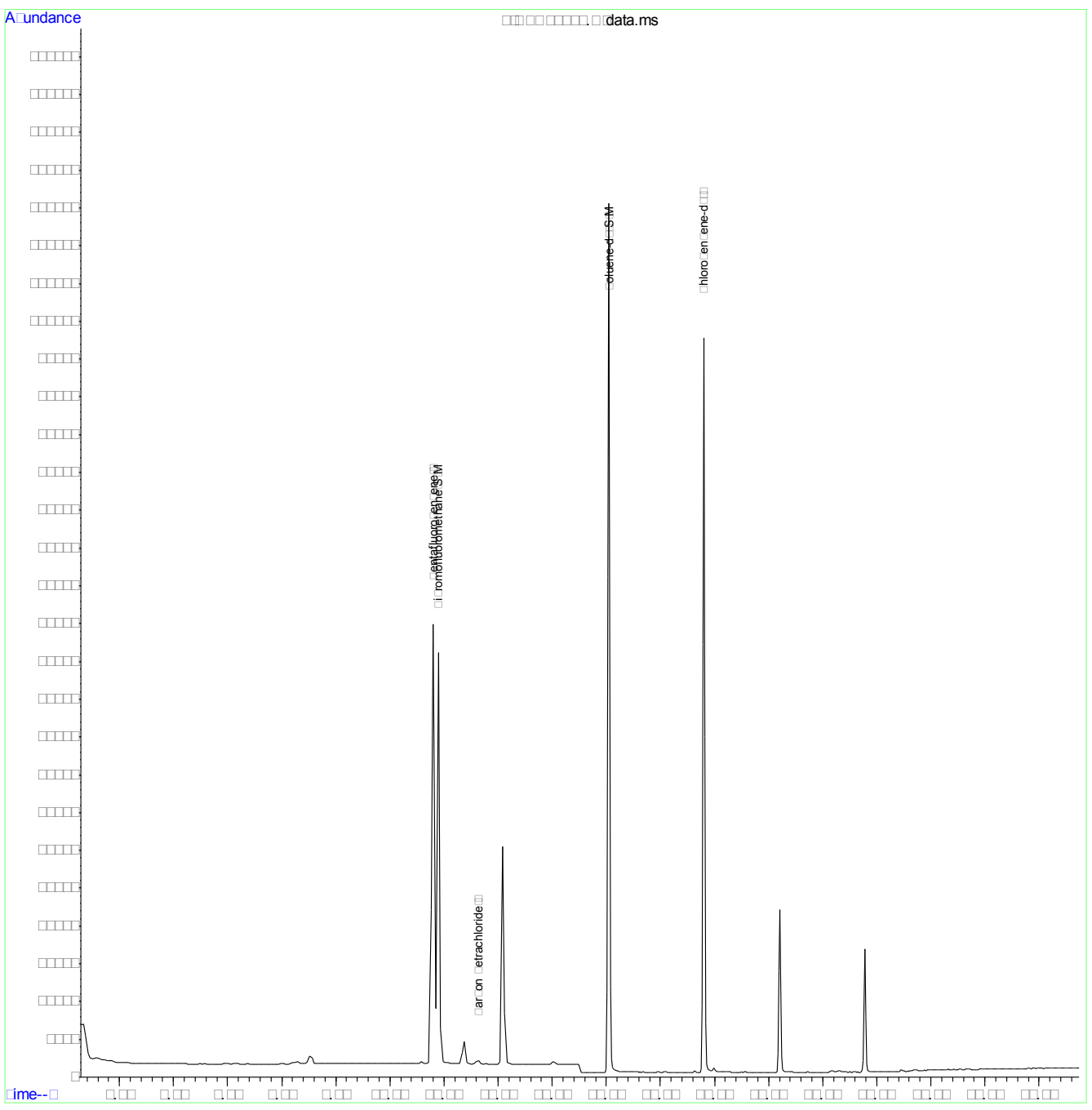
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.15
7

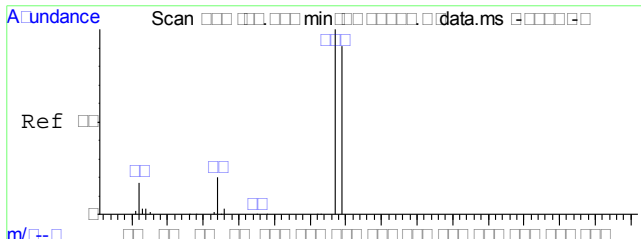
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30359.D
Acq On : 20 Jul 2015 8:40 pm
Operator : emilya
Sample : C40680-15
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 20 Sample Multiplier: 1

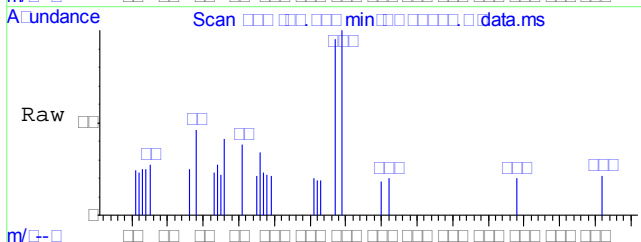
Quant Time: Jul 21 14:04:08 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



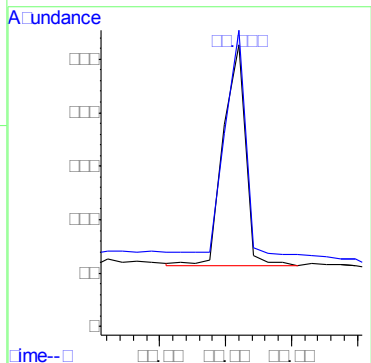
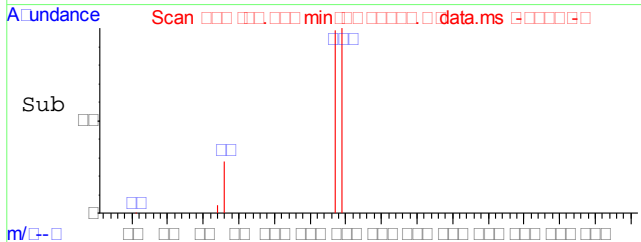
7.1.15
7



#11
Carbon Tetrachloride
Concen: 0.04 ppb
RT: 11.641 min Scan# 168
Delta R.T. -0.000 min
Lab File: Q30359.D
Acq: 20 Jul 2015 8:40 pm



Tgt Ion:117 Resp: 9590
Ion Ratio Lower Upper
117 100
119 101.4 76.1 116.1



7.1.15
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30360.D
Acq On : 20 Jul 2015 9:10 pm
Operator : emilya
Sample : C40680-16
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jul 21 14:04:17 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1185028	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1623559	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	750146	4.89	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	97.80%
18) Toluene-d8	14.048	98	1707586	4.65	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	93.00%
Target Compounds						
8) Chloroform	10.584	83	19735	0.05	ppb	Qvalue 87
11) Carbon Tetrachloride	11.640	117	58439	0.25	ppb	100

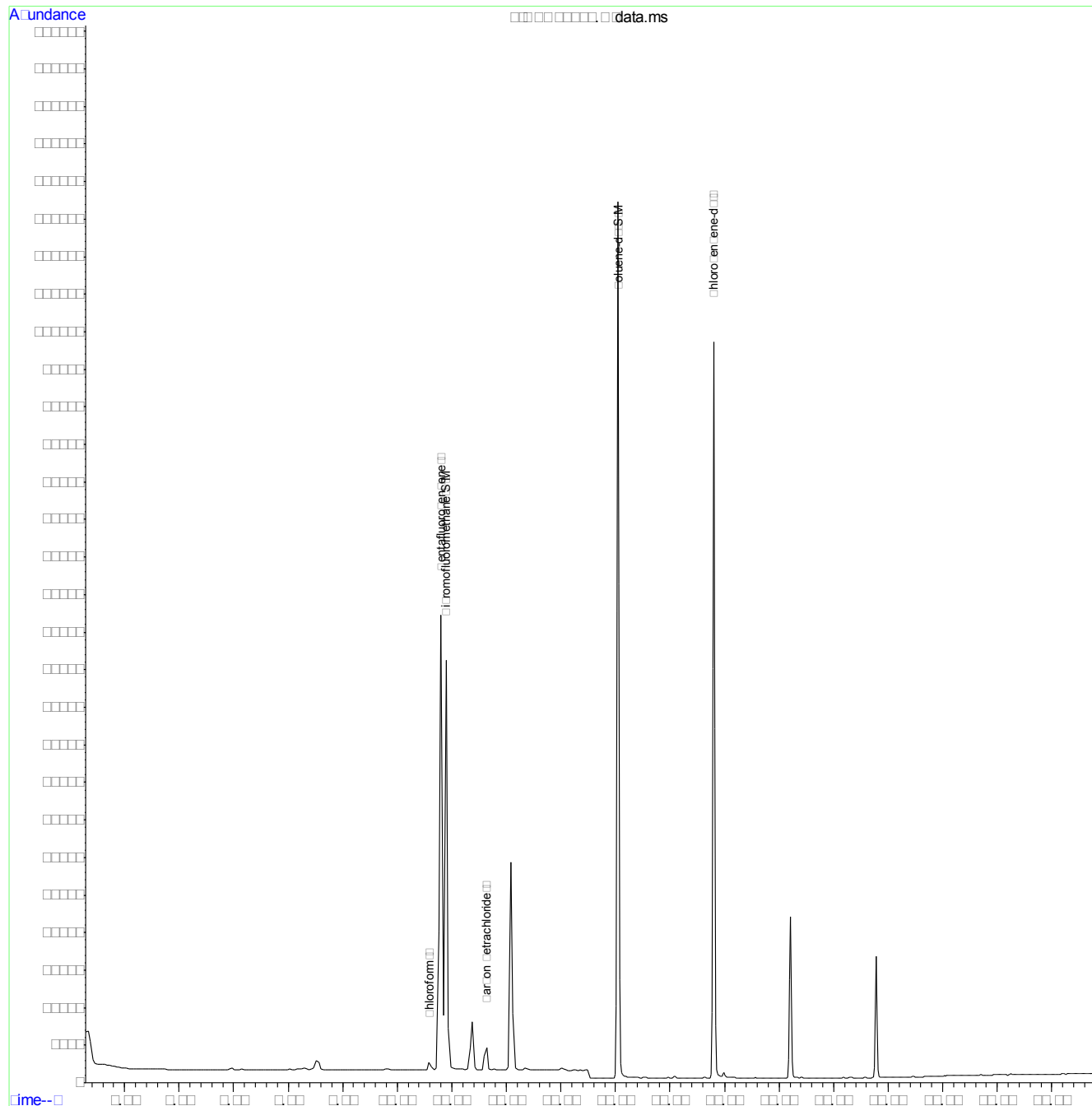
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.16
7

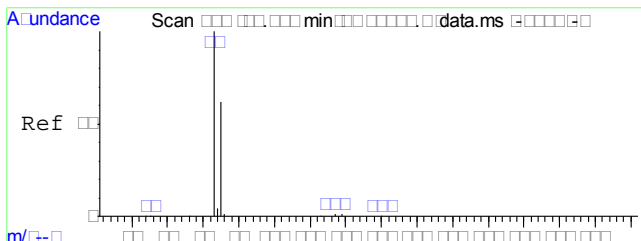
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30360.D
 Acq On : 20 Jul 2015 9:10 pm
 Operator : emilya
 Sample : C40680-16
 Misc : MS1855,VQ1319,50,,,,,1
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jul 21 14:04:17 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

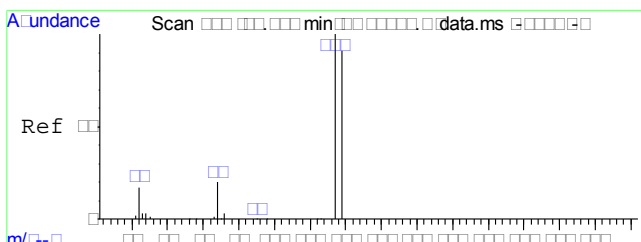
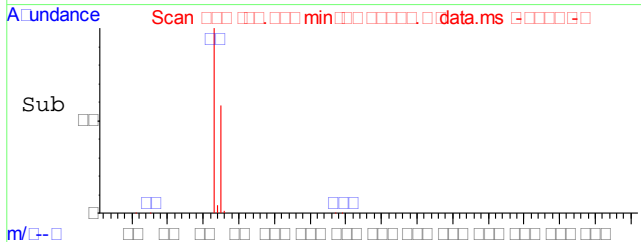
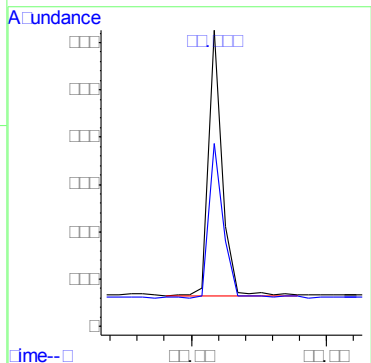
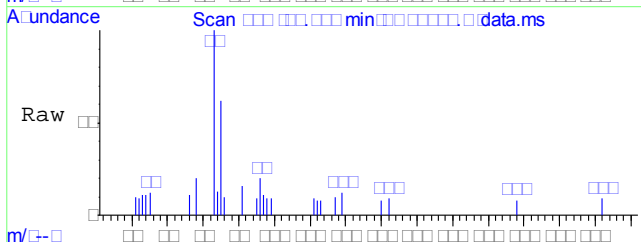


7.1.16
7



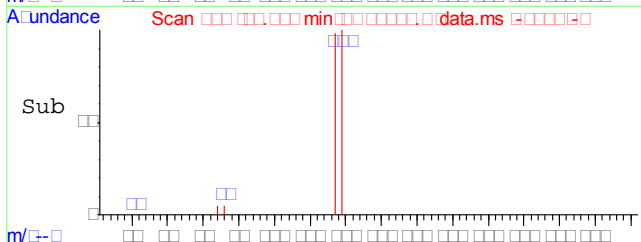
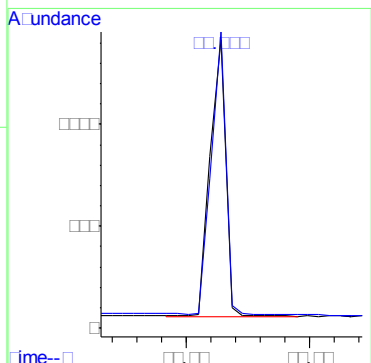
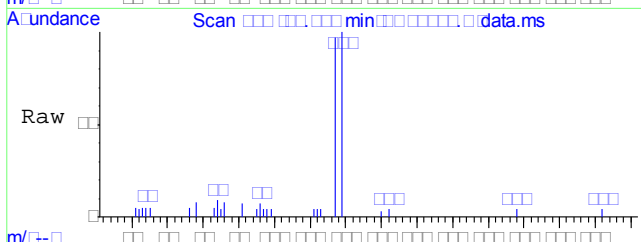
#8
 Chloroform
 Concen: 0.05 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30360.D
 Acq: 20 Jul 2015 9:10 pm

Tgt Ion: 83 Resp: 19735
 Ion Ratio Lower Upper
 83 100
 85 60.2 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 0.25 ppb
 RT: 11.640 min Scan# 168
 Delta R.T. -0.001 min
 Lab File: Q30360.D
 Acq: 20 Jul 2015 9:10 pm

Tgt Ion: 117 Resp: 58439
 Ion Ratio Lower Upper
 117 100
 119 96.2 76.1 116.1



7.1.16
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30361.D
Acq On : 20 Jul 2015 9:41 pm
Operator : emilya
Sample : C40680-17
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 21 14:04:26 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1190339	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1613465	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	745414	4.84	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	96.80%
18) Toluene-d8	14.048	98	1718502	4.71	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	94.20%
Target Compounds						
8) Chloroform	10.584	83	25362	0.07	ppb	88
11) Carbon Tetrachloride	11.640	117	81162	0.34	ppb	98

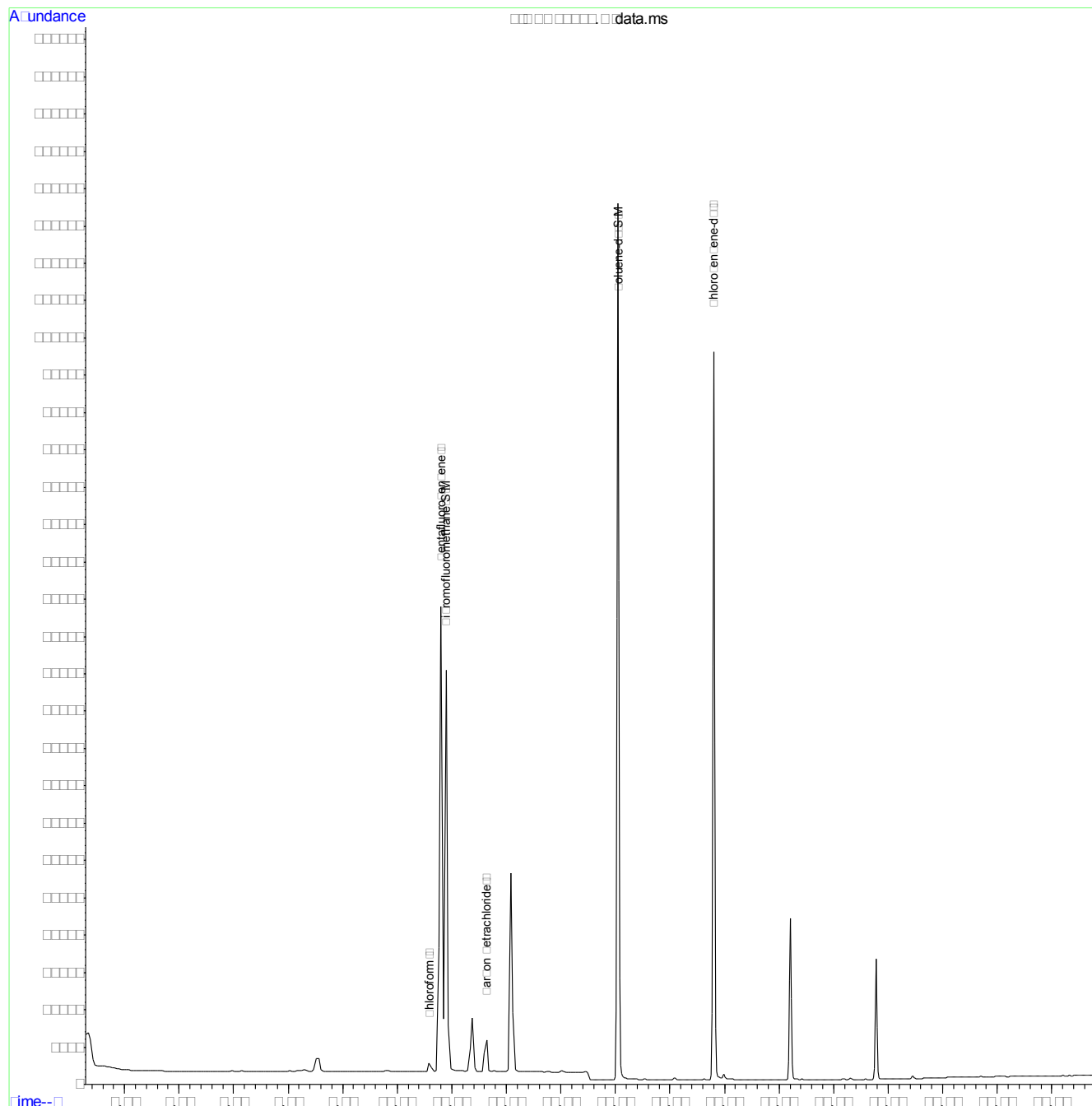
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.17
7

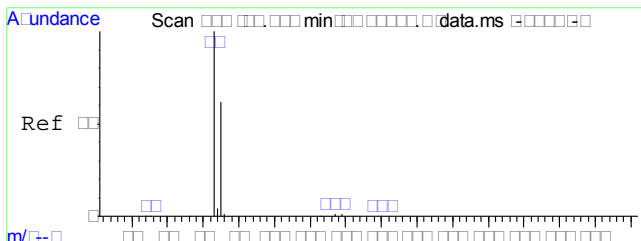
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30361.D
 Acq On : 20 Jul 2015 9:41 pm
 Operator : emilya
 Sample : C40680-17
 Misc : MS1855,VQ1319,50,,,,,1
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 21 14:04:26 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

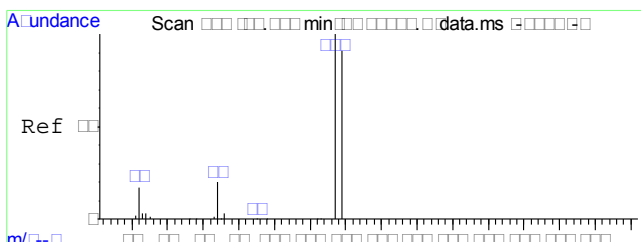
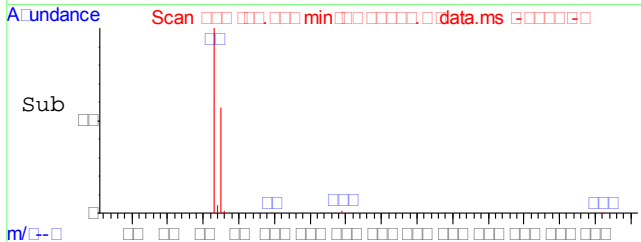
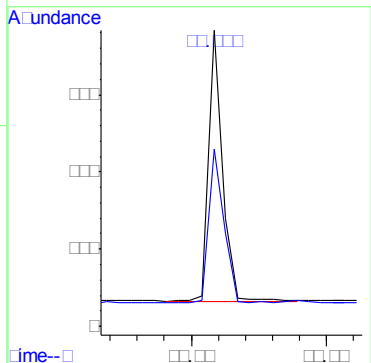
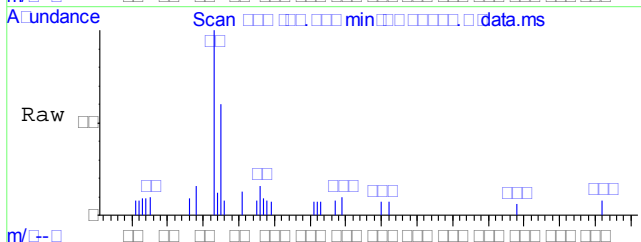


7.1.17
7



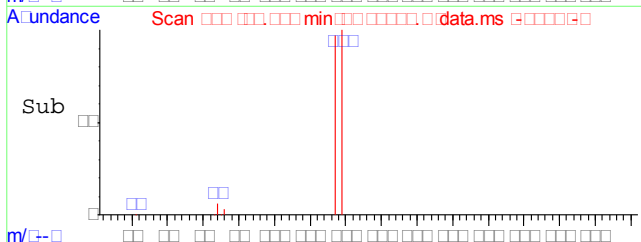
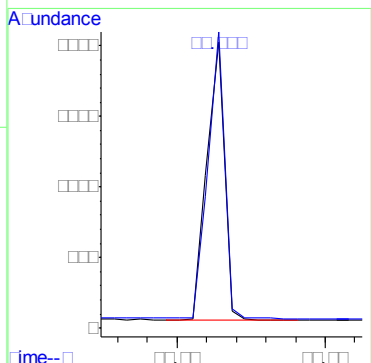
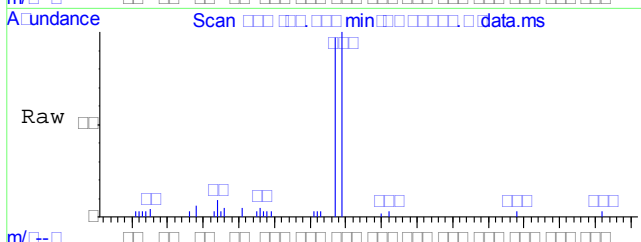
#8
 Chloroform
 Concen: 0.07 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30361.D
 Acq: 20 Jul 2015 9:41 pm

Tgt Ion: 83 Resp: 25362
 Ion Ratio Lower Upper
 83 100
 85 61.6 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 0.34 ppb
 RT: 11.640 min Scan# 168
 Delta R.T. -0.001 min
 Lab File: Q30361.D
 Acq: 20 Jul 2015 9:41 pm

Tgt Ion: 117 Resp: 81162
 Ion Ratio Lower Upper
 117 100
 119 97.7 76.1 116.1



7.1.17
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30369.D
 Acq On : 21 Jul 2015 12:07 pm
 Operator : emilya
 Sample : C40680-18
 Misc : MS1855,VQ1320,50,,,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 21 13:53:41 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1223947	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1656628	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	766977	4.84	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	96.80%	
18) Toluene-d8	14.048	98	1869294	4.98	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.60%	

Target Compounds Qvalue

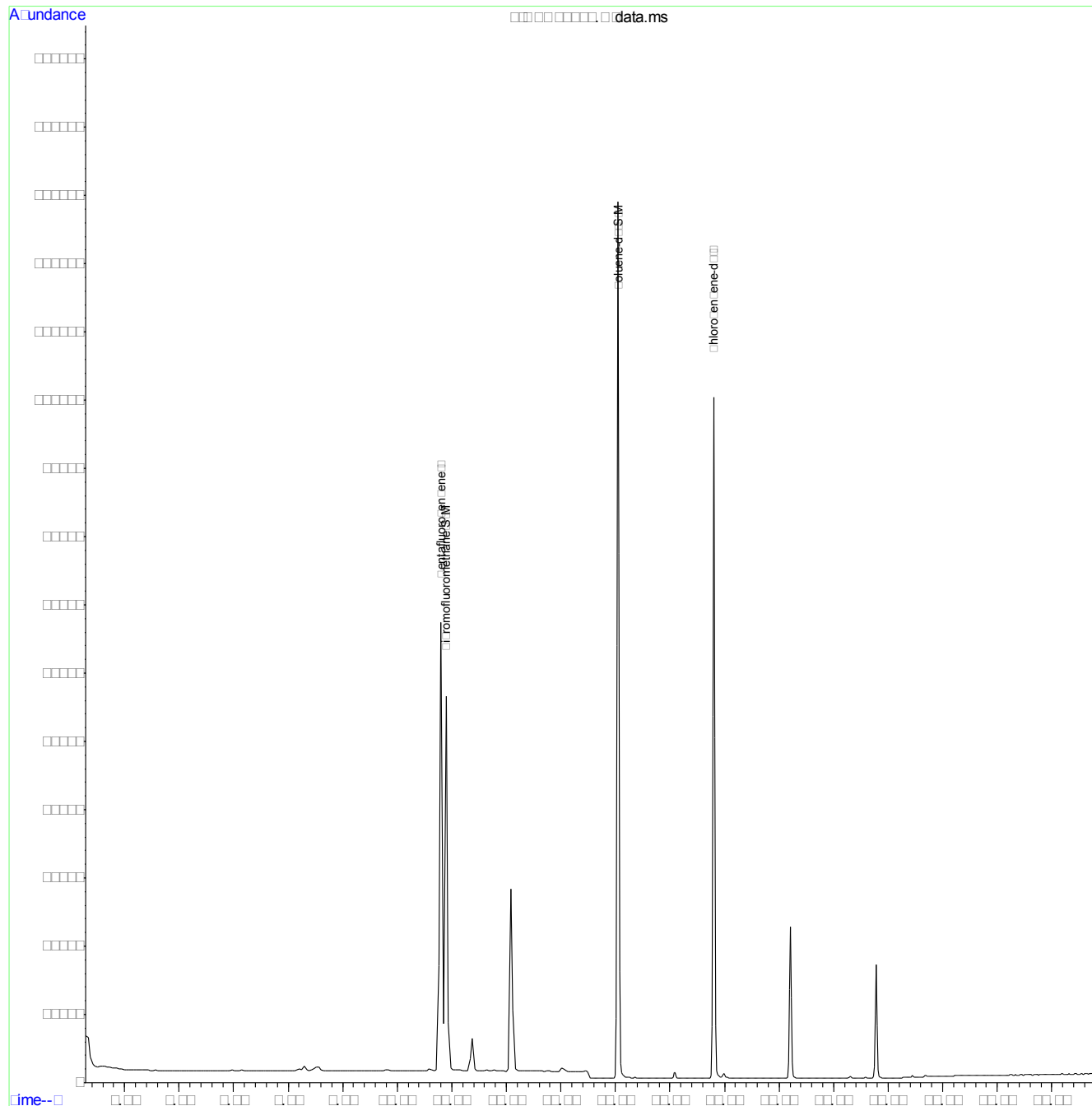
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.18
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30369.D
Acq On : 21 Jul 2015 12:07 pm
Operator : emilya
Sample : C40680-18
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 21 13:53:41 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



7.1.18
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30370.D
Acq On : 21 Jul 2015 12:38 pm
Operator : emilya
Sample : C40680-19
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 21 13:54:04 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1207229	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1652771	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	769458	4.93	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.60%	
18) Toluene-d8	14.048	98	1866318	4.99	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.80%	
Target Compounds						
8) Chloroform	10.584	83	25046	0.07	ppb	89
11) Carbon Tetrachloride	11.641	117	46867	0.20	ppb	99

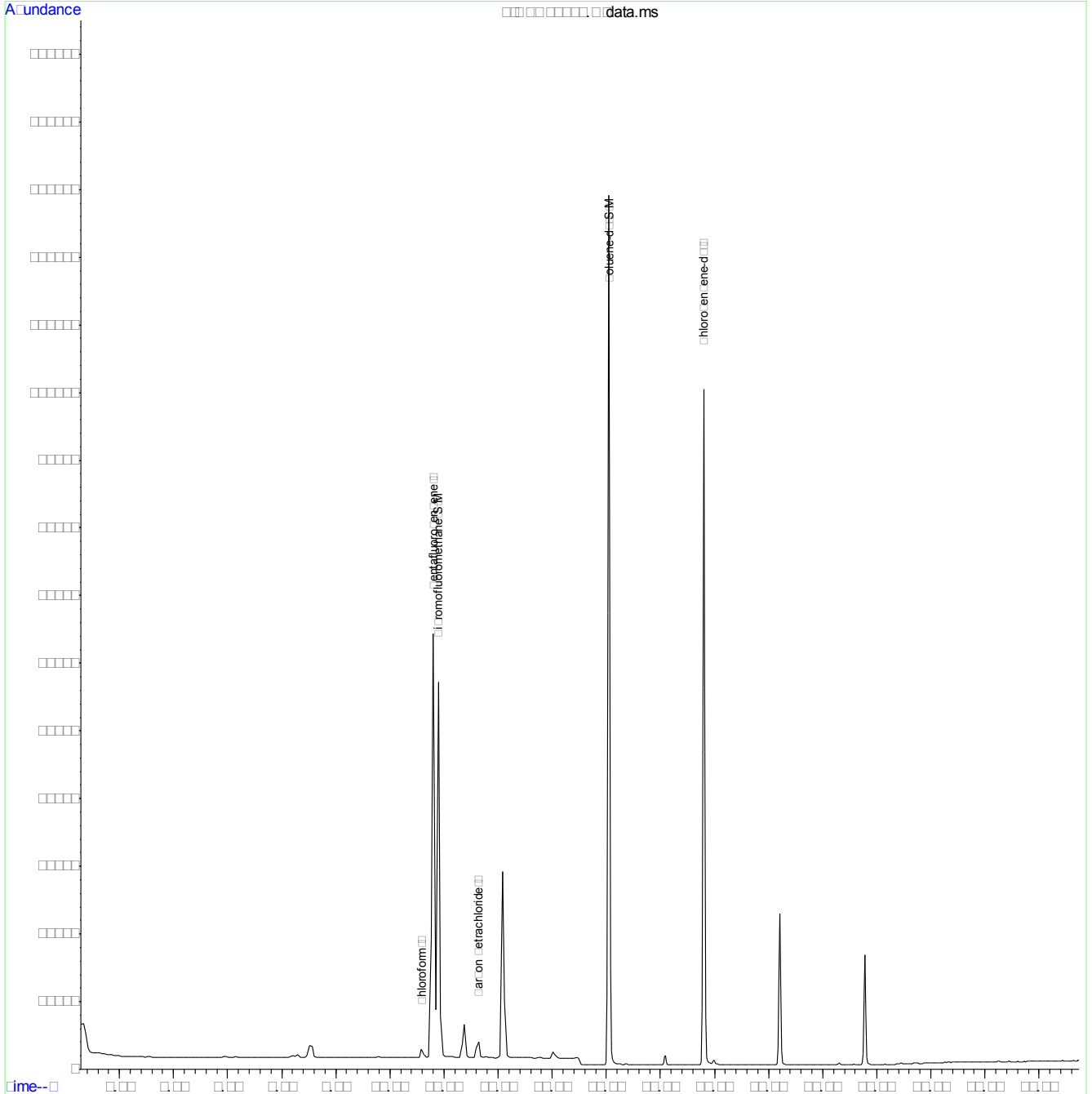
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.19
7

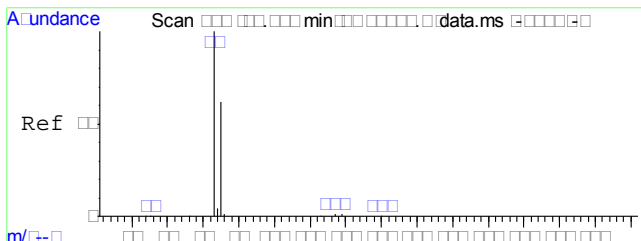
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30370.D
Acq On : 21 Jul 2015 12:38 pm
Operator : emilya
Sample : C40680-19
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 21 13:54:04 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

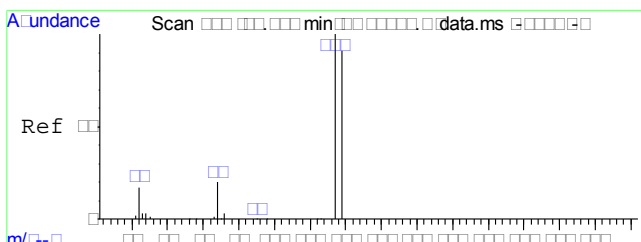
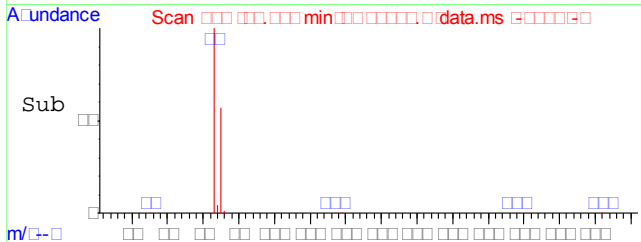
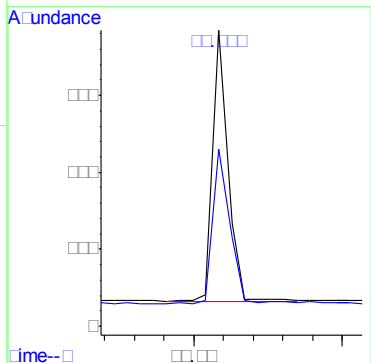
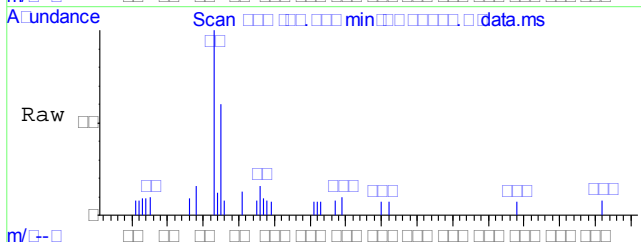


7.1.19
7



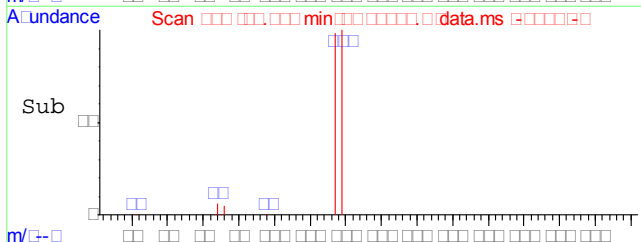
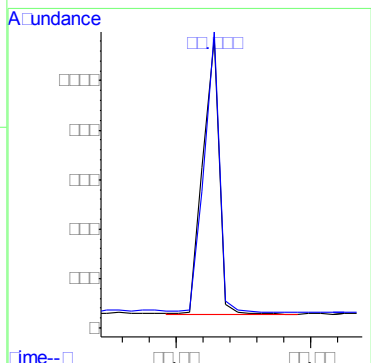
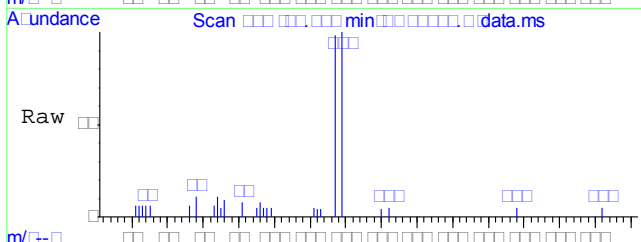
#8
 Chloroform
 Concen: 0.07 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30370.D
 Acq: 21 Jul 2015 12:38 pm

Tgt Ion	Resp	Lower	Upper
83	25046		
85	62.3	51.3	91.3



#11
 Carbon Tetrachloride
 Concen: 0.20 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30370.D
 Acq: 21 Jul 2015 12:38 pm

Tgt Ion	Resp	Lower	Upper
117	46867		
119	95.2	76.1	116.1



7.1.19
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30371.D
Acq On : 21 Jul 2015 1:09 pm
Operator : emilya
Sample : C40680-20
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 21 13:54:18 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1219950	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1649142	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	759926	4.81	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	96.20%	
18) Toluene-d8	14.048	98	1868395	5.01	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.20%	
Target Compounds						
8) Chloroform	10.584	83	27528	0.07	ppb	90
11) Carbon Tetrachloride	11.641	117	54344	0.22	ppb	98

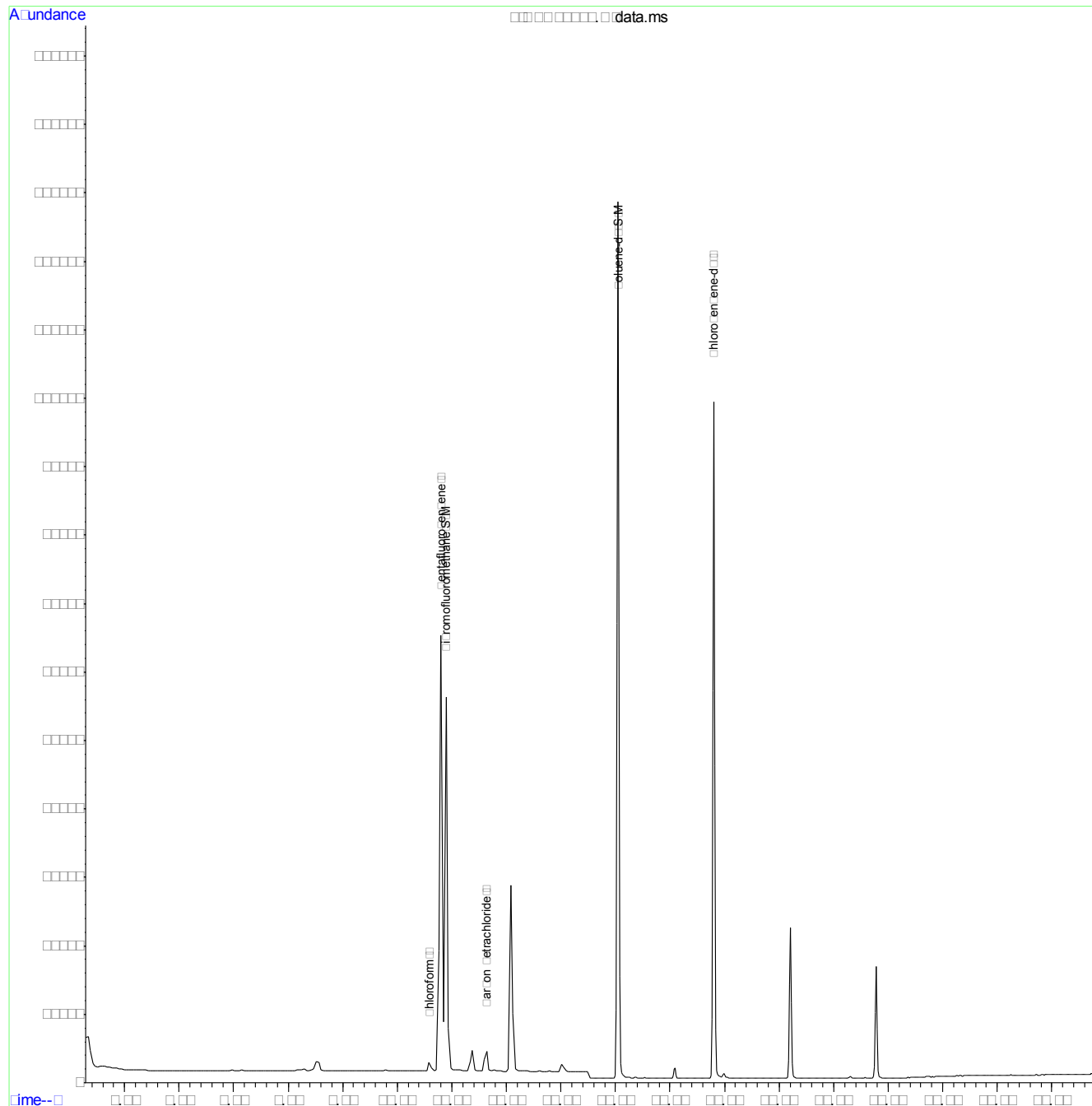
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.20
7

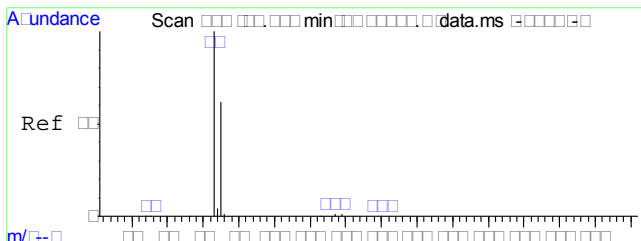
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30371.D
 Acq On : 21 Jul 2015 1:09 pm
 Operator : emilya
 Sample : C40680-20
 Misc : MS1855,VQ1320,50,,,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 21 13:54:18 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

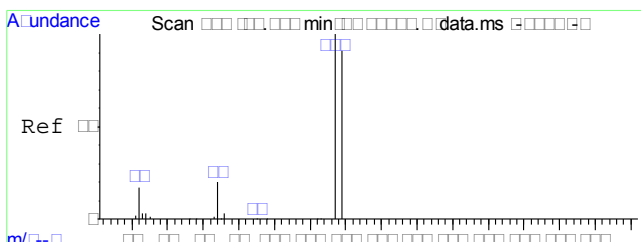
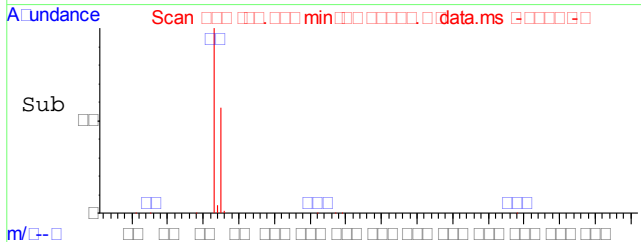
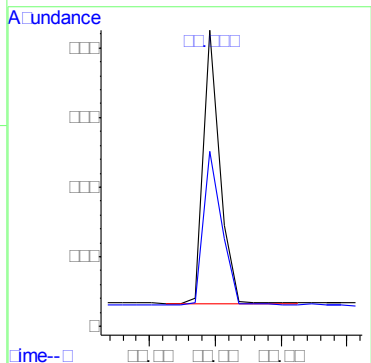
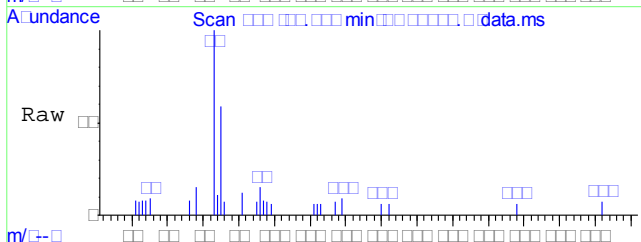


7.1.20
7



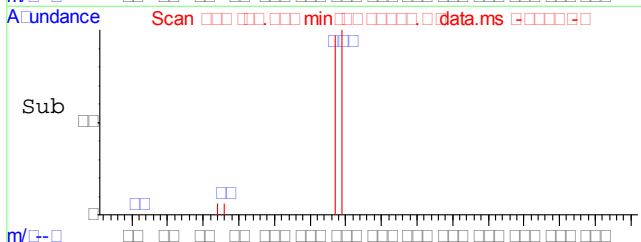
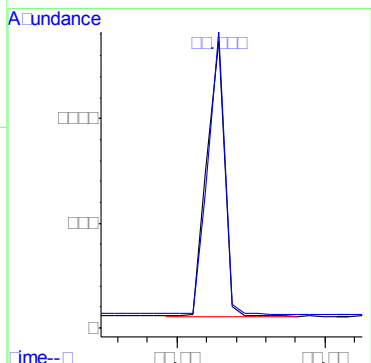
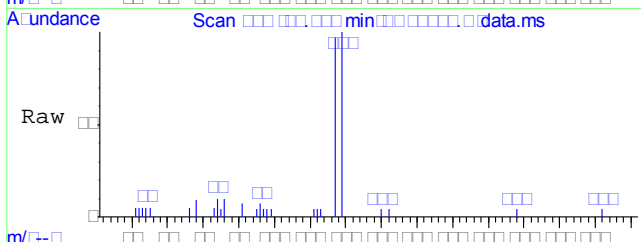
#8
 Chloroform
 Concen: 0.07 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30371.D
 Acq: 21 Jul 2015 1:09 pm

Tgt Ion: 83 Resp: 27528
 Ion Ratio Lower Upper
 83 100
 85 63.2 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 0.22 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30371.D
 Acq: 21 Jul 2015 1:09 pm

Tgt Ion: 117 Resp: 54344
 Ion Ratio Lower Upper
 117 100
 119 97.6 76.1 116.1



7.1.20
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30372.D
Acq On : 21 Jul 2015 1:39 pm
Operator : emilya
Sample : C40680-21
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 21 14:07:15 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1158424	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1591369	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	733665	4.89	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	97.80%
18) Toluene-d8	14.048	98	1749261	4.86	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	97.20%
Target Compounds						
8) Chloroform	10.584	83	32998	0.09	ppb	90
11) Carbon Tetrachloride	11.641	117	77490	0.34	ppb	99

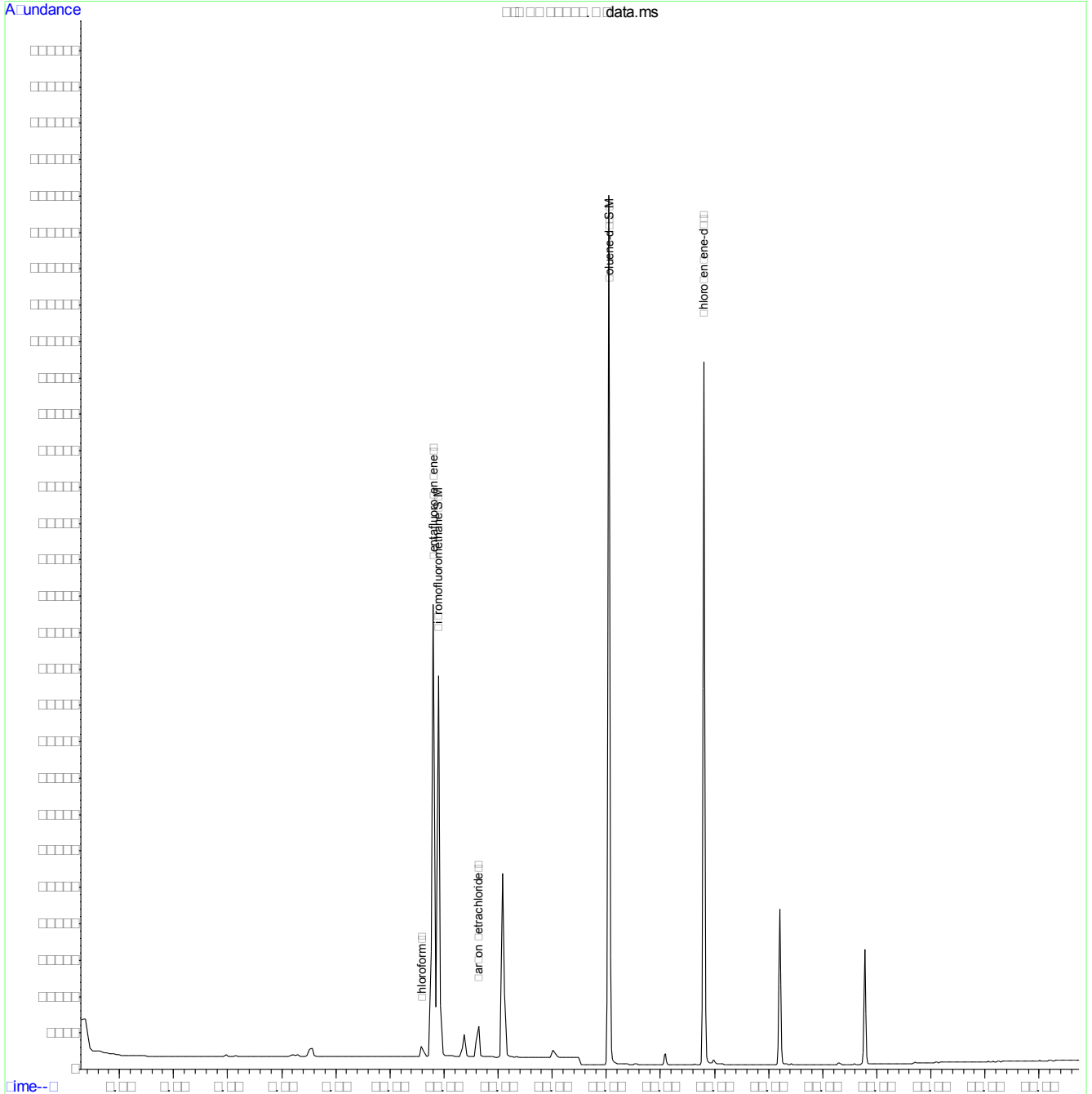
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.21
7

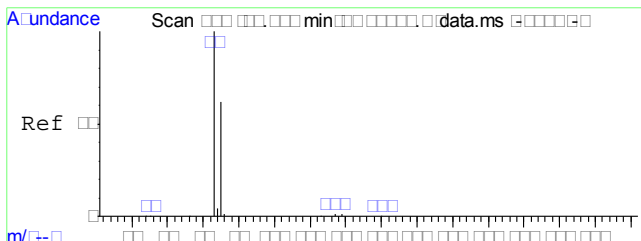
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30372.D
Acq On : 21 Jul 2015 1:39 pm
Operator : emilya
Sample : C40680-21
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 21 14:07:15 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

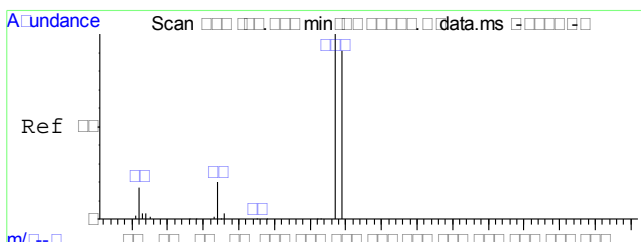
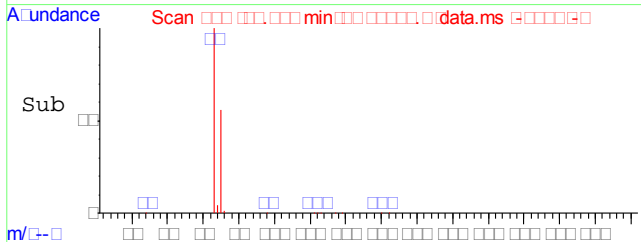
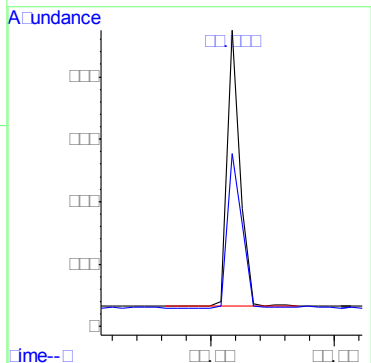
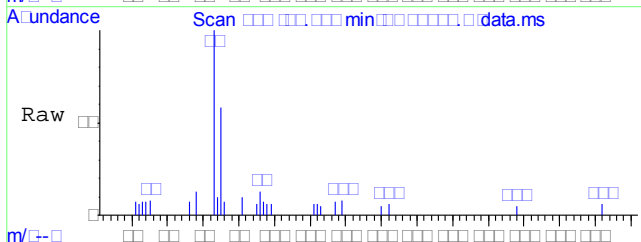


7.1.21
7



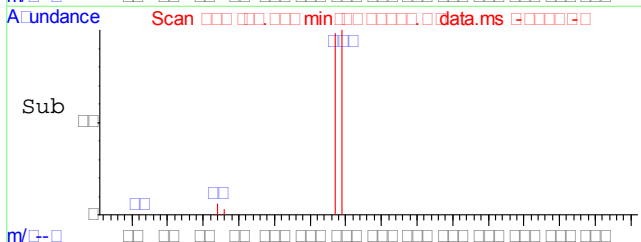
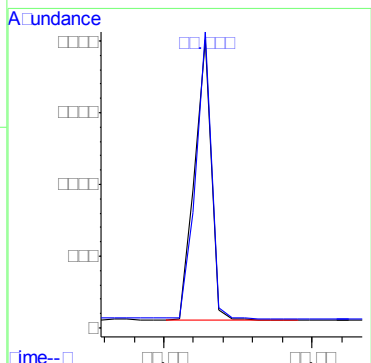
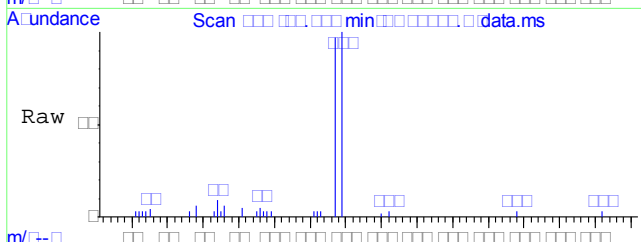
#8
 Chloroform
 Concen: 0.09 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30372.D
 Acq: 21 Jul 2015 1:39 pm

Tgt Ion: 83 Resp: 32998
 Ion Ratio Lower Upper
 83 100
 85 62.6 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 0.34 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30372.D
 Acq: 21 Jul 2015 1:39 pm

Tgt Ion: 117 Resp: 77490
 Ion Ratio Lower Upper
 117 100
 119 96.8 76.1 116.1



7.1.21
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30373.D
 Acq On : 21 Jul 2015 2:10 pm
 Operator : emilya
 Sample : C40680-22
 Misc : MS1855,VQ1320,50,,,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 21 15:34:39 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

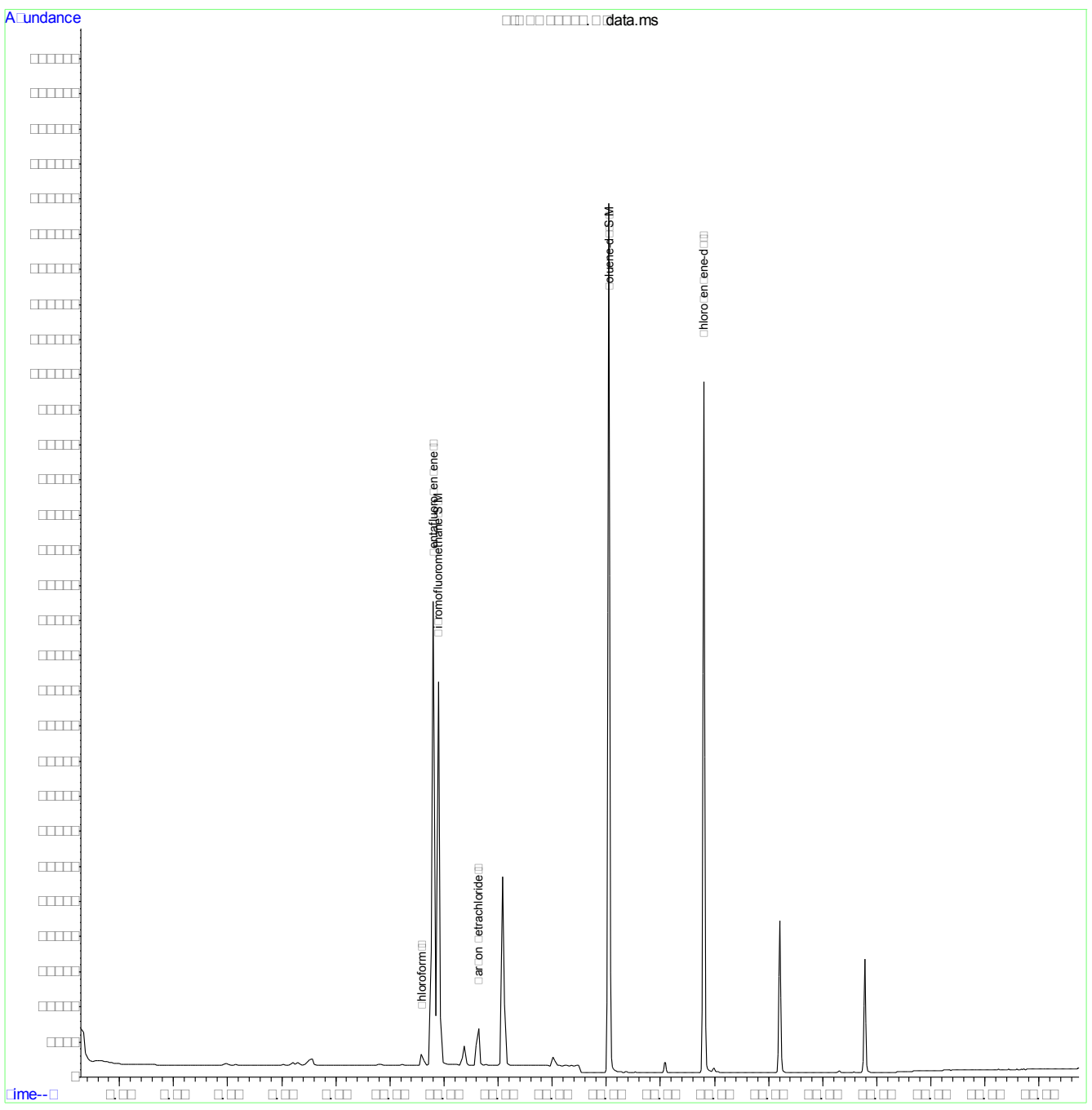
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1244184	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1640082	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	758441	4.71	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	94.20%
18) Toluene-d8	14.048	98	1812288	4.88	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	97.60%
Target Compounds						
8) Chloroform	10.584	83	35007	0.09	ppb	91
11) Carbon Tetrachloride	11.641	117	97565	0.40	ppb	99

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

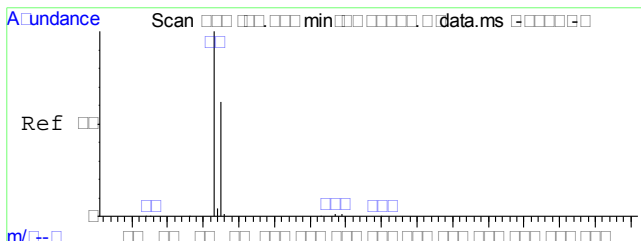
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30373.D
Acq On : 21 Jul 2015 2:10 pm
Operator : emilya
Sample : C40680-22
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 21 15:34:39 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

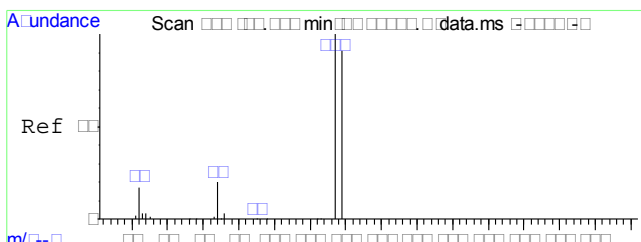
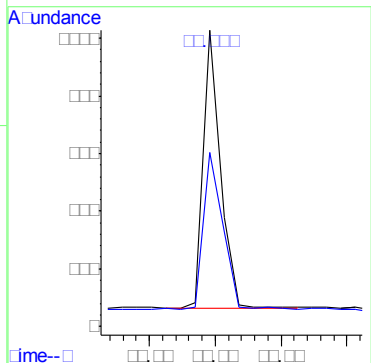
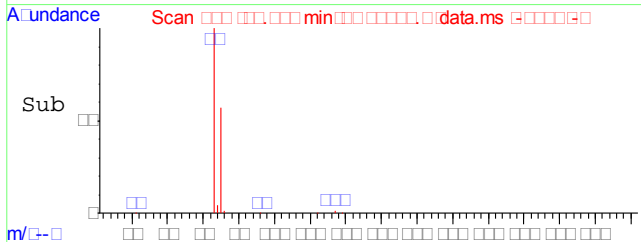
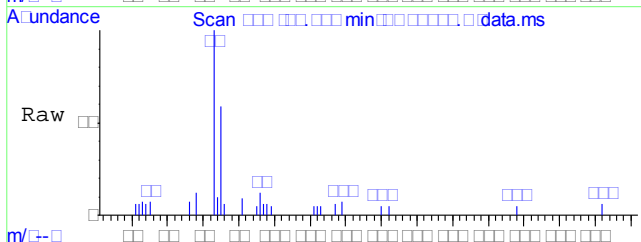


7.1.22
7



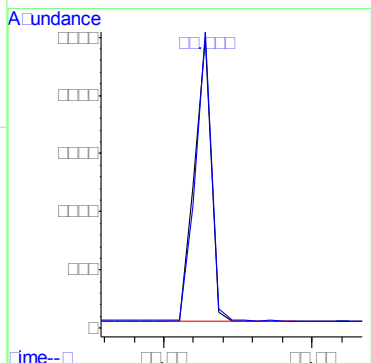
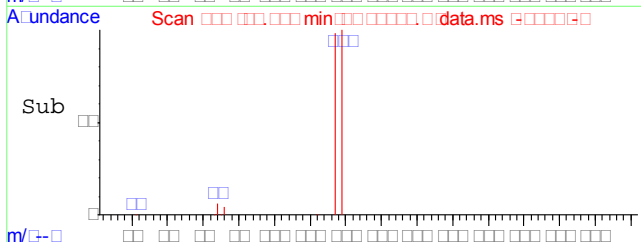
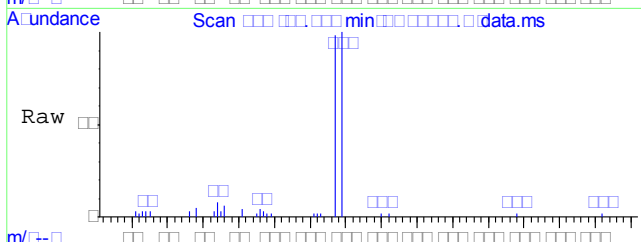
#8
 Chloroform
 Concen: 0.09 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30373.D
 Acq: 21 Jul 2015 2:10 pm

Tgt Ion: 83 Resp: 35007
 Ion Ratio Lower Upper
 83 100
 85 63.6 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 0.40 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30373.D
 Acq: 21 Jul 2015 2:10 pm

Tgt Ion: 117 Resp: 97565
 Ion Ratio Lower Upper
 117 100
 119 97.5 76.1 116.1



7.1.22
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30376.D
Acq On : 21 Jul 2015 3:42 pm
Operator : emilya
Sample : C40680-23
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 21 16:59:47 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1195100	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1632626	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	754564	4.88	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.60%	
18) Toluene-d8	14.048	98	1766023	4.78	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	95.60%	
Target Compounds						
4) Methylene Chloride	8.206	84	10727	0.06	ppb	# 18
8) Chloroform	10.584	83	29721	0.08	ppb	91
11) Carbon Tetrachloride	11.641	117	38598	0.16	ppb	98

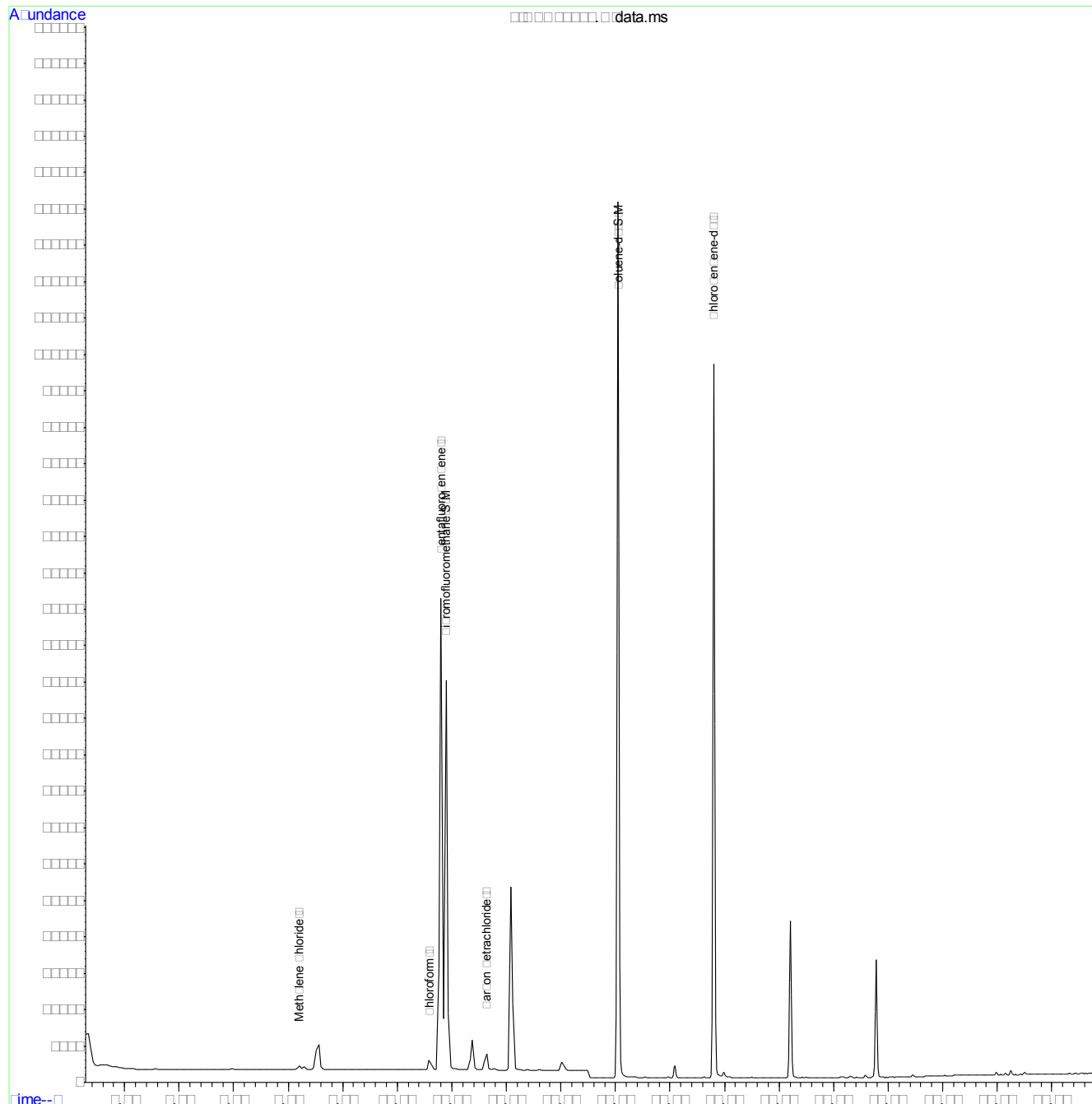
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.23
7

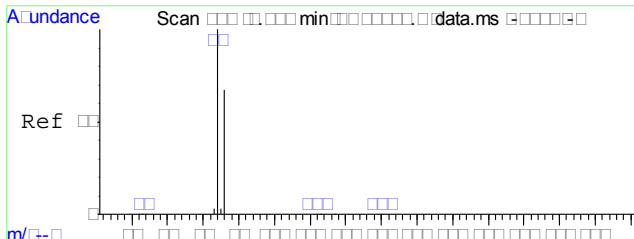
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30376.D
 Acq On : 21 Jul 2015 3:42 pm
 Operator : emilya
 Sample : C40680-23
 Misc : MS1855,VQ1320,50,,,,,1
 ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 21 16:59:47 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

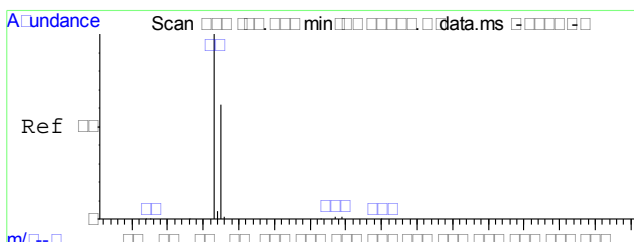
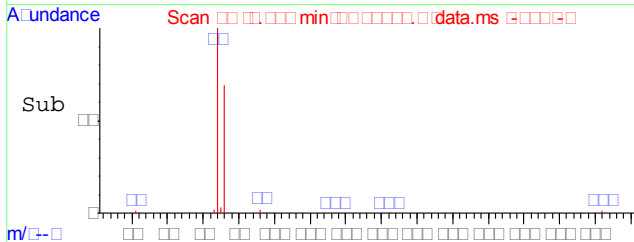
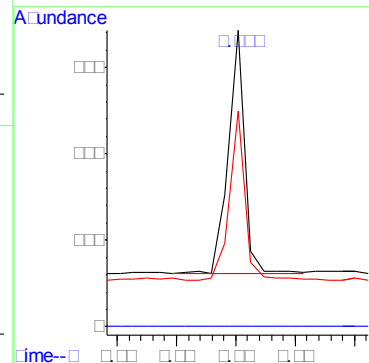
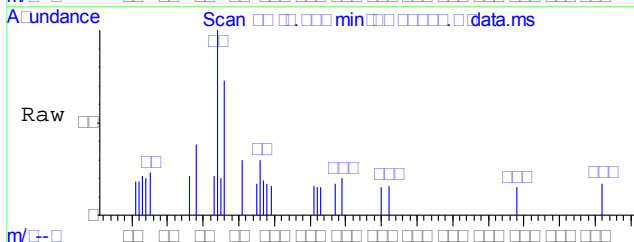


7.1.23
7



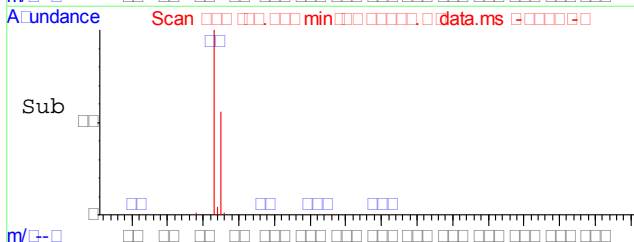
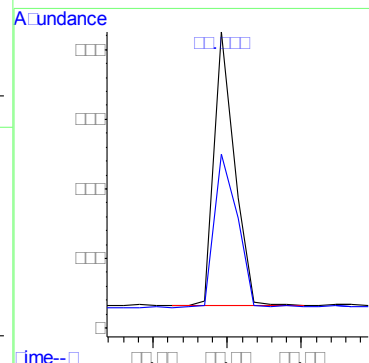
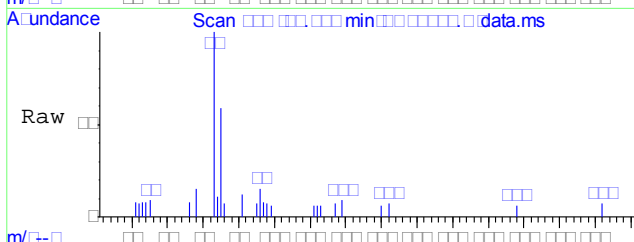
#4
 Methylene Chloride
 Concen: 0.06 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. 0.000 min
 Lab File: Q30376.D
 Acq: 21 Jul 2015 3:42 pm

Tgt Ion	Resp	Lower	Upper
84	10727		
84	100		
49	0.0	0.0	20.0
86	0.0	43.8	83.8#

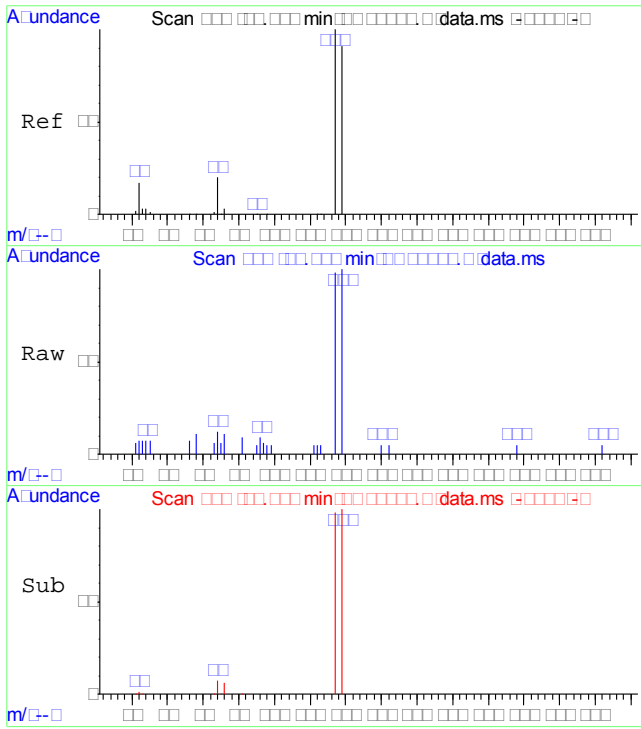


#8
 Chloroform
 Concen: 0.08 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30376.D
 Acq: 21 Jul 2015 3:42 pm

Tgt Ion	Resp	Lower	Upper
83	29721		
83	100		
85	63.8	51.3	91.3

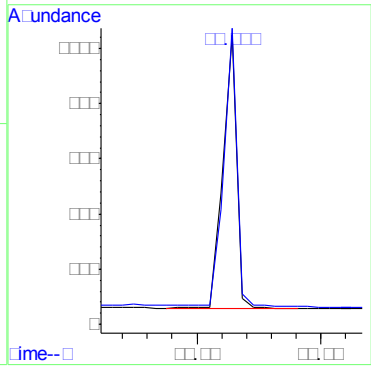


7.1.23
7



#11
Carbon Tetrachloride
Concen: 0.16 ppb
RT: 11.641 min Scan# 168
Delta R.T. -0.000 min
Lab File: Q30376.D
Acq: 21 Jul 2015 3:42 pm

Tgt Ion	Resp	Lower	Upper
117	38598		
119	98.0	76.1	116.1



7.1.23
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30377.D
Acq On : 21 Jul 2015 4:13 pm
Operator : emilya
Sample : C40680-24
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 21 17:00:00 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1166364	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1627053	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	746920	4.95	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	99.00%
18) Toluene-d8	14.048	98	1744727	4.74	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	94.80%
Target Compounds						
13) Benzene	11.773	78	10119	0.01	ppb	Qvalue 100

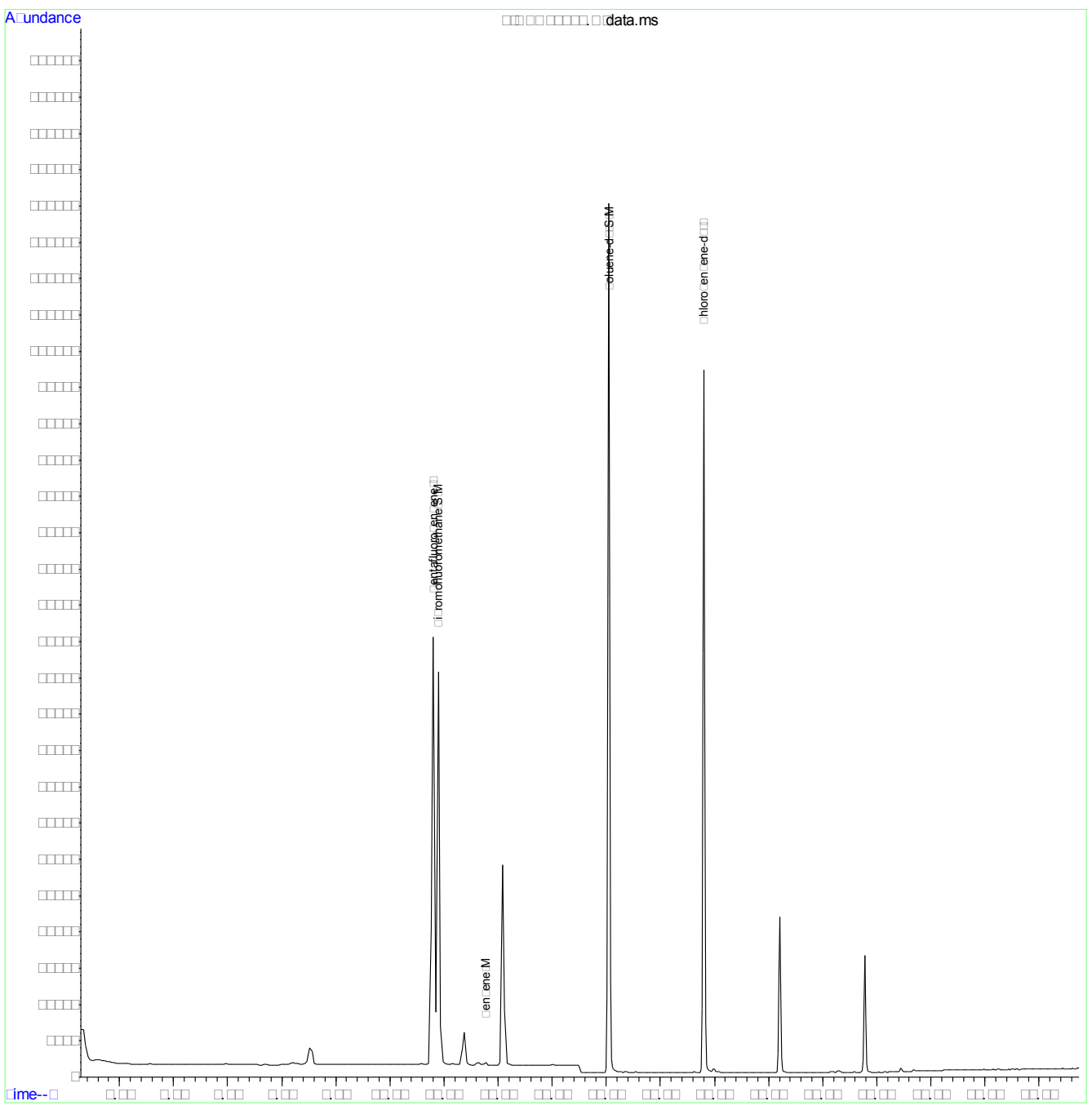
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.24
7

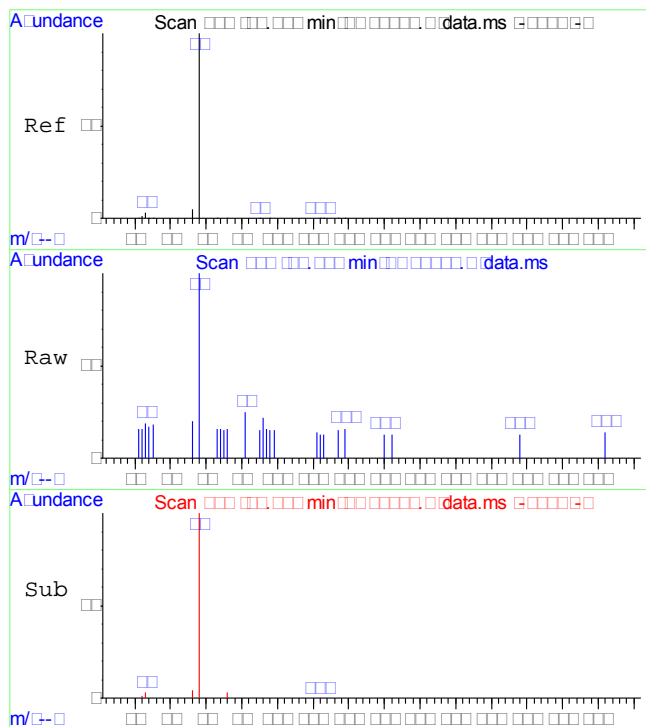
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30377.D
Acq On : 21 Jul 2015 4:13 pm
Operator : emilya
Sample : C40680-24
Misc : MS1855,VQ1320,50,,,1
ALS Vial : 13 Sample Multiplier: 1

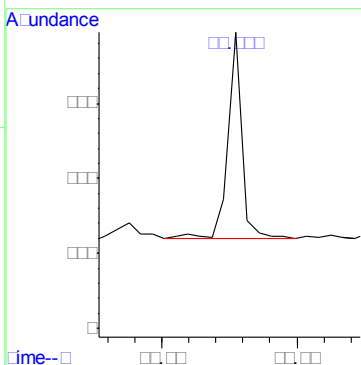
Quant Time: Jul 21 17:00:00 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



7.1.24
7



#13
 Benzene
 Concen: 0.01 ppb
 RT: 11.773 min Scan# 171
 Delta R.T. -0.000 min
 Lab File: Q30377.D
 Acq: 21 Jul 2015 4:13 pm
 Tgt Ion: 78 Resp: 10119



7.1.24
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30378.D
Acq On : 21 Jul 2015 4:44 pm
Operator : emilya
Sample : C40680-25
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jul 22 08:09:17 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1189568	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1612979	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	749964	4.87	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	97.40%
18) Toluene-d8	14.048	98	1739580	4.76	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	95.20%
Target Compounds						
8) Chloroform	10.584	83	9855	0.03	ppb	Qvalue # 14

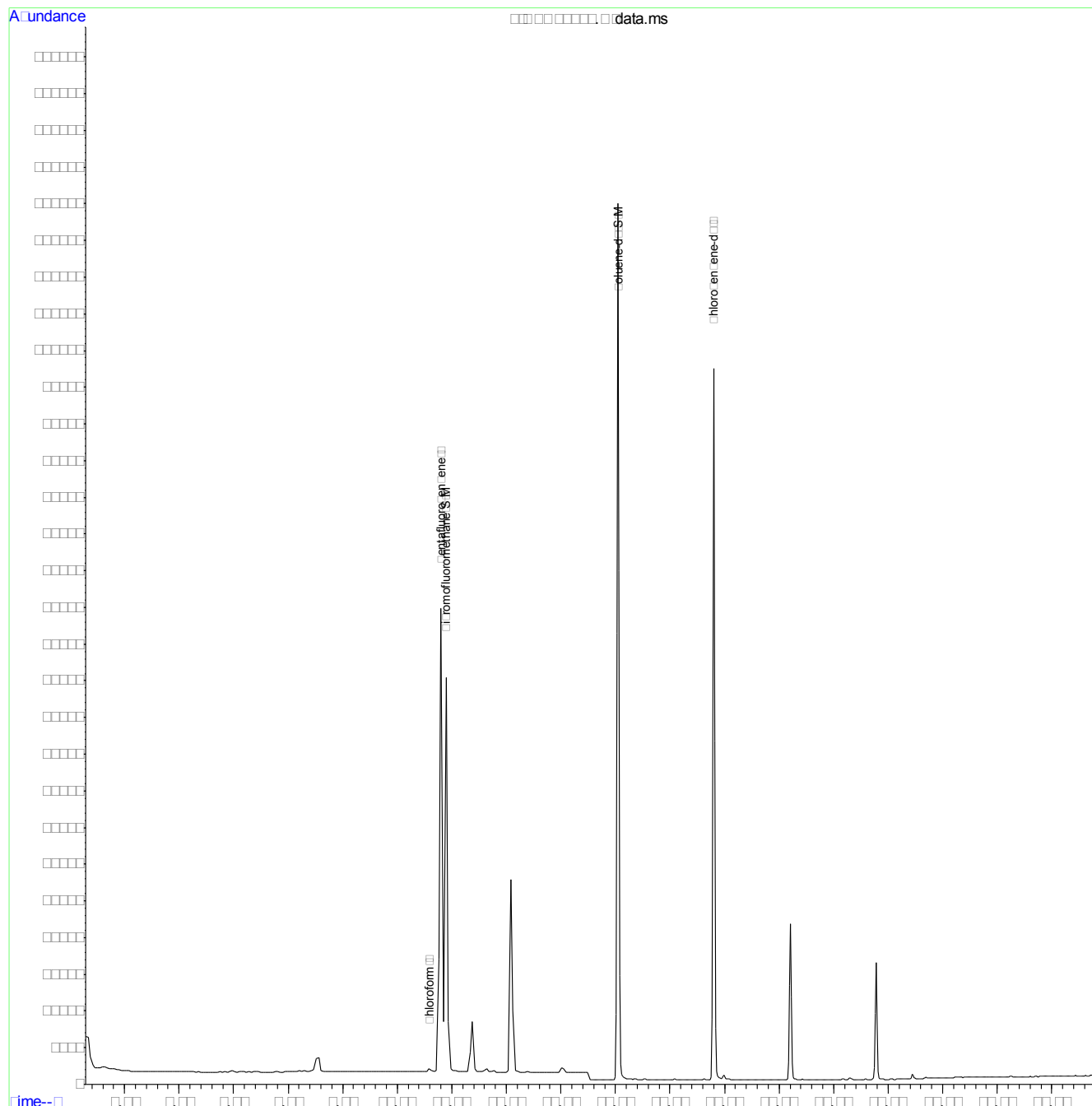
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.25
7

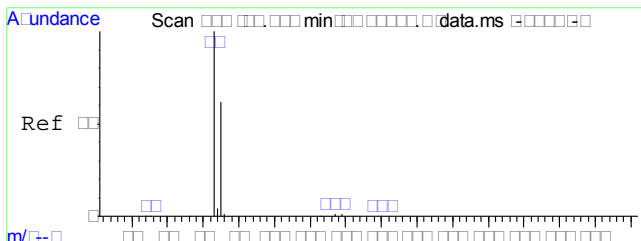
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30378.D
Acq On : 21 Jul 2015 4:44 pm
Operator : emilya
Sample : C40680-25
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 14 Sample Multiplier: 1

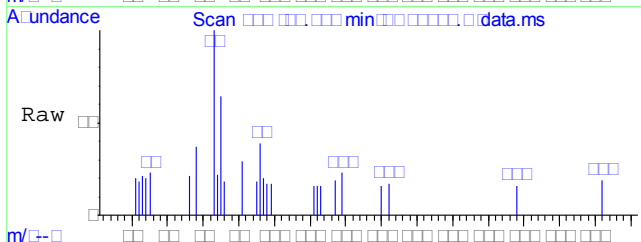
Quant Time: Jul 22 08:09:17 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



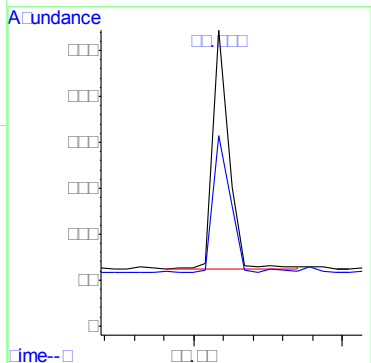
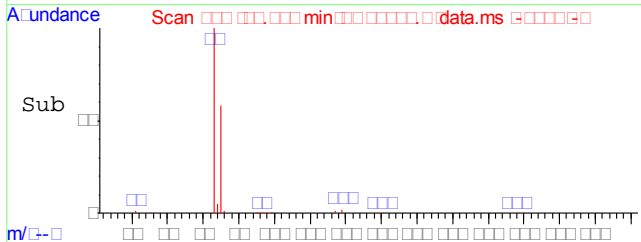
7.1.25
7



#8
Chloroform
Concen: 0.03 ppb
RT: 10.584 min Scan# 144
Delta R.T. -0.000 min
Lab File: Q30378.D
Acq: 21 Jul 2015 4:44 pm



Tgt Ion: 83 Resp: 9855
Ion Ratio Lower Upper
83 100
85 0.0 51.3 91.3#



7.1.25
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30379.D
Acq On : 21 Jul 2015 5:15 pm
Operator : emilya
Sample : C40680-26
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 22 08:09:26 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1174950	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1614353	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	752391	4.95	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	99.00%
18) Toluene-d8	14.048	98	1680081	4.60	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	92.00%
Target Compounds						
8) Chloroform	10.584	83	11229	0.03	ppb	# 14
11) Carbon Tetrachloride	11.641	117	12047	0.05	ppb	99

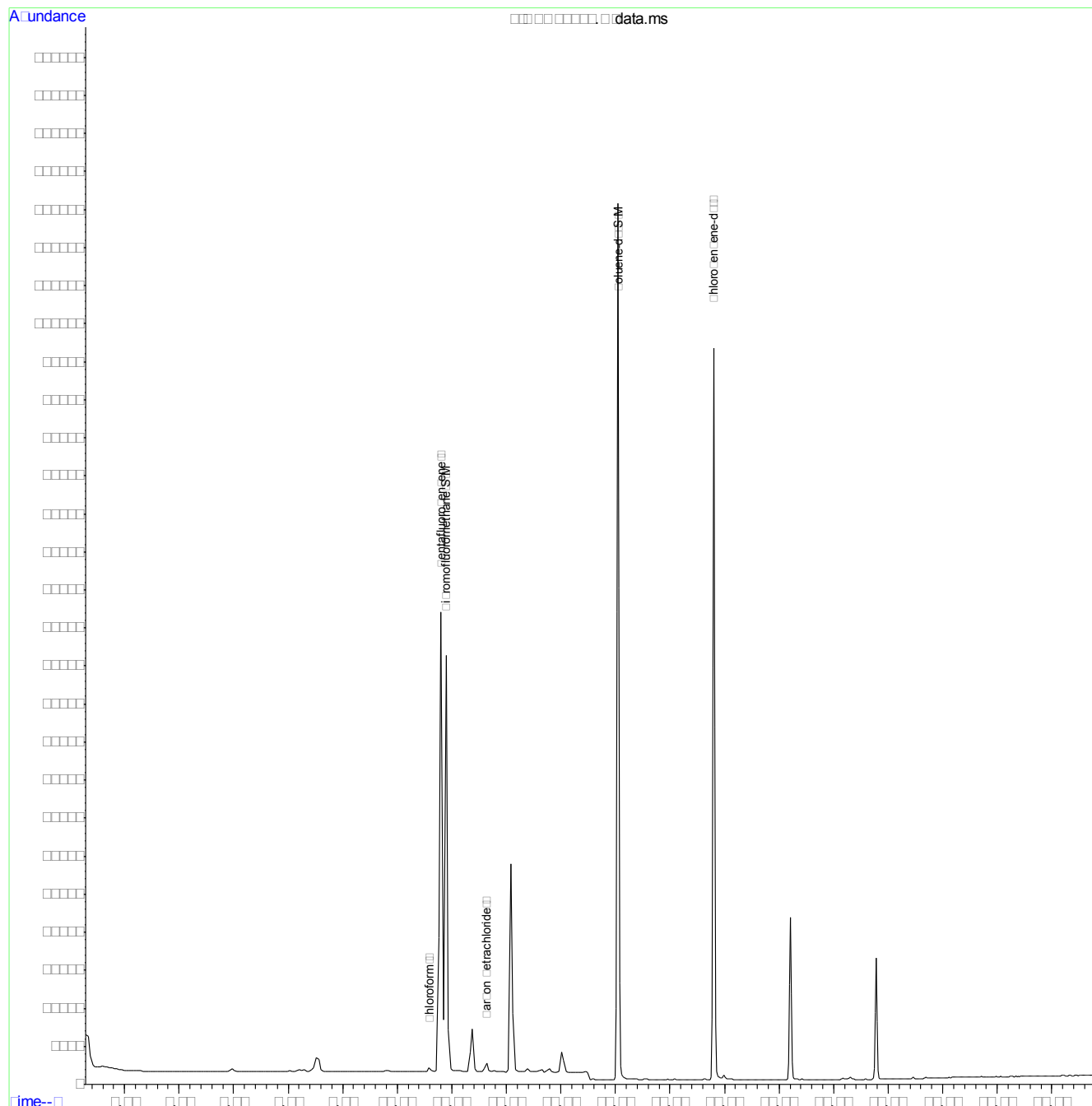
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.26
7

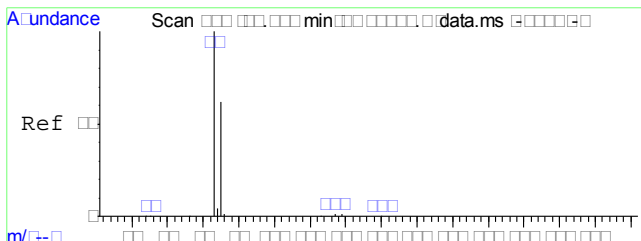
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30379.D
 Acq On : 21 Jul 2015 5:15 pm
 Operator : emilya
 Sample : C40680-26
 Misc : MS1855,VQ1320,50,,,,,1
 ALS Vial : 15 Sample Multiplier: 1

Quant Time: Jul 22 08:09:26 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

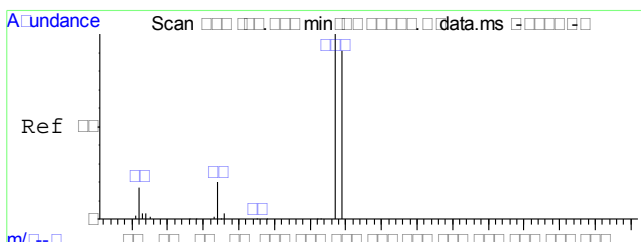
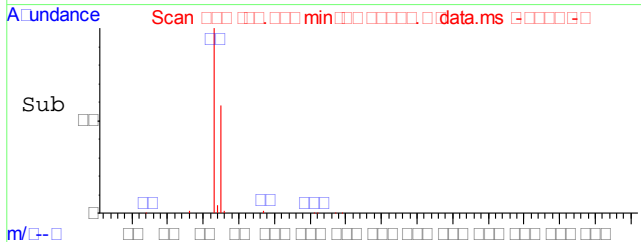
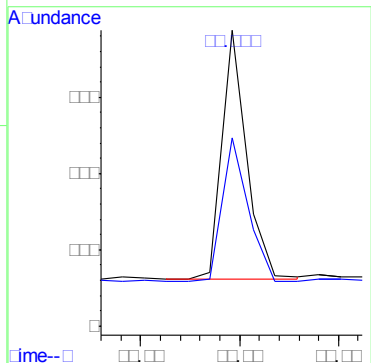
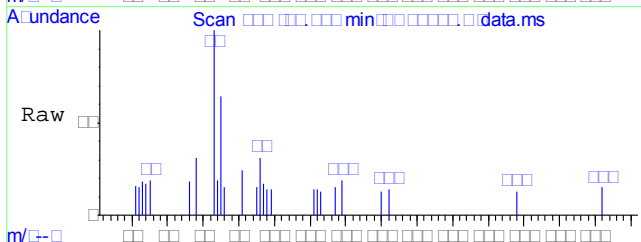


7.1.26
7



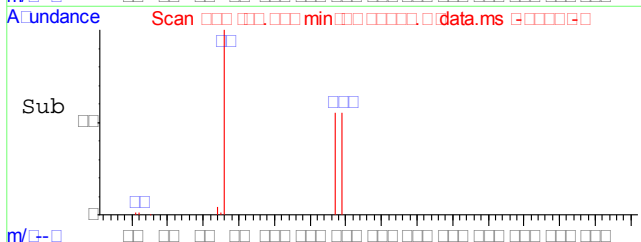
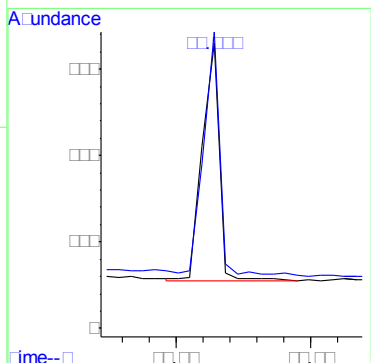
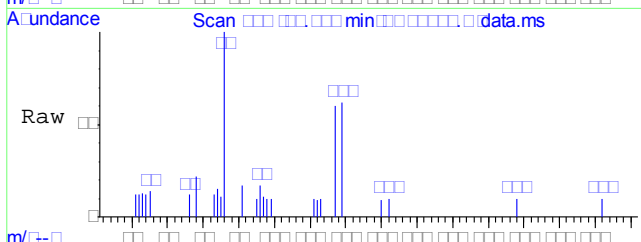
#8
 Chloroform
 Concen: 0.03 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30379.D
 Acq: 21 Jul 2015 5:15 pm

Tgt Ion: 83 Resp: 11229
 Ion Ratio Lower Upper
 83 100
 85 0.0 51.3 91.3#



#11
 Carbon Tetrachloride
 Concen: 0.05 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30379.D
 Acq: 21 Jul 2015 5:15 pm

Tgt Ion: 117 Resp: 12047
 Ion Ratio Lower Upper
 117 100
 119 95.0 76.1 116.1



7.1.26
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30380.D
Acq On : 21 Jul 2015 5:46 pm
Operator : emilya
Sample : C40680-27
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 22 08:09:33 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1248662	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1631465	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	757786	4.69	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	93.80%	
18) Toluene-d8	14.048	98	1707352	4.62	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	92.40%	
Target Compounds						
8) Chloroform	10.584	83	73233	0.19	ppb	90
11) Carbon Tetrachloride	11.641	117	145865	0.59	ppb	99

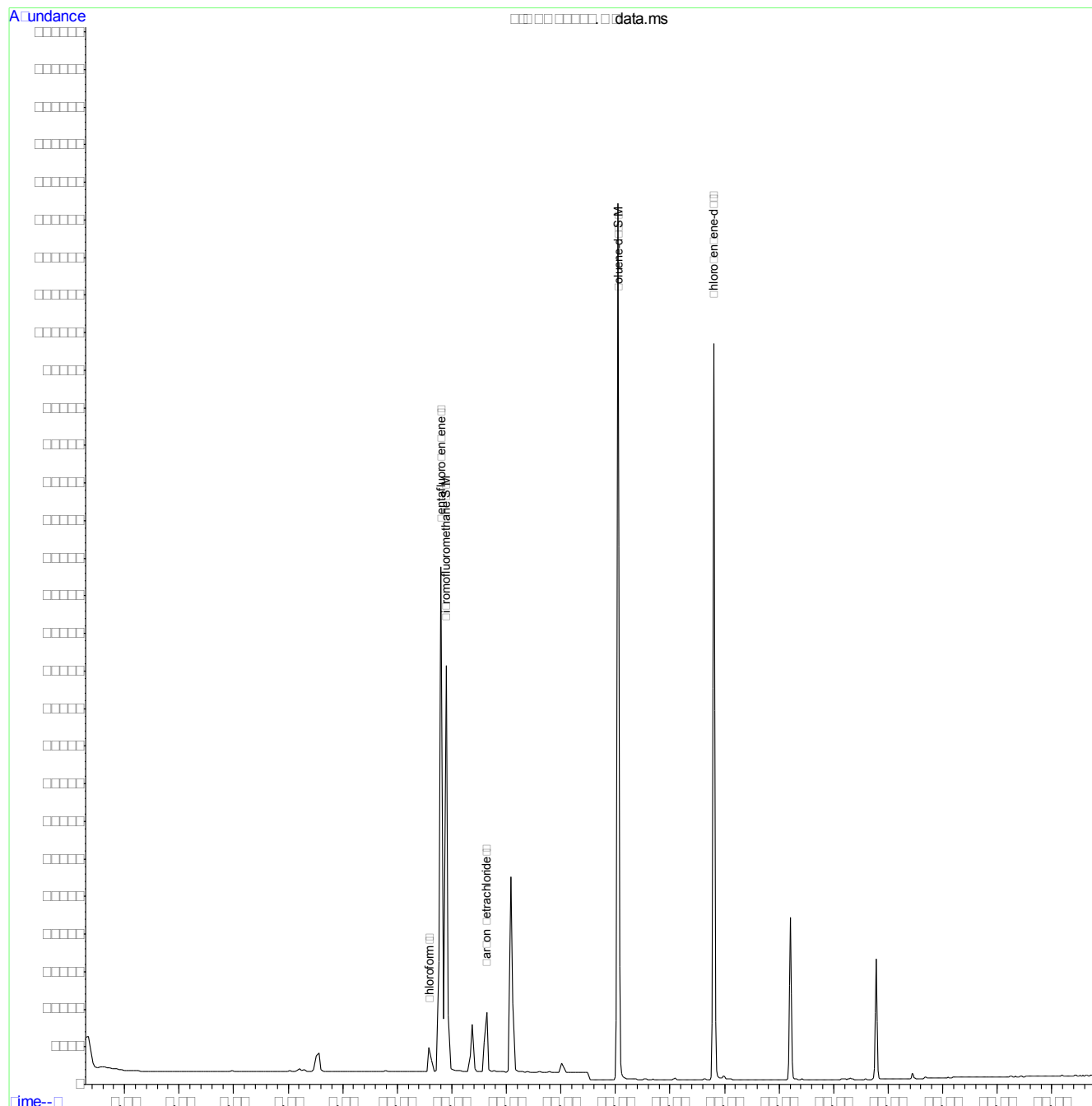
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.27
7

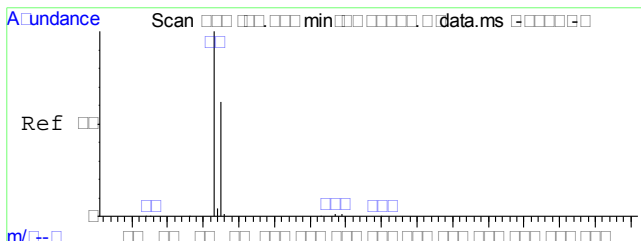
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30380.D
Acq On : 21 Jul 2015 5:46 pm
Operator : emilya
Sample : C40680-27
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 22 08:09:33 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

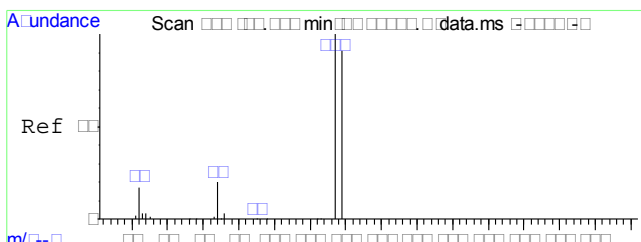
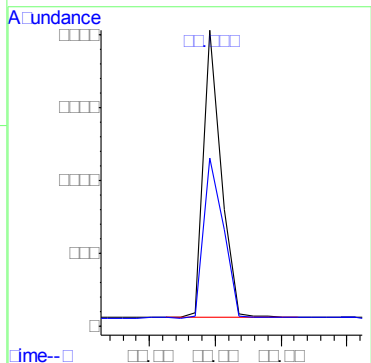
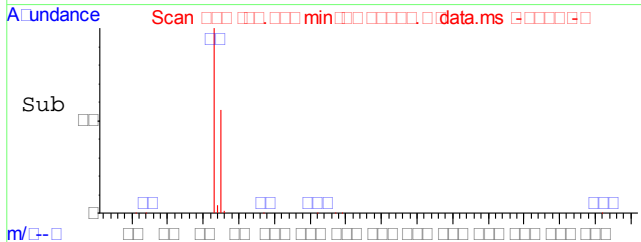
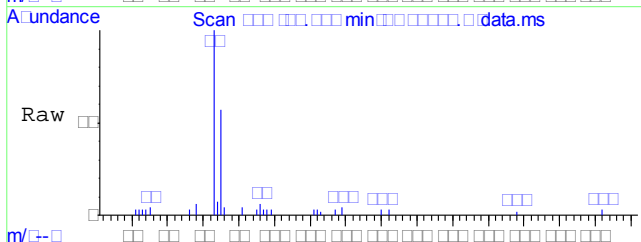


7.1.27
7



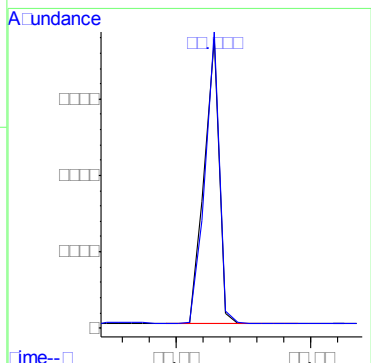
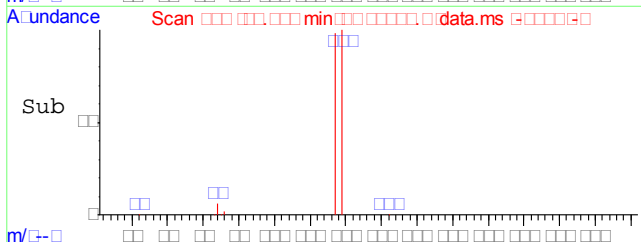
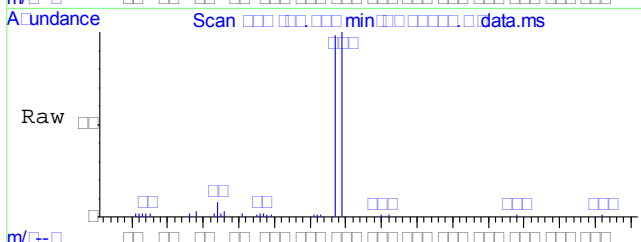
#8
 Chloroform
 Concen: 0.19 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30380.D
 Acq: 21 Jul 2015 5:46 pm

Tgt Ion: 83 Resp: 73233
 Ion Ratio Lower Upper
 83 100
 85 62.8 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 0.59 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30380.D
 Acq: 21 Jul 2015 5:46 pm

Tgt Ion: 117 Resp: 145865
 Ion Ratio Lower Upper
 117 100
 119 97.0 76.1 116.1



7.1.27
 7

Quantitation Report (QT Reviewed)

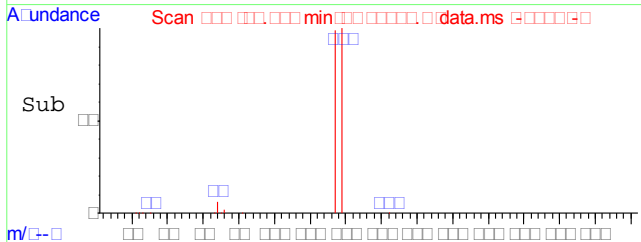
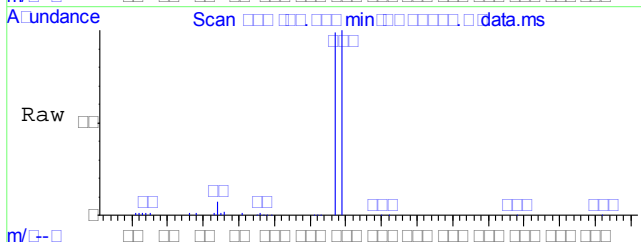
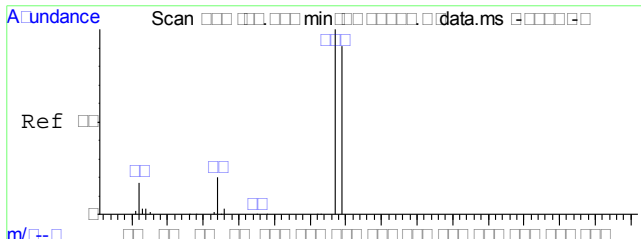
Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30381.D
Acq On : 21 Jul 2015 6:16 pm
Operator : emilya
Sample : C40680-28
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jul 22 08:09:41 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1192693	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1618846	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	751364	4.87	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	97.40%
18) Toluene-d8	14.048	98	1670375	4.56	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	91.20%
Target Compounds						
4) Methylene Chloride	8.206	84	11281	0.06	ppb	# 18
8) Chloroform	10.584	83	210744	0.57	ppb	91
11) Carbon Tetrachloride	11.640	117	501963	2.12	ppb	99

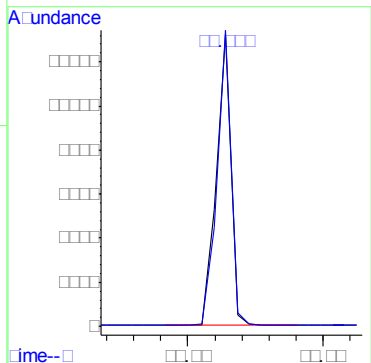
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.28
7



#11
Carbon Tetrachloride
Concen: 2.12 ppb
RT: 11.640 min Scan# 168
Delta R.T. -0.001 min
Lab File: Q30381.D
Acq: 21 Jul 2015 6:16 pm

Tgt Ion	Resp	Lower	Upper
117	501963		
117	100		
119	96.8	76.1	116.1



7.1.28
7

Quantitation Report (QT Reviewed)

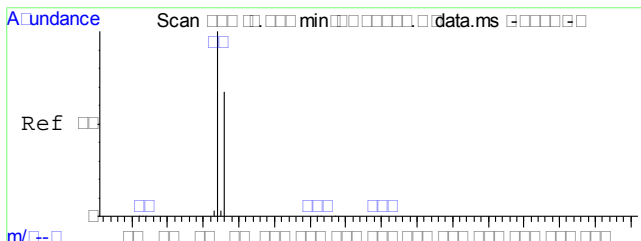
Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30368.D
Acq On : 21 Jul 2015 11:36 am
Operator : emilya
Sample : C40680-29
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 21 13:53:23 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1223706	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1664052	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	770330	4.87	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.40%	
18) Toluene-d8	14.048	98	1890204	5.02	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.40%	
Target Compounds						
4) Methylene Chloride	8.206	84	13553	0.07	ppb	# 18
8) Chloroform	10.584	83	51598	0.14	ppb	91
11) Carbon Tetrachloride	11.641	117	45572	0.19	ppb	98
13) Benzene	11.773	78	12311	0.02	ppb	100

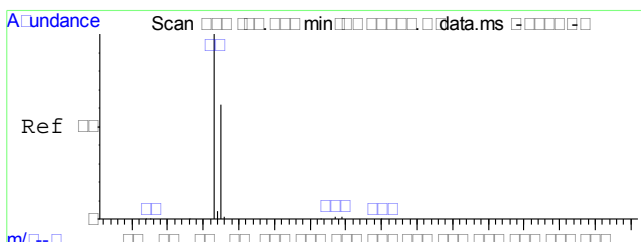
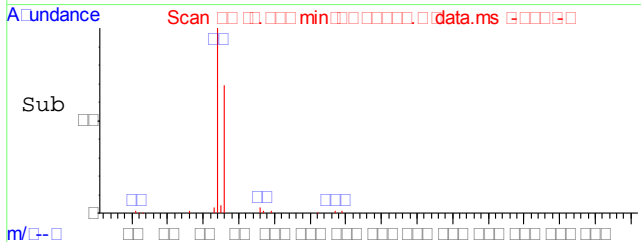
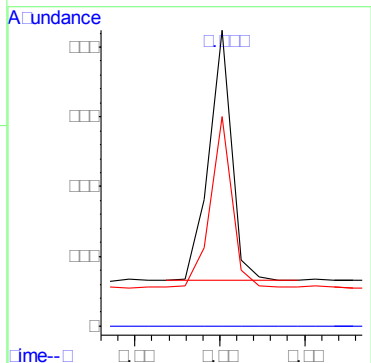
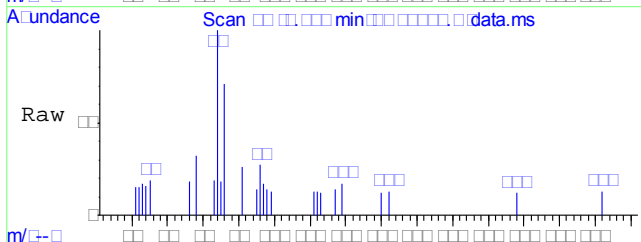
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.29
7



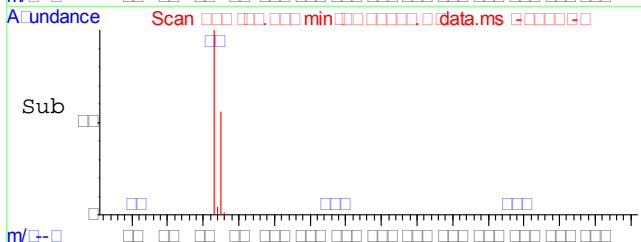
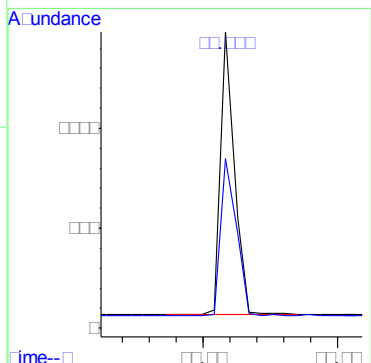
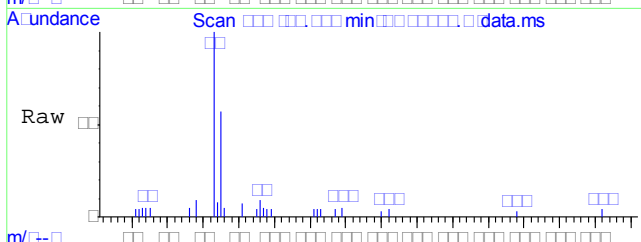
#4
 Methylene Chloride
 Concen: 0.07 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. 0.000 min
 Lab File: Q30368.D
 Acq: 21 Jul 2015 11:36 am

Tgt Ion	Resp	Lower	Upper
84	13553		
49	0.0	0.0	20.0
86	0.0	43.8	83.8#

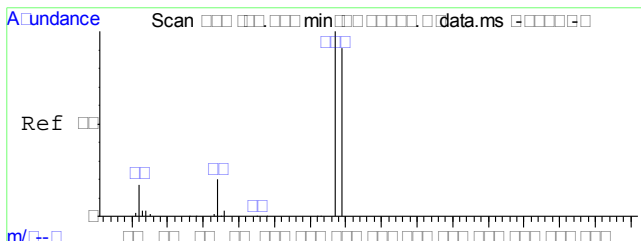


#8
 Chloroform
 Concen: 0.14 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30368.D
 Acq: 21 Jul 2015 11:36 am

Tgt Ion	Resp	Lower	Upper
83	51598		
85	63.9	51.3	91.3

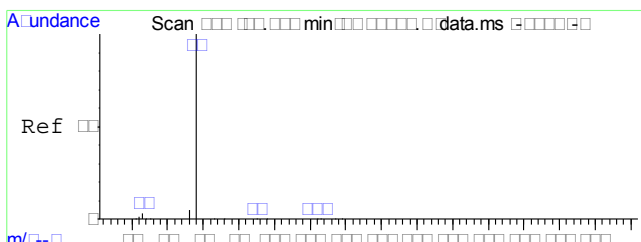
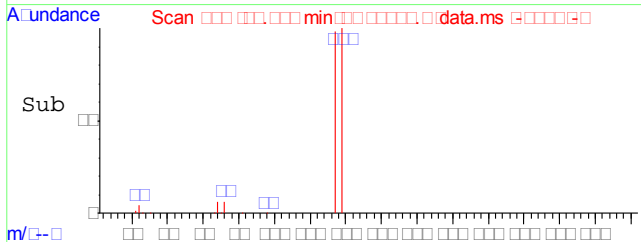
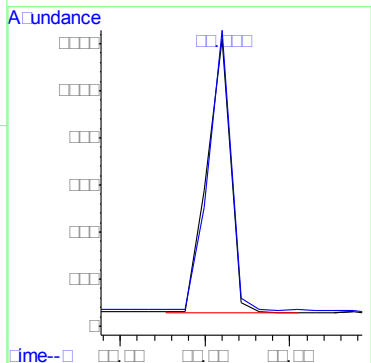
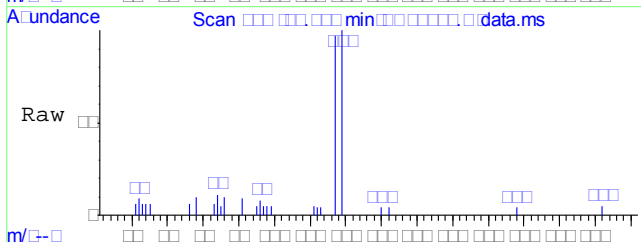


7.1.29
7



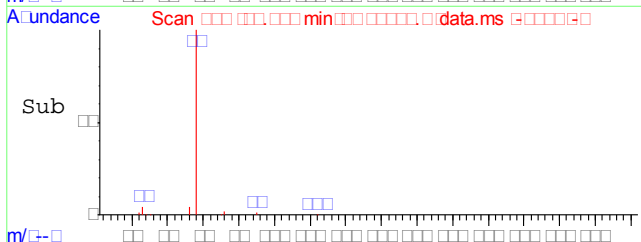
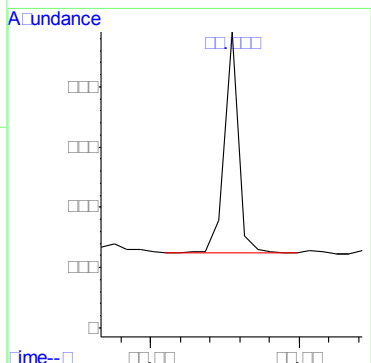
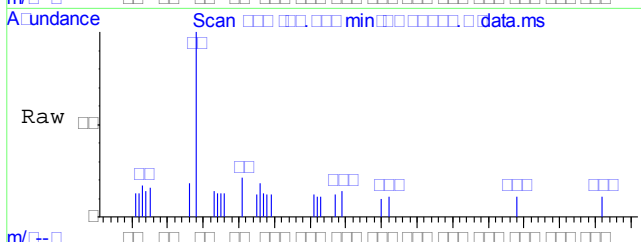
#11
 Carbon Tetrachloride
 Concen: 0.19 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30368.D
 Acq: 21 Jul 2015 11:36 am

Tgt Ion: 117 Resp: 45572
 Ion Ratio Lower Upper
 117 100
 119 98.4 76.1 116.1



#13
 Benzene
 Concen: 0.02 ppb
 RT: 11.773 min Scan# 171
 Delta R.T. -0.000 min
 Lab File: Q30368.D
 Acq: 21 Jul 2015 11:36 am

Tgt Ion: 78 Resp: 12311



7.1.29
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30382.D
Acq On : 21 Jul 2015 6:46 pm
Operator : emilya
Sample : C40680-30
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 22 08:09:49 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1181352	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1596354	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	741454	4.85	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.00%	
18) Toluene-d8	14.048	98	1640976	4.54	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	90.80%	
Target Compounds						
4) Methylene Chloride	8.206	84	19524	0.10	ppb	# 99
8) Chloroform	10.584	83	111567	0.30	ppb	90
11) Carbon Tetrachloride	11.640	117	68055	0.29	ppb	98

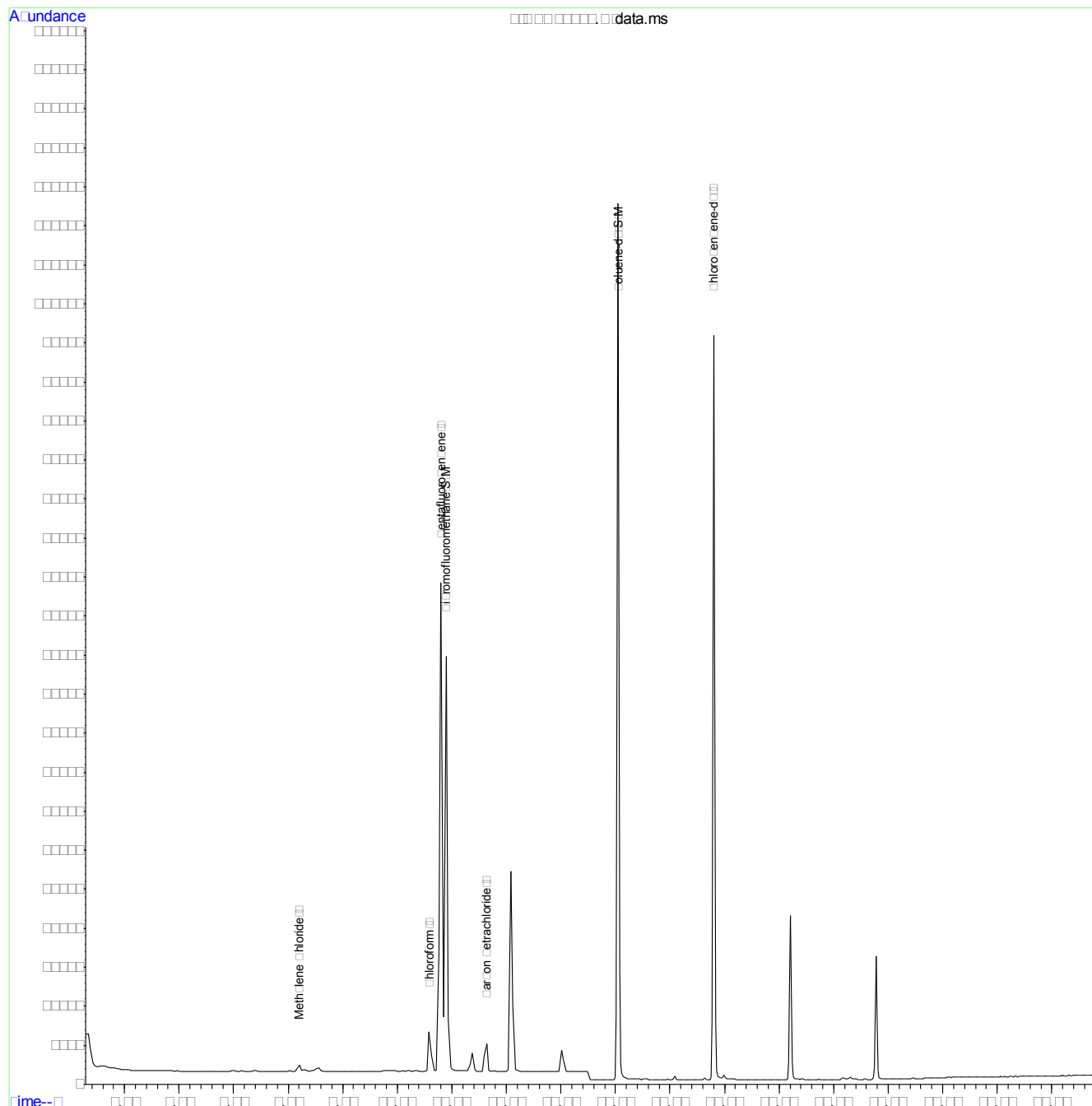
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.30
7

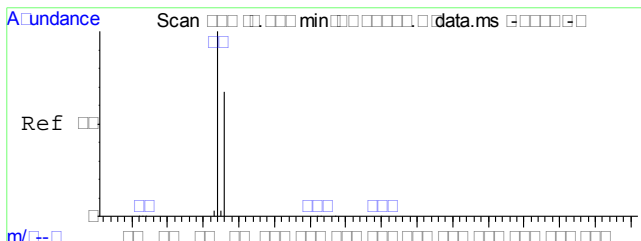
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30382.D
Acq On : 21 Jul 2015 6:46 pm
Operator : emilya
Sample : C40680-30
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 22 08:09:49 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

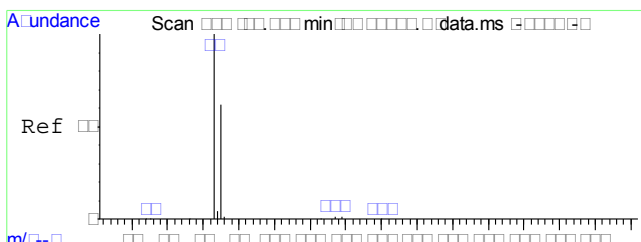
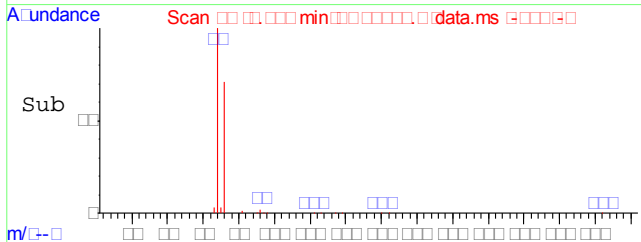
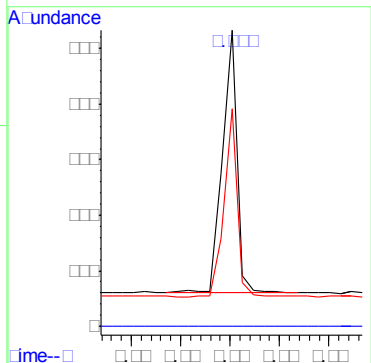
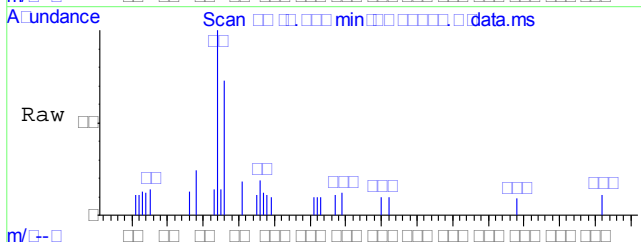


7.1.30
7



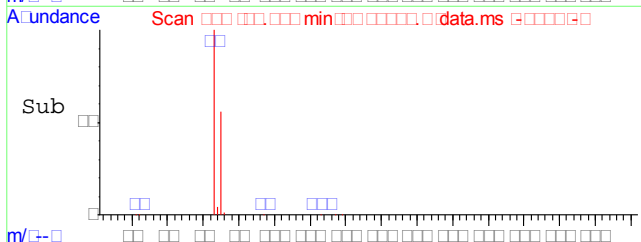
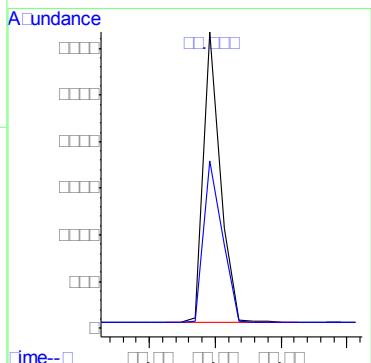
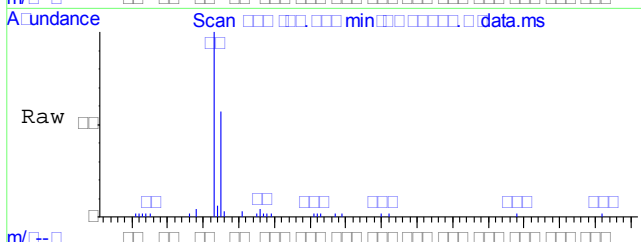
#4
 Methylene Chloride
 Concen: 0.10 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. -0.000 min
 Lab File: Q30382.D
 Acq: 21 Jul 2015 6:46 pm

Tgt Ion	Resp	Lower	Upper
84	19524		
49	0.0	0.0	20.0
86	64.5	43.8	83.8

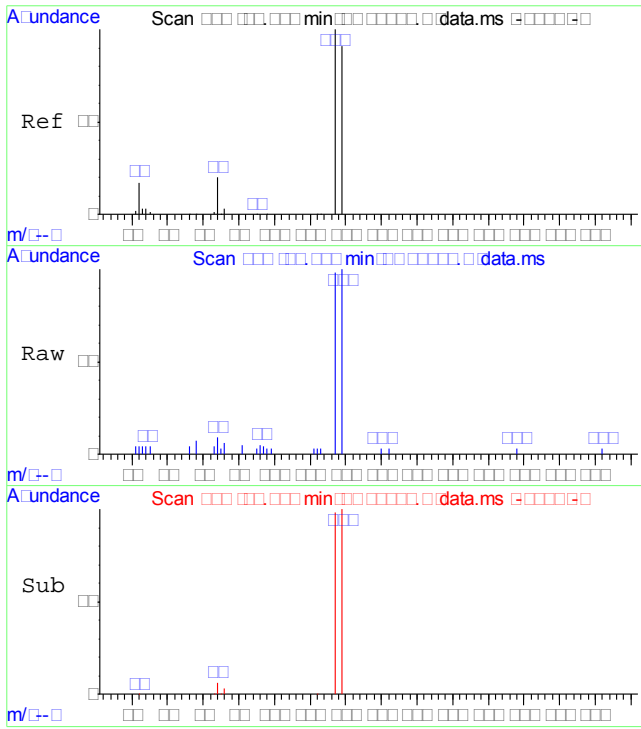


#8
 Chloroform
 Concen: 0.30 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30382.D
 Acq: 21 Jul 2015 6:46 pm

Tgt Ion	Resp	Lower	Upper
83	111567		
85	62.6	51.3	91.3

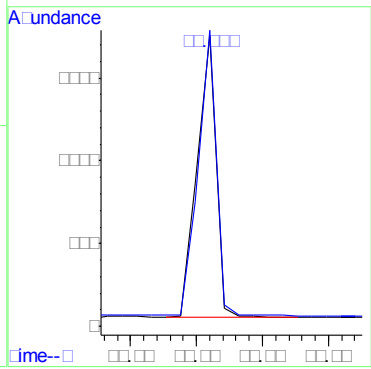


7.1.30
7



#11
Carbon Tetrachloride
Concen: 0.29 ppb
RT: 11.640 min Scan# 168
Delta R.T. -0.001 min
Lab File: Q30382.D
Acq: 21 Jul 2015 6:46 pm

Tgt Ion: 117 Resp: 68055
Ion Ratio Lower Upper
117 100
119 97.6 76.1 116.1



7.1.30
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30383.D
Acq On : 21 Jul 2015 7:17 pm
Operator : emilya
Sample : C40680-31
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 22 08:09:56 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1177129	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1604982	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	745314	4.89	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.80%	
18) Toluene-d8	14.048	98	1581771	4.35	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	87.00%	
Target Compounds						
4) Methylene Chloride	8.206	84	18599	0.10	ppb	# 99
8) Chloroform	10.584	83	114478	0.31	ppb	90
11) Carbon Tetrachloride	11.641	117	66867	0.29	ppb	100

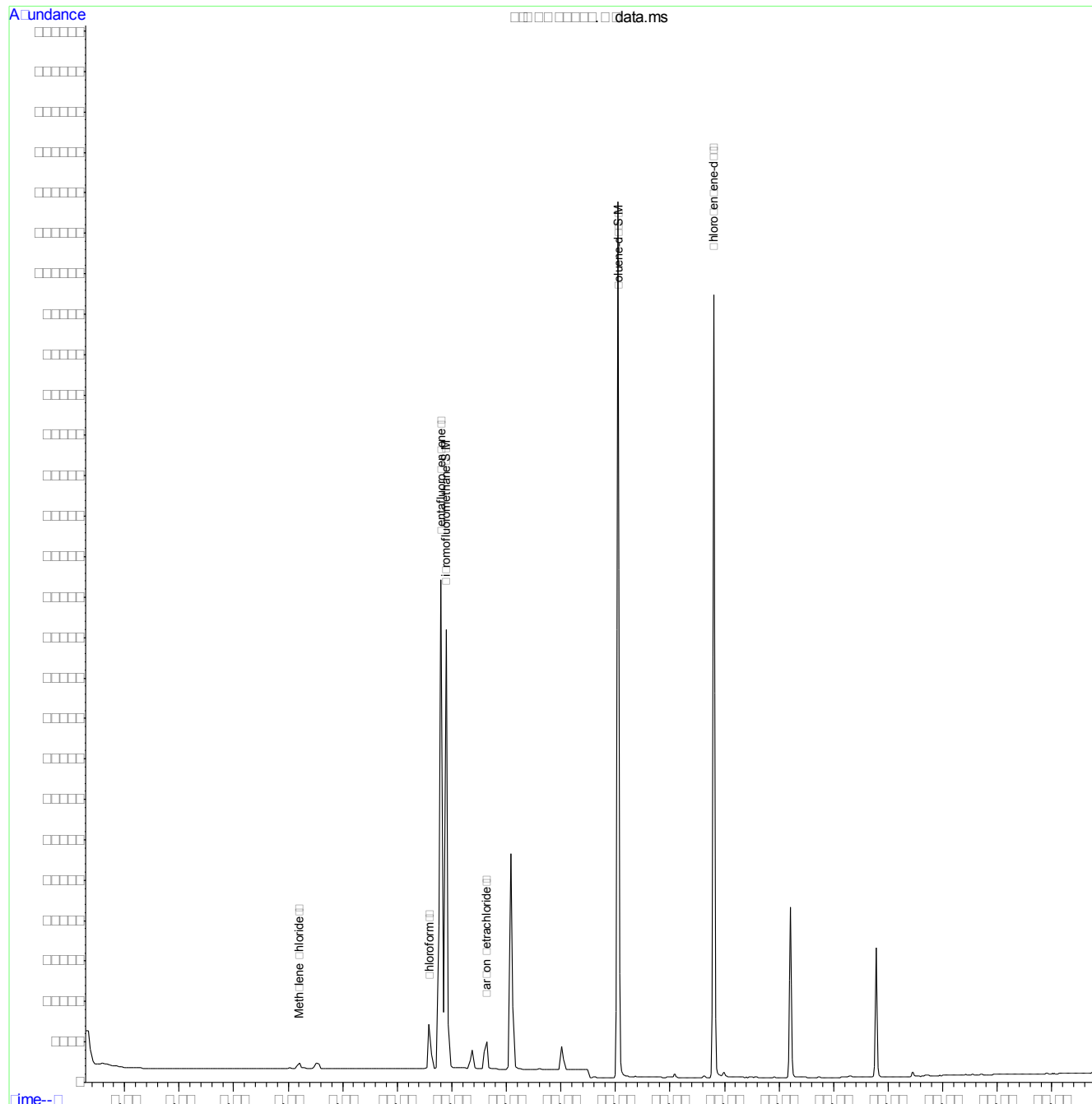
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.31
7

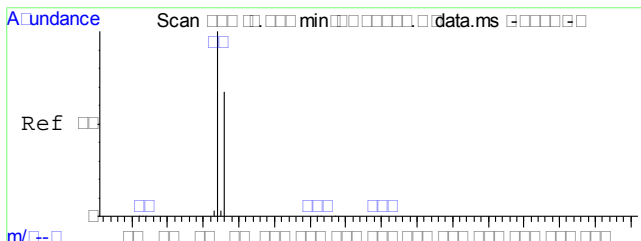
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30383.D
Acq On : 21 Jul 2015 7:17 pm
Operator : emilya
Sample : C40680-31
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Jul 22 08:09:56 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

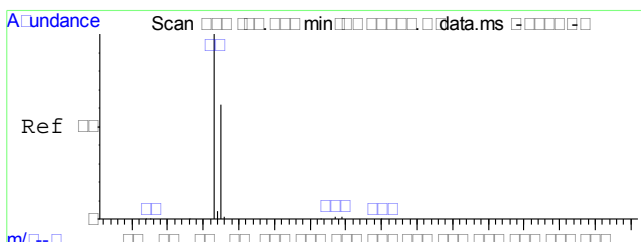
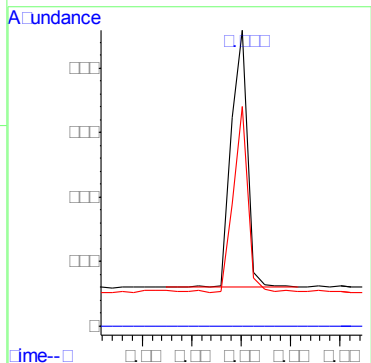
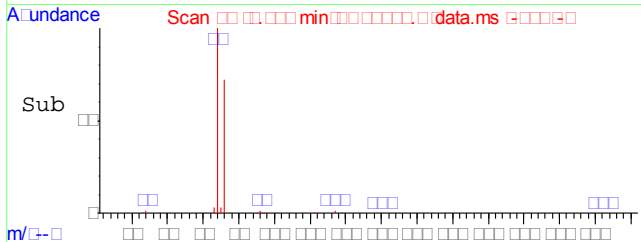
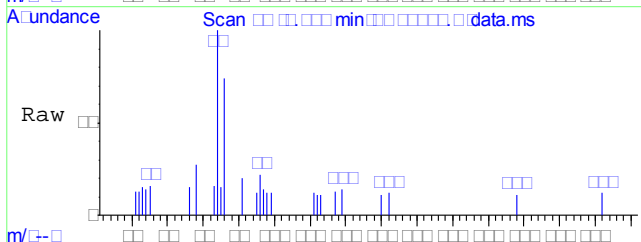


7.1.31
7



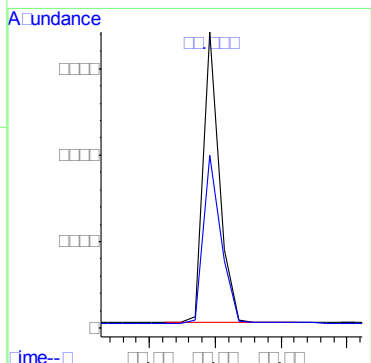
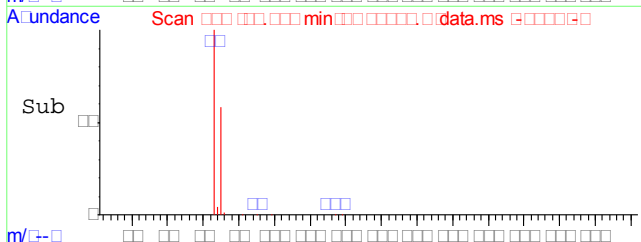
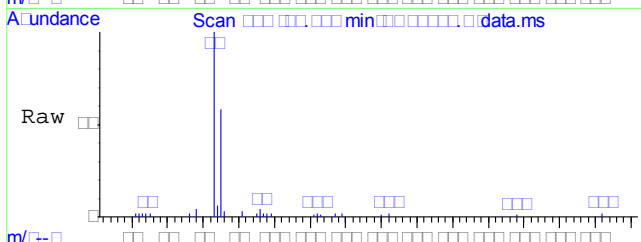
#4
 Methylene Chloride
 Concen: 0.10 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. 0.000 min
 Lab File: Q30383.D
 Acq: 21 Jul 2015 7:17 pm

Tgt Ion	Ratio	Lower	Upper
84	100		
49	0.0	0.0	20.0
86	64.6	43.8	83.8

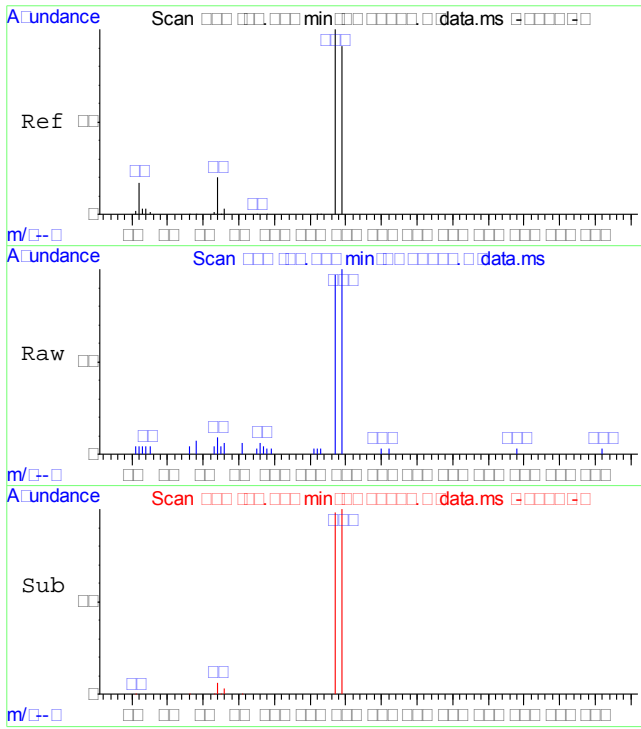


#8
 Chloroform
 Concen: 0.31 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30383.D
 Acq: 21 Jul 2015 7:17 pm

Tgt Ion	Ratio	Lower	Upper
83	100		
85	62.9	51.3	91.3

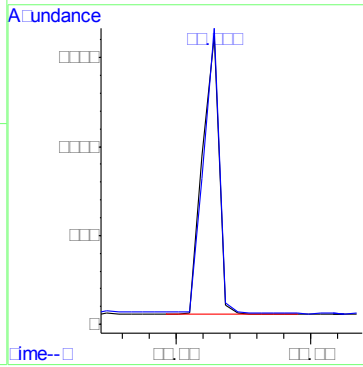


7.1.31
7



#11
Carbon Tetrachloride
Concen: 0.29 ppb
RT: 11.641 min Scan# 168
Delta R.T. -0.000 min
Lab File: Q30383.D
Acq: 21 Jul 2015 7:17 pm

Tgt Ion	Resp	Lower	Upper
117	66867		
119	96.3	76.1	116.1



7.1.31
7

Quantitation Report (QT Reviewed)

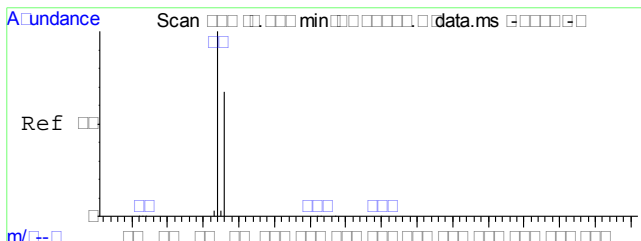
Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30384.D
Acq On : 21 Jul 2015 7:48 pm
Operator : emilya
Sample : C40680-32
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Jul 22 08:10:03 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1199627	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1594122	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	741216	4.78	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	95.60%	
18) Toluene-d8	14.048	98	1575736	4.37	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	87.40%	
Target Compounds						
4) Methylene Chloride	8.206	84	19022	0.10	ppb	Qvalue # 100
8) Chloroform	10.584	83	193415	0.52	ppb	90
11) Carbon Tetrachloride	11.640	117	143329	0.60	ppb	99

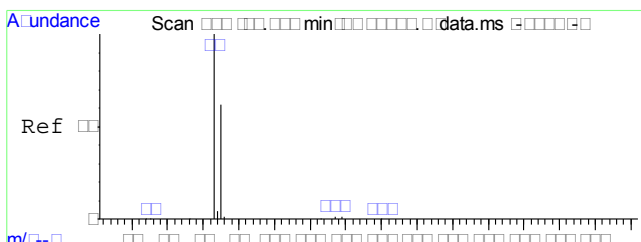
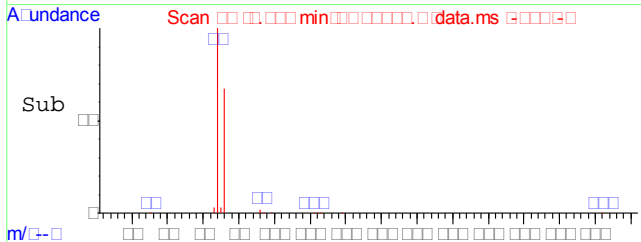
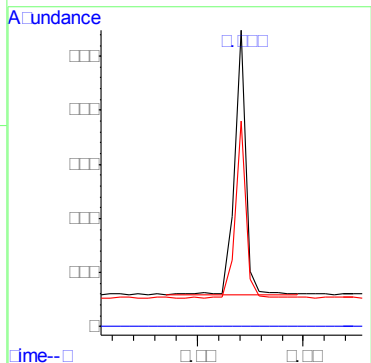
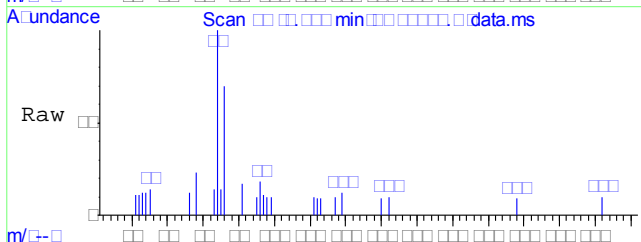
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.32
7



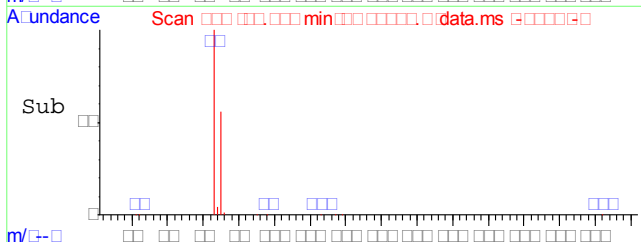
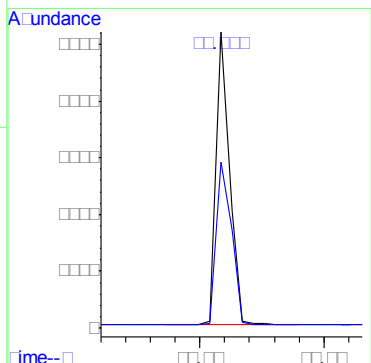
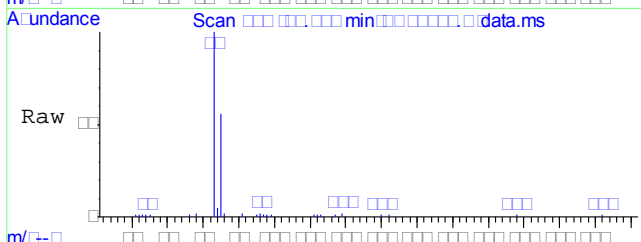
#4
 Methylene Chloride
 Concen: 0.10 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. -0.000 min
 Lab File: Q30384.D
 Acq: 21 Jul 2015 7:48 pm

Tgt Ion	Resp	Lower	Upper
84	100		
49	0.0	0.0	20.0
86	64.0	43.8	83.8

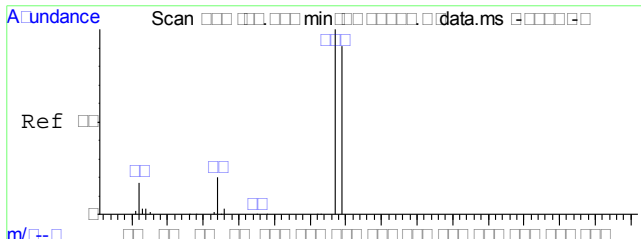


#8
 Chloroform
 Concen: 0.52 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30384.D
 Acq: 21 Jul 2015 7:48 pm

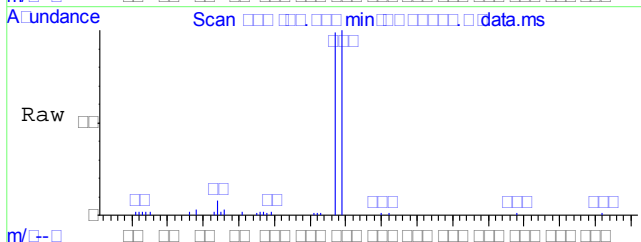
Tgt Ion	Resp	Lower	Upper
83	100		
85	63.2	51.3	91.3



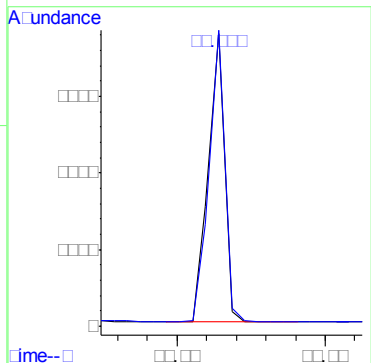
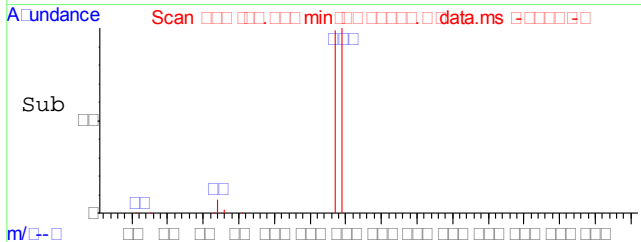
7.1.32
7



#11
Carbon Tetrachloride
Concen: 0.60 ppb
RT: 11.640 min Scan# 168
Delta R.T. -0.001 min
Lab File: Q30384.D
Acq: 21 Jul 2015 7:48 pm



Tgt Ion: 117 Resp: 143329
Ion Ratio Lower Upper
117 100
119 97.2 76.1 116.1



7.1.32
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30385.D
Acq On : 21 Jul 2015 8:18 pm
Operator : emilya
Sample : C40680-33
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jul 22 08:10:10 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1239706	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1622788	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	760665	4.74	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	94.80%
18) Toluene-d8	14.048	98	1638090	4.46	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	89.20%
Target Compounds						
4) Methylene Chloride	8.206	84	17939	0.09	ppb	# 99
8) Chloroform	10.584	83	190588	0.50	ppb	91
11) Carbon Tetrachloride	11.641	117	140660	0.57	ppb	99

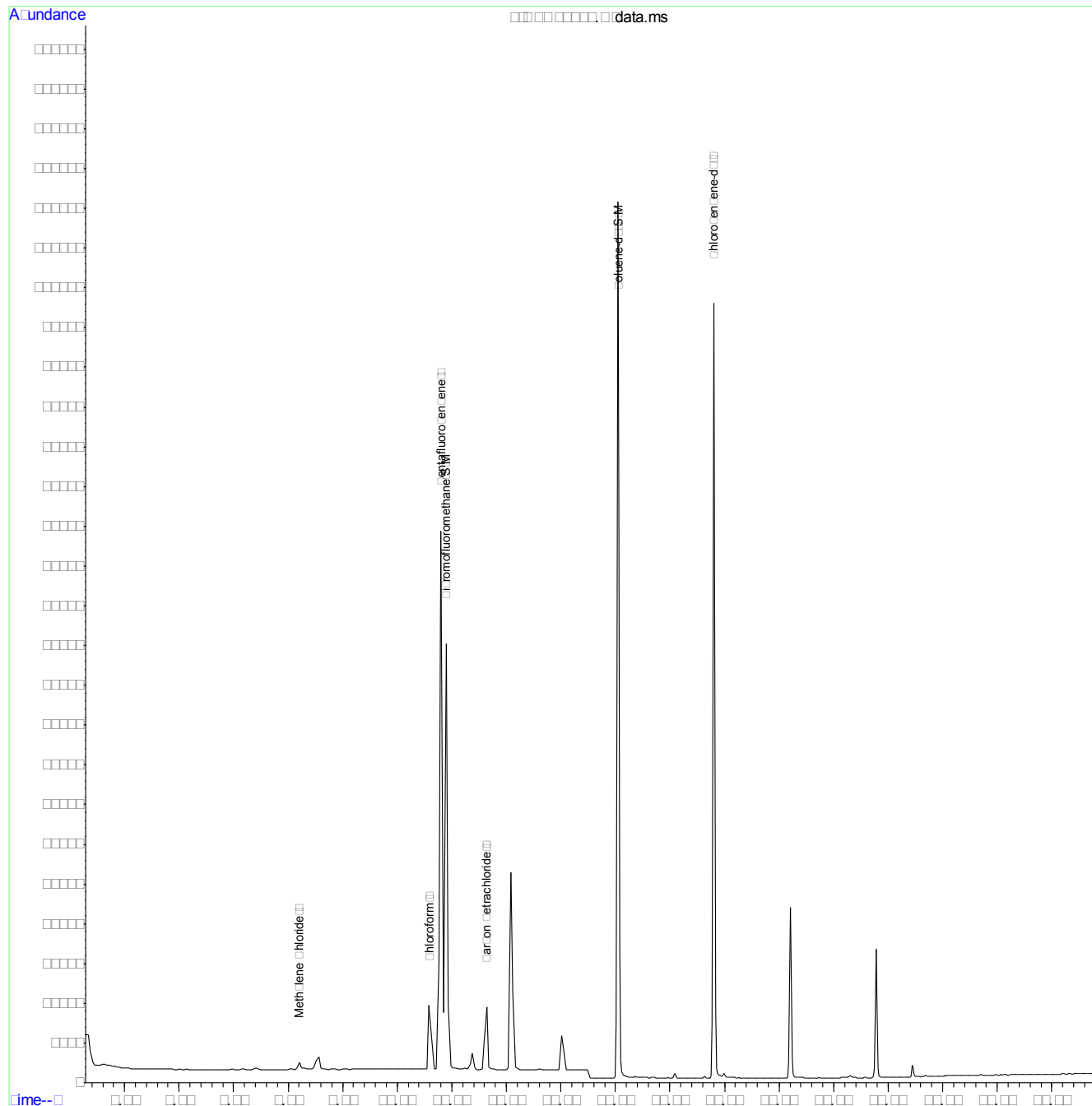
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.33
7

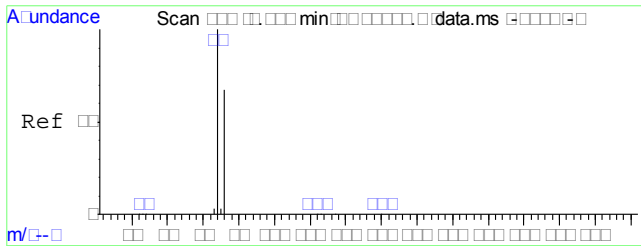
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30385.D
 Acq On : 21 Jul 2015 8:18 pm
 Operator : emilya
 Sample : C40680-33
 Misc : MS1855,VQ1320,50,,,,,1
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jul 22 08:10:10 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

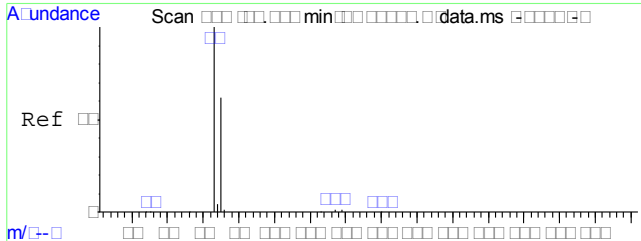
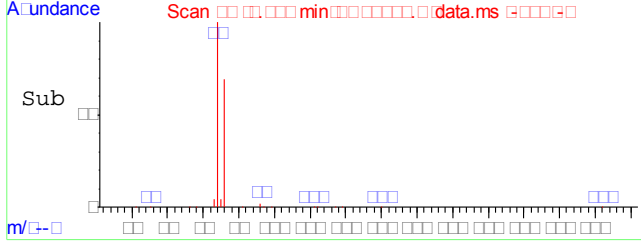
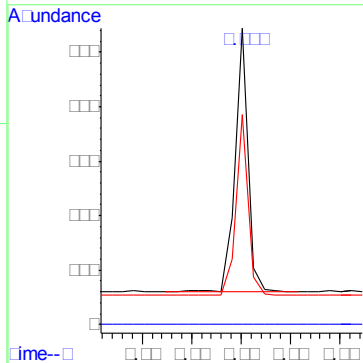
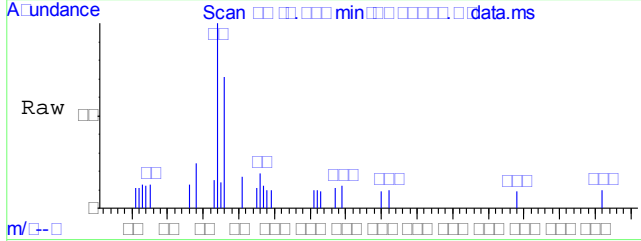


7.1.33
7



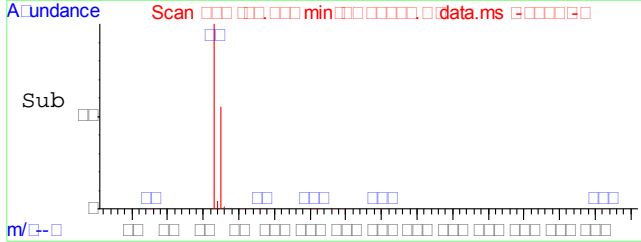
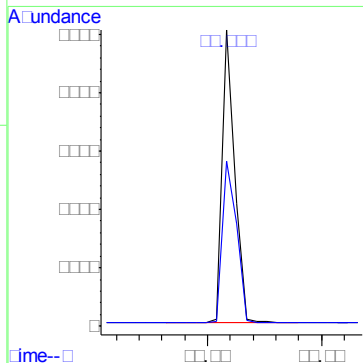
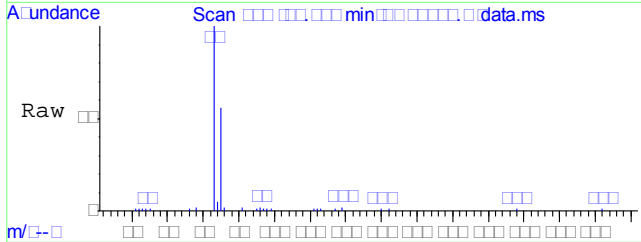
#4
 Methylene Chloride
 Concen: 0.09 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. 0.000 min
 Lab File: Q30385.D
 Acq: 21 Jul 2015 8:18 pm

Tgt Ion	Resp	Lower	Upper
84	17939		
49	0.0	0.0	20.0
86	64.2	43.8	83.8

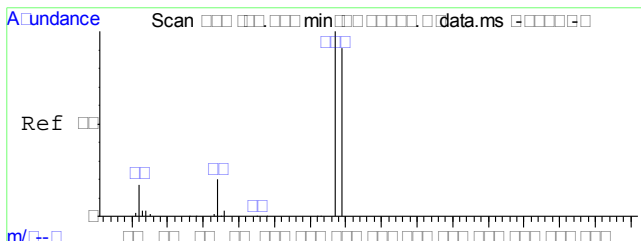


#8
 Chloroform
 Concen: 0.50 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30385.D
 Acq: 21 Jul 2015 8:18 pm

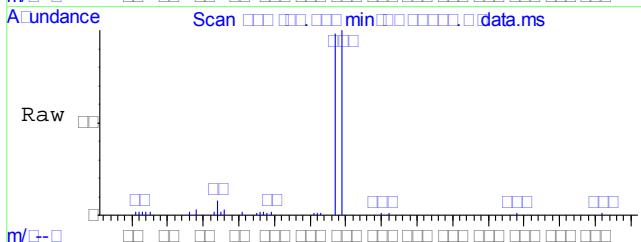
Tgt Ion	Resp	Lower	Upper
83	190588		
85	63.5	51.3	91.3



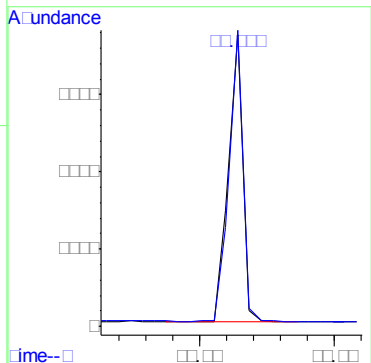
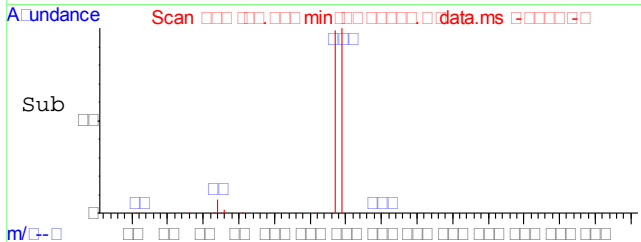
7.1.33
7



#11
Carbon Tetrachloride
Concen: 0.57 ppb
RT: 11.641 min Scan# 168
Delta R.T. -0.000 min
Lab File: Q30385.D
Acq: 21 Jul 2015 8:18 pm



Tgt Ion:117 Resp: 140660
Ion Ratio Lower Upper
117 100
119 97.4 76.1 116.1



7.1.33
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30386.D
Acq On : 21 Jul 2015 8:49 pm
Operator : emilya
Sample : C40680-34
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 22 08:10:17 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1170195	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1589454	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	739555	4.88	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	97.60%
18) Toluene-d8	14.048	98	1609621	4.47	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	89.40%
Target Compounds						
4) Methylene Chloride	8.206	84	17410	0.09	ppb	# 98
8) Chloroform	10.584	83	190805	0.53	ppb	90
11) Carbon Tetrachloride	11.641	117	151725	0.65	ppb	99

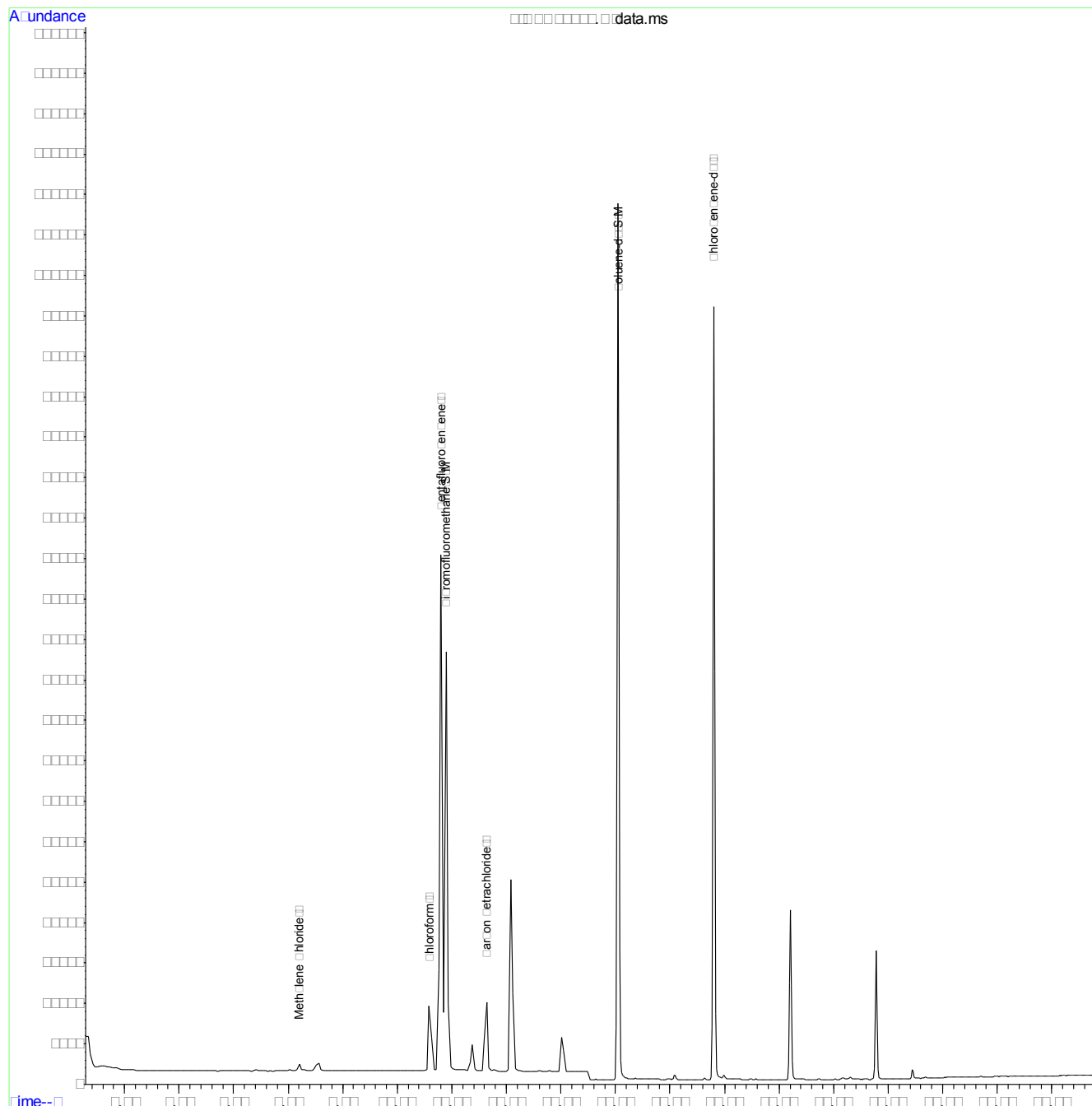
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.34
7

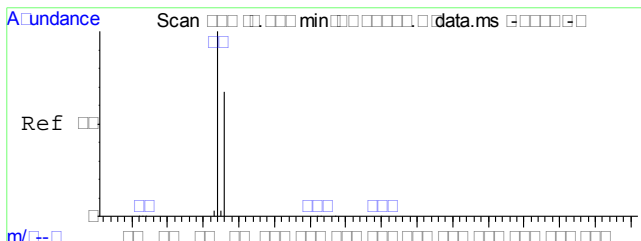
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30386.D
 Acq On : 21 Jul 2015 8:49 pm
 Operator : emilya
 Sample : C40680-34
 Misc : MS1855,VQ1320,50,,,,,1
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 22 08:10:17 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

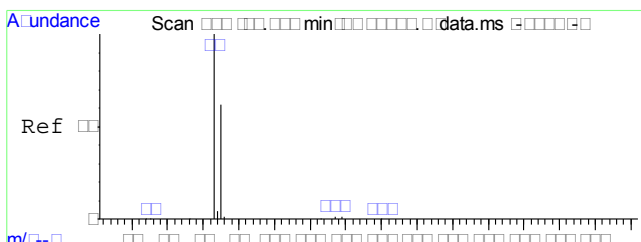
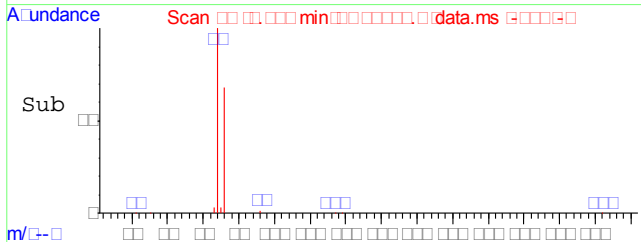
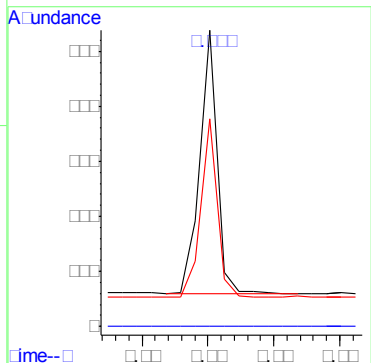
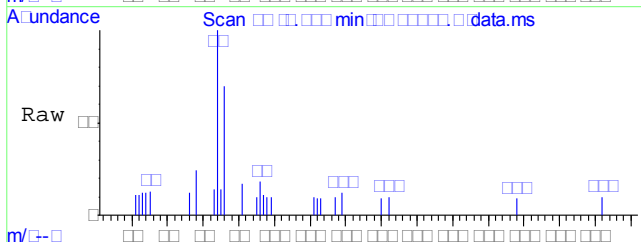


7.1.34
7



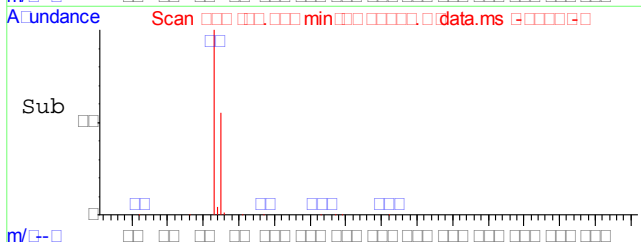
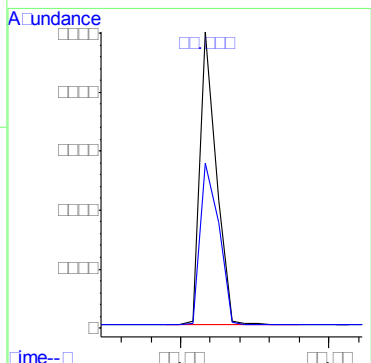
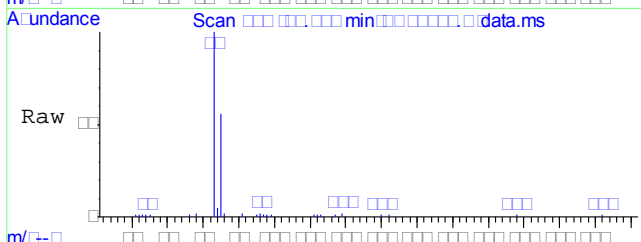
#4
 Methylene Chloride
 Concen: 0.09 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. 0.000 min
 Lab File: Q30386.D
 Acq: 21 Jul 2015 8:49 pm

Tgt Ion	Resp	Lower	Upper
84	17410		
49	0.0	0.0	20.0
86	65.4	43.8	83.8

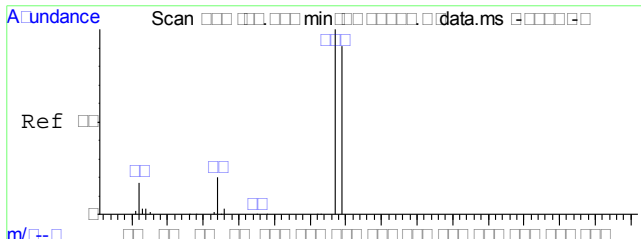


#8
 Chloroform
 Concen: 0.53 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30386.D
 Acq: 21 Jul 2015 8:49 pm

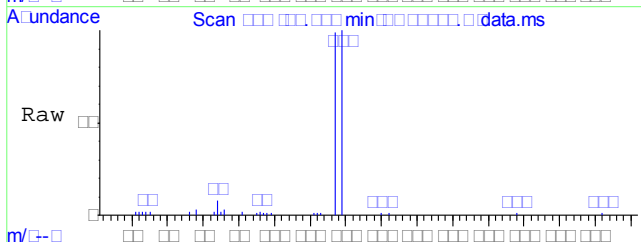
Tgt Ion	Resp	Lower	Upper
83	190805		
85	63.1	51.3	91.3



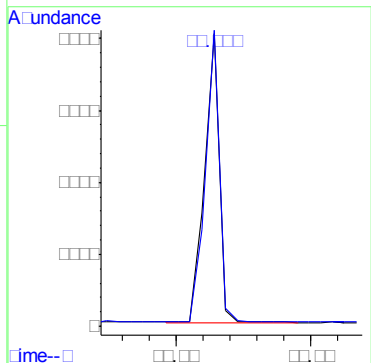
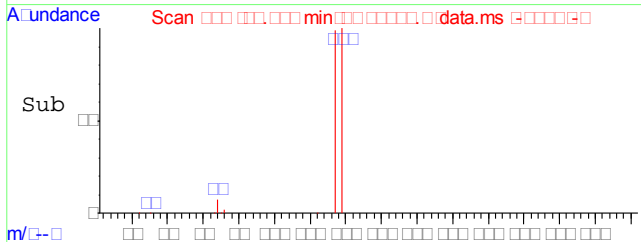
7.1.34
7



#11
 Carbon Tetrachloride
 Concen: 0.65 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30386.D
 Acq: 21 Jul 2015 8:49 pm



Tgt Ion: 117 Resp: 151725
 Ion Ratio Lower Upper
 117 100
 119 96.6 76.1 116.1



7.1.34
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30394.D
Acq On : 22 Jul 2015 11:56 am
Operator : thuy
Sample : C40680-35
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 24 13:38:08 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1241882	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1677921	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	772179	4.81	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	96.20%	
18) Toluene-d8	14.048	98	1863263	4.91	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.20%	
Target Compounds						
8) Chloroform	10.584	83	12365	0.03	ppb	Qvalue # 14
11) Carbon Tetrachloride	11.641	117	100049	0.41	ppb	99

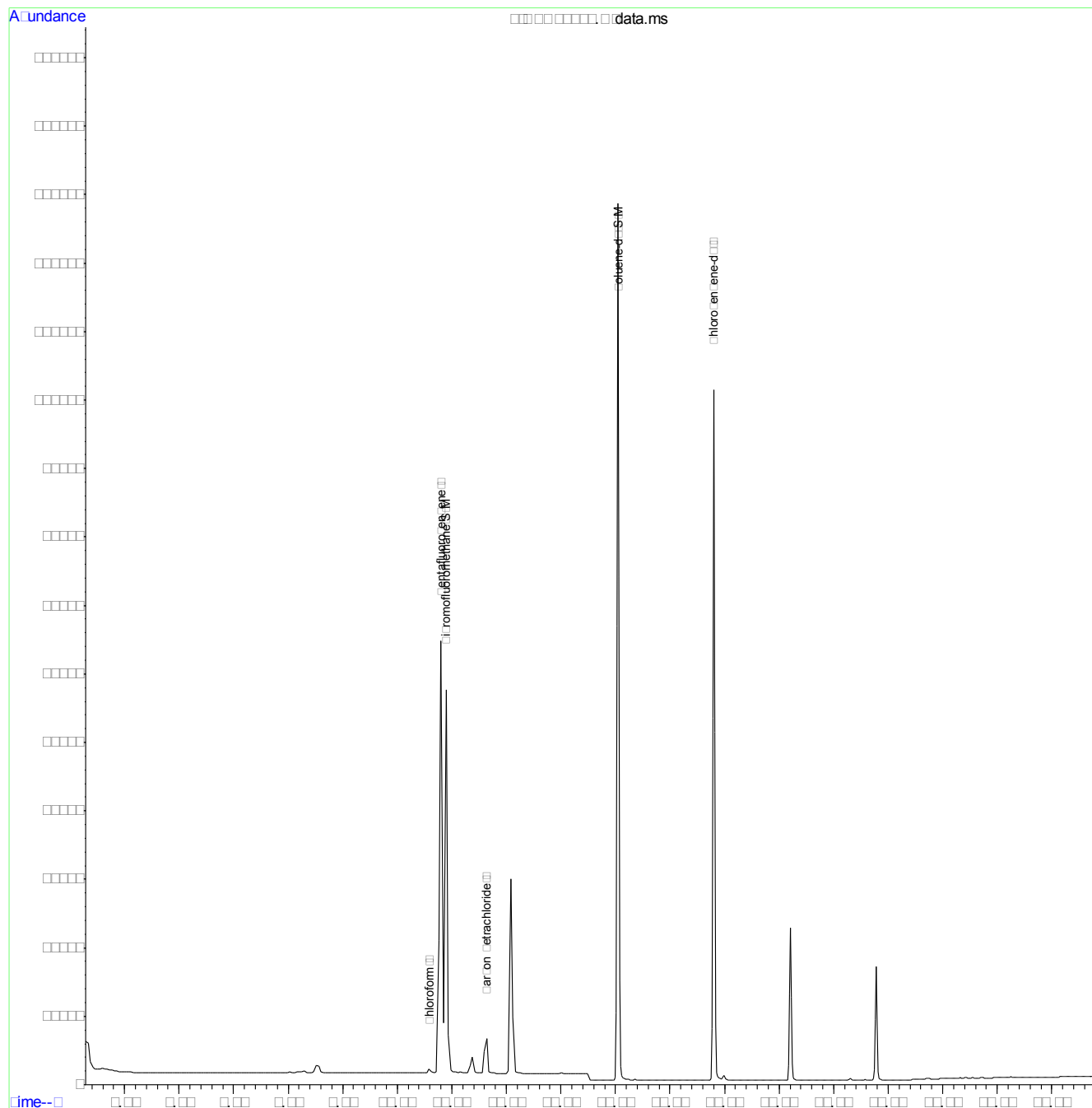
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.35
7

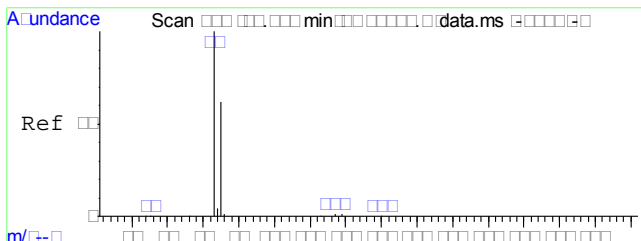
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30394.D
Acq On : 22 Jul 2015 11:56 am
Operator : thuy
Sample : C40680-35
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 24 13:38:08 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

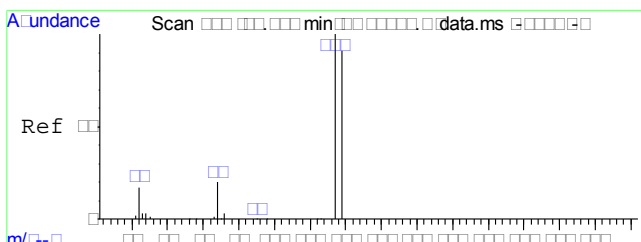
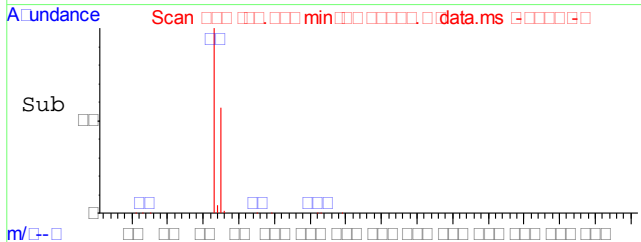
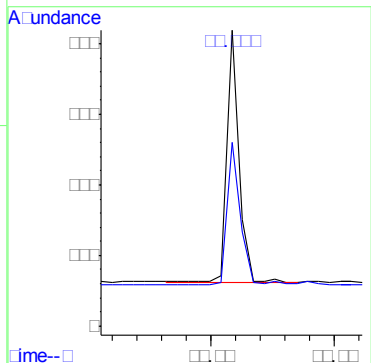
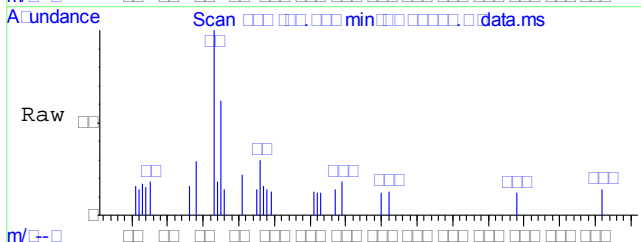


7.1.35
7



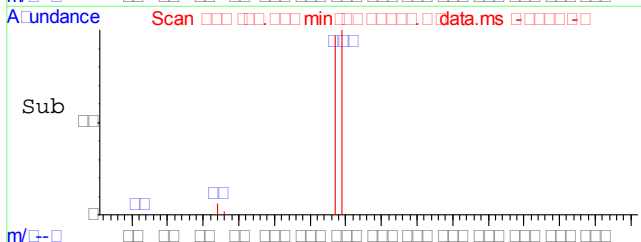
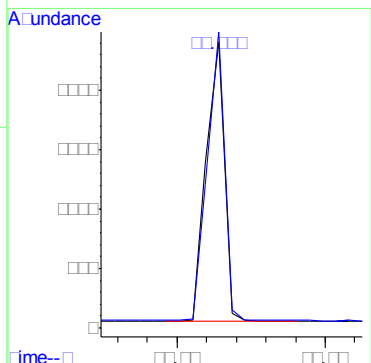
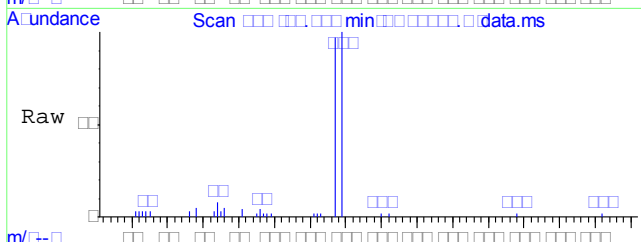
#8
 Chloroform
 Concen: 0.03 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30394.D
 Acq: 22 Jul 2015 11:56 am

Tgt Ion: 83 Resp: 12365
 Ion Ratio Lower Upper
 83 100
 85 0.0 51.3 91.3#



#11
 Carbon Tetrachloride
 Concen: 0.41 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30394.D
 Acq: 22 Jul 2015 11:56 am

Tgt Ion: 117 Resp: 100049
 Ion Ratio Lower Upper
 117 100
 119 97.1 76.1 116.1



7.1.35
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30395.D
Acq On : 22 Jul 2015 12:26 pm
Operator : thuy
Sample : C40680-36
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 24 13:38:18 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1195705	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1642302	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	750835	4.85	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	97.00%
18) Toluene-d8	14.048	98	1833080	4.93	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	98.60%
Target Compounds						
8) Chloroform	10.584	83	13448	0.04	ppb	Qvalue # 14
11) Carbon Tetrachloride	11.641	117	105016	0.44	ppb	100

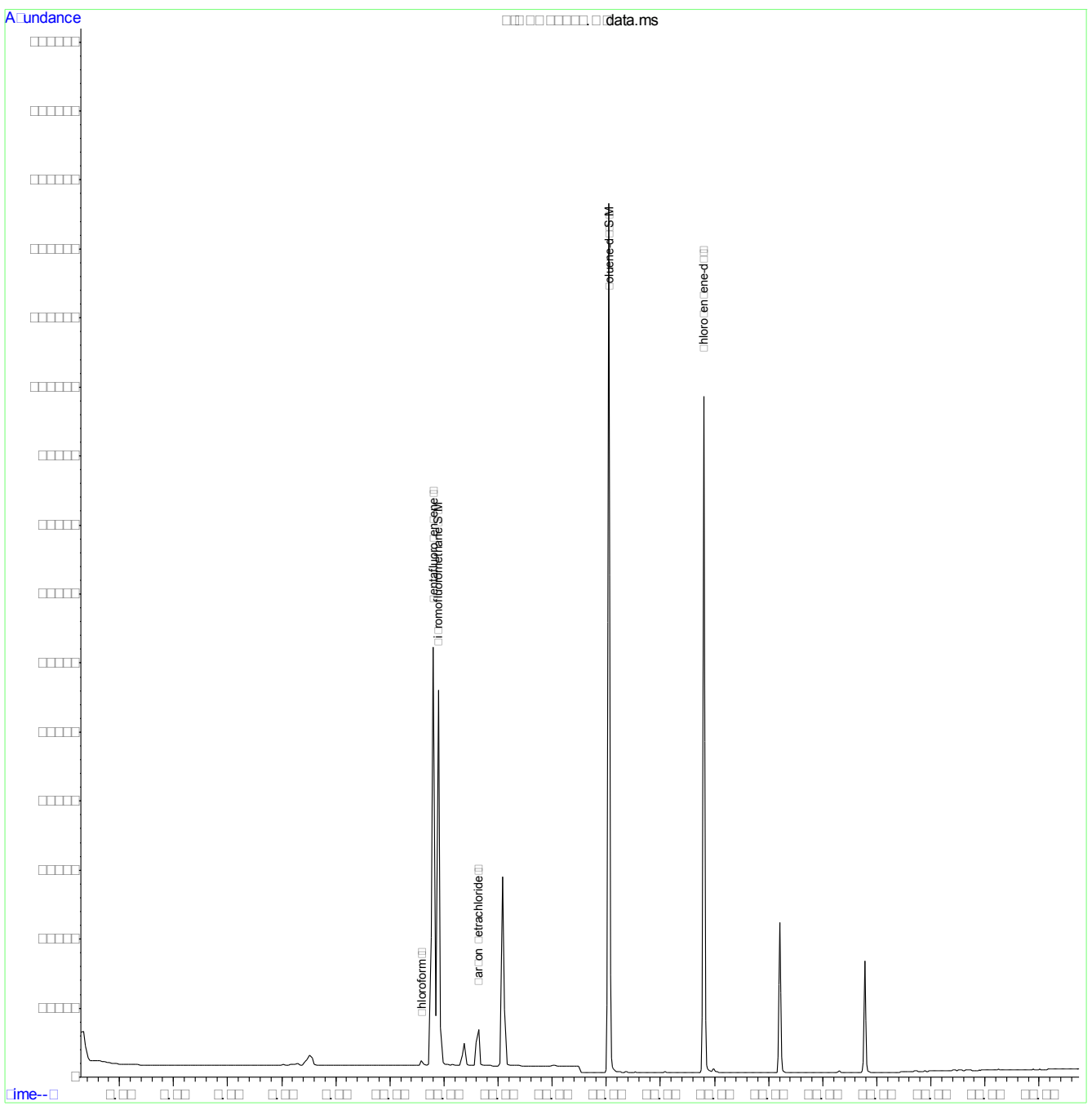
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.36
7

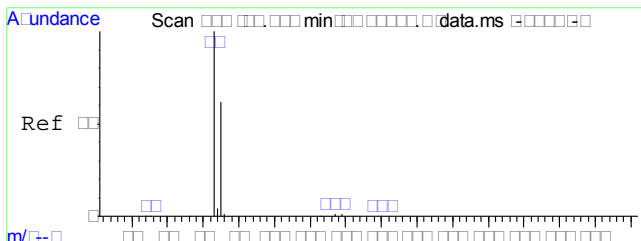
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30395.D
Acq On : 22 Jul 2015 12:26 pm
Operator : thuy
Sample : C40680-36
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 24 13:38:18 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

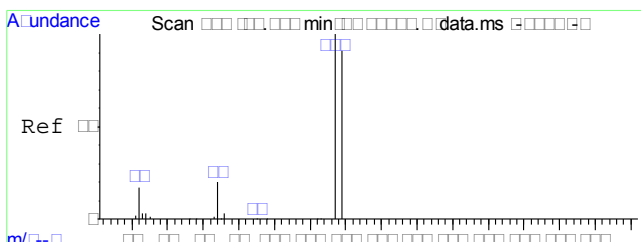
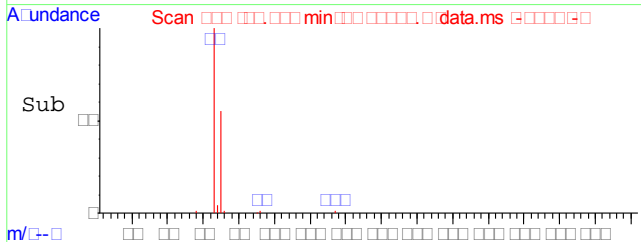
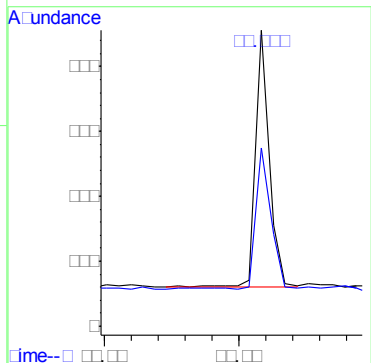
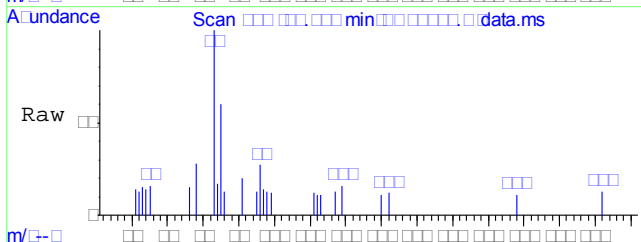


7.1.36
7



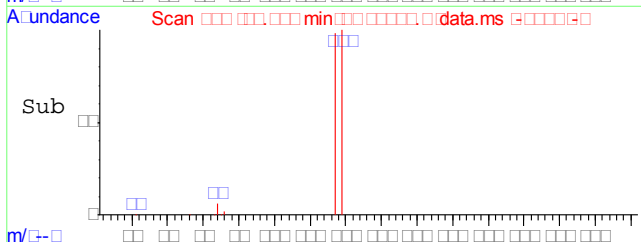
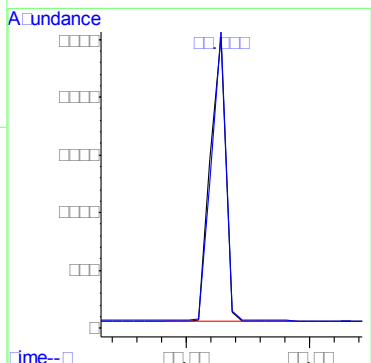
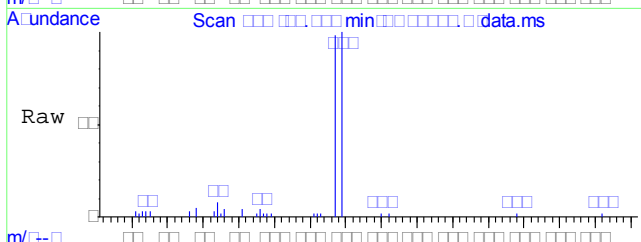
#8
 Chloroform
 Concen: 0.04 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30395.D
 Acq: 22 Jul 2015 12:26 pm

Tgt Ion: 83 Resp: 13448
 Ion Ratio Lower Upper
 83 100
 85 0.0 51.3 91.3#



#11
 Carbon Tetrachloride
 Concen: 0.44 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30395.D
 Acq: 22 Jul 2015 12:26 pm

Tgt Ion: 117 Resp: 105016
 Ion Ratio Lower Upper
 117 100
 119 96.1 76.1 116.1



7.1.36
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30396.D
Acq On : 22 Jul 2015 12:57 pm
Operator : thuy
Sample : C40680-37
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 24 13:38:25 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1204955	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1637676	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	760872	4.88	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.60%	
18) Toluene-d8	14.048	98	1811946	4.89	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.80%	
Target Compounds						
8) Chloroform	10.584	83	70777	0.19	ppb	90
11) Carbon Tetrachloride	11.641	117	511157	2.14	ppb	100

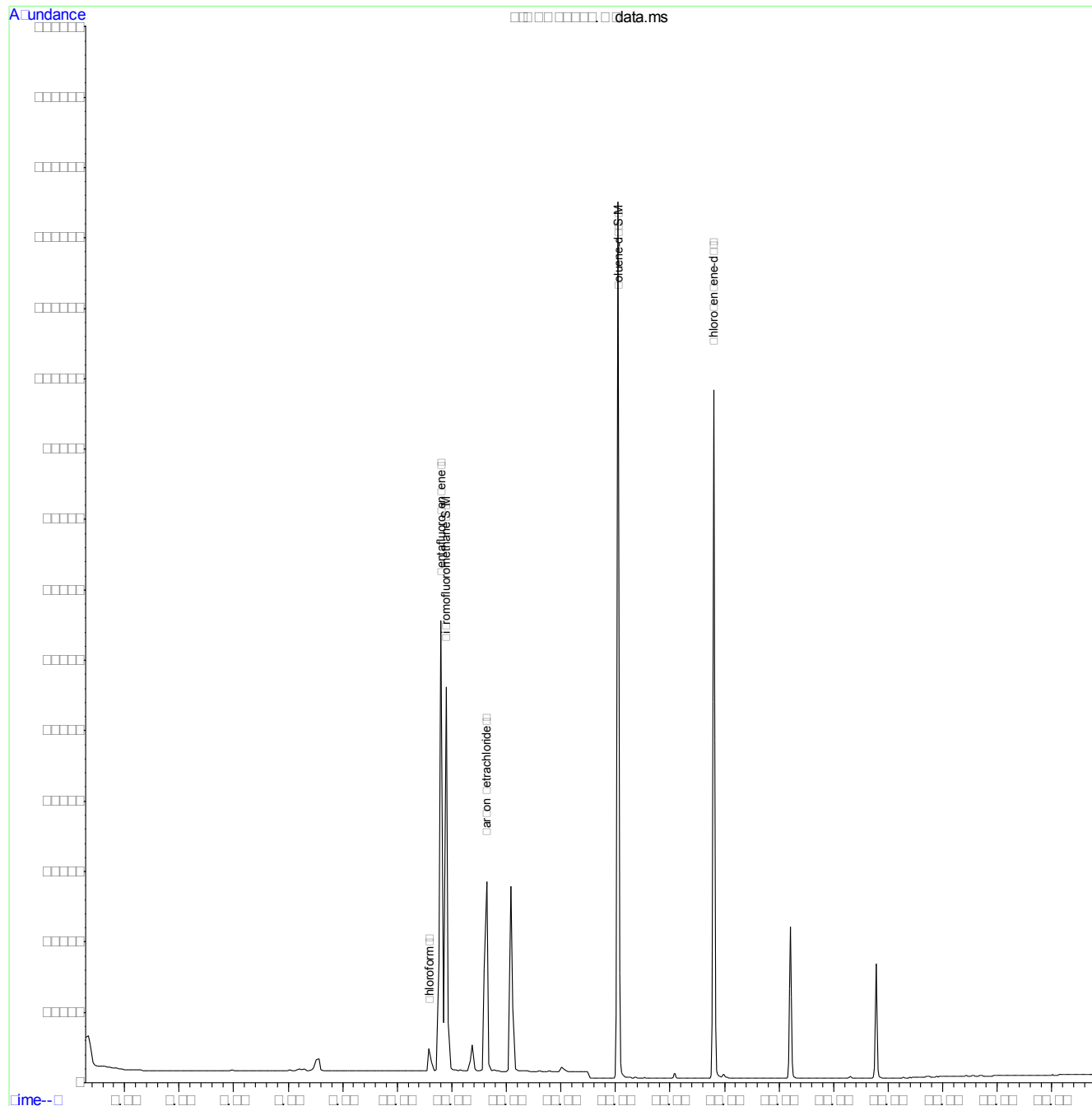
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.37
7

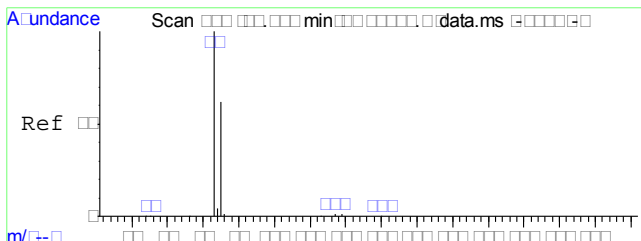
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30396.D
Acq On : 22 Jul 2015 12:57 pm
Operator : thuy
Sample : C40680-37
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 24 13:38:25 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

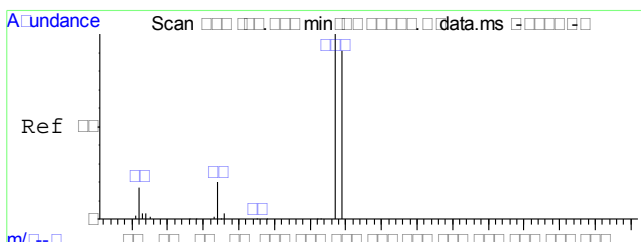
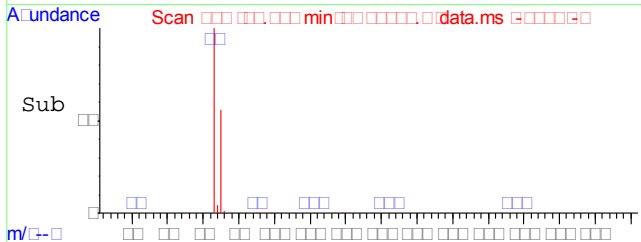
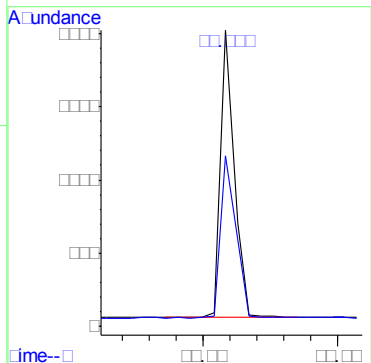
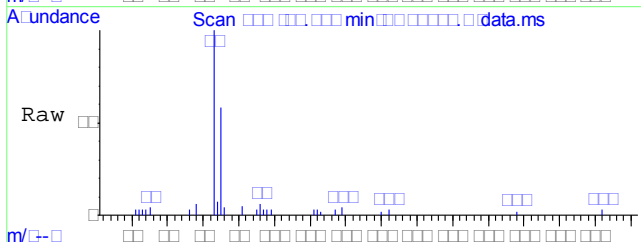


7.1.37
7



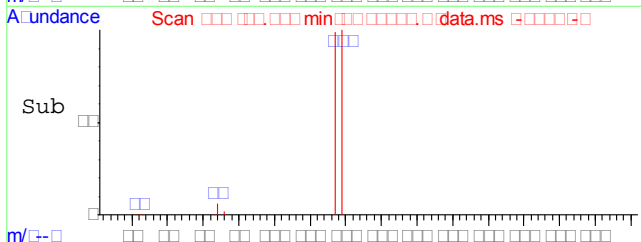
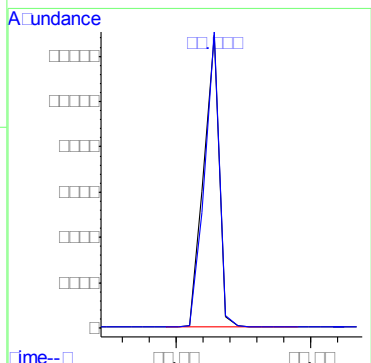
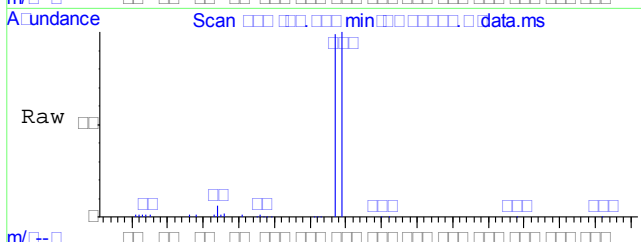
#8
 Chloroform
 Concen: 0.19 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30396.D
 Acq: 22 Jul 2015 12:57 pm

Tgt Ion: 83 Resp: 70777
 Ion Ratio Lower Upper
 83 100
 85 63.0 51.3 91.3



#11
 Carbon Tetrachloride
 Concen: 2.14 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30396.D
 Acq: 22 Jul 2015 12:57 pm

Tgt Ion: 117 Resp: 511157
 Ion Ratio Lower Upper
 117 100
 119 96.2 76.1 116.1



7.1.37
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
 Data File : Q30397.D
 Acq On : 22 Jul 2015 1:27 pm
 Operator : thuy
 Sample : C40680-38
 Misc : MS1855,VQ1321,50,,,,,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 24 13:38:31 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1210159	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1641148	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	762251	4.87	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.40%	
18) Toluene-d8	14.048	98	1762975	4.75	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	95.00%	
Target Compounds						
8) Chloroform	10.584	83	69696	0.19	ppb	90
11) Carbon Tetrachloride	11.641	117	500642	2.09	ppb	99

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

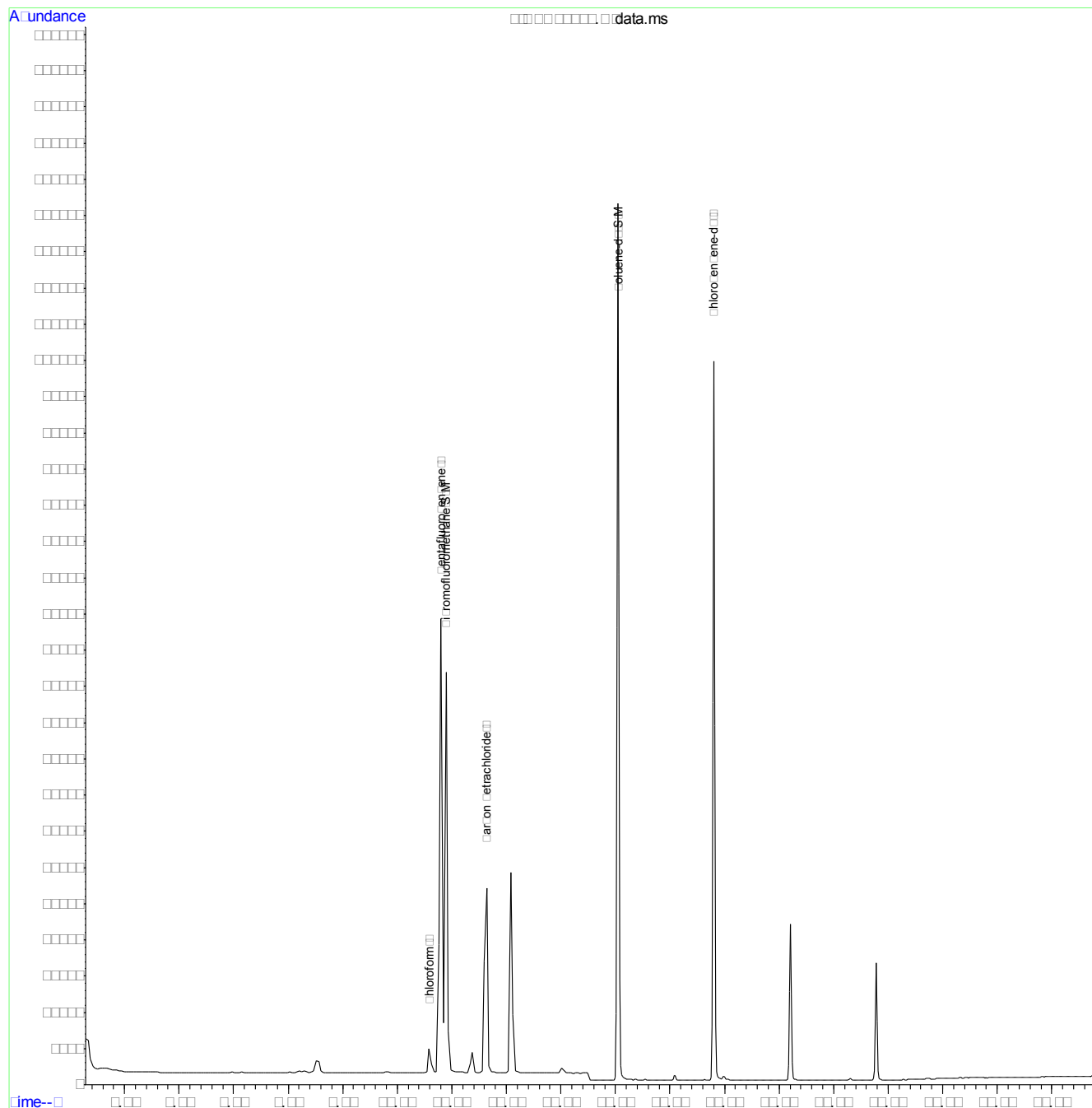
7.1.38

7

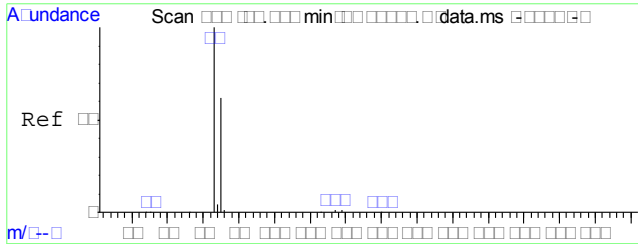
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30397.D
Acq On : 22 Jul 2015 1:27 pm
Operator : thuy
Sample : C40680-38
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 24 13:38:31 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

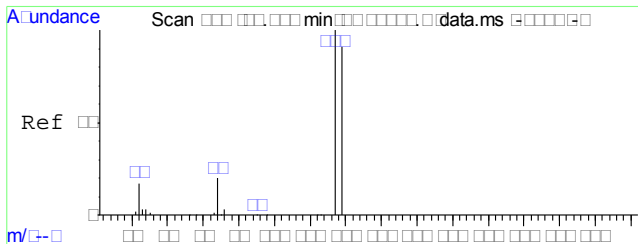
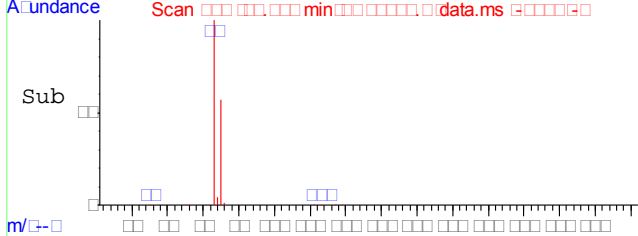
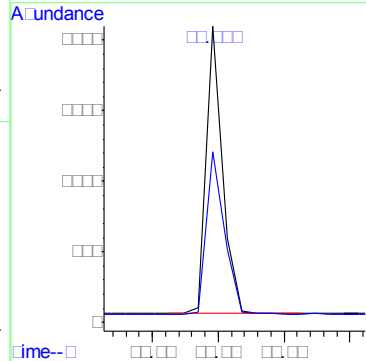
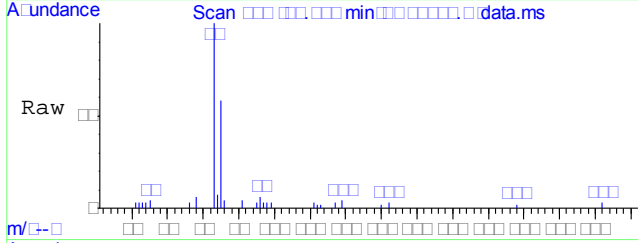


7.1.38
7



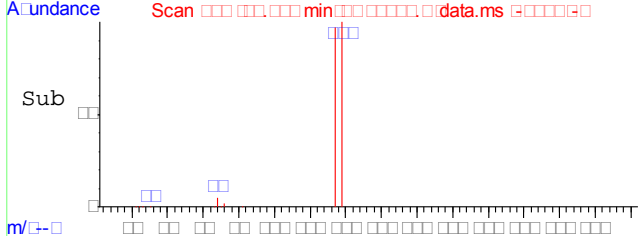
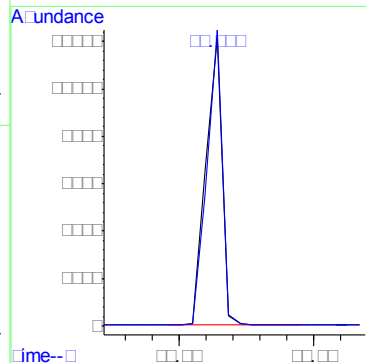
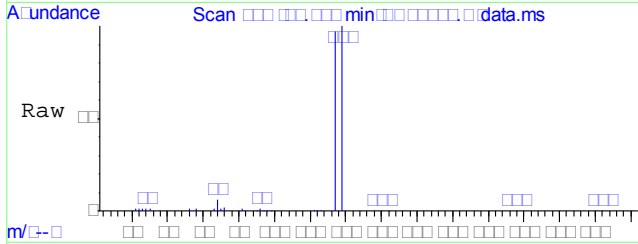
#8
Chloroform
Concen: 0.19 ppb
RT: 10.584 min Scan# 144
Delta R.T. -0.000 min
Lab File: Q30397.D
Acq: 22 Jul 2015 1:27 pm

Tgt Ion: 83 Resp: 69696
Ion Ratio Lower Upper
83 100
85 62.8 51.3 91.3



#11
Carbon Tetrachloride
Concen: 2.09 ppb
RT: 11.641 min Scan# 168
Delta R.T. -0.000 min
Lab File: Q30397.D
Acq: 22 Jul 2015 1:27 pm

Tgt Ion: 117 Resp: 500642
Ion Ratio Lower Upper
117 100
119 96.9 76.1 116.1



7.1.38
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30398.D
Acq On : 22 Jul 2015 1:59 pm
Operator : thuy
Sample : C40680-39
Misc : MS1855,VQ1321,50,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 24 13:38:38 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1192995	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1620760	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	749781	4.86	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.20%	
18) Toluene-d8	14.048	98	1760912	4.80	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	96.00%	
Target Compounds						
8) Chloroform	10.584	83	88190	0.24	ppb	90
11) Carbon Tetrachloride	11.641	117	541144	2.29	ppb	99
14) Trichloroethene	12.609	95	14240	0.08	ppb	91

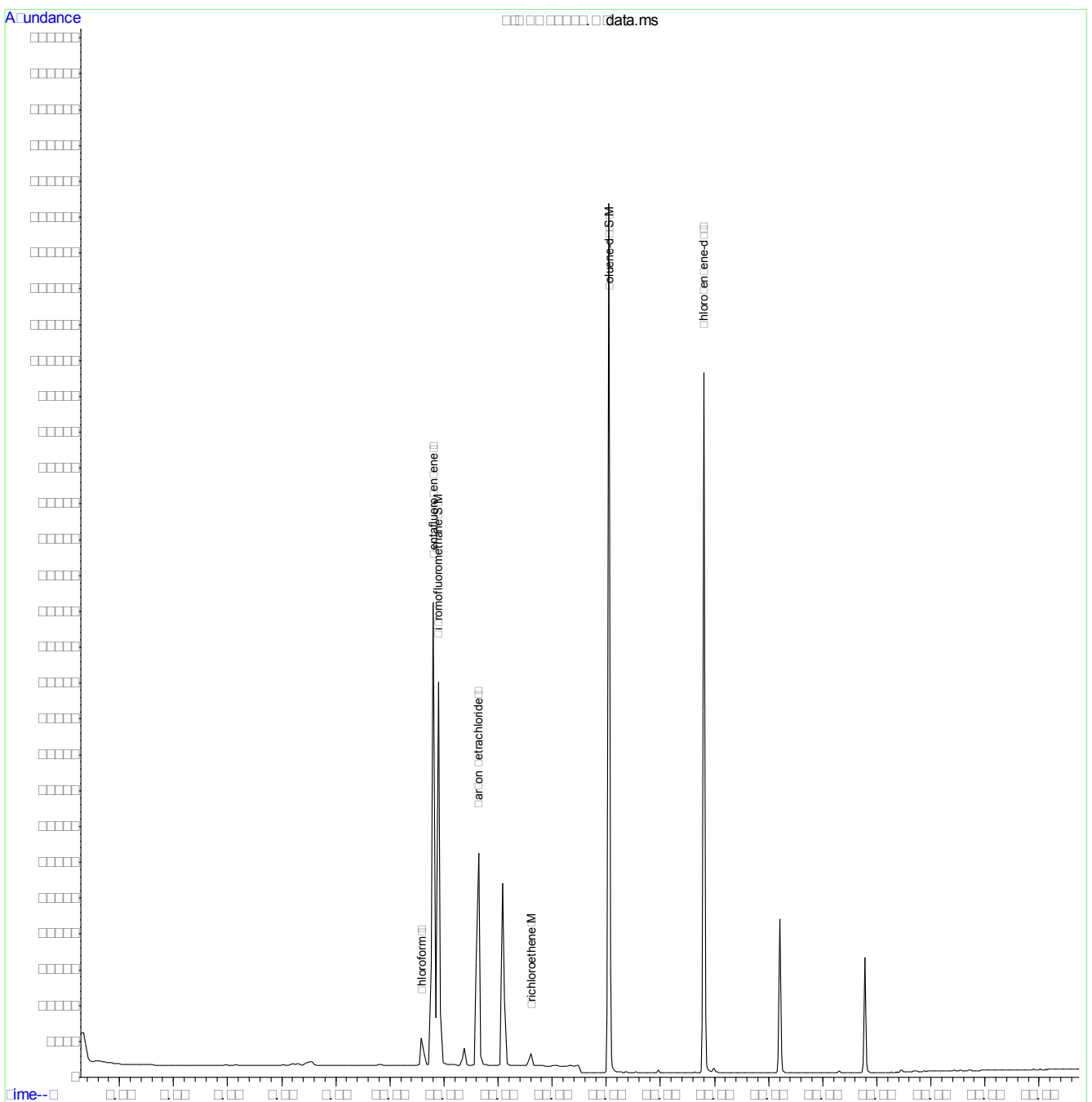
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.39
7

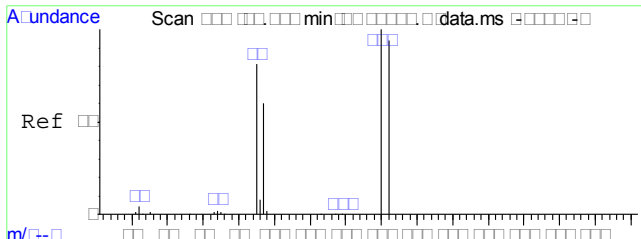
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30398.D
Acq On : 22 Jul 2015 1:59 pm
Operator : thuy
Sample : C40680-39
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 9 Sample Multiplier: 1

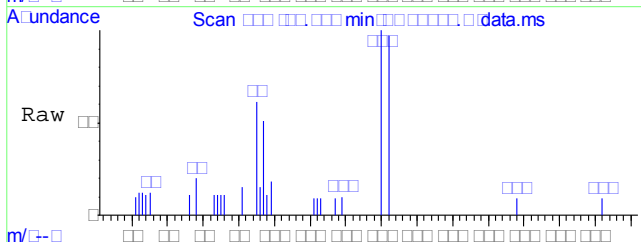
Quant Time: Jul 24 13:38:38 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



7.1.39
7

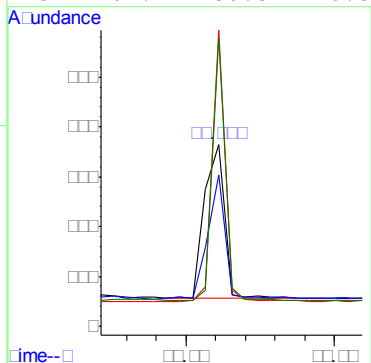
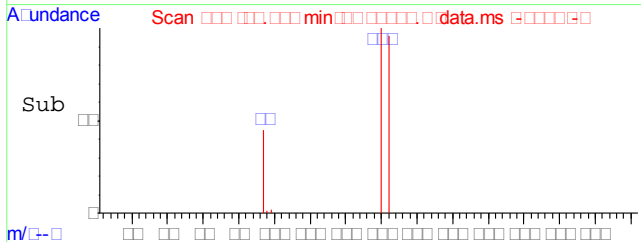


#14
 Trichloroethene
 Concen: 0.08 ppb
 RT: 12.609 min Scan# 190
 Delta R.T. 0.044 min
 Lab File: Q30398.D
 Acq: 22 Jul 2015 1:59 pm



Tgt Ion: 95 Resp: 14240

Ion	Ratio	Lower	Upper
95	100		
97	70.7	42.8	82.8
130	111.5	81.2	121.2
132	107.1	80.5	120.5



7.1.39
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30399.D
Acq On : 22 Jul 2015 2:29 pm
Operator : thuy
Sample : C40680-40
Misc : MS1855,VQ1321,50,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 24 13:38:45 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1182818	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1612937	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	747008	4.88	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.60%	
18) Toluene-d8	14.048	98	1790349	4.90	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.00%	
Target Compounds						
8) Chloroform	10.584	83	89270	0.24	ppb	90
11) Carbon Tetrachloride	11.641	117	538899	2.30	ppb	100
14) Trichloroethene	12.609	95	14372	0.09	ppb	91

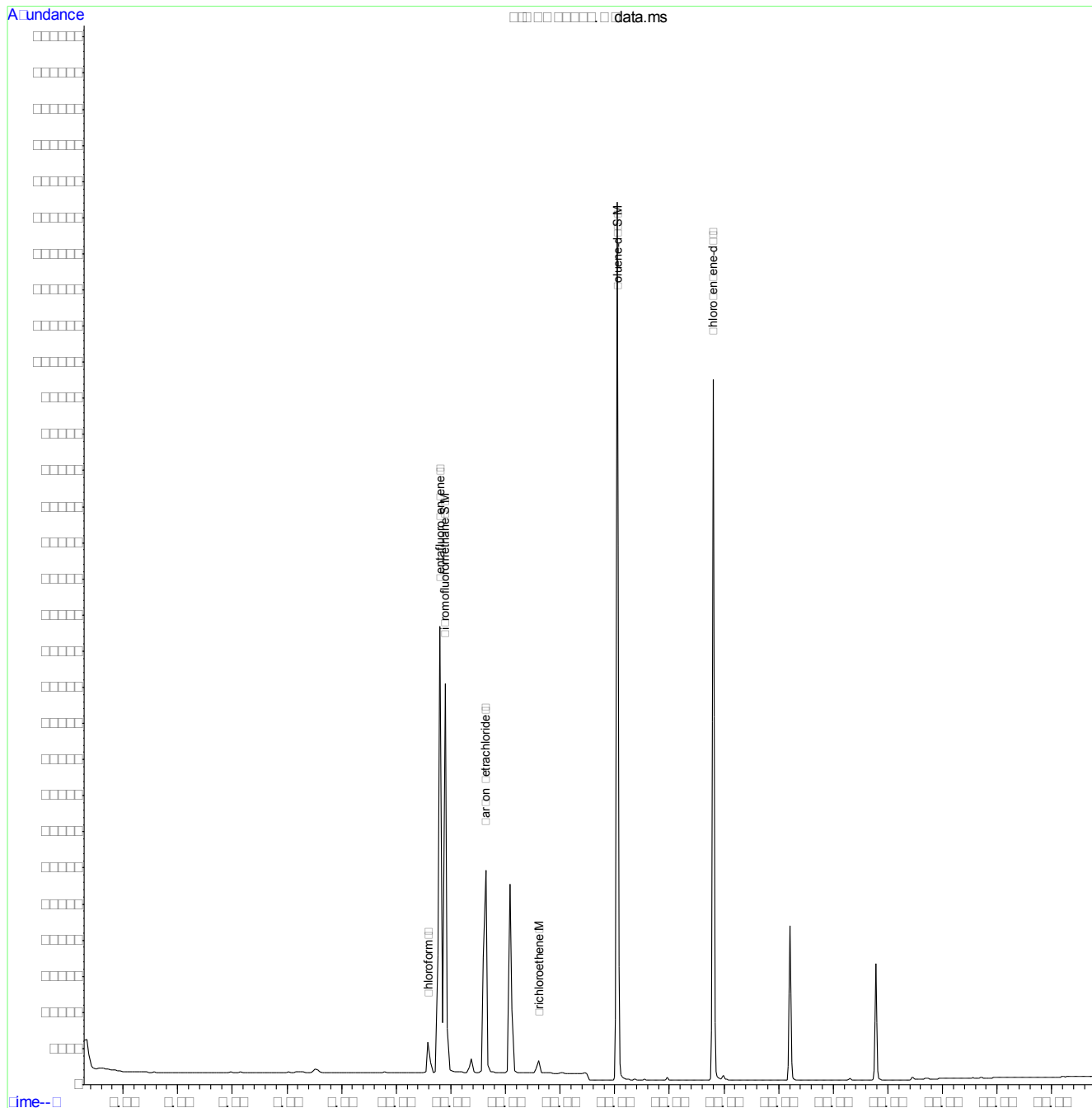
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.40
7

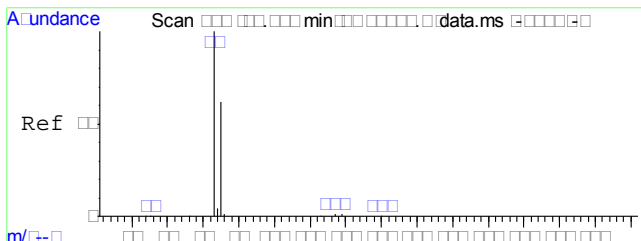
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30399.D
Acq On : 22 Jul 2015 2:29 pm
Operator : thuy
Sample : C40680-40
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 24 13:38:45 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

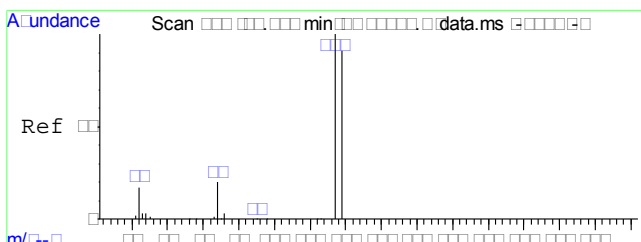
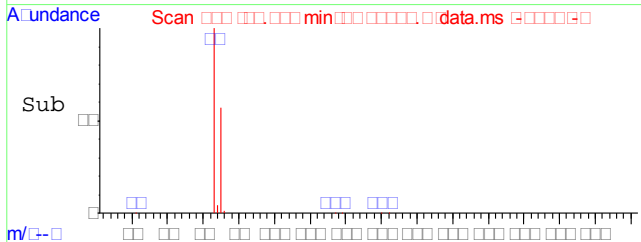
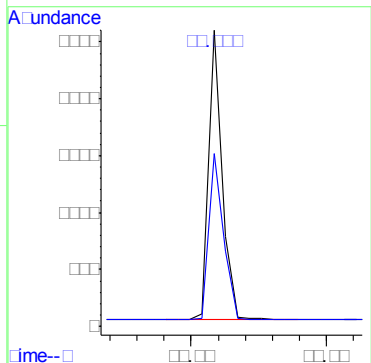
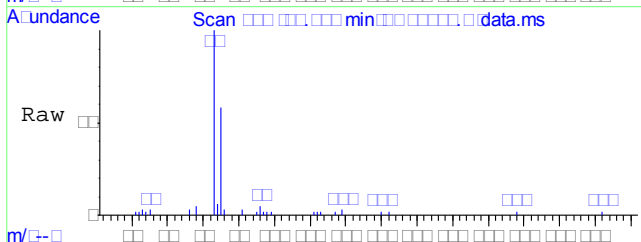


7.1.40
7



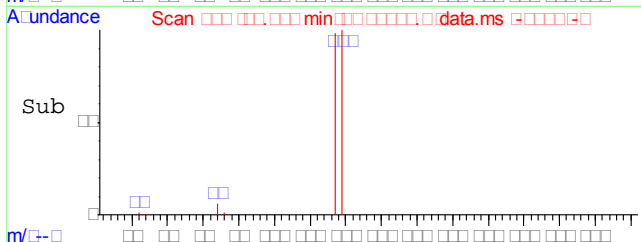
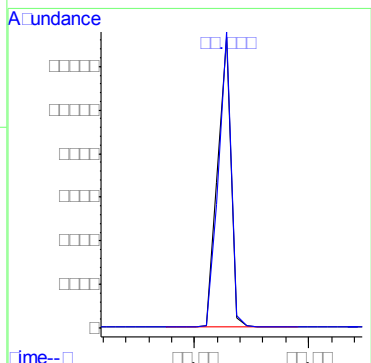
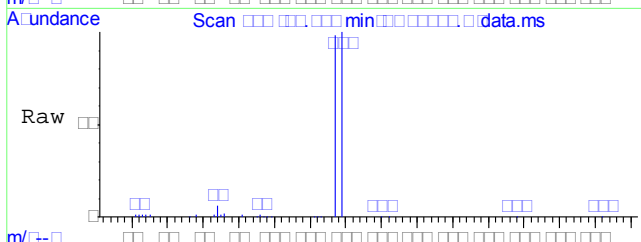
#8
 Chloroform
 Concen: 0.24 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30399.D
 Acq: 22 Jul 2015 2:29 pm

Tgt Ion: 83 Resp: 89270
 Ion Ratio Lower Upper
 83 100
 85 63.0 51.3 91.3

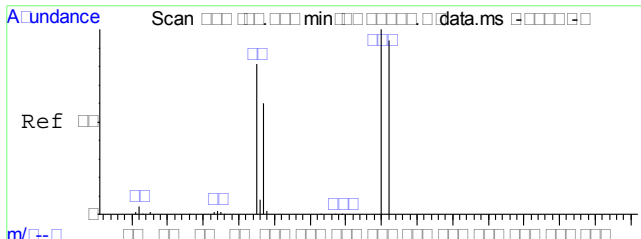


#11
 Carbon Tetrachloride
 Concen: 2.30 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30399.D
 Acq: 22 Jul 2015 2:29 pm

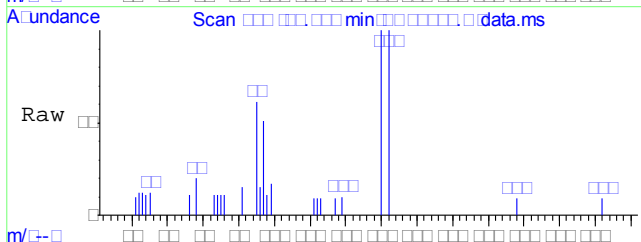
Tgt Ion: 117 Resp: 538899
 Ion Ratio Lower Upper
 117 100
 119 96.4 76.1 116.1



7.1.40
7

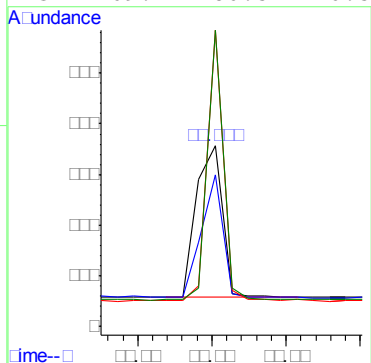
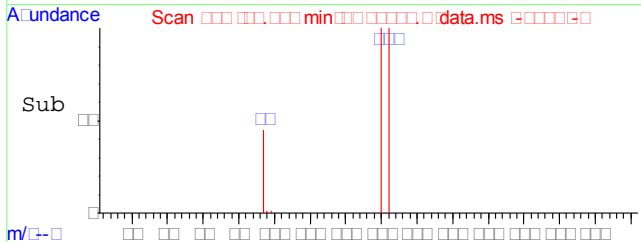


#14
 Trichloroethene
 Concen: 0.09 ppb
 RT: 12.609 min Scan# 190
 Delta R.T. 0.044 min
 Lab File: Q30399.D
 Acq: 22 Jul 2015 2:29 pm



Tgt Ion: 95 Resp: 14372

Ion	Ratio	Lower	Upper
95	100		
97	67.7	42.8	82.8
130	111.4	81.2	121.2
132	109.7	80.5	120.5



7.1.40
7

Quantitation Report (QT Reviewed)

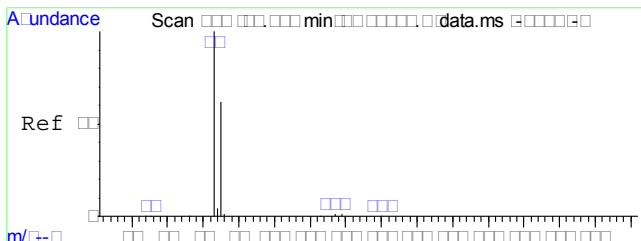
Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30400.D
Acq On : 22 Jul 2015 3:00 pm
Operator : thuy
Sample : C40680-41
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 24 13:38:53 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1152143	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1571838	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	733370	4.92	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.40%	
18) Toluene-d8	14.048	98	1707376	4.80	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	96.00%	
Target Compounds						
8) Chloroform	10.584	83	99049	0.28	ppb	91
11) Carbon Tetrachloride	11.641	117	633186	2.77	ppb	99
14) Trichloroethene	12.609	95	18203	0.11	ppb	95

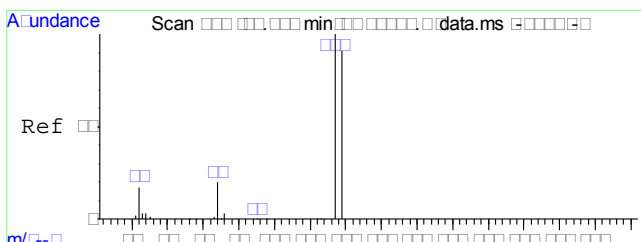
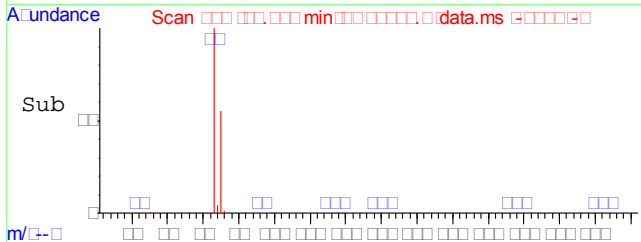
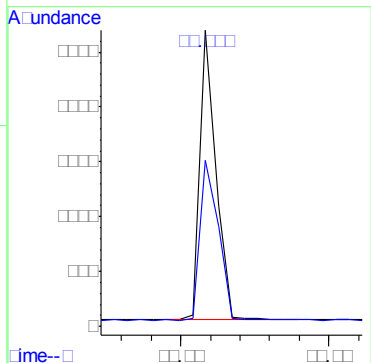
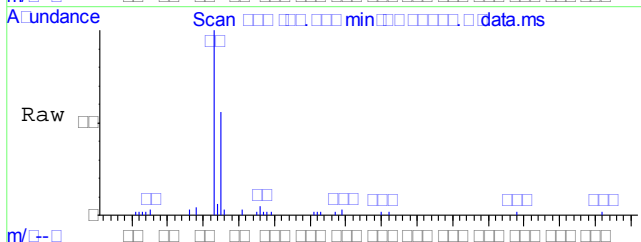
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.41
7



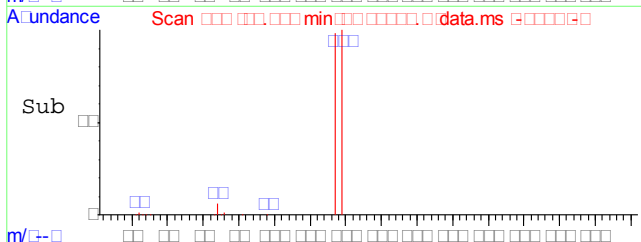
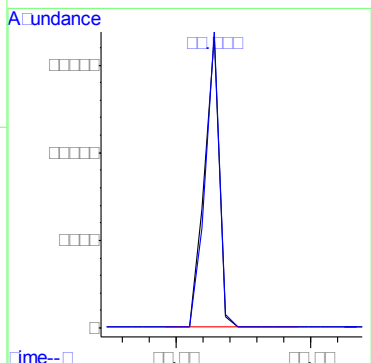
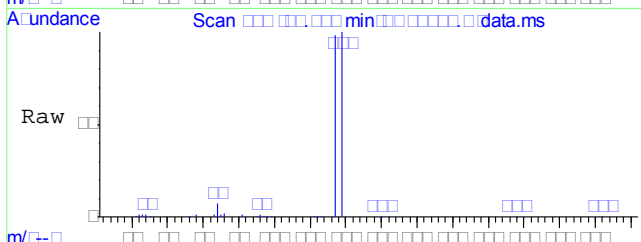
#8
 Chloroform
 Concen: 0.28 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30400.D
 Acq: 22 Jul 2015 3:00 pm

Tgt Ion: 83 Resp: 99049
 Ion Ratio Lower Upper
 83 100
 85 63.4 51.3 91.3

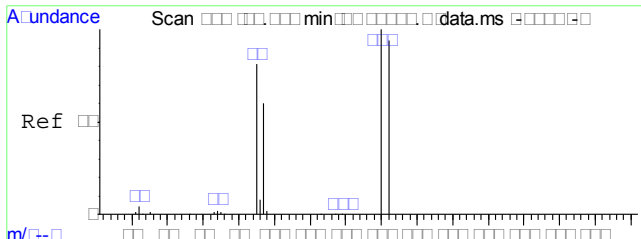


#11
 Carbon Tetrachloride
 Concen: 2.77 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30400.D
 Acq: 22 Jul 2015 3:00 pm

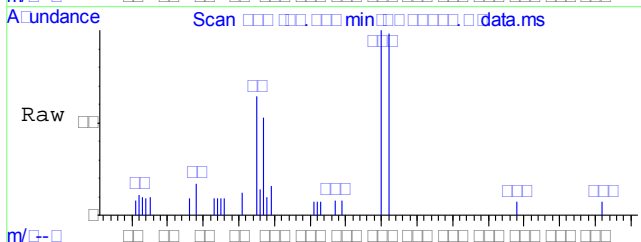
Tgt Ion: 117 Resp: 633186
 Ion Ratio Lower Upper
 117 100
 119 97.1 76.1 116.1



7.1.41
 7

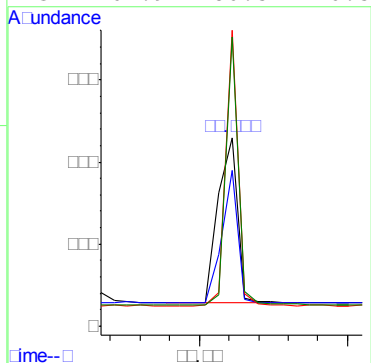
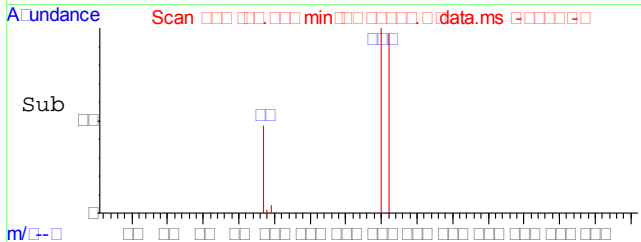


#14
 Trichloroethene
 Concen: 0.11 ppb
 RT: 12.609 min Scan# 190
 Delta R.T. 0.044 min
 Lab File: Q30400.D
 Acq: 22 Jul 2015 3:00 pm



Tgt Ion: 95 Resp: 18203

Ion	Ratio	Lower	Upper
95	100		
97	66.9	42.8	82.8
130	107.5	81.2	121.2
132	104.9	80.5	120.5



7.1.41
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30401.D
Acq On : 22 Jul 2015 3:31 pm
Operator : thuy
Sample : C40680-42
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 24 13:39:01 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1158024	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1599151	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	744017	4.97	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.40%	
18) Toluene-d8	14.048	98	1739090	4.80	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	96.00%	
Target Compounds						
8) Chloroform	10.584	83	98097	0.27	ppb	90
11) Carbon Tetrachloride	11.641	117	629782	2.75	ppb	99
14) Trichloroethene	12.609	95	18335	0.11	ppb	95

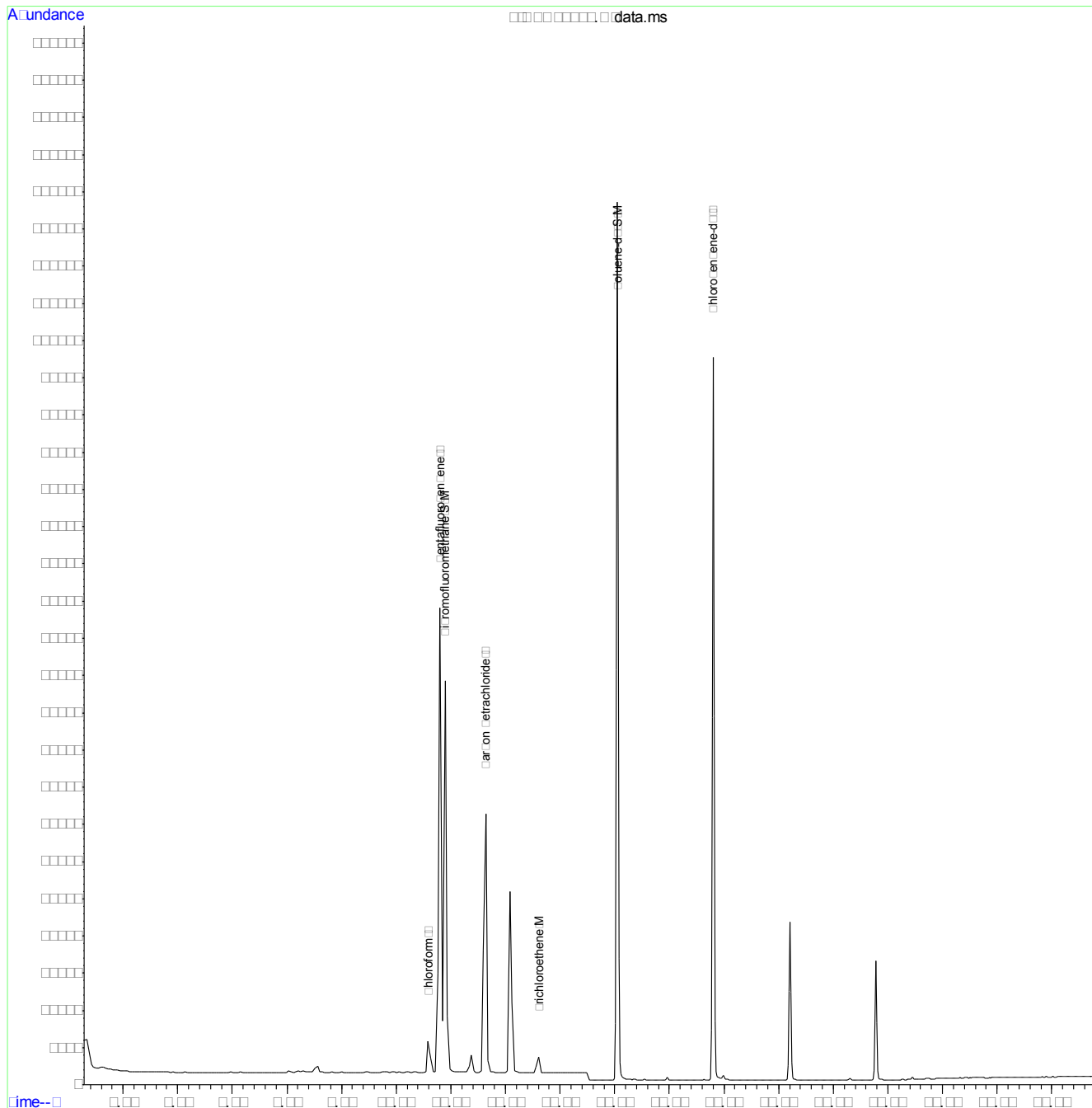
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.42
7

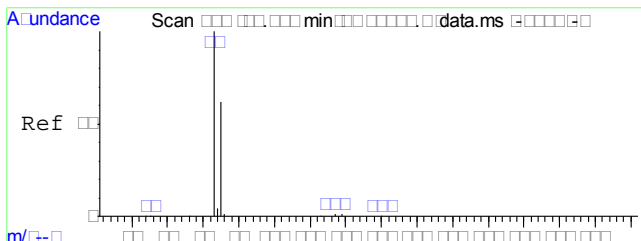
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30401.D
Acq On : 22 Jul 2015 3:31 pm
Operator : thuy
Sample : C40680-42
Misc : MS1855,VQ1321,50,,,,,1
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 24 13:39:01 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

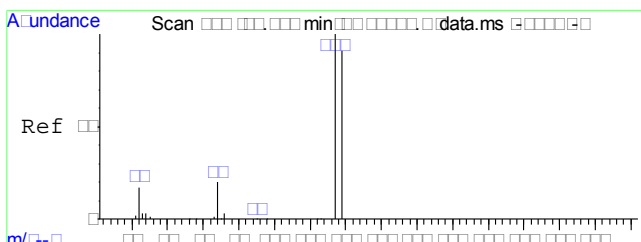
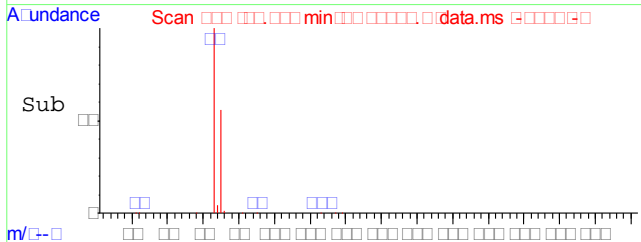
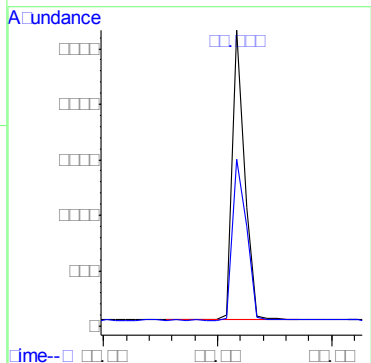
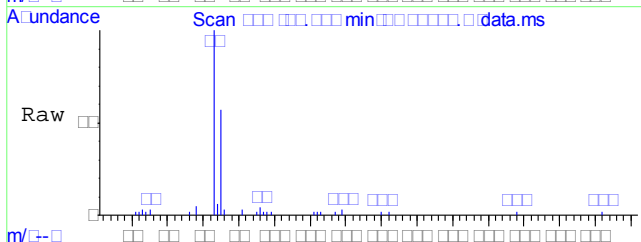


7.1.42
7



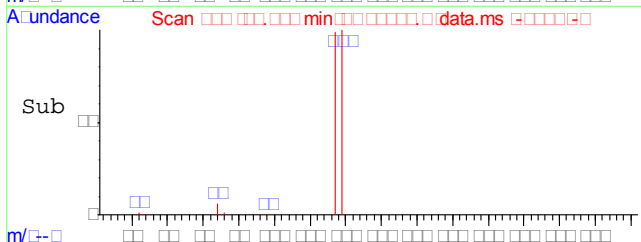
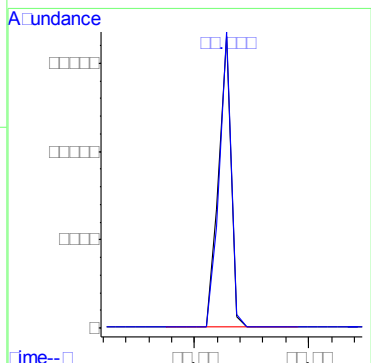
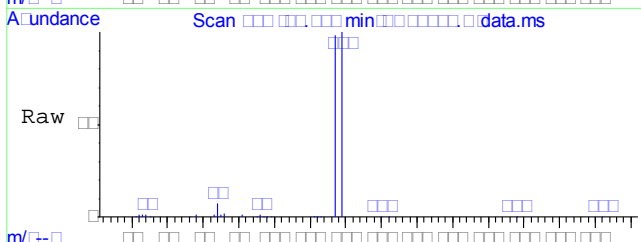
#8
 Chloroform
 Concen: 0.27 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30401.D
 Acq: 22 Jul 2015 3:31 pm

Tgt Ion: 83 Resp: 98097
 Ion Ratio Lower Upper
 83 100
 85 63.3 51.3 91.3

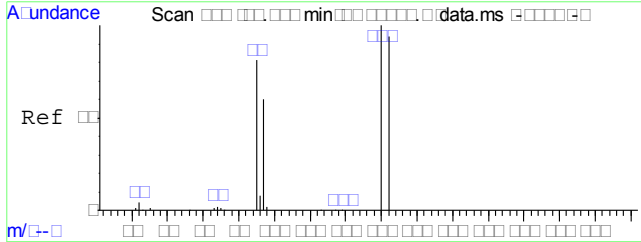


#11
 Carbon Tetrachloride
 Concen: 2.75 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30401.D
 Acq: 22 Jul 2015 3:31 pm

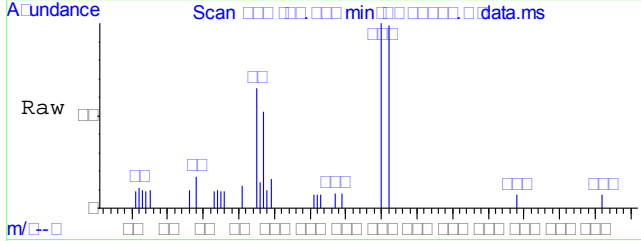
Tgt Ion: 117 Resp: 629782
 Ion Ratio Lower Upper
 117 100
 119 97.0 76.1 116.1



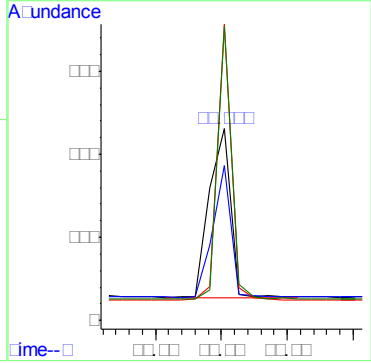
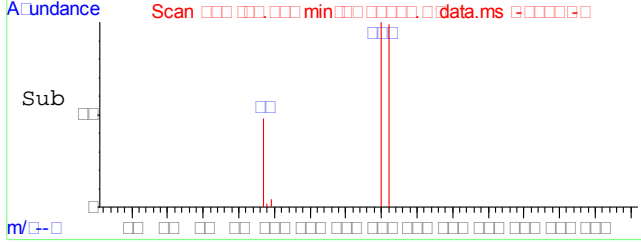
7.1.42
 7



#14
 Trichloroethene
 Concen: 0.11 ppb
 RT: 12.609 min Scan# 190
 Delta R.T. 0.044 min
 Lab File: Q30401.D
 Acq: 22 Jul 2015 3:31 pm



Tgt Ion	Resp	Lower	Upper
95	100		
97	67.3	42.8	82.8
130	106.8	81.2	121.2
132	105.0	80.5	120.5



7.1.42
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30402.D
Acq On : 22 Jul 2015 4:01 pm
Operator : thuy
Sample : C40680-43
Misc : MS1855,VQ1321,50,,,,1
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 24 13:39:10 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1164012	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1601557	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	738862	4.91	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.20%	
18) Toluene-d8	14.048	98	1707983	4.71	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	94.20%	
Target Compounds						
8) Chloroform	10.584	83	98728	0.27	ppb	90
11) Carbon Tetrachloride	11.640	117	631412	2.74	ppb	99
14) Trichloroethene	12.609	95	18071	0.11	ppb	95

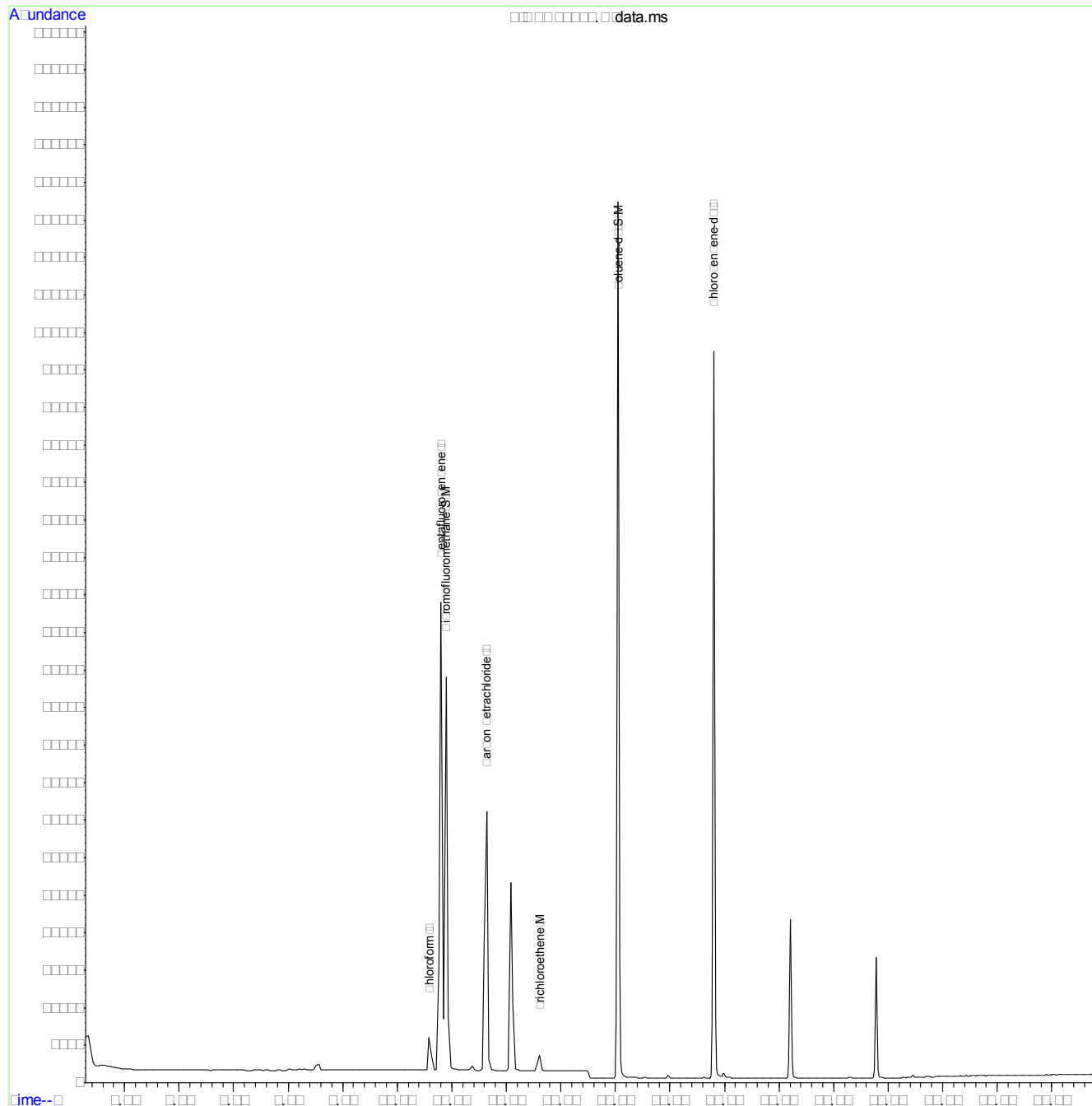
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.43
7

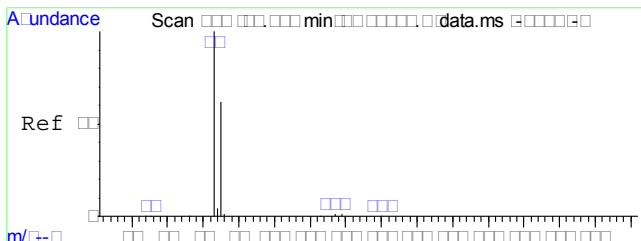
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
 Data File : Q30402.D
 Acq On : 22 Jul 2015 4:01 pm
 Operator : thuy
 Sample : C40680-43
 Misc : MS1855,VQ1321,50,,,,,1
 ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 24 13:39:10 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

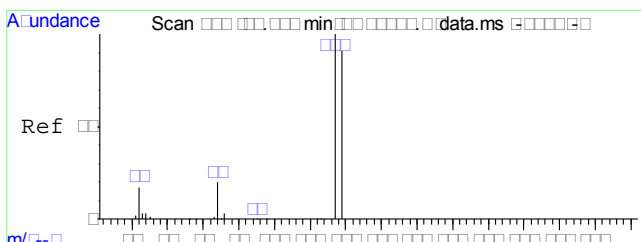
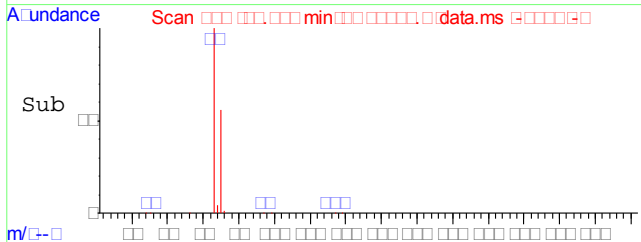
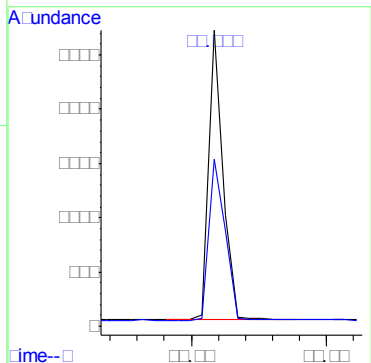
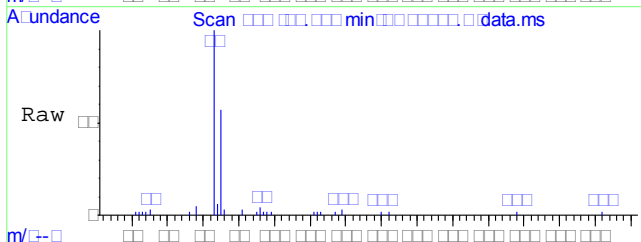


7.1.43
7



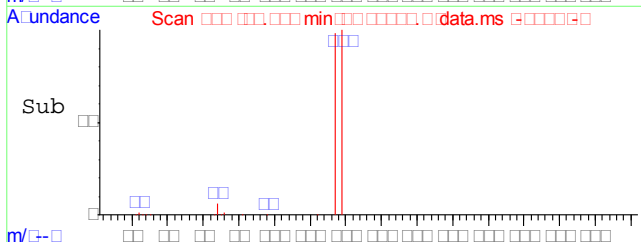
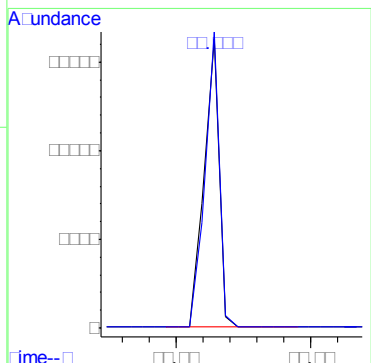
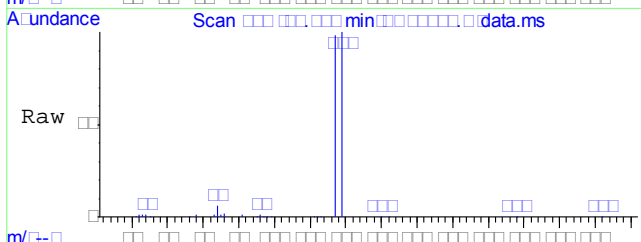
#8
 Chloroform
 Concen: 0.27 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30402.D
 Acq: 22 Jul 2015 4:01 pm

Tgt Ion: 83 Resp: 98728
 Ion Ratio Lower Upper
 83 100
 85 63.3 51.3 91.3

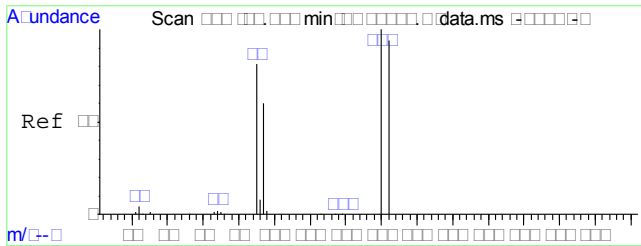


#11
 Carbon Tetrachloride
 Concen: 2.74 ppb
 RT: 11.640 min Scan# 168
 Delta R.T. -0.001 min
 Lab File: Q30402.D
 Acq: 22 Jul 2015 4:01 pm

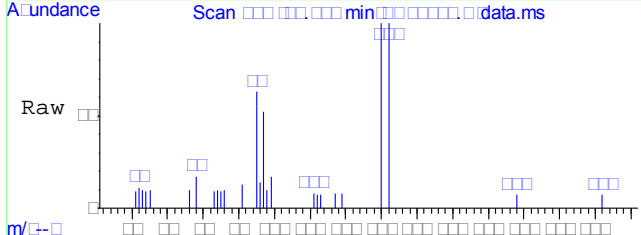
Tgt Ion: 117 Resp: 631412
 Ion Ratio Lower Upper
 117 100
 119 97.3 76.1 116.1



7.1.43
 7

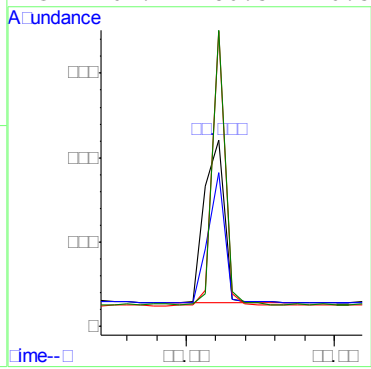
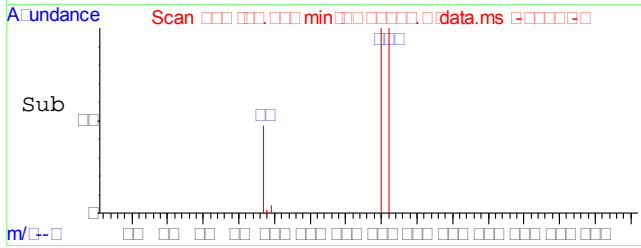


#14
 Trichloroethene
 Concen: 0.11 ppb
 RT: 12.609 min Scan# 190
 Delta R.T. 0.044 min
 Lab File: Q30402.D
 Acq: 22 Jul 2015 4:01 pm



Tgt Ion: 95 Resp: 18071

Ion	Ratio	Lower	Upper
95	100		
97	66.2	42.8	82.8
130	106.4	81.2	121.2
132	104.7	80.5	120.5



7.1.43
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30342.D
 Acq On : 20 Jul 2015 12:01 pm
 Operator : emilya
 Sample : MB
 Misc : MS1855,VQ1319,50,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 20 13:06:55 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1295834	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1786696	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	822931	4.91	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.20%	
18) Toluene-d8	14.048	98	2094893	5.18	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	103.60%	

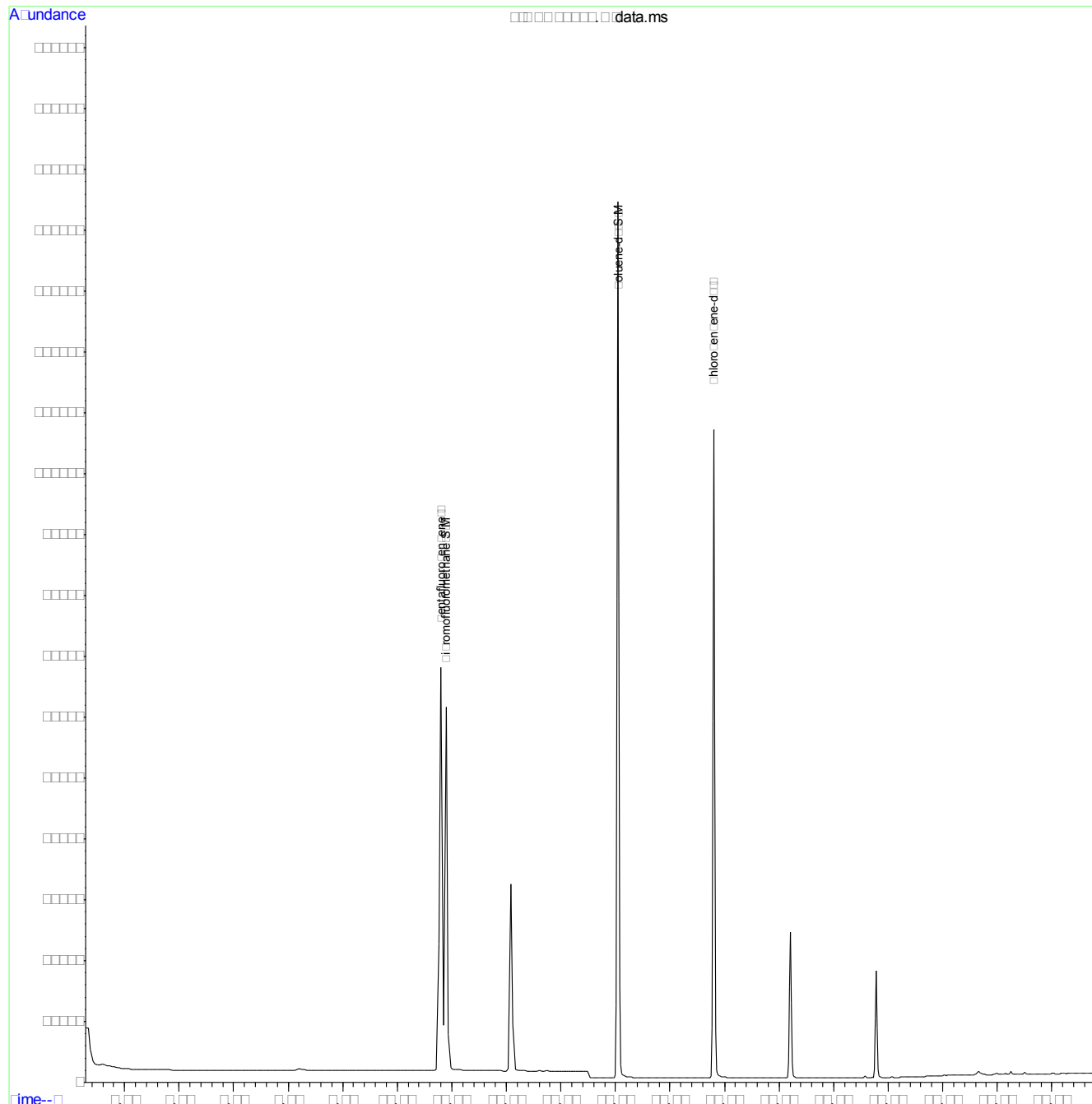
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
Data File : Q30342.D
Acq On : 20 Jul 2015 12:01 pm
Operator : emilya
Sample : MB
Misc : MS1855,VQ1319,50,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 20 13:06:55 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



7.2.1
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30367.D
 Acq On : 21 Jul 2015 11:05 am
 Operator : emilya
 Sample : MB
 Misc : MS1855,VQ1320,50,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 21 13:52:53 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1221476	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1652992	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	772151	4.89	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	97.80%
18) Toluene-d8	14.048	98	1940135	5.19	ppb	0.00
Spiked Amount	5.000	Range	70 - 130	Recovery	=	103.80%
Target Compounds						
4) Methylene Chloride	8.206	84	16116	0.08	ppb	Qvalue # 100

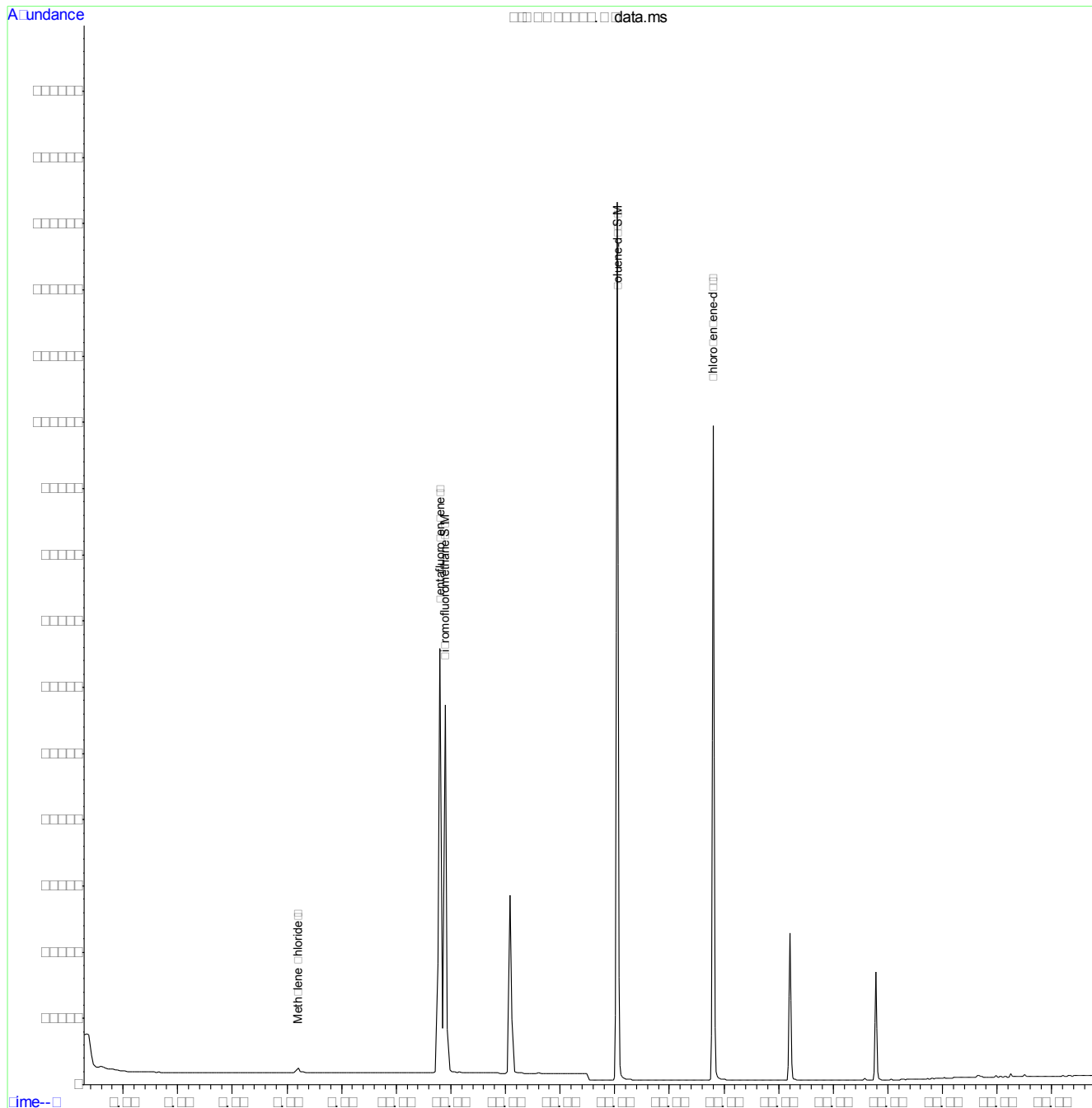
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.2
7

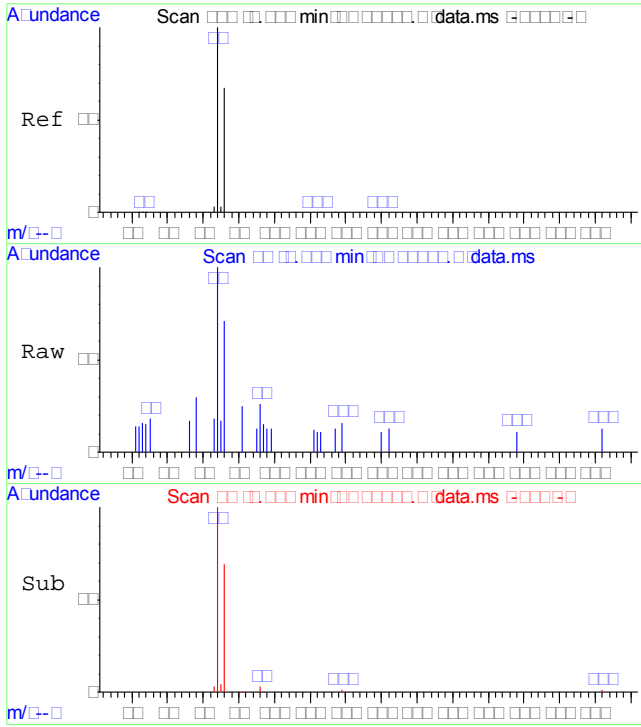
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
Data File : Q30367.D
Acq On : 21 Jul 2015 11:05 am
Operator : emilya
Sample : MB
Misc : MS1855,VQ1320,50,,,,,1
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 21 13:52:53 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

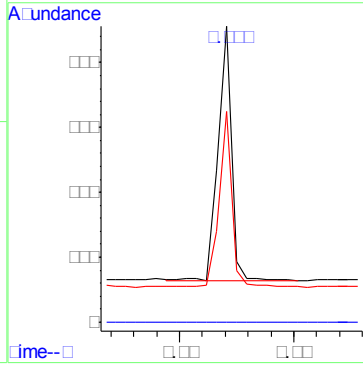


7.2.2
7



#4
Methylene Chloride
Concen: 0.08 ppb
RT: 8.206 min Scan# 90
Delta R.T. -0.000 min
Lab File: Q30367.D
Acq: 21 Jul 2015 11:05 am

Tgt Ion	Resp	Lower	Upper
84	16116		
84	100		
49	0.0	0.0	20.0
86	63.8	43.8	83.8



7.2.2
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
 Data File : Q30391.D
 Acq On : 22 Jul 2015 10:23 am
 Operator : thuy
 Sample : MB
 Misc : MS1855,VQ1321,50,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 24 13:37:53 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1236413	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1695860	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	786470	4.92	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.40%	
18) Toluene-d8	14.048	98	1984408	5.17	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	103.40%	
Target Compounds						
4) Methylene Chloride	8.206	84	71836	0.36	ppb	Qvalue # 99

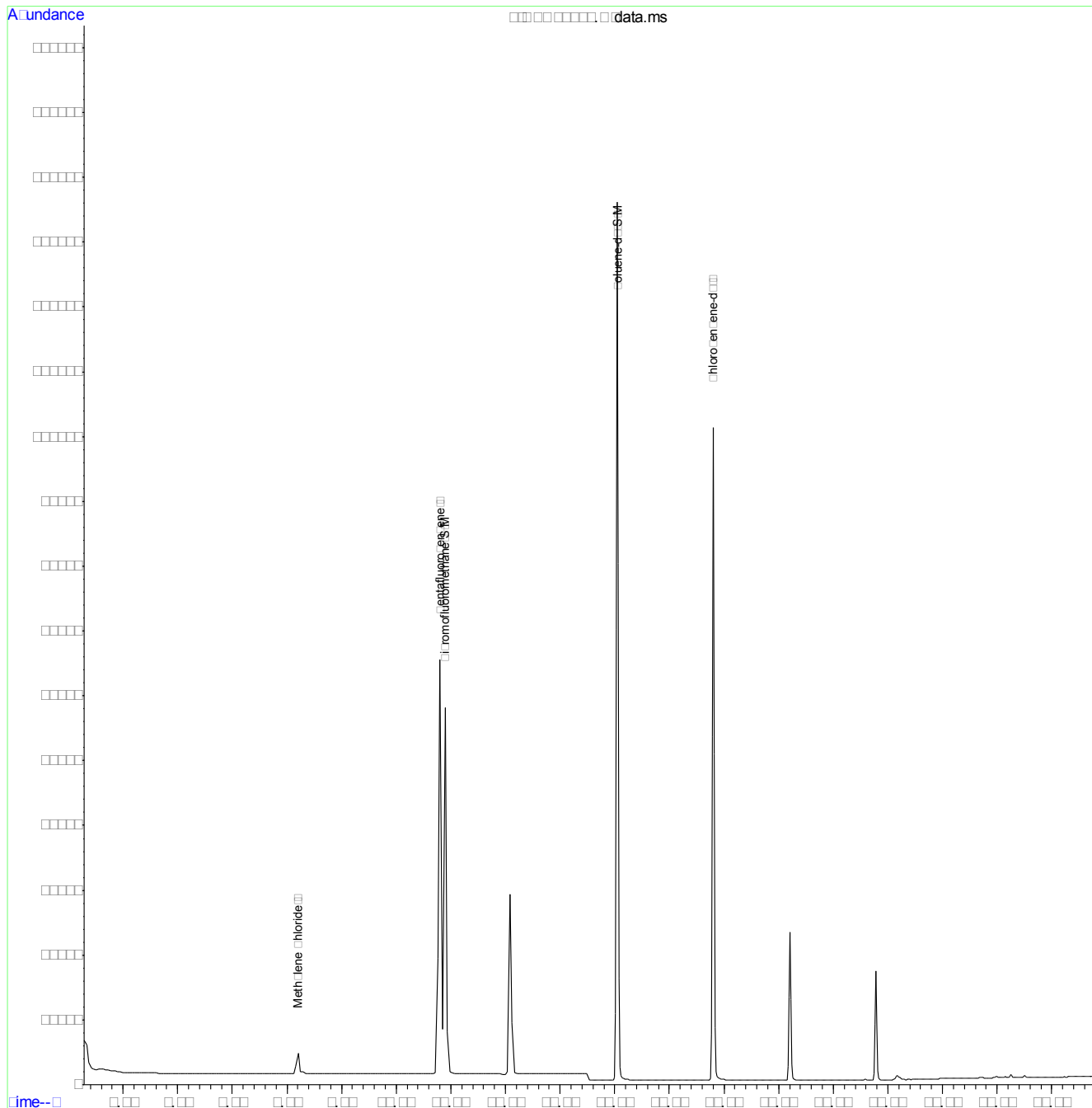
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.2.3
7

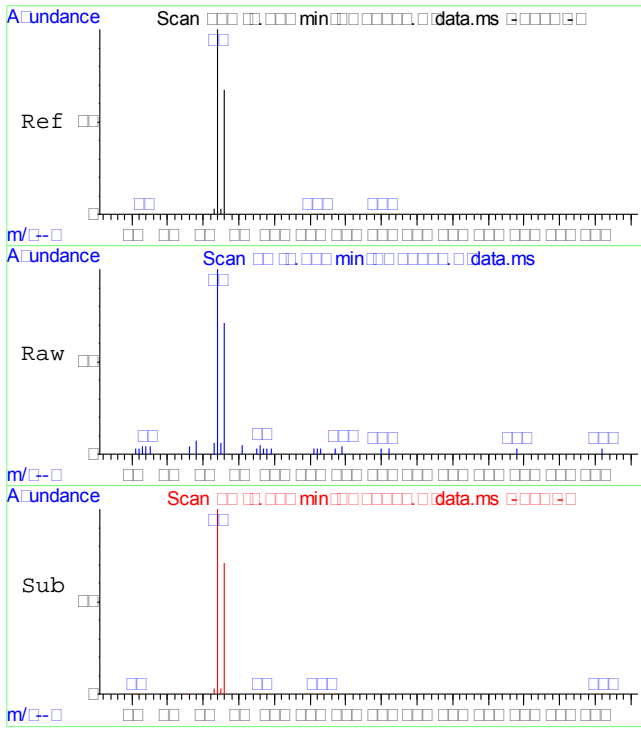
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
Data File : Q30391.D
Acq On : 22 Jul 2015 10:23 am
Operator : thuy
Sample : MB
Misc : MS1855,VQ1321,50,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 24 13:37:53 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration

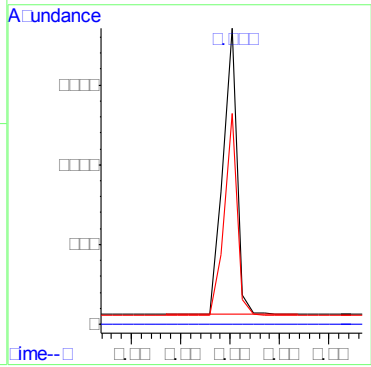


7.2.3
7



#4
 Methylene Chloride
 Concen: 0.36 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. 0.000 min
 Lab File: Q30391.D
 Acq: 22 Jul 2015 10:23 am

Tgt Ion	Ratio	Lower	Upper
84	100		
49	0.0	0.0	20.0
86	64.9	43.8	83.8



7.2.3
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30341.D
 Acq On : 20 Jul 2015 11:30 am
 Operator : emilya
 Sample : BS
 Misc : MS1855,VQ1319,50,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 11:53:40 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1283114	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1787279	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	811735	4.89	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.80%	
18) Toluene-d8	14.048	98	2076321	5.13	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	102.60%	
Target Compounds						
						Qvalue
2) Vinyl Chloride	4.551	62	62325	0.21	ppb	90
3) 1,1-Dichloroethene	7.414	96	1275867	7.94	ppb	99
4) Methylene Chloride	8.206	84	1739332	8.34	ppb	# 100
5) trans-1,2-Dichloroethene	8.823	96	1359447	7.42	ppb	99
6) 1,1-Dichloroethane	9.439	63	3310295	7.93	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	1924499	8.64	ppb	98
8) Chloroform	10.584	83	3287229	8.26	ppb	90
10) 1,1,1-Trichloroethane	11.244	97	2606857	8.54	ppb	100
11) Carbon Tetrachloride	11.641	117	2189561	8.61	ppb	100
12) 1,2-Dichloroethane	11.641	62	2850968	8.46	ppb	100
13) Benzene	11.773	78	6128084	8.20	ppb	100
14) Trichloroethene	12.565	95	1481111	8.18	ppb	97
15) 1,2-Dichloropropane	12.741	63	2130473	8.46	ppb	100
16) cis-1,3-Dichloropropene	13.688	75	3504706	9.20	ppb	99
19) trans-1,3-Dichloropropene	14.254	75	2756369	9.08	ppb	100
20) Tetrachloroethene	14.957	164	1119768	8.56	ppb	100

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

7.3.1
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30366.D
 Acq On : 21 Jul 2015 10:35 am
 Operator : emilya
 Sample : BS
 Misc : MS1855,VQ1320,50,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 21 11:18:05 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

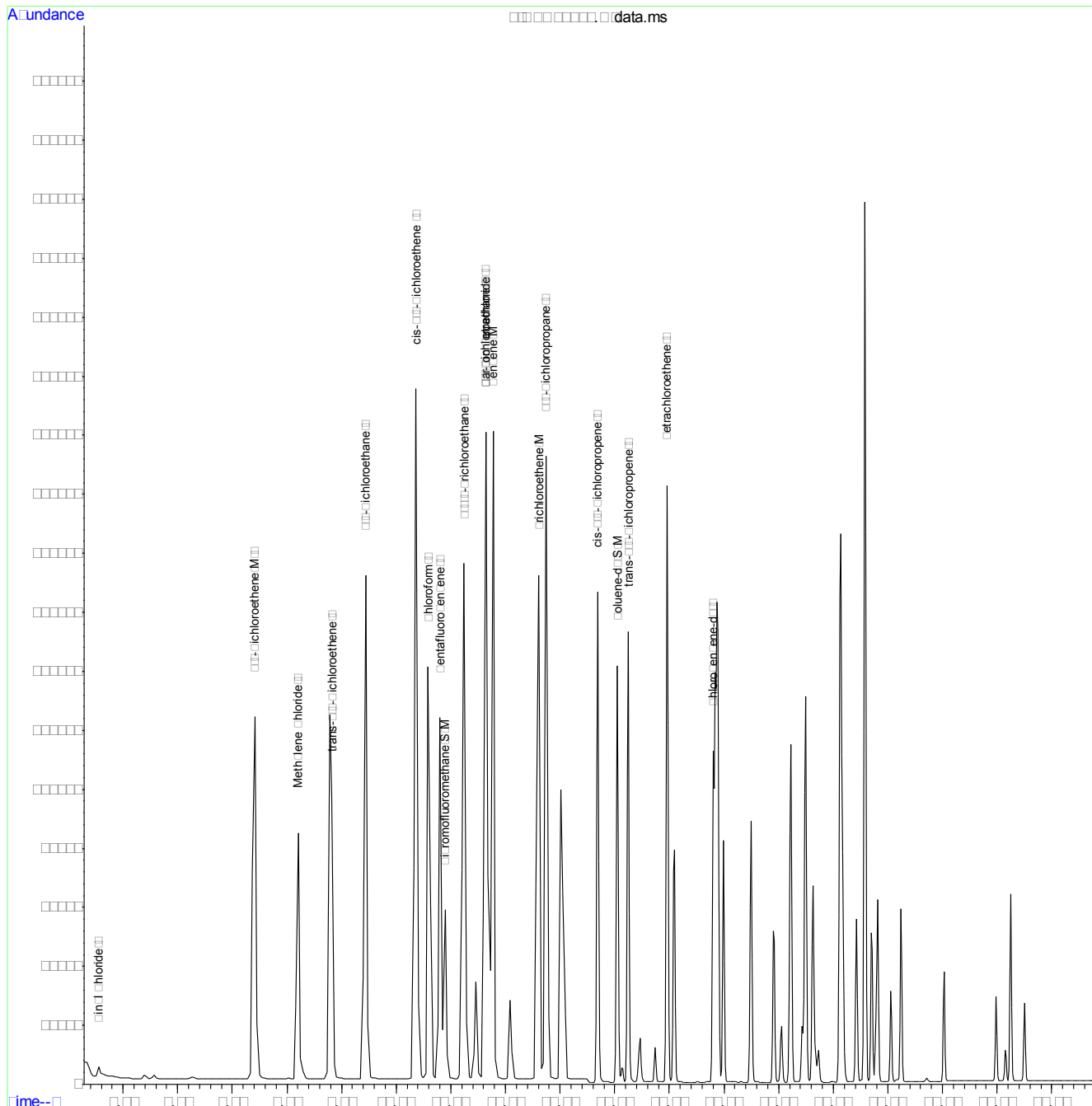
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	1260017	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	1748465	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	802038	4.92	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.40%		
18) Toluene-d8	14.048	98	2041798	5.16	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	103.20%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	65994	0.23	ppb		95
3) 1,1-Dichloroethene	7.413	96	1238036	7.85	ppb		98
4) Methylene Chloride	8.206	84	1782522	8.71	ppb	#	99
5) trans-1,2-Dichloroethene	8.822	96	1362030	7.57	ppb		96
6) 1,1-Dichloroethane	9.439	63	3315367	8.08	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	1909995	8.74	ppb		96
8) Chloroform	10.584	83	3145076	8.05	ppb		90
10) 1,1,1-Trichloroethane	11.244	97	2557423	8.53	ppb		100
11) Carbon Tetrachloride	11.640	117	2148871	8.61	ppb		100
12) 1,2-Dichloroethane	11.640	62	2693017	8.13	ppb		99
13) Benzene	11.773	78	6210274	8.46	ppb		100
14) Trichloroethene	12.609	95	1423826	8.01	ppb		93
15) 1,2-Dichloropropane	12.741	63	2070744	8.37	ppb		97
16) cis-1,3-Dichloropropene	13.688	75	3388769	9.06	ppb		93
19) trans-1,3-Dichloropropene	14.254	75	2659548	8.95	ppb		100
20) Tetrachloroethene	14.956	164	1090294	8.52	ppb		100

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

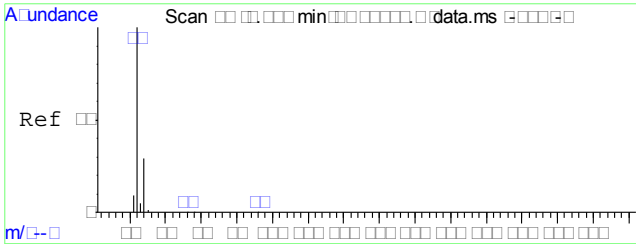
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30366.D
 Acq On : 21 Jul 2015 10:35 am
 Operator : emilya
 Sample : BS
 Misc : MS1855,VQ1320,50,,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 21 11:18:05 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

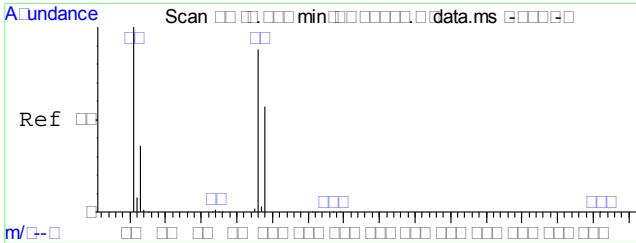
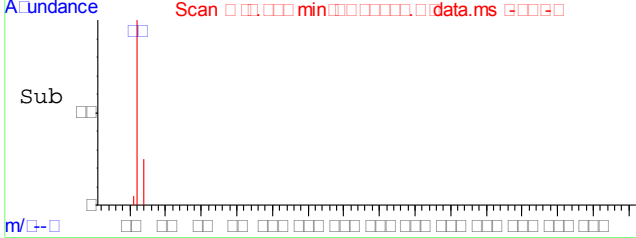
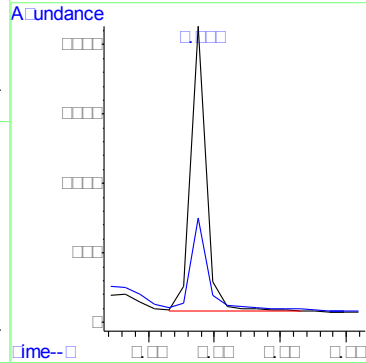
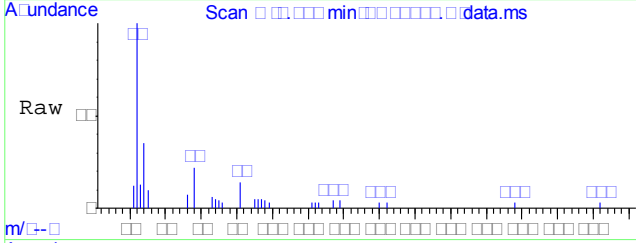


7.32
7



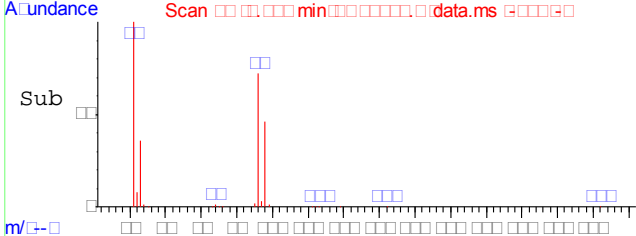
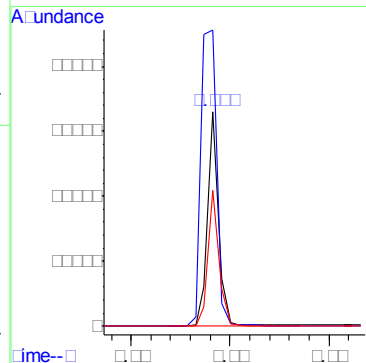
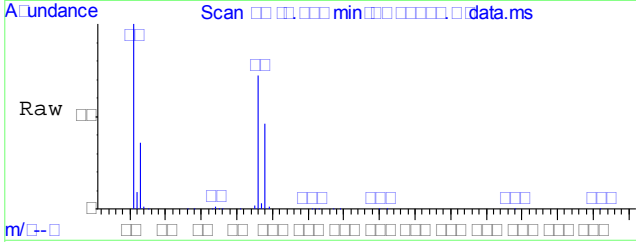
#2
 Vinyl Chloride
 Concen: 0.23 ppb
 RT: 4.551 min Scan# 7
 Delta R.T. 0.000 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

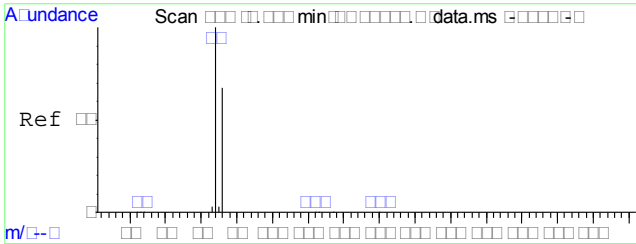
Tgt Ion: 62 Resp: 65994
 Ion Ratio Lower Upper
 62 100
 64 35.0 12.0 52.0



#3
 1,1-Dichloroethene
 Concen: 7.85 ppb
 RT: 7.413 min Scan# 72
 Delta R.T. -0.001 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

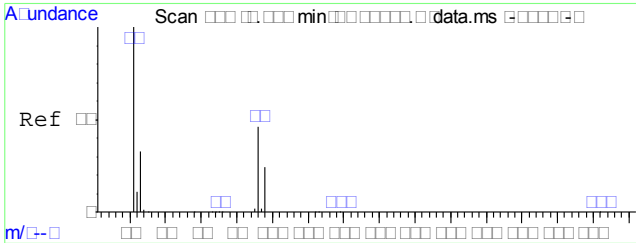
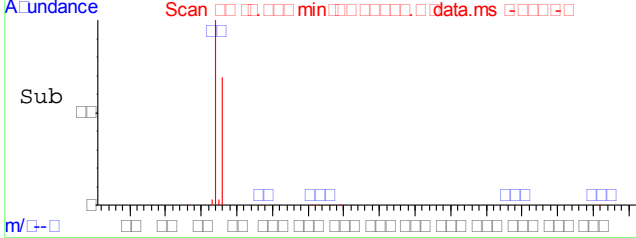
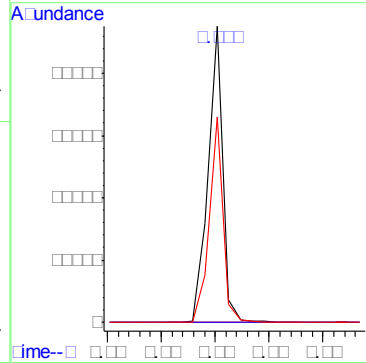
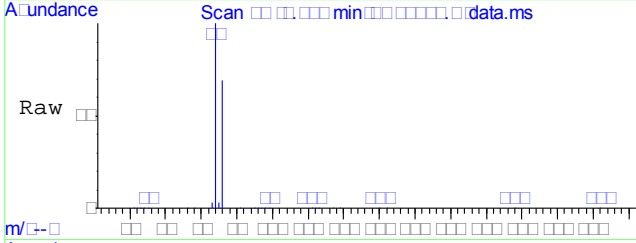
Tgt Ion: 96 Resp: 1238036
 Ion Ratio Lower Upper
 96 100
 61 204.6 189.1 229.1
 98 63.8 43.5 83.5





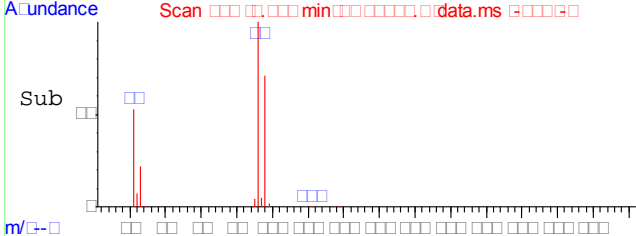
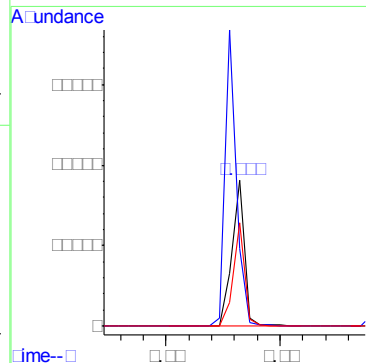
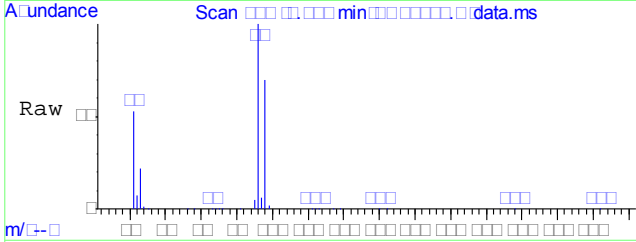
#4
 Methylene Chloride
 Concen: 8.71 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. -0.000 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

Tgt Ion	Ratio	Lower	Upper
84	100		
49	0.0	0.0	20.0
86	64.9	43.8	83.8

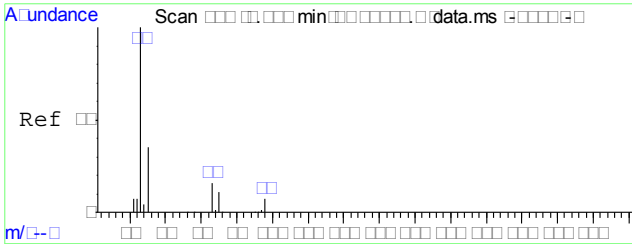


#5
 trans-1,2-Dichloroethene
 Concen: 7.57 ppb
 RT: 8.822 min Scan# 104
 Delta R.T. 0.043 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

Tgt Ion	Ratio	Lower	Upper
96	100		
61	185.6	172.8	212.8
98	64.6	43.1	83.1

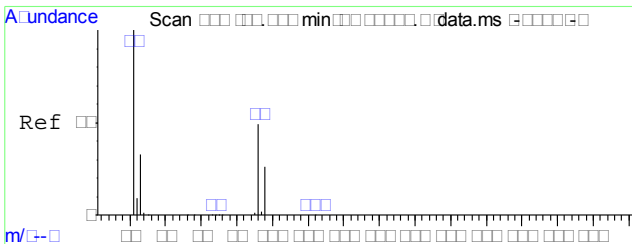
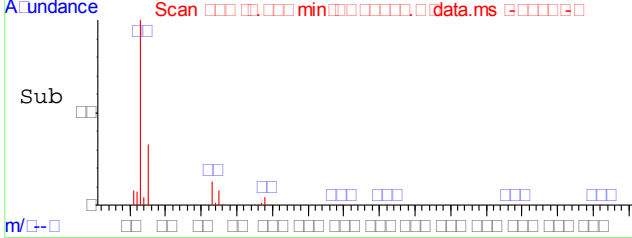
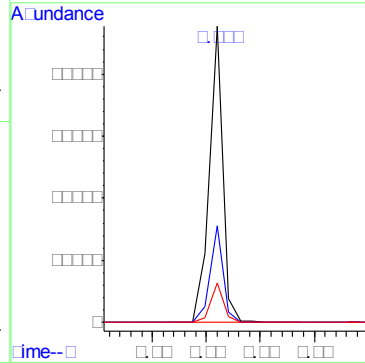
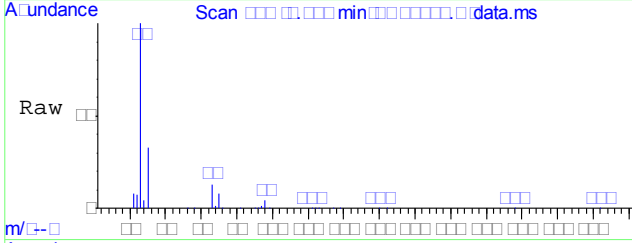


7.32
7



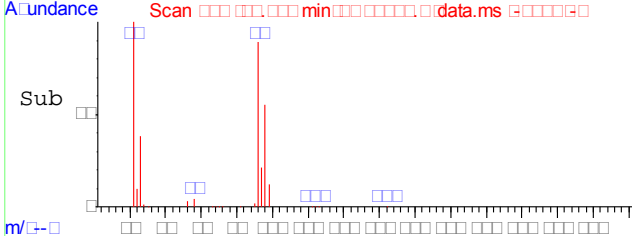
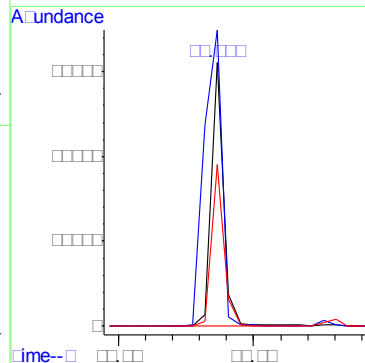
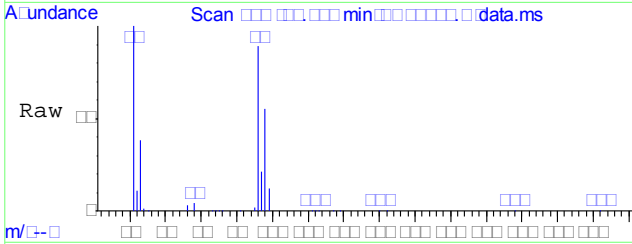
#6
 1,1-Dichloroethane
 Concen: 8.08 ppb
 RT: 9.439 min Scan# 118
 Delta R.T. -0.000 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

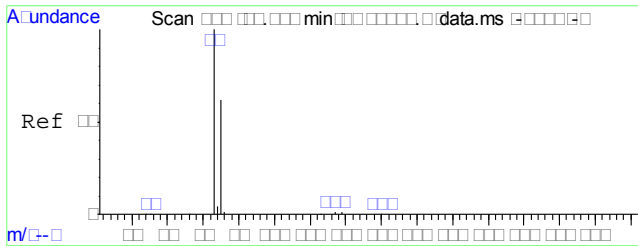
Tgt Ion	Resp	Lower	Upper
63	100		
65	31.6	11.6	51.6
83	12.6	0.0	42.7



#7
 cis-1,2-Dichloroethene
 Concen: 8.74 ppb
 RT: 10.364 min Scan# 139
 Delta R.T. -0.000 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

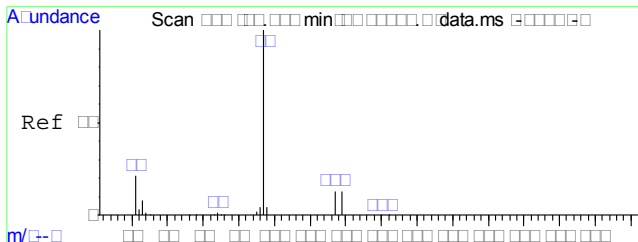
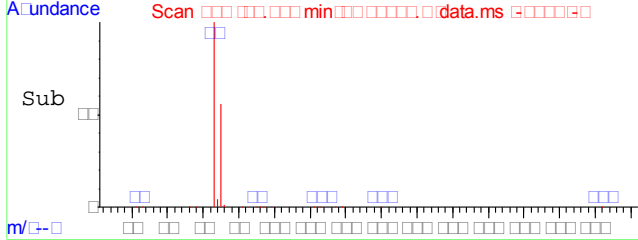
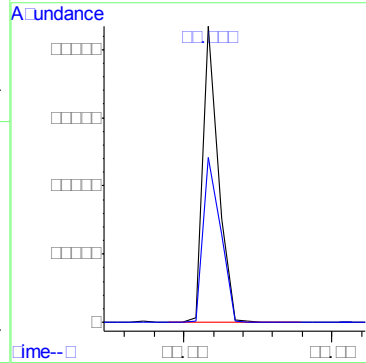
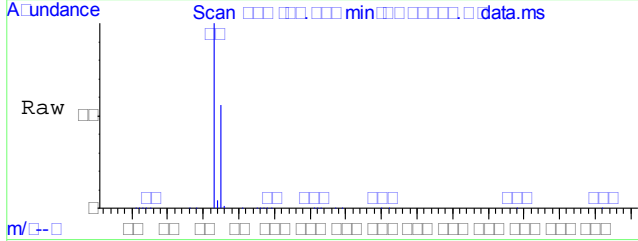
Tgt Ion	Resp	Lower	Upper
96	100		
61	166.0	151.6	191.6
98	63.4	45.2	85.2





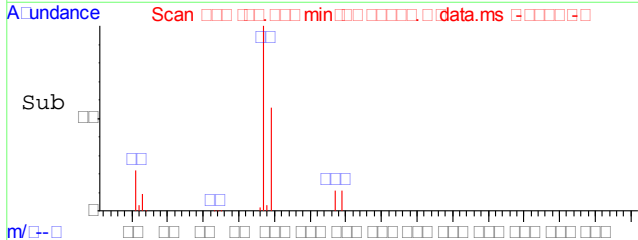
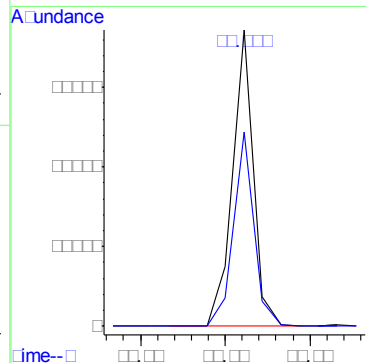
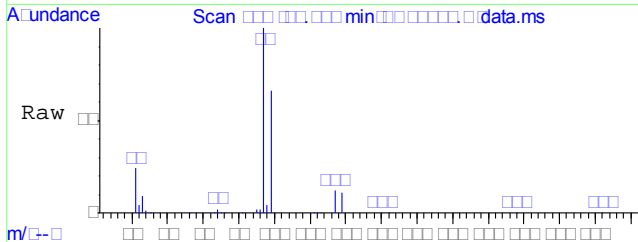
#8
 Chloroform
 Concen: 8.05 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

Tgt Ion: 83 Resp: 3145076
 Ion Ratio Lower Upper
 83 100
 85 62.8 51.3 91.3

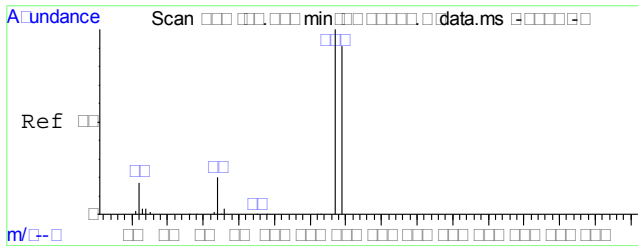


#10
 1,1,1-Trichloroethane
 Concen: 8.53 ppb
 RT: 11.244 min Scan# 159
 Delta R.T. 0.000 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

Tgt Ion: 97 Resp: 2557423
 Ion Ratio Lower Upper
 97 100
 99 64.3 1.6 127.6

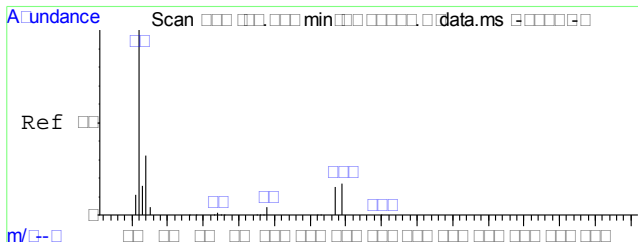
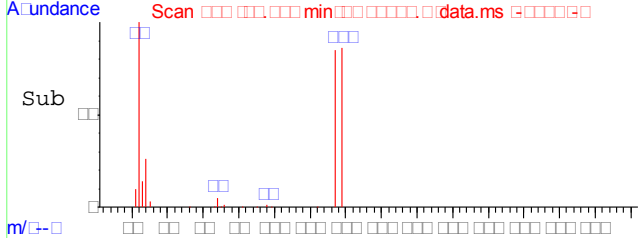
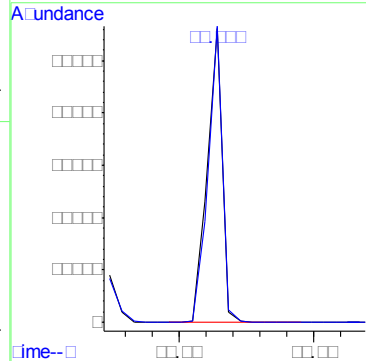
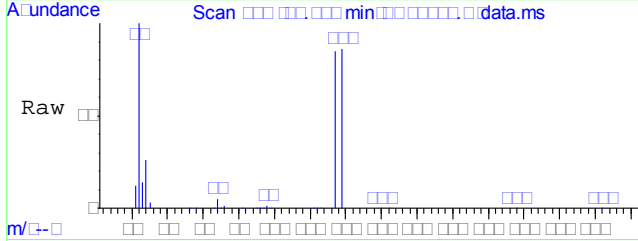


7.3.2
 7



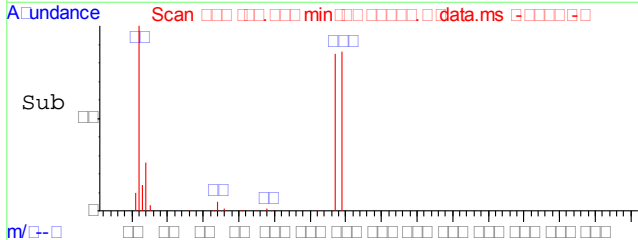
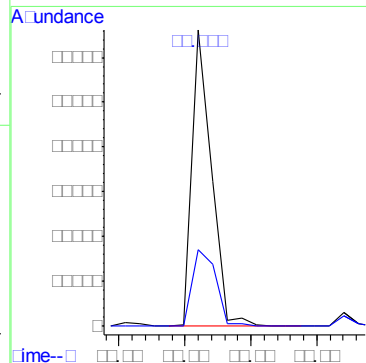
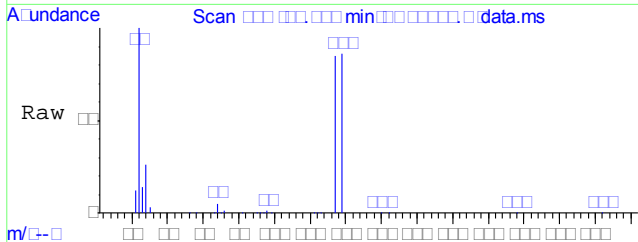
#11
 Carbon Tetrachloride
 Concen: 8.61 ppb
 RT: 11.640 min Scan# 168
 Delta R.T. -0.001 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

Tgt Ion: 117 Resp: 2148871
 Ion Ratio Lower Upper
 117 100
 119 96.1 76.1 116.1

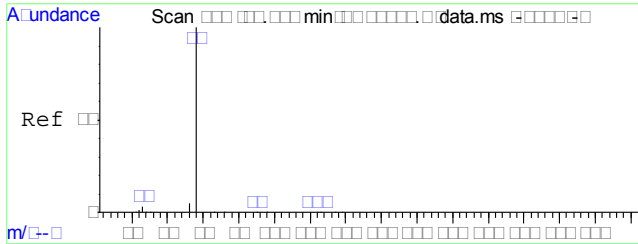


#12
 1,2-Dichloroethane
 Concen: 8.13 ppb
 RT: 11.640 min Scan# 168
 Delta R.T. -0.001 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

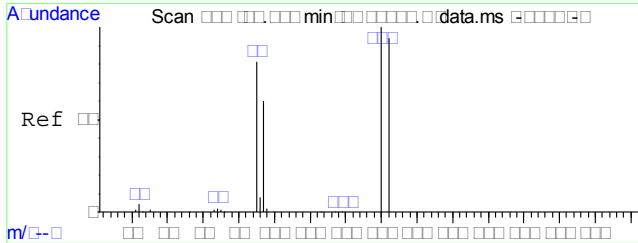
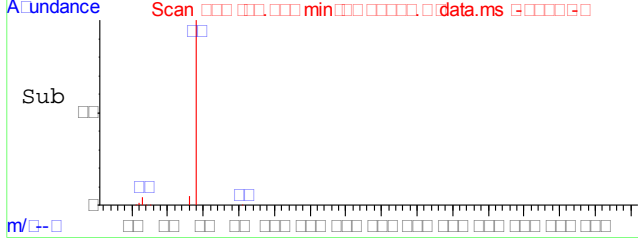
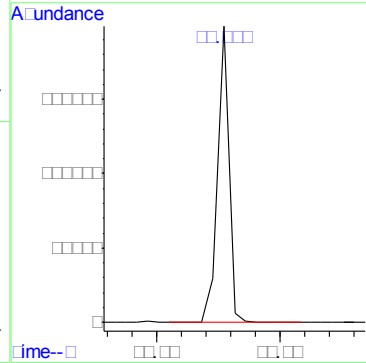
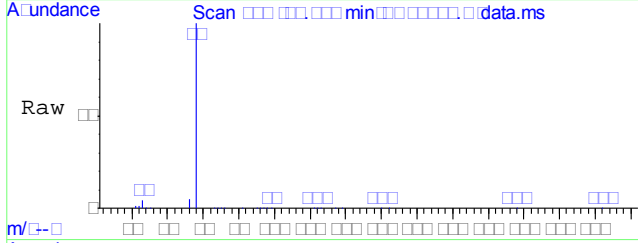
Tgt Ion: 62 Resp: 2693017
 Ion Ratio Lower Upper
 62 100
 64 31.1 10.4 50.4



7.3.2
 7



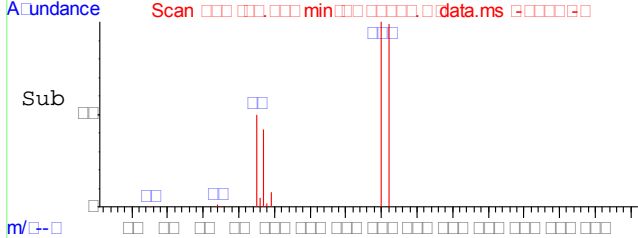
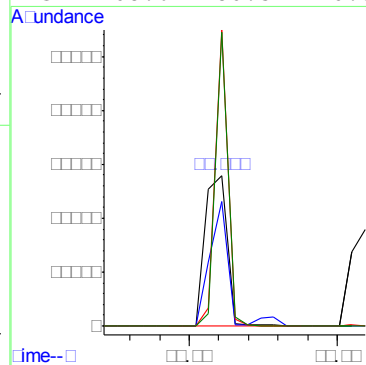
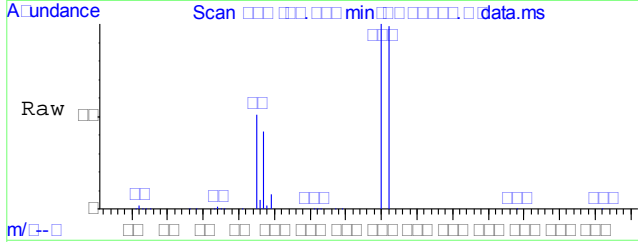
#13
 Benzene
 Concen: 8.46 ppb
 RT: 11.773 min Scan# 171
 Delta R.T. -0.000 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am
 Tgt Ion: 78 Resp: 6210274

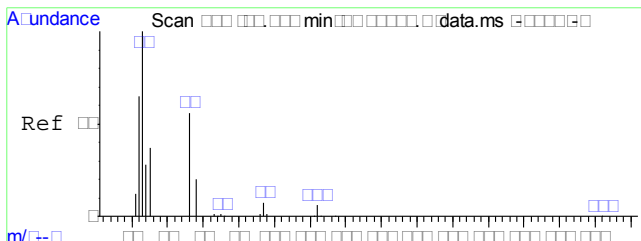


#14
 Trichloroethene
 Concen: 8.01 ppb
 RT: 12.609 min Scan# 190
 Delta R.T. 0.044 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

Tgt Ion: 95 Resp: 1423826

Ion	Ratio	Lower	Upper
95	100		
97	65.2	42.8	82.8
130	110.7	81.2	121.2
132	108.6	80.5	120.5

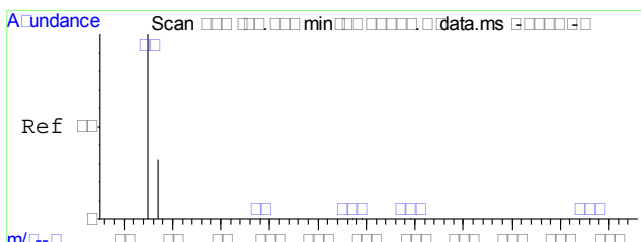
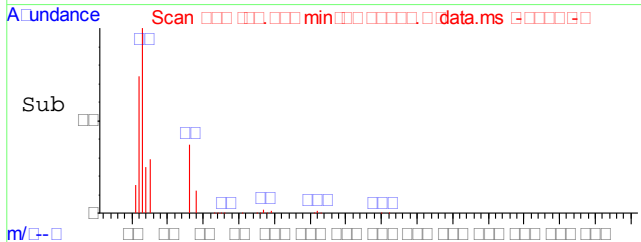
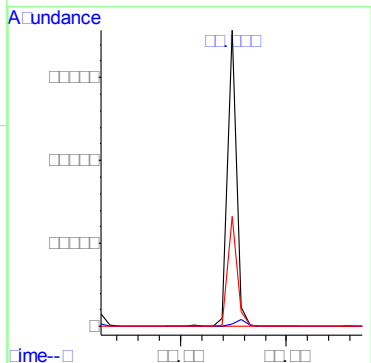
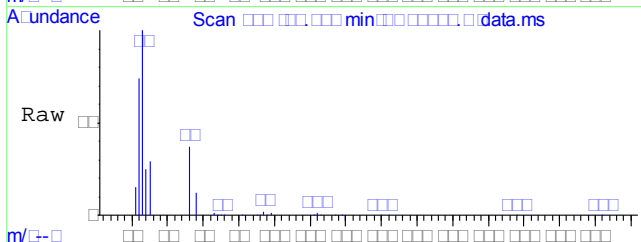




#15
 1,2-Dichloropropane
 Concen: 8.37 ppb
 RT: 12.741 min Scan# 193
 Delta R.T. 0.000 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

Tgt Ion: 63 Resp: 2070744

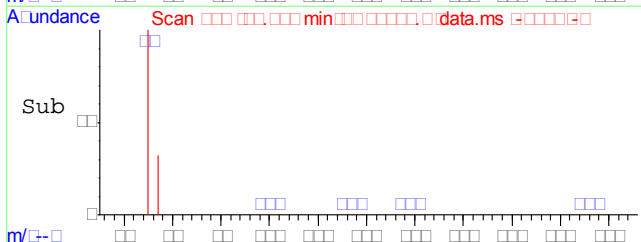
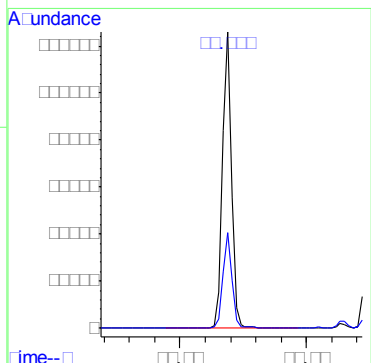
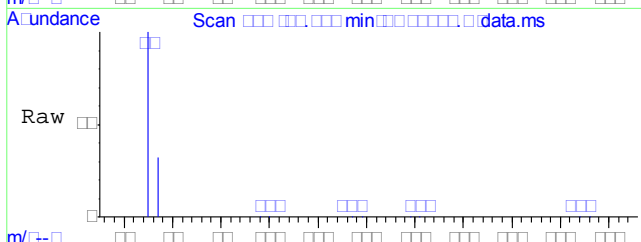
Ion	Ratio	Lower	Upper
63	100		
112	2.7	0.0	22.5
76	38.5	10.2	70.2

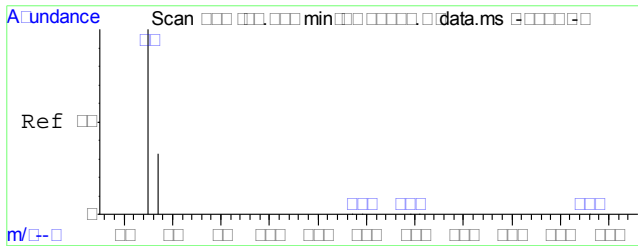


#16
 cis-1,3-Dichloropropene
 Concen: 9.06 ppb
 RT: 13.688 min Scan# 220
 Delta R.T. 0.000 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

Tgt Ion: 75 Resp: 3388769

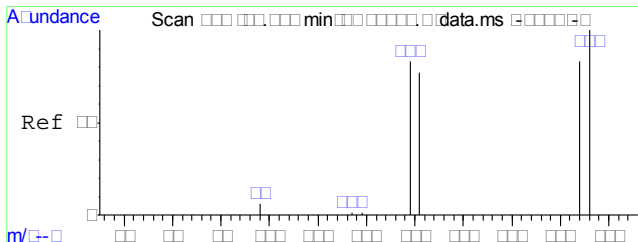
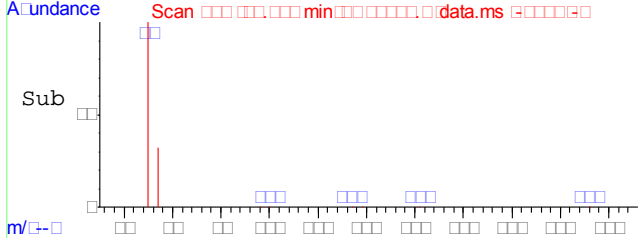
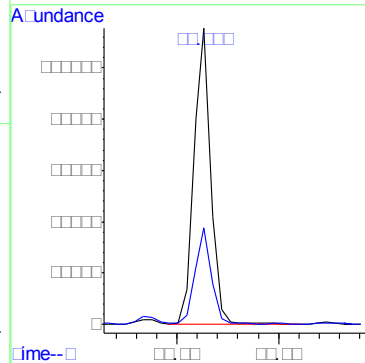
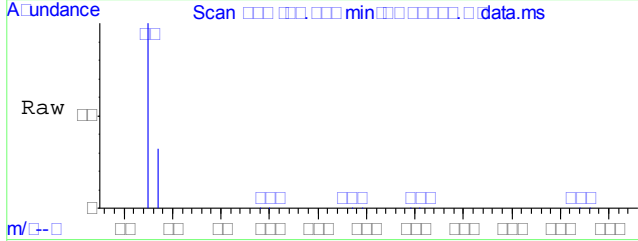
Ion	Ratio	Lower	Upper
75	100		
77	28.5	12.7	52.7





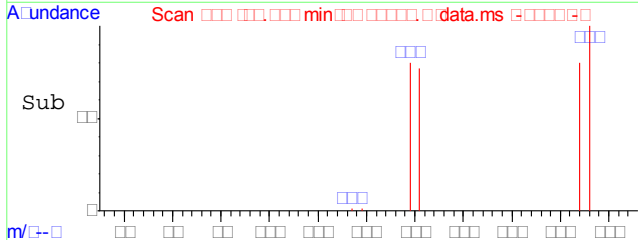
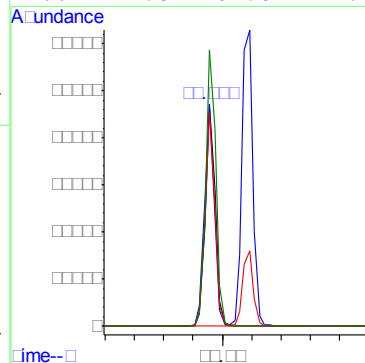
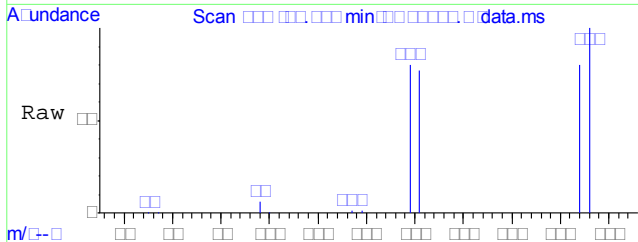
#19
 trans-1,3-Dichloropropene
 Concen: 8.95 ppb
 RT: 14.254 min Scan# 253
 Delta R.T. -0.000 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

Tgt Ion: 75 Resp: 2659548
 Ion Ratio Lower Upper
 75 100
 77 31.2 11.3 51.3



#20
 Tetrachloroethene
 Concen: 8.52 ppb
 RT: 14.956 min Scan# 294
 Delta R.T. -0.001 min
 Lab File: Q30366.D
 Acq: 21 Jul 2015 10:35 am

Tgt Ion: 164 Resp: 1090294
 Ion Ratio Lower Upper
 164 100
 129 99.0 79.2 119.2
 131 95.3 75.4 115.4
 166 127.8 107.8 147.8



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
 Data File : Q30392.D
 Acq On : 22 Jul 2015 10:54 am
 Operator : thuy
 Sample : BS
 Misc : MS1855,VQ1321,50,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 23 17:47:03 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	1277676	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	1767222	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	819764	4.96	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.20%		
18) Toluene-d8	14.048	98	2069497	5.17	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	103.40%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	50859	0.18	ppb		94
3) 1,1-Dichloroethene	7.413	96	1317378	8.23	ppb		98
4) Methylene Chloride	8.206	84	1821580	8.77	ppb	#	99
5) trans-1,2-Dichloroethene	8.822	96	1407763	7.72	ppb		99
6) 1,1-Dichloroethane	9.439	63	3422197	8.23	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	2003164	9.04	ppb		96
8) Chloroform	10.584	83	3340788	8.44	ppb		90
10) 1,1,1-Trichloroethane	11.244	97	2683004	8.83	ppb		100
11) Carbon Tetrachloride	11.641	117	2254843	8.91	ppb		100
12) 1,2-Dichloroethane	11.641	62	2809978	8.37	ppb		100
13) Benzene	11.773	78	6398845	8.60	ppb		100
14) Trichloroethene	12.565	95	1510009	8.38	ppb		94
15) 1,2-Dichloropropane	12.741	63	2153938	8.59	ppb		99
16) cis-1,3-Dichloropropene	13.688	75	3491983	9.21	ppb		100
19) trans-1,3-Dichloropropene	14.254	75	2713345	9.04	ppb		100
20) Tetrachloroethene	14.956	164	1153780	8.92	ppb		100

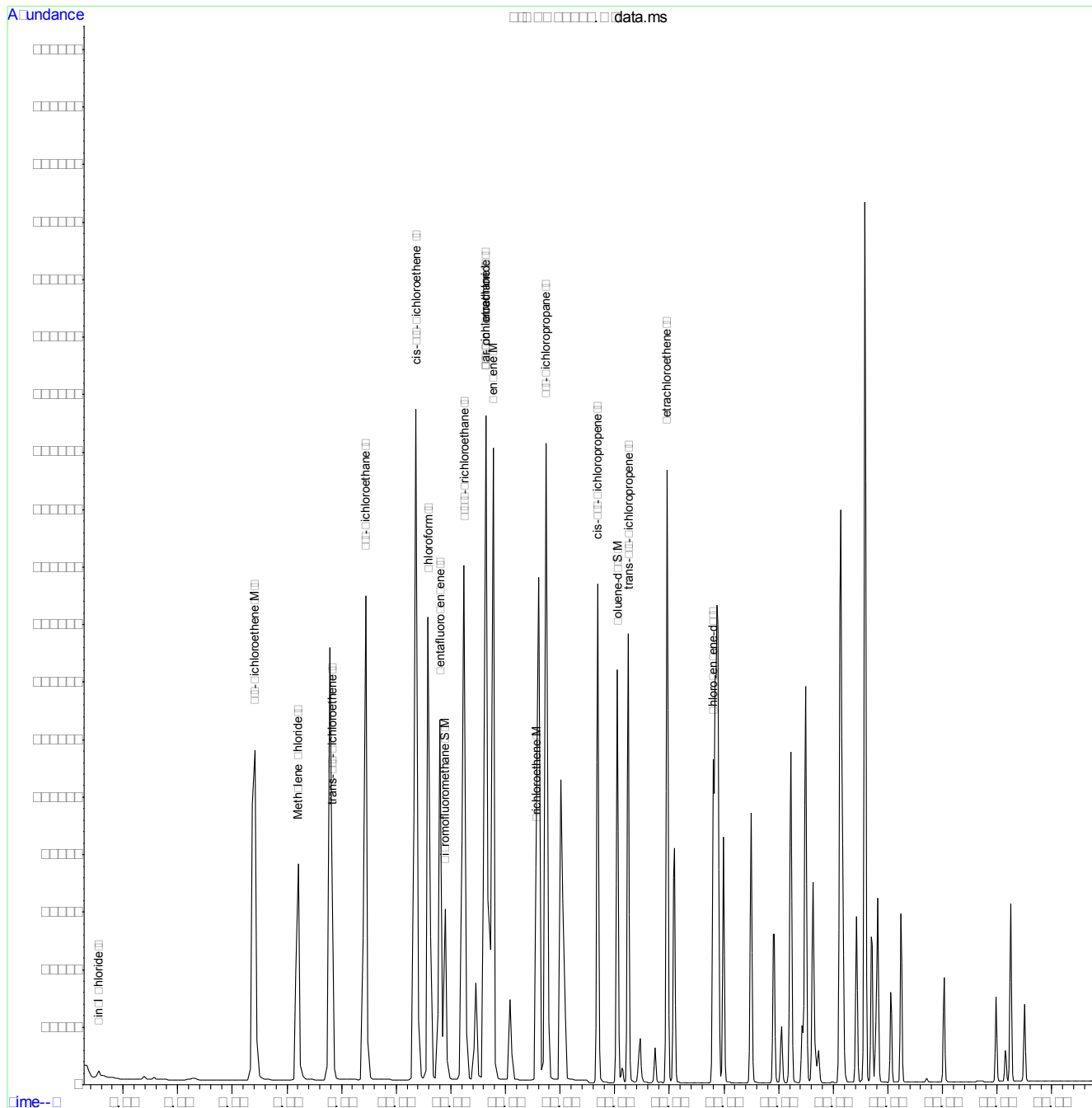
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.3.3
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
 Data File : Q30392.D
 Acq On : 22 Jul 2015 10:54 am
 Operator : thuy
 Sample : BS
 Misc : MS1855,VQ1321,50,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 23 17:47:03 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30348.D
 Acq On : 20 Jul 2015 3:04 pm
 Operator : emilya
 Sample : C40680-1MS
 Misc : MS1855,VQ1319,50,,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 20 15:35:35 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1219728	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1686662	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	772977	4.90	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.00%	
18) Toluene-d8	14.048	98	1950981	5.11	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	102.20%	
Target Compounds						
						Qvalue
2) Vinyl Chloride	4.551	62	57279	0.21	ppb	93
3) 1,1-Dichloroethene	7.414	96	1397006	9.15	ppb	99
4) Methylene Chloride	8.206	84	1716501	8.66	ppb	# 99
5) trans-1,2-Dichloroethene	8.823	96	1459961	8.38	ppb	99
6) 1,1-Dichloroethane	9.439	63	3507108	8.83	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	2015875	9.52	ppb	98
8) Chloroform	10.584	83	3329211	8.81	ppb	90
10) 1,1,1-Trichloroethane	11.244	97	2815869	9.71	ppb	99
11) Carbon Tetrachloride	11.641	117	2367468	9.80	ppb	100
12) 1,2-Dichloroethane	11.641	62	2781539	8.68	ppb	99
13) Benzene	11.773	78	6544556	9.21	ppb	100
14) Trichloroethene	12.565	95	1544460	8.98	ppb	94
15) 1,2-Dichloropropane	12.742	63	2171094	9.07	ppb	99
16) cis-1,3-Dichloropropene	13.688	75	3365304	9.30	ppb	100
19) trans-1,3-Dichloropropene	14.254	75	2584803	9.02	ppb	100
20) Tetrachloroethene	14.957	164	1197410	9.70	ppb	100

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

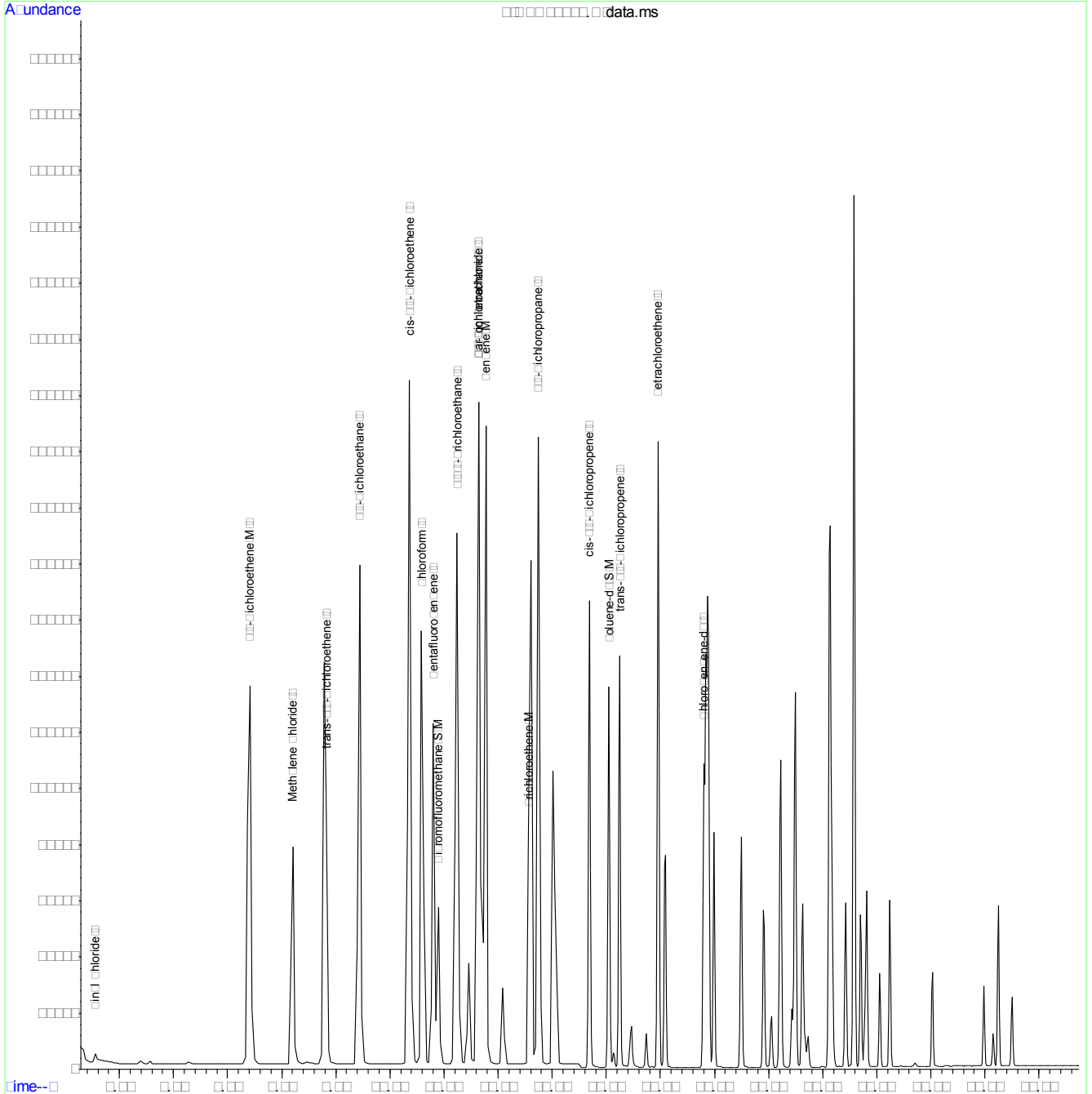
7.4.1

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30348.D
 Acq On : 20 Jul 2015 3:04 pm
 Operator : emilya
 Sample : C40680-1MS
 Misc : MS1855,VQ1319,50,,,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 20 15:35:35 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30349.D
 Acq On : 20 Jul 2015 3:34 pm
 Operator : emilya
 Sample : C40680-1MSD
 Misc : MS1855,VQ1319,50,,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 20 16:27:20 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1213206	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1690623	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	778730	4.96	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.20%	
18) Toluene-d8	14.048	98	1952672	5.10	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	102.00%	
Target Compounds						
						Qvalue
2) Vinyl Chloride	4.551	62	55533	0.20	ppb	93
3) 1,1-Dichloroethene	7.413	96	1391007	9.16	ppb	98
4) Methylene Chloride	8.206	84	1716316	8.71	ppb	# 99
5) trans-1,2-Dichloroethene	8.822	96	1449454	8.37	ppb	99
6) 1,1-Dichloroethane	9.439	63	3499197	8.86	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	2002027	9.51	ppb	98
8) Chloroform	10.584	83	3354235	8.92	ppb	90
10) 1,1,1-Trichloroethane	11.244	97	2790330	9.67	ppb	100
11) Carbon Tetrachloride	11.640	117	2338434	9.73	ppb	100
12) 1,2-Dichloroethane	11.640	62	2804721	8.80	ppb	100
13) Benzene	11.773	78	6499161	9.20	ppb	100
14) Trichloroethene	12.565	95	1541928	9.01	ppb	95
15) 1,2-Dichloropropane	12.741	63	2178941	9.15	ppb	99
16) cis-1,3-Dichloropropene	13.688	75	3362960	9.34	ppb	100
19) trans-1,3-Dichloropropene	14.254	75	2586073	9.00	ppb	100
20) Tetrachloroethene	14.956	164	1190594	9.62	ppb	100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30374.D
 Acq On : 21 Jul 2015 2:41 pm
 Operator : emilya
 Sample : C40680-18MS
 Misc : MS1855,VQ1320,50,,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 21 15:34:45 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

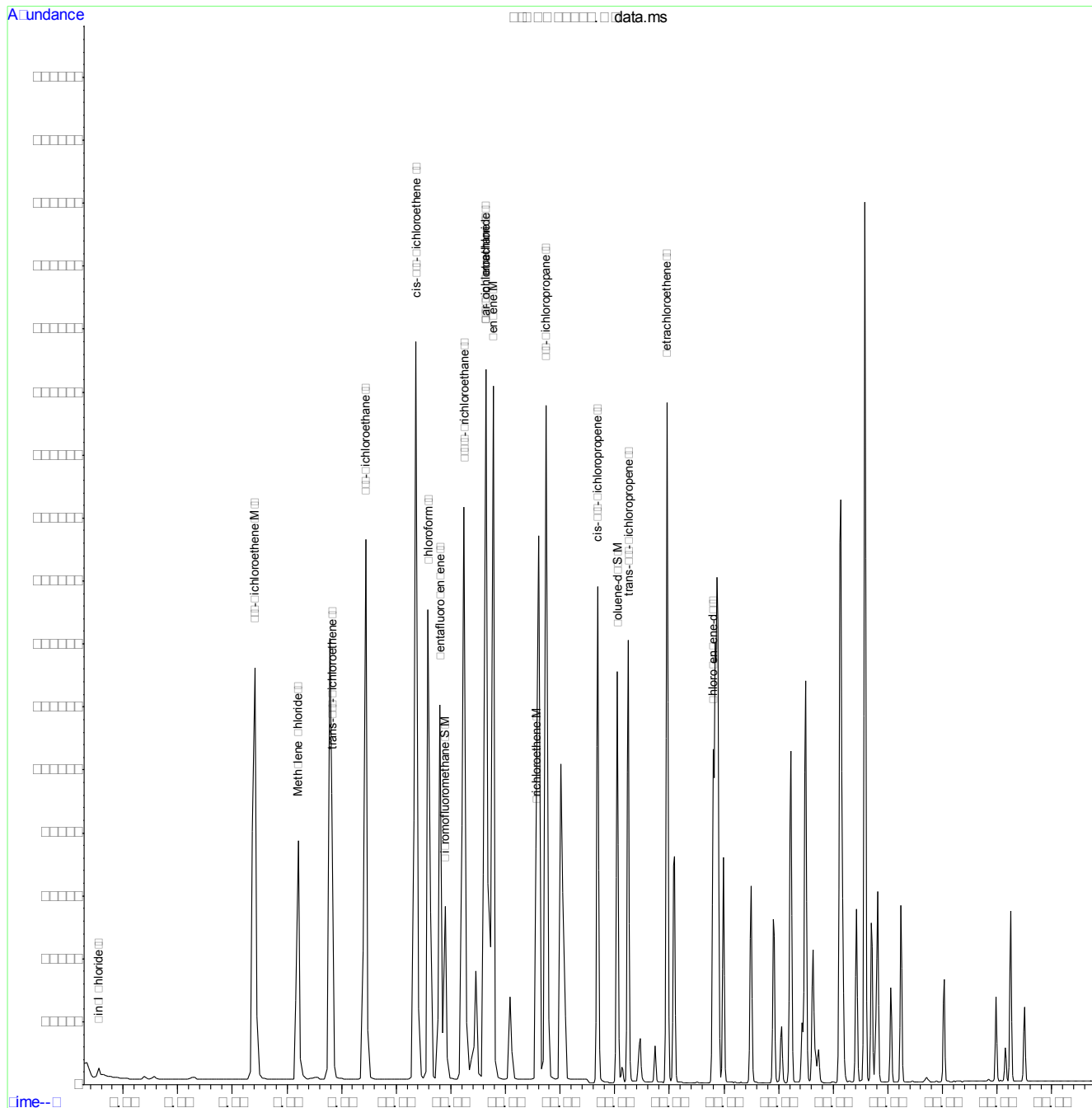
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1202057	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1642033	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	759688	4.88	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.60%	
18) Toluene-d8	14.048	98	1866973	5.02	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.40%	
Target Compounds						
						Qvalue
2) Vinyl Chloride	4.551	62	54689	0.20	ppb	93
3) 1,1-Dichloroethene	7.413	96	1342742	8.92	ppb	98
4) Methylene Chloride	8.206	84	1669004	8.55	ppb	# 99
5) trans-1,2-Dichloroethene	8.822	96	1401437	8.17	ppb	99
6) 1,1-Dichloroethane	9.439	63	3367351	8.61	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	1939224	9.30	ppb	97
8) Chloroform	10.584	83	3201655	8.59	ppb	90
10) 1,1,1-Trichloroethane	11.244	97	2704144	9.46	ppb	100
11) Carbon Tetrachloride	11.640	117	2281368	9.58	ppb	100
12) 1,2-Dichloroethane	11.640	62	2651030	8.39	ppb	99
13) Benzene	11.773	78	6331538	9.04	ppb	100
14) Trichloroethene	12.565	95	1490428	8.79	ppb	94
15) 1,2-Dichloropropane	12.741	63	2072287	8.78	ppb	99
16) cis-1,3-Dichloropropene	13.688	75	3223031	9.03	ppb	100
19) trans-1,3-Dichloropropene	14.254	75	2468391	8.85	ppb	100
20) Tetrachloroethene	14.956	164	1153307	9.59	ppb	100

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

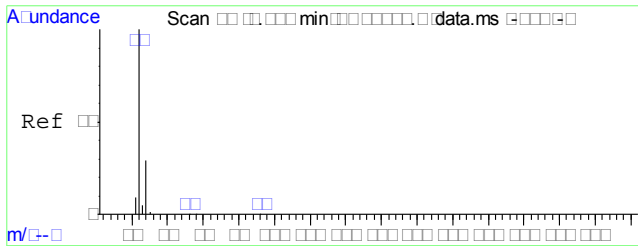
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30374.D
 Acq On : 21 Jul 2015 2:41 pm
 Operator : emilya
 Sample : C40680-18MS
 Misc : MS1855,VQ1320,50,,,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jul 21 15:34:45 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

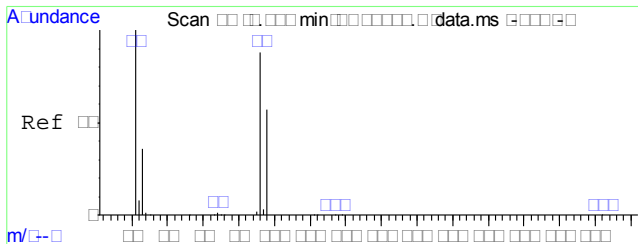
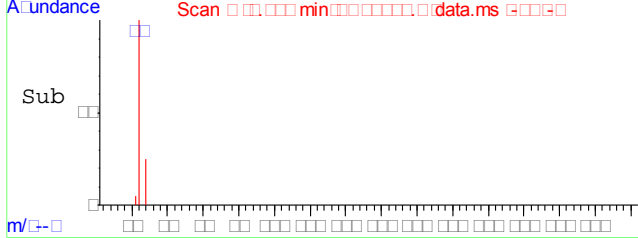
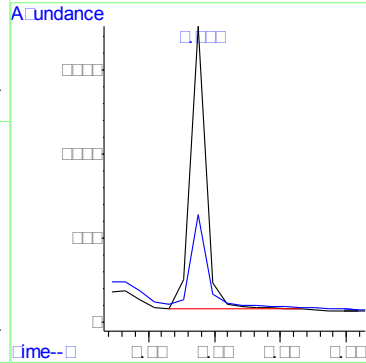
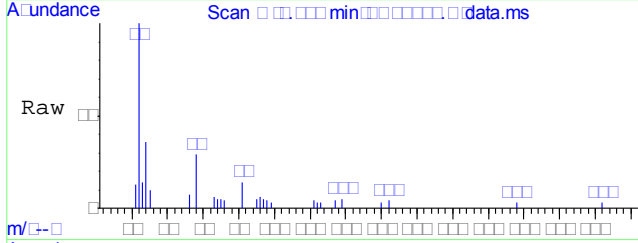


7.4.3
7



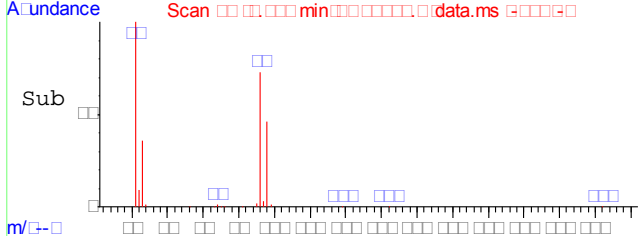
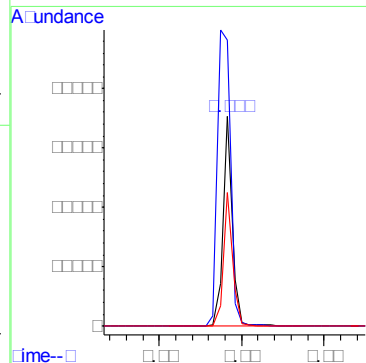
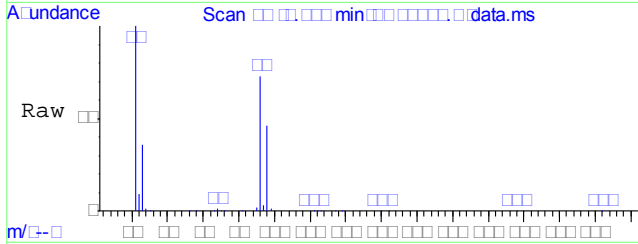
#2
 Vinyl Chloride
 Concen: 0.20 ppb
 RT: 4.551 min Scan# 7
 Delta R.T. 0.000 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

Tgt Ion: 62 Resp: 54689
 Ion Ratio Lower Upper
 62 100
 64 35.8 12.0 52.0

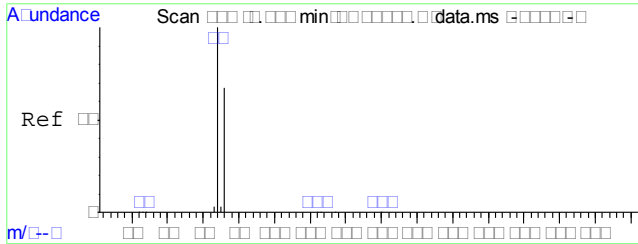


#3
 1,1-Dichloroethene
 Concen: 8.92 ppb
 RT: 7.413 min Scan# 72
 Delta R.T. -0.001 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

Tgt Ion: 96 Resp: 1342742
 Ion Ratio Lower Upper
 96 100
 61 205.3 189.1 229.1
 98 63.7 43.5 83.5

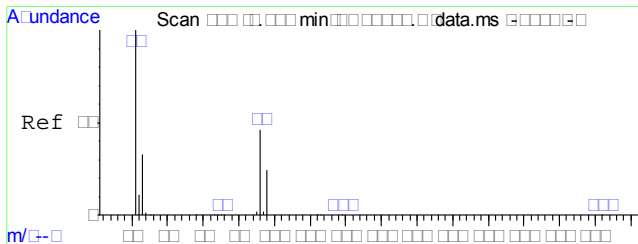
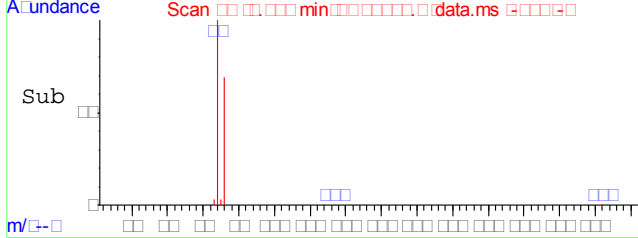
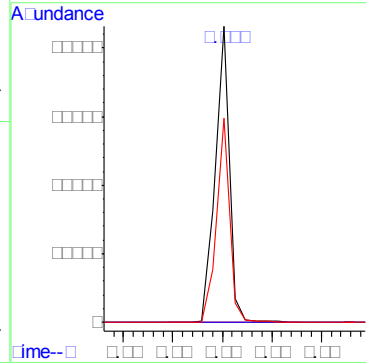
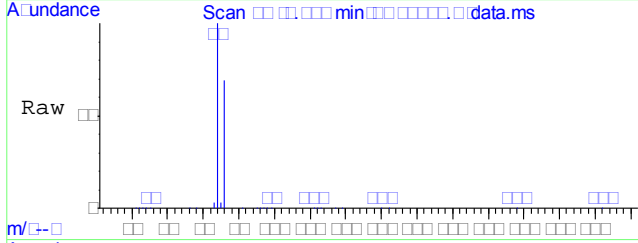


7.4.3
 7



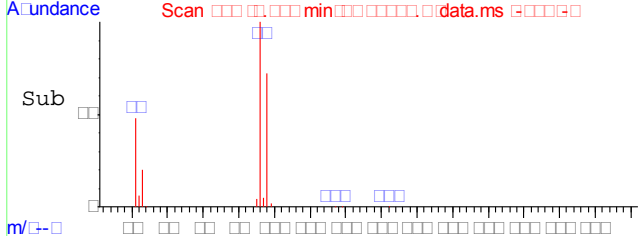
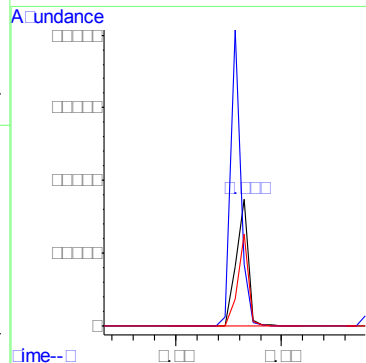
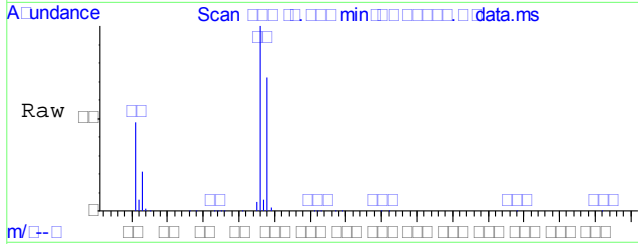
#4
 Methylene Chloride
 Concen: 8.55 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. -0.000 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

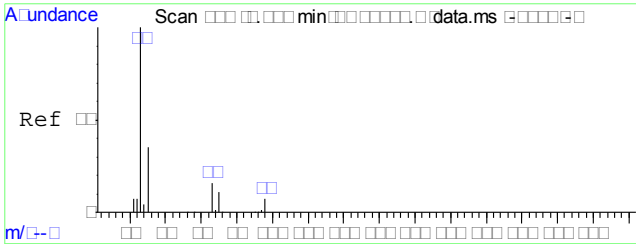
Tgt Ion	Resp	Lower	Upper
84	1669004		
49	0.0	0.0	20.0
86	64.4	43.8	83.8



#5
 trans-1,2-Dichloroethene
 Concen: 8.17 ppb
 RT: 8.822 min Scan# 104
 Delta R.T. 0.043 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

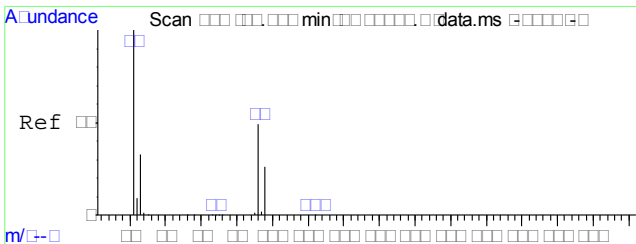
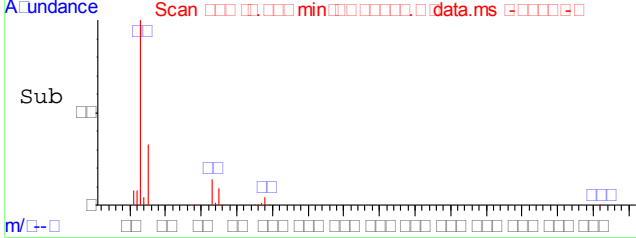
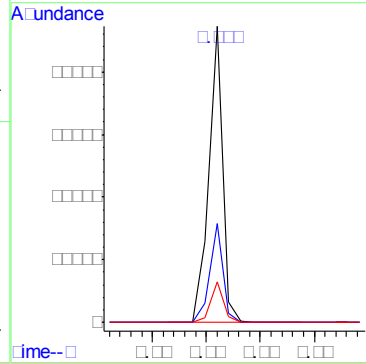
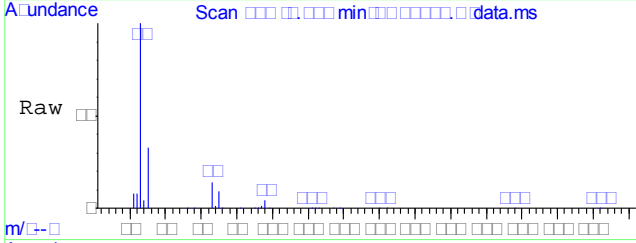
Tgt Ion	Resp	Lower	Upper
96	1401437		
61	192.1	172.8	212.8
98	64.8	43.1	83.1





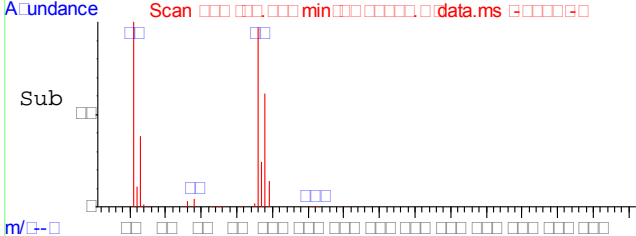
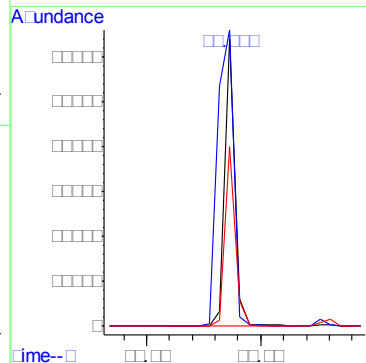
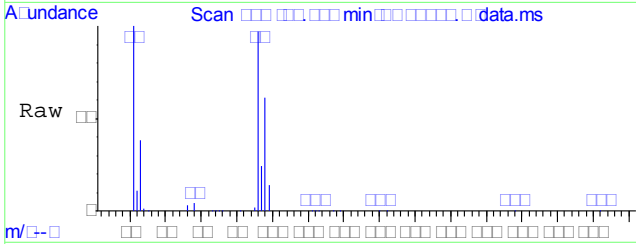
#6
 1,1-Dichloroethane
 Concen: 8.61 ppb
 RT: 9.439 min Scan# 118
 Delta R.T. -0.000 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

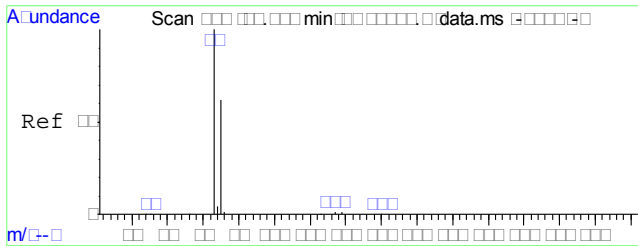
Tgt Ion	Resp	Lower	Upper
63	100		
65	31.7	11.6	51.6
83	12.7	0.0	42.7



#7
 cis-1,2-Dichloroethene
 Concen: 9.30 ppb
 RT: 10.364 min Scan# 139
 Delta R.T. -0.000 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

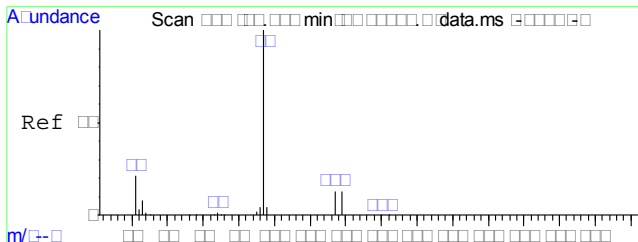
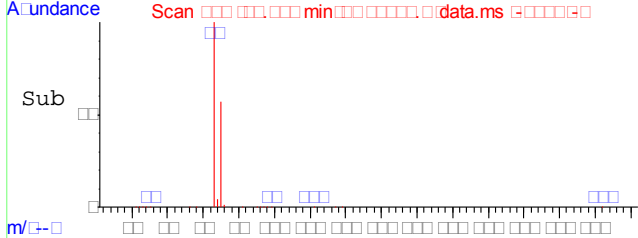
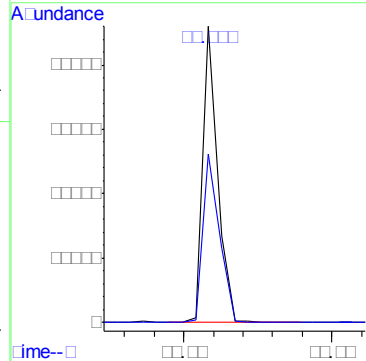
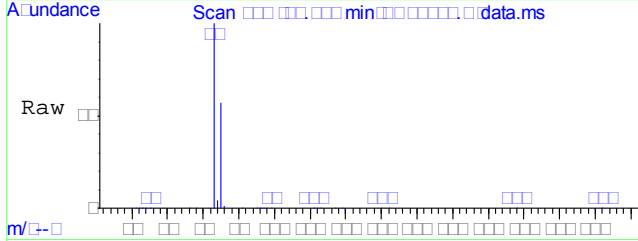
Tgt Ion	Resp	Lower	Upper
96	100		
61	166.6	151.6	191.6
98	64.1	45.2	85.2





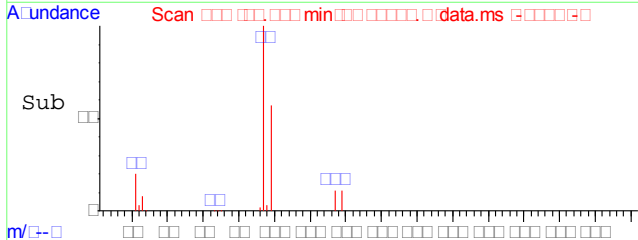
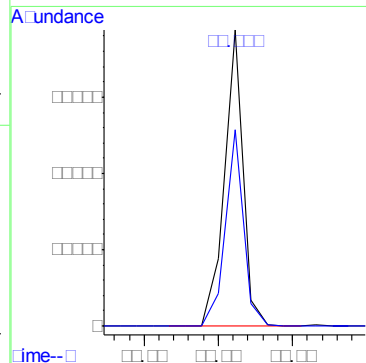
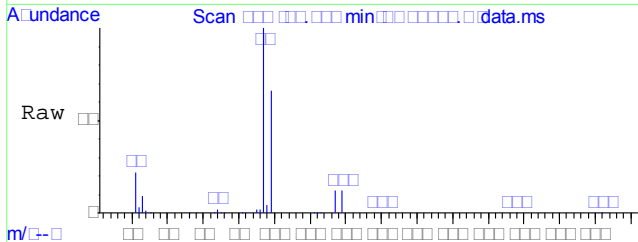
#8
 Chloroform
 Concen: 8.59 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

Tgt Ion: 83 Resp: 3201655
 Ion Ratio Lower Upper
 83 100
 85 62.8 51.3 91.3

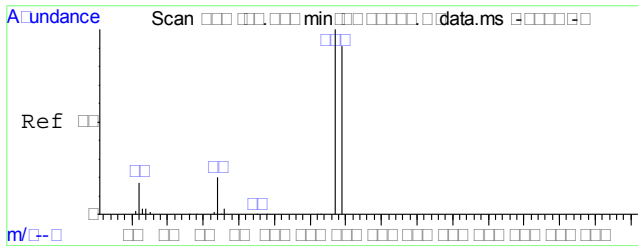


#10
 1,1,1-Trichloroethane
 Concen: 9.46 ppb
 RT: 11.244 min Scan# 159
 Delta R.T. 0.000 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

Tgt Ion: 97 Resp: 2704144
 Ion Ratio Lower Upper
 97 100
 99 64.5 1.6 127.6

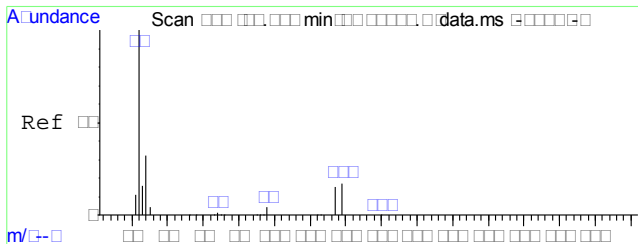
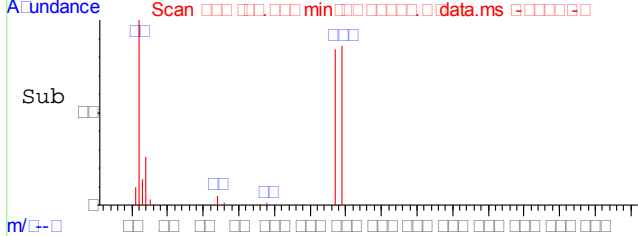
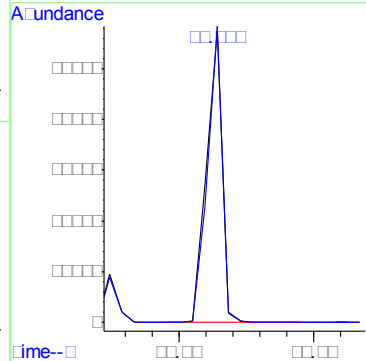
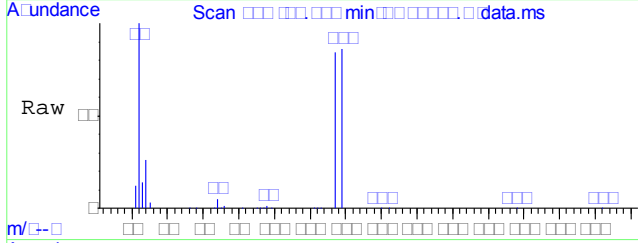


7.4.3
 7



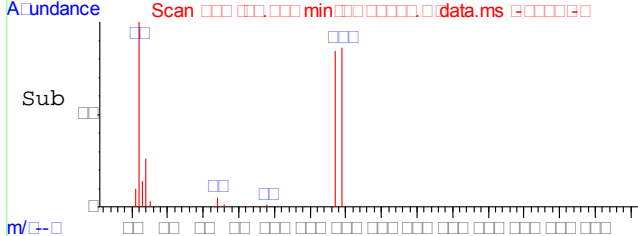
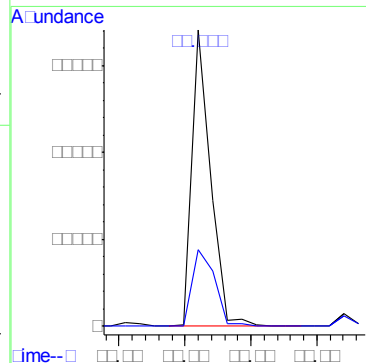
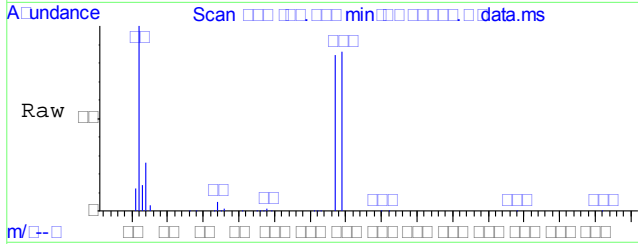
#11
 Carbon Tetrachloride
 Concen: 9.58 ppb
 RT: 11.640 min Scan# 168
 Delta R.T. -0.001 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

Tgt Ion: 117 Resp: 2281368
 Ion Ratio Lower Upper
 117 100
 119 96.3 76.1 116.1

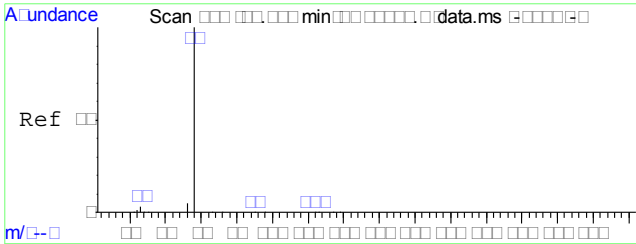


#12
 1,2-Dichloroethane
 Concen: 8.39 ppb
 RT: 11.640 min Scan# 168
 Delta R.T. -0.001 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

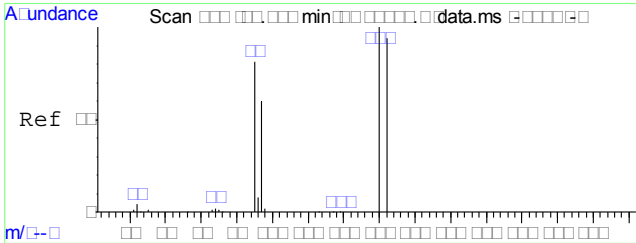
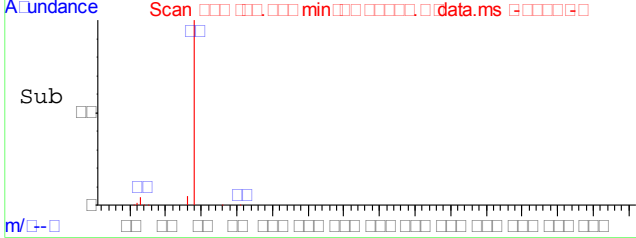
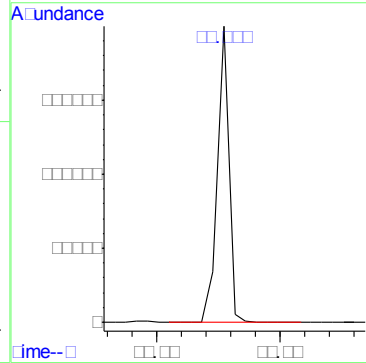
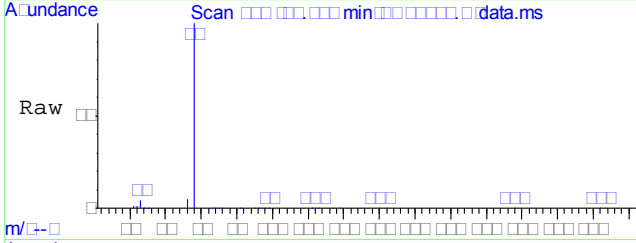
Tgt Ion: 62 Resp: 2651030
 Ion Ratio Lower Upper
 62 100
 64 31.0 10.4 50.4



7.4.3
7



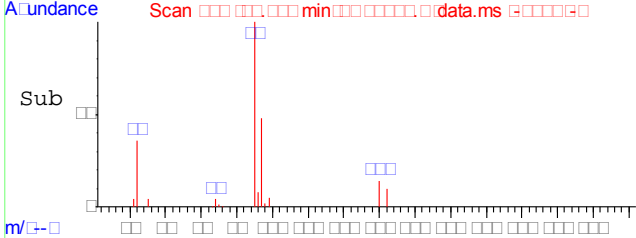
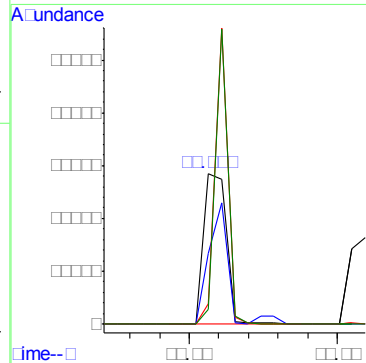
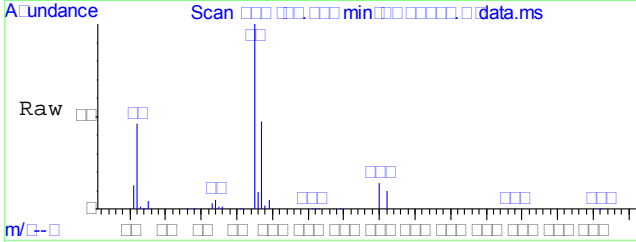
#13
 Benzene
 Concen: 9.04 ppb
 RT: 11.773 min Scan# 171
 Delta R.T. -0.000 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm
 Tgt Ion: 78 Resp: 6331538

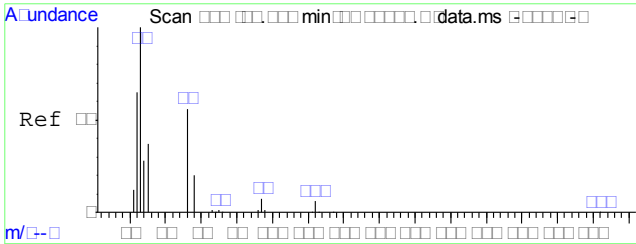


#14
 Trichloroethene
 Concen: 8.79 ppb
 RT: 12.565 min Scan# 189
 Delta R.T. 0.000 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

Tgt Ion: 95 Resp: 1490428

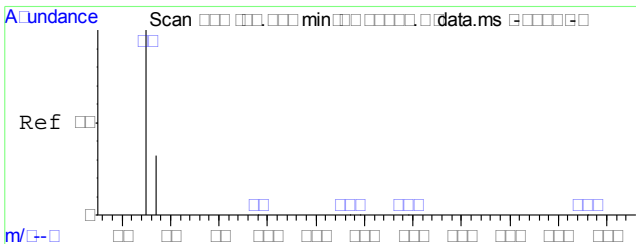
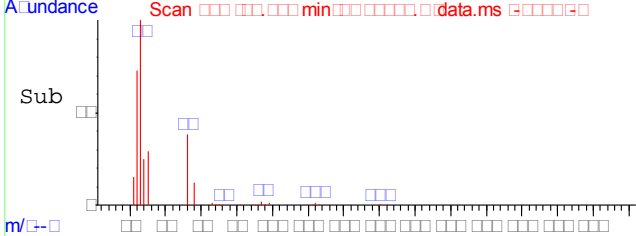
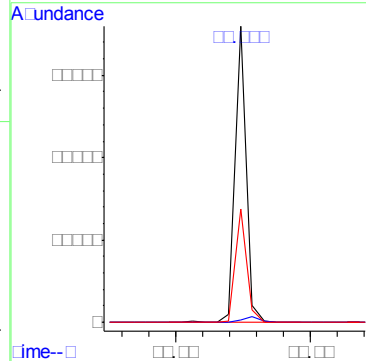
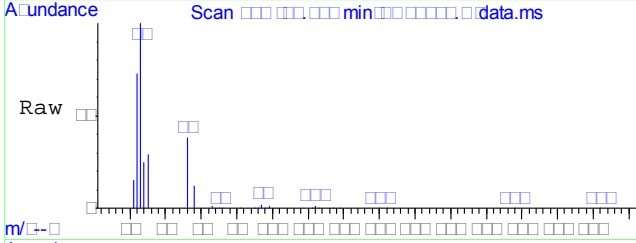
Ion	Ratio	Lower	Upper
95	100		
97	64.7	42.8	82.8
130	108.5	81.2	121.2
132	106.8	80.5	120.5





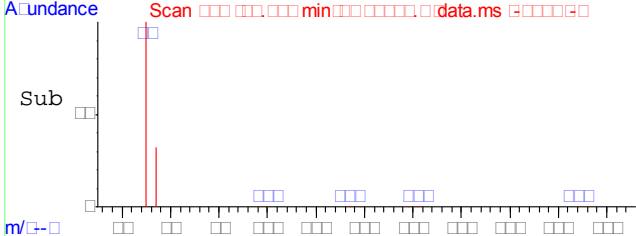
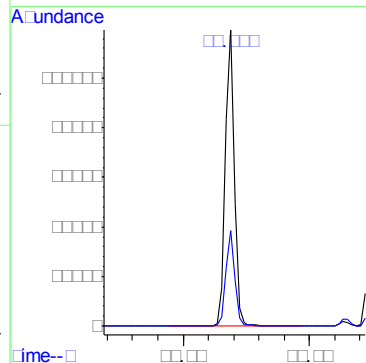
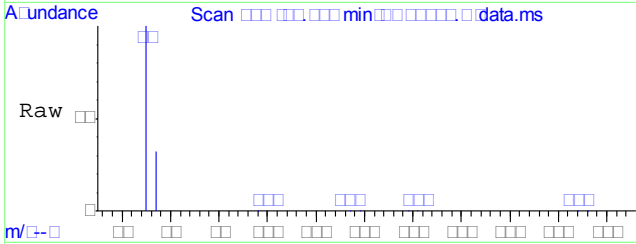
#15
 1,2-Dichloropropane
 Concen: 8.78 ppb
 RT: 12.741 min Scan# 193
 Delta R.T. 0.000 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

Tgt Ion: 63 Resp: 2072287
 Ion Ratio Lower Upper
 63 100
 112 2.7 0.0 22.5
 76 39.5 10.2 70.2

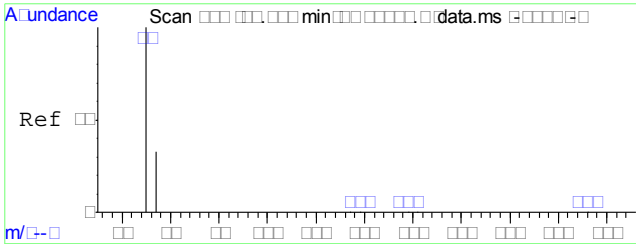


#16
 cis-1,3-Dichloropropene
 Concen: 9.03 ppb
 RT: 13.688 min Scan# 220
 Delta R.T. 0.000 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

Tgt Ion: 75 Resp: 3223031
 Ion Ratio Lower Upper
 75 100
 77 32.5 12.7 52.7

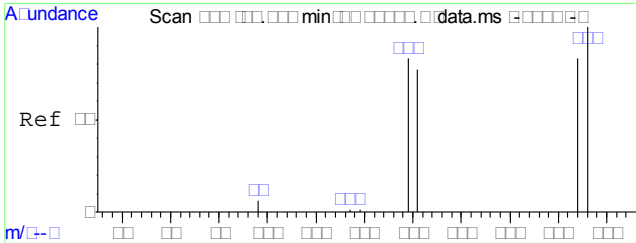
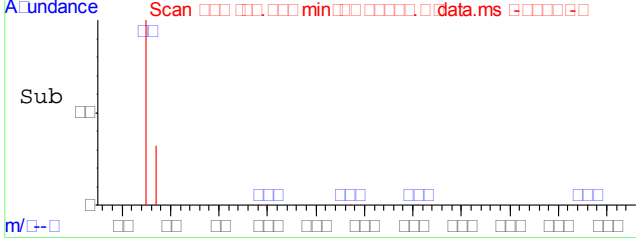
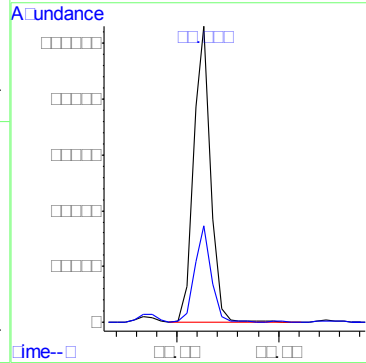
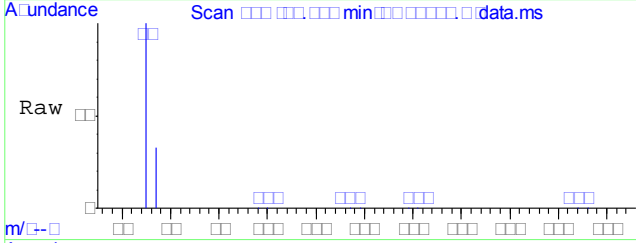


7.4.3
7



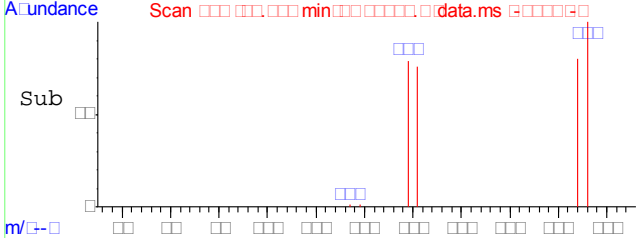
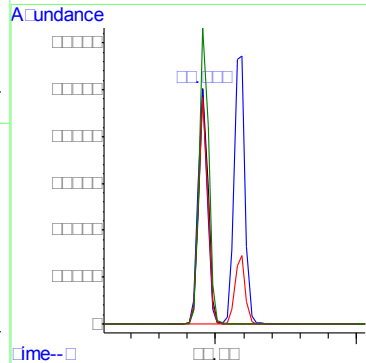
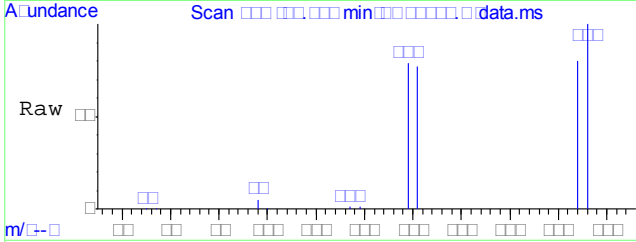
#19
 trans-1,3-Dichloropropene
 Concen: 8.85 ppb
 RT: 14.254 min Scan# 253
 Delta R.T. -0.000 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

Tgt Ion: 75 Resp: 2468391
 Ion Ratio Lower Upper
 75 100
 77 31.3 11.3 51.3



#20
 Tetrachloroethene
 Concen: 9.59 ppb
 RT: 14.956 min Scan# 294
 Delta R.T. -0.001 min
 Lab File: Q30374.D
 Acq: 21 Jul 2015 2:41 pm

Tgt Ion: 164 Resp: 1153307
 Ion Ratio Lower Upper
 164 100
 129 99.5 79.2 119.2
 131 95.7 75.4 115.4
 166 128.0 107.8 147.8



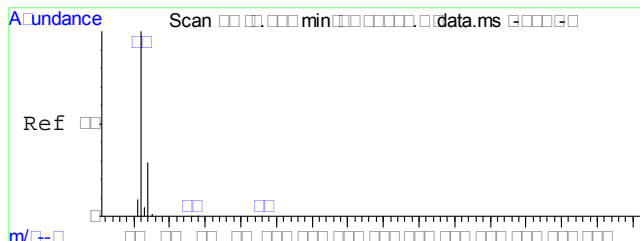
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30375.D
 Acq On : 21 Jul 2015 3:12 pm
 Operator : emilya
 Sample : C40680-18MSD
 Misc : MS1855,VQ1320,50,,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 21 15:35:13 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

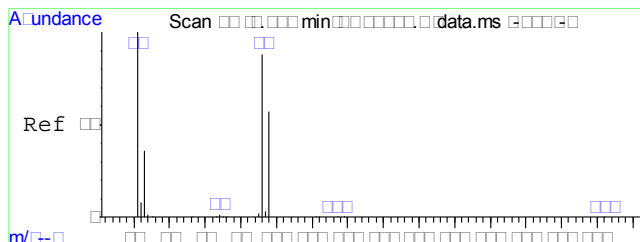
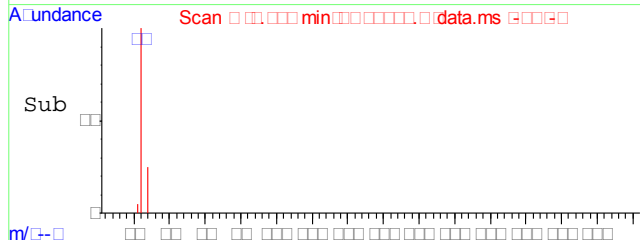
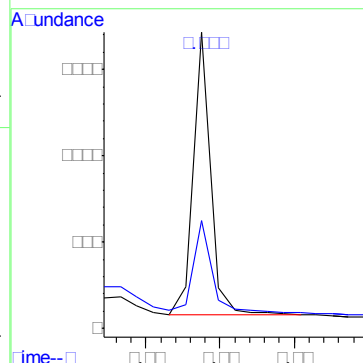
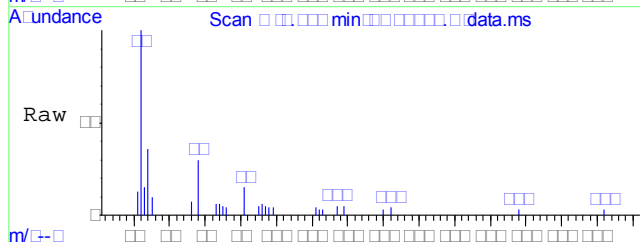
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	1219670	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	1661741	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	766899	4.86	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.20%		
18) Toluene-d8	14.048	98	1879803	5.00	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.00%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	53289	0.19	ppb		93
3) 1,1-Dichloroethene	7.413	96	1380995	9.04	ppb		98
4) Methylene Chloride	8.206	84	1731646	8.74	ppb	#	99
5) trans-1,2-Dichloroethene	8.822	96	1450934	8.33	ppb		98
6) 1,1-Dichloroethane	9.439	63	3511176	8.84	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	2017484	9.53	ppb		96
8) Chloroform	10.584	83	3325412	8.80	ppb		90
10) 1,1,1-Trichloroethane	11.244	97	2809873	9.69	ppb		99
11) Carbon Tetrachloride	11.641	117	2356821	9.75	ppb		100
12) 1,2-Dichloroethane	11.641	62	2752198	8.59	ppb		99
13) Benzene	11.773	78	6577550	9.26	ppb		100
14) Trichloroethene	12.565	95	1533945	8.91	ppb		93
15) 1,2-Dichloropropane	12.741	63	2149267	8.97	ppb		98
16) cis-1,3-Dichloropropene	13.688	75	3304683	9.13	ppb		93
19) trans-1,3-Dichloropropene	14.254	75	2548796	9.03	ppb		100
20) Tetrachloroethene	14.957	164	1194025	9.81	ppb		100

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



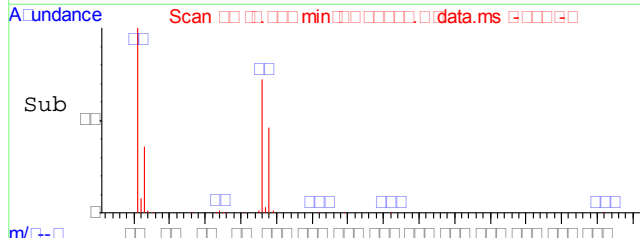
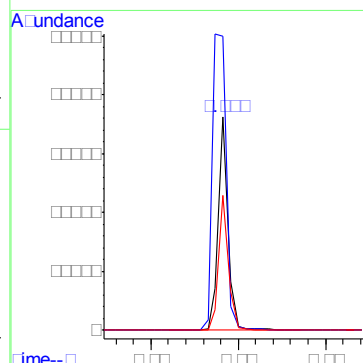
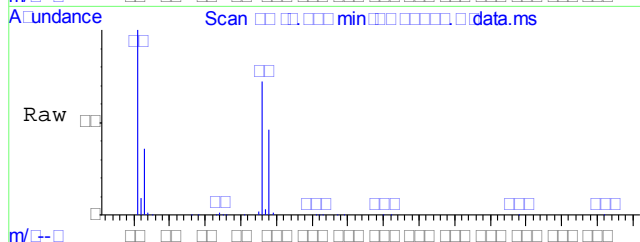
#2
 Vinyl Chloride
 Concen: 0.19 ppb
 RT: 4.551 min Scan# 7
 Delta R.T. 0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

Tgt Ion: 62 Resp: 53289
 Ion Ratio Lower Upper
 62 100
 64 35.7 12.0 52.0

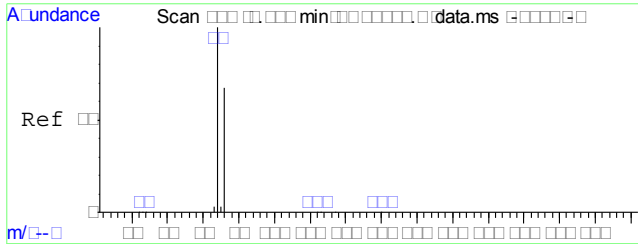


#3
 1,1-Dichloroethene
 Concen: 9.04 ppb
 RT: 7.413 min Scan# 72
 Delta R.T. -0.001 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

Tgt Ion: 96 Resp: 1380995
 Ion Ratio Lower Upper
 96 100
 61 204.5 189.1 229.1
 98 63.6 43.5 83.5

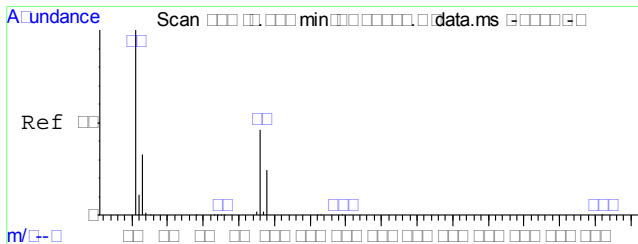
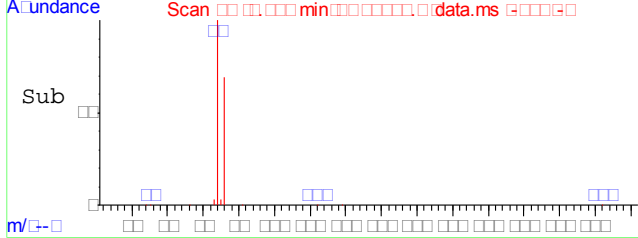
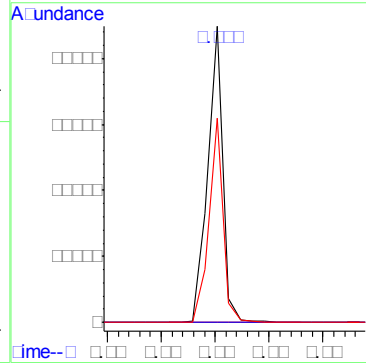
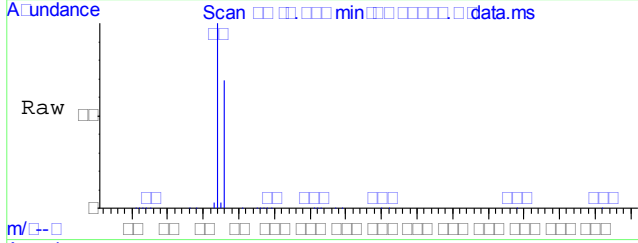


7.4.4
 7



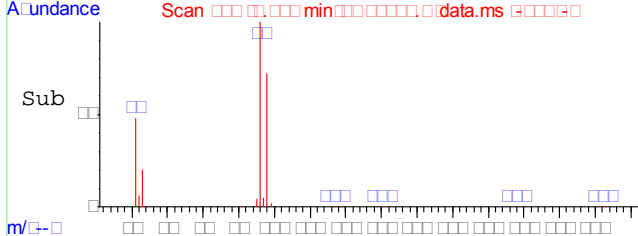
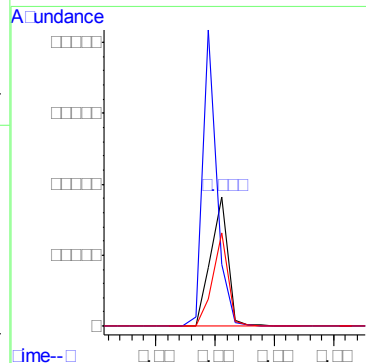
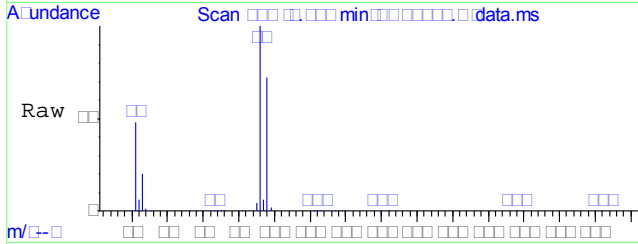
#4
 Methylene Chloride
 Concen: 8.74 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. 0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

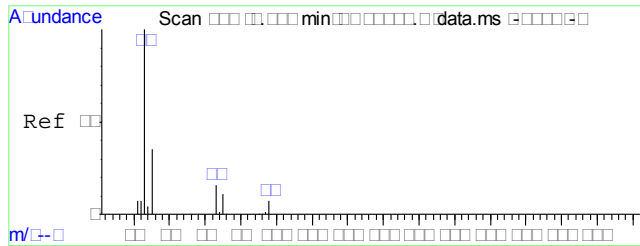
Tgt Ion	Resp	Lower	Upper
84	1731646		
49	0.0	0.0	20.0
86	64.3	43.8	83.8



#5
 trans-1,2-Dichloroethene
 Concen: 8.33 ppb
 RT: 8.822 min Scan# 104
 Delta R.T. 0.043 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

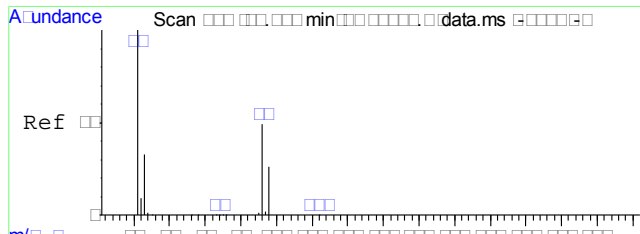
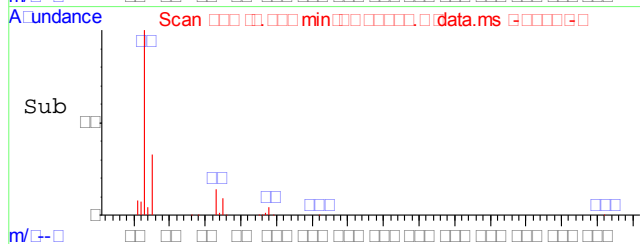
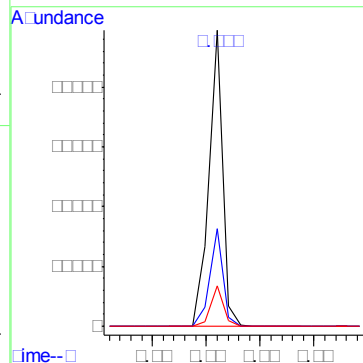
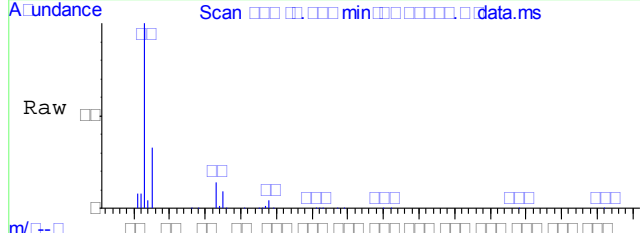
Tgt Ion	Resp	Lower	Upper
96	1450934		
61	190.8	172.8	212.8
98	64.6	43.1	83.1





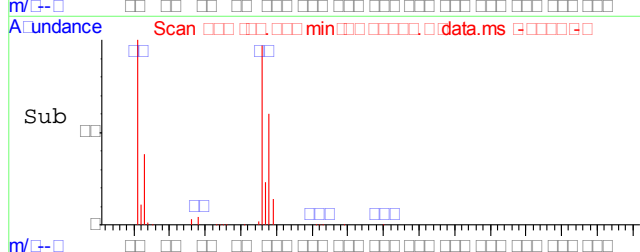
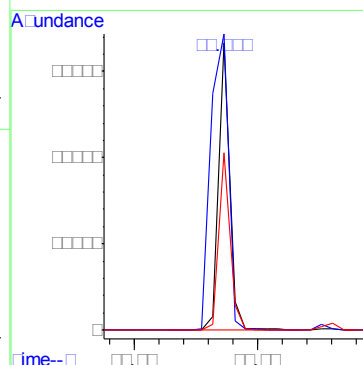
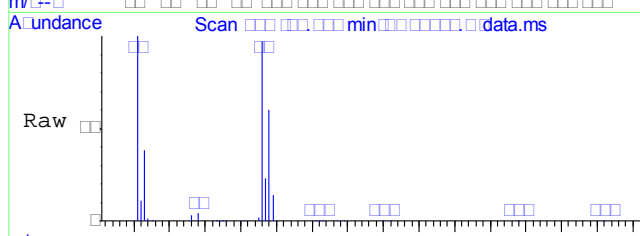
#6
 1,1-Dichloroethane
 Concen: 8.84 ppb
 RT: 9.439 min Scan# 118
 Delta R.T. -0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

Tgt Ion	Resp	Lower	Upper
63	100		
65	31.7	11.6	51.6
83	12.6	0.0	42.7

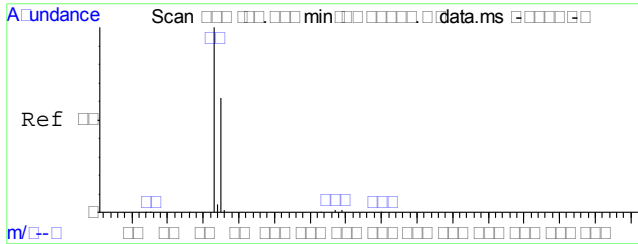


#7
 cis-1,2-Dichloroethene
 Concen: 9.53 ppb
 RT: 10.364 min Scan# 139
 Delta R.T. -0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

Tgt Ion	Resp	Lower	Upper
96	100		
61	165.6	151.6	191.6
98	63.6	45.2	85.2

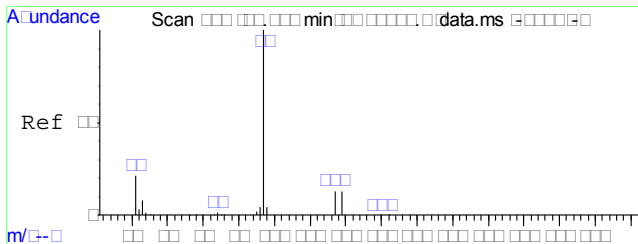
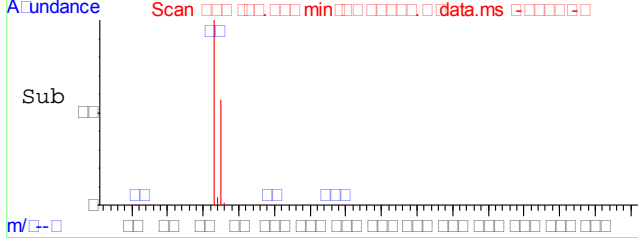
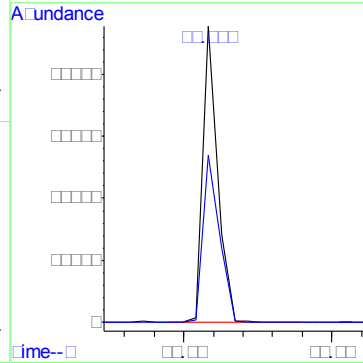
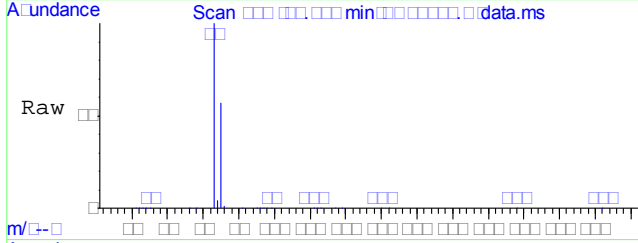


7.4.4
7



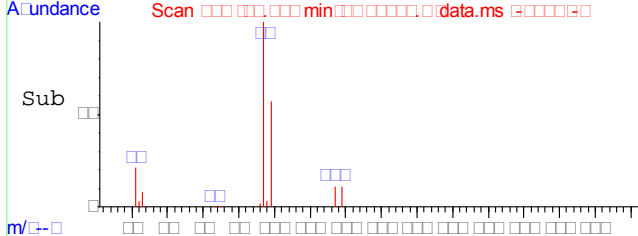
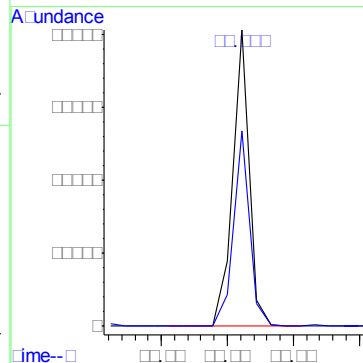
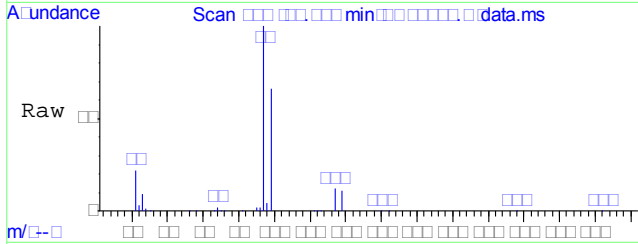
#8
 Chloroform
 Concen: 8.80 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

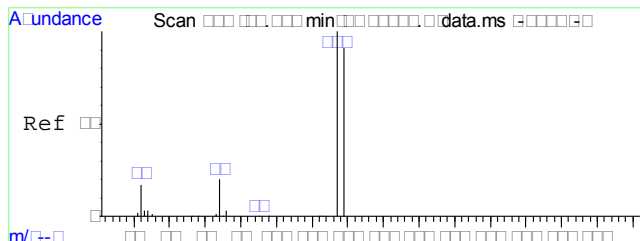
Tgt Ion: 83 Resp: 3325412
 Ion Ratio Lower Upper
 83 100
 85 62.8 51.3 91.3



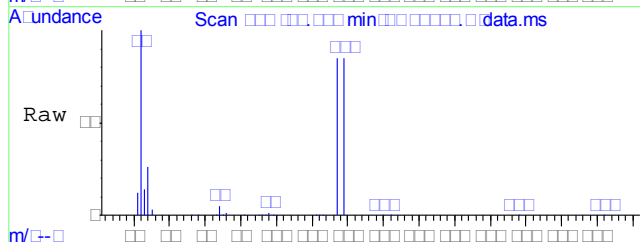
#10
 1,1,1-Trichloroethane
 Concen: 9.69 ppb
 RT: 11.244 min Scan# 159
 Delta R.T. 0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

Tgt Ion: 97 Resp: 2809873
 Ion Ratio Lower Upper
 97 100
 99 64.2 1.6 127.6

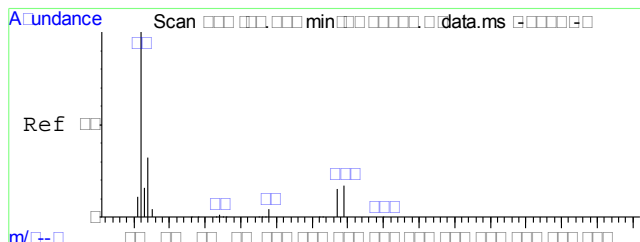
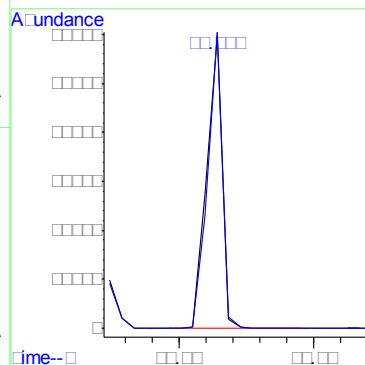
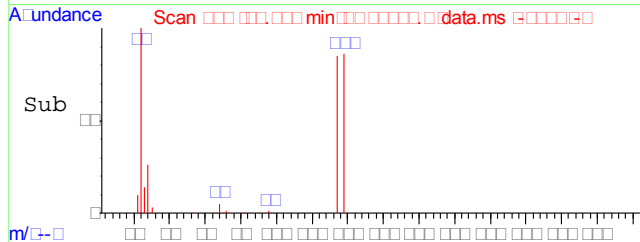




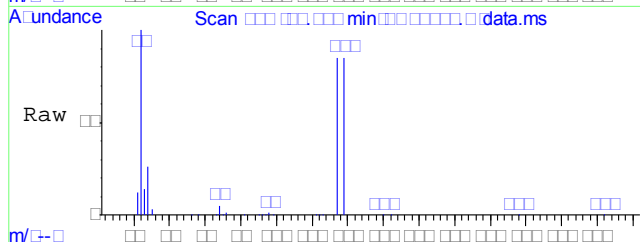
#11
 Carbon Tetrachloride
 Concen: 9.75 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm



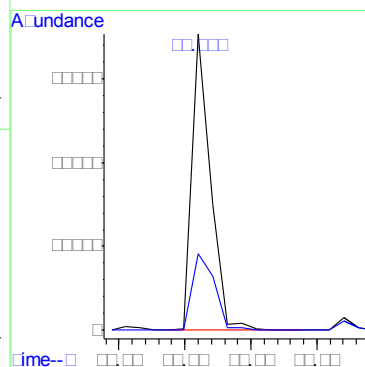
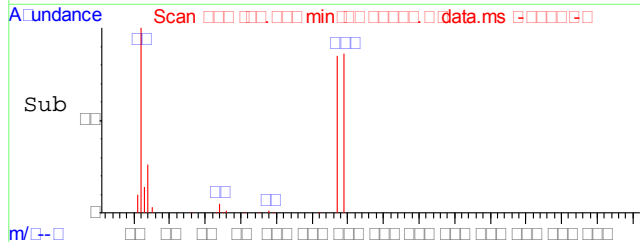
Tgt Ion: 117 Resp: 2356821
 Ion Ratio Lower Upper
 117 100
 119 96.0 76.1 116.1



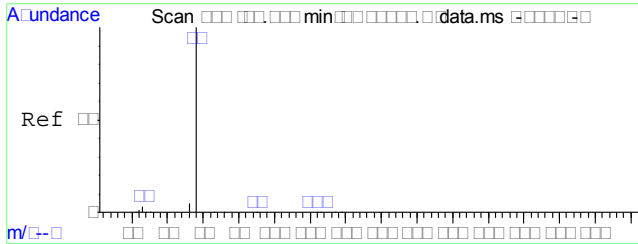
#12
 1,2-Dichloroethane
 Concen: 8.59 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm



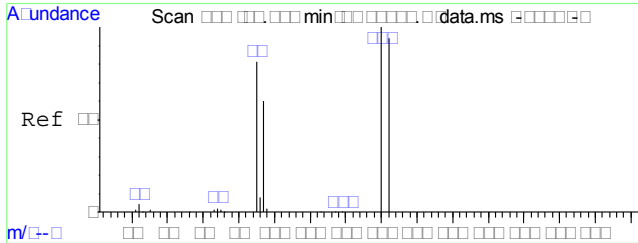
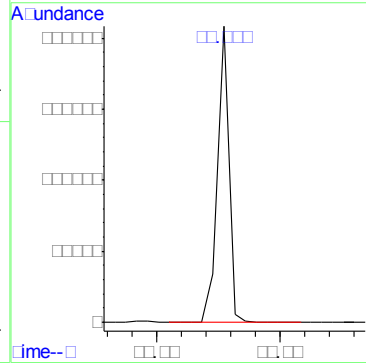
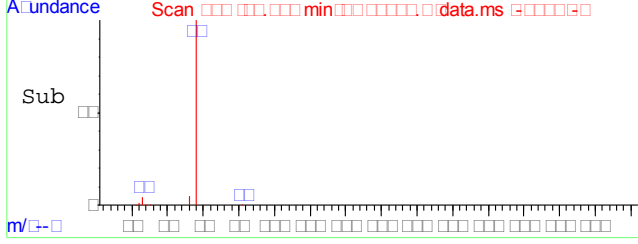
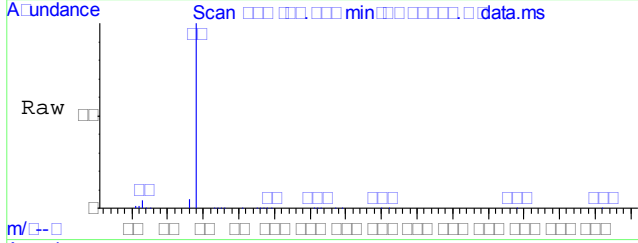
Tgt Ion: 62 Resp: 2752198
 Ion Ratio Lower Upper
 62 100
 64 30.9 10.4 50.4



7.4.4
 7



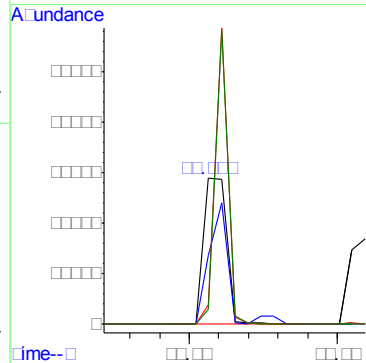
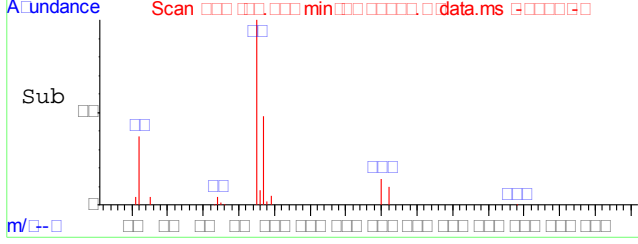
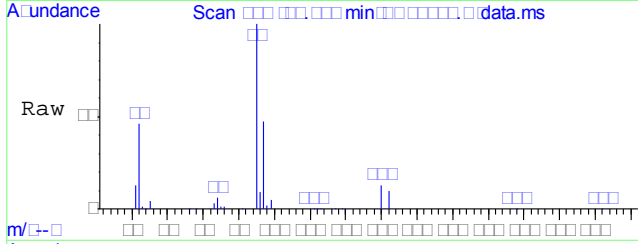
#13
 Benzene
 Concen: 9.26 ppb
 RT: 11.773 min Scan# 171
 Delta R.T. -0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm
 Tgt Ion: 78 Resp: 6577550

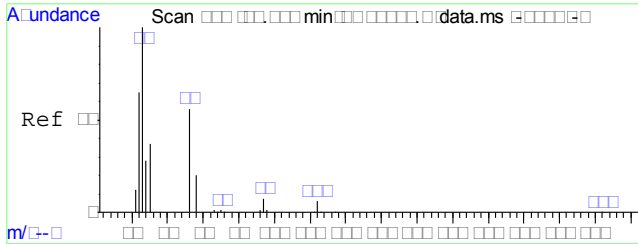


#14
 Trichloroethene
 Concen: 8.91 ppb
 RT: 12.565 min Scan# 189
 Delta R.T. 0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

Tgt Ion: 95 Resp: 1533945

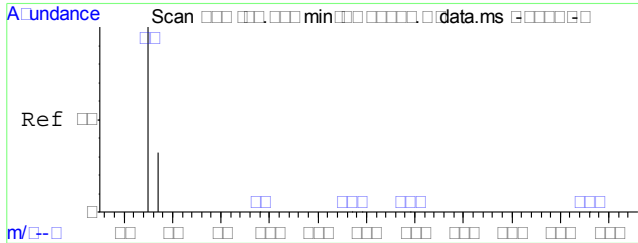
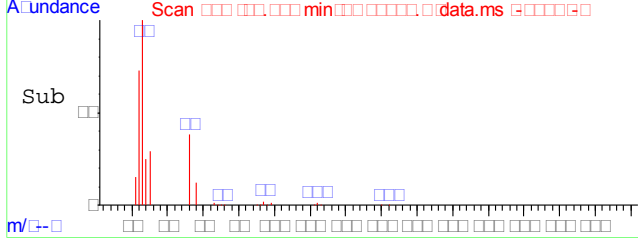
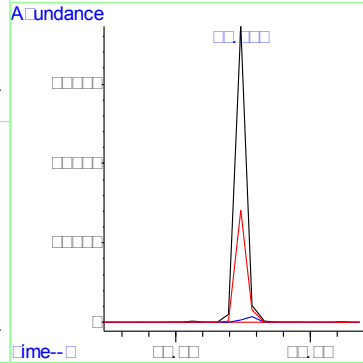
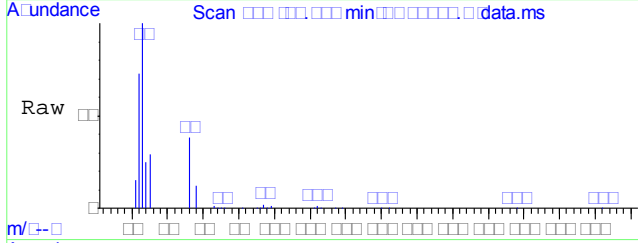
Ion	Ratio	Lower	Upper
95	100		
97	64.9	42.8	82.8
130	110.0	81.2	121.2
132	108.1	80.5	120.5





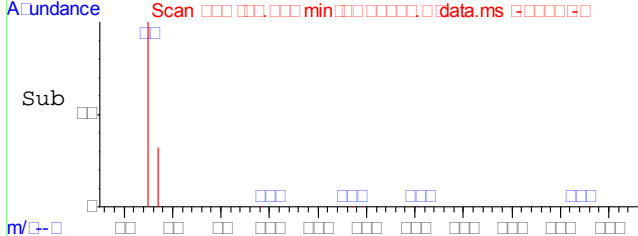
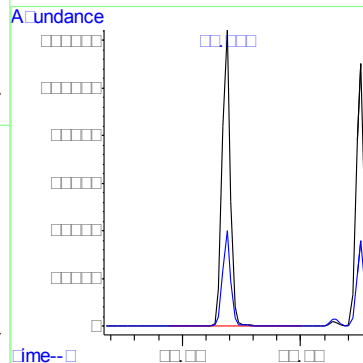
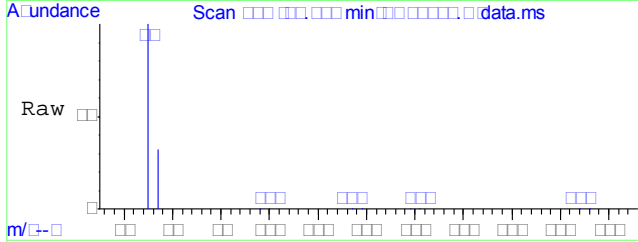
#15
 1,2-Dichloropropane
 Concen: 8.97 ppb
 RT: 12.741 min Scan# 193
 Delta R.T. 0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

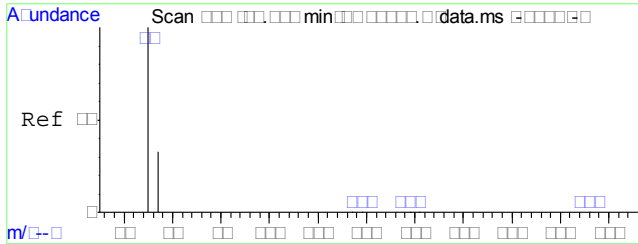
Tgt Ion	Ratio	Lower	Upper
63	100		
112	2.7	0.0	22.5
76	39.2	10.2	70.2



#16
 cis-1,3-Dichloropropene
 Concen: 9.13 ppb
 RT: 13.688 min Scan# 220
 Delta R.T. 0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

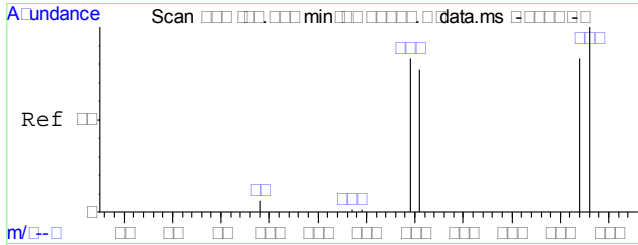
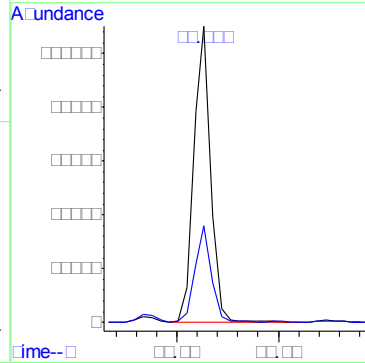
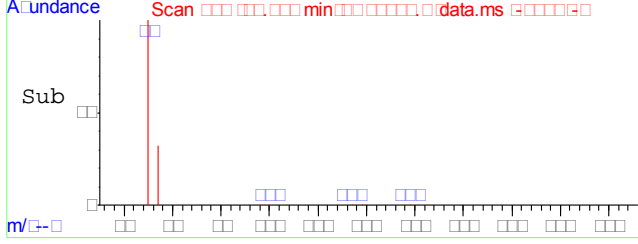
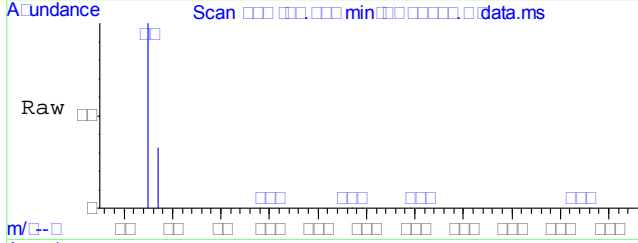
Tgt Ion	Ratio	Lower	Upper
75	100		
77	28.5	12.7	52.7





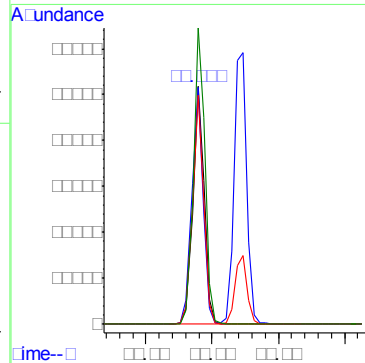
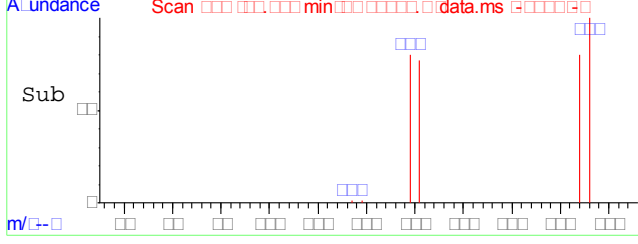
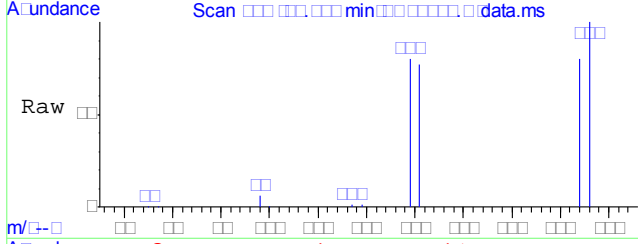
#19
 trans-1,3-Dichloropropene
 Concen: 9.03 ppb
 RT: 14.254 min Scan# 253
 Delta R.T. -0.000 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

Tgt Ion: 75 Resp: 2548796
 Ion Ratio Lower Upper
 75 100
 77 31.3 11.3 51.3



#20
 Tetrachloroethene
 Concen: 9.81 ppb
 RT: 14.957 min Scan# 294
 Delta R.T. -0.001 min
 Lab File: Q30375.D
 Acq: 21 Jul 2015 3:12 pm

Tgt Ion: 164 Resp: 1194025
 Ion Ratio Lower Upper
 164 100
 129 99.3 79.2 119.2
 131 95.4 75.4 115.4
 166 127.9 107.8 147.8



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
 Data File : Q30410.D
 Acq On : 22 Jul 2015 8:08 pm
 Operator : thuy
 Sample : C40680-35MS
 Misc : MS1855,VQ1321,50,,,,1
 ALS Vial : 21 Sample Multiplier: 1

Quant Time: Jul 23 17:47:39 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1174950	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1594495	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	741821	4.88	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.60%	
18) Toluene-d8	14.048	98	1792920	4.97	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.40%	
Target Compounds						
						Qvalue
2) Vinyl Chloride	4.551	62	2727207	10.27	ppb	98
3) 1,1-Dichloroethene	7.414	96	1502427	10.21	ppb	98
4) Methylene Chloride	8.206	84	1840001	9.64	ppb	# 99
5) trans-1,2-Dichloroethene	8.823	96	1662479	9.91	ppb	96
6) 1,1-Dichloroethane	9.439	63	3766726	9.85	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	1989351	9.76	ppb	97
8) Chloroform	10.584	83	3488470	9.58	ppb	99
10) 1,1,1-Trichloroethane	11.244	97	2883871	10.32	ppb	100
11) Carbon Tetrachloride	11.641	117	2581498	11.09	ppb	100
12) 1,2-Dichloroethane	11.641	62	2858565	9.26	ppb	99
13) Benzene	11.773	78	6892628	10.07	ppb	100
14) Trichloroethene	12.609	95	1611591	9.72	ppb	92
15) 1,2-Dichloropropane	12.741	63	2207136	9.57	ppb	98
16) cis-1,3-Dichloropropene	13.688	75	3272913	9.39	ppb	92
19) trans-1,3-Dichloropropene	14.254	75	2686871	9.92	ppb	100
20) Tetrachloroethene	14.957	164	1237407	10.60	ppb	100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
 Data File : Q30411.D
 Acq On : 22 Jul 2015 8:39 pm
 Operator : thuy
 Sample : C40680-35MSD
 Misc : MS1855,VQ1321,50,,,,1
 ALS Vial : 22 Sample Multiplier: 1

Quant Time: Jul 23 17:47:41 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1177011	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1620676	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	750388	4.93	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	98.60%	
18) Toluene-d8	14.048	98	1834855	5.00	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.00%	
Target Compounds						
2) Vinyl Chloride	4.551	62	2742028	10.31	ppb	98
3) 1,1-Dichloroethene	7.413	96	1520849	10.32	ppb	98
4) Methylene Chloride	8.206	84	1865575	9.76	ppb	# 99
5) trans-1,2-Dichloroethene	8.822	96	1701323	10.12	ppb	95
6) 1,1-Dichloroethane	9.439	63	3834969	10.01	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	2024469	9.91	ppb	96
8) Chloroform	10.584	83	3530795	9.68	ppb	99
10) 1,1,1-Trichloroethane	11.244	97	2923928	10.44	ppb	100
11) Carbon Tetrachloride	11.641	117	2554568	10.95	ppb	99
12) 1,2-Dichloroethane	11.641	62	2887003	9.34	ppb	99
13) Benzene	11.773	78	6999256	10.21	ppb	100
14) Trichloroethene	12.609	95	1641782	9.89	ppb	92
15) 1,2-Dichloropropane	12.741	63	2255636	9.76	ppb	98
16) cis-1,3-Dichloropropene	13.688	75	3291529	9.42	ppb	100
19) trans-1,3-Dichloropropene	14.254	75	2705819	9.83	ppb	100
20) Tetrachloroethene	14.956	164	1251728	10.55	ppb	100

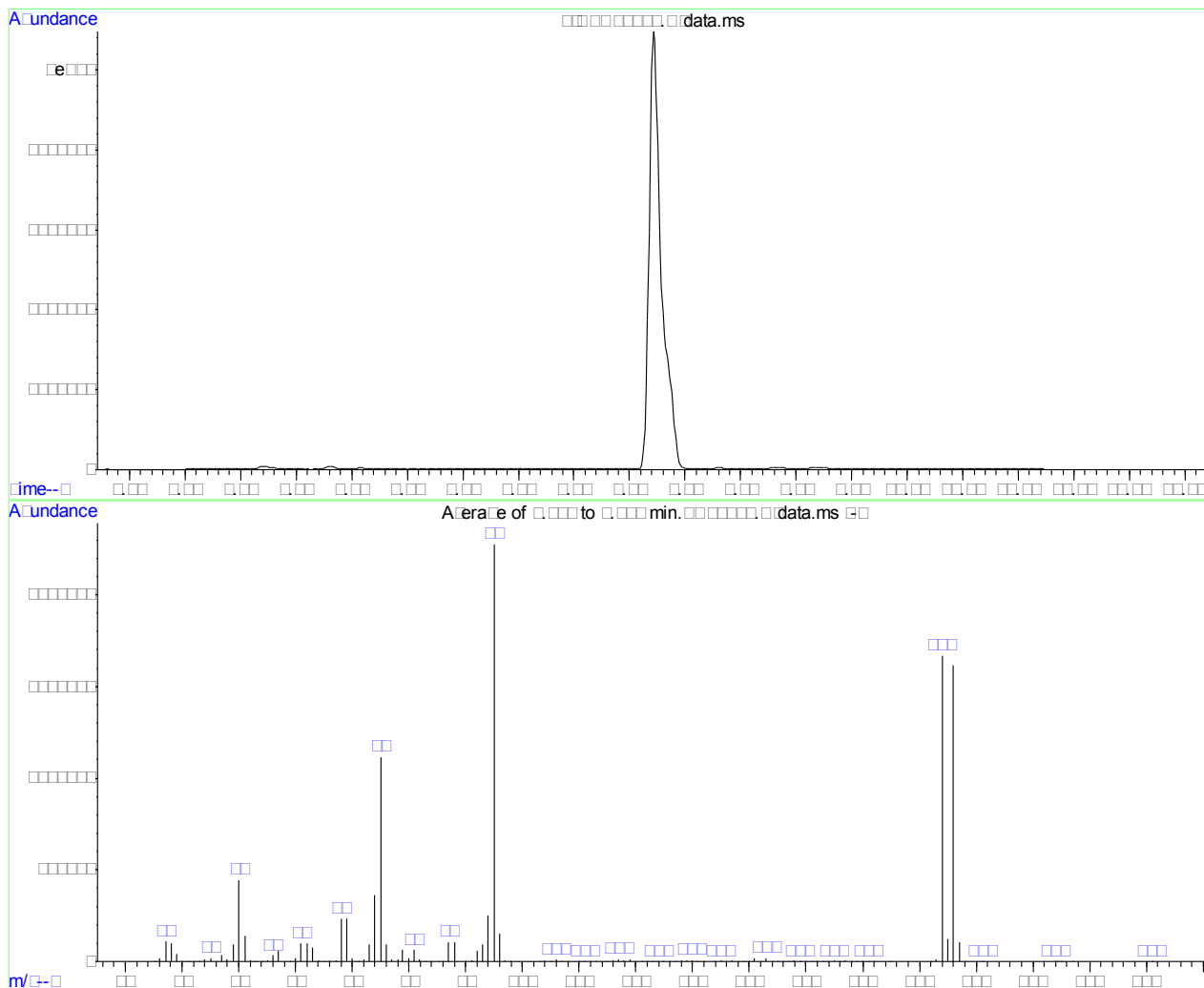
(#) = qualifier out of range (m) = manual integration (+) = signals summed

BFB

Data File : C:\msdchem\1\DATA\150718\Q30326.D
 Acq On : 19 Jul 2015 10:57 am
 Sample : BFB
 Misc : MS1855,VQ1318,1,,,,,1
 MS Integration Params: RTEINT.P

Vial: 1
 Operator: thuy
 Inst : MSVOA-Q
 Multiplr: 1.00

Method : C:\msdchem\1\MET...1318_150718SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B



AutoFind: Scans 794, 795, 796; Background Corrected with Scan 780

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	445415	PASS
75	95	30	60	49.0	1116513	PASS
95	95	100	100	100.0	2276693	PASS
96	95	5	9	6.7	152469	PASS
173	174	0.00	2	0.6	10595	PASS
174	95	50	100	73.2	1667584	PASS
175	174	5	9	7.3	121088	PASS
176	174	95	101	96.8	1613824	PASS
177	176	5	9	6.6	106597	PASS

Average of 9.080 to 9.090 min.: Q30326.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.10	57	46.10	1507	57.00	60618	67.05	5680
36.05	19450	47.05	33749	58.05	2577	68.00	234219
37.10	110389	48.00	12626	59.00	674	69.00	233933
38.05	99372	49.00	92083	60.00	18465	70.05	17709
39.10	38921	50.05	445415	61.00	99443	71.05	674
40.00	1337	51.10	137505	62.00	98299	72.00	10843
41.10	365	52.05	5814	63.00	74221	73.00	92575
42.10	79	53.05	312	64.05	6550	74.00	363648
43.05	1179	54.05	197	64.95	326	75.05	1.11651e+006
44.00	12269	55.00	5496	65.90	63	76.05	94965
45.05	20348	56.00	32540	66.05	188	77.00	13438

Average of 9.080 to 9.090 min.: Q30326.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
78.00	9762	90.00	107	104.95	3113	117.90	7686
78.90	61443	91.00	7523	105.90	9032	118.95	10308
80.00	19048	92.00	59552	106.95	2276	119.90	404
80.90	62433	93.00	90683	108.00	51	121.05	246
81.90	14154	94.00	252331	109.90	1242	121.95	731
83.00	1500	95.00	2.27669e+006	110.90	1760	122.90	676
83.95	138	96.05	152469	111.95	1212	123.95	1335
85.15	140	97.00	3965	112.90	1688	124.90	619
85.95	2466	97.95	210	114.90	2215	125.95	845
87.00	106635	102.90	853	115.90	7120	126.95	590
88.00	102643	103.90	8853	116.95	12928	127.95	7381

Average of 9.080 to 9.090 min.: Q30326.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
128.95	3422	140.95	19717	151.80	330	162.00	63
129.90	7504	141.95	2426	152.00	661	164.85	196
130.90	2943	142.95	20208	152.95	1504	172.00	163
131.95	406	144.00	1129	153.95	1249	173.00	10595
133.95	551	144.95	1655	154.95	4784	174.00	1.66758e+006
134.95	3759	145.90	2968	155.95	748	175.00	121088
135.90	685	146.95	1353	156.95	3429	176.00	1.61382e+006
136.90	3729	147.90	4711	157.95	383	177.00	106597
137.95	176	148.95	1306	158.90	2380	177.95	2972
138.95	648	149.95	2115	159.90	108	181.05	523
139.90	1236	151.00	682	160.95	2219	193.90	220

Average of 9.080 to 9.090 min.: Q30326.D\data.ms

BFB

Modified:subtracted

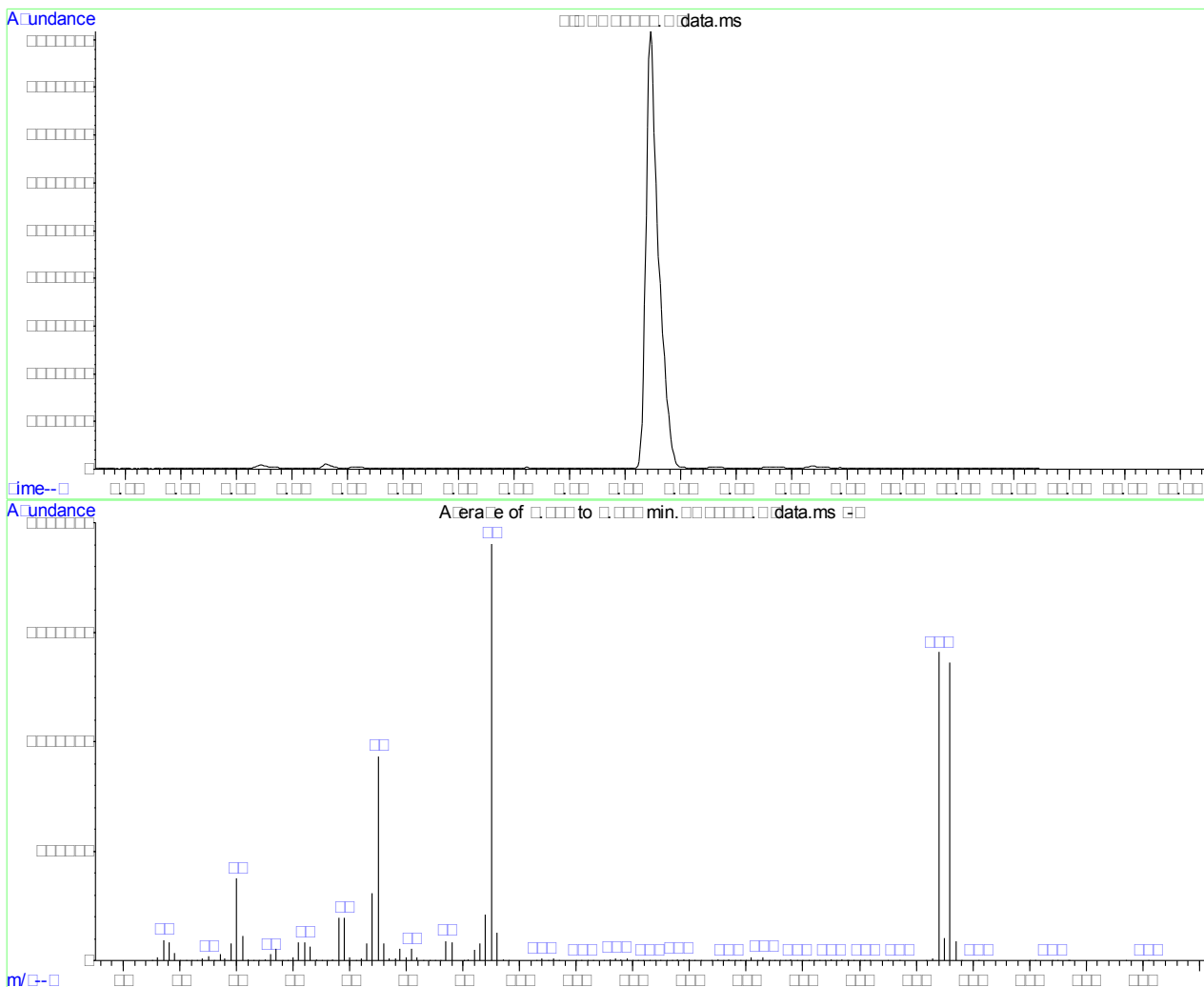
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
194.20	59						
194.95	170						
197.05	132						
207.80	50						
211.00	342						

BFB

Data File : C:\msdchem\1\DATA\150720\Q30339.D
 Acq On : 20 Jul 2015 10:41 am
 Sample : BFB
 Misc : MS1855,VQ1319,1,,,,,1
 MS Integration Params: RTEINT.P

Vial: 1
 Operator: emilya
 Inst : MSVOA-Q
 Multiplr: 1.00

Method : C:\msdchem\1\MET...1318_150718SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B



AutoFind: Scans 795, 796, 797; Background Corrected with Scan 782

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.7	374860	PASS
75	95	30	60	49.0	933288	PASS
95	95	100	100	100.0	1905152	PASS
96	95	5	9	6.7	126936	PASS
173	174	0.00	2	0.6	8880	PASS
174	95	50	100	74.0	1409024	PASS
175	174	5	9	7.2	101979	PASS
176	174	95	101	96.8	1363797	PASS
177	176	5	9	6.6	90383	PASS

7.5.2
 7

Average of 9.085 to 9.096 min.: Q30339.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.10	116	46.10	1233	57.00	51718	68.00	196864
36.10	16779	47.10	28032	58.00	2323	69.00	197119
37.10	93027	48.00	10746	58.95	416	70.00	14625
38.05	82294	49.00	76509	60.00	15672	71.05	729
39.10	32843	50.00	374860	61.00	83191	72.00	9198
40.00	1082	51.10	114419	62.00	83443	73.00	78387
41.05	54	52.05	5114	63.05	63299	74.00	305472
42.10	243	53.00	288	64.05	5664	75.00	933288
43.00	999	53.90	59	65.05	492	76.00	80030
44.00	10311	55.00	4481	66.00	204	77.00	11130
45.00	17550	55.95	27087	67.00	4618	78.00	7915

Average of 9.085 to 9.096 min.: Q30339.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
78.90	52261	90.95	6118	105.90	7525	119.95	321
80.00	16557	92.00	50637	106.90	1927	120.95	284
80.90	53615	93.00	76139	109.90	1006	121.90	614
81.90	12500	94.00	211392	110.95	1466	122.90	508
83.00	1076	95.00	1.90515e+006	111.95	1094	123.85	1155
84.10	183	96.00	126936	112.95	1449	124.90	505
85.10	197	97.05	3376	114.90	1813	125.95	787
86.00	1820	98.15	196	115.90	6113	126.95	567
87.00	88960	102.95	687	116.95	10631	127.90	6384
88.00	85331	103.90	7710	117.90	6434	128.95	2874
90.10	60	104.95	2561	118.90	8493	129.90	6336

Average of 9.085 to 9.096 min.: Q30339.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
130.90	2542	142.95	16865	153.95	1101	167.00	132
131.95	307	144.00	1020	155.00	3971	171.85	194
133.90	506	144.95	1511	155.95	581	173.00	8880
134.95	3216	145.90	2397	156.95	2938	174.00	1.40902e+006
135.95	570	146.90	1071	157.80	89	175.00	101979
136.90	3232	147.90	4198	158.05	208	176.00	1.3638e+006
137.95	203	148.95	1206	158.90	2113	177.00	90383
138.95	481	149.95	1915	160.00	60	177.95	2560
139.95	1078	151.00	607	160.90	1925	181.00	484
140.95	16501	151.90	804	161.85	125	190.10	53
141.95	2123	152.90	1282	164.95	135	191.10	51

Average of 9.085 to 9.096 min.: Q30339.D\data.ms

BFB

Modified:subtracted

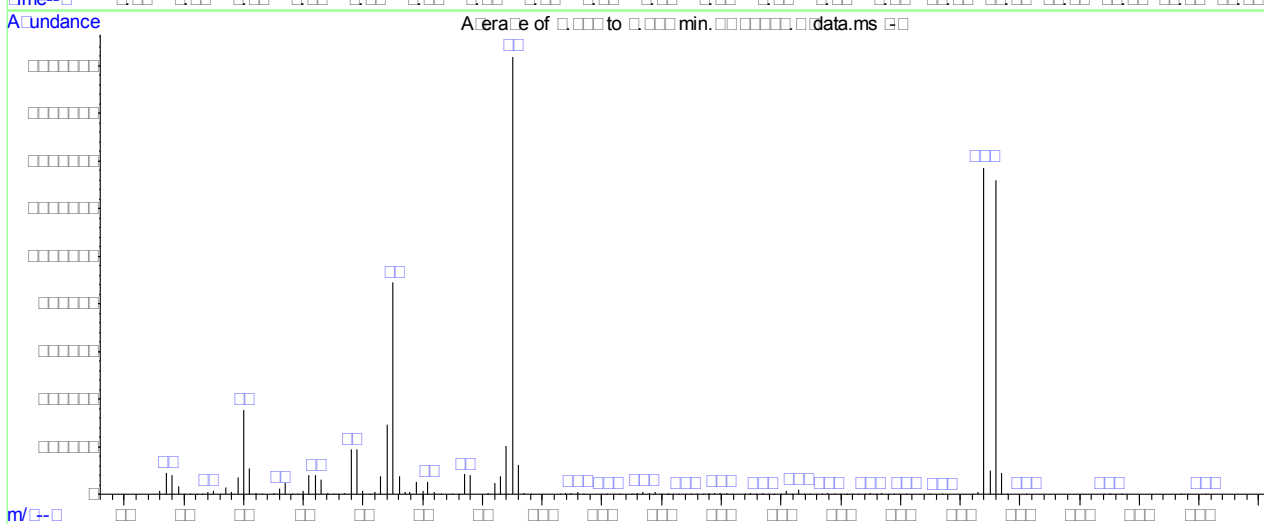
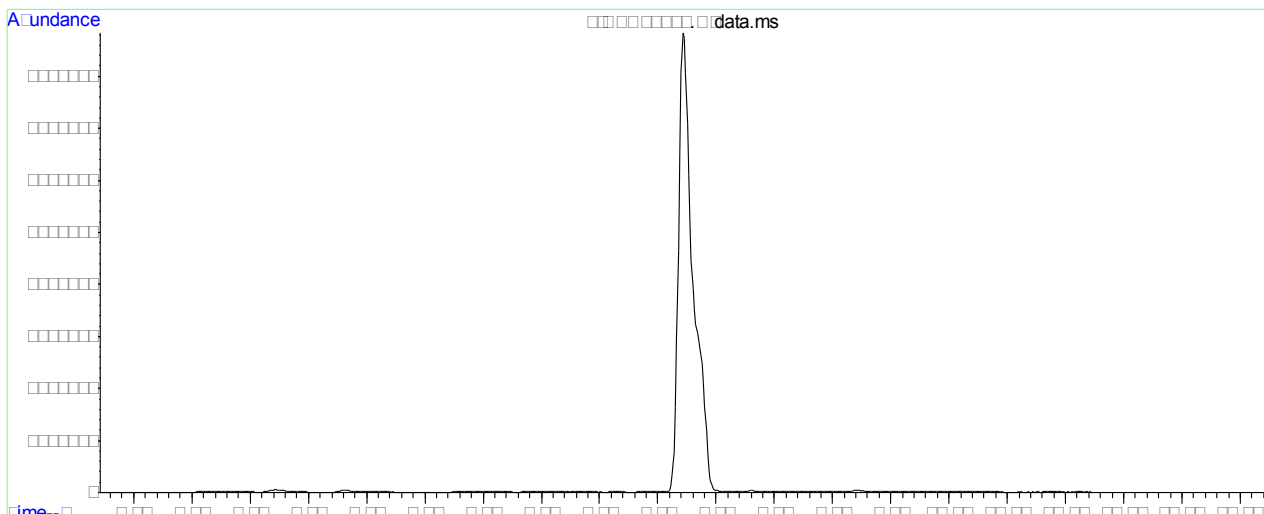
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
194.00	304						
195.05	219						
196.90	67						
197.10	128						
207.00	21						
211.00	422						

BFB

Data File : C:\msdchem\1\DATA\150721\Q30364.D
 Acq On : 21 Jul 2015 9:45 am
 Sample : BFB
 Misc : MS1855,VQ1320,1,,,,,1
 MS Integration Params: RTEINT.P

Vial: 1
 Operator: emilya
 Inst : MSVOA-Q
 Multiplr: 1.00

Method : C:\msdchem\1\MET...1318_150718SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B



AutoFind: Scans 794, 795, 796; Background Corrected with Scan 780

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.3	355248	PASS
75	95	30	60	48.3	888906	PASS
95	95	100	100	100.0	1838763	PASS
96	95	5	9	6.8	124603	PASS
173	174	0.00	2	0.6	8661	PASS
174	95	50	100	74.6	1372160	PASS
175	174	5	9	7.2	98416	PASS
176	174	95	101	96.3	1320789	PASS
177	176	5	9	6.6	87333	PASS

Average of 9.080 to 9.090 min.: Q30364.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	15336	47.05	26419	59.00	461	70.00	14872
37.10	88061	48.00	10422	59.95	15214	71.05	672
38.00	77905	49.00	72565	61.00	79251	72.00	8389
39.10	30968	50.00	355248	62.00	79363	73.00	74541
40.00	1104	51.00	109579	63.05	60205	74.00	290837
41.05	207	52.05	4570	64.05	5393	75.00	888906
42.05	102	52.95	238	64.95	478	76.05	76520
43.05	963	55.00	4471	65.80	55	77.00	10805
44.00	9709	56.00	25220	67.00	4530	77.90	8064
45.00	16245	57.00	48851	68.00	188224	78.90	50115
46.05	1169	58.05	2011	69.00	187776	80.00	15161

Average of 9.080 to 9.090 min.: Q30364.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
80.90	51472	95.00	1.83876e+006	111.90	1021	122.95	494
81.90	11967	96.00	124603	112.90	1291	123.95	1086
83.00	1124	97.00	3539	114.90	1680	124.90	494
85.00	118	98.00	53	115.90	5716	125.90	677
86.00	1915	102.95	816	116.90	10423	126.90	457
87.00	84469	103.90	7052	117.90	6044	127.90	5892
88.00	81749	104.90	2692	118.95	8317	128.90	2927
90.95	5845	105.90	7358	119.95	365	129.90	5963
92.00	48091	106.90	1759	121.00	123	130.90	2585
93.00	73365	109.90	916	121.20	71	131.95	329
94.00	204501	110.90	1462	121.95	577	133.95	411

Average of 9.080 to 9.090 min.: Q30364.D\data.ms

BFB

Modified:subtracted

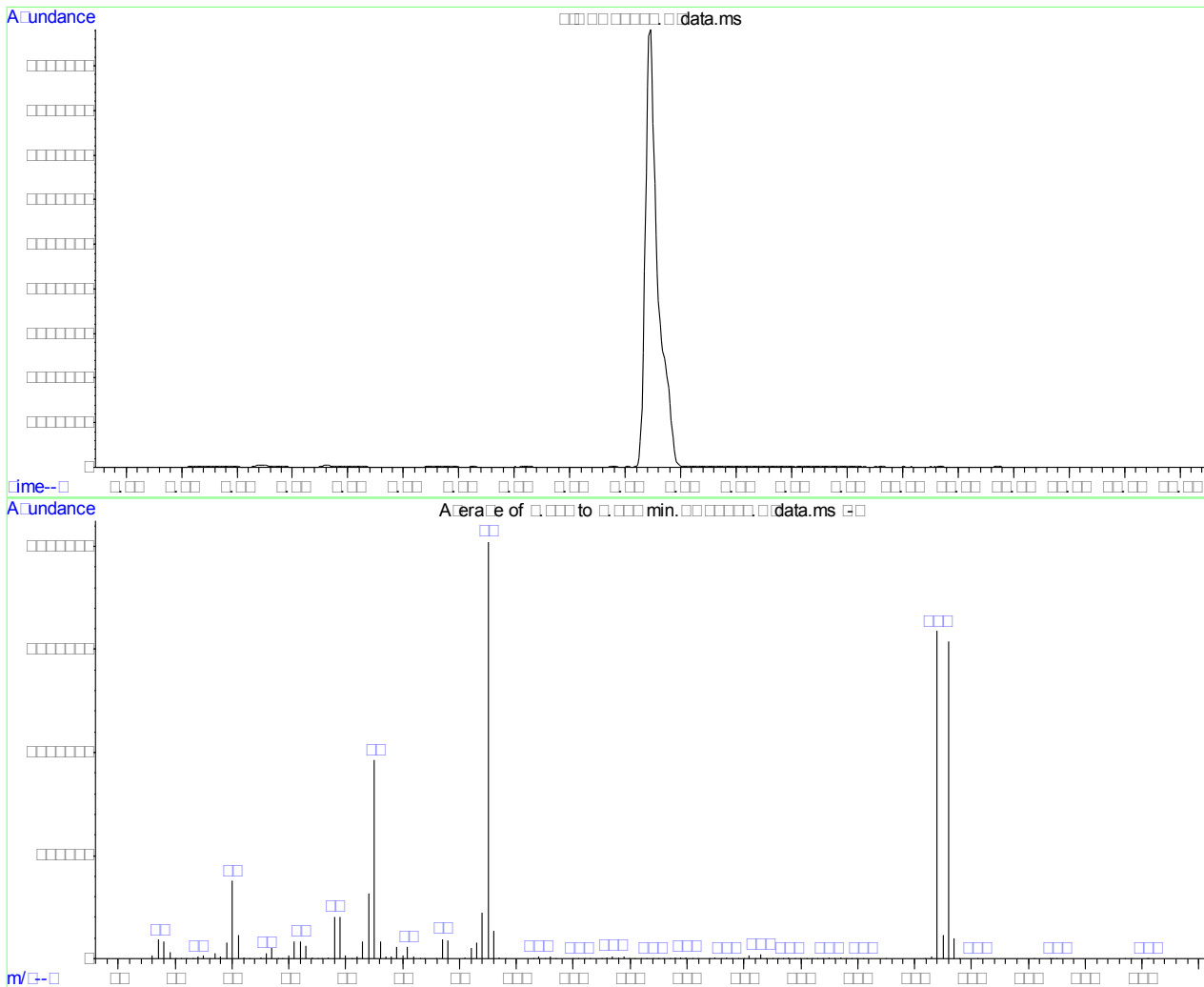
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
134.95	2959	145.95	2224	156.90	2810	176.00	1.32079e+006
135.90	569	146.95	1272	157.95	307	177.00	87333
136.90	2978	147.90	4129	158.90	1829	177.95	2520
137.95	109	148.95	1075	159.80	56	181.00	424
138.90	565	149.95	1786	160.90	1908	194.00	60
139.95	1105	151.00	427	165.00	243	194.90	162
140.90	15945	151.95	798	166.90	57	195.10	158
141.90	1894	152.95	1274	172.00	165	197.05	127
142.95	16711	153.95	1050	173.00	8661	207.00	78
143.95	977	154.95	4131	174.00	1.37216e+006	208.10	53
144.90	1387	155.95	592	175.00	98416	211.05	443

BFB

Data File : C:\msdchem\1\DATA\150722\Q30389.D
 Acq On : 22 Jul 2015 9:26 am
 Sample : BFB
 Misc : MS1855,VQ1321,1,,,,,1
 MS Integration Params: RTEINT.P

Vial: 1
 Operator: thuy
 Inst : MSVOA-Q
 Multiplr: 1.00

Method : C:\msdchem\1\MET...1318_150718SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B



AutoFind: Scans 795, 796, 797; Background Corrected with Scan 781

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.6	377024	PASS
75	95	30	60	47.6	962133	PASS
95	95	100	100	100.0	2022741	PASS
96	95	5	9	6.7	135453	PASS
173	174	0.00	2	0.6	9502	PASS
174	95	50	100	78.6	1588907	PASS
175	174	5	9	7.1	113067	PASS
176	174	95	101	96.9	1538901	PASS
177	176	5	9	6.6	101024	PASS

7.5.4
 7

Average of 9.085 to 9.095 min.: Q30389.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	15926	47.05	28227	58.85	364	70.00	15426
37.10	92029	48.00	10795	60.00	15886	71.10	653
38.10	82419	49.00	76928	61.00	84399	72.00	9367
39.05	32283	50.00	377024	62.00	84843	73.00	81101
40.00	1118	51.10	115232	63.00	64131	74.00	315989
41.00	228	52.05	5024	64.10	5666	75.05	962133
42.00	41	53.05	238	65.05	500	76.05	82603
43.00	1022	55.00	4734	65.80	107	77.00	11747
44.00	10107	56.00	27819	67.00	4878	78.00	8279
45.00	17201	57.00	51874	68.00	204459	78.90	54693
46.15	1118	58.05	2133	69.00	201067	80.00	16560

Average of 9.085 to 9.095 min.: Q30389.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
80.90	56168	95.00	2.02274e+006	111.90	1132	123.90	1147
81.90	12924	96.00	135453	112.90	1505	124.90	552
83.00	1320	97.00	3995	114.90	1784	125.90	780
83.90	54	98.00	72	115.90	6370	126.95	638
85.95	2180	102.95	882	116.90	11234	127.90	6569
87.00	94200	103.90	8083	117.90	6770	128.90	3350
88.00	90795	104.95	2743	118.90	9449	129.90	6864
91.00	6444	105.90	8002	119.95	334	130.90	2798
92.00	53467	106.90	1922	120.85	113	131.95	357
93.00	79483	109.90	1028	121.95	670	133.90	428
94.00	223637	110.90	1607	122.85	609	134.90	3273

Average of 9.085 to 9.095 min.: Q30389.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
135.95	620	146.90	1328	157.95	385	177.95	2732
136.90	3281	147.90	4529	158.90	2065	181.00	322
137.90	113	148.90	1231	159.90	55	191.10	60
138.95	635	149.90	1900	160.95	1985	193.90	55
140.00	1129	150.95	423	164.95	38	194.20	62
140.95	17675	151.95	921	171.95	366	195.00	234
141.95	2062	152.95	1272	173.00	9502	206.95	93
142.90	18549	153.90	1154	174.00	1.58891e+006	208.00	70
143.95	1087	154.95	4518	175.00	113067	210.90	123
144.95	1537	155.90	617	176.00	1.5389e+006	211.05	233
145.90	2712	156.95	3367	177.00	101024		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30328.D
 Acq On : 19 Jul 2015 11:43 am
 Operator : thuy
 Sample : IC1318-0.1
 Misc : MS1855,VQ1318,50,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 09:10:27 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration

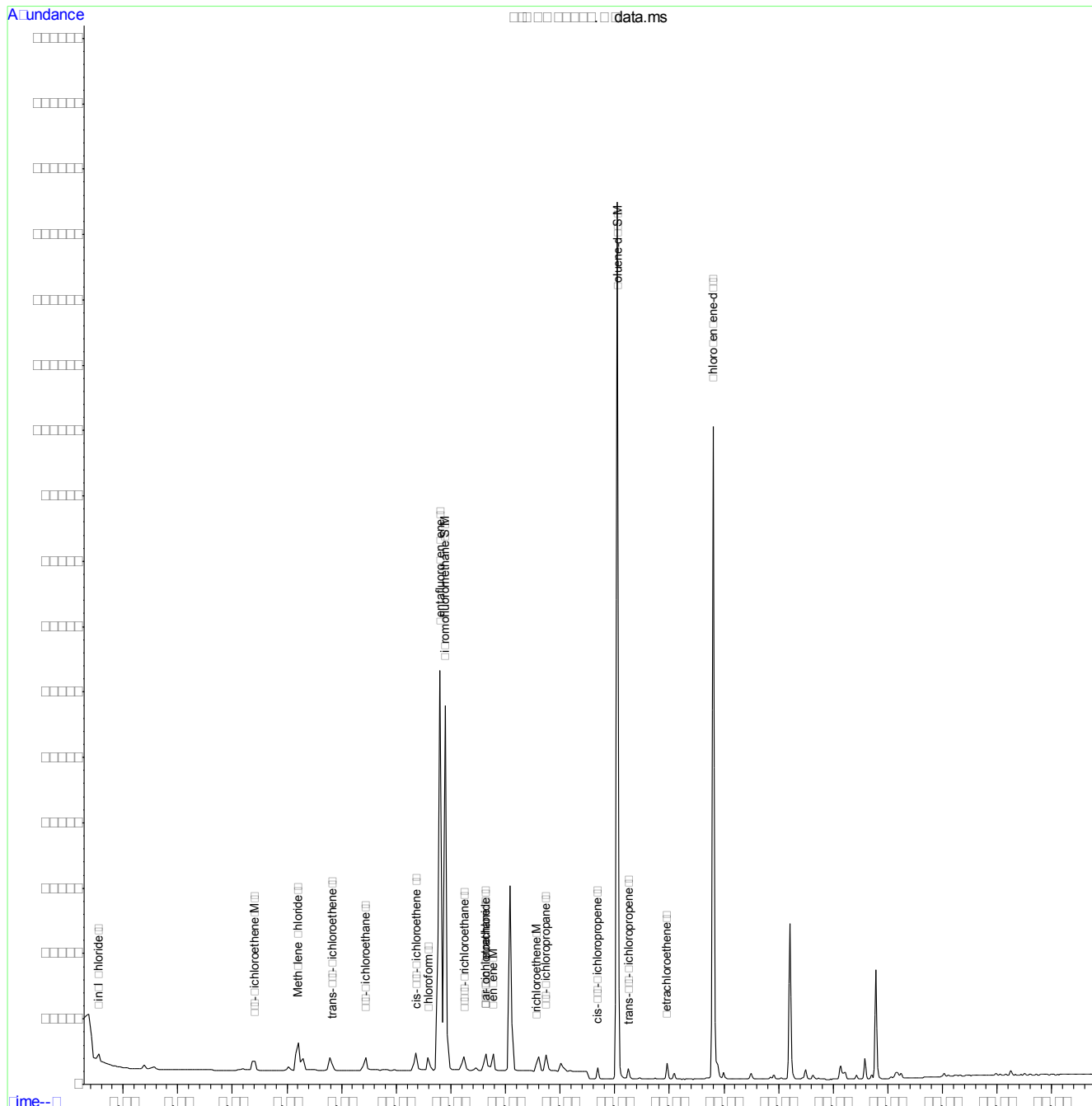
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1189980	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1686415	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	771807	4.27	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	85.40%	
18) Toluene-d8	14.048	98	1945581	5.54	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	110.80%	
Target Compounds						
						Qvalue
2) Vinyl Chloride	4.551	62	30250	0.03	ppb	80
3) 1,1-Dichloroethene	7.413	96	17912	0.03	ppb	# 88
4) Methylene Chloride	8.206	84	110247	0.13	ppb	# 100
5) trans-1,2-Dichloroethene	8.822	96	19709	0.03	ppb	91
6) 1,1-Dichloroethane	9.439	63	42140	0.03	ppb	# 89
7) cis-1,2-Dichloroethene	10.364	96	23196	0.03	ppb	95
8) Chloroform	10.584	83	40791	0.03	ppb	94
10) 1,1,1-Trichloroethane	11.244	97	31226	0.03	ppb	96
11) Carbon Tetrachloride	11.641	117	26658	0.03	ppb	100
12) 1,2-Dichloroethane	11.641	62	33818	0.03	ppb	95
13) Benzene	11.773	78	76879	0.03	ppb	100
14) Trichloroethene	12.565	95	19893	0.03	ppb	98
15) 1,2-Dichloropropane	12.741	63	25521	0.03	ppb	# 98
16) cis-1,3-Dichloropropene	13.688	75	30827m	0.02	ppb	
19) trans-1,3-Dichloropropene	14.254	75	29667	0.03	ppb	97
20) Tetrachloroethene	14.956	164	13780	0.04	ppb	99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30328.D
 Acq On : 19 Jul 2015 11:43 am
 Operator : thuy
 Sample : IC1318-0.1
 Misc : MS1855,VQ1318,50,,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 09:10:27 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration



7.6.1
 7

Manual Integration Approval Summary

Sample Number: VQ1318-IC1318 **Method:** SW846 8260B BY SIM
Lab FileID: Q30328.D **Analyst approved:** 07/20/15 09:20 Emily Amparo
Injection Time: 07/19/15 11:43 **Supervisor approved:** 07/20/15 14:20 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
cis-1,3-Dichloropropene	10061-01-5		13.69	Poor instrument integration

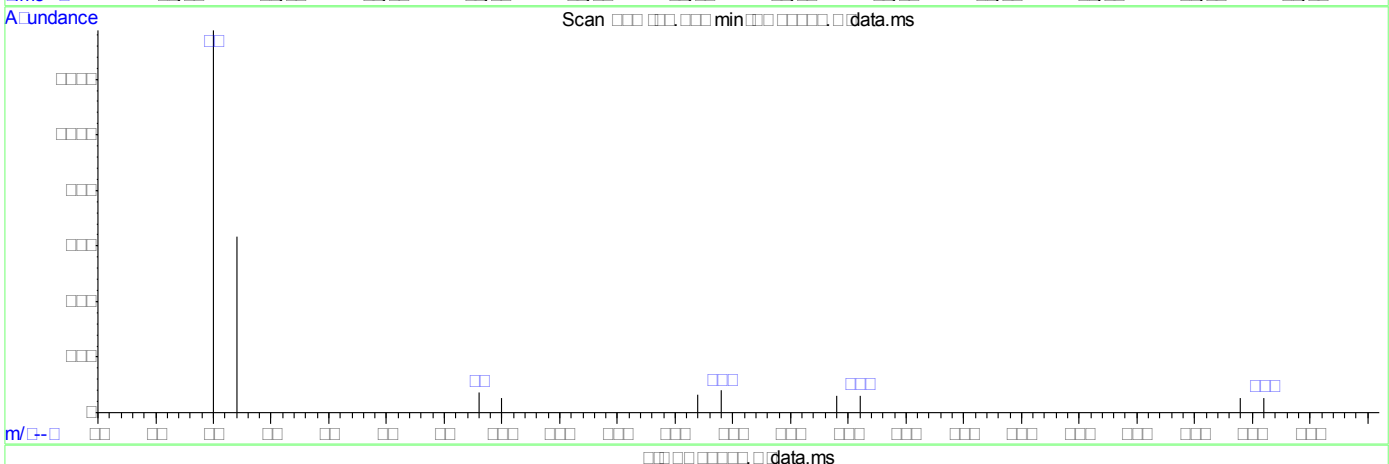
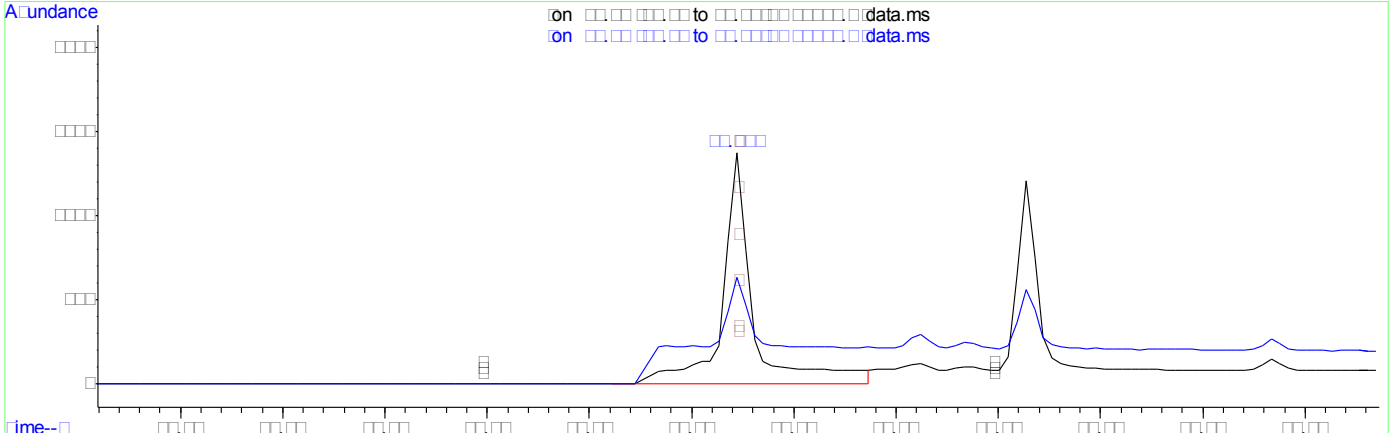
7.6.1.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30328.D
 Acq On : 19 Jul 2015 11:43 am
 Operator : thuy
 Sample : IC1318-0.1
 Misc : MS1855,VQ1318,50,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 09:08:41 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration



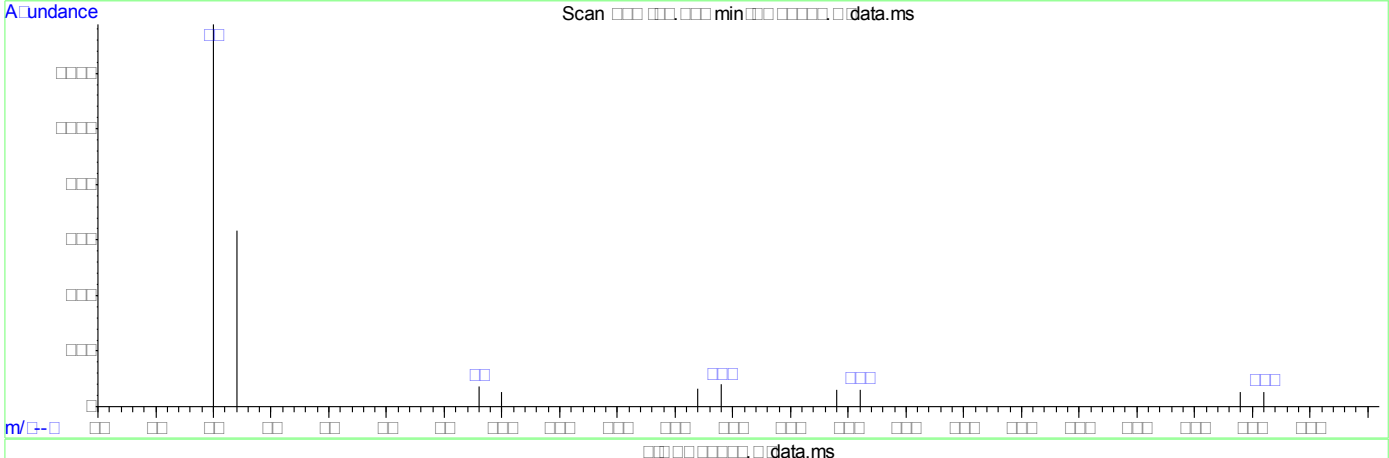
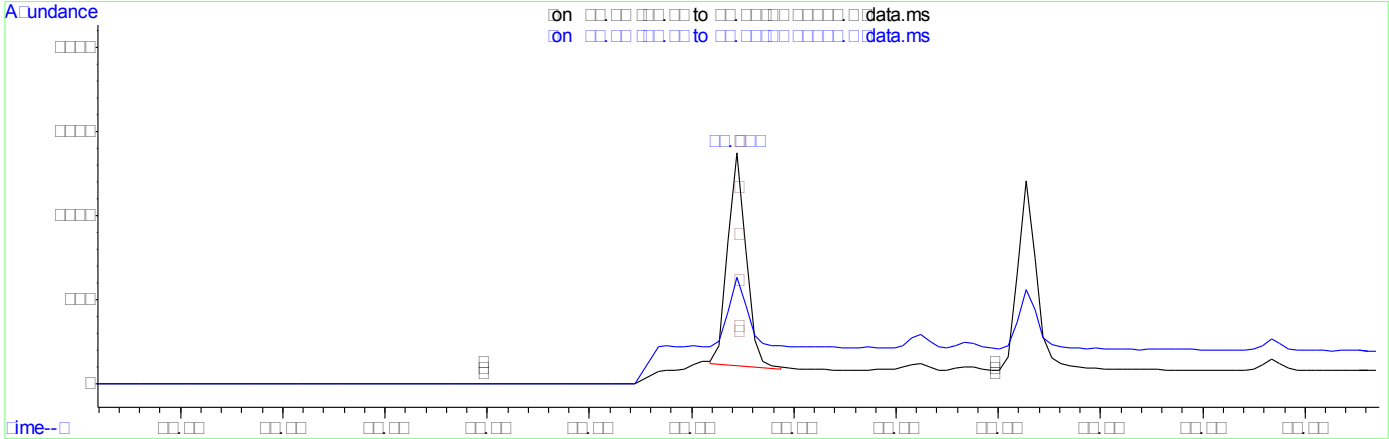
cis-1,3-dichloropropene
 min pp
 response
 Act

7.6.1.2
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30328.D
 Acq On : 19 Jul 2015 11:43 am
 Operator : thuy
 Sample : IC1318-0.1
 Misc : MS1855,VQ1318,50,,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 20 09:08:41 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration



response	[]
ion	[]p [] Act []
[]	[]
[]	[]
[]	[]
[]	[]

7.6.1.3
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30329.D
 Acq On : 19 Jul 2015 12:13 pm
 Operator : thuy
 Sample : IC1318-0.25
 Misc : MS1855,VQ1318,50,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 20 09:11:03 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration

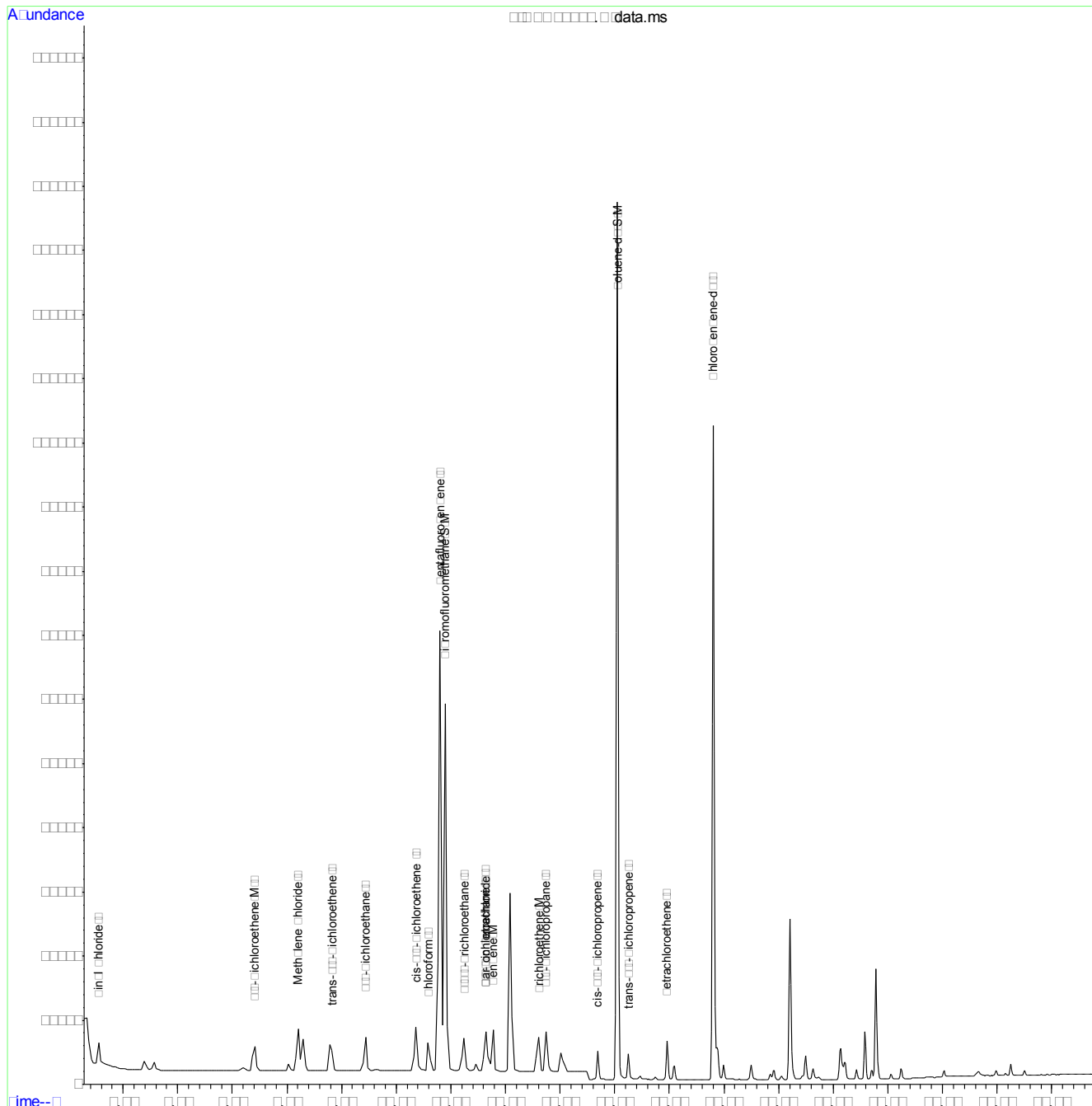
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	1259552	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	1739184	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	795697	4.16	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	83.20%		
18) Toluene-d8	14.048	98	1990062	5.50	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	110.00%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	72840	0.07	ppb		93
3) 1,1-Dichloroethene	7.413	96	39577	0.06	ppb		97
4) Methylene Chloride	8.206	84	140868	0.16	ppb	#	99
5) trans-1,2-Dichloroethene	8.823	96	46947	0.07	ppb		93
6) 1,1-Dichloroethane	9.439	63	104170	0.06	ppb		99
7) cis-1,2-Dichloroethene	10.364	96	55216	0.07	ppb		97
8) Chloroform	10.584	83	97777	0.06	ppb		97
10) 1,1,1-Trichloroethane	11.244	97	74610	0.06	ppb		99
11) Carbon Tetrachloride	11.641	117	62217	0.06	ppb		98
12) 1,2-Dichloroethane	11.641	62	80525	0.06	ppb		97
13) Benzene	11.773	78	186915	0.06	ppb		100
14) Trichloroethene	12.609	95	45257	0.07	ppb		95
15) 1,2-Dichloropropane	12.741	63	61239	0.06	ppb	#	97
16) cis-1,3-Dichloropropene	13.688	75	80601m	0.05	ppb		
19) trans-1,3-Dichloropropene	14.254	75	74133	0.08	ppb		99
20) Tetrachloroethene	14.957	164	32918	0.09	ppb		99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30329.D
 Acq On : 19 Jul 2015 12:13 pm
 Operator : thuy
 Sample : IC1318-0.25
 Misc : MS1855,VQ1318,50,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 20 09:11:03 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: VQ1318-IC1318 **Method:** SW846 8260B BY SIM
Lab FileID: Q30329.D **Analyst approved:** 07/20/15 09:20 Emily Amparo
Injection Time: 07/19/15 12:13 **Supervisor approved:** 07/20/15 14:20 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
cis-1,3-Dichloropropene	10061-01-5		13.69	Poor instrument integration

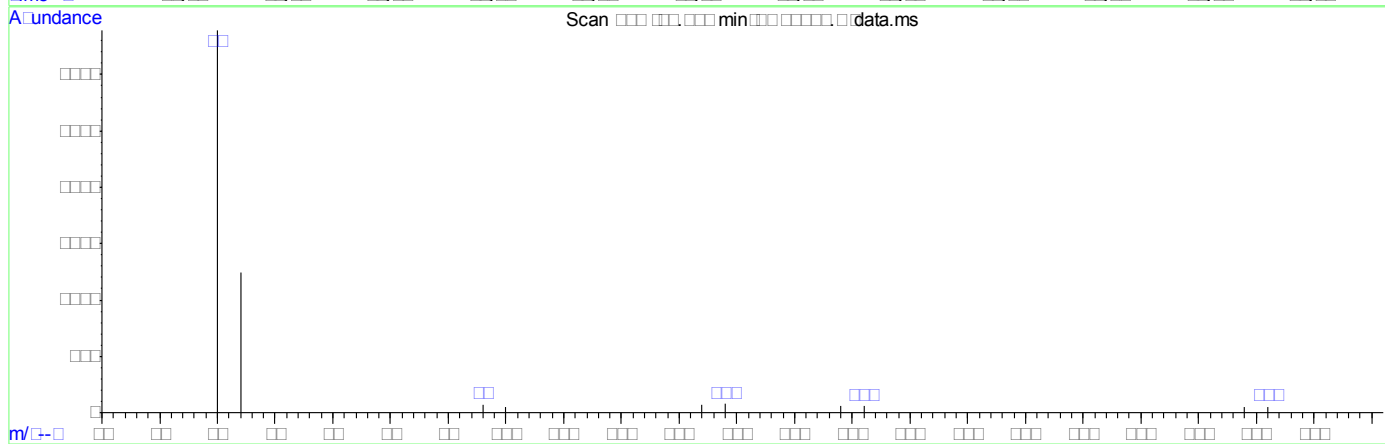
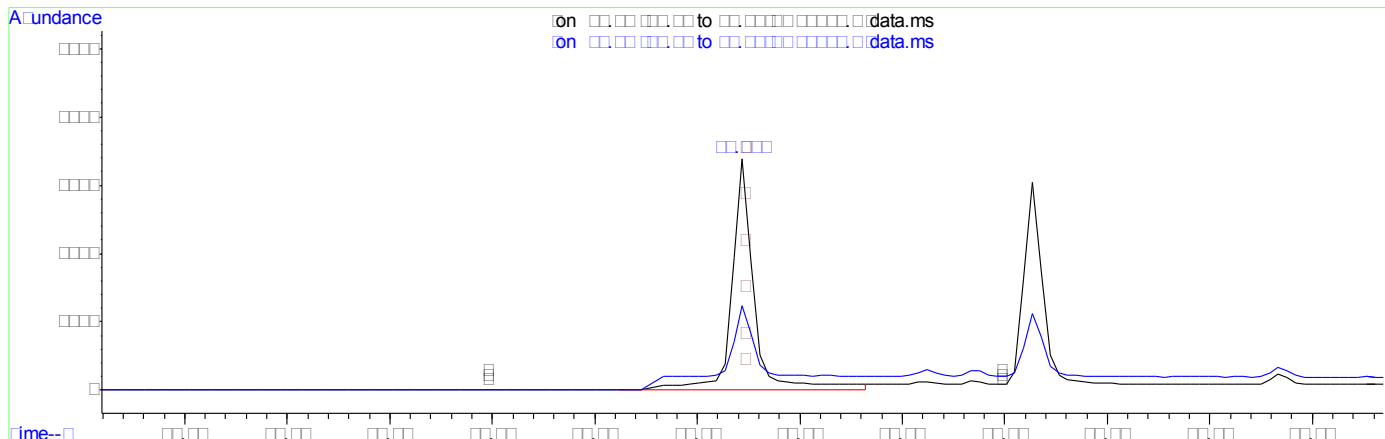
7.6.2.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30329.D
 Acq On : 19 Jul 2015 12:13 pm
 Operator : thuy
 Sample : IC1318-0.25
 Misc : MS1855,VQ1318,50,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 20 09:08:44 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration



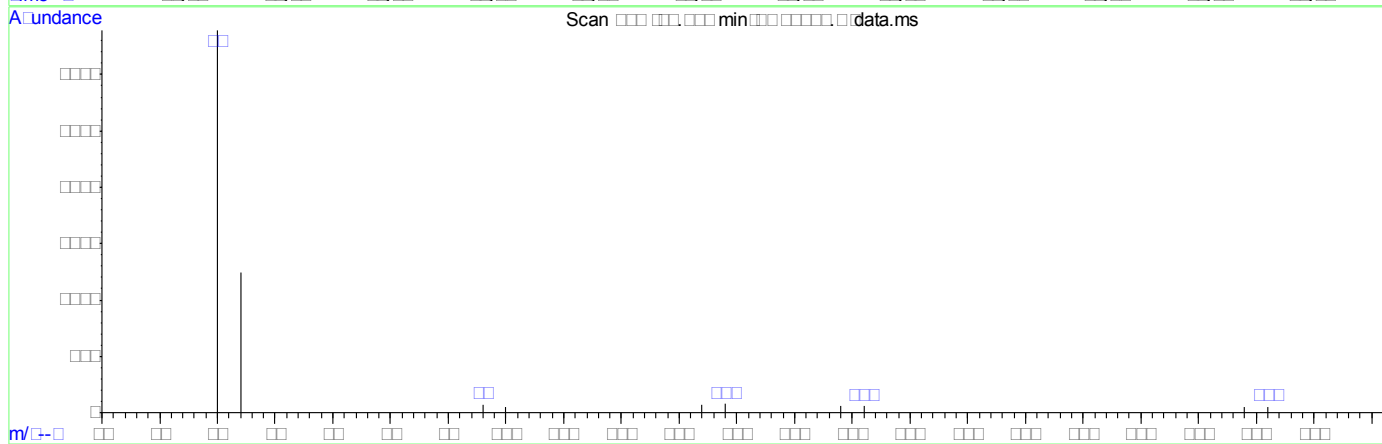
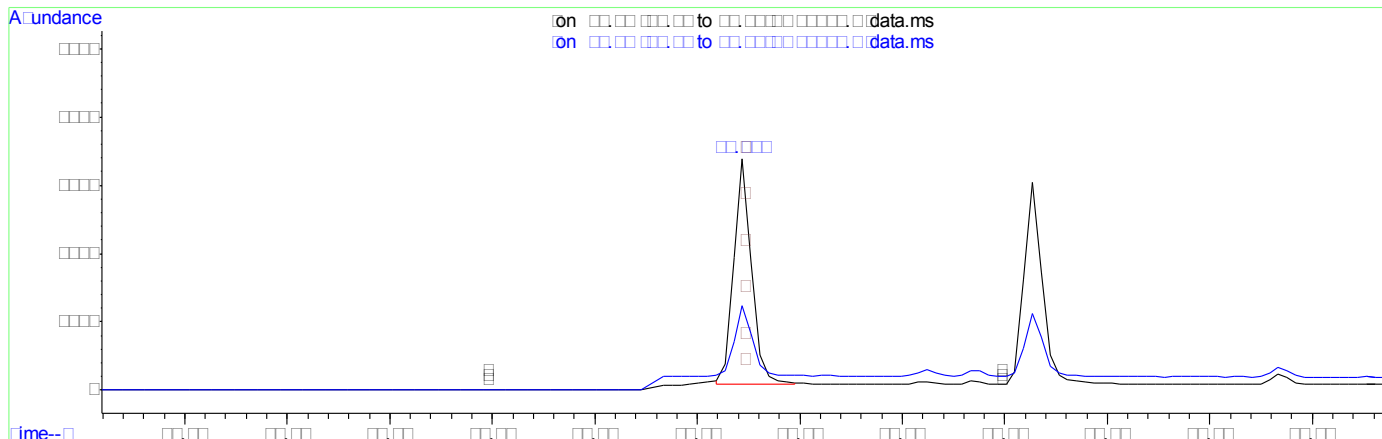
Scan	Abundance	Retention Time (min)	Peak Name
[]	[]	[]	cis-1,3-dichloropropene
[]	[]	[]	[]
[]	[]	[]	[]
[]	[]	[]	[]
[]	[]	[]	[]
[]	[]	[]	[]
[]	[]	[]	[]
[]	[]	[]	[]
[]	[]	[]	[]
[]	[]	[]	[]

7.6.22
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30329.D
 Acq On : 19 Jul 2015 12:13 pm
 Operator : thuy
 Sample : IC1318-0.25
 Misc : MS1855,VQ1318,50,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 20 09:08:44 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration



m/[] [](data.ms)

cis-chloropropene
 min ppm
 response
 Act

7.6.2.3
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30330.D
 Acq On : 19 Jul 2015 12:44 pm
 Operator : thuy
 Sample : IC1318-0.5
 Misc : MS1855,VQ1318,50,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 20 09:08:46 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration

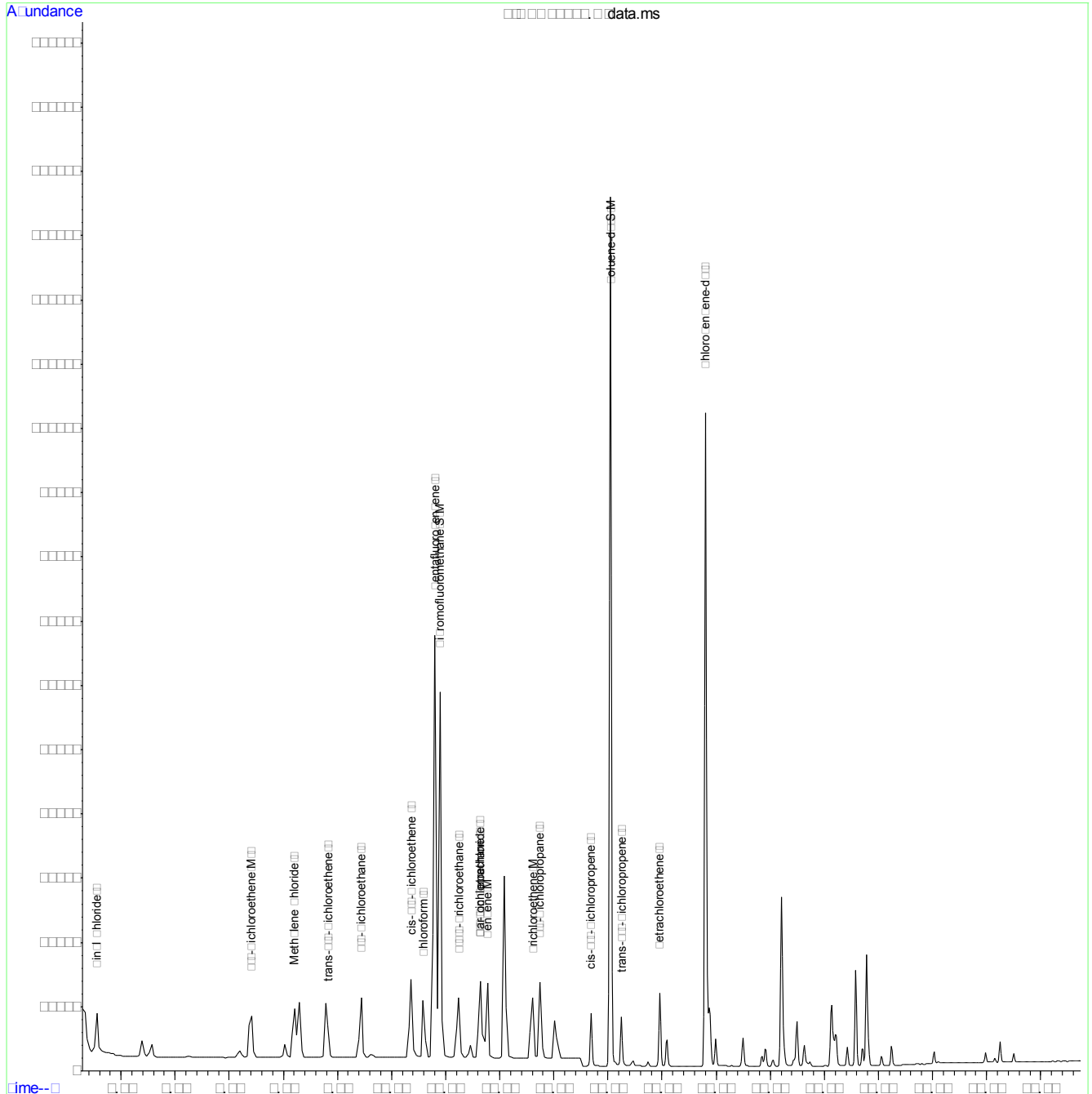
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	1214527	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	1749280	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	784497	4.25	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	85.00%		
18) Toluene-d8	14.048	98	1971374	5.41	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	108.20%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	133152	0.13	ppb		97
3) 1,1-Dichloroethene	7.414	96	73498	0.12	ppb		100
4) Methylene Chloride	8.206	84	182583	0.21	ppb	#	100
5) trans-1,2-Dichloroethene	8.823	96	84673	0.13	ppb		97
6) 1,1-Dichloroethane	9.439	63	192364	0.12	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	103219	0.13	ppb		96
8) Chloroform	10.584	83	182826	0.13	ppb		99
10) 1,1,1-Trichloroethane	11.244	97	140575	0.12	ppb		99
11) Carbon Tetrachloride	11.641	117	117538	0.13	ppb		100
12) 1,2-Dichloroethane	11.641	62	155554	0.12	ppb		99
13) Benzene	11.773	78	344345	0.12	ppb		100
14) Trichloroethene	12.609	95	83642	0.13	ppb		97
15) 1,2-Dichloropropane	12.741	63	115849	0.12	ppb	#	98
16) cis-1,3-Dichloropropene	13.688	75	197089	0.13	ppb	#	57
19) trans-1,3-Dichloropropene	14.254	75	140177	0.15	ppb		100
20) Tetrachloroethene	14.957	164	62340	0.16	ppb		100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30330.D
 Acq On : 19 Jul 2015 12:44 pm
 Operator : thuy
 Sample : IC1318-0.5
 Misc : MS1855,VQ1318,50,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jul 20 09:08:46 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration



7.6.3
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30331.D
 Acq On : 19 Jul 2015 1:15 pm
 Operator : thuy
 Sample : IC1318-1
 Misc : MS1855,VQ1318,50,,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 20 09:08:48 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration

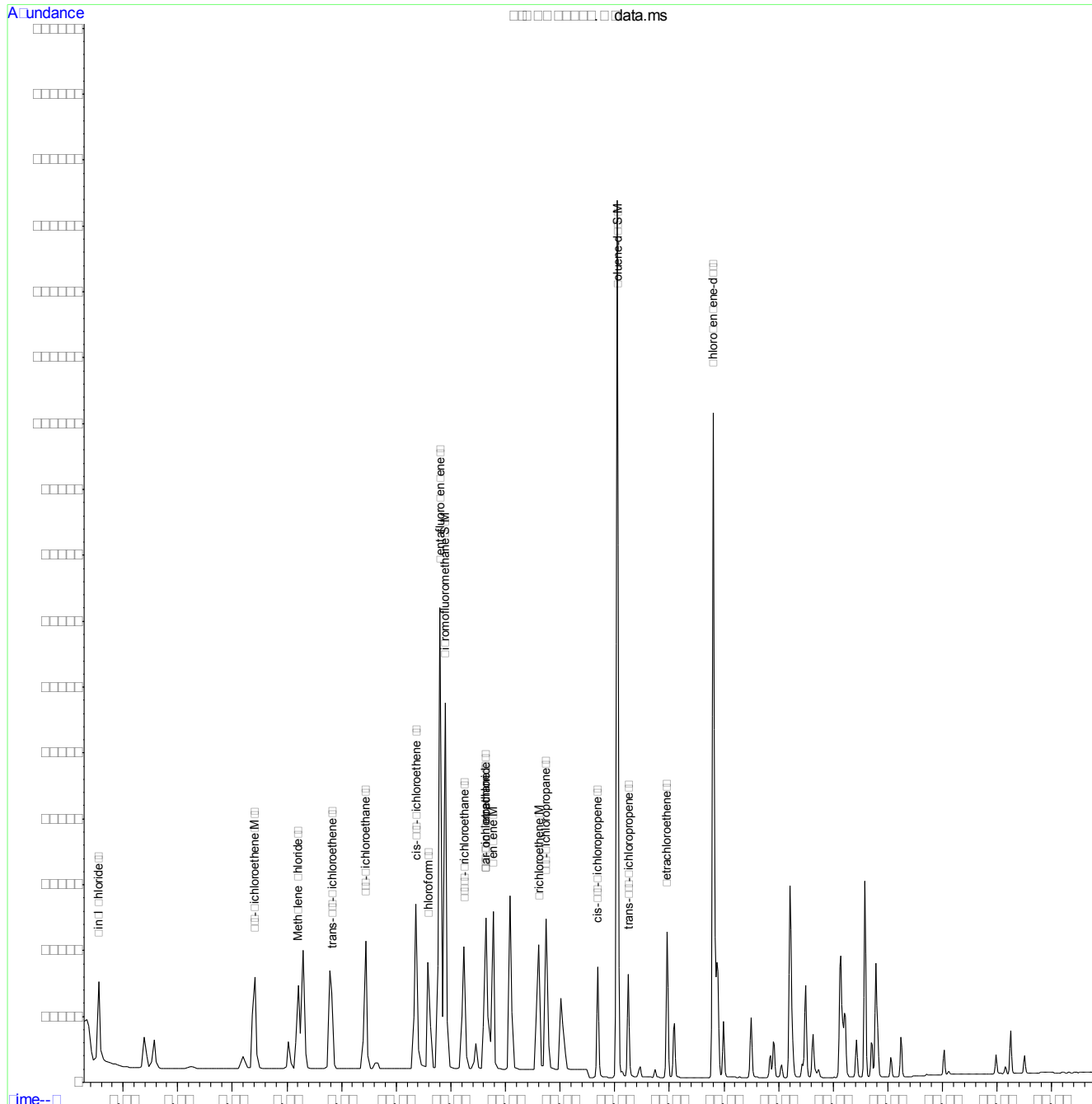
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1190527	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1778464	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	777282	4.29	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	85.80%	
18) Toluene-d8	14.048	98	1944191	5.25	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	105.00%	
Target Compounds						
2) Vinyl Chloride	4.551	62	261849	0.26	ppb	99
3) 1,1-Dichloroethene	7.414	96	142192	0.24	ppb	98
4) Methylene Chloride	8.206	84	274134	0.32	ppb	# 99
5) trans-1,2-Dichloroethene	8.823	96	165548	0.25	ppb	96
6) 1,1-Dichloroethane	9.439	63	381801	0.25	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	200575	0.25	ppb	98
8) Chloroform	10.584	83	354873	0.25	ppb	99
10) 1,1,1-Trichloroethane	11.244	97	273658	0.25	ppb	100
11) Carbon Tetrachloride	11.641	117	225565	0.25	ppb	100
12) 1,2-Dichloroethane	11.641	62	303474	0.25	ppb	99
13) Benzene	11.773	78	684543	0.25	ppb	100
14) Trichloroethene	12.609	95	159735	0.25	ppb	95
15) 1,2-Dichloropropane	12.741	63	225310	0.24	ppb	# 98
16) cis-1,3-Dichloropropene	13.688	75	369084	0.25	ppb	96
19) trans-1,3-Dichloropropene	14.254	75	281225	0.30	ppb	100
20) Tetrachloroethene	14.957	164	120737	0.31	ppb	100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30331.D
 Acq On : 19 Jul 2015 1:15 pm
 Operator : thuy
 Sample : IC1318-1
 Misc : MS1855,VQ1318,50,,,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jul 20 09:08:48 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration



7.6.4
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30332.D
 Acq On : 19 Jul 2015 1:45 pm
 Operator : thuy
 Sample : IC1318-2
 Misc : MS1855,VQ1318,50,,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 20 09:08:50 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration

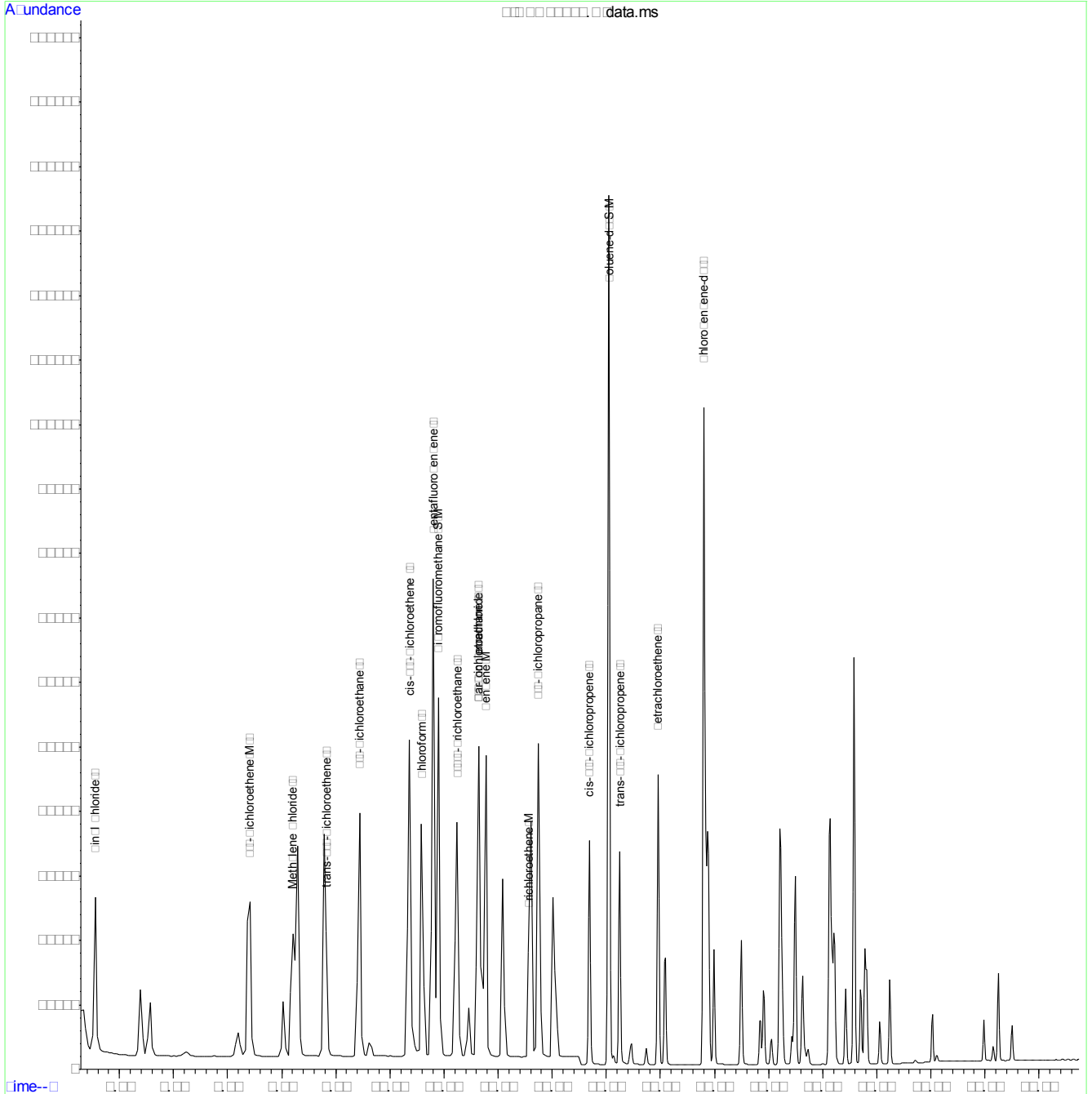
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1191516	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1712183	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	769192	4.25	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	85.00%	
18) Toluene-d8	14.048	98	1953502	5.48	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	109.60%	
Target Compounds						
2) Vinyl Chloride	4.551	62	516703	0.50	ppb	100
3) 1,1-Dichloroethene	7.414	96	278802	0.48	ppb	100
4) Methylene Chloride	8.206	84	467511	0.55	ppb #	99
5) trans-1,2-Dichloroethene	8.823	96	326921	0.50	ppb	99
6) 1,1-Dichloroethane	9.439	63	775268	0.51	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	412745	0.51	ppb	97
8) Chloroform	10.584	83	743163	0.52	ppb	99
10) 1,1,1-Trichloroethane	11.244	97	551593	0.50	ppb	100
11) Carbon Tetrachloride	11.641	117	444464	0.49	ppb	100
12) 1,2-Dichloroethane	11.641	62	635982	0.52	ppb	99
13) Benzene	11.773	78	1380234	0.50	ppb	100
14) Trichloroethene	12.565	95	324507	0.50	ppb	96
15) 1,2-Dichloropropane	12.742	63	472245	0.51	ppb	99
16) cis-1,3-Dichloropropene	13.688	75	744329	0.51	ppb	91
19) trans-1,3-Dichloropropene	14.254	75	592827	0.65	ppb	100
20) Tetrachloroethene	14.957	164	244767	0.65	ppb	100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30332.D
 Acq On : 19 Jul 2015 1:45 pm
 Operator : thuy
 Sample : IC1318-2
 Misc : MS1855,VQ1318,50,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jul 20 09:08:50 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration



7.6.5
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30333.D
 Acq On : 19 Jul 2015 2:16 pm
 Operator : thuy
 Sample : IC1318-5
 Misc : MS1855,VQ1318,50,,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 20 09:08:52 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration

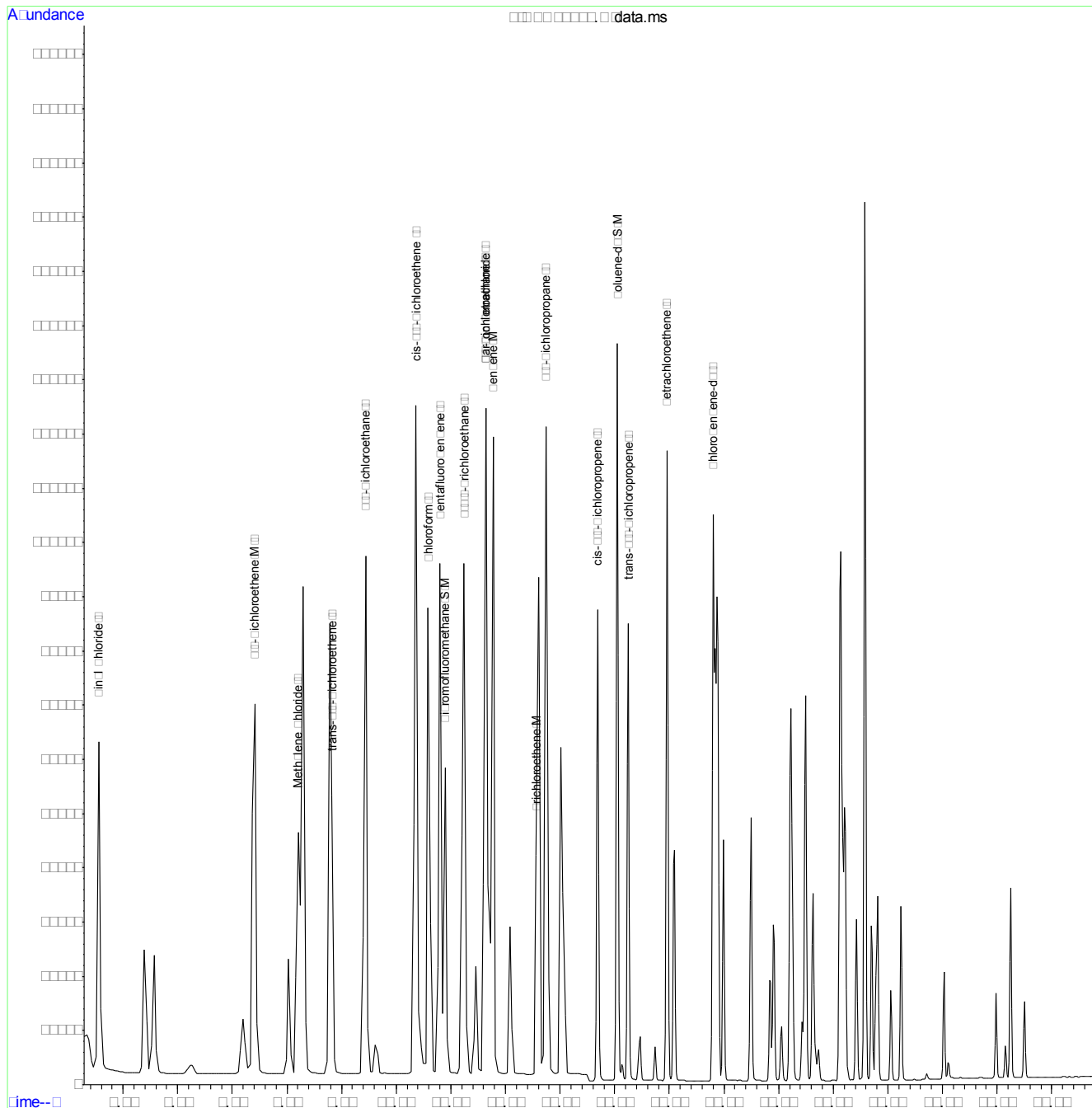
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	1202817	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	1775911	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	777833	4.25	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	85.00%		
18) Toluene-d8	14.048	98	1956456	5.29	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	105.80%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	1352202	1.31	ppb		98
3) 1,1-Dichloroethene	7.413	96	729699	1.24	ppb		99
4) Methylene Chloride	8.206	84	1017250	1.19	ppb	#	99
5) trans-1,2-Dichloroethene	8.822	96	821193	1.24	ppb		99
6) 1,1-Dichloroethane	9.439	63	1909162	1.24	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	1009681	1.24	ppb		97
8) Chloroform	10.584	83	1803746	1.25	ppb		100
10) 1,1,1-Trichloroethane	11.244	97	1413799	1.26	ppb		100
11) Carbon Tetrachloride	11.640	117	1175276	1.28	ppb		100
12) 1,2-Dichloroethane	11.640	62	1547434	1.25	ppb		100
13) Benzene	11.773	78	3421457	1.23	ppb		100
14) Trichloroethene	12.565	95	805700	1.23	ppb		95
15) 1,2-Dichloropropane	12.741	63	1160148	1.24	ppb		99
16) cis-1,3-Dichloropropene	13.688	75	1803035	1.23	ppb		98
19) trans-1,3-Dichloropropene	14.254	75	1485013	1.56	ppb		100
20) Tetrachloroethene	14.956	164	623931	1.60	ppb		100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30333.D
 Acq On : 19 Jul 2015 2:16 pm
 Operator : thuy
 Sample : IC1318-5
 Misc : MS1855,VQ1318,50,,,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jul 20 09:08:52 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30334.D
 Acq On : 19 Jul 2015 2:47 pm
 Operator : thuy
 Sample : ICC1318-10
 Misc : MS1855,VQ1318,50,,,,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 20 09:08:54 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration

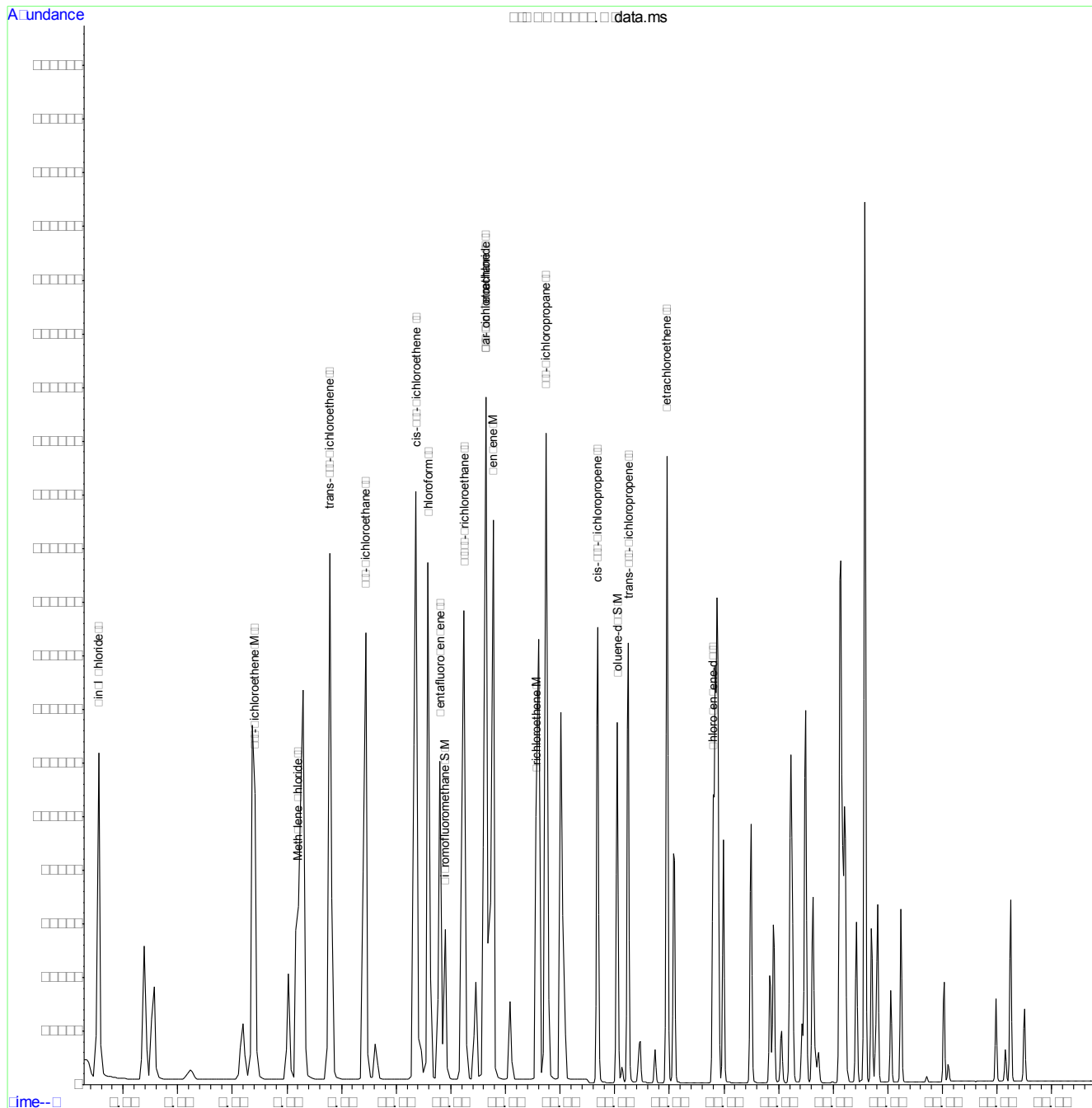
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	1161450	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	1686726	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	760500	4.31	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	86.20%		
18) Toluene-d8	14.048	98	1936352	5.51	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	110.20%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	2693338	2.69	ppb	100	
3) 1,1-Dichloroethene	7.414	96	1473914	2.59	ppb	100	
4) Methylene Chloride	8.206	84	1920365	2.32	ppb	#	100
5) trans-1,2-Dichloroethene	8.779	96	1632097	2.55	ppb	100	
6) 1,1-Dichloroethane	9.439	63	3750689	2.52	ppb	100	
7) cis-1,2-Dichloroethene	10.364	96	1982092	2.53	ppb	100	
8) Chloroform	10.584	83	3681884	2.64	ppb	100	
10) 1,1,1-Trichloroethane	11.244	97	2817726	2.60	ppb	100	
11) Carbon Tetrachloride	11.641	117	2375317	2.67	ppb	100	
12) 1,2-Dichloroethane	11.641	62	3177718	2.65	ppb	100	
13) Benzene	11.773	78	6582388	2.45	ppb	100	
14) Trichloroethene	12.565	95	1645613	2.61	ppb	100	
15) 1,2-Dichloropropane	12.741	63	2301242	2.55	ppb	100	
16) cis-1,3-Dichloropropene	13.688	75	3593109	2.54	ppb	100	
19) trans-1,3-Dichloropropene	14.254	75	2985104	3.31	ppb	100	
20) Tetrachloroethene	14.957	164	1255996	3.40	ppb	100	

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30334.D
 Acq On : 19 Jul 2015 2:47 pm
 Operator : thuy
 Sample : ICC1318-10
 Misc : MS1855,VQ1318,50,,,,,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jul 20 09:08:54 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30335.D
 Acq On : 19 Jul 2015 3:18 pm
 Operator : thuy
 Sample : IC1318-15
 Misc : MS1855,VQ1318,50,,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 20 09:08:56 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:06:26 2015
 Response via : Initial Calibration

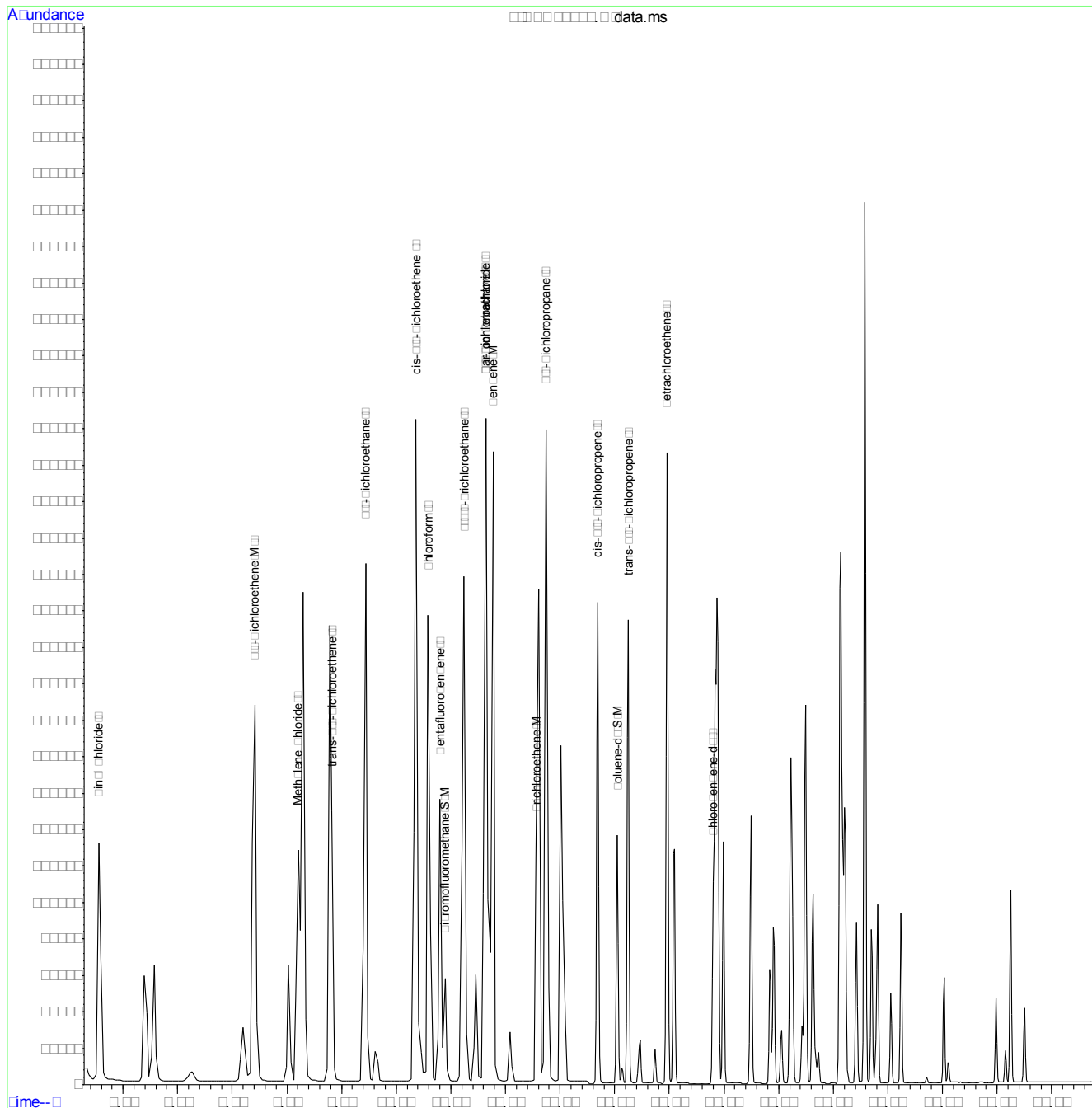
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	1190316	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	1698173	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	772734	4.27	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	85.40%		
18) Toluene-d8	14.048	98	1945717	5.50	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	110.00%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	3742155	3.65	ppb		98
3) 1,1-Dichloroethene	7.414	96	2140575	3.67	ppb		100
4) Methylene Chloride	8.206	84	2844287	3.35	ppb	#	99
5) trans-1,2-Dichloroethene	8.823	96	2405480	3.66	ppb		99
6) 1,1-Dichloroethane	9.439	63	5636349	3.70	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	2993239	3.73	ppb		97
8) Chloroform	10.584	83	5330605	3.73	ppb		100
10) 1,1,1-Trichloroethane	11.244	97	4158482	3.74	ppb		100
11) Carbon Tetrachloride	11.641	117	3461693	3.80	ppb		100
12) 1,2-Dichloroethane	11.641	62	4521276	3.68	ppb		99
13) Benzene	11.773	78	10043880	3.65	ppb		100
14) Trichloroethene	12.565	95	2392610	3.70	ppb		95
15) 1,2-Dichloropropane	12.741	63	3440172	3.72	ppb		99
16) cis-1,3-Dichloropropene	13.688	75	5416466	3.73	ppb		99
19) trans-1,3-Dichloropropene	14.254	75	4510773	4.96	ppb		100
20) Tetrachloroethene	14.957	164	1858929	5.00	ppb		100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
Data File : Q30335.D
Acq On : 19 Jul 2015 3:18 pm
Operator : thuy
Sample : IC1318-15
Misc : MS1855,VQ1318,50,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jul 20 09:08:56 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:06:26 2015
Response via : Initial Calibration



7.6.8
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
 Data File : Q30337.D
 Acq On : 19 Jul 2015 4:20 pm
 Operator : thuy
 Sample : ICV1318-10
 Misc : MS1855,VQ1318,50,,,,1
 ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 20 09:13:58 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1209822	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1675567	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	778756	4.98	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.60%	
18) Toluene-d8	14.048	98	1952840	5.15	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	103.00%	
Target Compounds						
						Qvalue
2) Vinyl Chloride	4.551	62	2228918	8.15	ppb	98
3) 1,1-Dichloroethene	7.414	96	1290291	8.52	ppb	99
4) Methylene Chloride	8.206	84	1787521	9.09	ppb	# 99
5) trans-1,2-Dichloroethene	8.823	96	1405201	8.14	ppb	98
6) 1,1-Dichloroethane	9.439	63	3427255	8.70	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	1970917	9.39	ppb	96
8) Chloroform	10.584	83	3269853	8.72	ppb	90
10) 1,1,1-Trichloroethane	11.244	97	2628362	9.13	ppb	100
11) Carbon Tetrachloride	11.641	117	2178646	9.09	ppb	100
12) 1,2-Dichloroethane	11.641	62	2754972	8.67	ppb	99
13) Benzene	11.773	78	6328118	8.98	ppb	100
14) Trichloroethene	12.565	95	1480362	8.67	ppb	95
15) 1,2-Dichloropropane	12.741	63	2136433	8.99	ppb	98
16) cis-1,3-Dichloropropene	13.688	75	3387908	9.43	ppb	100
19) trans-1,3-Dichloropropene	14.254	75	2619988	9.20	ppb	100
20) Tetrachloroethene	14.957	164	1105029	9.01	ppb	100

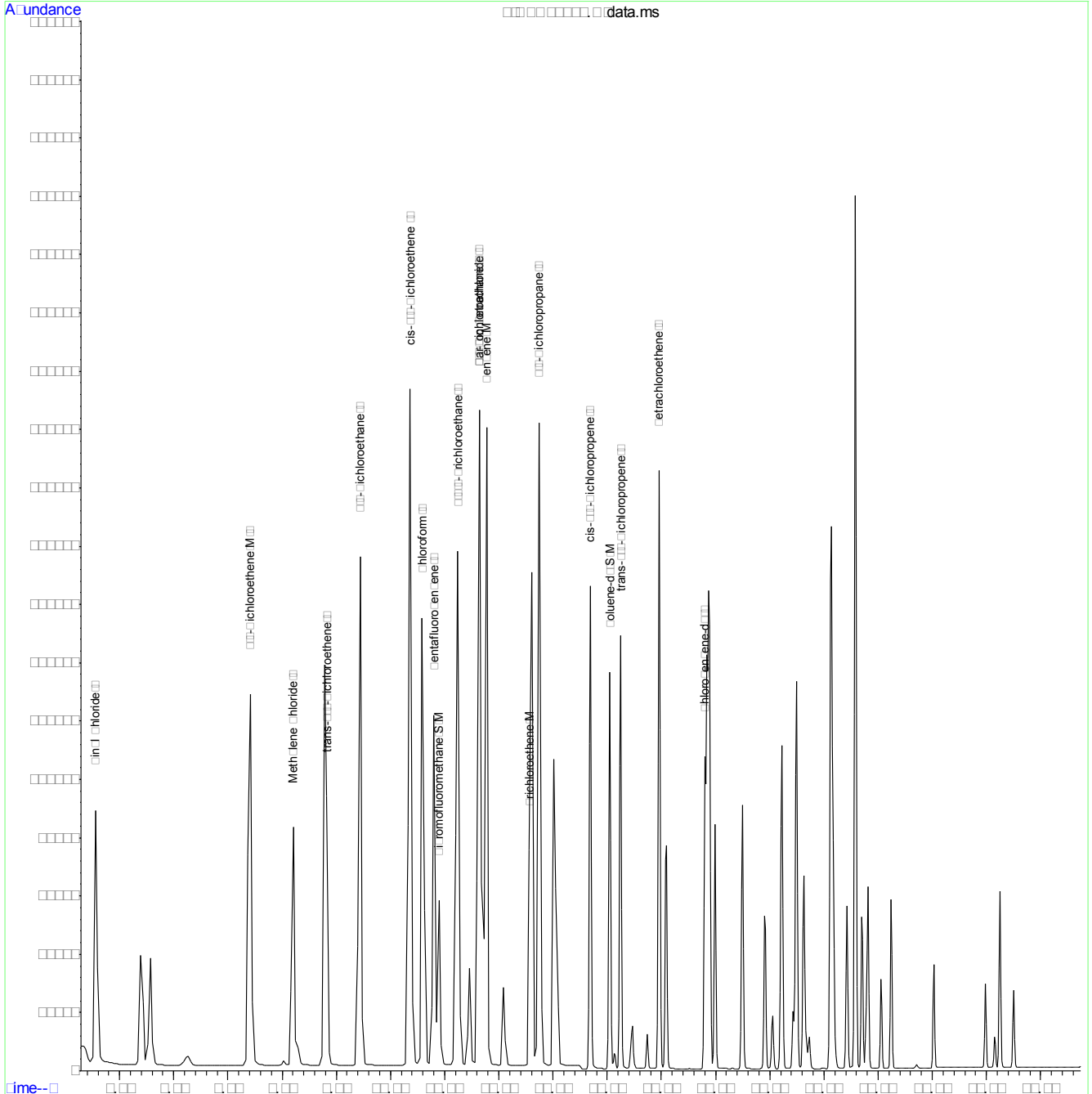
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.9
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150718\
Data File : Q30337.D
Acq On : 19 Jul 2015 4:20 pm
Operator : thuy
Sample : ICV1318-10
Misc : MS1855,VQ1318,50,,,,,1
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 20 09:13:58 2015
Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Mon Jul 20 09:13:48 2015
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30340.D
 Acq On : 20 Jul 2015 10:59 am
 Operator : emilya
 Sample : CC1318-10
 Misc : MS1855,VQ1319,50,,,,1
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 20 11:27:54 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

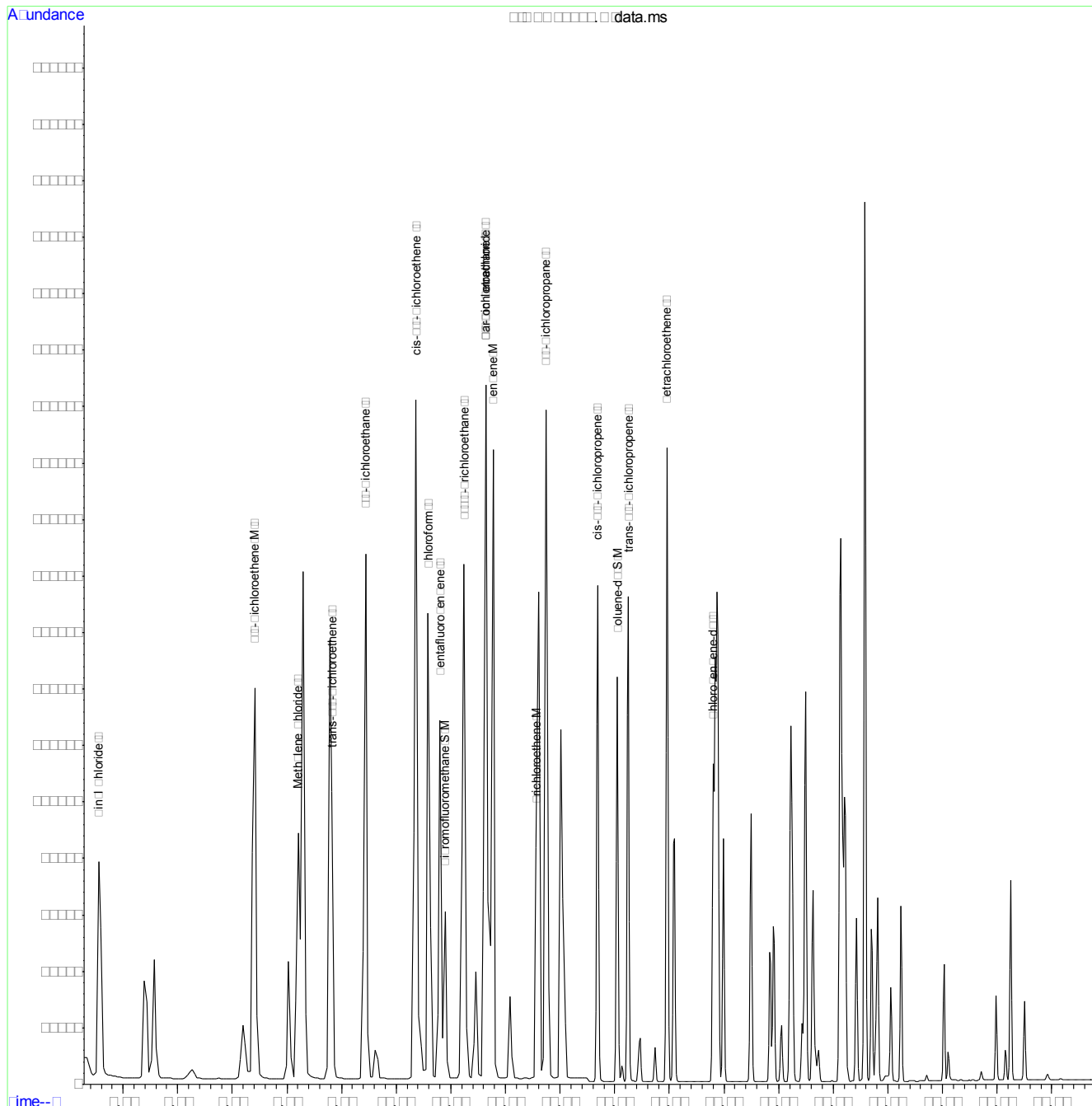
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	1252820	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	1765267	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	812631	5.01	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.20%		
18) Toluene-d8	14.048	98	2040715	5.11	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	102.20%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	2401657	8.48	ppb		99
3) 1,1-Dichloroethene	7.414	96	1398331	8.91	ppb		99
4) Methylene Chloride	8.206	84	1882483	9.25	ppb	#	99
5) trans-1,2-Dichloroethene	8.823	96	1564817	8.75	ppb		99
6) 1,1-Dichloroethane	9.439	63	3657915	8.97	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	1943772	8.94	ppb		97
8) Chloroform	10.584	83	3452884	8.89	ppb		99
10) 1,1,1-Trichloroethane	11.244	97	2712198	9.10	ppb		100
11) Carbon Tetrachloride	11.641	117	2291011	9.23	ppb		100
12) 1,2-Dichloroethane	11.641	62	2992362	9.09	ppb		100
13) Benzene	11.773	78	6497266	8.91	ppb		100
14) Trichloroethene	12.565	95	1543800	8.73	ppb		95
15) 1,2-Dichloropropane	12.741	63	2264115	9.20	ppb		99
16) cis-1,3-Dichloropropene	13.688	75	3619063	9.73	ppb		100
19) trans-1,3-Dichloropropene	14.254	75	3044235	10.15	ppb		100
20) Tetrachloroethene	14.957	164	1197795	9.27	ppb		100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150720\
 Data File : Q30340.D
 Acq On : 20 Jul 2015 10:59 am
 Operator : emilya
 Sample : CC1318-10
 Misc : MS1855,VQ1319,50,,,1
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 20 11:27:54 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration



7.6.10
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30365.D
 Acq On : 21 Jul 2015 10:04 am
 Operator : emilya
 Sample : CC1318-10
 Misc : MS1855,VQ1320,50,,,,1
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 21 10:30:59 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

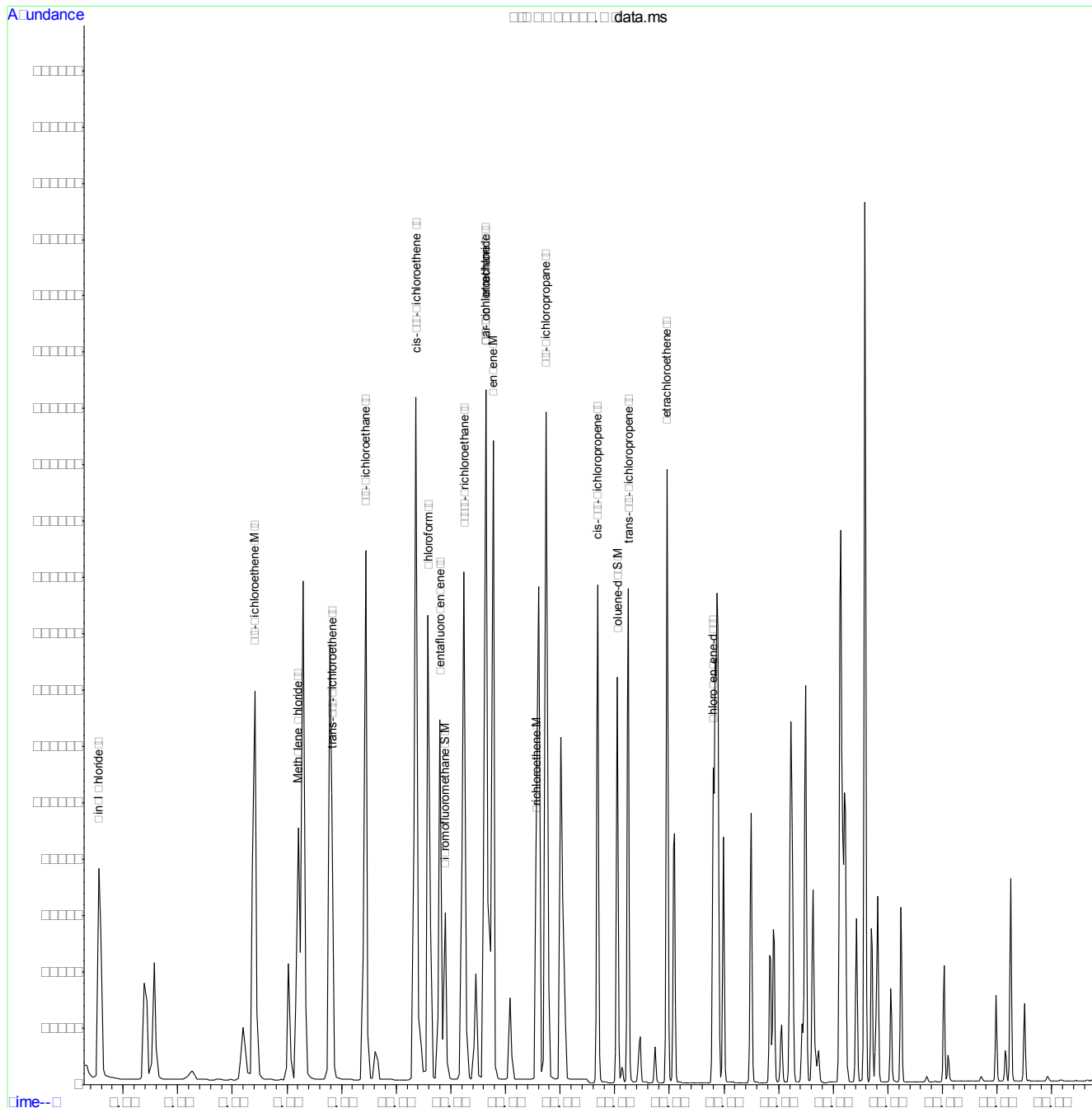
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	1255389	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	1760629	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	809223	4.98	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.60%	
18) Toluene-d8	14.048	98	2041797	5.12	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	102.40%	
Target Compounds						
						Qvalue
2) Vinyl Chloride	4.551	62	2372003	8.36	ppb	98
3) 1,1-Dichloroethene	7.413	96	1375170	8.75	ppb	98
4) Methylene Chloride	8.206	84	1928366	9.45	ppb	# 99
5) trans-1,2-Dichloroethene	8.822	96	1569559	8.76	ppb	97
6) 1,1-Dichloroethane	9.439	63	3671667	8.99	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	1953042	8.97	ppb	97
8) Chloroform	10.584	83	3449846	8.87	ppb	99
10) 1,1,1-Trichloroethane	11.244	97	2677324	8.97	ppb	100
11) Carbon Tetrachloride	11.641	117	2239412	9.00	ppb	100
12) 1,2-Dichloroethane	11.641	62	3011695	9.13	ppb	100
13) Benzene	11.773	78	6558025	8.97	ppb	100
14) Trichloroethene	12.565	95	1525623	8.61	ppb	93
15) 1,2-Dichloropropane	12.741	63	2262220	9.18	ppb	99
16) cis-1,3-Dichloropropene	13.688	75	3617162	9.71	ppb	100
19) trans-1,3-Dichloropropene	14.254	75	3068192	10.26	ppb	100
20) Tetrachloroethene	14.956	164	1166394	9.05	ppb	100

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

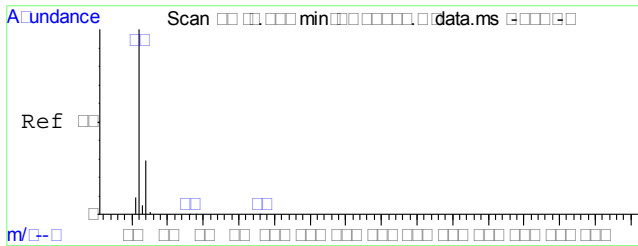
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150721\
 Data File : Q30365.D
 Acq On : 21 Jul 2015 10:04 am
 Operator : emilya
 Sample : CC1318-10
 Misc : MS1855,VQ1320,50,,,,,1
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 21 10:30:59 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

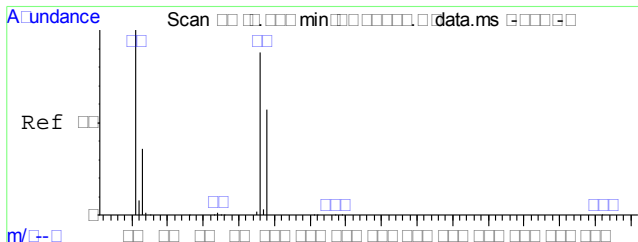
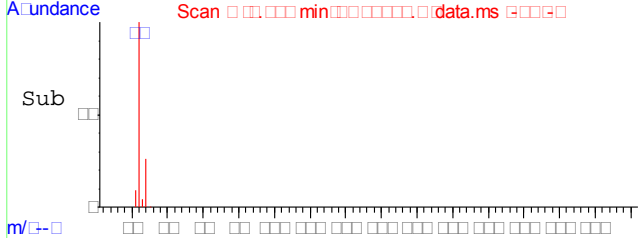
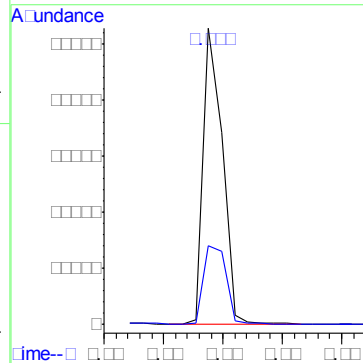
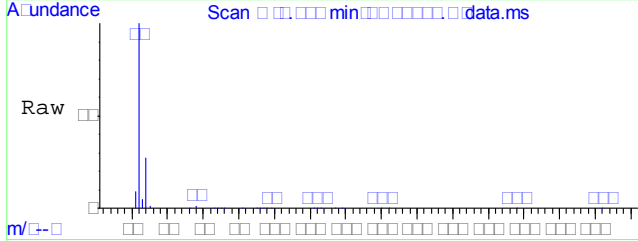


7.6.11
7



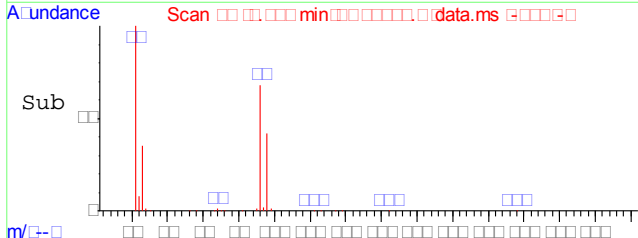
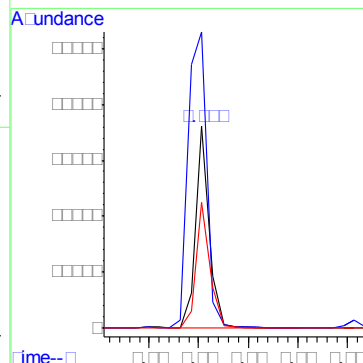
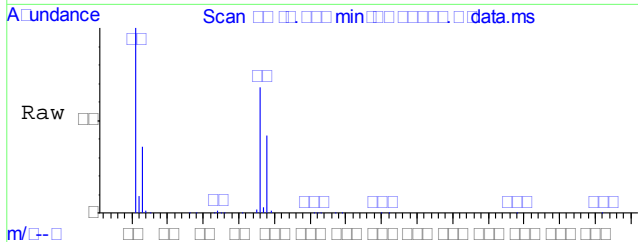
#2
 Vinyl Chloride
 Concen: 8.36 ppb
 RT: 4.551 min Scan# 7
 Delta R.T. 0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion: 62 Resp: 2372003
 Ion Ratio Lower Upper
 62 100
 64 31.1 12.0 52.0

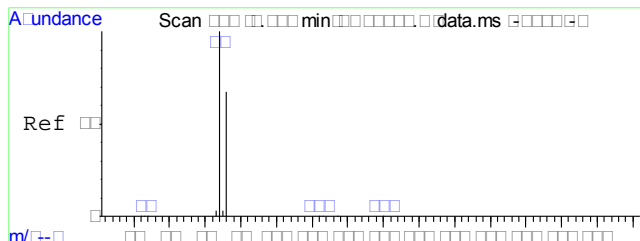


#3
 1,1-Dichloroethene
 Concen: 8.75 ppb
 RT: 7.413 min Scan# 72
 Delta R.T. -0.001 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion: 96 Resp: 1375170
 Ion Ratio Lower Upper
 96 100
 61 205.5 189.1 229.1
 98 63.4 43.5 83.5

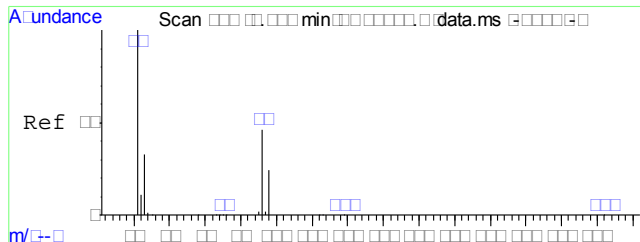
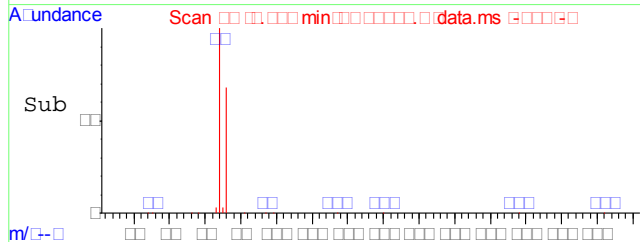
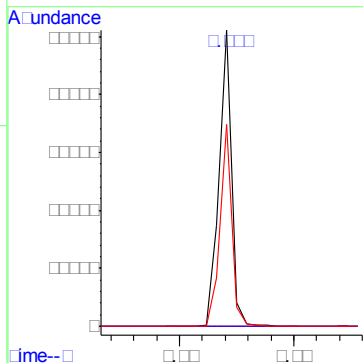
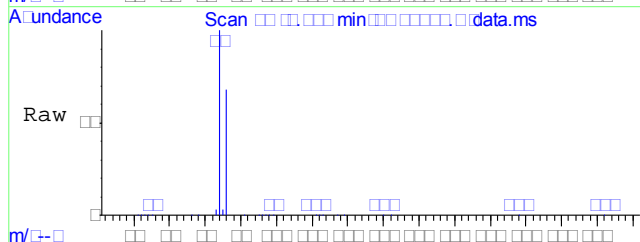


7.6.11
 7



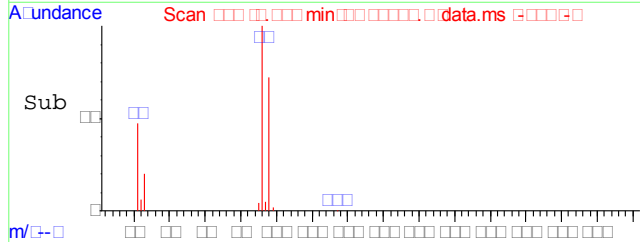
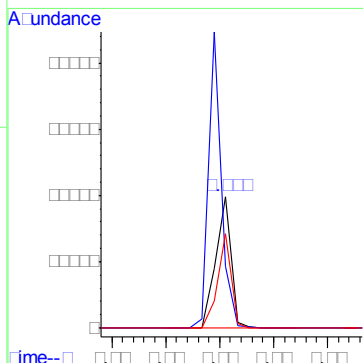
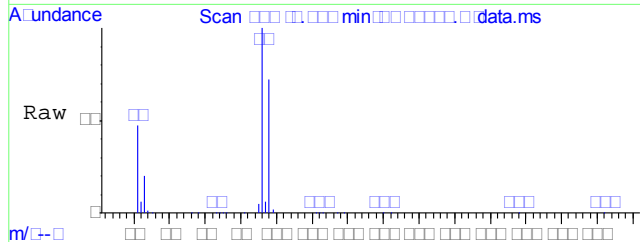
#4
 Methylene Chloride
 Concen: 9.45 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. 0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion	Resp	Lower	Upper
84	1928366		
49	0.0	0.0	20.0
86	64.2	43.8	83.8

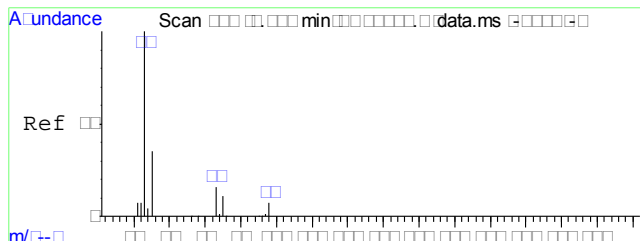


#5
 trans-1,2-Dichloroethene
 Concen: 8.76 ppb
 RT: 8.822 min Scan# 104
 Delta R.T. 0.043 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion	Resp	Lower	Upper
96	1569559		
61	188.0	172.8	212.8
98	64.7	43.1	83.1

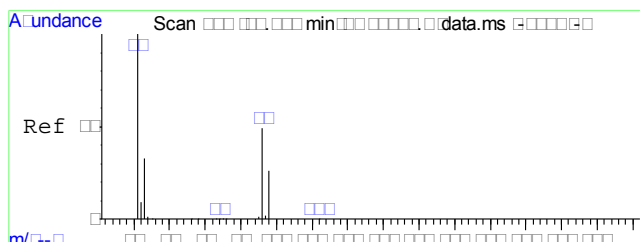
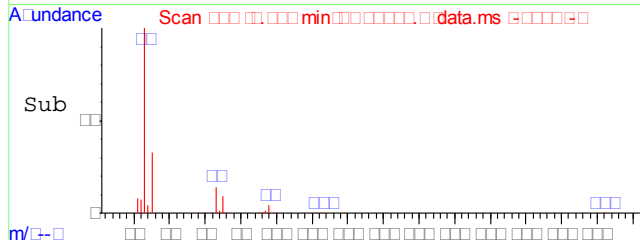
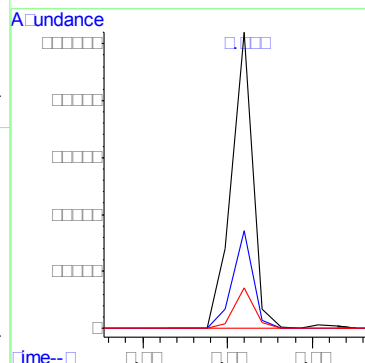
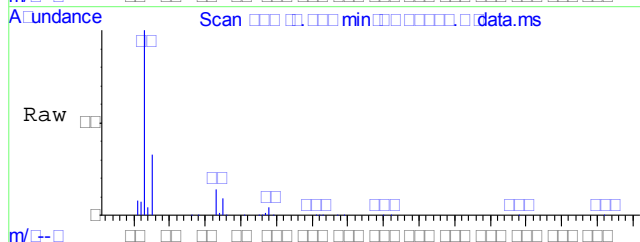


7.6.11
7



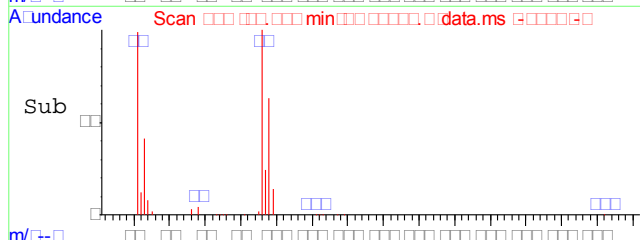
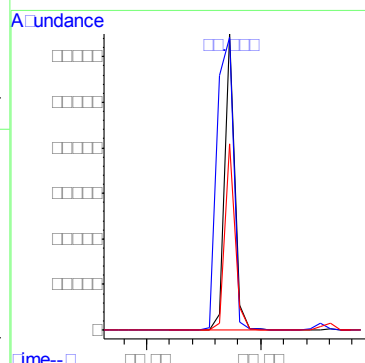
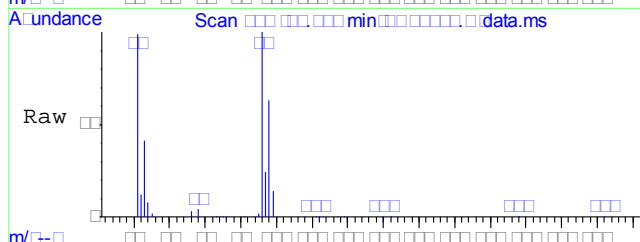
#6
 1,1-Dichloroethane
 Concen: 8.99 ppb
 RT: 9.439 min Scan# 118
 Delta R.T. -0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion	Resp	Lower	Upper
63	100		
65	31.7	11.6	51.6
83	12.7	0.0	42.7

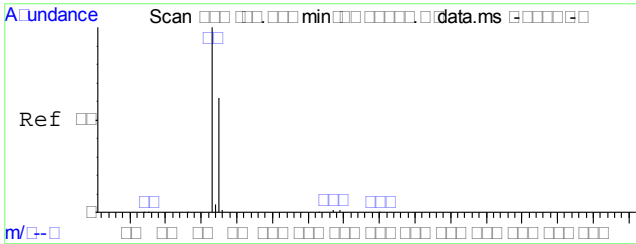


#7
 cis-1,2-Dichloroethene
 Concen: 8.97 ppb
 RT: 10.364 min Scan# 139
 Delta R.T. -0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion	Resp	Lower	Upper
96	100		
61	165.9	151.6	191.6
98	63.9	45.2	85.2

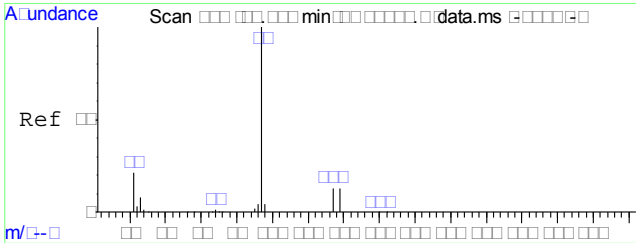
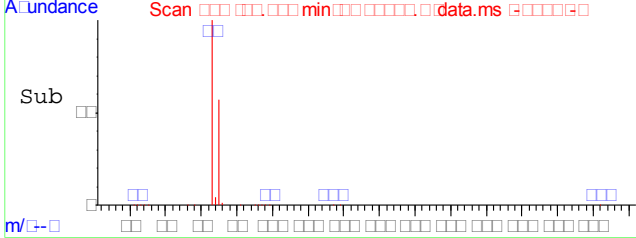
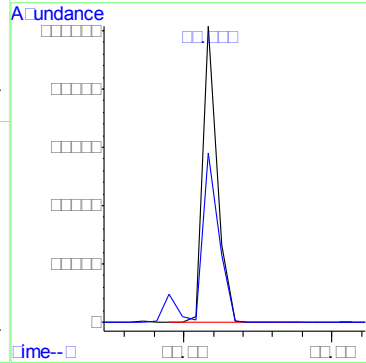
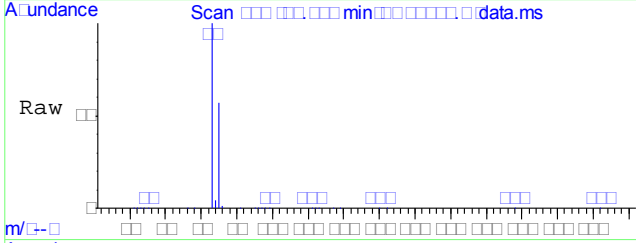


7.6.11
 7



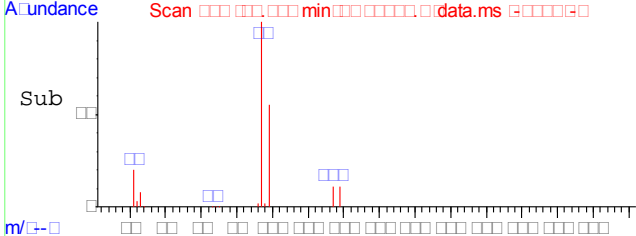
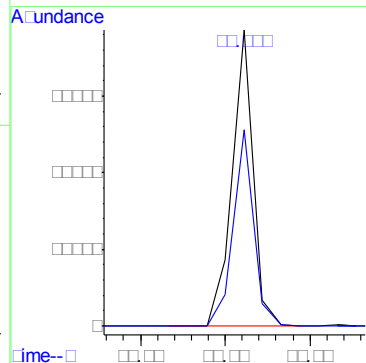
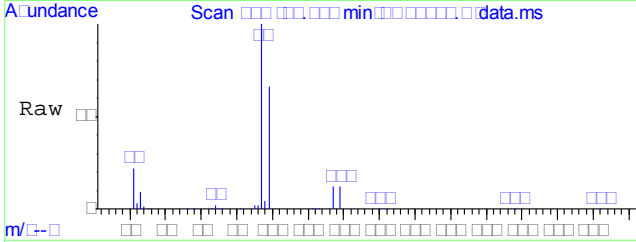
#8
 Chloroform
 Concen: 8.87 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

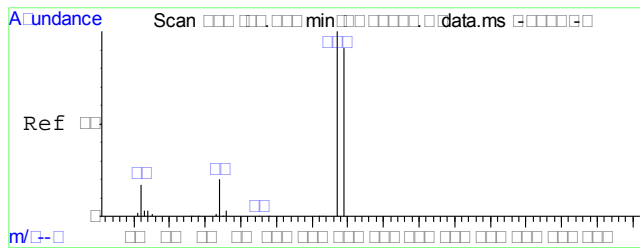
Tgt Ion: 83 Resp: 3449846
 Ion Ratio Lower Upper
 83 100
 85 72.2 51.3 91.3



#10
 1,1,1-Trichloroethane
 Concen: 8.97 ppb
 RT: 11.244 min Scan# 159
 Delta R.T. 0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

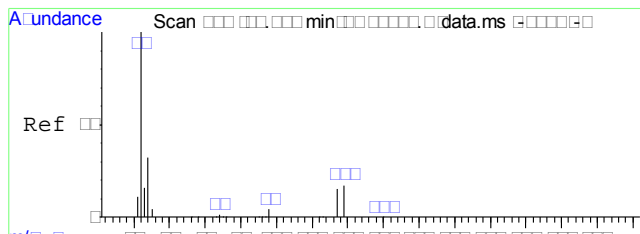
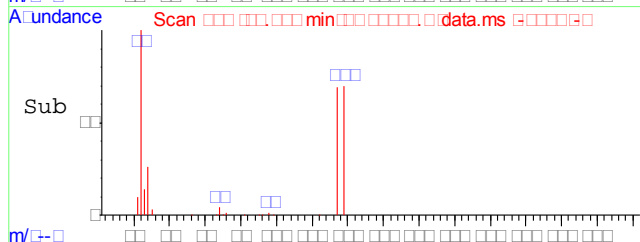
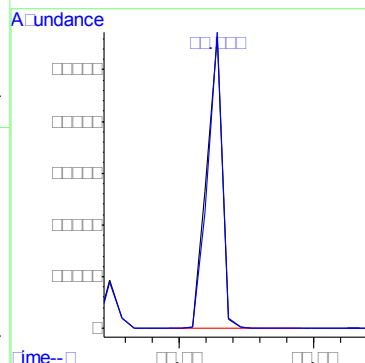
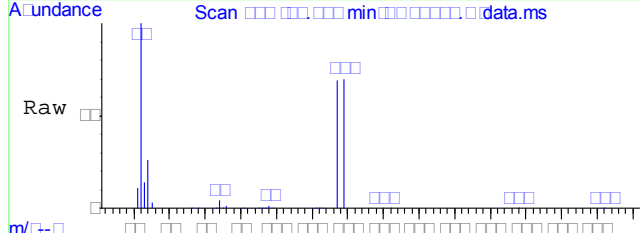
Tgt Ion: 97 Resp: 2677324
 Ion Ratio Lower Upper
 97 100
 99 64.4 1.6 127.6





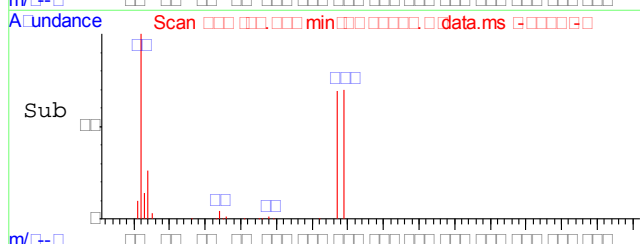
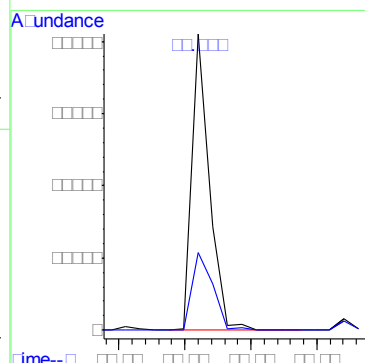
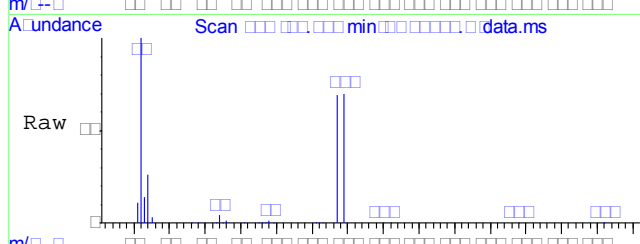
#11
 Carbon Tetrachloride
 Concen: 9.00 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

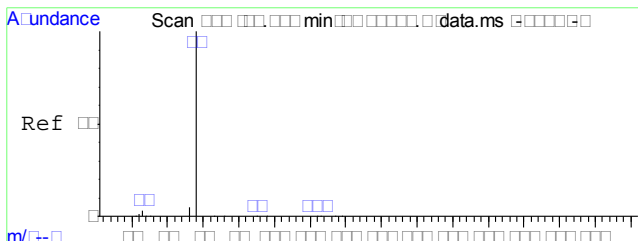
Tgt Ion: 117 Resp: 2239412
 Ion Ratio Lower Upper
 117 100
 119 96.3 76.1 116.1



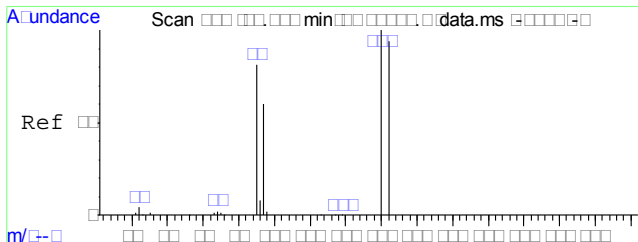
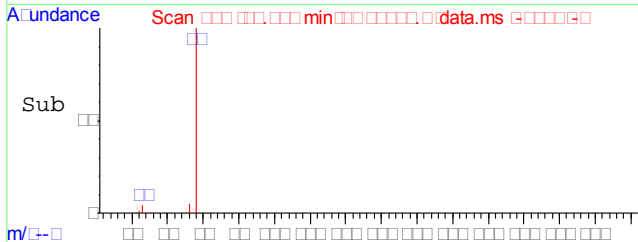
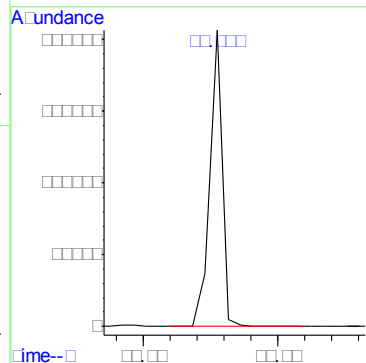
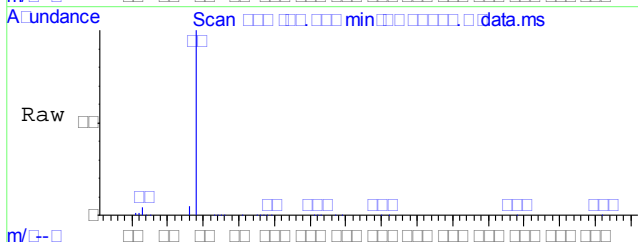
#12
 1,2-Dichloroethane
 Concen: 9.13 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion: 62 Resp: 3011695
 Ion Ratio Lower Upper
 62 100
 64 30.5 10.4 50.4





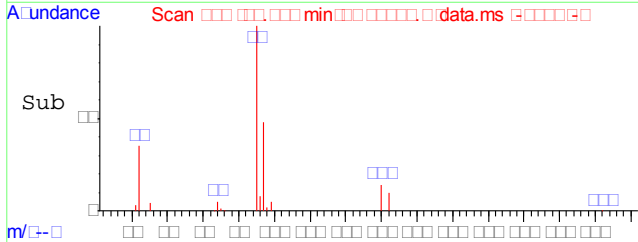
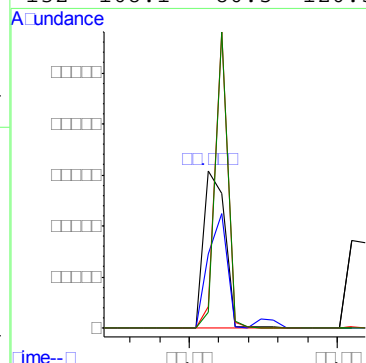
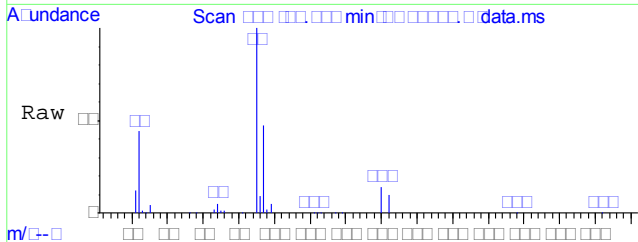
#13
 Benzene
 Concen: 8.97 ppb
 RT: 11.773 min Scan# 171
 Delta R.T. -0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am
 Tgt Ion: 78 Resp: 6558025



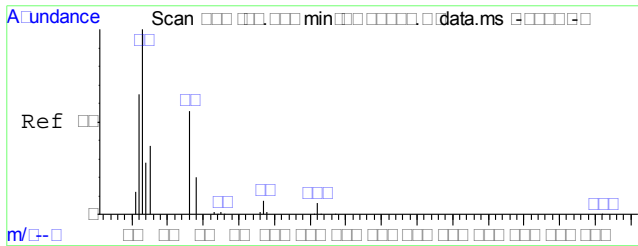
#14
 Trichloroethene
 Concen: 8.61 ppb
 RT: 12.565 min Scan# 189
 Delta R.T. 0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion: 95 Resp: 1525623

Ion	Ratio	Lower	Upper
95	100		
97	64.3	42.8	82.8
130	109.7	81.2	121.2
132	108.1	80.5	120.5

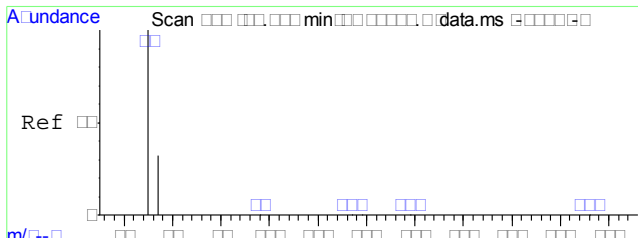
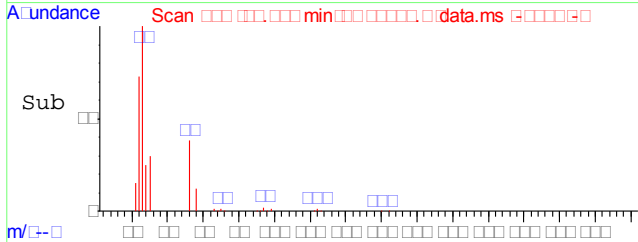
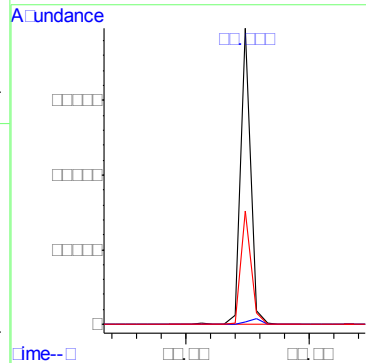
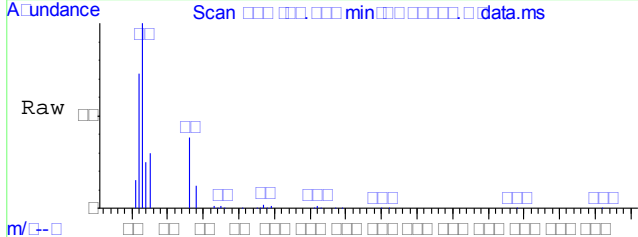


7.6.11
 7



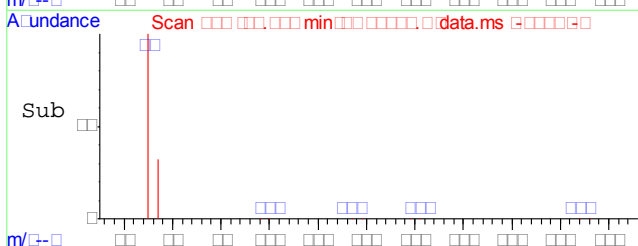
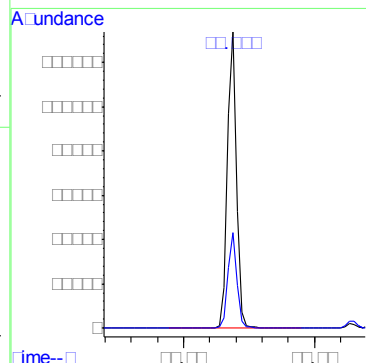
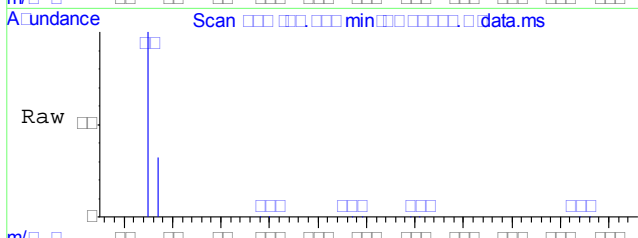
#15
 1,2-Dichloropropane
 Concen: 9.18 ppb
 RT: 12.741 min Scan# 193
 Delta R.T. 0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion	Ratio	Lower	Upper
63	100		
112	2.5	0.0	22.5
76	39.3	10.2	70.2

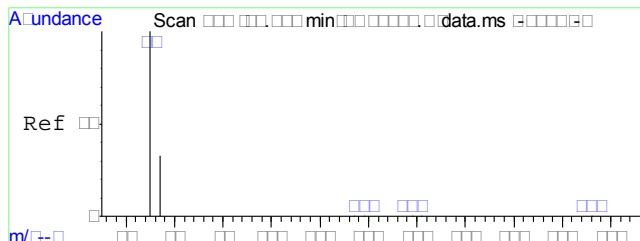


#16
 cis-1,3-Dichloropropene
 Concen: 9.71 ppb
 RT: 13.688 min Scan# 220
 Delta R.T. 0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion	Ratio	Lower	Upper
75	100		
77	32.5	12.7	52.7

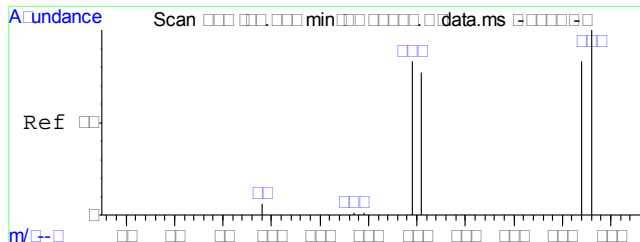
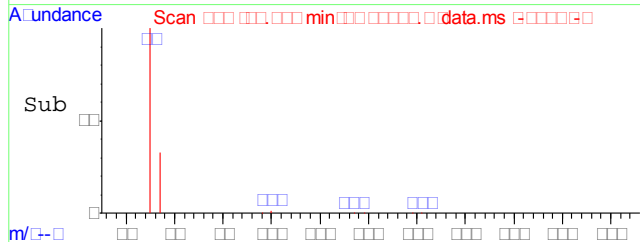
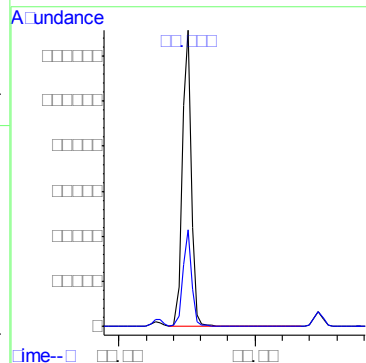
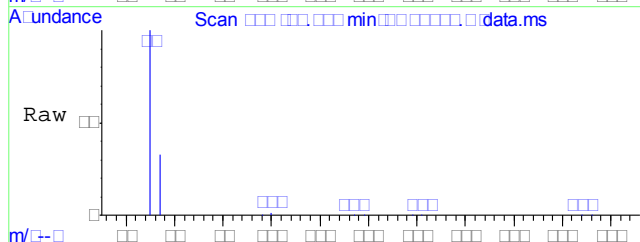


7.6.11
7



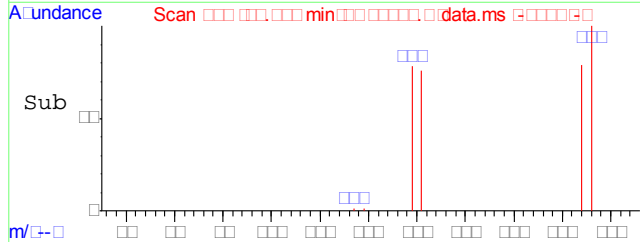
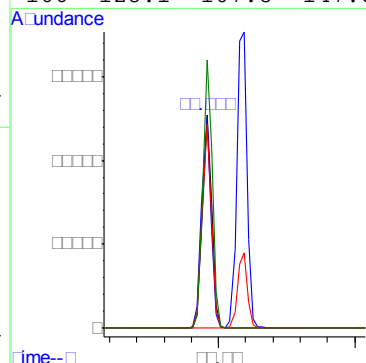
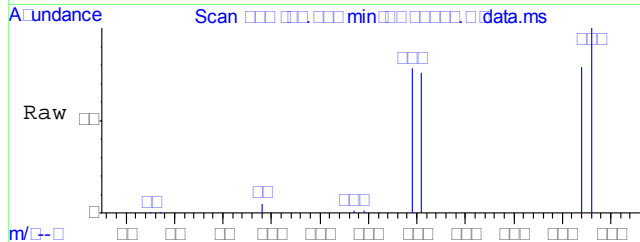
#19
 trans-1,3-Dichloropropene
 Concen: 10.26 ppb
 RT: 14.254 min Scan# 253
 Delta R.T. -0.000 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion: 75 Resp: 3068192
 Ion Ratio Lower Upper
 75 100
 77 31.3 11.3 51.3



#20
 Tetrachloroethene
 Concen: 9.05 ppb
 RT: 14.956 min Scan# 294
 Delta R.T. -0.001 min
 Lab File: Q30365.D
 Acq: 21 Jul 2015 10:04 am

Tgt Ion: 164 Resp: 1166394
 Ion Ratio Lower Upper
 164 100
 129 99.1 79.2 119.2
 131 95.3 75.4 115.4
 166 128.1 107.8 147.8



7.6.11
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
 Data File : Q30390.D
 Acq On : 22 Jul 2015 9:40 am
 Operator : thuy
 Sample : CC1318-10
 Misc : MS1855,VQ1321,50,,,,1
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 23 17:46:58 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	1273929	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	1749739	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	803722	4.88	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.60%		
18) Toluene-d8	14.048	98	2043255	5.16	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	103.20%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	2585567	8.98	ppb		98
3) 1,1-Dichloroethene	7.413	96	1495848	9.38	ppb		98
4) Methylene Chloride	8.206	84	1980578	9.57	ppb	#	99
5) trans-1,2-Dichloroethene	8.822	96	1695833	9.32	ppb		93
6) 1,1-Dichloroethane	9.439	63	3831380	9.24	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	2007175	9.08	ppb		99
8) Chloroform	10.584	83	3492063	8.84	ppb		99
10) 1,1,1-Trichloroethane	11.244	97	2888208	9.53	ppb		100
11) Carbon Tetrachloride	11.641	117	2470528	9.79	ppb		100
12) 1,2-Dichloroethane	11.641	62	2946419	8.80	ppb		98
13) Benzene	11.773	78	6973795	9.40	ppb		100
14) Trichloroethene	12.609	95	1628361	9.06	ppb		92
15) 1,2-Dichloropropane	12.741	63	2252445	9.00	ppb		97
16) cis-1,3-Dichloropropene	13.688	75	3622806	9.58	ppb		100
19) trans-1,3-Dichloropropene	14.254	75	3042909	10.24	ppb		100
20) Tetrachloroethene	14.957	164	1245944	9.72	ppb		100

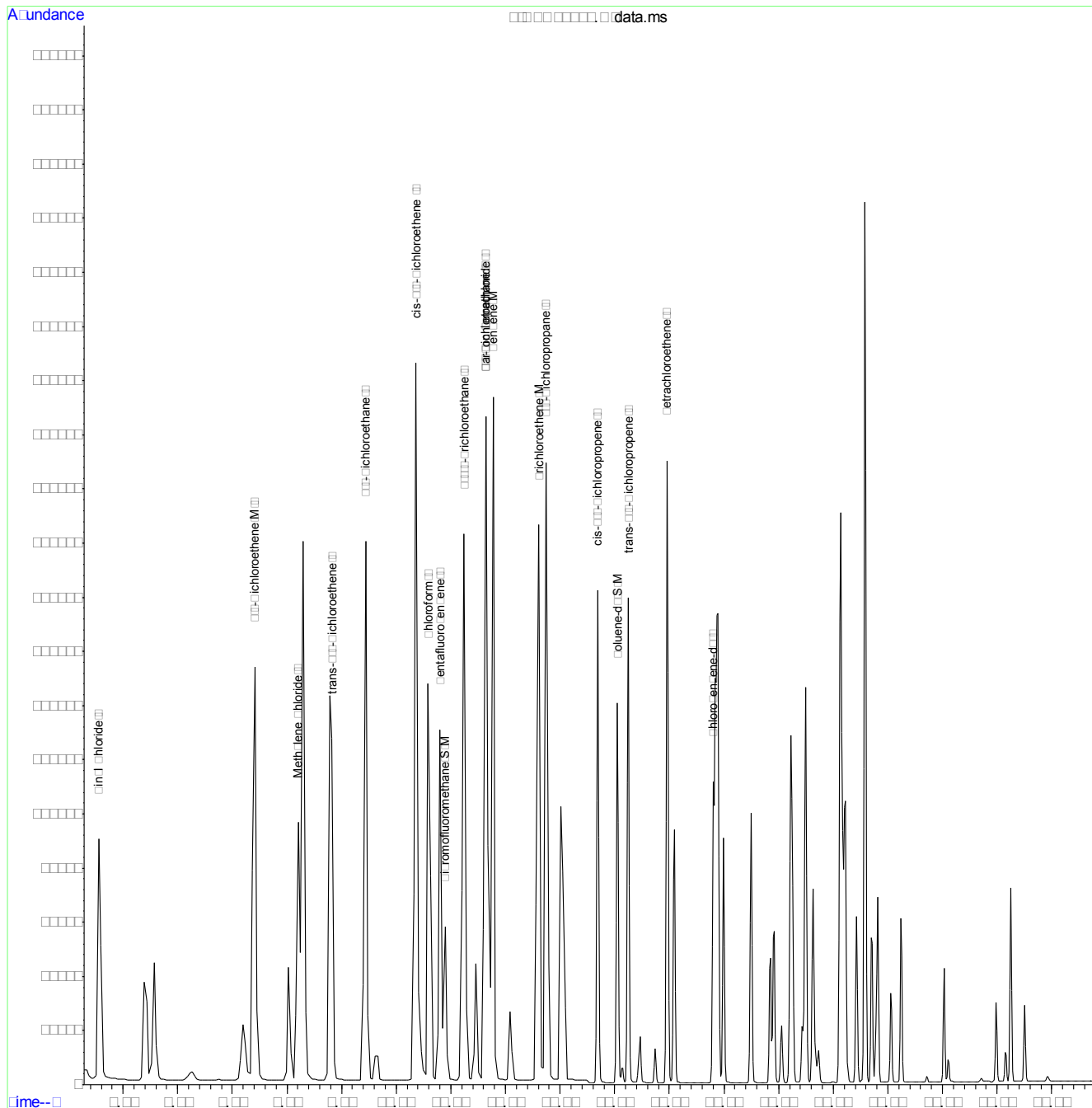
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.6.12
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150722\
 Data File : Q30390.D
 Acq On : 22 Jul 2015 9:40 am
 Operator : thuy
 Sample : CC1318-10
 Misc : MS1855,VQ1321,50,,,1
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 23 17:46:58 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1318_150718SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Mon Jul 20 09:13:48 2015
 Response via : Initial Calibration



7.6.12
7

DATE: 7/22/15
 COLUMN TYPE: Restek RTX-VOLATILE
 DETECTOR: 5975B MSD
 INSTRUMENT: Q
 PURGE PRESSURE: 20psi
 ANALYST: TM

Q ANALYSIS LOG
 C:\MSDCHEM1\DATA1 (56922)
 PROCESSING METHOD: VQ1318 (56918) M
 CALIB. DATE: 7/16/15
 EM VOLTAGE: 160V
 BFB AREA: 305734535
 RUN ID: VQ1321

Working Standard Control #
 BFB: 06090
 CCV: 107105
 CCV GRO: MA
 BS/BSID/MS/MSD: 107105
 LCS GRO: MA
 *ISTD/SURR: 150717QA

DATA FILE	ARCHON POSITION	SAMPLE ID.	SAMPLE VOLUME	DF	MATRIX	ACQU. METHOD	ANALYTICAL METHOD	pH	Bottle #	RR	COMMENTS
Q 30389	1	BFB	1ul	IX	W	BFBM	SIMSL	NA	NA	NA	
Q 90	2	CC1318-10	50ul			VQ1318W					
Q 91	3	MB									
Q 92	4	BS									
Q 93	5	C40814-1									
Q 94	6	C40160-35									
Q 95	7	34									
Q 96	8	37									
Q 97	9	38									
Q 98	10	39									
Q 99	11	40									
Q 40	12	41									
Q 1	13	42									
Q 2	14	43									
Q 3	15	C40813-1									
Q 4	16	C40814-1									
Q 5	17	2									
Q 6	18	3									
Q 7	19	4									
Q 8	20	5									
Q 9	21	L001408 0.1ppb									
Q 10	22	L001408 0.5ppb									
Q 11	23	C40160-35 MS									
Q 12		↓									
Q 13		↓									
Q 14		↓									
Q 15		↓									
Q 16		↓									
Q 17		↓									
Q 18		↓									
Q 19		↓									
Q 20		↓									
Q 21		↓									
Q 22		↓									
Q 23		↓									
Q 24		↓									
Q 25		↓									
Q 26		↓									
Q 27		↓									
Q 28		↓									
Q 29		↓									
Q 30		↓									
Q 31		↓									
Q 32		↓									
Q 33		↓									
Q 34		↓									
Q 35		↓									
Q 36		↓									
Q 37		↓									
Q 38		↓									
Q 39		↓									
Q 40		↓									
Q 41		↓									
Q 42		↓									
Q 43		↓									
Q 44		↓									
Q 45		↓									
Q 46		↓									
Q 47		↓									
Q 48		↓									
Q 49		↓									
Q 50		↓									
Q 51		↓									
Q 52		↓									
Q 53		↓									
Q 54		↓									
Q 55		↓									
Q 56		↓									
Q 57		↓									
Q 58		↓									
Q 59		↓									
Q 60		↓									
Q 61		↓									
Q 62		↓									
Q 63		↓									
Q 64		↓									
Q 65		↓									
Q 66		↓									
Q 67		↓									
Q 68		↓									
Q 69		↓									
Q 70		↓									
Q 71		↓									
Q 72		↓									
Q 73		↓									
Q 74		↓									
Q 75		↓									
Q 76		↓									
Q 77		↓									
Q 78		↓									
Q 79		↓									
Q 80		↓									
Q 81		↓									
Q 82		↓									
Q 83		↓									
Q 84		↓									
Q 85		↓									
Q 86		↓									
Q 87		↓									
Q 88		↓									
Q 89		↓									
Q 90		↓									
Q 91		↓									
Q 92		↓									
Q 93		↓									
Q 94		↓									
Q 95		↓									
Q 96		↓									
Q 97		↓									
Q 98		↓									
Q 99		↓									
Q 100		↓									

Matrix: Designate "W" for Water, "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "Spl.P" for Leachate
 Manual Integration codes: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration
 Reviewer's Signature/Date: [Signature] 7/29/15
 F:\QA\110_3_2014\03-14.MW
 Analyst's Signature: [Signature]
 Page 93

Technical Report for

Ahtna Environmental Inc
Evaluation Baseline FORT ORD
05055.01(OUCTP A-Aquifer)
Accutest Job Number: C41017

Sampling Date: 07/30/15

Report to:

Ahtna Environmental Inc
3100 Beacon Boulevard
West Sacramento, CA 95691
hdillon@ahtna.net; jeffery.fenton@amecfw.com;
zachary.carroll@amecfw.com; mfisler@ahtna.net;
ATTN: Derek Lieberman

Total number of pages in report: **109**



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



James J. Rhudy
Lab Director

Client Service contact: Elvin Kumar 408-588-0200

Certifications: CA (ELAP 2910) AK (UST-092) AZ (AZ0762) NV (CA00150) OR (CA300006) WA (C925)
DoD ELAP (L-A-B L2242)

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

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Case Narrative/Conformance Summary	4
Section 3: Summary of Hits	5
Section 4: Sample Results	6
4.1: C41017-1: 1531G0BW045F	7
4.2: C41017-2: 1531G0BW046F	8
4.3: C41017-3: 1531G0BW047D	9
4.4: C41017-4: 1531G0BW048A	10
4.5: C41017-5: 1531G0BW049C	11
Section 5: Misc. Forms	12
5.1: Chain of Custody	13
5.2: QC Evaluation: DOD QSM5 Limits	15
Section 6: GC/MS Volatiles - QC Data Summaries	16
6.1: Method Blank Summary	17
6.2: Blank Spike Summary	18
6.3: Matrix Spike/Matrix Spike Duplicate Summary	19
6.4: Instrument Performance Checks (BFB)	20
6.5: Internal Standard Area Summaries	23
6.6: Surrogate Recovery Summaries	24
6.7: Initial and Continuing Calibration Summaries	25
Section 7: GC/MS Volatiles - Raw Data	28
7.1: Samples	29
7.2: Method Blanks	43
7.3: Blank Spikes	46
7.4: Matrix Spike/Matrix Spike Duplicates	51
7.5: Instrument Performance Checks (BFB)	61
7.6: Initial and Continuing Calibrations	67
7.7: Instrument Run Logs	108

1

2

3

4

5

6

7



Sample Summary

Ahtna Environmental Inc

Job No: C41017

Evaluation Baseline FORT ORD
 Project No: 05055.01(OUCTP A-Aquifer)

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C41017-1	07/30/15	12:10 MG	07/31/15	AQ	Ground Water	1531G0BW045F
C41017-2	07/30/15	12:15 MG	07/31/15	AQ	Ground Water	1531G0BW046F
C41017-3	07/30/15	12:16 MG	07/31/15	AQ	Ground Water	1531G0BW047D
C41017-4	07/30/15	12:25 MG	07/31/15	AQ	Trip Blank Water	1531G0BW048A
C41017-5	07/30/15	12:35 MG	07/31/15	AQ	Ground Water	1531G0BW049C

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Ahtna Environmental Inc

Job No C41017

Site: Evaluation Baseline FORT ORD

Report Date 8/20/2015 4:01:15 PM

4 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 07/30/2015 and were received at Accutest on 07/31/2015 properly preserved, at 2.1 Deg. C and intact. These Samples received an Accutest job number of C41017. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

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

Volatiles by GCMS By Method SW846 8260B BY SIM

Matrix: AQ

Batch ID: VQ1326

- Sample(s) C41017-1MS, C41017-1MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for 1,1-Dichloroethylene are outside laboratory control limits.

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

Summary of Hits

Job Number: C41017
Account: Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD
Collected: 07/30/15



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
---------------	------------------	-----------------	-----	-----	-------	--------

C41017-1 1531G0BW045F

Chloroform 0.18 J 0.50 0.25 ug/l SW846 8260B BY SIM

C41017-2 1531G0BW046F

Chloroform 0.11 J 0.50 0.25 ug/l SW846 8260B BY SIM
Carbon tetrachloride 0.52 0.50 0.25 ug/l SW846 8260B BY SIM

C41017-3 1531G0BW047D

Chloroform 0.10 J 0.50 0.25 ug/l SW846 8260B BY SIM
Carbon tetrachloride 0.46 J 0.50 0.25 ug/l SW846 8260B BY SIM

C41017-4 1531G0BW048A

No hits reported in this sample.

C41017-5 1531G0BW049C

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	1531G0BW045F	Date Sampled:	07/30/15
Lab Sample ID:	C41017-1	Date Received:	07/31/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30523.D	1	08/05/15	EA	n/a	n/a	VQ1326
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.18	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	102%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1531G0BW046F	Date Sampled:	07/30/15
Lab Sample ID:	C41017-2	Date Received:	07/31/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30524.D	1	08/05/15	EA	n/a	n/a	VQ1326
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.11	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	0.52	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	101%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1531G0BW047D	Date Sampled:	07/30/15
Lab Sample ID:	C41017-3	Date Received:	07/31/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30525.D	1	08/05/15	EA	n/a	n/a	VQ1326
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.10	0.50	0.25	0.10	ug/l	J
56-23-5	Carbon tetrachloride	0.46	0.50	0.25	0.10	ug/l	J
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	101%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1531G0BW048A	Date Sampled:	07/30/15
Lab Sample ID:	C41017-4	Date Received:	07/31/15
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30522.D	1	08/05/15	EA	n/a	n/a	VQ1326
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		76-119%
2037-26-5	Toluene-D8	102%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	1531G0BW049C	Date Sampled:	07/30/15
Lab Sample ID:	C41017-5	Date Received:	07/31/15
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B BY SIM		
Project:	Evaluation Baseline FORT ORD		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Q30526.D	1	08/05/15	EA	n/a	n/a	VQ1326
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
67-66-3	Chloroform	0.25 U	0.50	0.25	0.10	ug/l	
56-23-5	Carbon tetrachloride	0.25 U	0.50	0.25	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	0.50 U	1.0	0.50	0.20	ug/l	
75-09-2	Methylene chloride	0.50 U	2.0	0.50	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
79-01-6	Trichloroethylene	0.25 U	0.50	0.25	0.10	ug/l	
75-01-4	Vinyl chloride	0.050 U	0.10	0.050	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		76-119%
2037-26-5	Toluene-D8	102%		89-112%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5 Limits



296 12th St
Marina, CA 93933
(831) 384-3735

Fedex 8079 5584 3274

CHAIN OF CUSTODY

WATER / SOIL

C41017

Chain of Custody #: 2129
Carbon Copies: White - Laboratory Yellow - Ahtna

Project Information:		Analysis Requested				Lab Sample Receipt	
Project Location: <u>FORT ORD</u> Sampler/s: <u>M. Gehlke</u>		8260 SIM OUCTP-A-List				Laboratory Sample Delivery	
Project Name: <u>OXTP Baseline Evaluation</u> Report To: <u>Derik Lieberman</u>						Group #:	
Project Number: <u>05055.01</u> E-Mail: <u>dlieberman@ahntna.net</u>						Custody Seal: <u>Intact</u>	
Sampling Event: <u>Baseline Evaluation A-Airway</u> Laboratory: <u>Accutest</u>						Temp (°C): <u>21/2.1</u>	

Lab Number	Sample Number/Description	Sample Collection		Matrix			Number of Preserved Bottles										Notes		
		Date	Time	Water	Soil	Other	Total # of Bottles	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	NaNHCO ₃	None	Other				
1	1531G0BBW045F	7/30/15	1210	X			3											X	
2	1531G0BBW046F	7/30/15	1215	X			3											X	
3	1531G0BBW047D	7/30/15	1216	X			2											X	
4	1531G0BBW048A	7/30/15	1225	X			2											X	
5	1531G0BBW049C	7/30/15	1235	X			3											X	

Turnaround Time: : Standard : 3-5 Day Rush : 48 Hour Rush : 24 Hour Rush Shipment Method: Tracking ID:

Comments:

Chain of Custody Tracking:			
Relinquished By Sampler: <u>Mys Ahke</u>	Date/Time: <u>7/30/15 1400</u>	Received By:	Date/Time:
Relinquished By: <u>Fedex</u>	Date/Time: <u>7/31/15 0940</u>	Received By: <u>AW</u>	Date/Time:
Relinquished By:	Date/Time:	Received By Laboratory:	Date/Time:

5.1
5



Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C41017 Client: AHTNA Project: FORT ORD
 Date / Time Received: 7/31/2015 9:40:00 AM Delivery Method: FedEx Airbill #'s: 807955843274
 Cooler Temps (Initial/Adjusted): #1: (2.1/2.1)

Cooler Security Y or N Y or N
 1. Custody Seals Present: 3. COC Present:
 2. Custody Seals Intact: 4. Smpl Dates/Time OK

Cooler Temperature Y or N
 1. Temp criteria achieved:
 2. Therm ID: IR1;
 3. Cooler media: Ice (Bag)
 4. No. Coolers: 1

Quality Control Preservation Y or N N/A
 1. Trip Blank present / cooler:
 2. Trip Blank listed on COC:
 3. Samples preserved properly:
 4. VOCs headspace free:

Sample Integrity - Documentation Y or N
 1. Sample labels present on bottles:
 2. Container labeling complete:
 3. Sample container label / COC agree:

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

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

Comments

Accutest Laboratories
 V:408.588.0200

2105 Lundy Avenue
 F: 408.588.0201

San Jose, CA 95131
 www.accutest.com

5.1
 5

QC Evaluation: DOD QSM5 Limits

Job Number: C41017
Account: Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD
Collected: 07/30/15

QC Sample ID	CAS#	Analyte	Sample Result Type	Result Type	Units	Limits
--------------	------	---------	--------------------	-------------	-------	--------

No Exceptions found.

* Sample used for QC is not from job C41017

5.2
5

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: C41017
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ1326-MB	Q30521.D	1	08/05/15	EA	n/a	n/a	VQ1326

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C41017-1, C41017-2, C41017-3, C41017-4, C41017-5

CAS No.	Compound	Result	RL	MDL	Units	Q
67-66-3	Chloroform	ND	0.50	0.10	ug/l	
56-23-5	Carbon tetrachloride	ND	0.50	0.10	ug/l	
75-35-4	1,1-Dichloroethylene	ND	0.50	0.10	ug/l	
540-59-0	1,2-Dichloroethene (total)	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	0.50	0.10	ug/l	
79-01-6	Trichloroethylene	ND	0.50	0.10	ug/l	
75-01-4	Vinyl chloride	ND	0.10	0.050	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	97%	76-119%
2037-26-5	Toluene-D8	103%	89-112%

Blank Spike Summary

Job Number: C41017
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VQ1326-BS	Q30520.D	1	08/05/15	EA	n/a	n/a	VQ1326

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C41017-1, C41017-2, C41017-3, C41017-4, C41017-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-66-3	Chloroform	10	9.5	95	71-128
56-23-5	Carbon tetrachloride	10	10.3	103	69-131
75-35-4	1,1-Dichloroethylene	10	9.8	98	67-114
540-59-0	1,2-Dichloroethene (total)	20	19.2	96	72-120
75-09-2	Methylene chloride	10	9.8	98	67-130
127-18-4	Tetrachloroethylene	10	9.0	90	66-126
79-01-6	Trichloroethylene	10	9.7	97	66-126
75-01-4	Vinyl chloride	0.25	0.31	124	61-164

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	76-119%
2037-26-5	Toluene-D8	101%	89-112%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C41017
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C41017-1MS	Q30527.D	1	08/05/15	EA	n/a	n/a	VQ1326
C41017-1MSD	Q30528.D	1	08/05/15	EA	n/a	n/a	VQ1326
C41017-1	Q30523.D	1	08/05/15	EA	n/a	n/a	VQ1326

The QC reported here applies to the following samples:

Method: SW846 8260B BY SIM

C41017-1, C41017-2, C41017-3, C41017-4, C41017-5

CAS No.	Compound	C41017-1 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD	
67-66-3	Chloroform	0.18	J	10	11.3	111	10	10.8	106	5	71-128/20
56-23-5	Carbon tetrachloride	0.50	U	10	12.7	127	10	11.8	118	7	69-131/20
75-35-4	1,1-Dichloroethylene	0.50	U	10	12.1	121* a	10	11.3	113	7	67-114/20
540-59-0	1,2-Dichloroethene (total)	1.0	U	20	22.6	113	20	21.2	106	6	72-120/20
75-09-2	Methylene chloride	2.0	U	10	11.1	111	10	10.4	104	7	67-130/20
127-18-4	Tetrachloroethylene	0.50	U	10	11.0	110	10	10.3	103	7	66-126/20
79-01-6	Trichloroethylene	0.50	U	10	11.3	113	10	10.7	107	5	66-126/20
75-01-4	Vinyl chloride	0.10	U	0.25	0.30	120	0.25	0.26	104	14	61-164/20

CAS No.	Surrogate Recoveries	MS	MSD	C41017-1	Limits
1868-53-7	Dibromofluoromethane	100%	100%	97%	76-119%
2037-26-5	Toluene-D8	100%	100%	102%	89-112%

(a) Outside laboratory control limits.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: C41017
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample: VQ1325-BFB	Injection Date: 08/04/15
Lab File ID: Q30500.D	Injection Time: 14:13
Instrument ID: GCMSQ	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	333739	18.4	Pass
75	30.0 - 60.0% of mass 95	860181	47.4	Pass
95	Base peak, 100% relative abundance	1816064	100.0	Pass
96	5.0 - 9.0% of mass 95	121688	6.70	Pass
173	Less than 2.0% of mass 174	8291	0.46 (0.58) ^a	Pass
174	50.0 - 100.0% of mass 95	1438037	79.2	Pass
175	5.0 - 9.0% of mass 174	101901	5.61 (7.09) ^a	Pass
176	95.0 - 101.0% of mass 174	1397248	76.9 (97.2) ^a	Pass
177	5.0 - 9.0% of mass 176	91837	5.06 (6.57) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VQ1325-IC1325	Q30502.D	08/04/15	14:59	00:46	Initial cal 0.1
VQ1325-IC1325	Q30503.D	08/04/15	15:29	01:16	Initial cal 0.25
VQ1325-IC1325	Q30504.D	08/04/15	16:00	01:47	Initial cal 0.5
VQ1325-IC1325	Q30505.D	08/04/15	16:31	02:18	Initial cal 1
VQ1325-IC1325	Q30506.D	08/04/15	17:27	03:14	Initial cal 2
VQ1325-IC1325	Q30507.D	08/04/15	17:59	03:46	Initial cal 5
VQ1325-ICC1325	Q30508.D	08/04/15	18:30	04:17	Initial cal 10
VQ1325-IC1325	Q30509.D	08/04/15	19:01	04:48	Initial cal 15

Instrument Performance Check (BFB)

Job Number: C41017
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample: VQ1325-BFB1	Injection Date: 08/05/15
Lab File ID: Q30513.D	Injection Time: 09:57
Instrument ID: GCMSQ	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	353387	18.2	Pass
75	30.0 - 60.0% of mass 95	910474	46.8	Pass
95	Base peak, 100% relative abundance	1945429	100.0	Pass
96	5.0 - 9.0% of mass 95	130219	6.69	Pass
173	Less than 2.0% of mass 174	8712	0.45 (0.57) ^a	Pass
174	50.0 - 100.0% of mass 95	1536853	79.0	Pass
175	5.0 - 9.0% of mass 174	109803	5.64 (7.14) ^a	Pass
176	95.0 - 101.0% of mass 174	1480192	76.1 (96.3) ^a	Pass
177	5.0 - 9.0% of mass 176	97219	5.00 (6.57) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VQ1325-ICV1325	Q30517.D	08/05/15	13:03	03:06	Initial cal verification 10

Instrument Performance Check (BFB)

Job Number: C41017
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample: VQ1326-BFB	Injection Date: 08/05/15
Lab File ID: Q30518.D	Injection Time: 13:54
Instrument ID: GCMSQ	

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	367957	17.9	Pass
75	30.0 - 60.0% of mass 95	957589	46.6	Pass
95	Base peak, 100% relative abundance	2053461	100.0	Pass
96	5.0 - 9.0% of mass 95	136896	6.67	Pass
173	Less than 2.0% of mass 174	9314	0.45 (0.56) ^a	Pass
174	50.0 - 100.0% of mass 95	1663659	81.0	Pass
175	5.0 - 9.0% of mass 174	116901	5.69 (7.03) ^a	Pass
176	95.0 - 101.0% of mass 174	1611947	78.5 (96.9) ^a	Pass
177	5.0 - 9.0% of mass 176	105984	5.16 (6.57) ^b	Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

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

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VQ1326-CC1325	Q30519.D	08/05/15	14:11	00:17	Continuing cal 10
VQ1326-BS	Q30520.D	08/05/15	14:42	00:48	Blank Spike
VQ1326-MB	Q30521.D	08/05/15	15:13	01:19	Method Blank
C41017-4	Q30522.D	08/05/15	15:43	01:49	1531G0BW048A
C41017-1	Q30523.D	08/05/15	16:14	02:20	1531G0BW045F
C41017-2	Q30524.D	08/05/15	16:45	02:51	1531G0BW046F
C41017-3	Q30525.D	08/05/15	17:16	03:22	1531G0BW047D
C41017-5	Q30526.D	08/05/15	17:46	03:52	1531G0BW049C
C41017-1MS	Q30527.D	08/05/15	18:17	04:23	Matrix Spike
C41017-1MSD	Q30528.D	08/05/15	18:48	04:54	Matrix Spike Duplicate
VQ1326-CC1325	Q30529.D	08/05/15	19:19	05:25	Continuing cal 10

Volatile Internal Standard Area Summary

Job Number: C41017
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Check Std: VQ1326-CC1325	Injection Date: 08/05/15
Lab File ID: Q30519.D	Injection Time: 14:11
Instrument ID: GCMSQ	Method: SW846 8260B BY SIM

	IS 1		IS 2	
	AREA	RT	AREA	RT
Check Std	462570	10.80	687131	15.80
Upper Limit ^a	925140	11.30	1374262	16.30
Lower Limit ^b	231285	10.30	343566	15.30

Lab Sample ID	IS 1		IS 2	
	AREA	RT	AREA	RT
VQ1326-BS	482492	10.80	705406	15.80
VQ1326-MB	475915	10.80	664715	15.80
C41017-4	475912	10.80	667176	15.80
C41017-1	475175	10.80	662151	15.80
C41017-2	435310	10.80	607066	15.80
C41017-3	471201	10.80	661664	15.80
C41017-5	494160	10.80	679955	15.80
C41017-1MS	451608	10.80	647007	15.80
C41017-1MSD	489519	10.80	703934	15.80

IS 1 = Pentafluorobenzene
IS 2 = Chlorobenzene-D5

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

Volatile Surrogate Recovery Summary

Job Number: C41017
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Method: SW846 8260B BY SIM	Matrix: AQ
-----------------------------------	-------------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2
C41017-1	Q30523.D	97	102
C41017-2	Q30524.D	98	101
C41017-3	Q30525.D	97	101
C41017-4	Q30522.D	98	102
C41017-5	Q30526.D	97	102
C41017-1MS	Q30527.D	100	100
C41017-1MSD	Q30528.D	100	100
VQ1326-BS	Q30520.D	100	101
VQ1326-MB	Q30521.D	97	103

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	76-119%
S2 = Toluene-D8	89-112%

6.6.1
6

Initial Calibration Summary

Job Number: C41017
Account: AHTNACAS Ahtna Environmental Inc
Project: Evaluation Baseline FORT ORD

Sample: VQ1325-ICC1325
Lab FileID: Q30508.D

Response Factor Report MSVOA-Q

Method : C:\msdchem\1\MET...1325_150804SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B
 Last Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration

Calibration Files

1 =Q30502.D 2 =Q30503.D 3 =Q30504.D 4 =Q30505.D
 5 =Q30506.D 6 =Q30507.D 7 =Q30508.D 8 =Q30509.D

Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1) I Pentafluorobenzene	-----ISTD-----									
2) Vinyl Chlori	2.065	2.373	2.430	2.089	2.068	2.728	2.505	2.178	2.304	10.58
3) 1,1-Dichloro	1.334	1.439	1.376	1.167	1.155	1.388	1.300	1.150	1.289	9.01
4) Methylene Ch	7.822	5.763	4.117	2.661	1.732	1.935	1.741	1.658	3.429	66.97
	---- Linear regr., Force(0,0) ---- Coefficient = 0.9976									
	Response Ratio = 0.00000 + 1.70679 *A									
5) trans-1,2-Di	1.573	1.658	1.597	1.396	1.350	1.610	1.477	1.358	1.502	8.19
6) 1,1-Dichloro	3.263	3.680	3.642	3.155	3.105	3.710	3.406	3.192	3.394	7.40
7) cis-1,2-Dich	1.753	2.038	1.946	1.677	1.678	2.004	1.844	1.763	1.838	7.79
8) Chloroform	3.104	3.545	3.382	2.917	2.943	3.454	3.229	3.101	3.209	7.28
9) Dibromofluor	0.660	0.672	0.678	0.674	0.666	0.698	0.676	0.684	0.676	1.73
10) 1,1,1-Trichl	2.352	2.601	2.612	2.259	2.250	2.703	2.508	2.258	2.443	7.57
11) Carbon Tetra	1.864	2.102	2.121	1.796	1.823	2.218	2.089	1.861	1.984	8.29
12) 1,2-Dichloro	2.618	3.018	2.927	2.516	2.532	2.944	2.748	2.678	2.748	7.09
13) Benzene	6.133	6.799	6.696	5.789	5.665	6.778	6.212	5.870	6.243	7.40
14) Trichloroeth	1.425	1.582	1.561	1.347	1.341	1.597	1.468	1.352	1.459	7.51
15) 1,2-Dichloro	1.927	2.217	2.126	1.867	1.854	2.221	2.076	2.000	2.036	7.23
16) cis-1,3-Dich	2.267	2.778	2.620	2.837	2.836	3.375	3.189	3.088	2.874	12.07
17) I Chlorobenzene-d5	-----ISTD-----									
18) Toluene-d8	1.185	1.162	1.124	1.190	1.166	1.198	1.190	1.172	1.173	2.00
19) trans-1,3-Di	1.465	1.668	1.611	1.514	1.561	1.928	1.891	1.816	1.682	10.48
20) Tetrachloroe	0.812	0.896	0.831	0.754	0.740	0.878	0.856	0.757	0.815	7.37

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

VQ1325_150804SIM.M Wed Aug 05 14:11:06 2015

6.7.1
6

Initial Calibration Verification

Job Number: C41017
 Account: AHTNACAS Ahtna Environmental Inc
 Project: Evaluation Baseline FORT ORD

Sample: VQ1325-ICV1325
 Lab FileID: Q30517.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\150804\Q30517.D Vial: 4
 Acq On : 5 Aug 2015 1:03 pm Operator: emilya
 Sample : ICV1325-10 Inst : MSVOA-Q
 Misc : MS1855,VQ1325,50,,,,,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\msdchem\1\MET...1325_150804SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B
 Last Update : Wed Aug 05 09:20:57 2015
 Response via : Multiple Level Calibration

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

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I Pentafluorobenzene	1.000	1.000	0.0	95	0.00	10.80
2 C Vinyl Chloride	2.304	2.337	-1.4	89	0.00	4.55
3 M,C 1,1-Dichloroethene	1.289	1.387	-7.6	102	0.00	7.41
----- Amount Calc. %Drift -----						
4 T Methylene Chloride	10.000	10.613	-6.1	99	0.00	8.21
----- AvgRF CCRF %Dev -----						
5 T trans-1,2-Dichloroethene	1.502	1.470	2.1	95	0.00	8.82
6 P 1,1-Dichloroethane	3.394	3.505	-3.3	98	0.00	9.44
7 T cis-1,2-Dichloroethene	1.838	2.069	-12.6	107	0.00	10.36
8 C Chloroform	3.209	3.520	-9.7	104	0.00	10.58
9 S,M Dibromofluoromethane	0.676	0.705	-4.3	100	0.00	10.89
10 T 1,1,1-Trichloroethane	2.443	2.722	-11.4	103	0.00	11.24
11 T Carbon Tetrachloride	1.984	2.271	-14.5	104	0.00	11.64
12 T 1,2-Dichloroethane	2.748	3.063	-11.5	106	0.00	11.64
13 M Benzene	6.243	6.521	-4.5	100	0.00	11.77
14 M Trichloroethene	1.459	1.596	-9.4	104	-0.04	12.57
15 C 1,2-Dichloropropane	2.036	2.218	-8.9	102	0.00	12.74
16 T cis-1,3-Dichloropropene	2.874	3.571	-24.3#	107	0.00	13.69
17 I Chlorobenzene-d5	1.000	1.000	0.0	101	0.00	15.80
18 S,M Toluene-d8	1.173	1.178	-0.4	100	0.00	14.05
19 T trans-1,3-Dichloropropene	1.682	1.882	-11.9	100	0.00	14.25
20 T Tetrachloroethene	0.815	0.790	3.1	93	0.00	14.96

(#) = Out of Range
 Q30508.D VQ1325_150804SIM.M

SPCC's out = 0 CCC's out = 0
 Wed Aug 05 14:10:51 2015

Continuing Calibration Summary

Job Number: C41017
 Account: AHTNACAS Ahtna Environmental Inc
 Project: Evaluation Baseline FORT ORD

Sample: VQ1326-CC1325
 Lab FileID: Q30519.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\150805\Q30519.D Vial: 1
 Acq On : 5 Aug 2015 2:11 pm Operator: emilya
 Sample : CC1325-10 Inst : MSVOA-Q
 Misc : MS1855,VQ1326,50,,,,,1 Multiplr: 1.00
 MS Integration Params: RTEINT.P

Method : C:\msdchem\1\MET...1325_150804SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B
 Last Update : Wed Aug 05 09:20:57 2015
 Response via : Multiple Level Calibration

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

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1 I Pentafluorobenzene	1.000	1.000	0.0	95	0.00	10.80
2 C Vinyl Chloride	2.304	2.583	-12.1	98	0.00	4.55
3 M,C 1,1-Dichloroethene	1.289	1.317	-2.2	96	0.00	7.41
----- Amount Calc. %Drift -----						
4 T Methylene Chloride	10.000	10.285	-2.9	96	0.00	8.21
----- AvgRF CCRF %Dev -----						
5 T trans-1,2-Dichloroethene	1.502	1.509	-0.5	97	0.00	8.82
6 P 1,1-Dichloroethane	3.394	3.493	-2.9	98	0.00	9.44
7 T cis-1,2-Dichloroethene	1.838	1.919	-4.4	99	0.00	10.36
8 C Chloroform	3.209	3.428	-6.8	101	0.00	10.58
9 S,M Dibromofluoromethane	0.676	0.686	-1.5	97	0.00	10.89
10 T 1,1,1-Trichloroethane	2.443	2.566	-5.0	97	0.00	11.24
11 T Carbon Tetrachloride	1.984	2.137	-7.7	97	0.00	11.64
12 T 1,2-Dichloroethane	2.748	2.940	-7.0	102	0.00	11.64
13 M Benzene	6.243	6.339	-1.5	97	0.00	11.77
14 M Trichloroethene	1.459	1.522	-4.3	99	-0.04	12.57
15 C 1,2-Dichloropropane	2.036	2.164	-6.3	99	0.00	12.74
16 T cis-1,3-Dichloropropene	2.874	3.425	-19.2	102	0.00	13.69
17 I Chlorobenzene-d5	1.000	1.000	0.0	99	0.00	15.80
18 S,M Toluene-d8	1.173	1.178	-0.4	98	0.00	14.05
19 T trans-1,3-Dichloropropene	1.682	1.935	-15.0	101	0.00	14.25
20 T Tetrachloroethene	0.815	0.827	-1.5	96	0.00	14.96

(#) = Out of Range
 Q30508.D VQ1325_150804SIM.M

SPCC's out = 0 CCC's out = 0
 Thu Aug 06 11:33:39 2015

GC/MS Volatiles

Raw Data

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
Data File : Q30523.D
Acq On : 5 Aug 2015 4:14 pm
Operator : emilya
Sample : C41017-1
Misc : MS1855,VQ1326,50,,,,,1
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 05 17:15:02 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Wed Aug 05 09:20:57 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	475175	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	662151	5.00	ppb	# 0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	312382	4.86	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.20%	
18) Toluene-d8	14.048	98	791200	5.09	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	101.80%	
Target Compounds						
8) Chloroform	10.584	83	53895	0.18	ppb	Qvalue 90

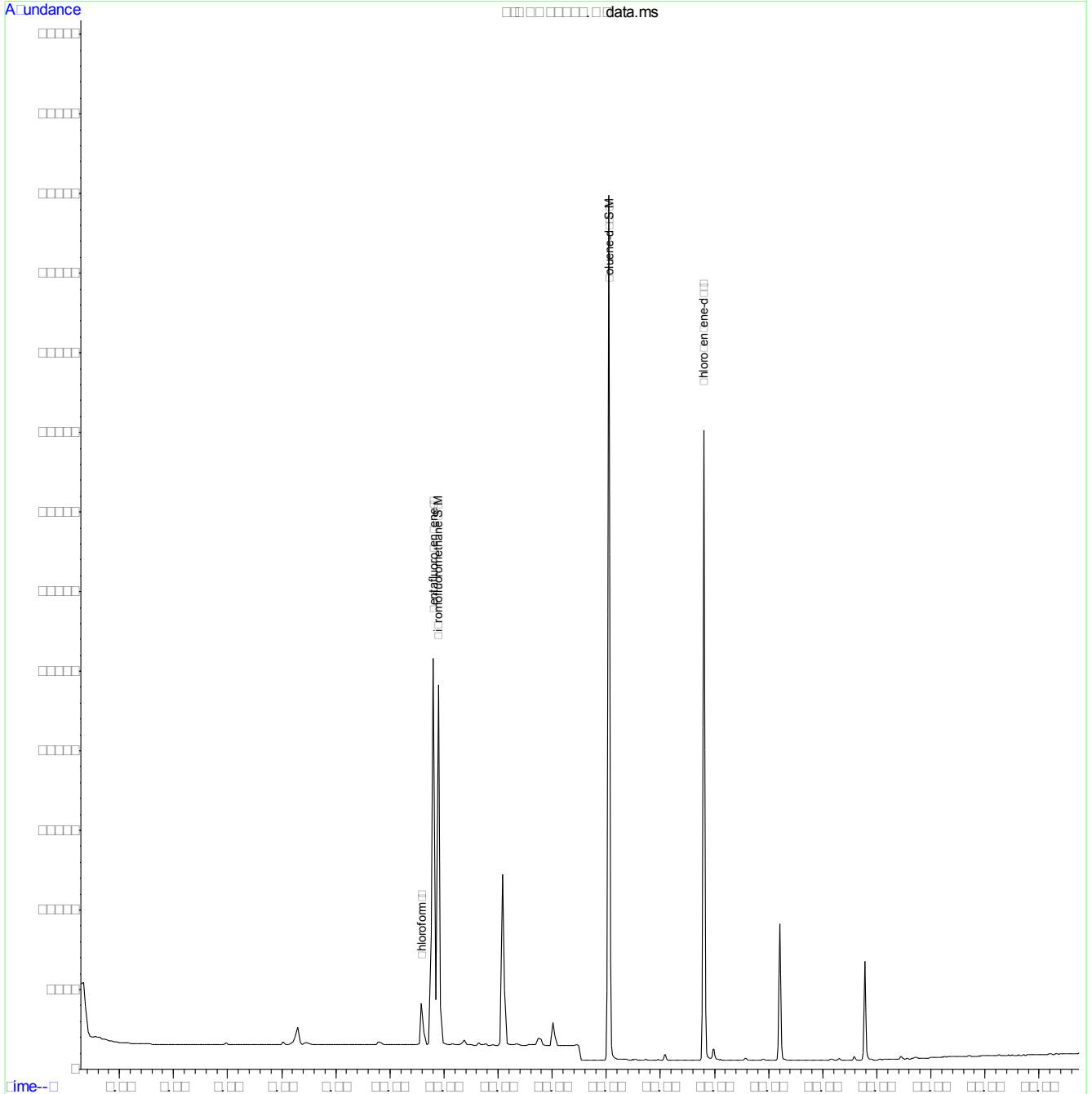
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.1
7

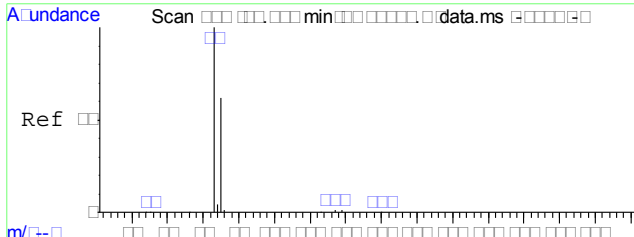
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
Data File : Q30523.D
Acq On : 5 Aug 2015 4:14 pm
Operator : emilya
Sample : C41017-1
Misc : MS1855,VQ1326,50,,,,,1
ALS Vial : 5 Sample Multiplier: 1

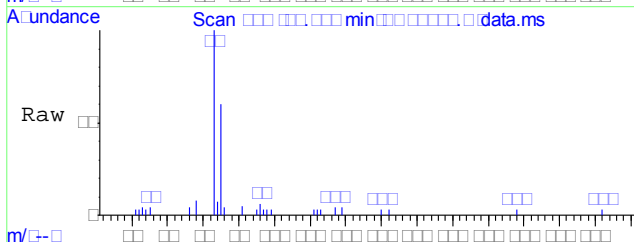
Quant Time: Aug 05 17:15:02 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Wed Aug 05 09:20:57 2015
Response via : Initial Calibration



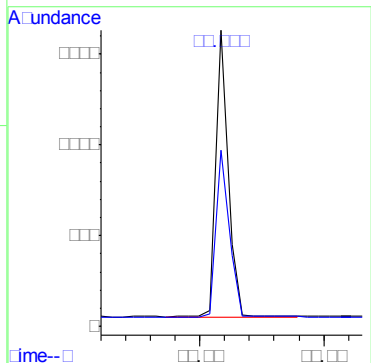
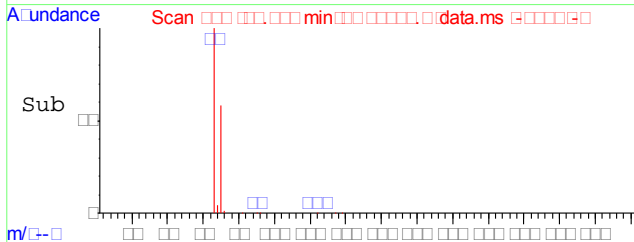
7.1.1
7



#8
 Chloroform
 Concen: 0.18 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30523.D
 Acq: 5 Aug 2015 4:14 pm



Tgt Ion: 83 Resp: 53895
 Ion Ratio Lower Upper
 83 100
 85 63.1 51.8 91.8



7.1.1
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30524.D
 Acq On : 5 Aug 2015 4:45 pm
 Operator : emilya
 Sample : C41017-2
 Misc : MS1855,VQ1326,50,,,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 05 17:15:24 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration

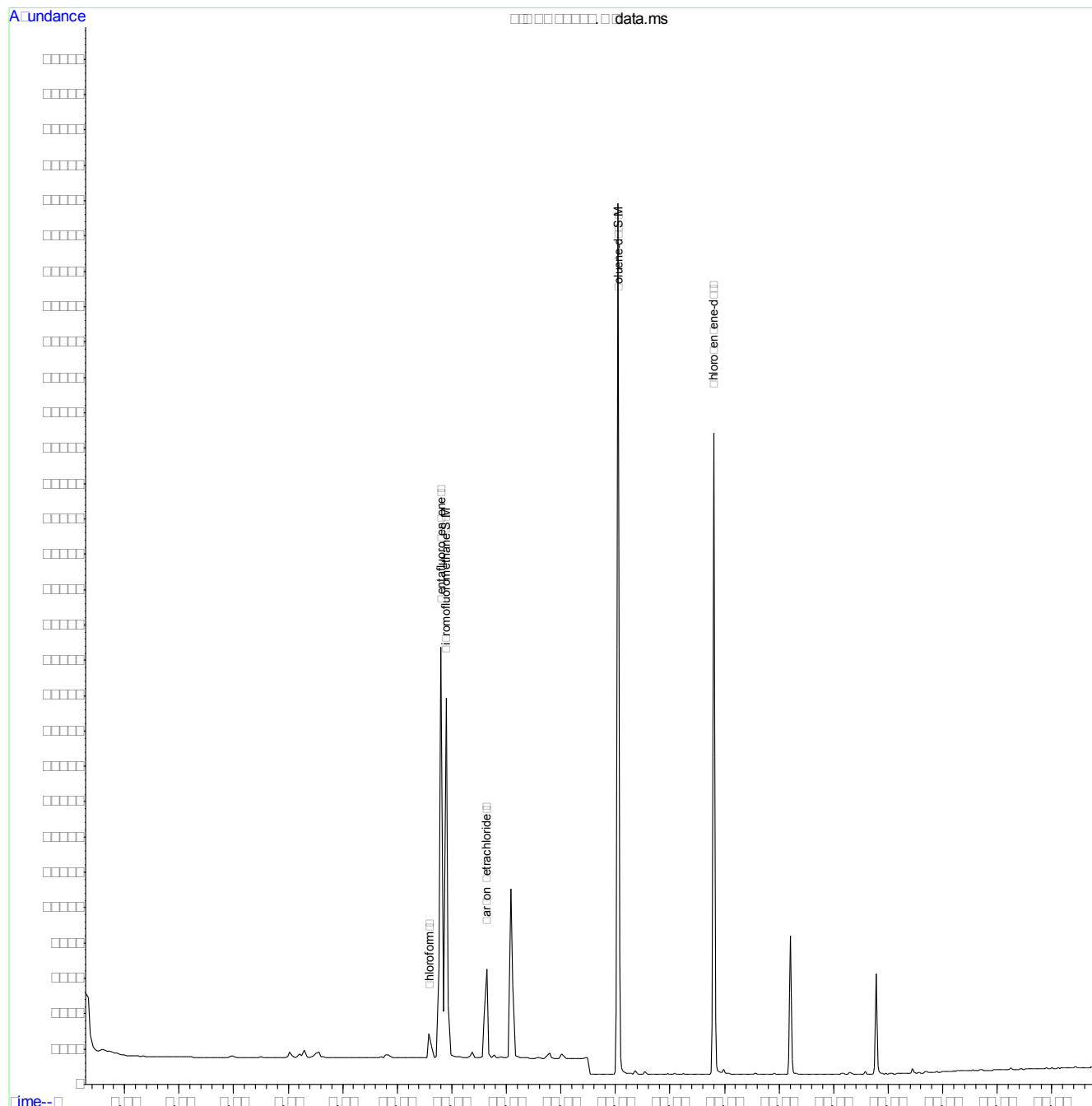
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	435310	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	607066	5.00	ppb	# 0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	287574	4.89	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.80%	
18) Toluene-d8	14.048	98	719834	5.05	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	101.00%	
Target Compounds						
8) Chloroform	10.584	83	31361	0.11	ppb	Qvalue 89
11) Carbon Tetrachloride	11.641	117	90459	0.52	ppb	98

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

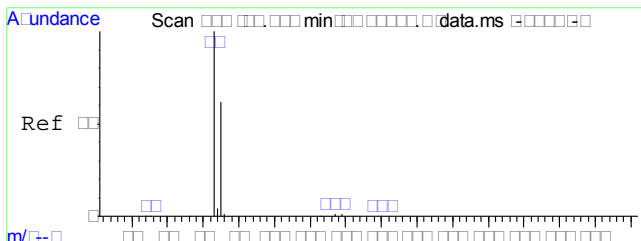
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30524.D
 Acq On : 5 Aug 2015 4:45 pm
 Operator : emilya
 Sample : C41017-2
 Misc : MS1855,VQ1326,50,,,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 05 17:15:24 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration

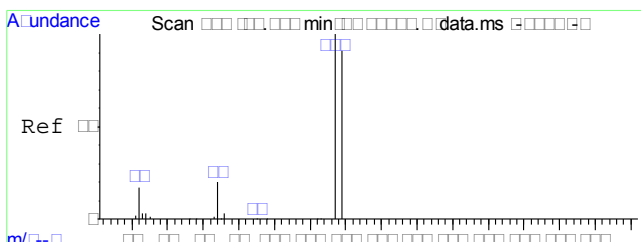
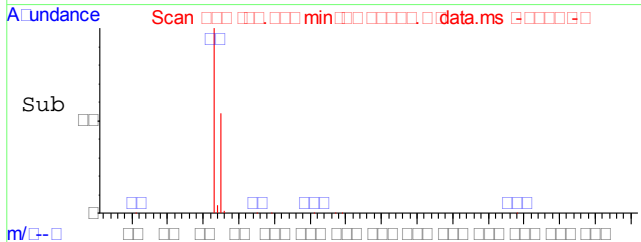
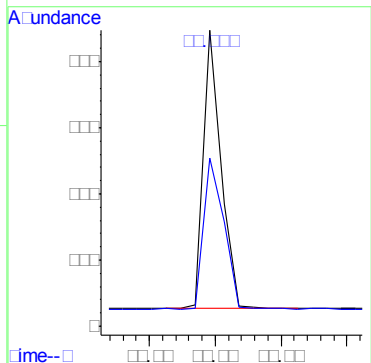
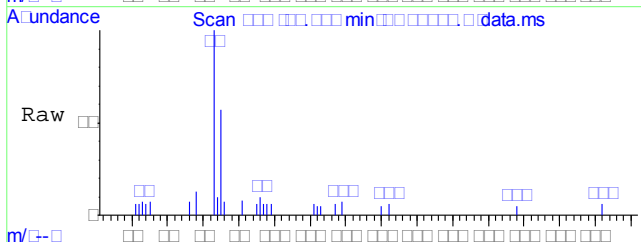


7.1.2
7



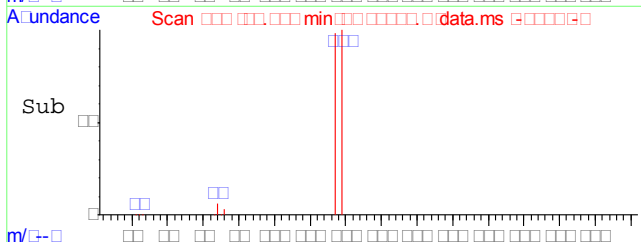
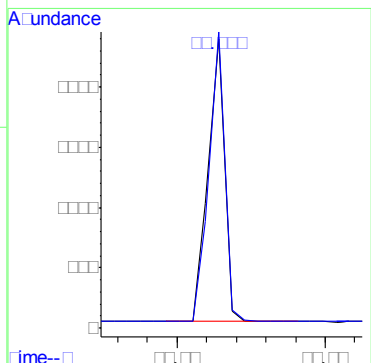
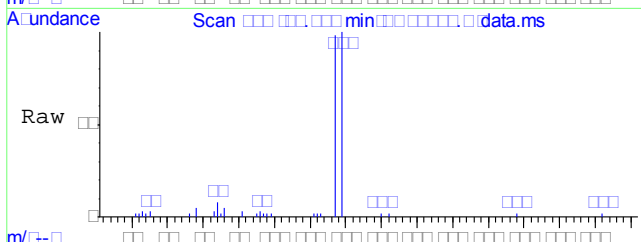
#8
 Chloroform
 Concen: 0.11 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30524.D
 Acq: 5 Aug 2015 4:45 pm

Tgt Ion: 83 Resp: 31361
 Ion Ratio Lower Upper
 83 100
 85 62.9 51.8 91.8



#11
 Carbon Tetrachloride
 Concen: 0.52 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30524.D
 Acq: 5 Aug 2015 4:45 pm

Tgt Ion: 117 Resp: 90459
 Ion Ratio Lower Upper
 117 100
 119 98.0 76.3 116.3



7.12
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
Data File : Q30525.D
Acq On : 5 Aug 2015 5:16 pm
Operator : emilya
Sample : C41017-3
Misc : MS1855,VQ1326,50,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 06 11:29:12 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Wed Aug 05 09:20:57 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	471201	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	661664	5.00	ppb	# 0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	309722	4.86	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.20%	
18) Toluene-d8	14.048	98	782202	5.04	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.80%	
Target Compounds						
8) Chloroform	10.584	83	31121	0.10	ppb	Qvalue 90
11) Carbon Tetrachloride	11.641	117	86050	0.46	ppb	100

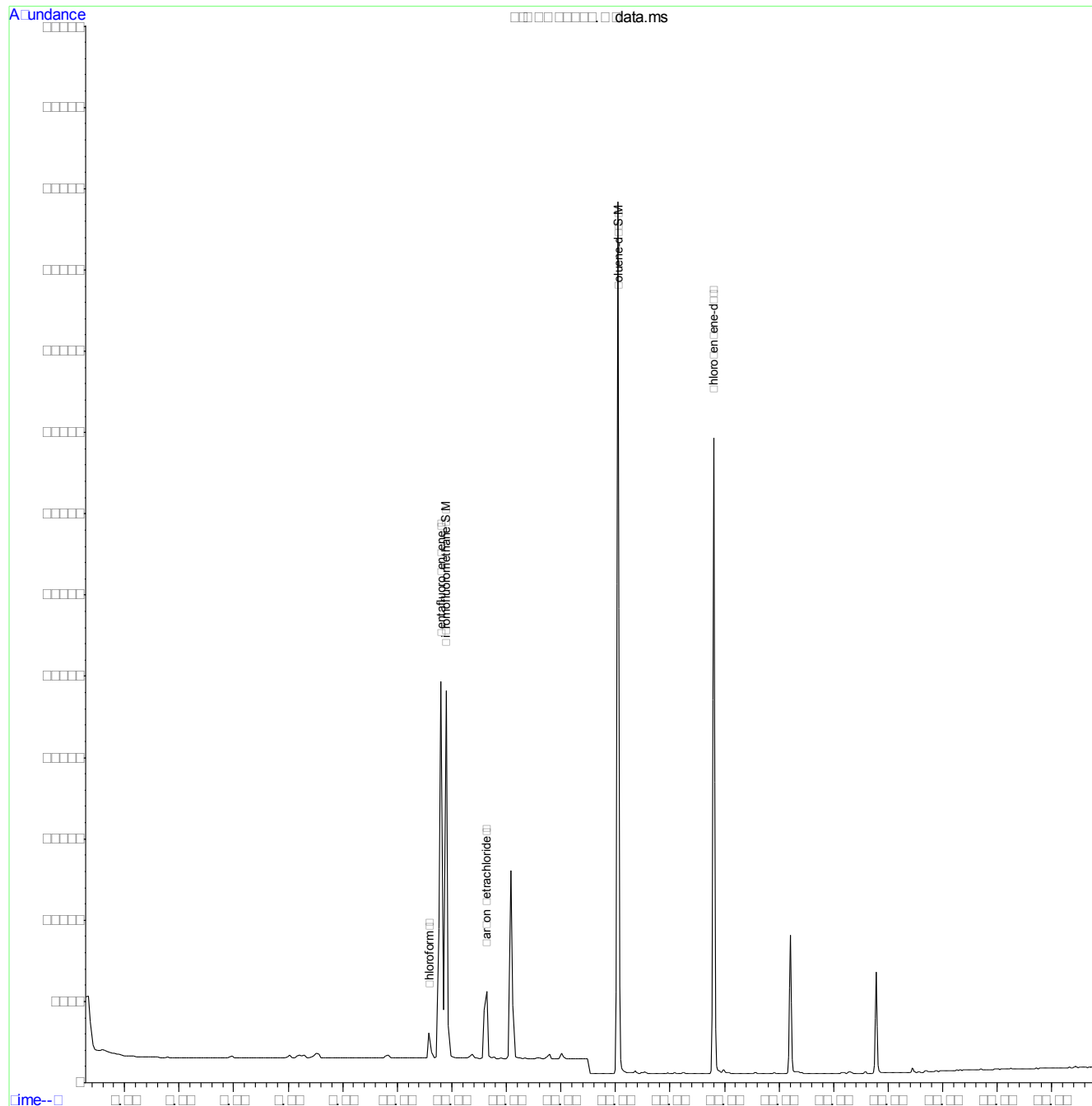
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.3
7

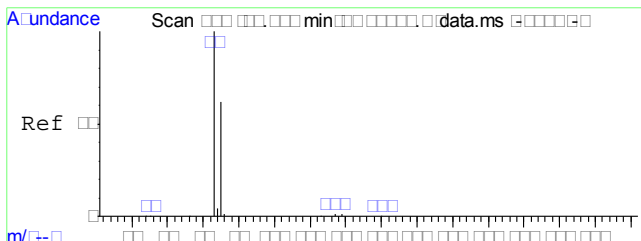
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
Data File : Q30525.D
Acq On : 5 Aug 2015 5:16 pm
Operator : emilya
Sample : C41017-3
Misc : MS1855,VQ1326,50,,,,,1
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 06 11:29:12 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Wed Aug 05 09:20:57 2015
Response via : Initial Calibration

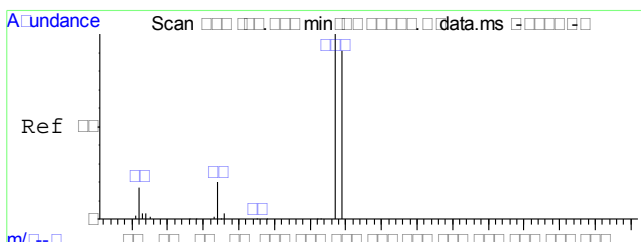
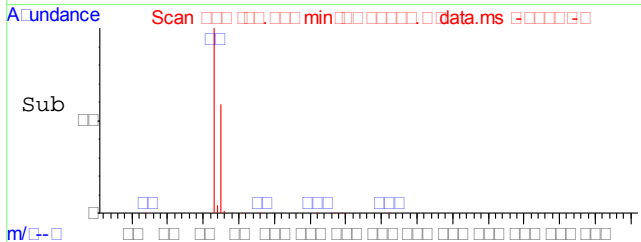
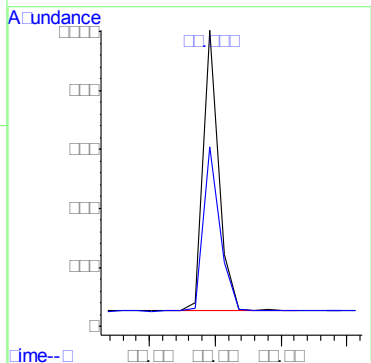
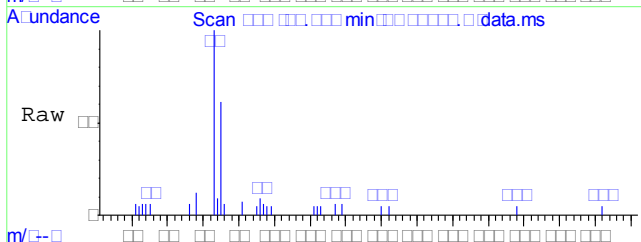


7.1.3
7



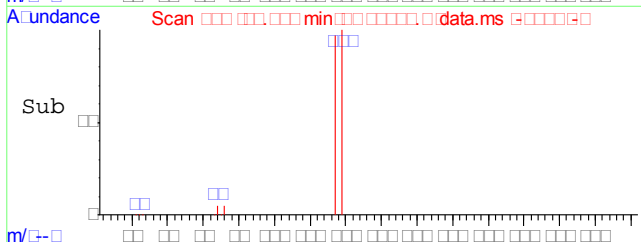
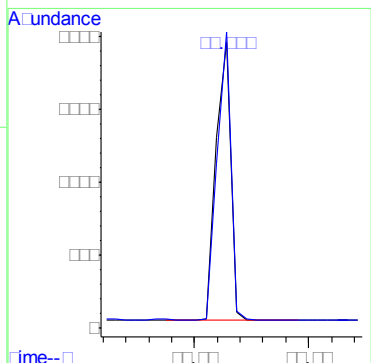
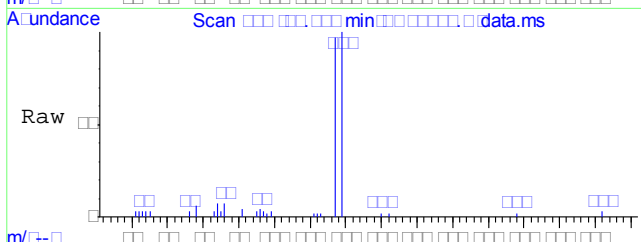
#8
 Chloroform
 Concen: 0.10 ppb
 RT: 10.584 min Scan# 144
 Delta R.T. -0.000 min
 Lab File: Q30525.D
 Acq: 5 Aug 2015 5:16 pm

Tgt Ion	Resp	Lower	Upper
83	31121	100	
85	63.6	51.8	91.8



#11
 Carbon Tetrachloride
 Concen: 0.46 ppb
 RT: 11.641 min Scan# 168
 Delta R.T. -0.000 min
 Lab File: Q30525.D
 Acq: 5 Aug 2015 5:16 pm

Tgt Ion	Resp	Lower	Upper
117	86050	100	
119	96.4	76.3	116.3



7.1.3
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
Data File : Q30522.D
Acq On : 5 Aug 2015 3:43 pm
Operator : emilya
Sample : C41017-4
Misc : MS1855,VQ1326,50,,,,,1
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 05 17:14:53 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Wed Aug 05 09:20:57 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	475912	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	667176	5.00	ppb	# 0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	314046	4.88	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.60%	
18) Toluene-d8	14.048	98	800317	5.11	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	102.20%	
Target Compounds						
4) Methylene Chloride	8.206	84	80314	0.49	ppb	# 99

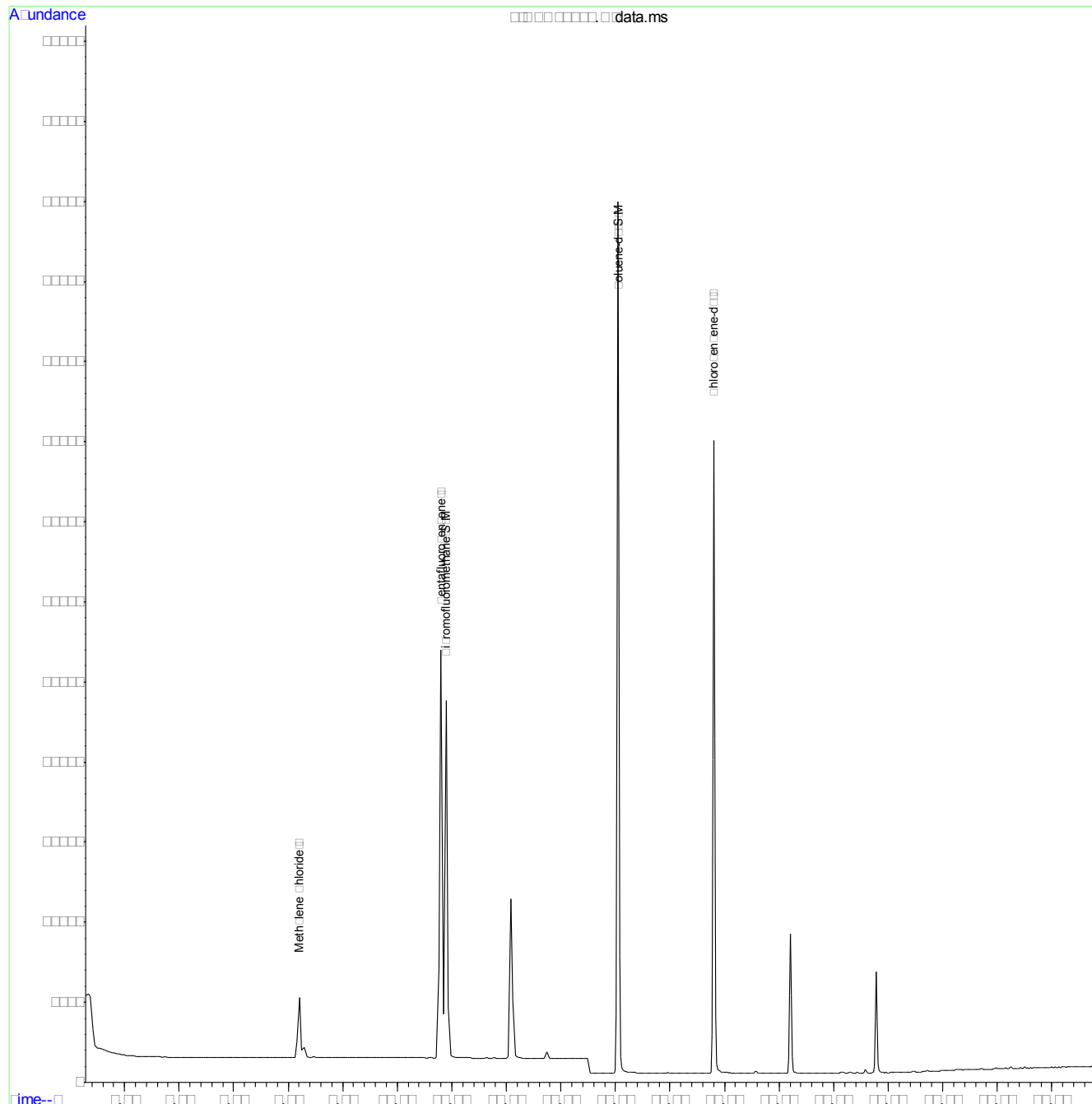
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.1.4
7

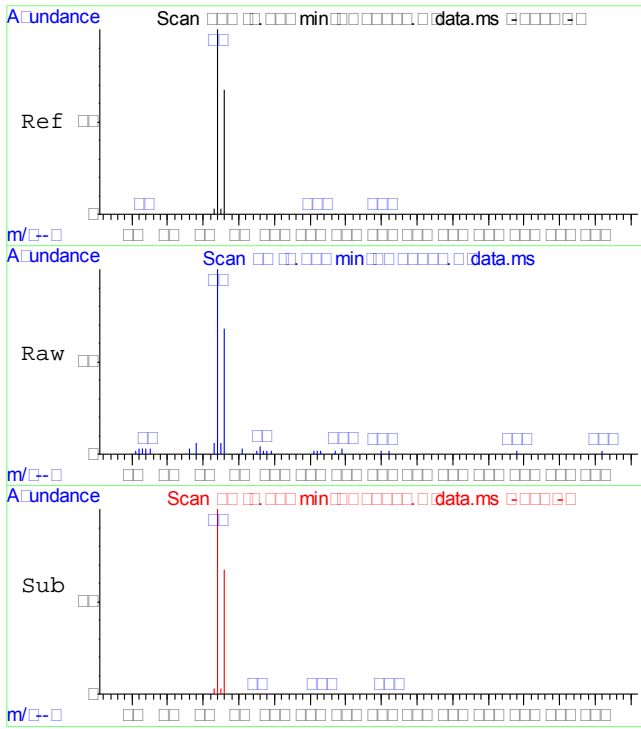
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30522.D
 Acq On : 5 Aug 2015 3:43 pm
 Operator : emilya
 Sample : C41017-4
 Misc : MS1855,VQ1326,50,,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 05 17:14:53 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration

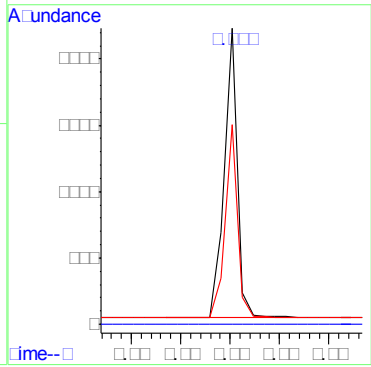


7.1.4
7



#4
 Methylene Chloride
 Concen: 0.49 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. -0.000 min
 Lab File: Q30522.D
 Acq: 5 Aug 2015 3:43 pm

Tgt Ion	Resp	Lower	Upper
84	80314		
84	100		
49	0.0	0.0	20.0
86	63.6	44.5	84.5



7.1.4
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
Data File : Q30526.D
Acq On : 5 Aug 2015 5:46 pm
Operator : emilya
Sample : C41017-5
Misc : MS1855,VQ1326,50,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 06 11:29:23 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Wed Aug 05 09:20:57 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	494160	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	679955	5.00	ppb	# 0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	324068	4.85	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.00%	
18) Toluene-d8	14.048	98	811026	5.08	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	101.60%	
Target Compounds						Qvalue

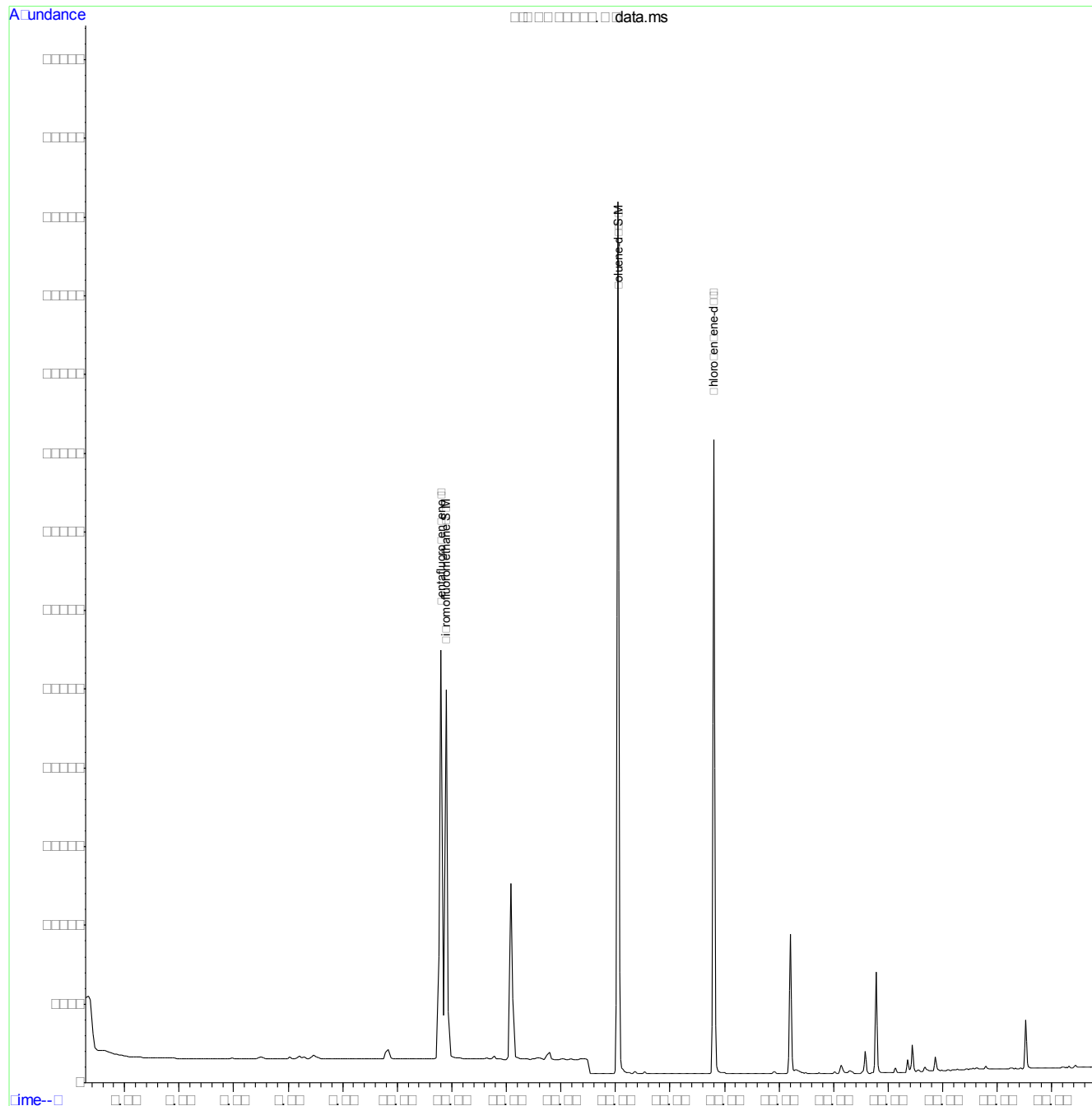
(#) = qualifier out of range (m) = manual integration (+) = signals summed

7.15
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
Data File : Q30526.D
Acq On : 5 Aug 2015 5:46 pm
Operator : emilya
Sample : C41017-5
Misc : MS1855,VQ1326,50,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 06 11:29:23 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Wed Aug 05 09:20:57 2015
Response via : Initial Calibration



7.1.5
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30521.D
 Acq On : 5 Aug 2015 3:13 pm
 Operator : emilya
 Sample : MB
 Misc : MS1855,VQ1326,50,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

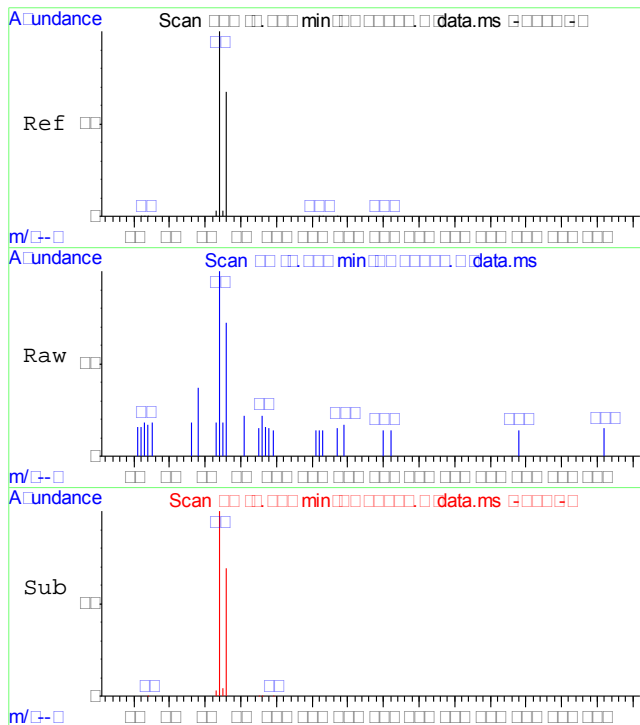
Quant Time: Aug 05 15:59:14 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	475915	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	664715	5.00	ppb	# 0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	312672	4.86	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	97.20%	
18) Toluene-d8	14.048	98	804643	5.16	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	103.20%	
Target Compounds						
4) Methylene Chloride	8.206	84	11334	0.07	ppb	# 18

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

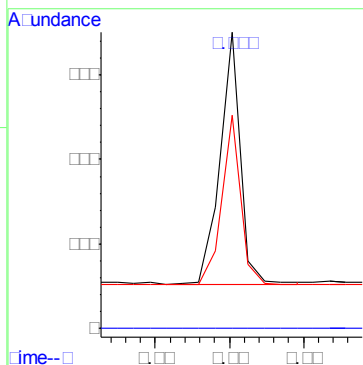
7.2.1

7



#4
 Methylene Chloride
 Concen: 0.07 ppb
 RT: 8.206 min Scan# 90
 Delta R.T. 0.000 min
 Lab File: Q30521.D
 Acq: 5 Aug 2015 3:13 pm

Tgt Ion	Ratio	Lower	Upper
84	100		
49	0.0	0.0	20.0
86	0.0	44.5	84.5#



7.2.1
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30520.D
 Acq On : 5 Aug 2015 2:42 pm
 Operator : emilya
 Sample : BS
 Misc : MS1855,VQ1326,50,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 05 15:05:50 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	482492	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	705406m	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	327360	5.02	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.40%		
18) Toluene-d8	14.048	98	833969	5.04	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.80%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	68481	0.31	ppb		95
3) 1,1-Dichloroethene	7.414	96	1215744	9.78	ppb		99
4) Methylene Chloride	8.206	84	1611144	9.78	ppb	#	100
5) trans-1,2-Dichloroethene	8.823	96	1297657	8.95	ppb		98
6) 1,1-Dichloroethane	9.439	63	3126488	9.55	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	1823821	10.28	ppb		99
8) Chloroform	10.584	83	2947257	9.52	ppb		89
10) 1,1,1-Trichloroethane	11.244	97	2384722	10.12	ppb		100
11) Carbon Tetrachloride	11.641	117	1972793	10.30	ppb		100
12) 1,2-Dichloroethane	11.641	62	2536795	9.57	ppb		99
13) Benzene	11.773	78	5972713	9.91	ppb		100
14) Trichloroethene	12.609	95	1370834	9.74	ppb		100
15) 1,2-Dichloropropane	12.741	63	1954684	9.95	ppb		99
16) cis-1,3-Dichloropropene	13.688	75	3109254	11.21	ppb		92
19) trans-1,3-Dichloropropene	14.254	75	2470206	10.41	ppb		100
20) Tetrachloroethene	14.957	164	1038743	9.03	ppb		100

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

7.3.1
7

Manual Integration Approval Summary

Sample Number: VQ1326-BS **Method:** SW846 8260B BY SIM
Lab FileID: Q30520.D **Analyst approved:** 08/06/15 11:30 Emily Amparo
Injection Time: 08/05/15 14:42 **Supervisor approved:** 08/06/15 15:24 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
Chlorobenzene-D5	3114-55-4		15.80	Poor instrument integration

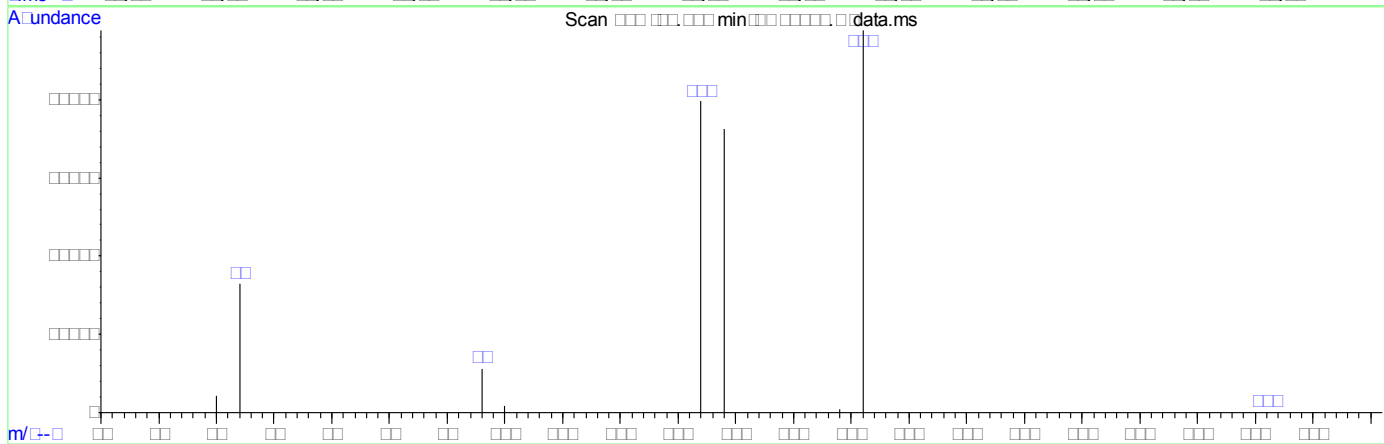
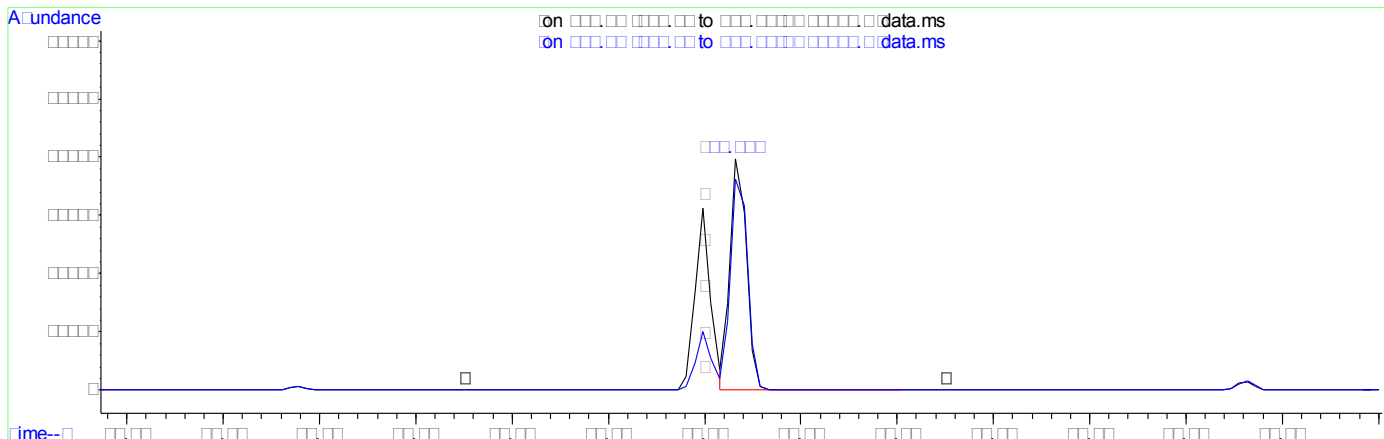
7.3.1.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150805\
Data File : Q30520.D
Acq On : 5 Aug 2015 2:42 pm
Operator : emilya
Sample : BS
Misc : MS1855,VQ1326,50,,,,,1
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 05 15:05:19 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Wed Aug 05 09:20:57 2015
Response via : Initial Calibration



Chlorobenzene-d5

Scan	min	ppm	response	Act

7.3.1.2
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30527.D
 Acq On : 5 Aug 2015 6:17 pm
 Operator : emilya
 Sample : C41017-1MS
 Misc : MS1855,VQ1326,50,,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 06 11:29:49 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration

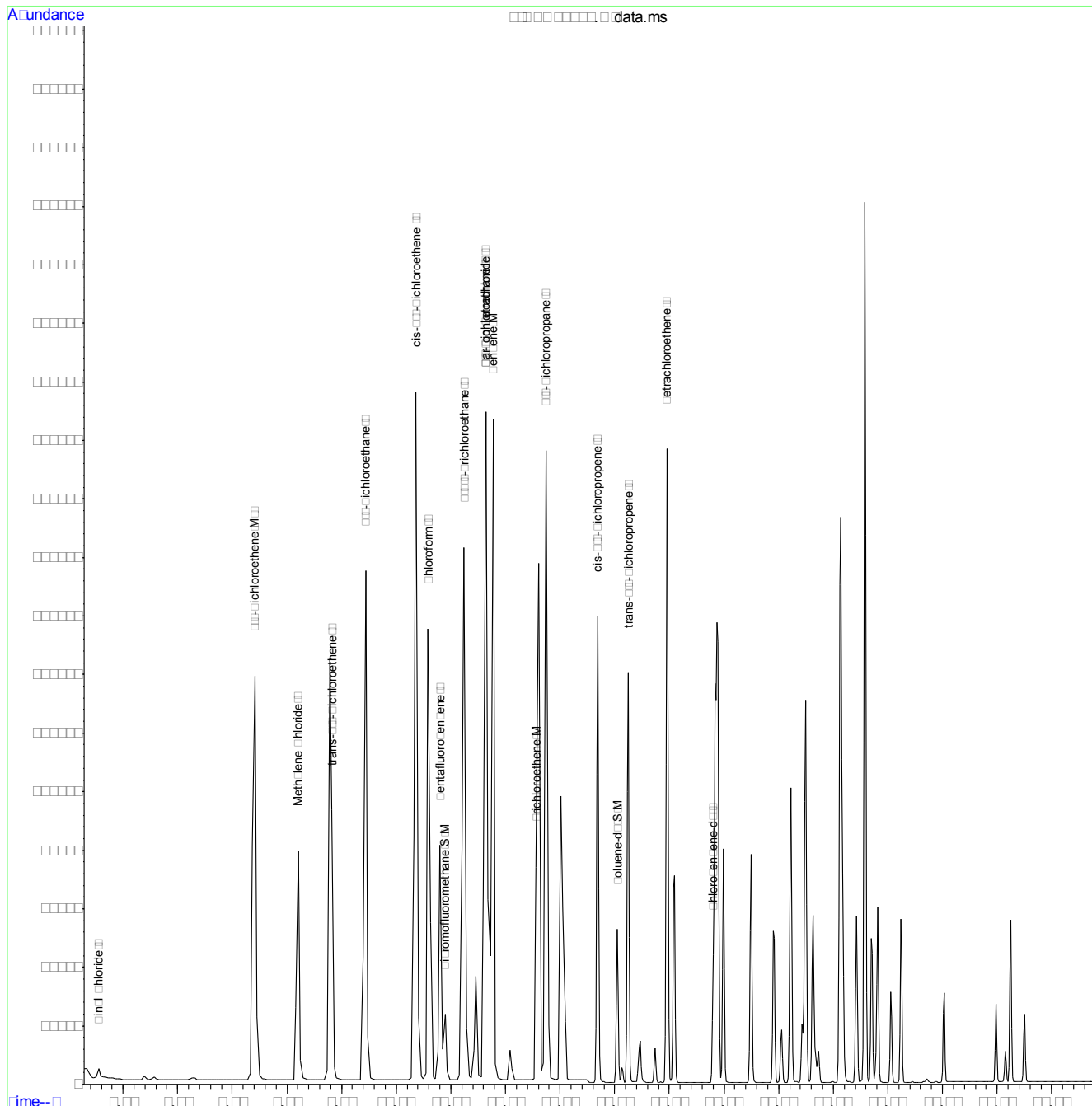
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	451608	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	647007m	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	304904	4.99	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.80%		
18) Toluene-d8	14.048	98	758460	5.00	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.00%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	62454	0.30	ppb		95
3) 1,1-Dichloroethene	7.413	96	1411292	12.13	ppb		100
4) Methylene Chloride	8.206	84	1711104	11.10	ppb	#	100
5) trans-1,2-Dichloroethene	8.822	96	1444910	10.65	ppb		99
6) 1,1-Dichloroethane	9.439	63	3408841	11.12	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	1985014	11.96	ppb		99
8) Chloroform	10.584	83	3278307	11.31	ppb		89
10) 1,1,1-Trichloroethane	11.244	97	2703215	12.25	ppb		100
11) Carbon Tetrachloride	11.641	117	2270244	12.67	ppb		100
12) 1,2-Dichloroethane	11.641	62	2682132	10.81	ppb		100
13) Benzene	11.773	78	6486718	11.50	ppb		100
14) Trichloroethene	12.565	95	1493681	11.33	ppb		99
15) 1,2-Dichloropropane	12.741	63	2074401	11.28	ppb		100
16) cis-1,3-Dichloropropene	13.688	75	3175394	12.23	ppb		100
19) trans-1,3-Dichloropropene	14.254	75	2454179	11.28	ppb		100
20) Tetrachloroethene	14.956	164	1165822	11.05	ppb		100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30527.D
 Acq On : 5 Aug 2015 6:17 pm
 Operator : emilya
 Sample : C41017-1MS
 Misc : MS1855,VQ1326,50,,,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 06 11:29:49 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration



7.4.1
7

Manual Integration Approval Summary

Sample Number: C41017-1MS **Method:** SW846 8260B BY SIM
Lab FileID: Q30527.D **Analyst approved:** 08/06/15 11:30 Emily Amparo
Injection Time: 08/05/15 18:17 **Supervisor approved:** 08/06/15 15:24 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
Chlorobenzene-D5	3114-55-4		15.80	Poor instrument integration

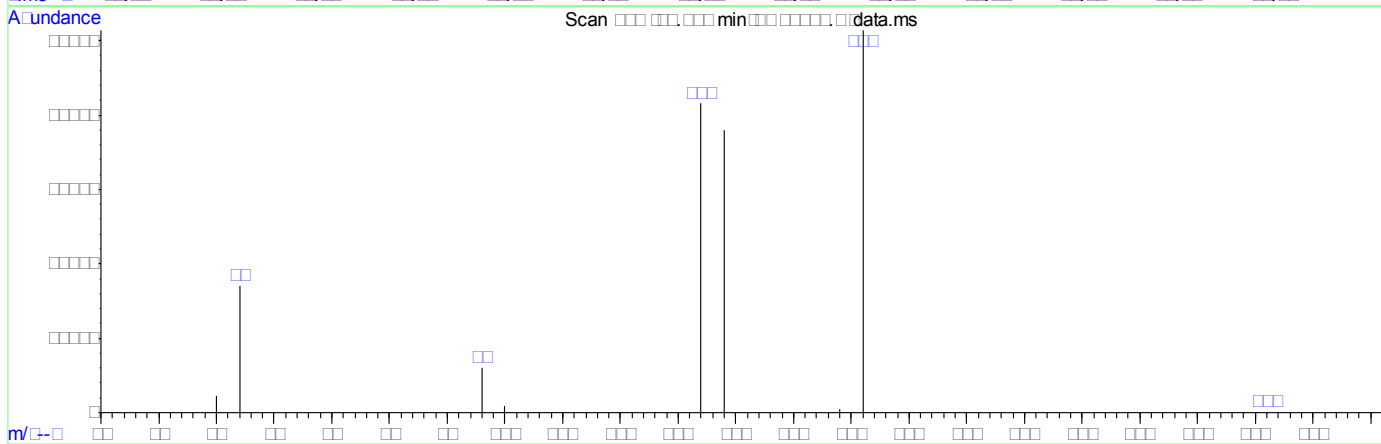
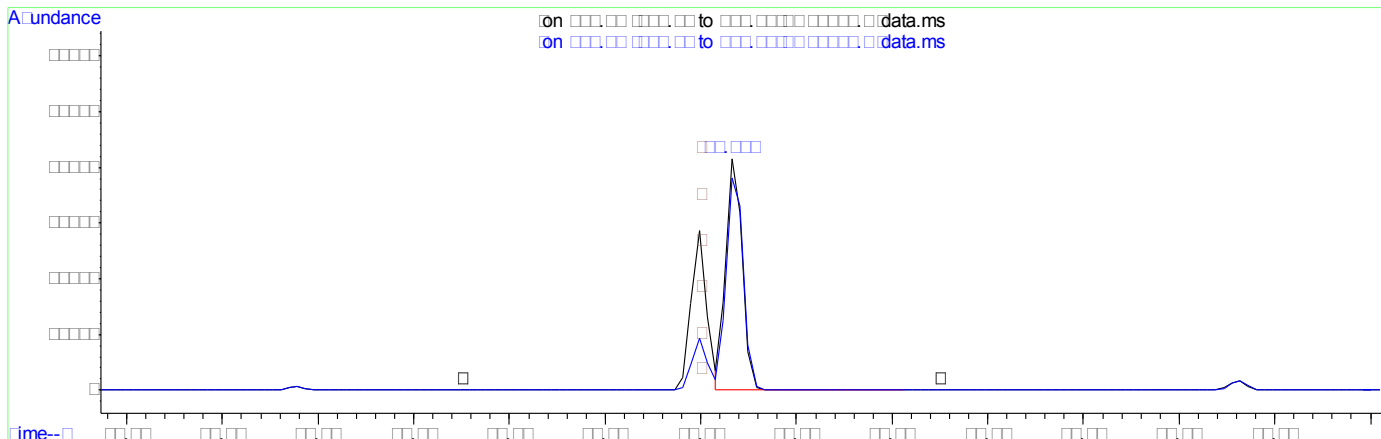
7.4.1.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150805\
Data File : Q30527.D
Acq On : 5 Aug 2015 6:17 pm
Operator : emilya
Sample : C41017-1MS
Misc : MS1855,VQ1326,50,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 06 09:05:41 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Wed Aug 05 09:20:57 2015
Response via : Initial Calibration



data.ms

Retention Time (min)	Abundance	Peak Label
~10.5	High	Chlorobenzene-d5
~5.2	Low	...
~7.8	Low	...
~9.1	Low	...

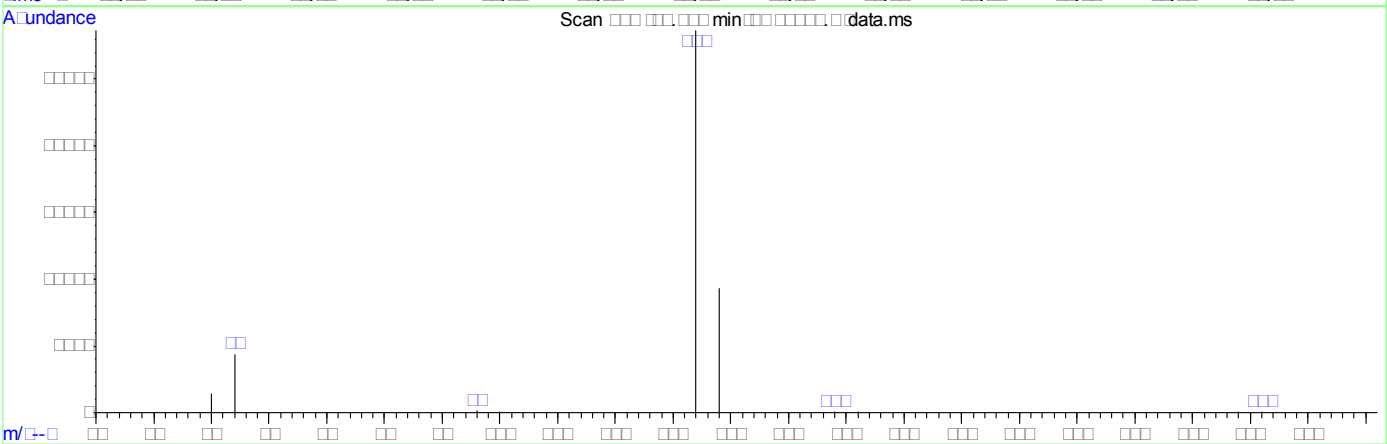
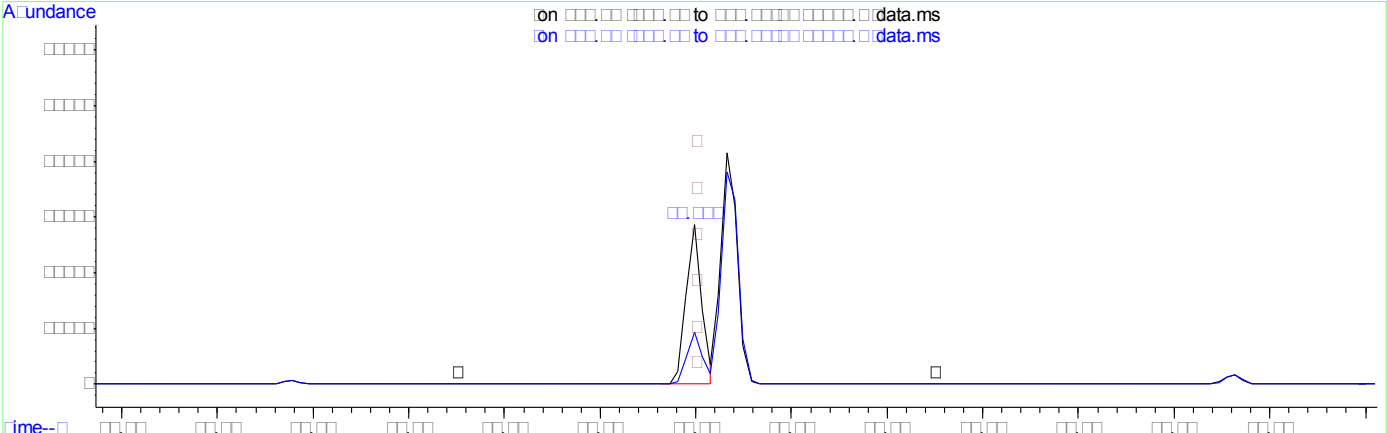
data.ms

7.4.1.2
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30527.D
 Acq On : 5 Aug 2015 6:17 pm
 Operator : emilya
 Sample : C41017-1MS
 Misc : MS1855,VQ1326,50,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 06 09:05:41 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration



Scan	Abundance	Retention Time (min)	Identification
1000	High	~10.5	Chlorobenzene-d5
100	Low	~1.0	Chlorobenzene-d5
2000	Low	~15.0	Chlorobenzene-d5
3000	Low	~20.0	Chlorobenzene-d5

7.4.1.3
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30528.D
 Acq On : 5 Aug 2015 6:48 pm
 Operator : emilya
 Sample : C41017-1MSD
 Misc : MS1855,VQ1326,50,,,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 06 11:30:20 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	489519	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	703934m	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	329790	4.98	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.60%		
18) Toluene-d8	14.048	98	825611	5.00	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.00%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	57860	0.26	ppb		94
3) 1,1-Dichloroethene	7.414	96	1427314	11.31	ppb		99
4) Methylene Chloride	8.206	84	1731197	10.36	ppb	#	100
5) trans-1,2-Dichloroethene	8.823	96	1461042	9.93	ppb		99
6) 1,1-Dichloroethane	9.439	63	3445895	10.37	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	2025489	11.26	ppb		99
8) Chloroform	10.584	83	3407232	10.84	ppb		89
10) 1,1,1-Trichloroethane	11.244	97	2745672	11.48	ppb		100
11) Carbon Tetrachloride	11.641	117	2300205	11.84	ppb		100
12) 1,2-Dichloroethane	11.641	62	2787721	10.36	ppb		100
13) Benzene	11.773	78	6538955	10.70	ppb		100
14) Trichloroethene	12.565	95	1526680	10.69	ppb		99
15) 1,2-Dichloropropane	12.741	63	2123190	10.65	ppb		100
16) cis-1,3-Dichloropropene	13.688	75	3259829	11.59	ppb		100
19) trans-1,3-Dichloropropene	14.254	75	2524857	10.66	ppb		100
20) Tetrachloroethene	14.957	164	1187557	10.34	ppb		100

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

Manual Integration Approval Summary

Sample Number: C41017-1MSD **Method:** SW846 8260B BY SIM
Lab FileID: Q30528.D **Analyst approved:** 08/06/15 11:30 Emily Amparo
Injection Time: 08/05/15 18:48 **Supervisor approved:** 08/06/15 15:24 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
Chlorobenzene-D5	3114-55-4		15.80	Poor instrument integration

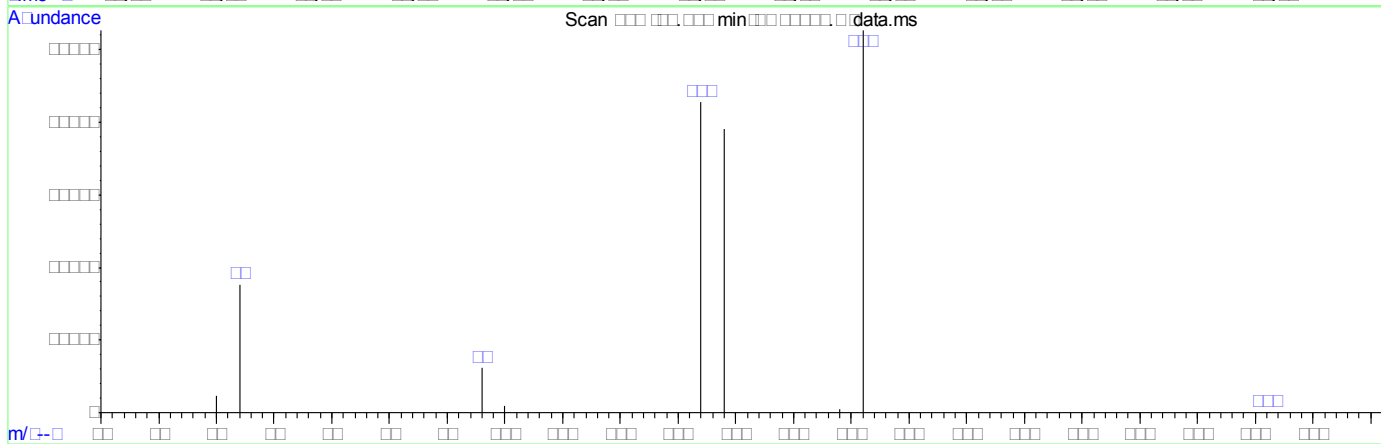
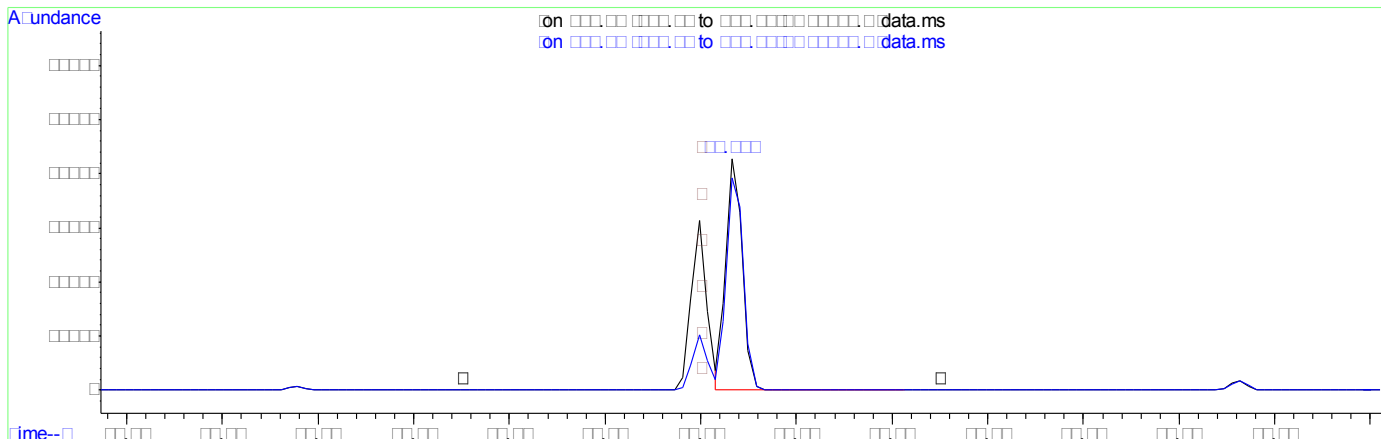
7.4.2.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30528.D
 Acq On : 5 Aug 2015 6:48 pm
 Operator : emilya
 Sample : C41017-1MSD
 Misc : MS1855,VQ1326,50,,,,,1
 ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 06 09:05:50 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration



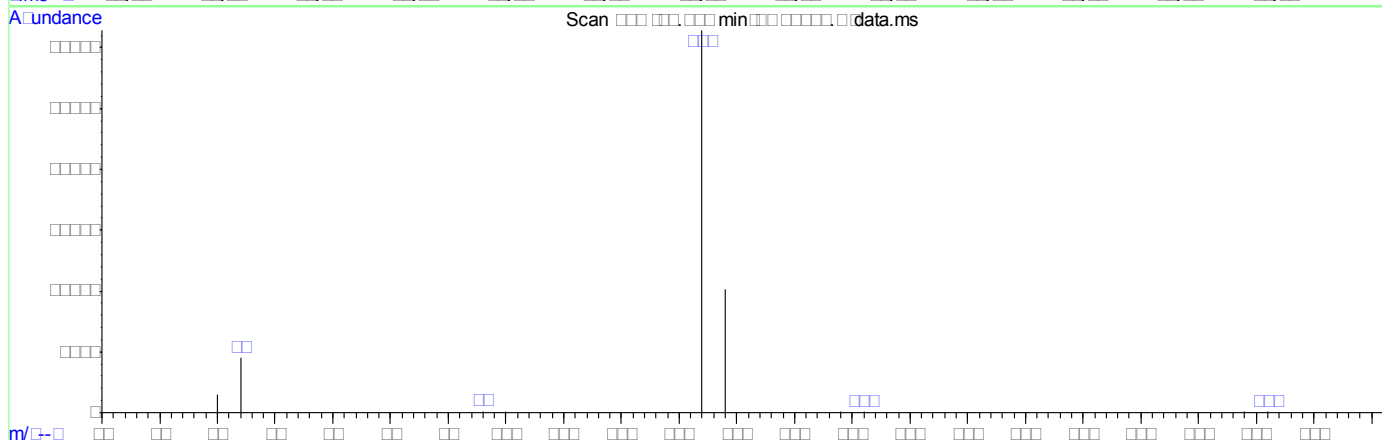
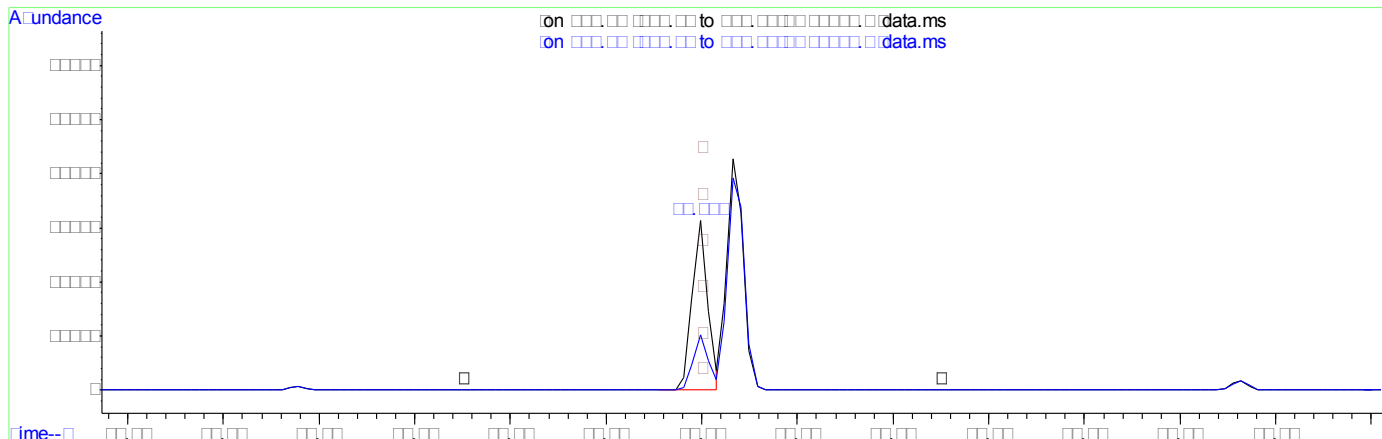
Scan	Abundance	Retention Time (min)	Identification
100	Low	~1.0	Chlorobenzene-d5
200	Low	~2.0	Chlorobenzene-d5
1000	High	10.500	Chlorobenzene-d5
900	Low	~9.0	Chlorobenzene-d5

7.4.2.2
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150805\
Data File : Q30528.D
Acq On : 5 Aug 2015 6:48 pm
Operator : emilya
Sample : C41017-1MSD
Misc : MS1855,VQ1326,50,,,1
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 06 09:05:50 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Wed Aug 05 09:20:57 2015
Response via : Initial Calibration



m/ data.ms

chlorobenzene-d5
min
response
on
Act

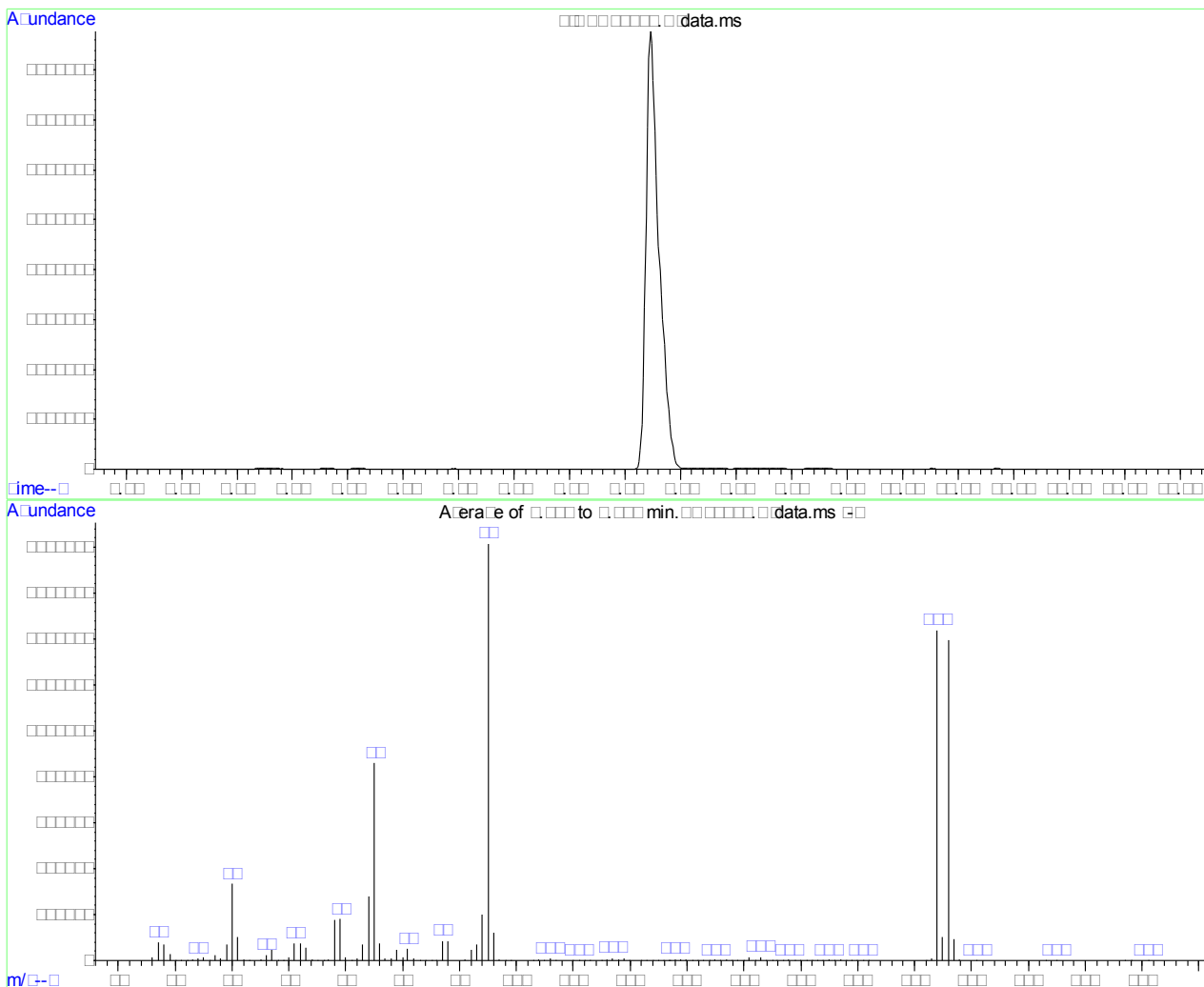
7.4.2.3
7

BFB

Data File : C:\msdchem\1\DATA\150804\Q30500.D
 Acq On : 4 Aug 2015 2:13 pm
 Sample : BFB
 Misc : MS1855,VQ1325,50,,,,,1
 MS Integration Params: RTEINT.P

Vial: 1
 Operator: emilya
 Inst : MSVOA-Q
 Multiplr: 1.00

Method : C:\msdchem\1\MET...1325_150804SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B



AutoFind: Scans 795, 796, 797; Background Corrected with Scan 782

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.4	333739	PASS
75	95	30	60	47.4	860181	PASS
95	95	100	100	100.0	1816064	PASS
96	95	5	9	6.7	121688	PASS
173	174	0.00	2	0.6	8291	PASS
174	95	50	100	79.2	1438037	PASS
175	174	5	9	7.1	101901	PASS
176	174	95	101	97.2	1397248	PASS
177	176	5	9	6.6	91837	PASS

Average of 9.085 to 9.095 min.: Q30500.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	14141	47.05	25165	59.05	415	70.00	14080
37.00	80184	47.95	9674	60.00	14359	71.05	1416
38.00	72224	49.00	68205	61.00	75025	72.00	8427
39.05	28465	50.00	333739	62.00	74853	73.00	71122
40.00	1080	51.00	101573	63.00	56419	74.00	279787
41.05	1496	52.05	4221	64.05	5260	75.00	860181
42.05	591	53.00	227	65.05	436	76.00	73299
43.00	3217	55.00	4825	66.10	62	76.95	10716
44.00	9116	56.00	24853	67.00	4167	77.95	7310
45.00	14979	57.00	47968	68.00	177664	78.90	48557
46.05	1100	58.05	2060	69.00	180245	80.00	14062

Average of 9.085 to 9.095 min.: Q30500.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
80.90	49781	94.00	198741	109.95	954	122.90	503
81.90	10901	95.00	1.81606e+006	110.95	1263	123.90	1078
83.05	1018	96.00	121688	111.90	947	124.85	479
84.05	288	97.00	3579	112.95	1427	125.90	626
85.05	752	98.10	179	114.90	1610	126.80	167
85.95	1888	99.05	141	115.90	5590	126.95	303
87.00	85605	102.95	832	116.90	10092	127.90	6263
88.00	82280	103.95	7096	117.90	5797	128.90	2918
90.95	5605	104.90	2387	118.90	8479	129.90	6253
92.00	46549	105.90	7274	119.85	321	130.95	2290
93.00	71691	106.90	1704	121.90	441	131.90	251

Average of 9.085 to 9.095 min.: Q30500.D\data.ms

BFB

Modified:subtracted

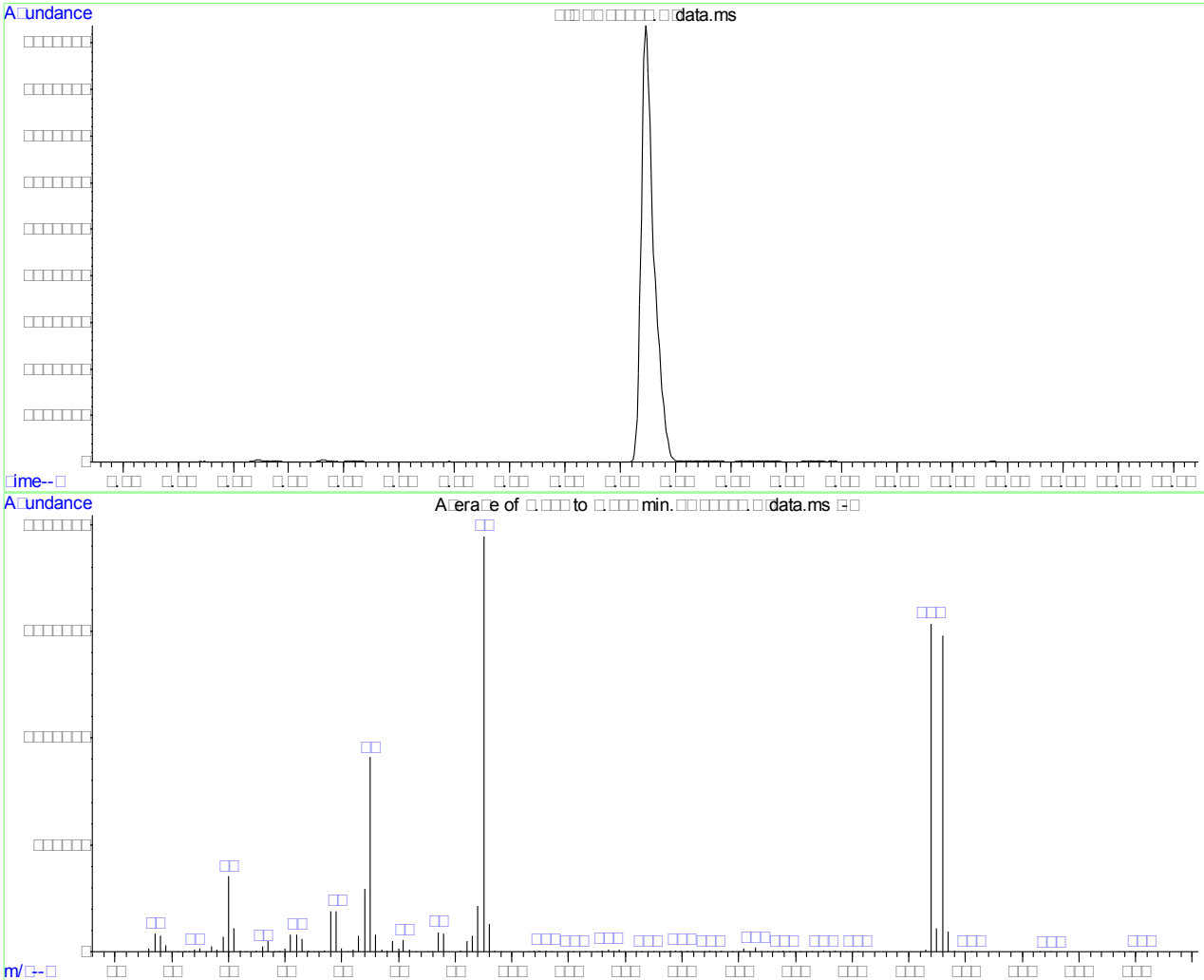
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
132.90	58	143.95	907	154.95	3951	174.90	101901
133.90	430	144.95	1369	155.95	554	175.90	1.39725e+006
134.90	3218	145.85	2255	156.95	2855	176.95	91837
135.90	517	146.90	1135	157.95	340	177.90	2645
136.90	2861	147.90	4199	158.90	1846	180.95	169
137.80	54	148.90	1212	159.90	51	193.00	50
138.90	483	149.90	1861	160.90	1755	194.90	105
139.95	998	150.95	272	162.00	58	207.00	123
140.90	16048	151.90	815	172.00	438	208.00	60
141.95	1850	152.90	1152	173.00	8291	211.05	191
142.90	16094	153.90	949	173.95	1.43804e+006		

BFB

Data File : C:\msdchem\1\DATA\150804\Q30513.D
 Acq On : 5 Aug 2015 9:57 am
 Sample : BFB1
 Misc : MS1855,VQ1325,50,,,,,1
 MS Integration Params: RTEINT.P

Vial: 1
 Operator: emilya
 Inst : MSVOA-Q
 Multiplr: 1.00

Method : C:\msdchem\1\MET...1325_150804SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B



AutoFind: Scans 795, 796, 797; Background Corrected with Scan 782

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	18.2	353387	PASS
75	95	30	60	46.8	910474	PASS
95	95	100	100	100.0	1945429	PASS
96	95	5	9	6.7	130219	PASS
173	174	0.00	2	0.6	8712	PASS
174	95	50	100	79.0	1536853	PASS
175	174	5	9	7.1	109803	PASS
176	174	95	101	96.3	1480192	PASS
177	176	5	9	6.6	97219	PASS

7.5.2
 7

Average of 9.085 to 9.095 min.: Q30513.D\data.ms

BFB1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.00	14920	47.05	26501	58.80	124	69.00	190464
37.00	85656	48.00	10081	58.95	243	70.00	14835
38.00	77293	49.00	71325	60.00	14984	71.05	558
39.00	29741	50.00	353387	61.00	79067	72.00	8965
40.00	946	51.00	108243	62.00	79760	73.00	76812
41.05	211	52.00	4659	63.00	59928	74.00	295467
42.10	189	53.00	197	64.05	5218	74.95	910474
43.05	995	54.95	4250	65.05	446	76.00	77861
44.00	9416	56.00	25685	65.80	53	77.00	11471
45.00	15650	57.00	48663	67.00	4186	77.95	7648
46.05	1169	58.05	1994	68.00	189077	78.90	51421

Average of 9.085 to 9.095 min.: Q30513.D\data.ms

BFB1
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
80.00	15156	94.00	212416	110.90	1392	123.90	1124
80.90	52832	95.00	1.94543e+006	111.90	1076	124.90	544
81.90	11894	96.00	130219	112.95	1319	125.85	699
83.00	1067	97.00	3679	114.90	1687	126.85	481
85.10	64	98.05	111	115.90	6208	127.90	6456
85.95	2017	102.90	754	116.95	10785	128.90	3065
87.00	90539	103.90	7419	117.90	6293	129.90	6565
88.00	87211	104.90	2802	118.85	8653	130.90	2774
90.90	6298	105.90	7501	119.95	360	131.80	65
92.00	49528	106.90	1874	121.85	490	131.95	223
93.00	75851	109.85	1033	122.85	566	133.90	421

Average of 9.085 to 9.095 min.: Q30513.D\data.ms

BFB1
Modified:subtracted

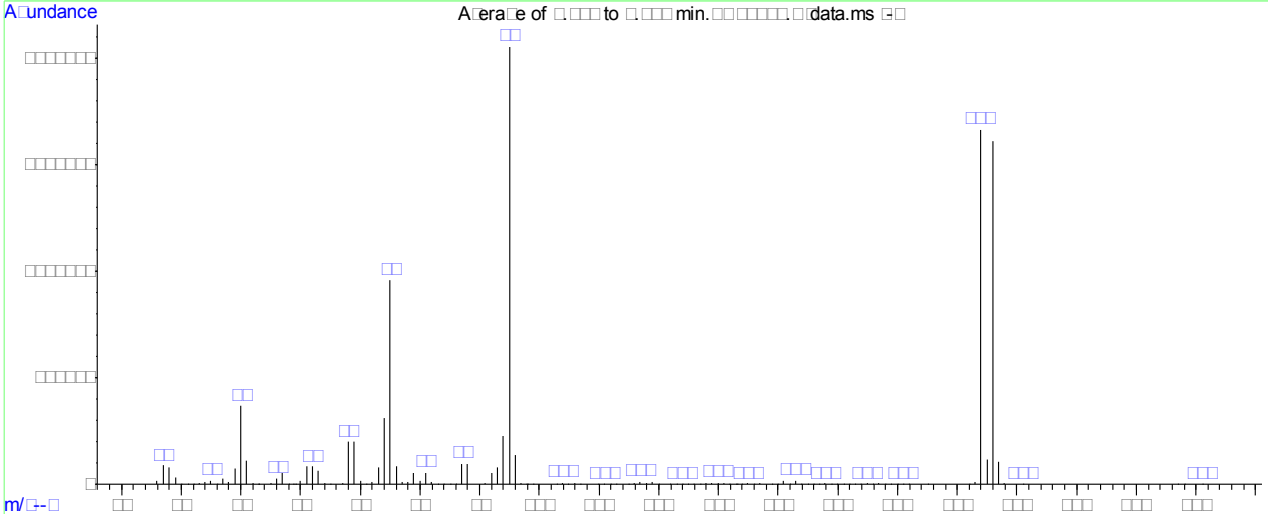
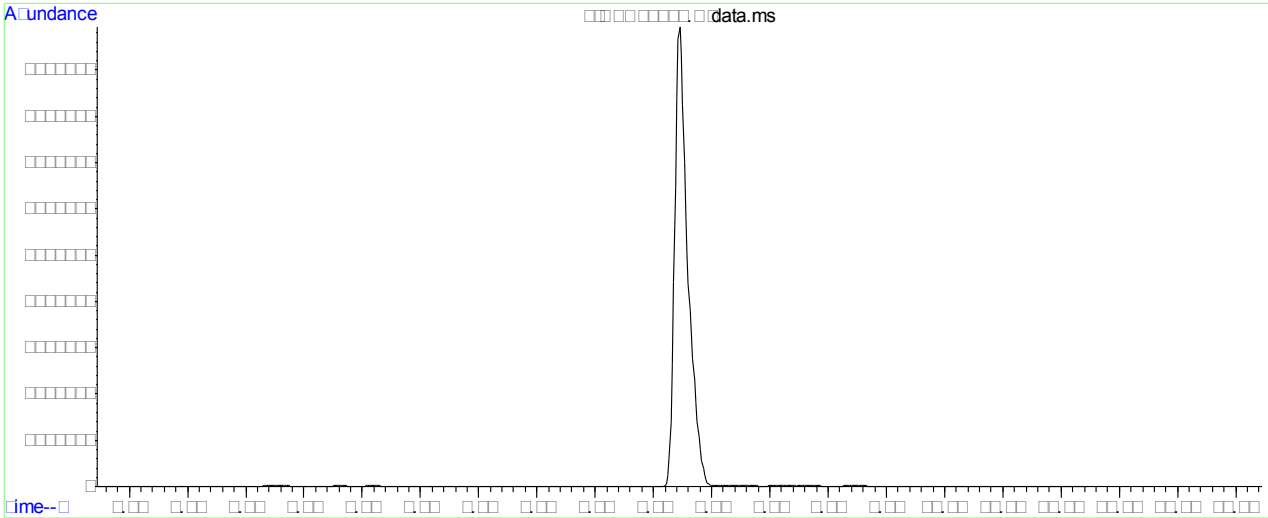
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
134.90	3292	146.90	1241	157.95	334	181.00	236
135.90	590	147.90	4409	158.90	2001	193.00	50
136.90	2996	148.90	1302	159.95	128	195.00	56
138.85	557	149.90	1832	160.90	1962	206.95	75
139.95	1138	150.90	286	172.00	615	207.95	106
140.90	16969	151.90	905	173.00	8712	209.10	55
141.90	1930	152.90	1365	173.90	1.53685e+006	211.05	215
142.90	17720	153.90	1112	174.95	109803		
143.95	1030	154.90	4234	175.90	1.48019e+006		
144.95	1432	155.95	613	176.90	97219		
145.90	2622	156.95	3112	178.00	2696		

BFB

Data File : C:\msdchem\1\DATA\150805\Q30518.D
 Acq On : 5 Aug 2015 1:54 pm
 Sample : BFB
 Misc : MS1855,VQ1326,50,,,,,1
 MS Integration Params: RTEINT.P

Vial: 1
 Operator: emilya
 Inst : MSVOA-Q
 Multiplr: 1.00

Method : C:\msdchem\1\MET...1325_150804SIM.M (RTE Integrator)
 Title : WATER-EPA 8260B



AutoFind: Scans 795, 796, 797; Background Corrected with Scan 781

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.9	367957	PASS
75	95	30	60	46.6	957589	PASS
95	95	100	100	100.0	2053461	PASS
96	95	5	9	6.7	136896	PASS
173	174	0.00	2	0.6	9314	PASS
174	95	50	100	81.0	1663659	PASS
175	174	5	9	7.0	116901	PASS
176	174	95	101	96.9	1611947	PASS
177	176	5	9	6.6	105984	PASS

7.5.3
 7

Average of 9.085 to 9.095 min.: Q30518.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
35.95	15829	47.00	27600	58.00	2355	69.00	197909
37.00	88147	48.00	10398	58.80	368	70.00	16030
38.00	79763	49.00	74715	59.10	108	71.00	1559
39.00	30941	50.00	367957	60.00	15527	72.00	9428
40.00	1086	51.00	112589	61.00	83392	73.00	80708
41.10	1684	52.05	4809	62.00	83640	74.00	312064
42.00	431	52.90	91	63.00	63136	75.00	957589
43.05	3271	53.05	171	64.05	5732	76.00	82128
44.00	9549	55.00	4770	65.00	455	77.00	12065
44.95	16698	56.00	27320	67.00	4697	77.95	8107
46.10	1222	57.00	53813	68.00	198997	78.90	53555

Average of 9.085 to 9.095 min.: Q30518.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
79.95	15587	93.00	78808	105.90	7878	119.95	366
80.90	54261	94.00	223979	106.90	1944	121.85	513
81.90	12273	95.00	2.05346e+006	109.90	982	122.95	589
82.95	1141	96.00	136896	110.90	1587	123.90	1250
84.05	339	97.00	4034	111.95	990	124.95	519
85.05	812	97.90	92	112.90	1558	125.90	757
86.00	2286	98.10	177	114.90	1871	126.90	584
87.00	96117	99.05	191	115.90	6494	127.90	6804
88.00	93027	102.90	880	116.90	11304	128.90	3216
90.95	6185	103.90	7882	117.90	6956	129.90	6882
92.00	52771	104.90	2757	118.90	9510	130.90	2929

Average of 9.085 to 9.095 min.: Q30518.D\data.ms

BFB

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
131.90	362	142.90	18581	153.90	1224	172.95	9314
132.90	131	143.90	1082	154.95	4654	173.90	1.66366e+006
133.10	61	144.95	1534	155.95	679	174.95	116901
133.95	522	145.90	2646	156.90	3206	175.90	1.61195e+006
134.90	3489	146.95	1283	157.95	377	176.90	105984
135.95	588	147.90	4668	158.90	2082	177.90	3038
136.90	3199	148.95	1420	159.95	127	181.00	146
138.90	601	149.95	1912	160.90	2056	206.95	196
139.90	1173	150.95	269	161.90	161	208.10	51
140.90	17805	151.90	895	165.10	50	211.05	225
141.95	2143	152.95	1435	172.05	401		

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30502.D
 Acq On : 4 Aug 2015 2:59 pm
 Operator : emilya
 Sample : IC1325-0.1
 Misc : MS1855,VQ1325,50,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 05 09:14:48 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration

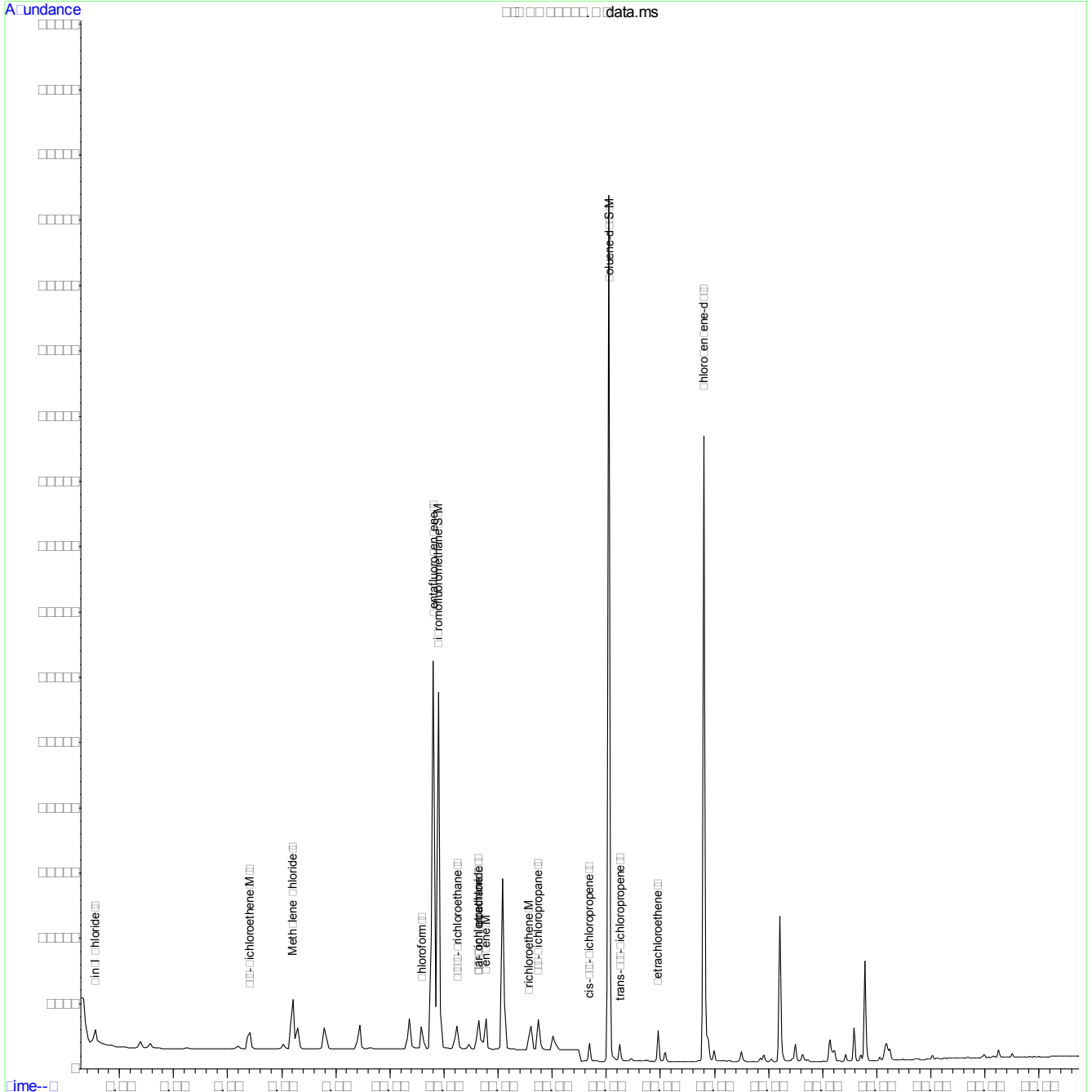
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	571187	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	812412	5.00	ppb	# 0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	376764	4.98	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.60%	
18) Toluene-d8	14.048	98	962442	5.05	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	101.00%	
Target Compounds						
						Qvalue
2) Vinyl Chloride	4.551	62	23593	0.10	ppb	# 44
3) 1,1-Dichloroethene	7.413	96	15244	0.12	ppb	# 72
4) Methylene Chloride	8.206	84	89352	0.53	ppb	# 100
5) trans-1,2-Dichloroethene	8.823	96	17965	Below Cal		90
6) 1,1-Dichloroethane	9.439	63	37277	Below Cal	#	91
7) cis-1,2-Dichloroethene	10.364	96	20026	Below Cal		99
8) Chloroform	10.584	83	35454	0.11	ppb	98
10) 1,1,1-Trichloroethane	11.244	97	26869	0.11	ppb	100
11) Carbon Tetrachloride	11.641	117	21294	0.10	ppb	97
12) 1,2-Dichloroethane	11.641	62	29906	0.11	ppb	97
13) Benzene	11.773	78	70063	0.11	ppb	100
14) Trichloroethene	12.565	95	16275	0.11	ppb	97
15) 1,2-Dichloropropane	12.741	63	22008	0.11	ppb	# 39
16) cis-1,3-Dichloropropene	13.688	75	25893m	0.08	ppb	
19) trans-1,3-Dichloropropene	14.254	75	23806	0.09	ppb	# 43
20) Tetrachloroethene	14.957	164	13194	0.11	ppb	99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30502.D
 Acq On : 4 Aug 2015 2:59 pm
 Operator : emilya
 Sample : IC1325-0.1
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 05 09:14:48 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



7.6.1
 7

Manual Integration Approval Summary

Sample Number: VQ1325-IC1325 **Method:** SW846 8260B BY SIM
Lab FileID: Q30502.D **Analyst approved:** 08/05/15 14:08 Emily Amparo
Injection Time: 08/04/15 14:59 **Supervisor approved:** 08/06/15 08:05 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
cis-1,3-Dichloropropene	10061-01-5		13.69	Poor instrument integration

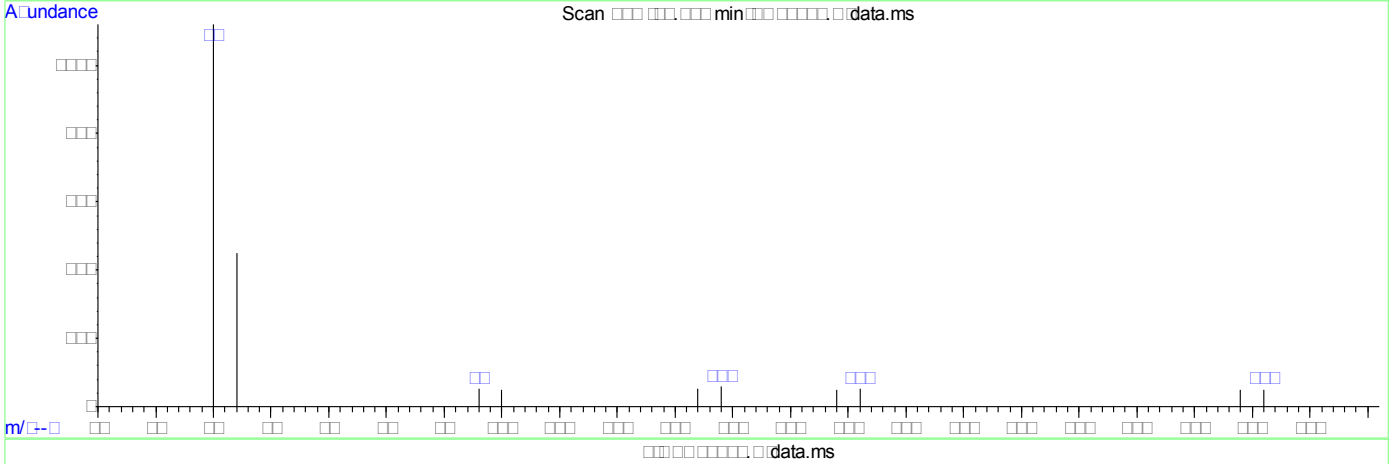
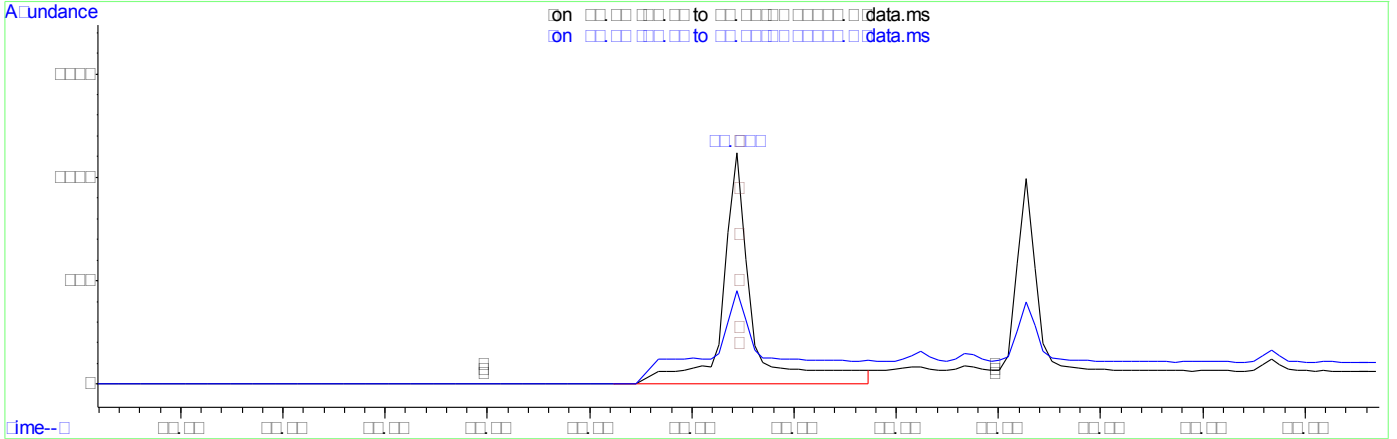
7.6.1.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30502.D
 Acq On : 4 Aug 2015 2:59 pm
 Operator : emilya
 Sample : IC1325-0.1
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 05 09:14:04 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



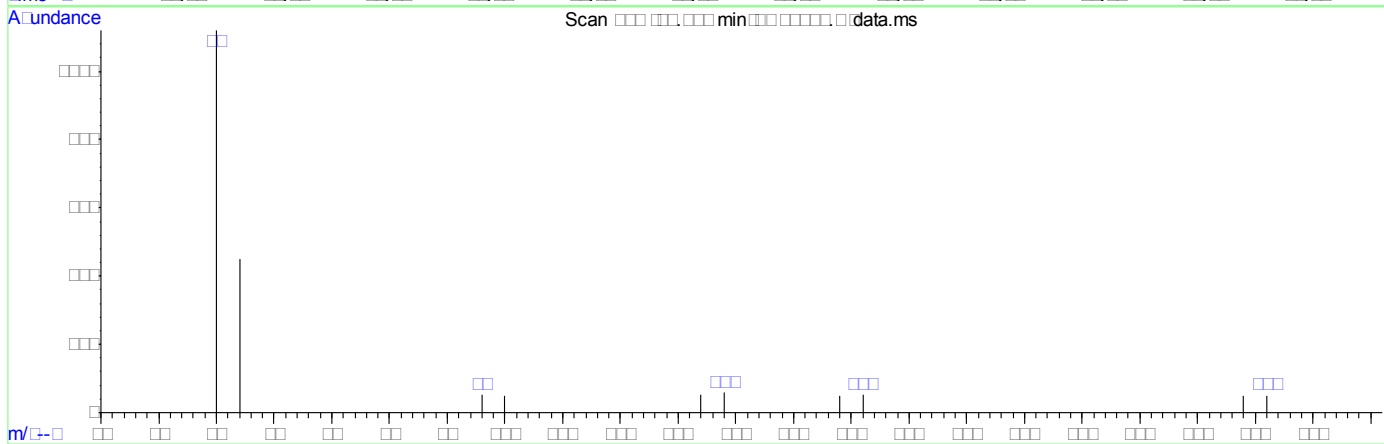
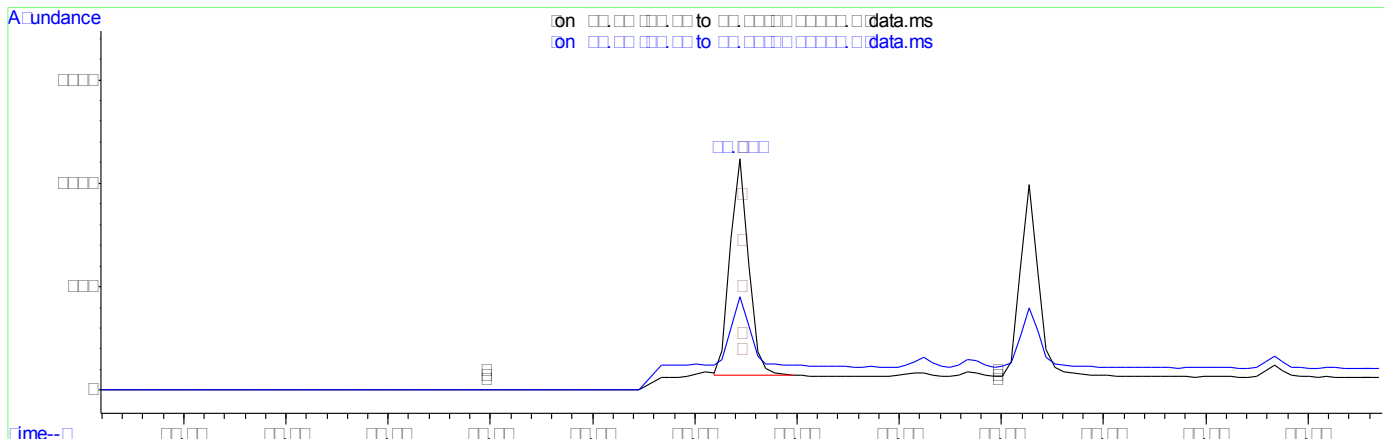
[] cis-[]-[]chloropropene []
 [] min [] []pp[]
 response []
 [] [] Act[]
 [] [] []
 [] [] []
 [] [] []
 [] [] []

7.6.1.2
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30502.D
 Acq On : 4 Aug 2015 2:59 pm
 Operator : emilya
 Sample : IC1325-0.1
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 05 09:14:04 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



cis-1,3-dichloropropene

min 0.0000 0.0000 m

response 0.0000

on 0.00 Act

0.00 0.00

0.00 0.00

0.00 0.00

0.00 0.00

7.6.1.3
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30503.D
 Acq On : 4 Aug 2015 3:29 pm
 Operator : emilya
 Sample : IC1325-0.25
 Misc : MS1855,VQ1325,50,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 05 09:15:57 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	480273	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	701660	5.00	ppb	# 0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	322789	5.07	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	101.40%		
18) Toluene-d8	14.048	98	815160	4.95	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.00%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	56988	0.28	ppb		95
3) 1,1-Dichloroethene	7.414	96	34557	0.32	ppb		95
4) Methylene Chloride	8.206	84	138388	0.98	ppb	#	100
5) trans-1,2-Dichloroethene	8.823	96	39815	0.13	ppb		97
6) 1,1-Dichloroethane	9.439	63	88372	0.13	ppb		99
7) cis-1,2-Dichloroethene	10.364	96	48928	0.15	ppb		98
8) Chloroform	10.584	83	85122	0.32	ppb		97
10) 1,1,1-Trichloroethane	11.244	97	62457	0.30	ppb		100
11) Carbon Tetrachloride	11.641	117	50486	0.29	ppb		99
12) 1,2-Dichloroethane	11.641	62	72470	0.32	ppb		100
13) Benzene	11.773	78	163276	0.32	ppb		100
14) Trichloroethene	12.609	95	37992	0.31	ppb		99
15) 1,2-Dichloropropane	12.742	63	53235	0.31	ppb	#	99
16) cis-1,3-Dichloropropene	13.688	75	66703m	0.25	ppb		
19) trans-1,3-Dichloropropene	14.254	75	58521	0.25	ppb		100
20) Tetrachloroethene	14.957	164	31426	0.31	ppb		100

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

Manual Integration Approval Summary

Sample Number: VQ1325-IC1325 **Method:** SW846 8260B BY SIM
Lab FileID: Q30503.D **Analyst approved:** 08/05/15 14:08 Emily Amparo
Injection Time: 08/04/15 15:29 **Supervisor approved:** 08/06/15 08:05 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
cis-1,3-Dichloropropene	10061-01-5		13.69	Poor instrument integration

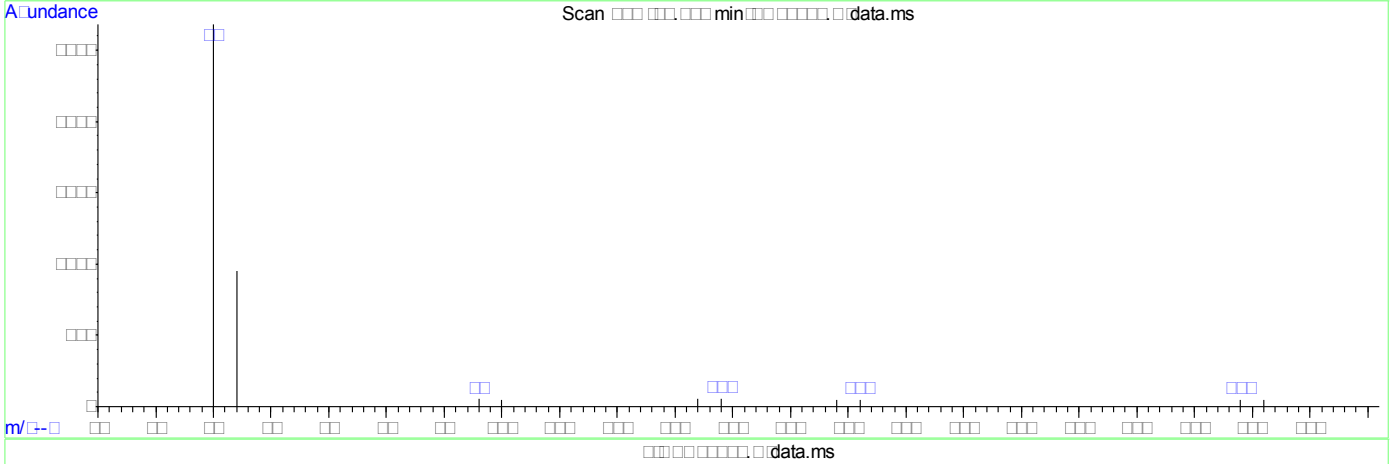
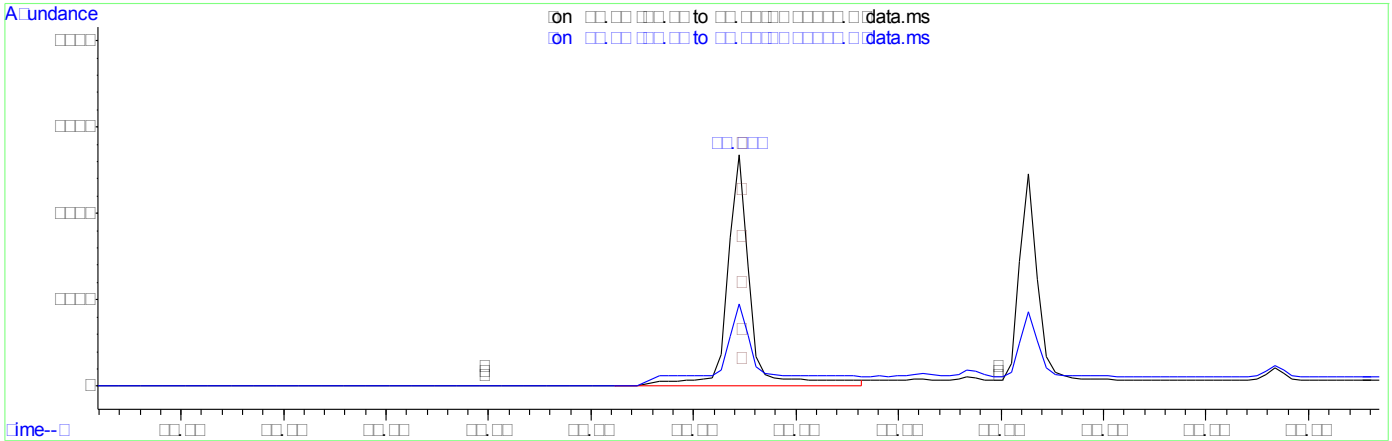
7.6.2.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30503.D
 Acq On : 4 Aug 2015 3:29 pm
 Operator : emilya
 Sample : IC1325-0.25
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 05 09:14:06 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



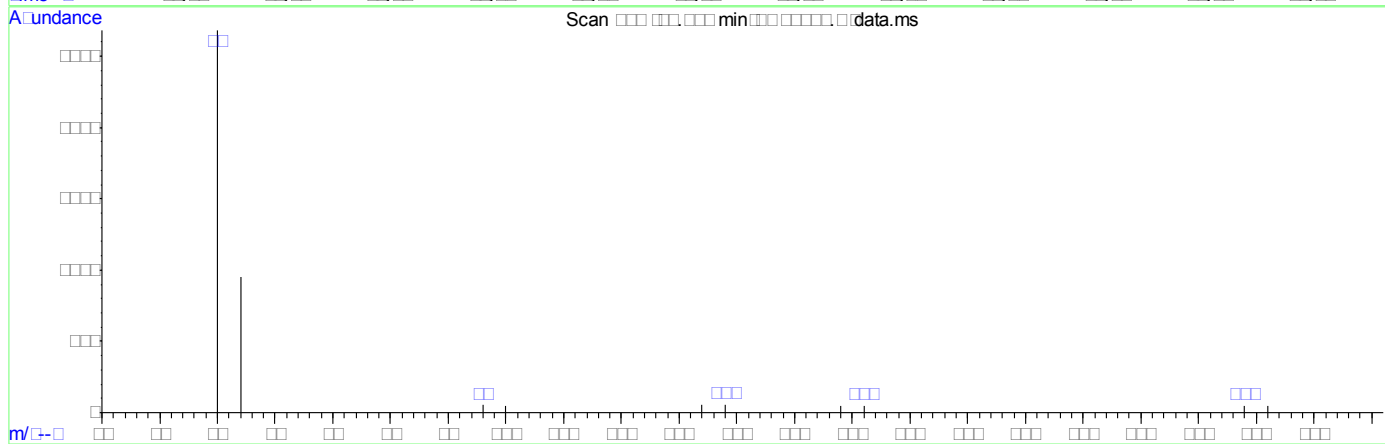
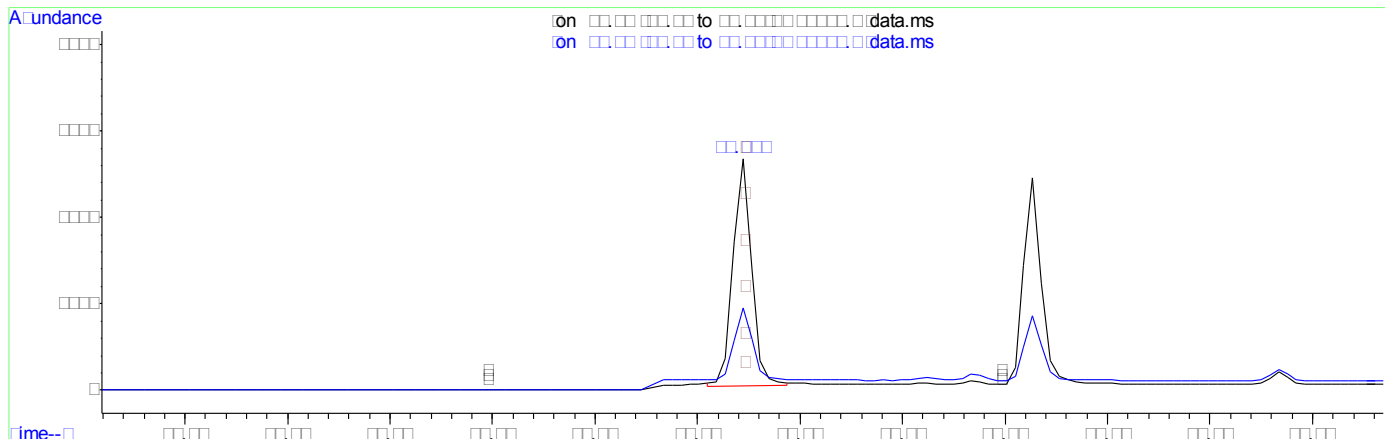
cis-1,3-dichloropropene
 min pp
 response
 Act

7.6.2.2
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30503.D
 Acq On : 4 Aug 2015 3:29 pm
 Operator : emilya
 Sample : IC1325-0.25
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 05 09:14:06 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



cis-1,3-dichloropropene

min 0.000000 0.000000 m

response 0.0000

ion 0.00 Act

0.00 0.00

0.00 0.00

0.00 0.00

0.00 0.00

7.6.2.3
 7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30504.D
 Acq On : 4 Aug 2015 4:00 pm
 Operator : emilya
 Sample : IC1325-0.5
 Misc : MS1855,VQ1325,50,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 05 09:16:29 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration

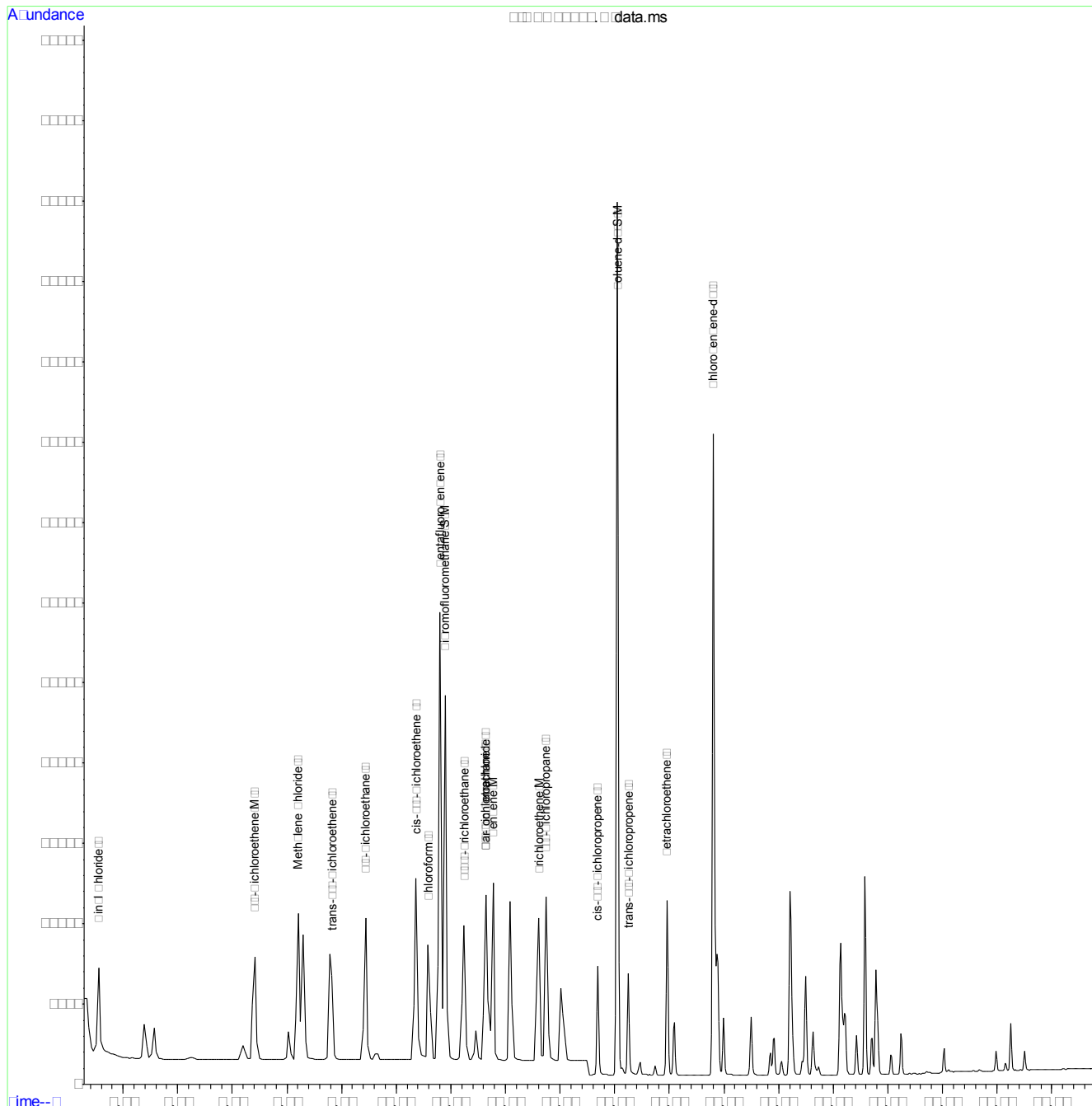
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	469945	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	709462	5.00	ppb	# 0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	318467	5.11	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	102.20%		
18) Toluene-d8	14.048	98	797761	4.79	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	95.80%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	114183	0.58	ppb		97
3) 1,1-Dichloroethene	7.413	96	64647	0.62	ppb		100
4) Methylene Chloride	8.206	84	193493	1.41	ppb	#	100
5) trans-1,2-Dichloroethene	8.822	96	75059	0.44	ppb		97
6) 1,1-Dichloroethane	9.439	63	171175	0.44	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	91463	0.45	ppb		100
8) Chloroform	10.584	83	158936	0.62	ppb		99
10) 1,1,1-Trichloroethane	11.244	97	122743	0.60	ppb		100
11) Carbon Tetrachloride	11.640	117	99683	0.59	ppb		100
12) 1,2-Dichloroethane	11.640	62	137569	0.63	ppb		100
13) Benzene	11.773	78	314678	0.62	ppb		100
14) Trichloroethene	12.609	95	73366	0.62	ppb		99
15) 1,2-Dichloropropane	12.741	63	99918	0.60	ppb	#	98
16) cis-1,3-Dichloropropene	13.688	75	123122m	0.47	ppb		
19) trans-1,3-Dichloropropene	14.254	75	114308	0.49	ppb		99
20) Tetrachloroethene	14.956	164	58988	0.57	ppb		99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30504.D
 Acq On : 4 Aug 2015 4:00 pm
 Operator : emilya
 Sample : IC1325-0.5
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 05 09:16:29 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



7.6.3
7

Manual Integration Approval Summary

Sample Number: VQ1325-IC1325 **Method:** SW846 8260B BY SIM
Lab FileID: Q30504.D **Analyst approved:** 08/05/15 14:08 Emily Amparo
Injection Time: 08/04/15 16:00 **Supervisor approved:** 08/06/15 08:05 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
cis-1,3-Dichloropropene	10061-01-5		13.69	Poor instrument integration

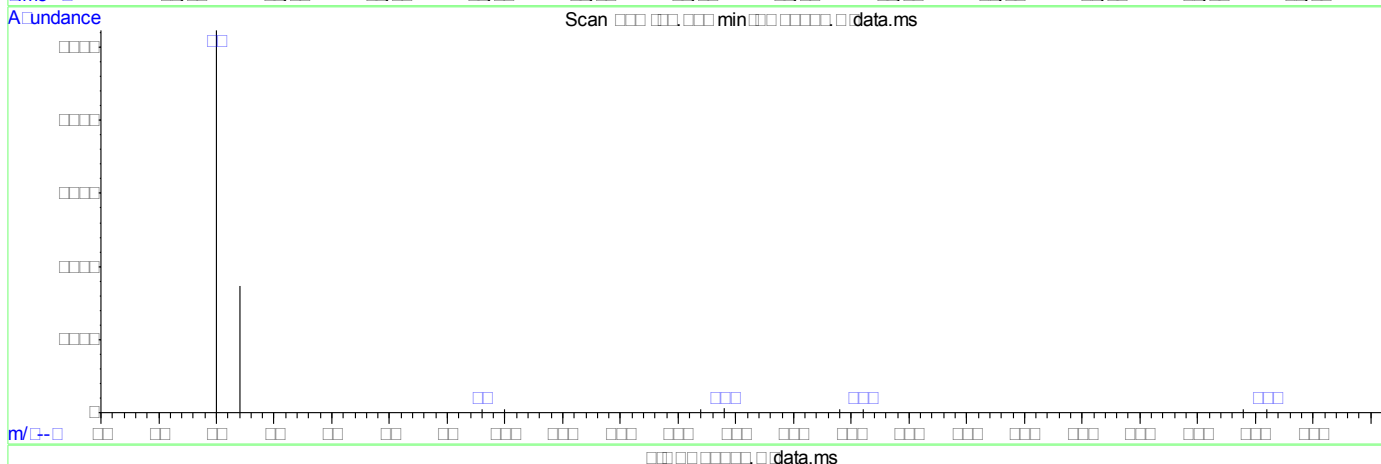
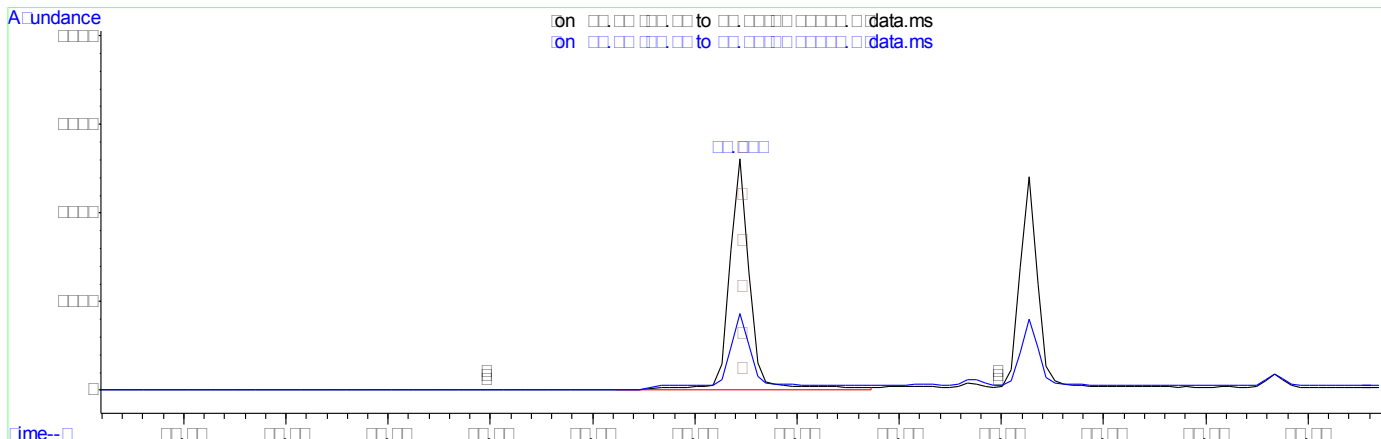
7.6.3.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30504.D
 Acq On : 4 Aug 2015 4:00 pm
 Operator : emilya
 Sample : IC1325-0.5
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 05 09:14:08 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



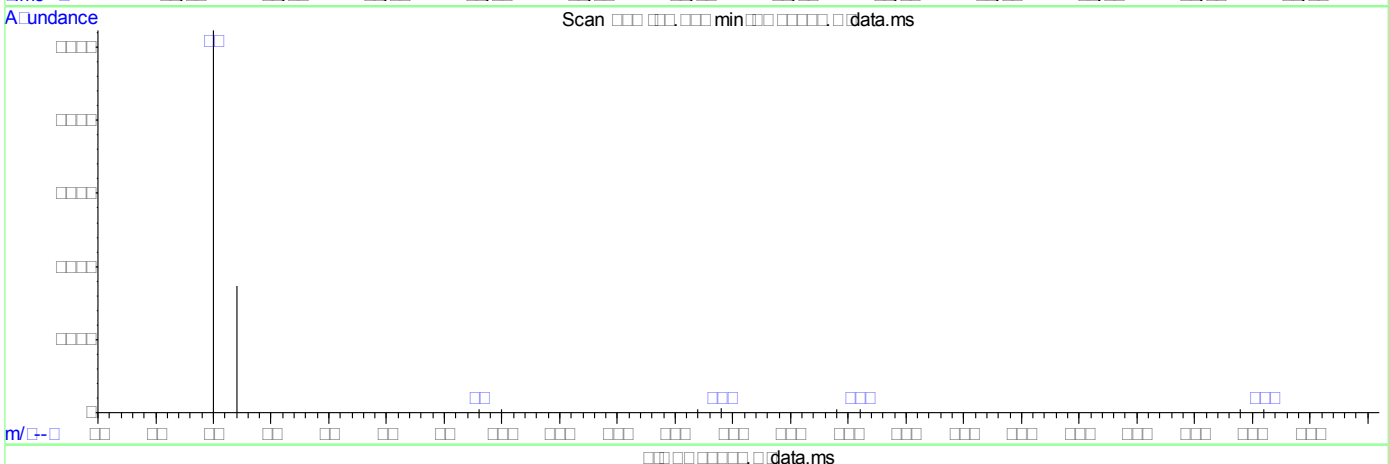
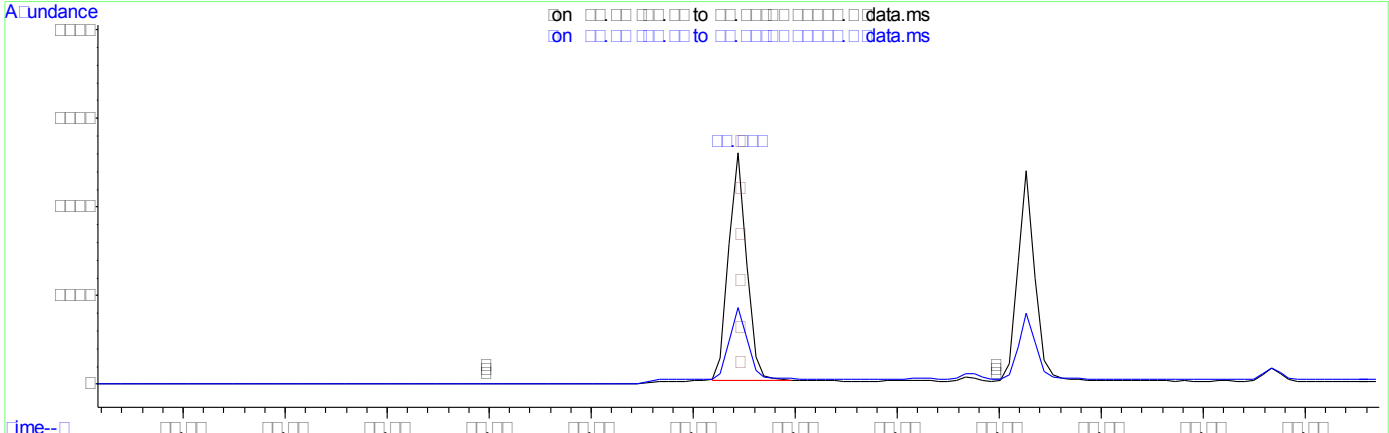
cis-1,3-dichloropropene
 min pp
 response
 on p Act

7.6.3.2
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30504.D
 Acq On : 4 Aug 2015 4:00 pm
 Operator : emilya
 Sample : IC1325-0.5
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 05 09:14:08 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



cis-1,3-dichloropropene
 min ppm
 response
 Act

7.6.3.3
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30505.D
 Acq On : 4 Aug 2015 4:31 pm
 Operator : emilya
 Sample : IC1325-1
 Misc : MS1855,VQ1325,50,,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 05 09:14:10 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration

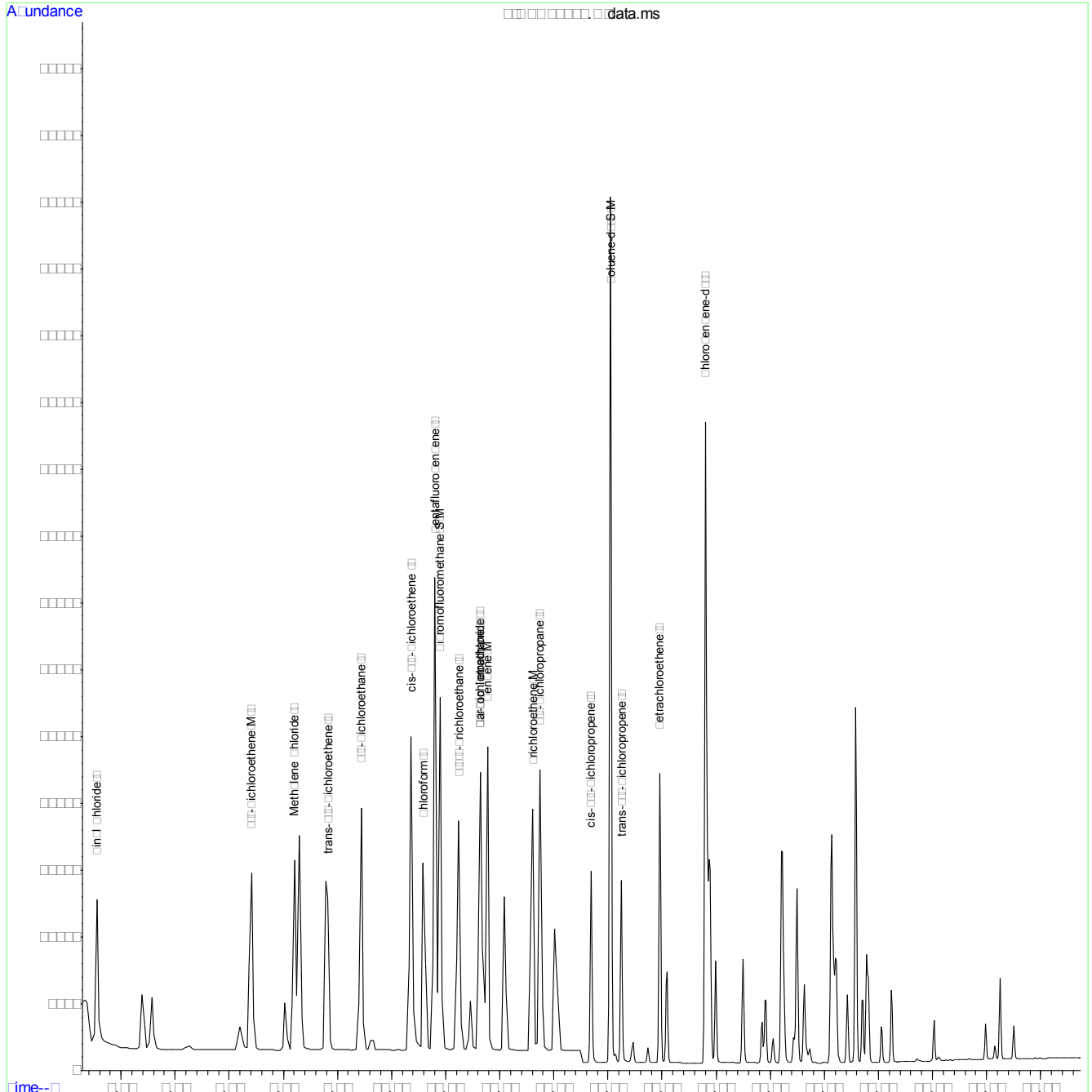
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	553050	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	791817	5.00	ppb	# 0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	372971	5.09	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	101.80%		
18) Toluene-d8	14.048	98	942190	5.07	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	101.40%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	231034	0.99	ppb		98
3) 1,1-Dichloroethene	7.413	96	129057	1.05	ppb		99
4) Methylene Chloride	8.206	84	294363	1.82	ppb	#	100
5) trans-1,2-Dichloroethene	8.822	96	154368	0.92	ppb		96
6) 1,1-Dichloroethane	9.439	63	348929	0.91	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	185488	0.91	ppb		99
8) Chloroform	10.584	83	322682	1.06	ppb		99
10) 1,1,1-Trichloroethane	11.244	97	249816	1.04	ppb		99
11) Carbon Tetrachloride	11.641	117	198626	0.99	ppb		99
12) 1,2-Dichloroethane	11.641	62	278282	1.08	ppb		99
13) Benzene	11.773	78	640317	1.08	ppb		100
14) Trichloroethene	12.609	95	148978	1.07	ppb		99
15) 1,2-Dichloropropane	12.741	63	206492	1.05	ppb	#	99
16) cis-1,3-Dichloropropene	13.688	75	313758	1.02	ppb		89
19) trans-1,3-Dichloropropene	14.254	75	239796	0.92	ppb		100
20) Tetrachloroethene	14.956	164	119375	1.03	ppb		100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30505.D
 Acq On : 4 Aug 2015 4:31 pm
 Operator : emilya
 Sample : IC1325-1
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 05 09:14:10 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30506.D
 Acq On : 4 Aug 2015 5:27 pm
 Operator : emilya
 Sample : IC1325-2
 Misc : MS1855,VQ1325,50,,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 05 09:14:12 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration

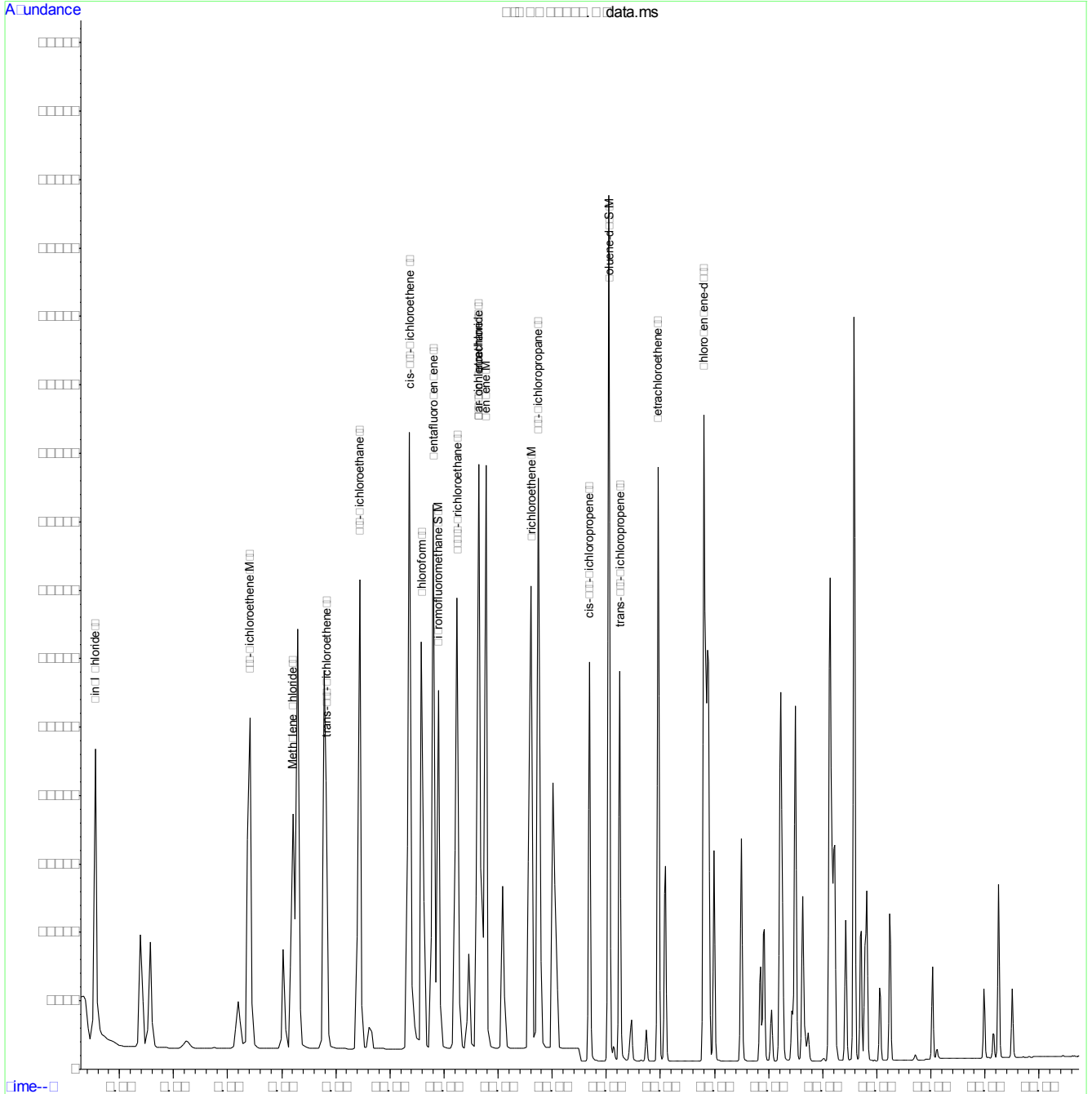
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	544685	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	796322	5.00	ppb	# 0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	362588	5.02	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.40%	
18) Toluene-d8	14.048	98	928318	4.97	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.40%	
Target Compounds						
2) Vinyl Chloride	4.551	62	450497	1.97	ppb	98
3) 1,1-Dichloroethene	7.413	96	251695	2.07	ppb	100
4) Methylene Chloride	8.206	84	377452	2.37	ppb	# 100
5) trans-1,2-Dichloroethene	8.822	96	294081	1.96	ppb	100
6) 1,1-Dichloroethane	9.439	63	676563	1.98	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	365617	1.98	ppb	100
8) Chloroform	10.584	83	641242	2.14	ppb	99
10) 1,1,1-Trichloroethane	11.244	97	490308	2.08	ppb	99
11) Carbon Tetrachloride	11.640	117	397145	2.01	ppb	100
12) 1,2-Dichloroethane	11.640	62	551570	2.17	ppb	100
13) Benzene	11.773	78	1234316	2.11	ppb	100
14) Trichloroethene	12.609	95	292141	2.13	ppb	98
15) 1,2-Dichloropropane	12.741	63	403948	2.09	ppb	99
16) cis-1,3-Dichloropropene	13.688	75	617980	2.04	ppb	90
19) trans-1,3-Dichloropropene	14.254	75	497364	1.90	ppb	100
20) Tetrachloroethene	14.956	164	235626	2.03	ppb	100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30506.D
 Acq On : 4 Aug 2015 5:27 pm
 Operator : emilya
 Sample : IC1325-2
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 05 09:14:12 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30507.D
 Acq On : 4 Aug 2015 5:59 pm
 Operator : emilya
 Sample : IC1325-5
 Misc : MS1855,VQ1325,50,,,,1
 ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 05 09:14:14 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	443011	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	641616	5.00	ppb	# 0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	309378	5.27	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	105.40%	
18) Toluene-d8	14.048	98	768707	5.11	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	102.20%	
Target Compounds						
2) Vinyl Chloride	4.551	62	1208643	6.49	ppb	99
3) 1,1-Dichloroethene	7.414	96	614904	6.22	ppb	99
4) Methylene Chloride	8.206	84	857381	6.62	ppb	# 100
5) trans-1,2-Dichloroethene	8.823	96	713348	6.25	ppb	99
6) 1,1-Dichloroethane	9.439	63	1643456	6.30	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	887710	6.26	ppb	99
8) Chloroform	10.584	83	1530321	6.29	ppb	99
10) 1,1,1-Trichloroethane	11.244	97	1197668	6.25	ppb	99
11) Carbon Tetrachloride	11.641	117	982507	6.13	ppb	100
12) 1,2-Dichloroethane	11.641	62	1304065	6.32	ppb	100
13) Benzene	11.773	78	3002847	6.32	ppb	100
14) Trichloroethene	12.609	95	707635	6.34	ppb	99
15) 1,2-Dichloropropane	12.741	63	984005	6.27	ppb	100
16) cis-1,3-Dichloropropene	13.688	75	1495157	6.08	ppb	91
19) trans-1,3-Dichloropropene	14.254	75	1237267	5.87	ppb	100
20) Tetrachloroethene	14.957	164	563506	6.02	ppb	100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30508.D
 Acq On : 4 Aug 2015 6:30 pm
 Operator : emilya
 Sample : ICC1325-10
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 05 09:17:44 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration

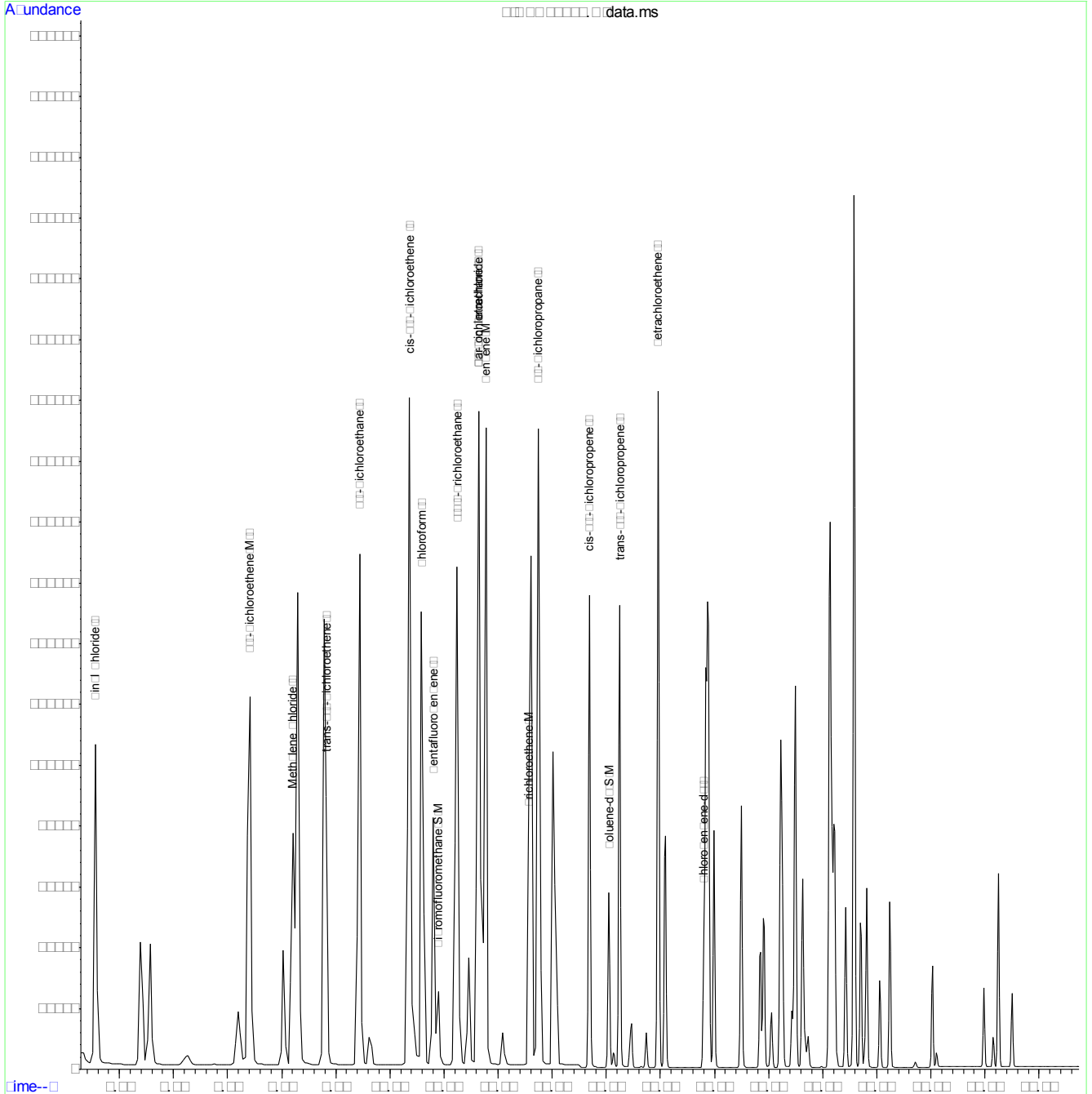
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)	
Internal Standards							
1) Pentafluorobenzene	10.804	168	486022	5.00	ppb	0.00	
17) Chlorobenzene-d5	15.796	117	692741m	5.00	ppb	0.00	
System Monitoring Compounds							
9) Dibromofluoromethane	10.892	111	328498	5.10	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	102.00%		
18) Toluene-d8	14.048	98	824228	5.07	ppb	0.00	
Spiked Amount	5.000	Range 70 - 130	Recovery	=	101.40%		
Target Compounds							
							Qvalue
2) Vinyl Chloride	4.551	62	2434722	11.92	ppb		100
3) 1,1-Dichloroethene	7.414	96	1263473	11.65	ppb		99
4) Methylene Chloride	8.206	84	1691879	11.90	ppb	#	100
5) trans-1,2-Dichloroethene	8.823	96	1435663	11.64	ppb		98
6) 1,1-Dichloroethane	9.439	63	3311192	11.73	ppb		100
7) cis-1,2-Dichloroethene	10.364	96	1792430	11.67	ppb		100
8) Chloroform	10.584	83	3138762	11.76	ppb		100
10) 1,1,1-Trichloroethane	11.244	97	2438319	11.59	ppb		99
11) Carbon Tetrachloride	11.641	117	2030218	11.54	ppb		100
12) 1,2-Dichloroethane	11.641	62	2671405	11.81	ppb		99
13) Benzene	11.773	78	6038634	11.59	ppb		100
14) Trichloroethene	12.565	95	1427243	11.66	ppb		100
15) 1,2-Dichloropropane	12.742	63	2018292	11.73	ppb		100
16) cis-1,3-Dichloropropene	13.688	75	3099415	11.49	ppb		100
19) trans-1,3-Dichloropropene	14.254	75	2620287	11.51	ppb		100
20) Tetrachloroethene	14.957	164	1186020	11.73	ppb		100

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
Data File : Q30508.D
Acq On : 4 Aug 2015 6:30 pm
Operator : emilya
Sample : ICC1325-10
Misc : MS1855,VQ1325,50,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 05 09:17:44 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Tue Aug 04 12:25:43 2015
Response via : Initial Calibration



Manual Integration Approval Summary

Sample Number: VQ1325-ICC1325 **Method:** SW846 8260B BY SIM
Lab FileID: Q30508.D **Analyst approved:** 08/05/15 14:08 Emily Amparo
Injection Time: 08/04/15 18:30 **Supervisor approved:** 08/06/15 08:05 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
Chlorobenzene-D5	3114-55-4		15.80	Missed peak

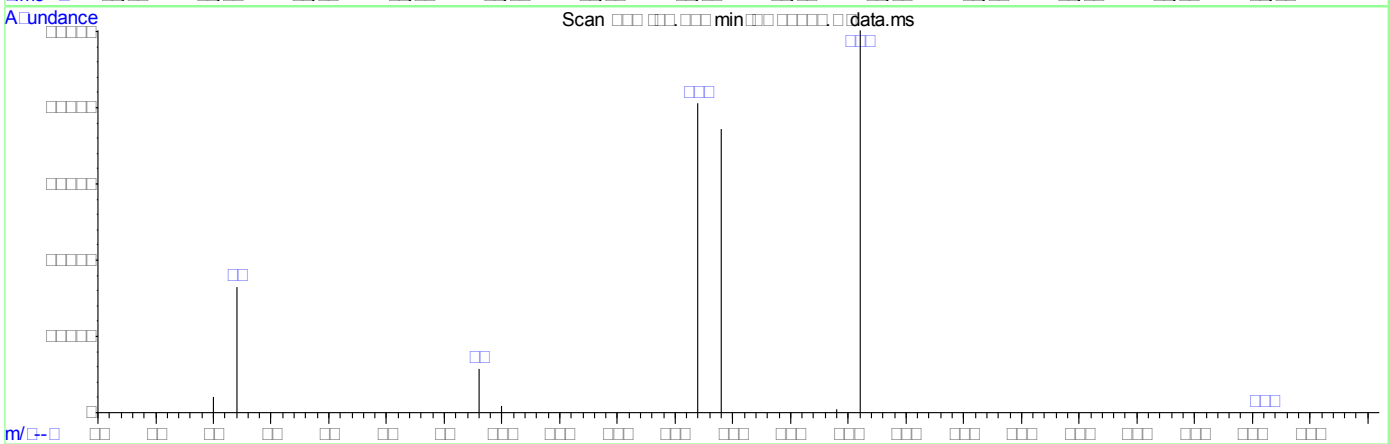
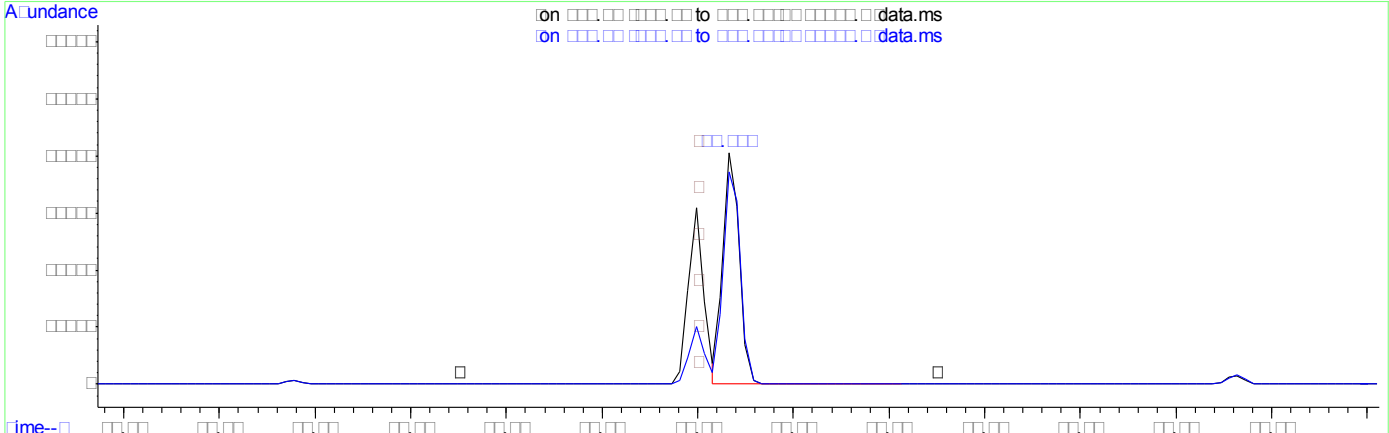
7.6.7.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
Data File : Q30508.D
Acq On : 4 Aug 2015 6:30 pm
Operator : emilya
Sample : ICC1325-10
Misc : MS1855,VQ1325,50,,,,,1
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 05 09:14:16 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Tue Aug 04 12:25:43 2015
Response via : Initial Calibration



data.ms

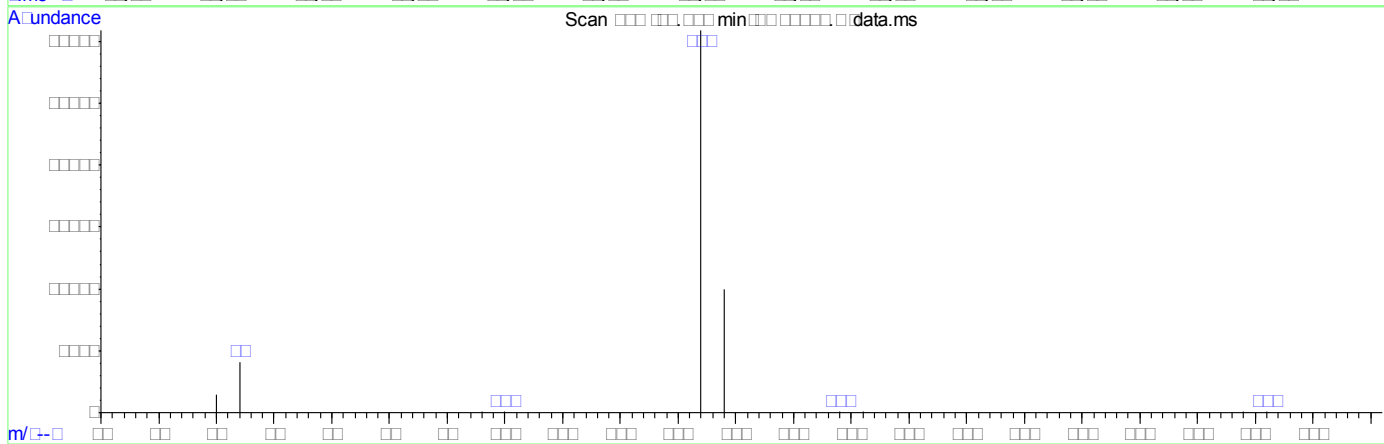
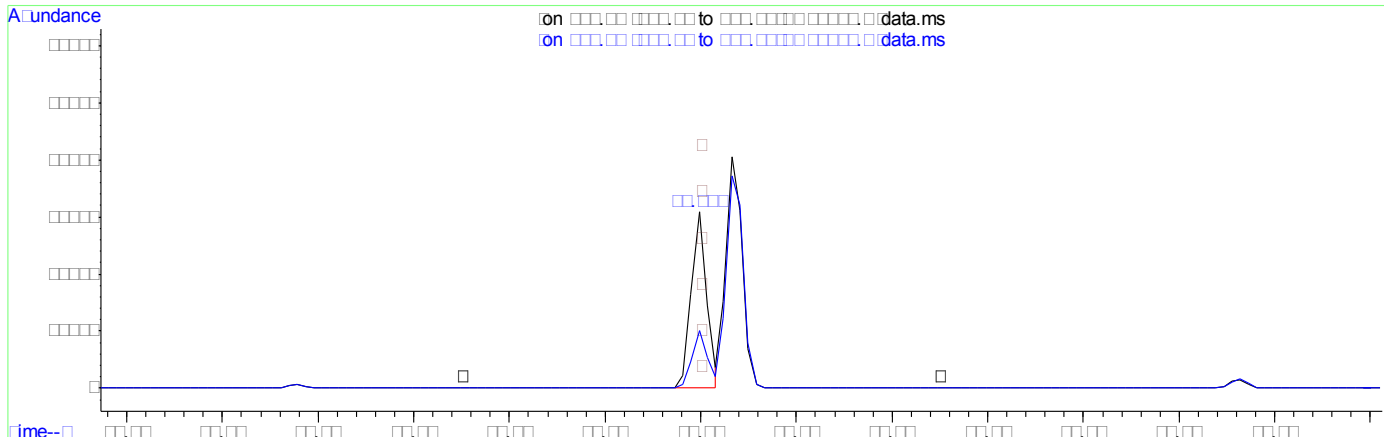
chlorobenzene-d5		
min		ppm
response		
ion	p	Act

7.6.7.2
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30508.D
 Acq On : 4 Aug 2015 6:30 pm
 Operator : emilya
 Sample : ICC1325-10
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 05 09:14:16 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



data.ms

Chlorobenzene-d5	
10.5 min	10.5 ppm
response	
on	pp Act

data.ms

7.6.7.3
7

Manual Integrations
APPROVED
(compounds with "m" flag)

Thuy Nguyen
08/06/15 08:05

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
Data File : Q30509.D
Acq On : 4 Aug 2015 7:01 pm
Operator : emilya
Sample : IC1325-15
Misc : MS1855,VQ1325,50,,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 05 09:18:09 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Tue Aug 04 12:25:43 2015
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	514145	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	754373m	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	351666	5.16	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	103.20%	
18) Toluene-d8	14.048	98	884007	4.99	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	99.80%	
Target Compounds						
2) Vinyl Chloride	4.551	62	3359831	15.55	ppb	100
3) 1,1-Dichloroethene	7.414	96	1773232	15.45	ppb	99
4) Methylene Chloride	8.206	84	2556769	17.00	ppb #	100
5) trans-1,2-Dichloroethene	8.823	96	2094728	16.13	ppb	98
6) 1,1-Dichloroethane	9.439	63	4923523	16.57	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	2719252	16.82	ppb	98
8) Chloroform	10.584	83	4783662	16.94	ppb	99
10) 1,1,1-Trichloroethane	11.244	97	3483213	15.65	ppb	100
11) Carbon Tetrachloride	11.641	117	2870424	15.42	ppb	100
12) 1,2-Dichloroethane	11.641	62	4130767	17.26	ppb	100
13) Benzene	11.773	78	9053474	16.43	ppb	100
14) Trichloroethene	12.565	95	2085040	16.10	ppb	99
15) 1,2-Dichloropropane	12.741	63	3084799	16.95	ppb	100
16) cis-1,3-Dichloropropene	13.688	75	4763493	16.69	ppb	100
19) trans-1,3-Dichloropropene	14.254	75	4109370	16.58	ppb	100
20) Tetrachloroethene	14.957	164	1712132	15.55	ppb	100

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

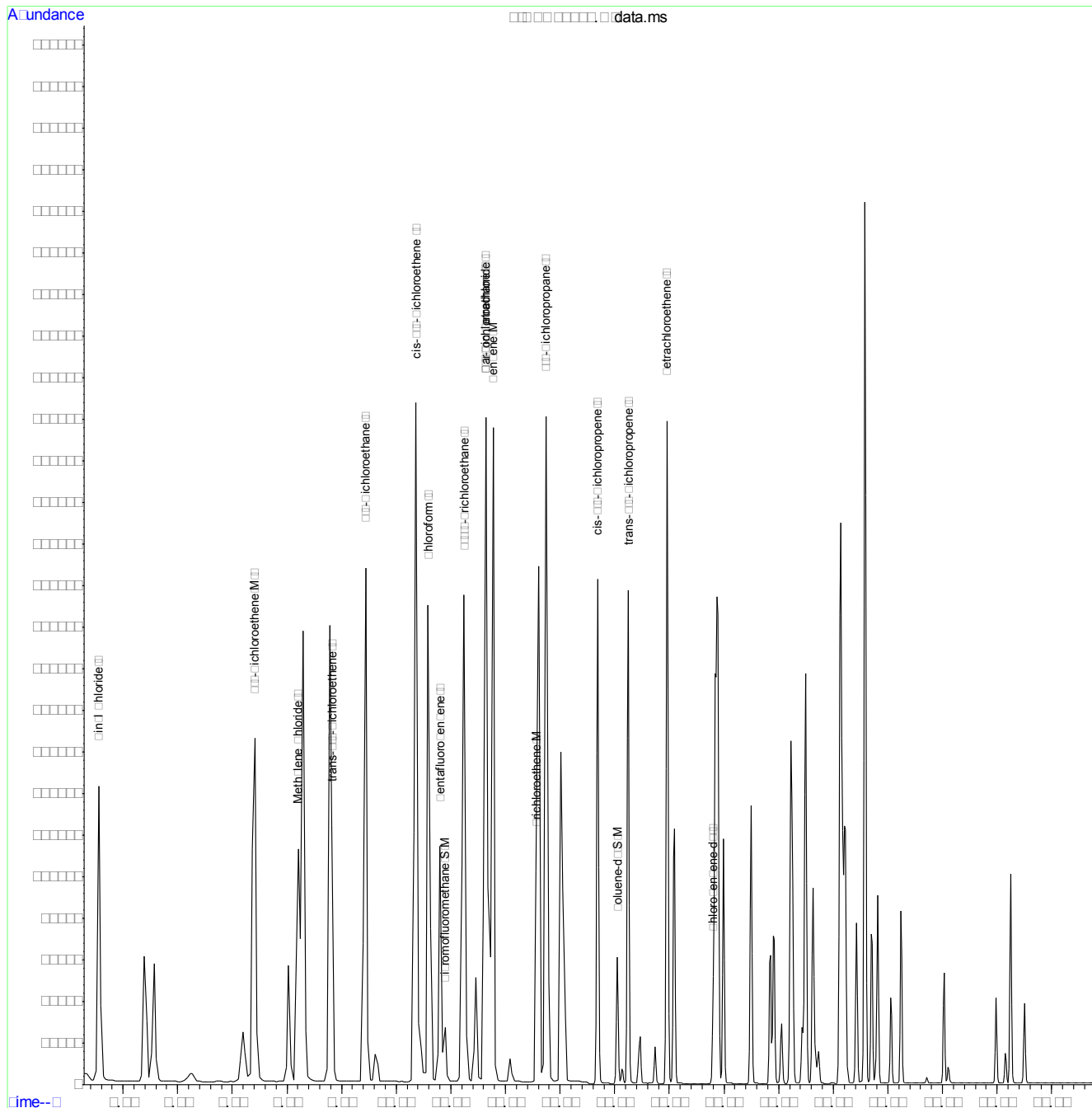
7.6.8

7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30509.D
 Acq On : 4 Aug 2015 7:01 pm
 Operator : emilya
 Sample : IC1325-15
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 05 09:18:09 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



7
8'9'7

Manual Integration Approval Summary

Sample Number: VQ1325-IC1325 **Method:** SW846 8260B BY SIM
Lab FileID: Q30509.D **Analyst approved:** 08/05/15 14:08 Emily Amparo
Injection Time: 08/04/15 19:01 **Supervisor approved:** 08/06/15 08:05 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
Chlorobenzene-D5	3114-55-4		15.80	Missed peak

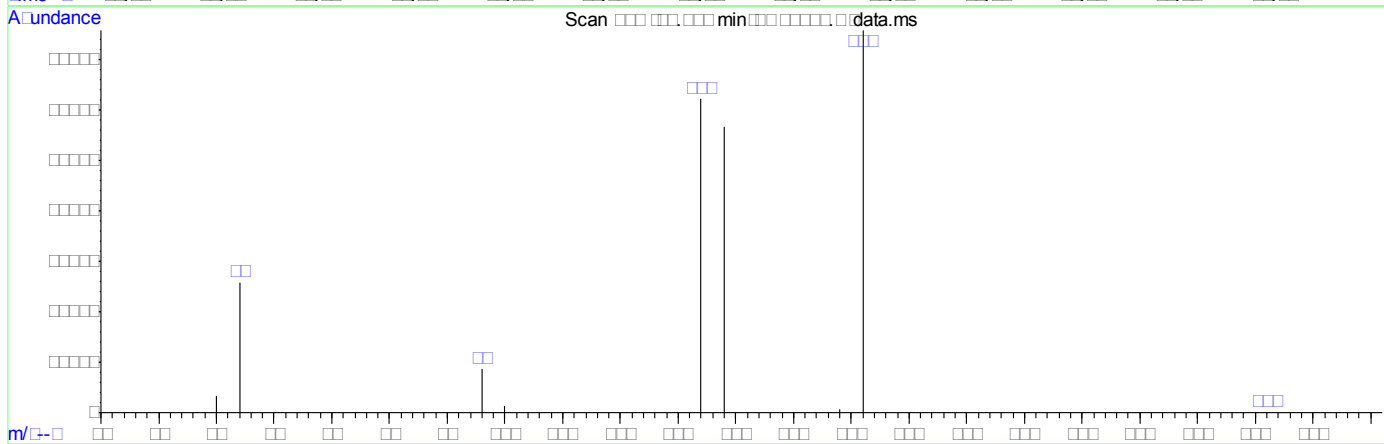
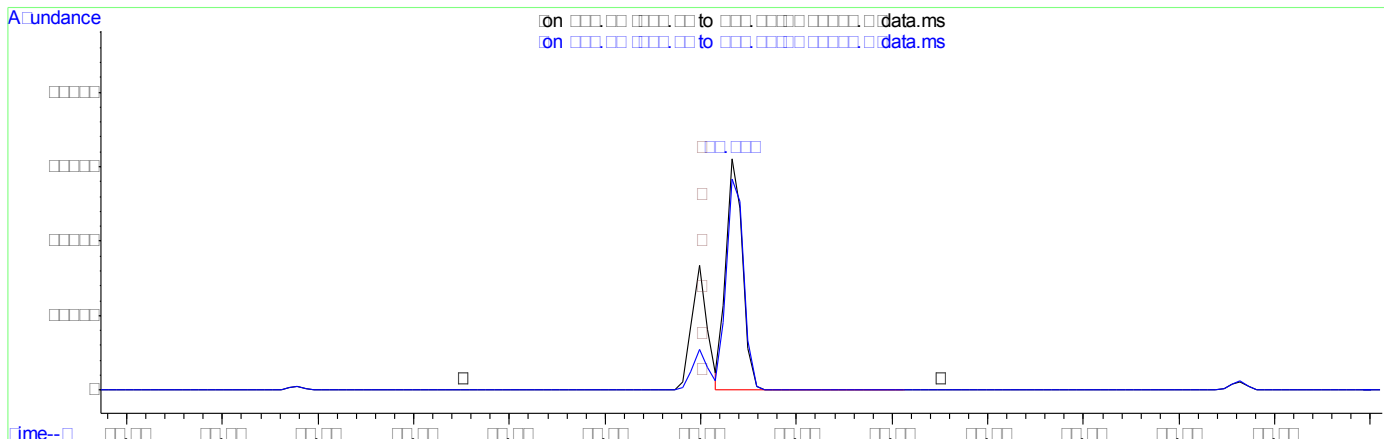
7.6.8.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
Data File : Q30509.D
Acq On : 4 Aug 2015 7:01 pm
Operator : emilya
Sample : IC1325-15
Misc : MS1855,VQ1325,50,,,1
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 05 09:14:18 2015
Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
Quant Title : WATER-EPA 8260B
QLast Update : Tue Aug 04 12:25:43 2015
Response via : Initial Calibration



data.ms

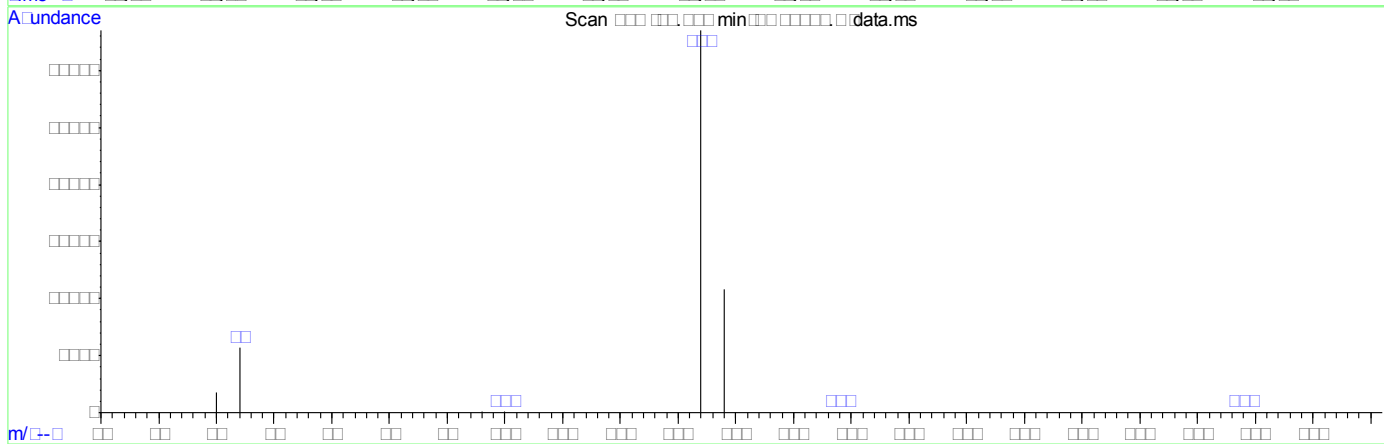
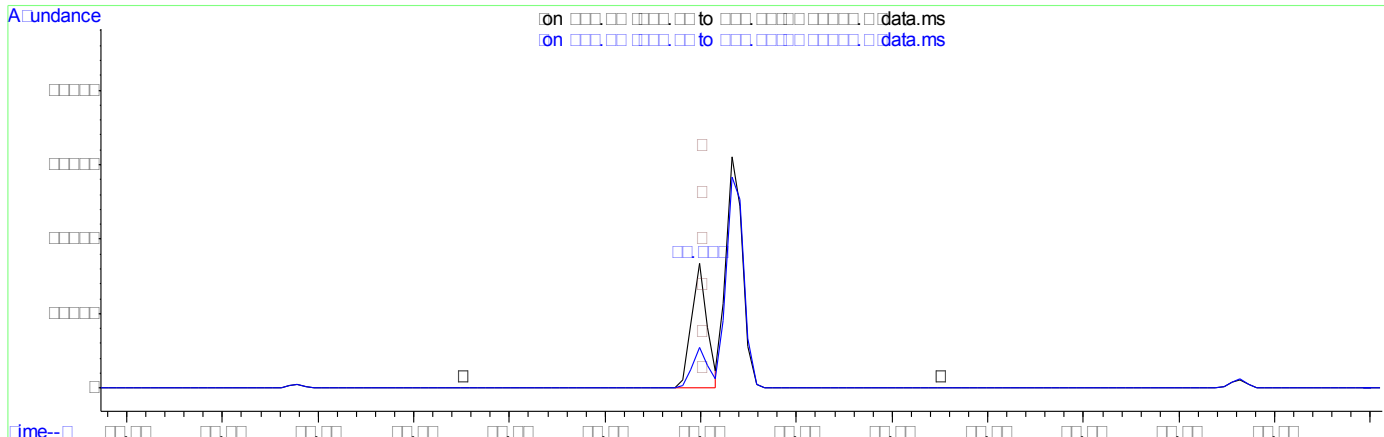
Scan	Abundance	Retention Time (min)
1.5	Low	1.5
2.5	Low	2.5
10.5	High	10.5
15.5	Low	15.5

7.68.2
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30509.D
 Acq On : 4 Aug 2015 7:01 pm
 Operator : emilya
 Sample : IC1325-15
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 05 09:14:18 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Tue Aug 04 12:25:43 2015
 Response via : Initial Calibration



Scan	min	Abundance
7.683	7.683	High

7.683
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30517.D
 Acq On : 5 Aug 2015 1:03 pm
 Operator : emilya
 Sample : ICV1325-10
 Misc : MS1855,VQ1325,50,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 05 13:36:01 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	463470	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	697848m	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	326887	5.22	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	104.40%	
18) Toluene-d8	14.048	98	822348	5.02	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.40%	
Target Compounds						
						Qvalue
2) Vinyl Chloride	4.551	62	2166120	10.14	ppb	99
3) 1,1-Dichloroethene	7.413	96	1286038	10.77	ppb	98
4) Methylene Chloride	8.206	84	1679044	10.61	ppb #	100
5) trans-1,2-Dichloroethene	8.822	96	1362347	9.78	ppb	99
6) 1,1-Dichloroethane	9.439	63	3248788	10.33	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	1917933	11.26	ppb	98
8) Chloroform	10.584	83	3262826	10.97	ppb	89
10) 1,1,1-Trichloroethane	11.244	97	2523163	11.14	ppb	100
11) Carbon Tetrachloride	11.640	117	2104644	11.44	ppb	99
12) 1,2-Dichloroethane	11.640	62	2839199	11.15	ppb	100
13) Benzene	11.773	78	6044209	10.44	ppb	100
14) Trichloroethene	12.565	95	1479731	10.94	ppb	95
15) 1,2-Dichloropropane	12.741	63	2056177	10.90	ppb	99
16) cis-1,3-Dichloropropene	13.688	75	3309926	12.43	ppb	100
19) trans-1,3-Dichloropropene	14.254	75	2626569	11.19	ppb	100
20) Tetrachloroethene	14.956	164	1102846	9.69	ppb	100

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

7.6.9
7

Manual Integration Approval Summary

Sample Number: VQ1325-ICV1325 **Method:** SW846 8260B BY SIM
Lab FileID: Q30517.D **Analyst approved:** 08/05/15 14:08 Emily Amparo
Injection Time: 08/05/15 13:03 **Supervisor approved:** 08/06/15 08:05 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
Chlorobenzene-D5	3114-55-4		15.80	Missed peak

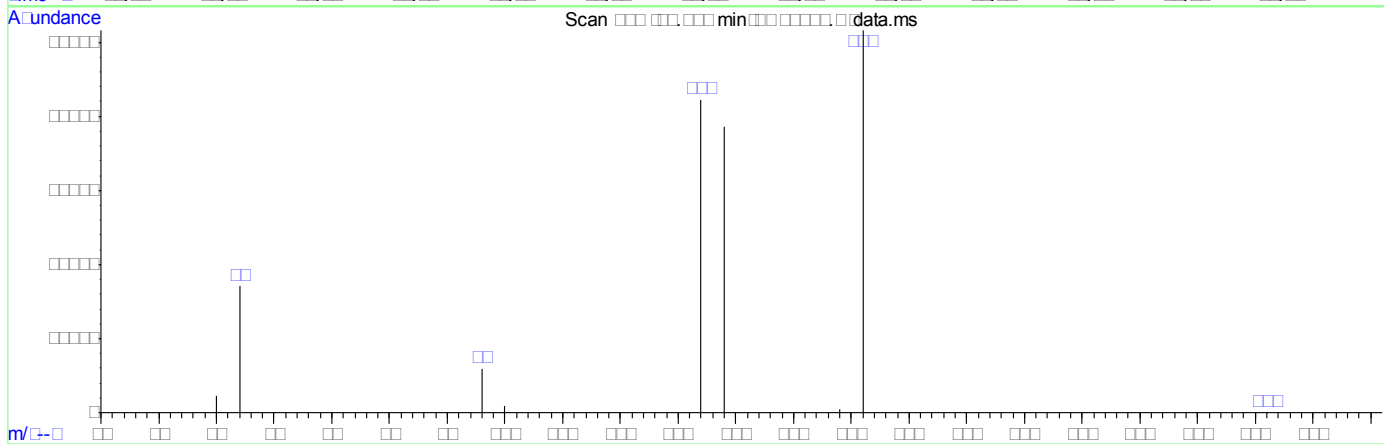
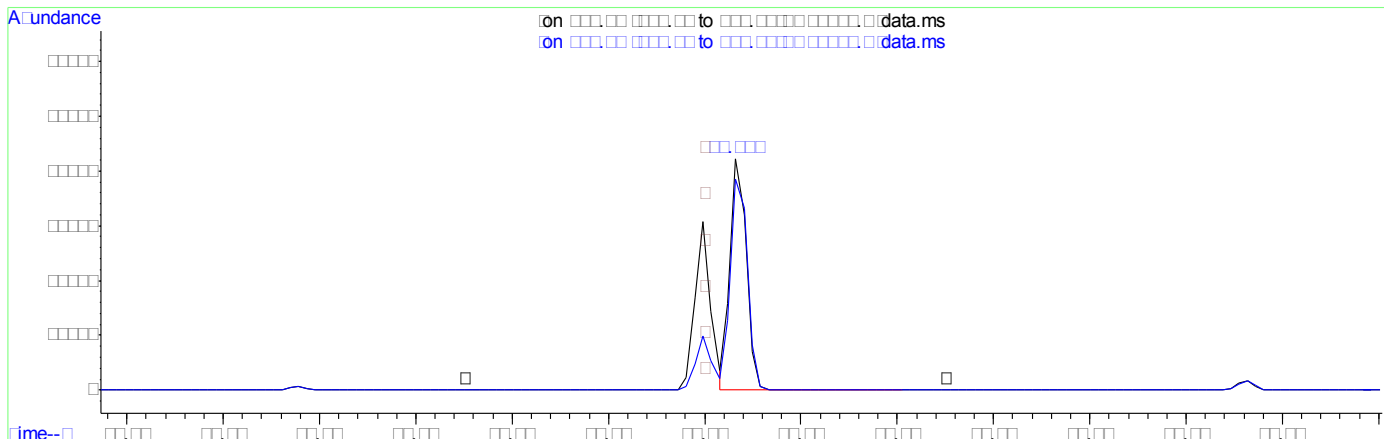
7.6.9.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30517.D
 Acq On : 5 Aug 2015 1:03 pm
 Operator : emilya
 Sample : ICV1325-10
 Misc : MS1855,VQ1325,50,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 05 13:35:33 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration



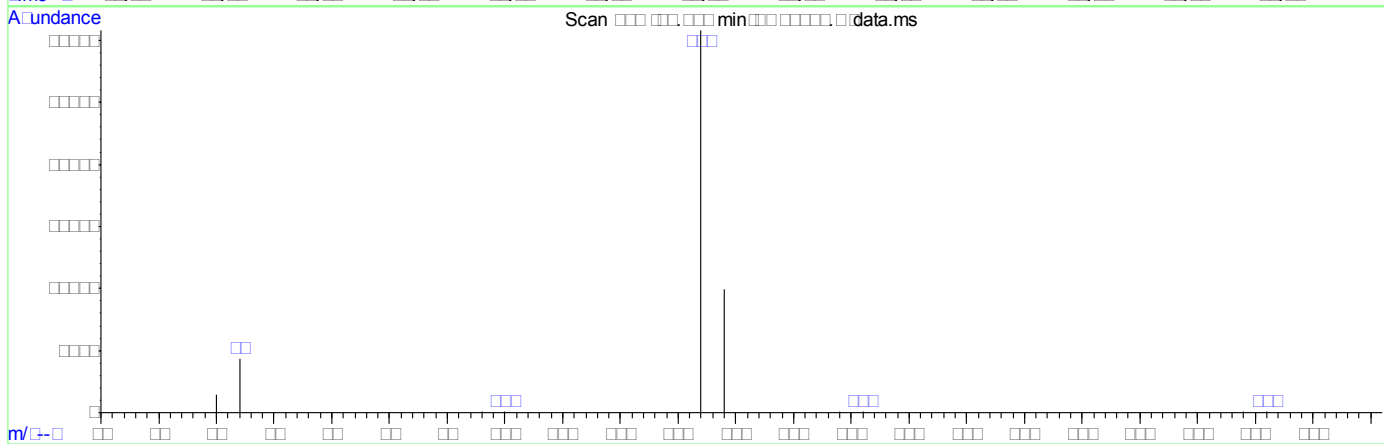
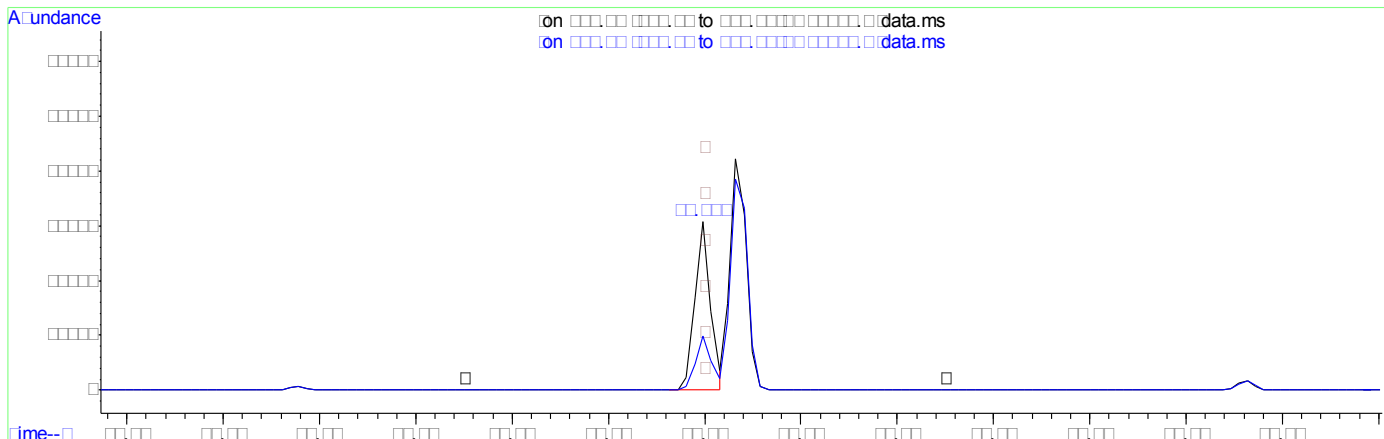
Scan	Abundance	Retention Time (min)	Peak Label
7.692	High	7.692	Chlorobenzene-d5
Other Scans	Low	Various	Other Peaks

7.692
7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150804\
 Data File : Q30517.D
 Acq On : 5 Aug 2015 1:03 pm
 Operator : emilya
 Sample : ICV1325-10
 Misc : MS1855,VQ1325,50,,,,,1
 ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 05 13:35:33 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration



Scan	Abundance	Retention Time (min)	Peak Label
~7.693	High	7.693	Chlorobenzene-d5

7.693
7

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30519.D
 Acq On : 5 Aug 2015 2:11 pm
 Operator : emilya
 Sample : CC1325-10
 Misc : MS1855,VQ1326,50,,,,1
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 05 14:35:20 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) Pentafluorobenzene	10.804	168	462570	5.00	ppb	0.00
17) Chlorobenzene-d5	15.796	117	687131m	5.00	ppb	0.00
System Monitoring Compounds						
9) Dibromofluoromethane	10.892	111	317295	5.07	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	101.40%	
18) Toluene-d8	14.048	98	809127	5.02	ppb	0.00
Spiked Amount	5.000	Range 70 - 130	Recovery	=	100.40%	
Target Compounds						
						Qvalue
2) Vinyl Chloride	4.551	62	2389663	11.21	ppb	99
3) 1,1-Dichloroethene	7.413	96	1218041	10.22	ppb	99
4) Methylene Chloride	8.206	84	1624049	10.29	ppb	# 100
5) trans-1,2-Dichloroethene	8.822	96	1395804	10.04	ppb	99
6) 1,1-Dichloroethane	9.439	63	3231572	10.29	ppb	100
7) cis-1,2-Dichloroethene	10.364	96	1775662	10.44	ppb	99
8) Chloroform	10.584	83	3171073	10.68	ppb	100
10) 1,1,1-Trichloroethane	11.244	97	2373599	10.50	ppb	100
11) Carbon Tetrachloride	11.640	117	1977066	10.77	ppb	100
12) 1,2-Dichloroethane	11.640	62	2719904	10.70	ppb	100
13) Benzene	11.773	78	5864500	10.15	ppb	100
14) Trichloroethene	12.565	95	1408212	10.43	ppb	98
15) 1,2-Dichloropropane	12.741	63	2002055	10.63	ppb	100
16) cis-1,3-Dichloropropene	13.688	75	3168716	11.92	ppb	99
19) trans-1,3-Dichloropropene	14.254	75	2658547	11.50	ppb	100
20) Tetrachloroethene	14.956	164	1136894	10.15	ppb	100

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

7.6.10
7

Manual Integration Approval Summary

Sample Number: VQ1326-CC1325 **Method:** SW846 8260B BY SIM
Lab FileID: Q30519.D **Analyst approved:** 08/06/15 11:30 Emily Amparo
Injection Time: 08/05/15 14:11 **Supervisor approved:** 08/06/15 15:24 Thuy Nguyen

Parameter	CAS	Sig#	R.T. (min.)	Reason
Chlorobenzene-D5	3114-55-4		15.80	Poor instrument integration

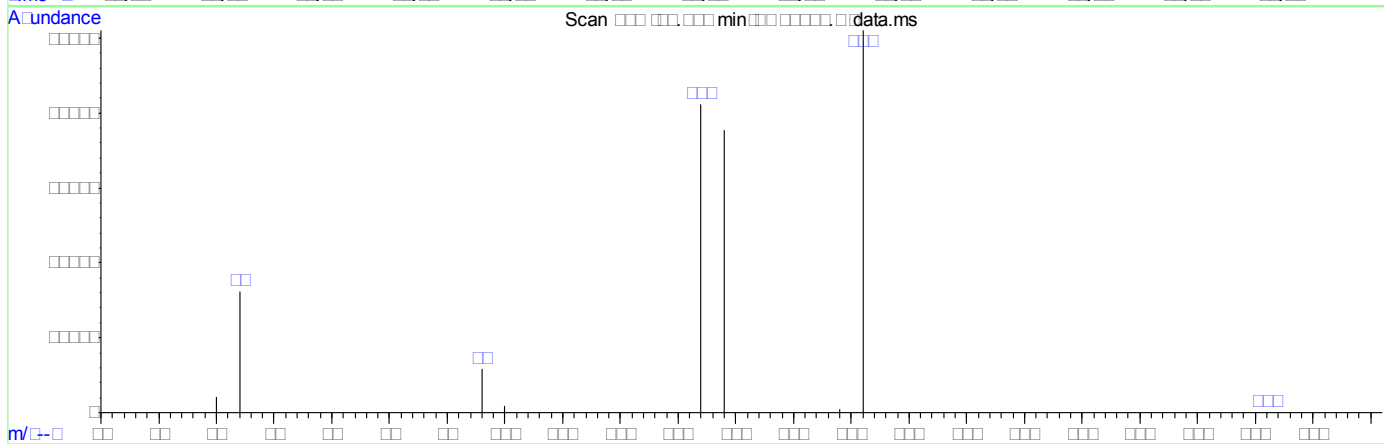
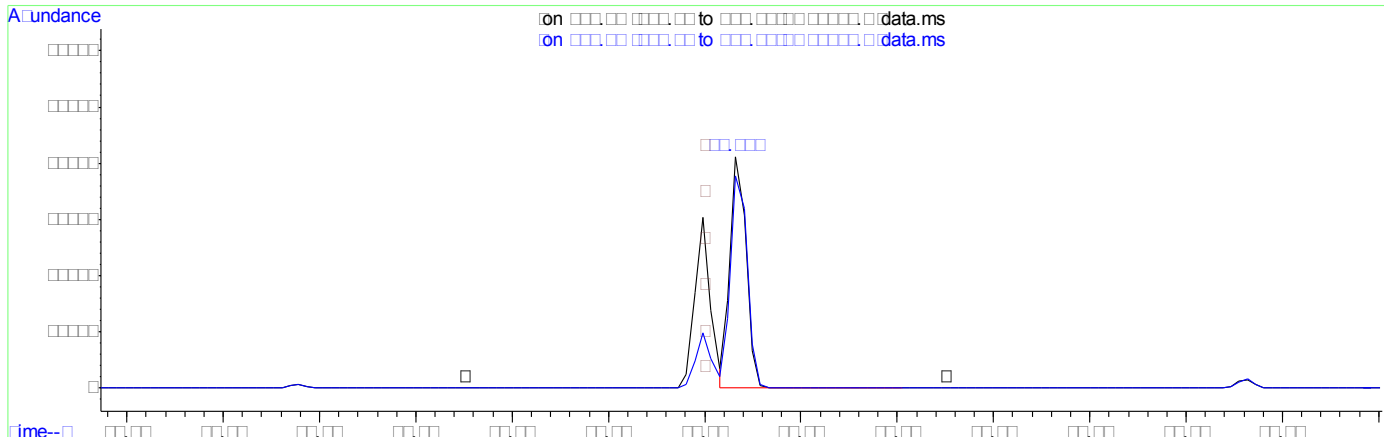
7.6.10.1

7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30519.D
 Acq On : 5 Aug 2015 2:11 pm
 Operator : emilya
 Sample : CC1325-10
 Misc : MS1855,VQ1326,50,,,,,1
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 05 14:34:49 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration



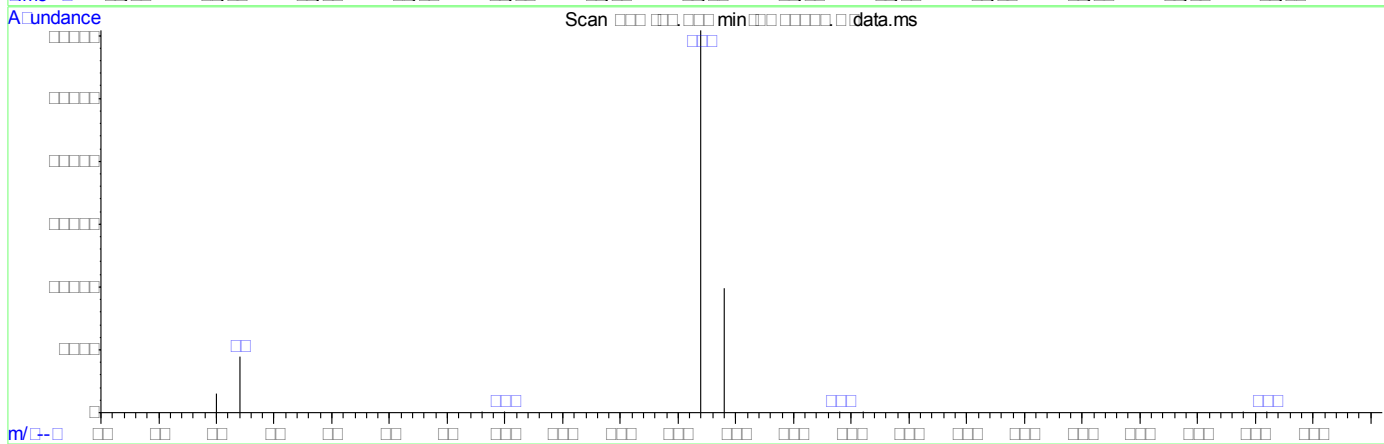
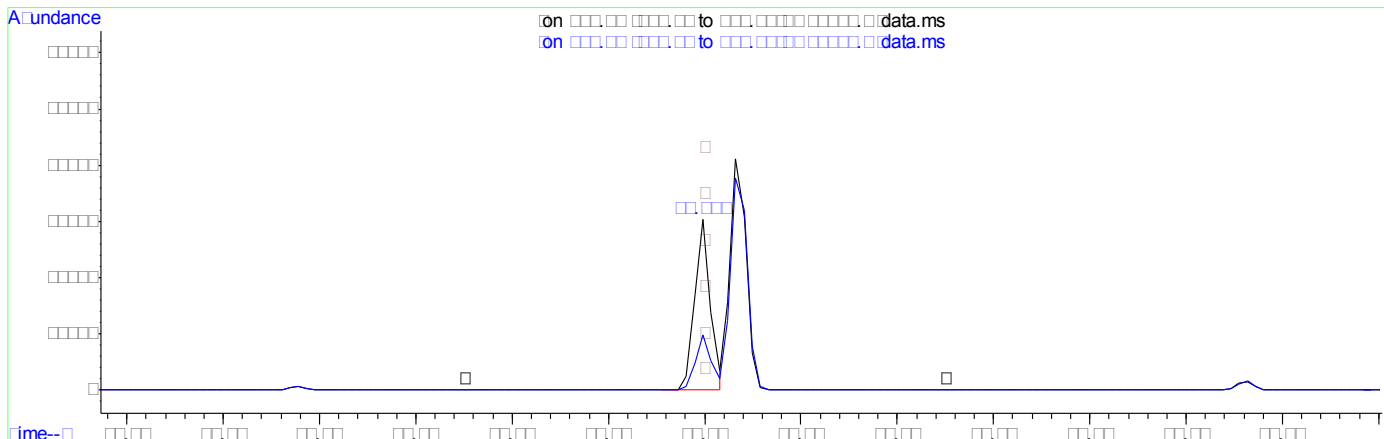
Chlorobenzene-d5
 10.500 min
 response
 on p Act

7.6.10.2
 7

Quantitation Report (Qedit)

Data Path : C:\msdchem\1\DATA\150805\
 Data File : Q30519.D
 Acq On : 5 Aug 2015 2:11 pm
 Operator : emilya
 Sample : CC1325-10
 Misc : MS1855,VQ1326,50,,,,,1
 ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 05 14:34:49 2015
 Quant Method : C:\msdchem\1\METHODS\VQ1325_150804SIM.M
 Quant Title : WATER-EPA 8260B
 QLast Update : Wed Aug 05 09:20:57 2015
 Response via : Initial Calibration



Scan	Abundance	Retention Time (min)	Peak Name
1000	High	10.5	Chlorobenzene-d5

7.6.10.3
7

DATE: 8/4/15
 COLUMN TYPE: Restek RTX-VOLATILE
 DETECTOR: 5975B MSD
 INSTRUMENT: Q
 PURGE PRESSURE: 20psi
 ANALYST: BM114A

Q ANALYSIS LOG

C:\MSDCHEM1\DATA\15804
 PROCESSING METHOD: VQ1325-150805M-N
 CALIB. DATE: 08/04/15
 EM VOLTAGE: 1071
 BFB AREA: 2354519.29 / 2.96218253
 RUN ID: VQ1325

Working Standard Control #

BFB: 150804
 CCV: 150804 X
 CCV GRO: N/A
 BS/BSD/MS/MSD: 150804 Z
 LOS GRO: N/A
 *ISTD/SURR: 150803 D
 *1ul of ISTD/SURR added to 5mL of sparge water. Not added to BFB Tube.

DATA FILE	ARCHON POSITION	SAMPLE ID	SAMPLE VOLUME	DF	MATRIX	ACQU. METHOD	ANALYTICAL METHOD	pH	Bottle #	RR	COMMENTS
Q 20500	1	BFB	1ul	N/A	N/A	BFBM	N/A	N/A	N/A	N/A	
Q 01	1	IB	50ml	IX	W	VQ1325M	SIN	N/A	N/A	N/A	150804 R
Q 02	2	IC1325-0.1									S
Q 03	3	-0.25									T
Q 04	4	-0.5									4
Q 05	5	-1									V
Q 06	6	-2									W
Q 07	7	-5									X
Q 08	8	IC1325-10									Y
Q 09	9	IC1325-15									
Q 10	10	IB									NOT USED, LOW 150804 Z
Q 11	11	ICV1325-10									
Q 12	12	IB									
Q 13	13	BFB	1ul	M/A	N/A	BFBM	N/A				NOT USED, LOW 150805 D
Q 14	14	BFB	50ml	IX	W	VQ1325M	SIN				
Q 15	15	IB									
Q 16	16	IB									
Q 17	17	ICV1325-10									↑ COS. 13. EXP = 24.3% 150805 D

EA 8/5/15

Matrix: Designate "W" for Water, "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate
 Manual Integration codes: MP Missed Peak, OP Overlapping Peak, SP Split Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, PII Poor Instrument Integration

Reviewer's Signature/Date: BM114A

Analyst's Signature: EA

DATE: 8/5/15
 COLUMN TYPE: Restek RTX-VOLATILE
 DETECTOR: 5975B MSD
 INSTRUMENT: Q
 PURGE PRESSURE: 20psi
 ANALYST: EMILIA / STEPHY

Q ANALYSIS LOG
 C:\MSDCHEM1\DATA\150805
 PROCESSING METHOD: VQ1325 - 150804 SIM.M
 CALIB. DATE: 8/4/15
 EM VOLTAGE: 1671
 BFB AREA: 309408812
 RUN ID: VQ1320 / VQ1322 (STEPH'S DOC)

Working Standard Control #

BFB: 150809F
 CCV: 150804X
 CCV GRO: N/A
 BS/BSD/MS/MSD: 15080 SF
 LCS GRO: N/A
 *ISTD/SURR: 150803D

*1ul of ISTD/SURR added to 5mL of sparge water. Not added to BFB Tune.

DATA FILE	ARCHON POSITION	SAMPLE ID.	SAMPLE VOLUME	DF	MATRIX	ACQU. METHOD	ANALYTICAL METHOD	pH	Bottle #	RR	COMMENTS
Q 30518	N/A	BFB	1ul	N/A	N/A	BFBM	N/A	N/A	N/A	N/A	
Q 19	1	CC1325-10	50ml	1x	W	VQ51MMW	SYM				
Q 20	2	BS									
Q 21	3	MB									
Q 22	4	C41017-4									
Q 23	5	-1					SLY				
Q 24	6	-2									
Q 25	7	-3									
Q 26	8	-8									
Q 27	9	-1MS									
Q 28	10	-1MSD									
Q 29	11	CC1325-10									
Q 30	12	BS2									
Q 31	13	BS2									
Q 32	14	BS3									
Q 33	15	BS4									
Q 34	16	16									
Q 35											
Q 36											
Q 37											
Q 38											
Q 39											
Q 40											
Q 41											
Q 42											
Q 43											
Q 44											
Q 45											
Q 46											
Q 47											
Q 48											
Q 49											
Q 50											
Q 51											
Q 52											
Q 53											
Q 54											
Q 55											
Q 56											
Q 57											
Q 58											
Q 59											
Q 60											
Q 61											
Q 62											
Q 63											
Q 64											
Q 65											
Q 66											
Q 67											
Q 68											
Q 69											
Q 70											
Q 71											
Q 72											
Q 73											
Q 74											
Q 75											
Q 76											
Q 77											
Q 78											
Q 79											
Q 80											
Q 81											
Q 82											
Q 83											
Q 84											
Q 85											
Q 86											
Q 87											
Q 88											
Q 89											
Q 90											
Q 91											
Q 92											
Q 93											
Q 94											
Q 95											
Q 96											
Q 97											
Q 98											
Q 99											
Q 100											

VQ1327 NOT USED H101 + wrong spike

EA 8/6/15

Matrix: Designate "W" for Water, "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "CLP" or "SPLP" for Leachate.
 Manual Integration codes: MP Missed Peak, OP Overlapping Peak, SP Spill Peak, PDB Poorly Defined Baseline, BR Baseline Ripple, Pit Poor Instrument Integration
 Reviewer's Signature/Date: OZ 8/6/15
 FV00010_3_2014-03-14.doc

Analyst's Signature: EA

APPENDIX E
Validation Summary Reports



Validation Summary Report

Baseline Sampling 2015

Groundwater Monitoring Program
Operable Unit Carbon Tetrachloride Plume
Former Fort Ord, California

Prepared for:

Ahtna Environmental, Inc.
296 12th Street
Marina, California 93933-6001

Prepared by:

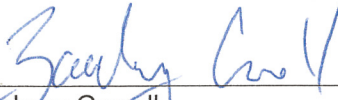
Amec Foster Wheeler Environment & Infrastructure, Inc.
1670 Corporate Circle, Suite 101
Petaluma, California 94954

August 26, 2015

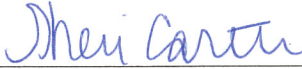
Project No. OD14170870

Validation Summary Report
Baseline Sampling 2015
Groundwater Monitoring Program
Operable Unit Carbon Tetrachloride Plume
Former Fort Ord, California

August 26, 2015
Project No. OD14170870



Zachary Carroll
Database Analyst

For 

Kevin E. Garrett, PhD, PMP
Senior Associate
with permission

**Validation Summary Report
Baseline Sampling 2015
Groundwater Monitoring Program
Operable Unit Carbon Tetrachloride Plume
Former Fort Ord, California**

Project No. OD14170870

This document was prepared by Amec Foster Wheeler Environment & Infrastructure, Inc. on behalf of Ahtna Environmental, Inc. at the direction of the U.S. Army Corps of Engineers (USACE) for the sole use of the U.S. Department of the Army (Army) and regulatory agencies, the only intended beneficiaries of this work. No other party should rely on the information contained herein without prior written consent of the USACE and Army. This report and the interpretations, conclusions, and recommendations contained within are based in part on information presented in other documents that are cited in the text and listed in the references. Therefore, this report is subject to the limitations and qualifications presented in the referenced documents.

TABLE OF CONTENTS

	Page
ABBREVIATIONS.....	iv
1.0 INTRODUCTION.....	1
2.0 SUMMARY DATA QUALITY ASSESSMENT	1
2.1 MS/MSD Recovery Issues	2
3.0 DEVIATIONS FROM THE QAPP	2
3.1 Field Procedures	2
3.2 Analytical Procedures	2
4.0 RECONCILIATION OF DATA QUALITY OBJECTIVES	2
4.1 Rejected Data.....	2
4.2 Usability.....	2
5.0 CONCLUSIONS AND RECOMMENDATIONS.....	2
5.1 Corrective Actions	2
6.0 REFERENCES	3

TABLES

Table 1	Sample Cross Reference
Table 2	Qualified Analytical Results

ATTACHMENT

Attachment 1	Field Duplicate Relative Percent Differences
--------------	--

APPENDICES

Appendix 1	Volatile Organic Compound Data Validation Report
Appendix 2	Laboratory Reports

ABBREVIATIONS

%	Percent
Army	U.S. Department of the Army
DOD	Department of Defense
MS	Matrix spike
MSD	Matrix spike duplicate
QAPP	Quality Assurance Project Plan
QC	Quality Control
QSM	Quality Systems Manual
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

1.0 INTRODUCTION

This Validation Summary Report presents Level III and Level IV data validation results for samples collected during the Baseline 2015 sampling event from eight new A-Aquifer Operable Unit Carbon Tetrachloride Plume monitoring wells that were installed in June 2015. Data review was performed in accordance with the procedures specified in the following documents:

- *EM-200-1-10, Guidance for Evaluating Performance-based Chemical Data* (United States Army Corps of Engineers [USACE], 2005)
- *Quality Assurance Project Plan (QAPP), Former Fort Ord, California, Volume I, Appendix A, Final Revision 3, Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume. June.* (U.S. Department of the Army, 2015)
- The Department of Defense (DOD) *Quality Systems Manual (QSM) for Environmental Laboratories Version 5.0* (DOD, 2013)

Amec Foster Wheeler Environment & Infrastructure, Inc. performed the data validation task under subcontract to Ahtna Environmental, Inc.

Each of the analytical results from the monitoring event were subjected to Level III review, which comprises an evaluation of Quality Control (QC) summary results for sample holding times, initial and continuing calibrations, surrogates, laboratory duplicates, laboratory control samples, matrix spike and matrix spike duplicate (MS/MSD) samples, method blanks, calibration blanks, field blanks, and field duplicate samples, as applicable.

Additionally, to confirm sample quantitation and identification, a Level IV evaluation of the QC summary forms and the raw data was performed on a minimum 10 percent (%) of the sample results. A sample cross reference, including sample identification numbers and level of review is presented as Table 1.

2.0 SUMMARY DATA QUALITY ASSESSMENT

The overall quality of the data was acceptable. The Volatile Organic Compound Data Validation Report (Appendix 1) contains the specific findings of the Level III and Level IV data review for samples analyzed by United States Environmental Protection Agency (USEPA) Methods 8260B-Selective Ion Monitoring. Overall, data were evaluated against method criteria and QC parameters as described in the QAPP, with the following findings:

- Recoveries of surrogate compounds for project samples were within the QAPP specified acceptance limits, with the exception of those noted in Appendix 1, Section 1.4.
- Field duplicate samples were collected and analyzed at the required frequency and the precision was considered acceptable. A summary of the field duplicate relative percent differences is presented in Attachment 1.

2.1 MS/MSD RECOVERY ISSUES

MS/MSD recoveries and relative percent differences were within the QAPP specified acceptance limits, with the exceptions noted in Appendix 1, Section 1.6.

Copies of the laboratory reports are included as Appendix 2. The qualified analytical results are presented in Table 2.

3.0 DEVIATIONS FROM THE QAPP

3.1 FIELD PROCEDURES

The field supervisor performed oversight of sampling procedures to verify compliance with the QAPP.

3.2 ANALYTICAL PROCEDURES

Project samples collected and submitted during the monitoring period were analyzed as described in the QAPP. Laboratory reporting limits met the QAPP specified requirements.

4.0 RECONCILIATION OF DATA QUALITY OBJECTIVES

The sample results generated for the Baseline 2015 sampling event were subject to a rigorous 100% Level III and 10% Level IV raw data review, as described in Section 1.0. The data review verified that the data is of a known quality that is in compliance with QAPP criteria, the general guidance of the DOD QSM Version 5.0, and the published analytical methods, with exceptions noted in Sections 2.0 and 2.1.

4.1 REJECTED DATA

No data gaps were identified as a result of the validation effort. No data generated for the monitoring period was rejected.

4.2 USABILITY

The data are considered usable for the intended purpose as reported by the laboratory.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The analytical data quality assessment for the sample results generated for the Baseline 2015 sampling event established that the overall project requirements and completeness levels specified in the QAPP were met. The data are considered usable for the intended purpose, with the addition of the qualifiers applied in Table 2.

5.1 CORRECTIVE ACTIONS

No field or laboratory corrective actions are recommended on the basis of the data validation.

6.0 REFERENCES

Department of Defense, 2013. *DoD Quality Systems Manual for Environmental Laboratories, Version 5.0*. July.

U.S. Army Corps of Engineers, 2005. EM-200-1-10, Guidance for Evaluation Performance Based Chemical Data. June.

United States Department of the Army, 2015. *Quality Assurance Project Plan, Former Fort Ord, California, Volume I, Appendix A, Final Revision 3, Groundwater Remedies and Monitoring at Operable Unit 2, Sites 2 and 12, and Operable Unit Carbon Tetrachloride Plume*. June.



TABLES

TABLE 1

SAMPLE CROSS REFERENCE
Validation Summary Report, OUCTP
Former Fort Ord, California

Sample Date	Sample Number	Lab Sample ID	Station Name	Sample Depth	Sample Type	Test Methods	Validation Level
7/9/2015	1528G0BW001F	C40680-1	MW-BW-85-A	62.7	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW002F	C40680-2	MW-BW-85-A	67.7	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW003F	C40680-3	MW-BW-85-A	77.7	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW004F	C40680-4	MW-BW-85-A	82.7	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW007F	C40680-6	MW-BW-91-A	65.3	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW006C	C40680-5	FIELD-QC	--	Field Blank	EPA8260B-SIM	III
7/9/2015	1528G0BW008F	C40680-7	MW-BW-91-A	70.3	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW009F	C40680-8	MW-BW-91-A	75.3	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW010D	C40680-9	MW-BW-91-A	75.3	Field Duplicate	EPA8260B-SIM	III
7/9/2015	1528G0BW011F	C40680-10	MW-BW-91-A	80.3	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW012F	C40680-11	MW-BW-91-A	85.3	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW013A	C40680-12	FIELD-QC	--	Trip Blank	EPA8260B-SIM	III
7/9/2015	1528G0BW014F	C40680-13	MW-BW-86-A	73.9	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW015F	C40680-14	MW-BW-86-A	78.9	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW016F	C40680-15	MW-BW-86-A	83.9	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW017F	C40680-16	MW-BW-86-A	88.9	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW018F	C40680-17	MW-BW-86-A	93.9	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW020F	C40680-19	MW-BW-90-A	57.6	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW021F	C40680-20	MW-BW-90-A	62.6	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW022F	C40680-21	MW-BW-90-A	67.6	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW023F	C40680-22	MW-BW-90-A	72.6	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW024F	C40680-23	MW-BW-90-A	77.6	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW025F	C40680-24	MW-BW-87-A	71.7	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW026F	C40680-25	MW-BW-87-A	76.7	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW027F	C40680-26	MW-BW-87-A	81.7	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW028F	C40680-27	MW-BW-87-A	86.7	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW029F	C40680-28	MW-BW-87-A	91.7	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW030F	C40680-29	MW-BW-87-A	96.7	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW031F	C40680-30	MW-BW-88-A	85.3	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW032F	C40680-31	MW-BW-88-A	90.3	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW033F	C40680-32	MW-BW-88-A	95.3	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW034D	C40680-33	MW-BW-88-A	95.3	Field Duplicate	EPA8260B-SIM	III
7/9/2015	1528G0BW035F	C40680-34	MW-BW-88-A	100.3	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW036F	C40680-35	MW-BW-89-A	87	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW037F	C40680-36	MW-BW-89-A	92	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW038F	C40680-37	MW-BW-89-A	97	Primary	EPA8260B-SIM	III
7/9/2015	1528G0BW039D	C40680-38	MW-BW-89-A	97	Field Duplicate	EPA8260B-SIM	III
7/9/2015	1528G0BW040F	C40680-39	MW-BW-92-A	72.5	Primary	EPA8260B-SIM	IV
7/9/2015	1528G0BW041D	C40680-40	MW-BW-92-A	72.5	Field Duplicate	EPA8260B-SIM	IV
7/9/2015	1528G0BW042F	C40680-41	MW-BW-92-A	77.5	Primary	EPA8260B-SIM	IV
7/9/2015	1528G0BW043F	C40680-42	MW-BW-92-A	82.5	Primary	EPA8260B-SIM	IV
7/9/2015	1528G0BW044F	C40680-43	MW-BW-92-A	87.5	Primary	EPA8260B-SIM	IV
7/30/2015	1531G0BW045F	C41017-1	MW-BW-85-A	72.7	Primary	EPA8260B-SIM	III
7/30/2015	1531G0BW046F	C41017-2	MW-BW-85-A	87.7	Primary	EPA8260B-SIM	III
7/30/2015	1531G0BW047D	C41017-3	MW-BW-85-A	87.7	Field Duplicate	EPA8260B-SIM	III
7/30/2015	1531G0BW048A	C41017-4	FIELD-QC	--	Trip Blank	EPA8260B-SIM	III
7/30/2015	1531G0BW049C	C41017-5	FIELD-QC	--	Field Blank	EPA8260B-SIM	III

TABLE 2

QUALIFIED ANALYTICAL RESULTS

Validation Summary Report, OUCTP
Former Fort Ord, California

Sample Date	Sample Number	Lab Sample ID	Station Name	Sample Depth	Test Method	Matrix	Sample Type	Analyte	Final Result	Reporting Limit	Units	Validation Qualifier	Reason
7/9/2015	1528G0BW001F	C40680-1	MW-BW-85-A	62.7	EPA8260B-SIM	H2O	Primary	Vinyl chloride	ND(0.10)	0.10	µg/L	UJ	MS/MSD outlier
7/9/2015	1528G0BW032F	C40680-31	MW-BW-88-A	90.3	EPA8260B-SIM	H2O	Primary	1,1-Dichloroethene	ND(0.50)	0.50	µg/L	UJ	Surrogate recovery outlier
7/9/2015	1528G0BW032F	C40680-31	MW-BW-88-A	90.3	EPA8260B-SIM	H2O	Primary	1,2-Dichloroethene (total)	ND(1.0)	1.0	µg/L	UJ	Surrogate recovery outlier
7/9/2015	1528G0BW032F	C40680-31	MW-BW-88-A	90.3	EPA8260B-SIM	H2O	Primary	Carbon tetrachloride	0.29	0.50	µg/L	J-	Surrogate recovery outlier
7/9/2015	1528G0BW032F	C40680-31	MW-BW-88-A	90.3	EPA8260B-SIM	H2O	Primary	Chloroform	0.31	0.50	µg/L	J-	Surrogate recovery outlier
7/9/2015	1528G0BW032F	C40680-31	MW-BW-88-A	90.3	EPA8260B-SIM	H2O	Primary	Methylene chloride	ND(2.0)	2.0	µg/L	UJ	Surrogate recovery outlier
7/9/2015	1528G0BW032F	C40680-31	MW-BW-88-A	90.3	EPA8260B-SIM	H2O	Primary	Tetrachloroethene	ND(0.50)	0.50	µg/L	UJ	Surrogate recovery outlier
7/9/2015	1528G0BW032F	C40680-31	MW-BW-88-A	90.3	EPA8260B-SIM	H2O	Primary	Trichloroethene	ND(0.50)	0.50	µg/L	UJ	Surrogate recovery outlier
7/9/2015	1528G0BW032F	C40680-31	MW-BW-88-A	90.3	EPA8260B-SIM	H2O	Primary	Vinyl chloride	ND(0.10)	0.10	µg/L	UJ	Surrogate recovery outlier
7/9/2015	1528G0BW033F	C40680-32	MW-BW-88-A	95.3	EPA8260B-SIM	H2O	Primary	1,1-Dichloroethene	ND(0.50)	0.50	µg/L	UJ	Surrogate recovery outlier
7/9/2015	1528G0BW033F	C40680-32	MW-BW-88-A	95.3	EPA8260B-SIM	H2O	Primary	1,2-Dichloroethene (total)	ND(1.0)	1.0	µg/L	UJ	Surrogate recovery outlier
7/9/2015	1528G0BW033F	C40680-32	MW-BW-88-A	95.3	EPA8260B-SIM	H2O	Primary	Carbon tetrachloride	0.60	0.50	µg/L	J-	Surrogate recovery outlier
7/9/2015	1528G0BW033F	C40680-32	MW-BW-88-A	95.3	EPA8260B-SIM	H2O	Primary	Chloroform	0.52	0.50	µg/L	J-	Surrogate recovery outlier
7/9/2015	1528G0BW033F	C40680-32	MW-BW-88-A	95.3	EPA8260B-SIM	H2O	Primary	Methylene chloride	ND(2.0)	2.0	µg/L	UJ	Surrogate recovery outlier
7/9/2015	1528G0BW033F	C40680-32	MW-BW-88-A	95.3	EPA8260B-SIM	H2O	Primary	Tetrachloroethene	ND(0.50)	0.50	µg/L	UJ	Surrogate recovery outlier
7/9/2015	1528G0BW033F	C40680-32	MW-BW-88-A	95.3	EPA8260B-SIM	H2O	Primary	Trichloroethene	ND(0.50)	0.50	µg/L	UJ	Surrogate recovery outlier
7/9/2015	1528G0BW033F	C40680-32	MW-BW-88-A	95.3	EPA8260B-SIM	H2O	Primary	Vinyl chloride	ND(0.10)	0.10	µg/L	UJ	Surrogate recovery outlier



ATTACHMENT 1

Field Duplicate Relative Percent Differences

Field Duplicate RPD Report

Lab Reporting Batch ID: C40680

Laboratory: ACTS

EDD Filename: C40680ACTS

eQAPP Name: FtOrd_UFP_QAPP

Method: 8260BSIM

Matrix: AQ

<i>Analyte</i>	<i>Concentration (ug/L)</i>		<i>Sample RPD</i>	<i>eQAPP RPD</i>	<i>Flag</i>
	1528G0BW009F	1528G0BW010D			
CARBON TETRACHLORIDE	3.6	3.4	6	30.00	No Qualifiers Applied
CHLOROFORM	0.56	0.53	6	30.00	
<i>Analyte</i>	<i>Concentration (ug/L)</i>		<i>Sample RPD</i>	<i>eQAPP RPD</i>	<i>Flag</i>
	1528G0BW033F	1528G0BW034D			
CARBON TETRACHLORIDE	0.60	0.57	5	30.00	No Qualifiers Applied
CHLOROFORM	0.52	0.50	4	30.00	
<i>Analyte</i>	<i>Concentration (ug/L)</i>		<i>Sample RPD</i>	<i>eQAPP RPD</i>	<i>Flag</i>
	1528G0BW038F	1528G0BW039D			
CARBON TETRACHLORIDE	2.1	2.1	0	30.00	No Qualifiers Applied
CHLOROFORM	0.19	0.19	0	30.00	
<i>Analyte</i>	<i>Concentration (ug/L)</i>		<i>Sample RPD</i>	<i>eQAPP RPD</i>	<i>Flag</i>
	1528G0BW040F	1528G0BW041D			
CARBON TETRACHLORIDE	2.3	2.3	0	30.00	No Qualifiers Applied
CHLOROFORM	0.24	0.24	0	30.00	

Field Duplicate RPD Report

Lab Reporting Batch ID: C41017

Laboratory: ACTS

EDD Filename: C41017ACTS

eQAPP Name: FtOrd_UFP_QAPP

Method: 8260BSIM

Matrix: AQ

<i>Analyte</i>	<i>Concentration (ug/L)</i>		<i>Sample RPD</i>	<i>eQAPP RPD</i>	<i>Flag</i>
	1531G0BW046F	1531G0BW047D			
CARBON TETRACHLORIDE	0.52	0.46	12	30.00	No Qualifiers Applied
CHLOROFORM	0.11	0.10	10	30.00	



APPENDIX 1

Volatile Organic Compound Data Validation Report

August 21, 2015



Memo

To: Kevin E. Garrett, PhD, PMP, Senior Associate
Amec Foster Wheeler Environment & Infrastructure, Inc.

From: Zachary Carroll, Database Analyst

Ref: OD14170870

Re: Volatile Organic Compound Validation Report
Baseline Sampling 2015
Groundwater Monitoring Program
Operable Unit Carbon Tetrachloride Plume (OUCTP)
Former Fort Ord, California

Sample analysis for United States Environmental Protection Agency (USEPA) Test Method 8260B-SIM was performed by Accutest Laboratories in San Jose, California. Accutest's San Jose laboratory is currently certified through the Department of Defense Environmental Laboratory Accreditation Program ([DOD ELAP] number L2242).

Level III review was performed on 100% of the data from this monitoring event using Laboratory Data Consultants, Inc.'s Automated Data Review (ADR) software program ADR.NET version 1.8.0.248. Flagging conventions specified in the Quality Assurance Project Plan (QAPP) for USEPA Test Method 8260B-SIM were incorporated with the program's reference library to assess compliance with project requirements.

The ADR program was used as an electronic validation tool for the following quality control (QC) checks:

- Holding Times
- Instrument Performance Checks
- Method Blank Contamination
- Surrogates
- Laboratory Control Samples
- Matrix Spike Samples
- Field Blank Contamination
- Field Duplicates

Amec Foster Wheeler Environment & Infrastructure, Inc.
1670 Corporate Circle, Suite 101
Petaluma, California 94954
USA
Tel (707) 793-3800
Fax (707) 793-3900
amecfw.com

Initial and continuing calibration files for each test method were validated manually due to the laboratory's inability to deliver electronic calibration files.

For the monitoring event, an additional Level IV review was performed on 10% of the results. The Level IV review included the elements of the Level III review plus target compound identification, target compound quantitation, and an evaluation of the raw data and incorporated QC criteria from the QAPP. The findings of the Level III and Level IV data review are presented in the following sections.

1.0 LABORATORY QUALITY CONTROL

1.1 SAMPLE PRESERVATION AND HOLDING TIME

Samples were properly stored in glass containers with Teflon[®] septum cap without bubbles or headspace. Samples were preserved with hydrochloric acid to a pH of less than (<) 2 and stored in compliance with the United States Army Corps of Engineers' (USACE) standard of 0-6 degrees Celsius (°C). The 14-day holding time criteria for preserved groundwater samples were met for USEPA Test Method 8260B-SIM.

1.2 INSTRUMENT CALIBRATION

Initial and continuing calibrations were analyzed at the method specified frequency. Initial calibration criteria specified in the QAPP were met.

Second source initial calibration verification standards and continuing calibration verification (CCV) standards specified in the QAPP were met.

QAPP specified criteria for calibration check compounds and system performance check compounds were met.

Instrument performance checks using bromofluorobenzene were analyzed at the method specified frequencies and met the method specific ion abundance criteria.

1.3 METHOD BLANKS

Method blanks were analyzed at the frequency required by the QAPP of one per analytical batch. No target compounds were detected in the method blanks.

1.4 SURROGATES AND INTERNAL STANDARDS

Surrogates and internal standards were added to investigative and QC samples as required by the QAPP. Reported recoveries of surrogate compounds for project samples were within the QAPP specified acceptance limits, with the exception of those identified in the Surrogate Outlier Report produced by ADR and presented as Attachment 1.

Internal standard retention times were within ± 30 seconds of the associated continuing calibration internal standard retention time. Internal standard area counts were within the acceptance criteria (greater than 50% and <200%) of the associated continuing calibrations internal standard area counts.

1.5 LABORATORY CONTROL SAMPLES

Laboratory control samples (LCS) were analyzed at the frequency required by the QAPP of one per analytical batch. The percent recovery (%R) were within the QAPP specified acceptance limits.

1.6 MATRIX SPIKE AND MATRIX SPIKE DUPLICATE SAMPLES

Matrix spike and matrix spike duplicate (MS/MSD) samples were analyzed at the frequency required by the QAPP of one set per analytical batch for USEPA Test Method 8260B-SIM. The %R and RPDs for project source samples were within the QAPP specified acceptance limits, with the exception of those identified in the MS/MSD Outlier Report produced by ADR and presented as Attachment 2.

1.7 TARGET COMPOUND IDENTIFICATION

Chromatograms and mass spectra from the raw data associated with five project samples were evaluated as part of the Level IV review. Target compound identifications and quantitations were found to be acceptable. The Level IV review included both recalculation of reported results and review of the raw data for transcription errors. Results evaluated as part of the Level IV review were re-calculated and verified as being correctly reported by the laboratory.

1.8 ANALYTICAL SENSITIVITY

Laboratory reporting limits (RL) reviewed as part of the Level III review met the QAPP specified requirements with the exception of those samples for which dilutions were performed. Sample results are not qualified based on raised RLs.

The raw data associated with five project samples were evaluated for instrument sensitivity as part of the Level IV review. The instrument sensitivity was found to be sufficient to support project reporting requirements.

2.0 FIELD QC SAMPLES

2.1 FIELD DUPLICATES

A total of five field duplicate sample pairs were collected and analyzed by USEPA Test Method 8260B-SIM.

The following equation was used to calculate the RPD:

$$RPD = \frac{D1 - D2}{\left(\frac{1}{2}\right)(D1 + D2) \times 100}$$

Where:

D1 = primary sample result

D2 = duplicate sample result

The RPDs between the primary and duplicate samples were evaluated and were below the QAPP specified 30% acceptance criteria for water samples or had an absolute value difference of less than twice the RL.

2.2 TRIP BLANKS

Each shipment of samples from the field submitted for analysis of VOCs was accompanied by a trip blank sample. No target compounds were detected in the trip blanks.

2.3 FIELD BLANKS

No target compounds were detected in the field blanks submitted for analysis of VOCs during the monitoring period.

Sincerely yours,
Amec Foster Wheeler Environment & Infrastructure, Inc.



Zachary Carroll
Database Analyst

\\pet-fs1\projects\od14170870_fortord\2015q2fobw\baseline sampling\ouctp_2015_baseline_vsr appendix 1 - vocs.doc

Attachment 1 – Surrogate Outlier Report

Attachment 2 – MS/MSD Outlier Report

Surrogate Outlier Report

Lab Reporting Batch ID: C40680

Laboratory: ACTS

EDD Filename: C40680ACTS

eQAPP Name: FtOrd_UFP_QAPP

Method: 8260BSIM

Matrix: AQ

<i>Sample ID (Analysis Type)</i>	<i>Surrogate</i>	<i>Sample % Recovery</i>	<i>% Recovery Limits</i>	<i>Affected Compounds</i>	<i>Flag</i>
1528G0BW032F (1RES)	TOLUENE-D8	87	89.00-112.00	All Target Analytes	J- (all detects) UJ (all non-detects)
1528G0BW033F (1RES)	TOLUENE-D8	87	89.00-112.00	All Target Analytes	J-(all detects) UJ(all non-detects)

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: C40680

Laboratory: ACTS

EDD Filename: C40680ACTS

eQAPP Name: FtOrd_UFP_QAPP

Method: 8260BSIM

Matrix: AQ

<i>QC Sample ID (Associated Samples)</i>	<i>Compound</i>	<i>MS %R</i>	<i>MSD %R</i>	<i>%R Limits</i>	<i>RPD (Limits)</i>	<i>Affected Compounds</i>	<i>Flag</i>
1528G0BW001FMS 1528G0BW001FMDS (1528G0BW001F 1528G0BW002F 1528G0BW003F 1528G0BW004F 1528G0BW006C 1528G0BW007F 1528G0BW008F 1528G0BW009F 1528G0BW010D 1528G0BW011F 1528G0BW012F 1528G0BW013A 1528G0BW014F 1528G0BW015F 1528G0BW016F 1528G0BW017F 1528G0BW018F)	VINYL CHLORIDE	84	80	91.00-164.00	-	VINYL CHLORIDE	□□:Source sample□

Matrix Spike/Matrix Spike Duplicate Outlier Report

Lab Reporting Batch ID: C41017

Laboratory: ACTS

EDD Filename: C41017ACTS

eQAPP Name: FtOrd_UFP_QAPP

Method: 8260BSIM

Matrix: AQ

<i>QC Sample ID (Associated Samples)</i>	<i>Compound</i>	<i>MS %R</i>	<i>MSD %R</i>	<i>%R Limits</i>	<i>RPD (Limits)</i>	<i>Affected Compounds</i>	<i>Flag</i>
1531G0BW045FMS (1531G0BW045F 1531G0BW046F 1531G0BW047D 1531G0BW048A 1531G0BW049C)	1,1-DICHLOROETHENE	121	-	67.00-114.00	-	1,1-DICHLOROETHENE	N/A Source sample was non-detect for this compound.



APPENDIX 2

Laboratory Reports

APPENDIX F

Biological Monitoring Completion Report

BIOLOGICAL MONITORING COMPLETION REPORT

FOR THE

AHTNA WELL INSTALLATION AND DEVELOPMENT

AT THE

OPERABLE UNIT CARBON TETRACHLORIDE PLUME (OUCTP)

September 2015

Prepared For

Ahtna Environmental, Inc.
2255 Contra Costa Blvd, Suite 312
Pleasant Hill, CA 94523

Prepared By

Denise Duffy & Associates, Inc.
947 Cass St., Suite 5
Monterey, CA 93940

CONTENTS

1	PROJECT INITIATION AND BASELINE SURVEY	1
1.1	Project Initiation.....	1
1.2	Baseline Survey Methodology.....	1
1.3	Baseline Survey Results.....	2
1.3.1	Monterey Spineflower Survey Results.....	2
1.3.2	Sand Gilia Survey Results	2
2	CONSTRUCTION PHASE BIOLOGICAL MONITORING.....	3
2.1	Oak Tree Removal and Pruning.....	4
2.2	Woodrat Nest Dismantling and Removal.....	4
3	ANNUAL FOLLOW-UP SURVEYS	4
4	REFERENCES.....	6

ATTACHMENTS

ATTACHMENT A BASELINE SURVEY RESULTS

ATTACHMENT B CONSTRUCTION PHASE BIOLOGICAL MONITORING LOG

ATTACHMENT C PHOTO JOURNAL

1 PROJECT INITIATION AND BASELINE SURVEY

Denise Duffy and Associates, Inc. (DD&A) was contracted by Ahtna Environmental, Inc. (Ahtna) to conduct baseline surveys, provide construction phase biological monitoring, and complete annual follow-up surveys within the University of California Fort Ord Natural Reserve (FONR). This task required part-time and on-call environmental monitoring of construction activities to advise the Ahtna Field Supervisor on avoidance of special-status plant and wildlife species, and provide guidance on minimizing habitat impacts in response to requests from the construction field staff.

1.1 PROJECT INITIATION

DD&A met and coordinated with Ahtna, U.S. Army Corps of Engineers (USACE), U.S. Army Base Realignment and Closure (BRAC) Fort Ord Field Office, and University of California FONR staff to finalize the scope and project path, as well as identify project boundaries, project footprint, and site access.

1.2 BASELINE SURVEY METHODOLOGY

The Scope of Work (SOW) provided by Ahtna to DD&A was intended to comply with the Installation-Wide Multispecies Habitat Management Plan (HMP) for Former Fort Ord, California (USACE, 1997). The SOW required that baseline biological surveys be conducted to establish whether protected species are present prior to work operations, and to avoid and minimize impacts during work operations. DD&A conducted baseline surveys for federally listed HMP species, including sand gilia (*Gilia tenuiflora* ssp. *arenaria*) and Monterey spineflower (*Chorizanthe pungens* var. *pungens*). These are annual plant species that must be blooming in order to make a positive identification. DD&A used several reference sites and conferred with other local experts to ensure that surveys for these species were conducted within the appropriate blooming period. Baseline survey efforts began March 26, 2015 and were concluded April 17, 2015.

The baseline survey area included all proposed well locations as well as a 50-foot buffer area. The survey area also included potential access routes and a 20-foot buffer area on either side of the potential routes. DD&A, in coordination with Ahtna, determined that the 20-foot and 50-foot buffer areas were sufficient to encompass all areas of potential impacts associated with the project. These areas were surveyed for the two HMP plant species, Monterey spineflower and sand gilia, during four survey efforts. Baseline rare plant survey methods were based on methods DD&A used previously for vegetation surveys at UC FONR on behalf of HydroGeoLogic, Inc. (USACE 2008, 2009a, 2009b, 2011, 2012, 2013a & 2013b).

Where found, the locations of the two rare plant species were mapped using a Trimble® Geo 7 Series global positioning system (GPS) with an external Zephyr Model 2 antenna. When either Monterey spineflower or sand gilia was identified, the survey in that area was extended to the boundary of the

population encountered. Large areas of Monterey spineflower and sand gilia were mapped as polygons, with attributes to identify the number of individuals for sand gilia or percent absolute cover for Monterey spineflower. Smaller groups and individuals were mapped as points with attributes to identify the number of individuals at each location.

Individual counts were made for all sand gilia populations whether they were mapped using points (population ≤ 5) or polygons (population ≥ 6). However, Monterey spineflower were only counted as individuals when groups of five or less were mapped. Monterey spineflower populations consisting of greater than five individuals were mapped as polygons and characterized according to the percent of cover. The density classes used for percent cover were:

- Very Sparse (corresponding to an absolute cover of less than 3 percent),
- Sparse (3-25 percent absolute cover),
- Medium Low (26-50 percent absolute cover),
- Medium (51-75 percent absolute cover),
- Medium High (76-97 percent absolute cover), and
- Very High (>97-100 percent absolute cover).

GPS data, defining the population boundaries and/or point location(s), were exported to shapefile format. Shapefiles were then imported into the Geographic Information System (GIS) ESRI® ArcGIS 10.3 software platform and overlaid on high-resolution aerial photography/satellite imagery.

1.3 BASELINE SURVEY RESULTS

1.3.1 MONTEREY SPINEFLOWER SURVEY RESULTS

In 2015, DD&A surveyed for Monterey spineflower within the designated survey area (Attachment A), which included eight well installation locations and access routes. Monterey spineflower was found (within 50 feet) of four of the eight well locations (MW-BW-86-A, MW-BW-88-A, MW-BW-90-A, and MW-BW-92-A) and along access routes (Table 1 and Attachment A).

Table 1. Monterey Spineflower Baseline Survey Results

	# of Year Populations	# of Points	Polygons per Density Class					Total Area of Polygons (sq. ft.)
			Very Sparse	Sparse	Medium-Low	Medium	Medium- High	
2015	152	55	3	76	12	5	1	21,173.5

1.3.2 SAND GILIA SURVEY RESULTS

In 2015, DD&A surveyed for sand gilia within the designated survey area (Attachment A), which included, eight well installation locations and access routes. Sand gilia was not present within 50 feet of

any of the well installation locations surveyed. All populations of sand gilia were identified and mapped along the access route to well installation location MW-BW-89-A. (Table 2 and Attachment A).

Table 2. Sand Gilia Baseline Survey Results

	# of	Individual	# of	# of	Area of Polygons
Year	Populations	Plants	Points	Polygons	(sq. ft.)
2015	14	347	10	4	1,217.3

Modification to the location of wells, access routes, and staging areas were made using baseline survey data to minimize impacts to these HMP plant species. Access routes for well locations MW-BW-91-A and MW-BW-85-A were modified after the initial survey effort documented large populations of Monterey spineflower within the original access routes. The modified access routes to well locations MW-BW-91-A and MW-BW-85-A also reduced the total surface area of off road disturbance that would be required to access the well locations. Several other well locations were modified by a few feet, under the direction of the on-site biologist, to avoid known populations of HMP species. Discussion with the on-site biologist and drilling personnel prior to mobilization at each well location ensured that drilling equipment was placed to avoid HMP species to the greatest extent possible.

2 CONSTRUCTION PHASE BIOLOGICAL MONITORING

A Habitat Checklist (HCL) was prepared by DD&A prior to construction. The HCL outlined specific avoidance and minimization measures, as required by the HMP and Biological Opinions (BOs), which were implemented during project activities to reduce impacts to HMP species. The HCL was signed by the Project Biologist, the BRAC Biologist, Ahtna Project Manager, and the Ahtna Field Supervisor prior to work initiation. As required by the HMP, existing roads were used to the greatest extent feasible. Access roads, staging areas, and other appurtenant facilities were sited to minimize impacts to HMP plant and wildlife species.

Construction activities, which included the installation and development of multiple wells within the FONR, were initiated on June 1, 2015 and were completed on June 18, 2015.

An initial Environmental Awareness Training was conducted by DD&A biologists for all supervisors and field personnel on June 6, 2015. All new site personnel who joined the project later and were not at the initial Environmental Awareness Training session also received Environmental Awareness Training prior to working on the site. DD&A biologists were available during all phases of work to monitor activity and ensure the mitigation measures were followed.

Attachment B details the specific monitoring events and communication by DD&A personnel subsequent to initiation of well installation and development activities at UC FONR. Attachment B also documents communication and meetings with staff from FONR, BRAC, Ahtna, and National Exploration, Wells and Pumps (NEWP), as well as construction oversight by DD&A biologists.

DD&A staff was present on-site daily for a majority of the well installation activities and submitted a Daily Report of Activities subsequent to any daily monitoring activities. DD&A staff took photographs before, during and after work, to document well installation and development impact. A map for each photograph and a photographic record compiled by DD&A is included in Attachment C. The map included in Attachment C also shows the site locations that are referred to throughout Attachment B.

2.1 OAK TREE REMOVAL AND PRUNING

On June 6, 2015, DD&A staff monitored the removal of six coast live oak (*Quercus agrifolia*) trees to improve access to well site MW-BW-88-A. Trees were cut at ground level and root structure was left intact. Two additional oak trees were trimmed to improve access. Tree removal and trimming was approved beforehand by FONR staff. Core samples, location, and photographs of each removed tree were collected and presented to FONR staff.

2.2 WOODRAT NEST DISMANTLING AND REMOVAL

On June 9, 2015, DD&A staff identified two woodrat nests within potential impact areas located adjacent to well site MW-BW-88-A and along the access route to MW-BW-92-A. DD&A staff participated in a discussion with Ahtna and NEWP staff to determine if the woodrat nests could be avoided during well installation. After it was determined that NEWP staff could not guarantee nest avoidance, DD&A staff decided to dismantle the nests by hand prior to vegetation removal. No woodrats were observed during nest dismantling. Dismantled materials were left in the vicinity of the original nest site.

2.3 CORRECTIVE ACTIONS

On June 8, 2015, DD&A staff observed approximately 10 square feet of materials had been placed outside of the flagged staging area. DD&A conveyed the observation to Ahtna and National personnel. The material was relocated inside of the flagged staging area. Baseline surveys were not conducted outside of the flagged staging area therefore impacts to HMP species are unknown. However, placement and relocation of the staged materials did not result in soil disturbance therefore impacts to the potential HMP species seed banks located outside of the flagged staging area were determined to be unlikely. No additional mitigation was recommended.

On June 10, 2015, DD&A staff observed a Topes Tree Service vehicle attempting to utilize an access route to MW-BW-88-A that had not been surveyed during the baseline survey. DD&A staff reiterated to Ahtna and all on-site personnel that all vehicles must remain on established access routes. Baseline surveys were not conducted outside of the established access routes therefore impacts to HMP species are unknown. Minimal ground disturbance associated with the tire tracks of the vehicle was observed outside of the established access route. Impacts to any potential HMP species seed bank located outside of the flagged staging area were determined to be minimal. No additional mitigation was recommended.

3 ANNUAL FOLLOW-UP SURVEYS

Annual follow-up surveys (annual surveys) will be conducted for up to 3 years following the installation and development of the wells in accordance with the Scope of Work developed by Ahtna. DD&A will

conduct the first annual survey in 2016, employing the methodology used for the baseline survey. DD&A will communicate with all relevant parties prior to conducting annual surveys. Additionally, DD&A will provide a report for each annual survey summarizing survey activities and results, including photographic documentation, survey results, cartographic materials, and recommendations for mitigation measures, if necessary.

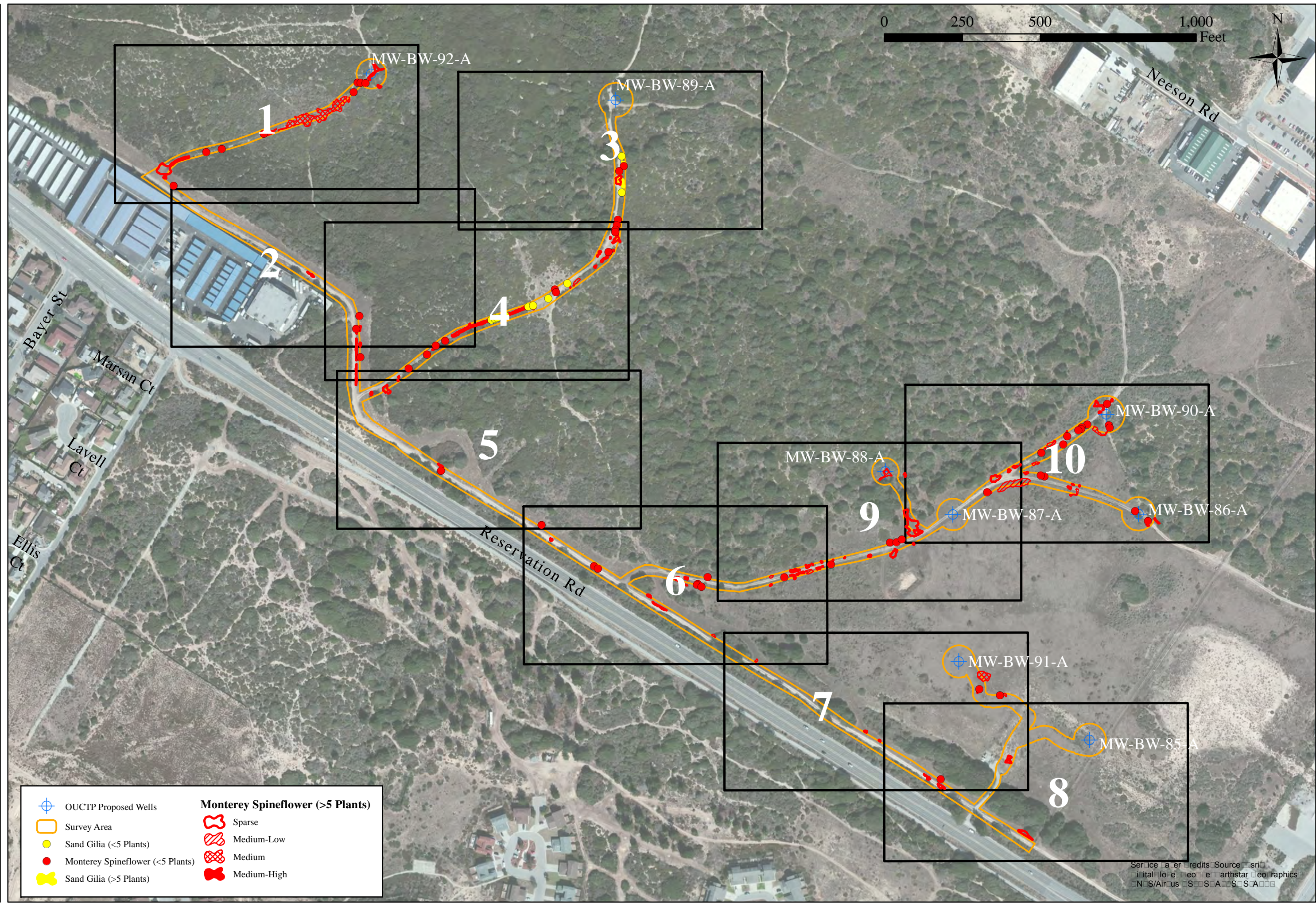
4 REFERENCES

- U.S. Army Corps of Engineers [USACE], 1997. Installation-Wide Multispecies Habitat Management Plan (HMP) for Former Fort Ord, California. April. BW-1787
- _____. 2008. 2007 FONR Impact Assessment and Habitat and Rare Plant Survey Results, Fritzsche Army Airfield Fire Drill Area, Former Fort Ord, California. February. Administrative Record Series Number OU1-534*.
- _____. 2009a. 2008 FONR Impact Assessment and Habitat and Rare Plant Species Survey Results, Fritzsche Army Airfield Fire Drill Area, Former Fort Ord, California. January. Administrative Record Series Number OU1-564*.
- _____. 2009b. 2009 FONR Impact Assessment and Habitat and Rare Plant Species Survey Results, Fritzsche Army Airfield Fire Drill Area, Former Fort Ord, California. December. Administrative Record Series Number OU1-574*.
- _____. 2011. 2010 FONR Impact Assessment and Habitat and Rare Plant Species Survey Results, Fritzsche Army Airfield Fire Drill Area, Former Fort Ord, California. January. Administrative Record Series Number OU1-585*.
- _____. 2012. 2011 FONR Impact Assessment and Habitat and Rare Plant Species Survey Results, Fritzsche Army Airfield Fire Drill Area, Former Fort Ord, California. January. Administrative Record Series Number BW-2614*.
- _____. 2013a. 2012 FONR Impact Assessment and Habitat and Rare Plant Species Survey Results, Operable Unit 1, Former Fort Ord, California. February. Administrative Record Series Number OU1-600A*.
- _____. 2013b. 2013 FONR Impact Assessment and Habitat and Rare Plant Species Survey Results, Operable Unit 1, Former Fort Ord, California. December. Administrative Record Series Number OU1-605A*.

ATTACHMENT A BASELINE SURVEY RESULTS

Ahna FONR OUCTP Well Installation and Access Route Survey Results

0 250 500 1,000 Feet



	OUCTP Proposed Wells	Monterey Spineflower (>5 Plants)	
	Survey Area		Sparse
	Sand Gilia (<5 Plants)		Medium-Low
	Monterey Spineflower (<5 Plants)		Medium
	Sand Gilia (>5 Plants)		Medium-High



0 50 100 200 Feet



	OUCTP Proposed Wells	Monterey Spineflower (>5 Plants)	
	Survey Area		Sparse
	Monterey Spineflower (<5 Plants)		Medium-Low
	Sand Gilia (<5 Plants)		Medium
	Sand Gilia (>5 Plants)		Medium-High

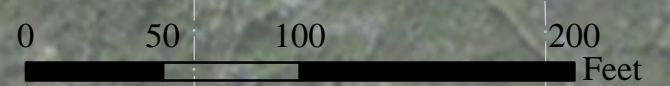
Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Ahtma FONR OUCTP Well Installation and Access Route Survey Results

Document Path: C:\GIS\GIS_Prospect\2015-09-Ahtma FONR\Map Products\Survey Results\Detail.mxd

Date: 5/18/2015





OUCTP Proposed Wells	Monterey Spineflower (>5 Plants)
Survey Area	Sparse
Monterey Spineflower (<5 Plants)	Medium-Low
Sand Gilia (<5 Plants)	Medium
Sand Gilia (>5 Plants)	Medium-High

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Ahtna FONR OUCTP Well Installation and Access Route Survey Results

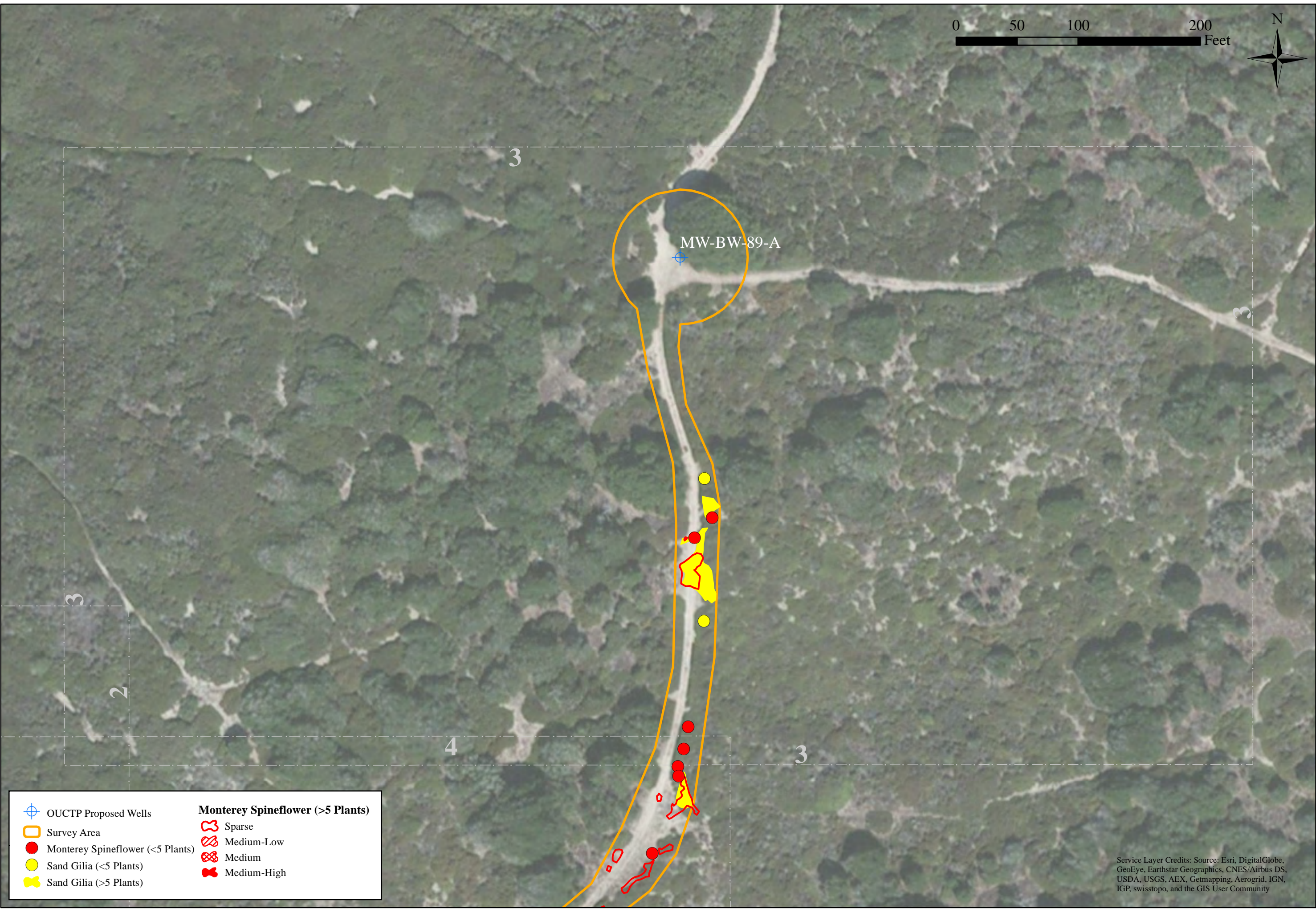


0 50 100 200 Feet



Ahtna FONR OUCTP Well Installation and Access Route Survey Results

Document Path: C:\GIS\GIS_Projects\2015-09_Ahtna_FONR\Map_Products\Survey_Results_Detail.mxd



	OUCTP Proposed Wells	Monterey Spineflower (>5 Plants)
	Survey Area	Sparse
	Monterey Spineflower (<5 Plants)	Medium-Low
	Sand Gilia (<5 Plants)	Medium
	Sand Gilia (>5 Plants)	Medium-High

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Date: 5/18/2015



Ahtna FONR OUCTP Well Installation and Access Route Survey Results



Ahtna FONR OUCTP Well Installation and Access Route Survey Results



	OUCTP Proposed Wells	Monterey Spineflower (>5 Plants)	
	Survey Area		Sparse
	Monterey Spineflower (<5 Plants)		Medium-Low
	Sand Gilia (<5 Plants)		Medium
	Sand Gilia (>5 Plants)		Medium-High

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

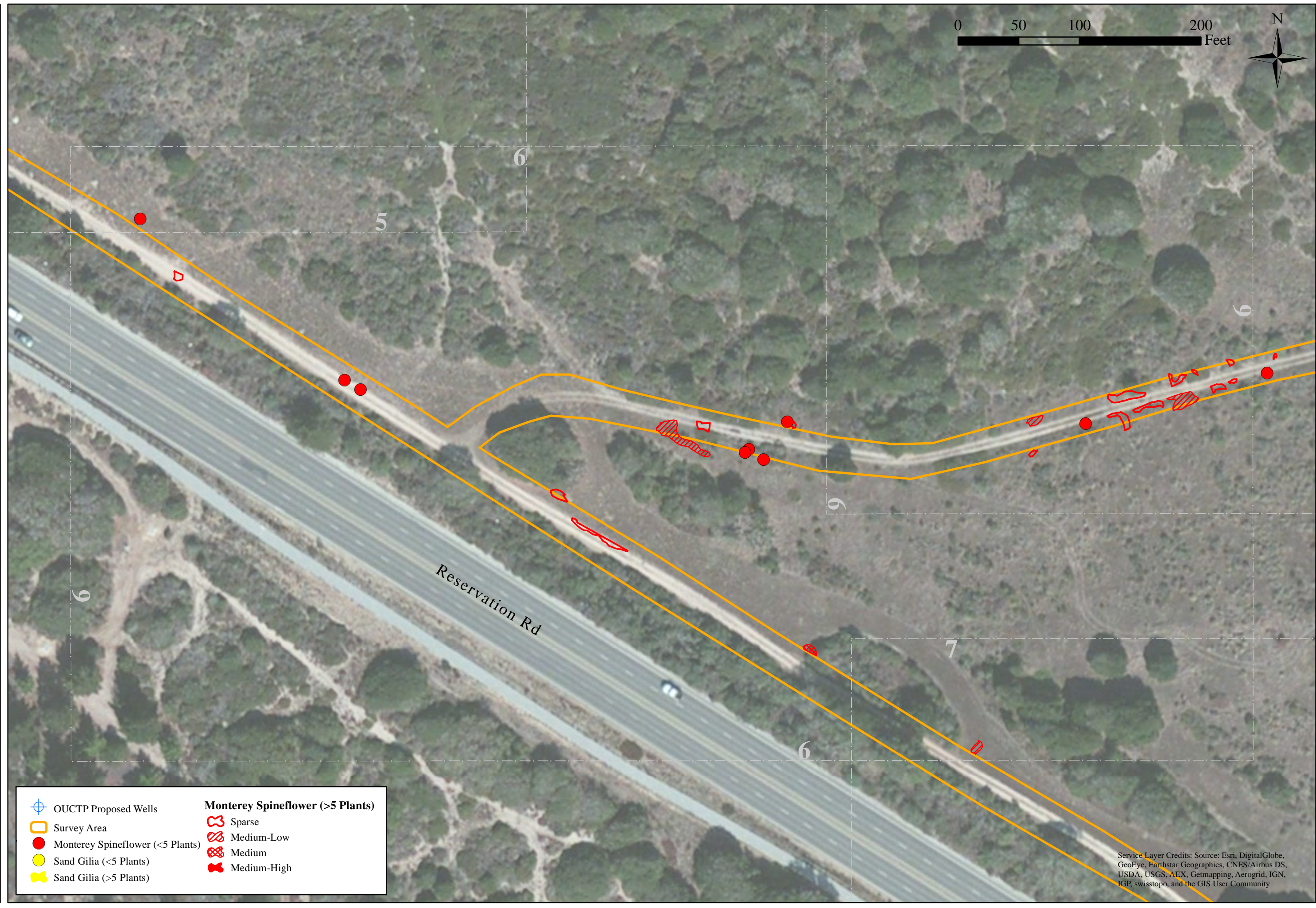


0 50 100 200 Feet



Ahtna FONR OUCTP Well Installation and Access Route Survey Results

Document Path: C:\GIS\GIS_Project\2015-09_Ahtna_FONR\Map_Products\Survey_Results_Detail.mxd

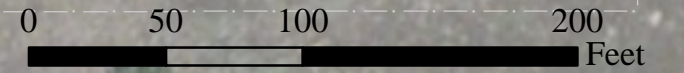











OUCTP Proposed Wells	Monterey Spineflower (>5 Plants)
Survey Area	Sparse
Monterey Spineflower (<5 Plants)	Medium-Low
Sand Gilia (<5 Plants)	Medium
Sand Gilia (>5 Plants)	Medium-High

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Date: 5/18/2015





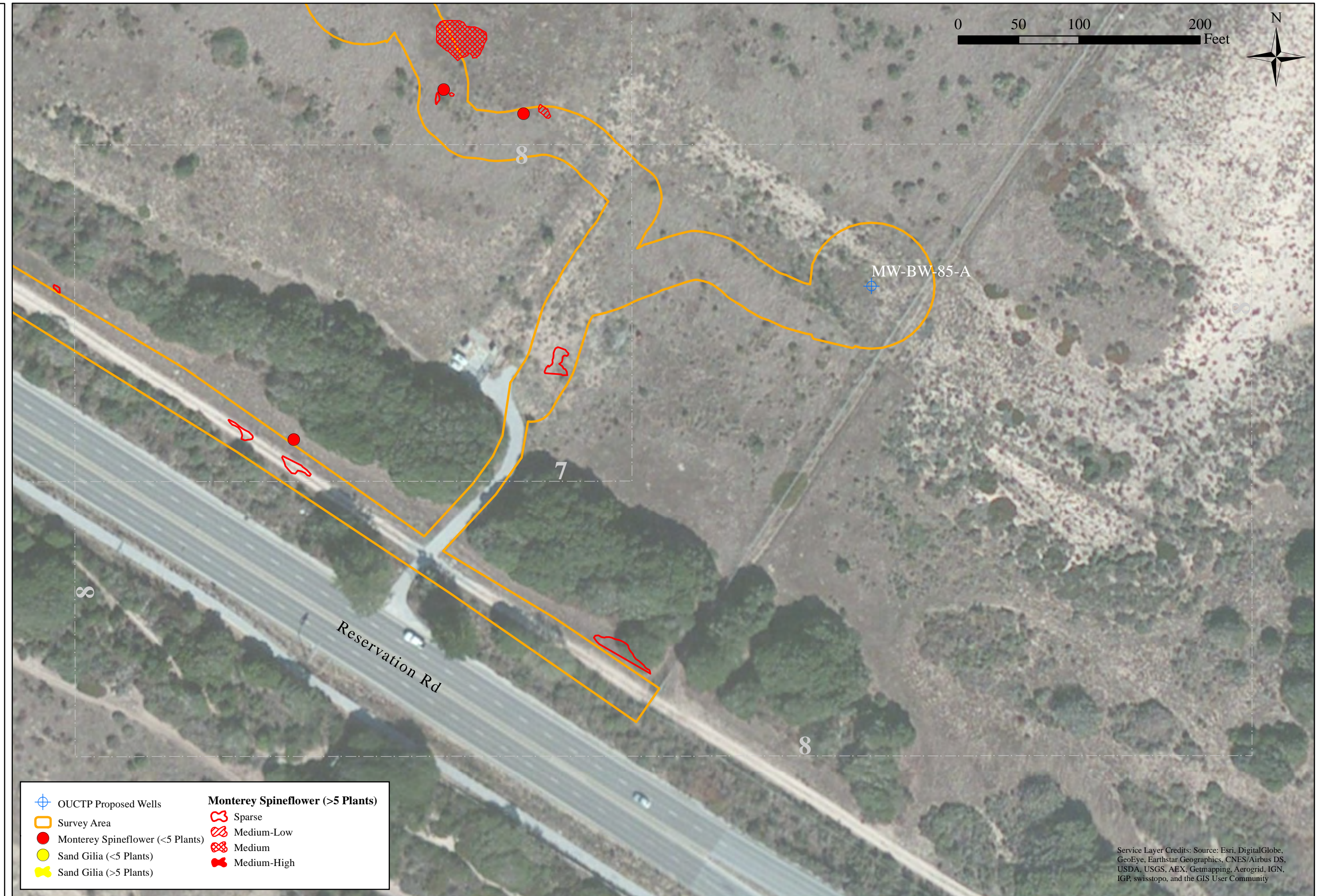
	OUCTP Proposed Wells	Monterey Spineflower (>5 Plants)
	Survey Area	 Sparse
	Monterey Spineflower (<5 Plants)	 Medium-Low
	Sand Gilia (<5 Plants)	 Medium
	Sand Gilia (>5 Plants)	 Medium-High

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Ahtna FONR OUCTP Well Installation and Access Route Survey Results



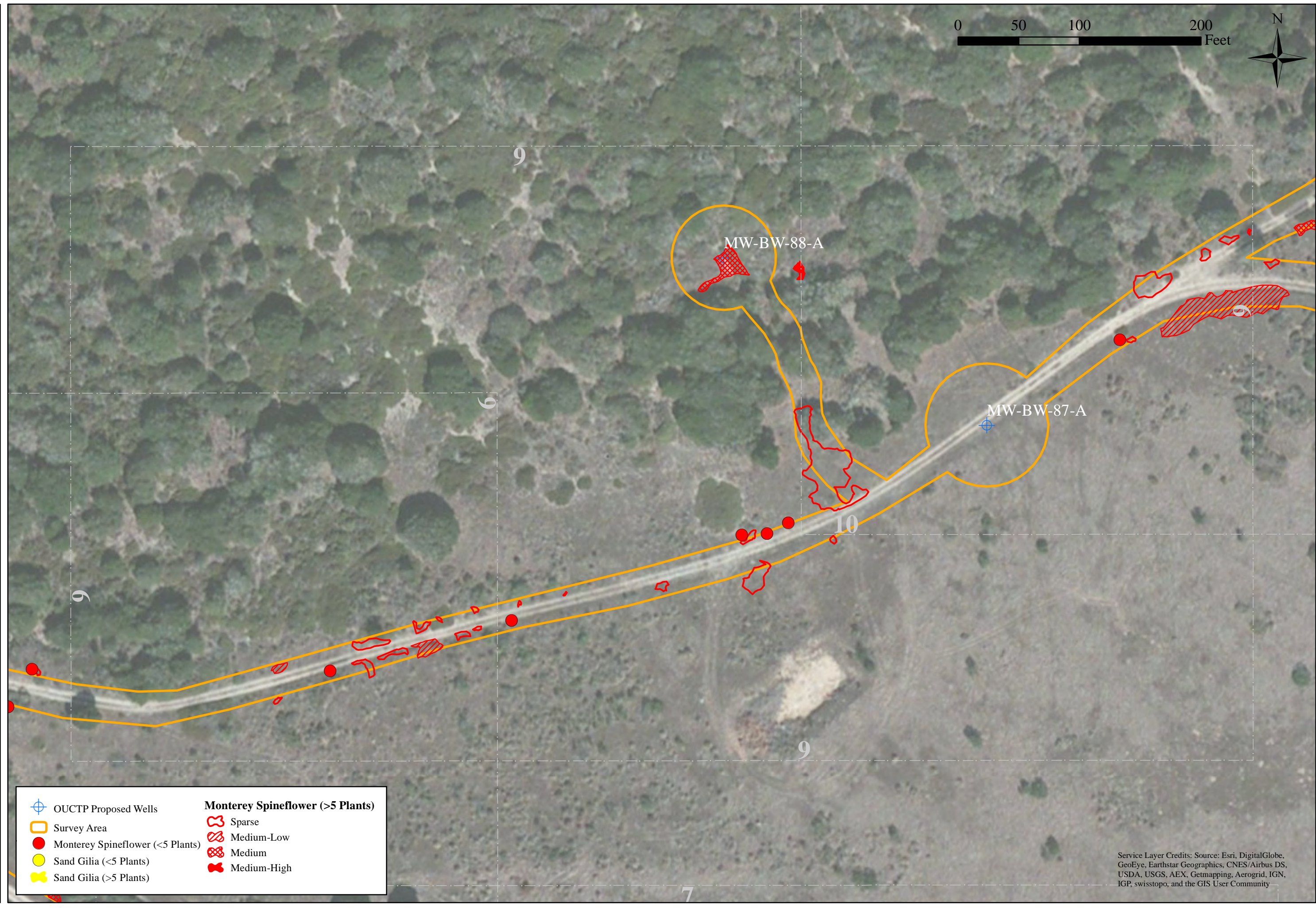
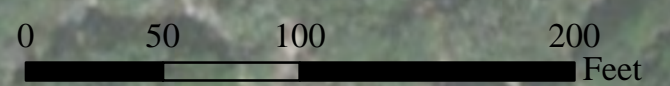
Ahtna FONR OUCTP Well Installation and Access Route Survey Results



OUCTP Proposed Wells	Monterey Spineflower (>5 Plants)
Survey Area	Sparse
Monterey Spineflower (<5 Plants)	Medium-Low
Sand Gilia (<5 Plants)	Medium
Sand Gilia (>5 Plants)	Medium-High

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



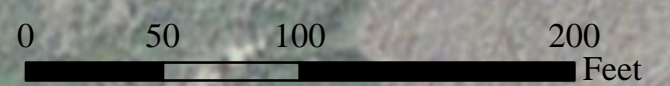


OUCTP Proposed Wells	Monterey Spineflower (>5 Plants)
Survey Area	Sparse
Monterey Spineflower (<5 Plants)	Medium-Low
Sand Gilia (<5 Plants)	Medium
Sand Gilia (>5 Plants)	Medium-High

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

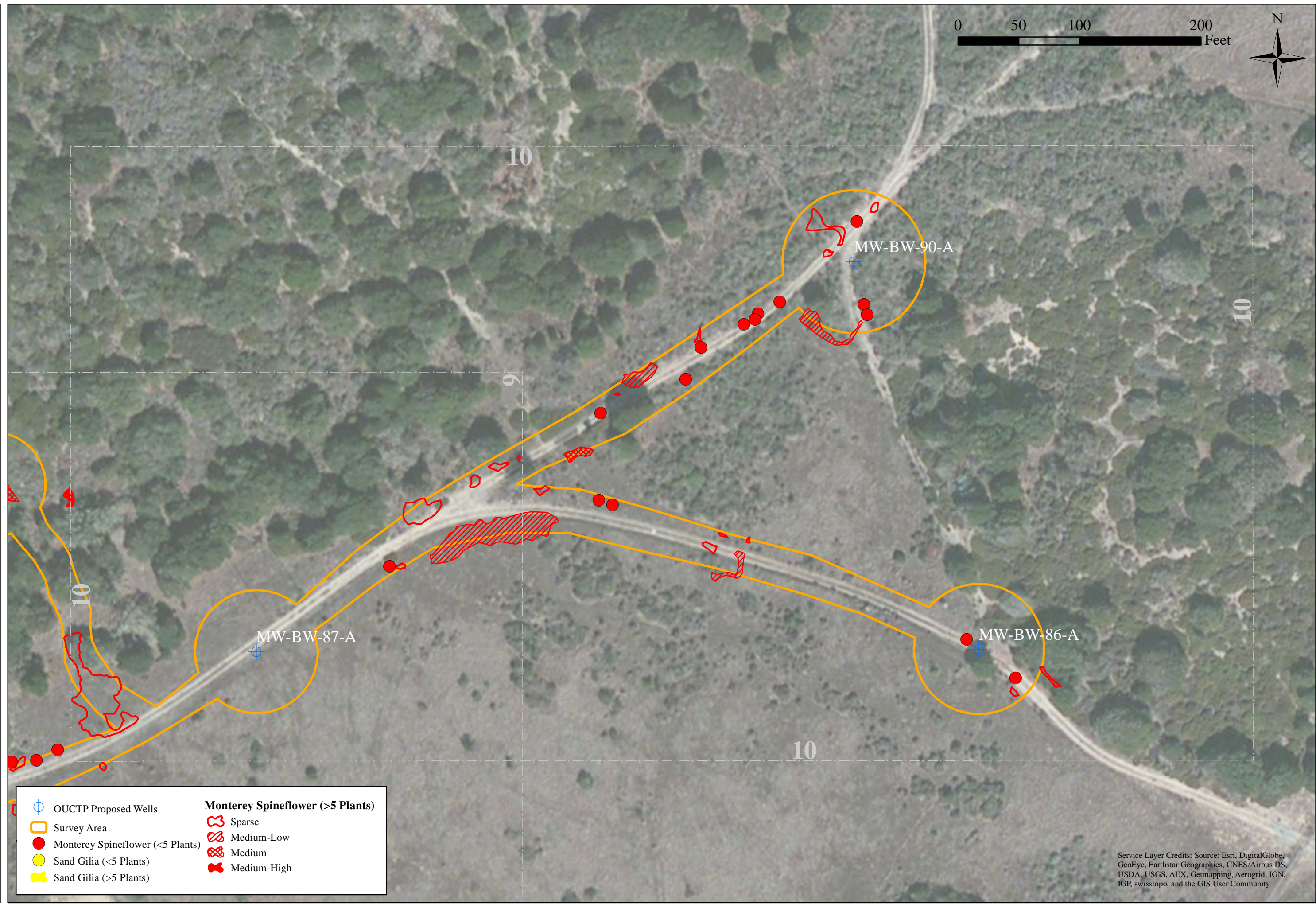
Ahtna FONR OUCTP Well Installation and Access Route Survey Results





Ahtna FONR OUCTP Well Installation and Access Route Survey Results

Document Path: C:\GIS\GIS_Prospect\2015-09_Ahtna_FONR\Map_Products\Survey_Results_Default.mxd



OUCTP Proposed Wells	Monterey Spineflower (>5 Plants)
Survey Area	Sparse
Monterey Spineflower (<5 Plants)	Medium-Low
Sand Gilia (<5 Plants)	Medium
Sand Gilia (>5 Plants)	Medium-High

Date: 5/18/2015



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

ATTACHMENT B CONSTRUCTION PHASE
BIOLOGICAL MONITORING LOG



- ▶ 06/01/2015 - **Start of Well Installation and Development Activities**
 - DD&A conducted initial Environmental Awareness Training for Ahtna and NEWP staff.
 - DD&A participated in tour of well installation locations MW-BW-86-A, MW-BW-87-A, and MW-BW-90-A.
 - DD&A flagged the perimeter of the survey area.
- ▶ 06/02/2015
 - DD&A monitored the installation of well MW-BW-87-A.
 - DD&A discussed site constraints in the field for well installation location MW-BW-88-A with staff from Ahtna, UCR, NEWP and Topes Tree Service (Topes).
 - Installation of well MW-BW-87-A completed; DD&A monitored mobilization of equipment to well installation location MW-BW-86-A.
- ▶ 06/03/2015
 - DD&A monitored well installation at well MW-BW-86-A.
 - DD&A used marking paint to identify centerline for access routes to well installation locations MW-BW-85-A and MW-BW-91-A.
 - Installation of well MW-BW-86-A was completed; DD&A monitored the mobilization of equipment to well location MW-BW-90-A.
- ▶ 06/04/2015
 - DD&A monitored the placement of equipment at well installation location MW-BW-90-A.
 - Installation of well MW-BW-90-A completed; DD&A monitored mobilization of equipment to well installation location MW-BW-85-A.
- ▶ 06/08/2015
 - Installation of well MW-BW-85-A completed; DD&A monitored mobilization of equipment to well installation location MW-BW-91-A.
 - Corrective Action: DD&A observed materials being staged outside of survey area. NEWP staff was notified and materials were moved inside of survey area.
- ▶ 06/09/2015
 - DD&A delineated well installation location MW-BW-92-A and access route.
 - Installation of well MW-BW-91-A completed; DD&A monitored mobilization of equipment to well installation location MW-BW-92-A.
 - DD&A identified two Monterey dusky-footed woodrat (*Neotoma fuscipes luciana*) nests along the access route to well installation location MW-BW-92-A and at well installation location MW-BW-88-A. Discussion with Ahtna and NEWP staff determined that nests were likely to be impacted during vegetation removal. DD&A dismantled, by hand, both nests in accordance with the methodology detailed in the HCL.
 - DD&A provided Environmental Awareness Training to new NEWP staff.
- ▶ 06/10/2015
 - DD&A monitored vegetation removal at well installation locations MW-BW-88-A and MW-BW-89-A. Vegetation removal included the trimming and removal of oak trees. Core samples of oak trees that were removed were taken and delivered to UCR staff as previously agreed.

- Corrective Action: DD&A observed tire tracks outside of flagged survey area. Topes staff was alerted to boundary and adjustments were made to stay inside of the flagged survey area.
- DD&A flagged the access route to well installation location MW-BW-89-A.
- Installation of well MW-BW-92-A completed; DD&A monitored mobilization of equipment to well installation location MW-BW-89-A.
- ▶ 06/11/2015
 - DD&A and Ahtna discussed and approved an alternate access route to well installation location MW-BW-88-A.
 - Installation of well MW-BW-89-A completed; DD&A monitored mobilization of equipment to well installation location MW-BW-88-A. DD&A determined that soil conditions for well installation location MW-BW-88-A and associated access route required the use of mats to minimize soil disturbance/potential impacts to HMP species.
- ▶ 06/12/2015
 - DD&A monitored installation of well MW-BW-88-A. Mats were used to minimize the amount of soil disturbance/potential impacts to HMP species.
- ▶ 06/13/2015
 - Installation of well MW-BW-88-A completed; DD&A monitored mobilization of equipment. Matting was left in place at well location MW-BW-88-A for the well development team to utilize.
- ▶ 06/15/2015
 - DD&A conducted initial Environmental Awareness Training for new Ahtna and NEWP staff.
 - DD&A photographed several well locations and established on-call protocol for well development effort.
- ▶ 06/18/2015 – **Completion of Well Installation and Development Activities**
 - DD&A and Ahtna photographed and inspected each well location following commencement of installation and development activities.
 - DD&A removed all flagging materials from well installation areas.
 - Materials were identified left at well location MW-BW-92-A by NEWP. Materials were removed by Ahtna.
 - DD&A suggested that several access routes left with large tire ruts from the well installation rig be regraded.

ATTACHMENT C PHOTO JOURNAL

Ahtna FONR OUCTP Well Installation and Access Route Photo Location Map



-  OUCTP Installed Wells
-  Survey Area

Service Credits Source
 Digital Globe GeoEye Earthstar GeoGraphics
 NASA/Airbus SCSA SCSA



Photo 1. Well installation location MW-BW-85-A facing southwest, before installation.



Photo 2. Well MW-BW-85-A facing south, after installation.



Photo 3. Well installation location MW-BW-86-A facing east, before installation.



Photo 4. Well MW-BW-86-A facing east, after installation.



Photo 5. Well installation location MW-BW-87-A facing southwest, before installation.



Photo 6. Well MW-BW-87-A facing southwest, after installation.



Photo 7. Well installation location MW-BW-88-A facing southeast, before installation.



Photo 8. Well MW-BW-88-A facing southeast, after installation.



Photo 9. Well installation location MW-BW-88-A facing northeast, before installation.



Photo 10. Well MW-BW-88-A facing northeast, after installation.



Photo 11. Well installation location MW-BW-89-A facing west, before installation.



Photo 12. Well MW-BW-89-A facing west, after installation.



Photo 13. Well installation location MW-BW-90-A facing northwest, before installation.



Photo 14. Well MW-BW-90-A facing northwest, after installation.



Photo 15. Well installation location MW-BW-91-A facing northwest, before installation.



Photo 16. Well MW-BW-91-A facing northwest, after installation.



Photo 17. Well installation location MW-BW-92-A access route, before installation.



Photo 18. Well MW-BW-92-A access route, after installation.



Photo 19. Well installation location MW-BW-92-A facing southwest, before installation.



Photo 20. Well MW-BW-92-A facing southwest, after installation.



Photo 21. Well installation location MW-BW-85-A and MW-BW-91-A access route, before installation.



Photo 22. Well MW-BW-85-A and MW-BW-91-A access route, after installation.



Photo 23. Typical access route flagging at access route to well location MW-BW-88-A (Flags highlighted in red circles).



Photo 24. Flagging at well location MW-BW-91-A (Visible flags highlighted in red circles). On-site monitor assisting with equipment mobilization (Highlighted in blue circle).

APPENDIX G

Responses to Comments on the Draft Operable Unit Carbon Tetrachloride Plume Evaluation Technical Memorandum, A-Aquifer

Responses to Comments submitted by the U.S. Environmental Protection Agency¹

GENERAL COMMENTS

General Comment 1: The Operable Unit Carbon Tetrachloride Plume Evaluation Technical Memorandum, A-Aquifer, Former Fort Ord, California, October 2015 (the Tech Memo) does not discuss the areas where volatile organic compound (VOC) degradation is occurring, either naturally or as the result of previous enhanced in situ bioremediation (EISB). Please revise the Tech Memo to discuss which areas of the plume are experiencing VOC degradation, either naturally or as a result of the previous EISB.

Response to General Comment 1: *As noted in Section 1.0, the purpose of the Tech Memo is to report the results of groundwater monitoring well installation, groundwater sampling activities, and an evaluation of constructing a new deployment area to enhance attenuation of the OUCTP in the A-Aquifer. This work was performed in accordance with the Final OUCTP Evaluation Work Plan, A-Aquifer, Former Fort Ord, California (Work Plan; Ahtna, 2015a). Discussion of the areas of the OUCTP in the A-Aquifer experiencing VOC degradation is not within the scope of the Tech Memo; however, such discussion may be found in annual reports of quarterly monitoring (e.g., see AR# OUCTP-0065), the Final EISB Pilot Study Completion Report (AR# OUCTP-0041G) and the Final Deployment Area Data Summary Reports (AR#s OUCTP-0049A, OUCTP-0051A, OUCTP-0053A, OUCTP-0059 and OUCTP-0061A), which are already referenced in Section 5.0 of the Tech Memo. The Tech Memo was not revised per the comment.*

General Comment 2: Figures within the Tech Memo display carbon tetrachloride (CT) data from both new and existing wells, but Table 2 only provides data for the new wells. Please revise the Tech Memo to include the CT data for the existing wells.

Response to General Comment 2: *The purpose of Table 2 is only to report analytical results for baseline samples collected from the new monitoring wells, which was a separate sampling event from the regular quarterly groundwater monitoring event conducted in June 2015 and reported separately in the OUCTP Second Quarter 2015 Groundwater Monitoring Report (AR# OUCTP-0068). It is not within the scope of the Tech Memo to report CT data for all existing wells, though such data is included to the extent necessary to support the recommendations and conclusions of the Tech Memo (i.e., in the text and figures); however, a note was added to Table 2 stating data tables for other wells may be found in the OUCTP Second Quarter 2015 Groundwater Monitoring Report.*

General Comment 3: The data validation qualifiers have not been included in Table 2, Baseline Sampling Analytical Results. For example, detected results for samples 1528G0BW032F and 1528G0BW033F are indicated to be qualified “J-” in Table 2 Qualified Analytical Results, of Appendix E Validation Summary Reports, and non-detected results for these samples are listed as “UJ” qualified. However, these results are qualified as “J” and “U” in Table 2, Baseline Sampling Analytical Results. Please revise Table 2, Baseline Sampling Analytical Results, to include all qualifiers applied during data validation.

¹ In a letter dated November 11, 2015 (see Administrative Record No. [AR#] OUCTP-0069.2).

Response to General Comment 3: *Table 2 was revised per the comment.*

General Comment 4: The figures in Attachment A, Baseline Survey Results, show the two Habitat Management Plan (HMP) species, the sand gilia and Monterey spineflower, as being present in and adjacent to access roads. However, it is unclear how HMP species that were located in or adjacent to roads were avoided by workers during construction because this is not discussed. The Environmental Protection Plan (Section 6.0 of the Final Operable Unit Carbon Tetrachloride Plume Evaluation Work Plan, A-Aquifer, Former Fort Ord, California dated February 11, 2015 [the Work Plan]) states that access routes would be delineated with rope or flagging tape to ensure personnel and equipment stay within designated work areas and prohibit access to protected areas. Since rope and flagging tape do not appear in the site photos in Attachment C, Photo Journal, it is unclear if these protection measures were used. Also, Attachment B, Construction Phase Biological Monitoring Log, indicates that corrective action was required during fieldwork for materials and vehicles that went outside the survey areas, so if used, the survey area markings do not appear to have been sufficient. These protection measures would have been especially important because the two species must be blooming for positive identification. Since the mapping survey was conducted from March 26, 2015 to April 17, 2015 when the plants were blooming, and fieldwork occurred in June after the blooming season, the plants should have been marked for positive identification after the blooming period. Please add text to the Tech Memo describing how the HMP species that were identified during the baseline survey were avoided and clarify whether rope or flagging tape was used during construction activities as stipulated in the Work Plan. If photos were taken to document these avoidance measures during construction, please add these to the next version of the Tech Memo.

Response to General Comment 4: *Section 3.2 of the Tech Memo was revised to describe how mitigation measures were implemented and how HMP species identified in the baseline biological surveys were avoided. Mitigation measures included the use of flagging and marking tape along access roads to delineate the extent of the baseline survey areas to avoid HMP species occurring in or adjacent to these access routes. Avoidance and protection measures for HMP species also included on-site personnel training and oversight by the onsite biologist to monitor work activities and ensure mitigation measures were being implemented during construction activities. Photos were added to Attachment C of the Biological Monitoring Completion Report (Appendix F) to show typical flagging around access routes and well locations.*

General Comment 5: The Work Plan indicates that during baseline monitoring, non-native cover would be recorded, but it is unclear if and how this was done because the Tech Memo does not discuss recording of non-native cover. In addition, the Work Plan indicates that no trees would be removed, but Section 2.1, Oak Tree Removal and Pruning, of the Tech Memo documents removal of six coast live oak trees. Please revise the Tech Memo to clarify whether non-native cover was recorded, how this was done, and to document the removal of the six oaks as a deviation from the Work Plan. If non-native cover was not recorded, this should also be documented as a deviation from the Work Plan.

Response to General Comment 5: *Section 2.10 of the Tech Memo was revised to state non-native cover was not surveyed because it was not required for the Habitat Checklist or the Final Biological Monitoring*

Work Plan for the Ahtna Well Installation and Development at the OUCTP (DD&A, 2015); and six live oak trees were cut to ground level (i.e., the root structure was not removed) with the concurrence of UCSC, the BRAC Office Biologist, and USACE.

SPECIFIC COMMENTS

Specific Comment 1: Section 1.3, Baseline Survey Results, Page 3: The last sentence of this section states, “Modification to the location of wells, access routes, and staging areas were made using baseline survey data to minimize impacts to these HMP plant species;” however, modifications are not described. Please revise the Tech Memo to clarify how the well locations, access routes, and staging areas were modified to minimize impacts to HMP plant species.

Response to Specific Comment 1: *Section 1.3 of the Biological Monitoring Completion Report (Appendix F) was revised to include a description of modifications to locations of wells, access routes and staging areas per the comment.*

Specific Comment 2: Section 2.4, Monitoring Well Installations, Page 3 and Section 4.0, Deployment Area Model Simulations, Page 9: The first paragraph of Section 4.0 states “Eight injection wells and twelve extraction well locations were added to the model, with flowrates of 10.5 and 7 gallons per minute per injection and extraction well, respectively;” however, it is unclear why these wells were added to the model when the eight newly installed wells are monitoring wells. The text should clarify if these are additional proposed wells or if these wells are already installed. The text should also clarify how many extraction and injection wells were included in the model prior to the addition of these 20 wells. In addition, it is unclear how the flow rates for model input were determined (e.g., designed flow rates, average flow rates over a given time, etc.). Please revise Section 4.0 to clarify why the 20 wells were added and how many wells were included in the model before this revision. Please also revise Section 4.0 to clarify how the flow rates were determined for input into the model.

Response to Specific Comment 2: *Text was added to the first paragraph of Section 4.0 explaining the addition of the simulated injection and extraction well locations to the model for the purpose of evaluating a new EISB deployment area, and to state the modeled flow rates were based on long term average flow rates observed in injection and extraction wells in EISB Deployment Areas 2A and 2B. The text already states the eight injection wells and twelve extraction wells are a proposed configuration of simulated wells (i.e., they have not been installed yet). The Fort Ord groundwater model is used to simulate operation of existing injection and extraction wells at Operable Unit 2 and Sites 2 and 12 (see annual reports of quarterly monitoring [e.g., AR# RI-050A and OU2-691A]); however, these wells are a mile or more from the proposed deployment area and exert no influence in the model grids in this area, and are therefore irrelevant to the conclusions and recommendations of the Tech Memo.*

Specific Comment 3: Section 2.4, Monitoring Well Installations, Page 3: Section 2.4 discusses the installation of the new monitoring wells, but does not include a list of the new well names. Please revise Section 2.4 to identify the eight new monitoring wells.

Response to Specific Comment 3: Section 2.4 includes a reference to Table 1, which lists all eight new monitoring wells. The Tech Memo was not revised per the comment.

Specific Comment 4: Section 2.8.1, Passive Diffusion Bag Installation, Page 4 and Table 2, Baseline Sampling Analytical Results: Section 2.8.1 states that “passive diffusion bags (PDBs) pre-filled with deionized water were placed at 5-foot intervals throughout the saturated screen interval within each well,” which results in six stations for each well (30-foot screens); however, not all of the stations are included in Table 2. For example, only Stations 3 through 6 are included in Table 2 for MW-BW-85-A, and it is unclear why Stations 1 and 2 are not displayed. Another example is MW-BW-89-A, which only has Stations 4 through 6 included in Table 2. The only wells with all six stations included in Table 2 are MW-BW-87-A and MW-BW-90-A. Please revise Table 2 to include the results for each station or revise the text to explain why PDBs were not installed at some of the stations.

Response to Specific Comment 4: As stated in Section 2.8.1 as cited in the comment, the PDBs are placed only in the saturated screen interval. Accordingly, no samples were collected in the unsaturated portion of the screen interval. A note was added to Table 2 to clarify this. While 30-foot screens are standard for monitoring wells constructed in the A-Aquifer at the former Fort Ord, the entire screen interval may or may not be fully saturated depending on site-specific conditions.

Specific Comment 5: Section 4.0, Deployment Area Model Simulations, Page 9: The last full paragraph on page 9 states that “a series of analytical element method (AEM) models were constructed to simulate the EISB injection and extraction network;” however, it is unclear where information regarding the details and assumptions of the AEM models can be found. Please revise Section 4.0 to reference where the details and assumptions of the AEM models can be found.

Response to Specific Comment 5: Details and assumptions regarding the AEM models are provided in the subsequent paragraph starting at the bottom of page 9 and continuing on page 10. The Tech Memo was not revised per the comment.

Specific Comment 6: Section 4.0, Deployment Area Model Simulations, Page 9 and Figure 7, Modeled Substrate Distribution with Fort Ord Groundwater Model: The third paragraph of Section 4.0 states that “Forward-tracking particles were placed near the center of each model grid cell containing an injection well [IW];” however, Figure 7 only appears to include particles that start within cells containing extraction wells (EW). Please revise Figure 7 to include the particle paths that start within cells containing IWs.

Response to Specific Comment 6: Well locations in Figures 7, 8 and 9 were mislabeled. The figures were revised to show the correct configuration of proposed injection and extraction wells.

Specific Comment 7: Section 5.1.2, Downgradient Mid-Plume Area, Page 12: The text mentions “groundwater monitoring data from the last few years” and references Figures 2 through 4; however, Figures 2 through 4 do not include data from previous years. Please resolve this discrepancy.

Response to Specific Comment 7: *“...the last few years...” is intended to be inclusive of the data shown in Figures 2 through 4 and historical data reported elsewhere; the text was revised to clarify this.*

Specific Comment 8: Section 5.2.1, Groundwater Divide Area, Page 12 and Figure 4, CT Concentrations Baseline and Second Quarter 2015 Groundwater Divide Area: Section 5.2.1 states that “It is recommended an additional EISB deployment area be constructed in the area of the groundwater divide” and “no additional monitoring wells are recommended for this area;” however, the extent of CT to the east of MW-BW-85-A and MW-BW-91-A should be defined first to ensure the additional EISB efforts are optimally placed and are of the appropriate scale. Please revise Section 5.2.1 to recommend defining the extent of CT to the east of MW-BW-85-A and MW-BW-91-A so that future EISB efforts can be optimally located and will be of the appropriate scale.

Response to Specific Comment 8: *The concentration of CT in MW-BW-85-A during the baseline sampling event was 0.52 µg/L, approximately equivalent to the CT aquifer cleanup level (ACL) of 0.50 µg/L, and less than the ACL during the third quarter monitoring event (see OUCTP Data and Status, HTW BCT Meeting, November 19, 2015); therefore, this well adequately defines the eastern extent of OUCTP in the A-Aquifer. Additionally, given the northerly groundwater flow direction in the area of MW-BW-85-A and MW-BW-91-A, as indicated by the groundwater elevation contours shown on Figure 5, the plume is unlikely to migrate eastward, but northward as described in Section 5.1.1. The Tech Memo was not revised per the comment.*

Specific Comment 9: Figure 2, CT Concentrations Second Quarter 2015: Figure 2 shows a separate CT plume drawn around MW-BW-74-A, but the basis for the assumption that this is a separate plume is unclear. There are no extraction wells in the vicinity (i.e., extraction wells can cause separate downgradient plumes when only part of the contamination is captured), and there are no monitoring wells between MW-BW-74-A and the nearest upgradient well to confirm that CT is not present. In addition, the CT concentration at MW-BW-74-A (0.86 µg/L) is consistent with the CT concentration in the other upgradient wells (1.3 µg/L in both MW-BW-49-A and MW-BW-65-A and 0.72 µg/L in MW-BW-80-A). Please revise Figure 2 to include the CT in MW-BW-74-A as part of the larger plume or to provide the basis for the assumption of separate plumes.

Response to Specific Comment 9: *The CT concentration at MW-BW-74-A is from the second quarter 2015 groundwater monitoring event (see AR# OUCTP-0068) and the OUCTP A-Aquifer plume contours are based on this and historic data as presented in previous groundwater monitoring reports (e.g., see AR#-0065A); however, evaluation of OUCTP A-Aquifer plume contours in the vicinity of MW-BW-74-A, which is at the western extent of the OUCTP, is outside the scope of the Tech Memo, which is focused on the eastern half of the OUCTP in the A-Aquifer. The Draft OUCTP Fourth Quarter 2014 through Third Quarter 2015 Groundwater Report is expected to be available in January 2016 for review and comment regarding CT plume contours. The Tech Memo was not revised per the comment.*

Specific Comment 10: Figure 3, CT Concentrations Baseline and Second Quarter 2015 and Figure 4, CT Concentrations Baseline and Second Quarter 2015 Groundwater Divide Area: Figures 3 and 4 include the baseline CT concentrations from the station with the highest concentration at each of the eight new

monitoring wells; however, the highest CT concentration is not always at the same depth, and the significance of this is not discussed. Please revise the Tech Memo to discuss the fact that the highest CT concentration is not always at the same depth within the new wells.

Response to Specific Comment 10: *It is standard practice at the former Fort Ord to report the highest concentrations of chemicals of concern at individual monitoring points so that a conservative estimation of plume extents may be shown on report figures in two dimensions. Historically, sample depth has been found not to be significant because 1) detected concentrations are typically within the same order of magnitude and 2) variations in top of casing elevation across a site may be accounted for by calculating the sample elevation (i.e., the TOC elevations in Table 1 minus the sample depths). In response to this comment, sample elevations were added to Table 2, which indicate little variation in elevation between the samples with the highest detected concentrations of CT.*

Specific Comment 11: Attachment B, Construction Phase Biological Monitoring Log: The documentation of monitoring activities indicates that corrective action was taken on June 8 and June 10, 2015 for materials and vehicles that went outside the survey areas, but does not discuss whether these activities resulted in damage or destruction of any of the HMP species. Please revise the text to address this issue.

Response to Specific Comment 11: *Section 2.3 was added to the Biological Monitoring Completion Report (Appendix F) to describe corrective actions taken on June 8 and June 10, 2015 and damage assessment.*

APPENDIX H

Responses to Comments on the Draft Final Operable Unit Carbon Tetrachloride Plume Evaluation Technical Memorandum, A-Aquifer

Responses to Comments submitted by the U.S. Environmental Protection Agency¹

Evaluation of the Response to Specific Comment 10 [see Appendix G]: The response partially addresses the comment. Specifically, the text was not revised to discuss the significance of the differences in the depth of the maximum carbon tetrachloride (CT) concentrations as requested in the original comment. While Table 2 has been revised to include the sample elevations, it appears that the depth of the maximum CT concentration at well MW-BW-91-A differs from the depth of the maximum concentrations observed at other locations. The depth of the maximum CT concentrations range from 43.67 feet above mean sea level (ft MSL) (well MW-BW-87-A) to 47.76 ft MSL (well MW-BW-88-A), but the maximum CT concentration at well MW-BW-91-A occurs at 51.08 ft MSL. Please revise the Draft Final Operable Unit Carbon Tetrachloride Plume Evaluation Technical Memorandum, A-Aquifer, Former Fort Ord, California (the DF Tech Memo) to discuss this difference in the maximum CT concentration depths.

Response: *With revision of Table 2 to include sample elevations revision of the text was considered unnecessary since the differences in sample depth were no longer considered significant with respect to sample elevations. As noted in the response to Specific Comment 10, when monitoring wells are profiled (i.e., samples are collected at various depths [typically at 5-foot intervals] throughout the saturated portion of the screen interval), detected concentrations are typically within the same order of magnitude. With the exception of CT concentrations in MW-BW-87-A and MW-BW-89-A, which vary by one order of magnitude, this holds true for the wells listed in Table 2 and the differences in concentrations throughout the saturated portion of the screen interval, while observable, are not statistically significant. For MW-BW-91-A, the maximum detected concentration was 3.9 µg/L at Station 5 (51.08 feet MSL); however, this value is not significantly different than the detected concentration of 3.4 µg/L at Station 6 which is at 46.08 feet MSL, an elevation comparable to the elevations of maximum detected CT concentrations in the other wells listed in Table 2. Accordingly, the following statement was added to Section 2.8.4: “Generally, detected concentrations of CT were similar throughout the saturated zone in each well, with maximum detected CT concentrations at approximately the same elevation across the site.”*

Regardless, the proposed enhanced in situ bioremediation (EISB) deployment area will be constructed similarly to existing EISB deployment areas, with extraction wells and injection wells screened across the entire saturated zone (i.e., the entire saturated zone will be treated); therefore, differences in CT concentrations with elevation are not a factor in remedy decision-making. A statement to this effect was added to Section 5.2.1.

¹ In a letter dated January 11, 2016 (see Administrative Record No. [AR#] OUCTP-0069A.2).